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Mätinstrument och Mätsystem

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Precisionsmätinstrument: mekaniska -
optiska - elektroniska & 3D
CNC koordinatmätmaskiner

2023/2024

Schut Geometrical Metrology



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SGM Switzerland



ISO 9001 certifierade

Schut Geometrical Metrology är ISO 9001-2015 certifierat.

Vi har etablerat ett kvalitetsledningssystem som uppfyller kraven från de internationella kvalitetsstandarderna. Vår kvalitetsledning säkerställer att alla aktiviteter är omfattande planerade, styrda och kontrollerade.

Ledningen för Schut Geometrische Meettechniek b.v. förbinder sig att utföra alla aktiviteter i enlighet med de definierade kraven inom ramen för ISO-9001-deklarationen.

SCHUT.COM



Expertrådgivning

Våra tekniska rådgivare ger dig en tydlig förklaring och expertråd. Tala direkt med en specialist. Våra rådgivare diskuterar gärna med dig möjligheterna och tillämpningen av dina mätinstrument och t.ex. anslutningen av instrumenten till en PC.



Förutom produkter som visas i denna katalog, kan olika andra produkter levereras. Du kan också kontakta oss för produkter som varierar med standarddesign eller för anpassade mätarmaturer.

Logistik

Du når vår försäljningsavdelning på vardagar från 9.00 till 17.00 (fredag: 16.00). Beställningar kan göras via e-post, telefon och post. Vi garanterar en snabb och korrekt handläggning. Vi strävar efter att beställningar som görs före kl 15.00 skickas inom samma dag (förutsatt att varorna finns i lager).

Ett stort lager av produkter är viktigt för att betjäna dig så snabbt som möjligt. Det är därför vi har mer än 170 000 artiklar i lager som vi skickar direkt från vårt lager. Orderhanteringen är helt automatiserad.



Urval och kvalitet

Vi strävar efter att leverera ett brett utbud av mätinstrument och system. I denna specialiserade katalog har vi gjort ett omfattande urval av mer än 38.000 försäljningsprodukter i olika prisklasser. Förutom produkter från välkända tillverkare levererar vi vårt eget varumärke Filetta till ett attraktivt pris.



Kalibreringservice

Vissa produkter levereras med en tillverkarens mät rapport eller försäkring om överensstämmelse. I många fall passar detta ert kvalitetssystem. Om en spårbar mätning rapport krävs vi kan ordna detta genom en av våra kalibreringspartners.



Service & support

Våra specialiserade service- och supportavdelningar hjälper dig med olika tekniska uppdrag.

Vid reparationer kan vår serviceavdelning hjälpa dig, med mångårig erfarenhet av geometrisk mätning och ett stort lager av reservdelar. Möjligheten att utföra de flesta reparationer internt, sparar dig kostnader och tid.

Vår supportavdelning ger dig råd, utbildning, onlinesupport och anpassade applikationer för DeMeet-mätmaskinerna.



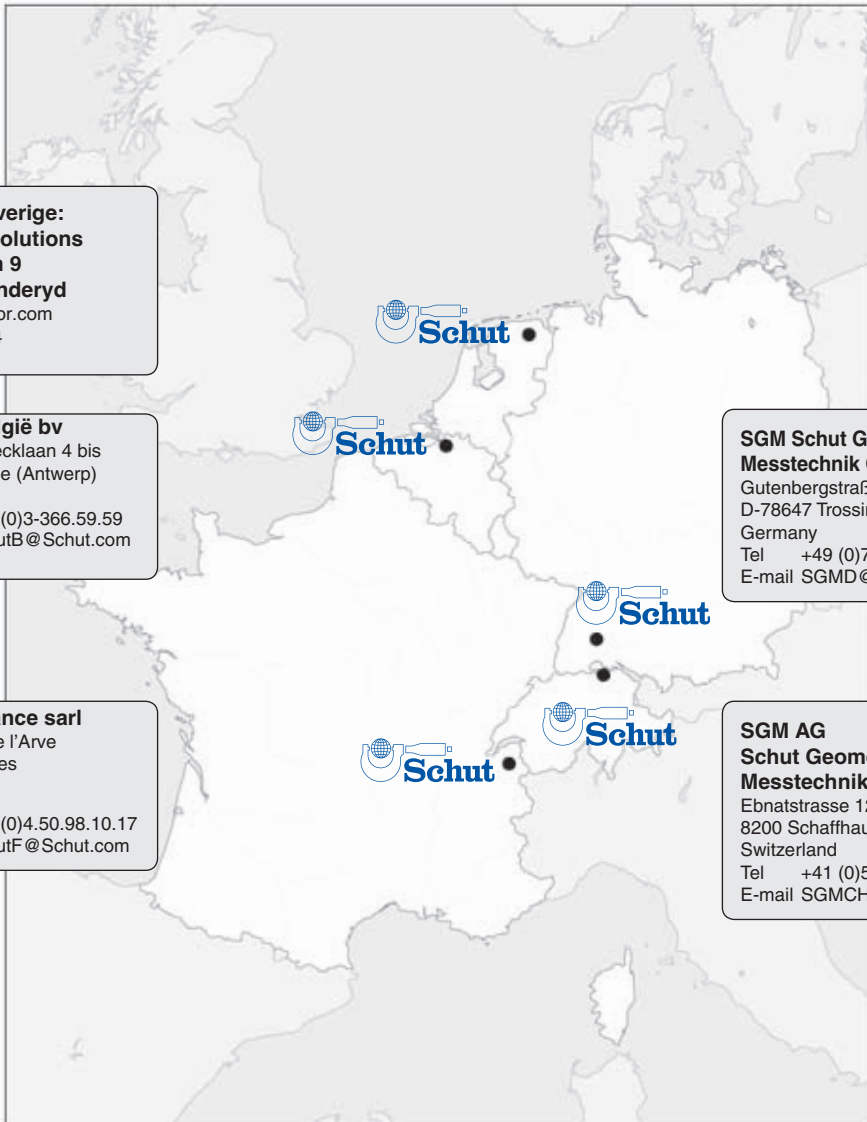
Lokal representation

Schut Geometrical Metrology (Schut Geometrische Meettechniek bv) är en internationell organisation, grundad 1949, med fem kontor i hela Europa, specialiserade på utveckling, produktion och försäljning av precisionsmätinstrument och system.

Service- och försäljningsaktiviteter utförs av vårt företag grupp eller genom ett internationellt nätverk av erfarna distributörer.



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more than
70 years
of quality
in Europe

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Magnescale digital length measuring and gauge systems

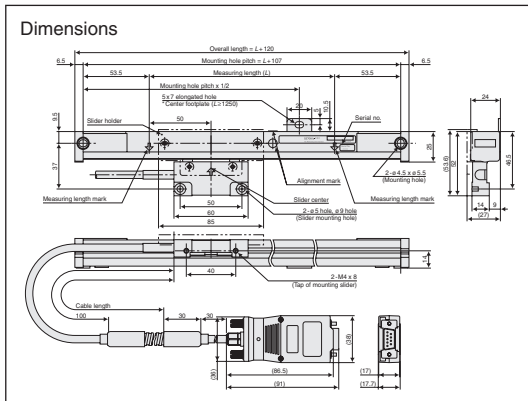


C01.001-EN-20230522

Magnescale SJ700A scale systems with favourable price-performance ratio

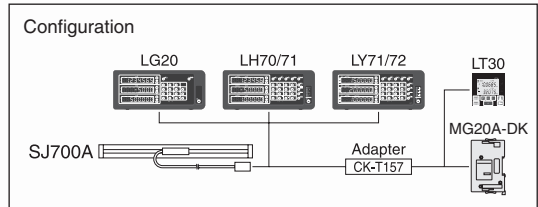
The SJ700A scales are an excellent choice for applications (lathes, milling machines) where a resolution of 5 µm is sufficient. A real Magnescale with a favourable price-performance ratio.

- Measuring range: 0- 1600 mm.
- Highest resolution: 5 µm.
- Accuracy at 20°C:
 $L \leq 1250 \text{ mm}: \pm 10 \mu\text{m},$
 $L \leq 1600 \text{ mm}: \pm 15 \mu\text{m}.$
- Linear expansion coefficient: $(12 \pm 1) \cdot 10^{-6} / ^\circ\text{C}.$
- Operating temperature: 0 to 40°C.
- Cross-section: 24 x 25 mm.
- Total length = L + 120 mm.
- Cable length (standard):
 $L \leq 800 \text{ mm}: 3 \text{ m},$
 $L \leq 1600 \text{ mm}: 5 \text{ m}.$
- Resistant to oil, chips and shocks, and reliable in the harshest environments.
- Protection: IP54.



Item No.	Type	Measuring range/mm	Price EUR
346.823	SJ700A-015	150	
346.824	SJ700A-025	250	
346.825	SJ700A-035	350	
346.826	SJ700A-040	400	
346.827	SJ700A-050	500	
346.828	SJ700A-065	650	
346.829	SJ700A-080	800	
346.830	SJ700A-095	950	
346.831	SJ700A-105	1050	
346.832	SJ700A-125	1250	
346.833	SJ700A-140	1400	
346.834	SJ700A-160	1600	
495.302	Mounting kit for lathes		
495.303	Mounting kit for milling machines		
346.867	Adapter cable CK-T157		
For connecting to old display types*:			
346.926	Adapter cable CE30		
346.448	Adapter SZ51-AB01		

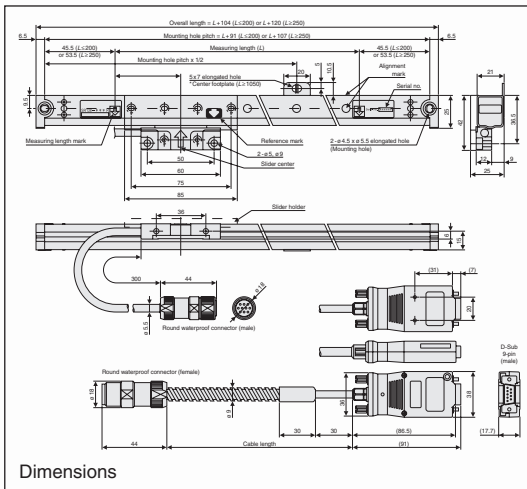
* LG10, LH51/52, LH61 and LY51/52.
Both adapter cable and adapter are needed.



Magnescale GB-ER universal scale systems

The GB-ER beats all competition. An excellent resistance against workshop conditions (oil, chips and shocks), a high resolution (0.5 μm) and an expansion coefficient the same as the machine itself. Reliable for many years and almost maintenance free as all magnetic scales of Magnescale.

- Measuring range: 0 - 2200 mm.
- Highest resolution: 0.5 μm.
- Accuracy at 20°C: $\pm(2.5 + 2.5L) \mu\text{m}$ (L in m).
- Max. measuring speed: 60 m/min.
- Output: A/B phase and reference point Z (TTL line driver RS422).
- Linear expansion coefficient: $(11 \pm 1) \cdot 10^{-6}/^\circ\text{C}$.
- Operating temperature: 0 to 40°C.
- Cross-section: 21 x 25 mm.
- Total length =
 $L \leq 200$ mm: $L + 104$ mm,
 $L \leq 2200$ mm: $L + 120$ mm.
- Cable length: 3 m.
- Reference point in the center (standard).
- Protection: IP65.
- Power supply: $5 \pm 5\%$ Vdc, 200 mA.



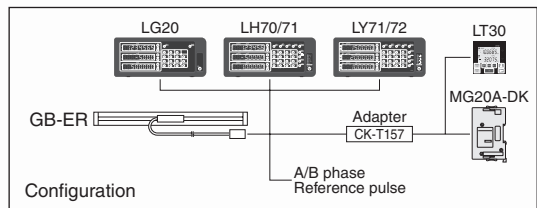
Dimensions



Item No.	Type	Measuring range/mm	Price EUR
346.800	GB-5ER	50	
346.801	GB-10ER	100	
346.802	GB-15ER	150	
346.803	GB-20ER	200	
346.804	GB-25ER	250	
346.805	GB-30ER	300	
346.806	GB-35ER	350	
346.807	GB-40ER	400	
346.808	GB-45ER	450	
346.809	GB-50ER	500	
346.810	GB-55ER	550	
346.811	GB-60ER	600	
346.812	GB-65ER	650	
346.813	GB-75ER	750	
346.814	GB-85ER	850	
346.815	GB-95ER	950	
346.816	GB-105ER	1050	
346.817	GB-125ER	1250	
346.818	GB-140ER	1400	
346.819	GB-160ER	1600	
346.820	GB-185ER	1850	
346.821	GB-205ER	2050	
346.822	GB-220ER	2200	

324.099 Lubricant 300 ml

For mounting kits refer to SJ700A.



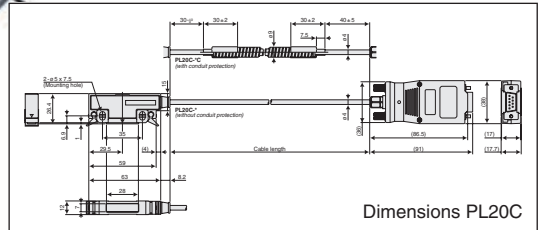
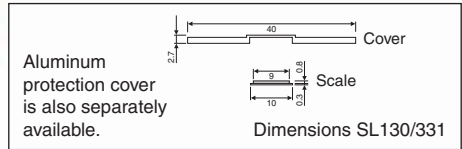
Item No.	Type	Length/m	Price EUR
Extension cables:			
346.260	CE10-01C	1	
346.261	CE10-03C	3	
346.262	CE10-05C	5	
346.263	CE10-10C	10	
346.867	Adapter cable CK-T157		
For connecting to old display types*:			
346.926	Adapter cable CE30		
346.448	Adapter SZ51-AB01		

* LG10, LH51/52, LH61 and LY51/52.
Both adapter cable and adapter are needed.

Magnescale Digiruler SL130 scale systems for a large measuring range

The Digiruler SL130 is very suitable as a low-priced longitudinal axis scale, for example in combination with the SJ700A or GB-ER scales on the other axes. The scale is mounted with the self-adhesive back on a flat surface and protected by a standard supplied aluminum (optionally stainless steel) cover.

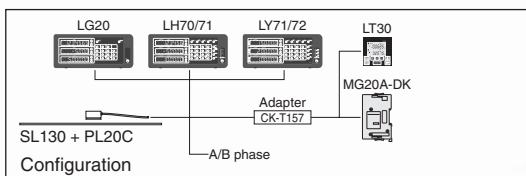
- Measuring range: 0- 30 000 mm.
- Highest resolution: 0.01 mm.
- Accuracy at 20°C (*L* in m):
 $L \leq 7000 \text{ mm: } \pm(25 + 5L) \mu\text{m}$,
 $L \leq 10000 \text{ mm: } \pm(35 + 5L) \mu\text{m}$,
 $L \leq 20000 \text{ mm: } \pm(45 + 5L) \mu\text{m}$,
 $L \leq 30000 \text{ mm: } \pm(55 + 5L) \mu\text{m}$.
- The maximum allowed distance between reading head and scale is 1.5 mm.
- Max. measuring speed: 300 m/min.
- Total length = $L + 100$ mm.
- Protection: IP65.
- SL130 scales standard supplied with aluminum cover.



Item No.	Measuring range/mm	Price EUR
Digiruler SL130 scales:		
345.920	200	
345.921	300	
345.922	400	
345.923	500	
345.924	600	
345.925	700	
345.926	800	
345.928	1000	
345.930	1200	
345.933	1500	
345.936	1800	
345.938	2000	
345.948	3000	
345.958	4000	
345.968	5000	
345.978	6000	
345.988	7000	
345.998	8000	
346.008	9000	
346.018	10000	
346.028	20000	
346.038	30000	
344.922	Aluminum cover per meter, incl. bolts	

Item No.	Type	Length/m	Price EUR
PL20¹ without conduit protection:			
346.835	PL20C-3	3	
346.836	PL20C-5	5	
346.837	PL20C-10	10	
346.838	PL20C-15	15	
346.839	PL20C-20	20	
346.840	PL20C-30	30	
PL20¹ with stainless steel conduit protection:			
346.841	PL20C-3C	3	
346.842	PL20C-5C	5	
346.843	PL20C-10C	10	
346.844	PL20C-15C	15	
346.845	PL20C-20C	20	
346.867	Adapter cable CK-T157		
For connecting to old display types²:			
346.926	Adapter cable CE30		
346.448	Adapter SZ51-AB01		

Other lengths available on request.



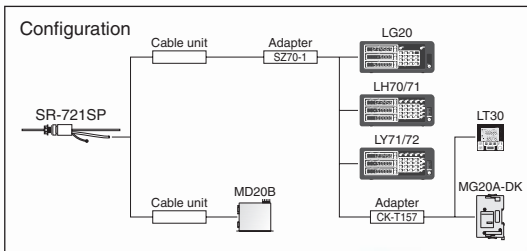
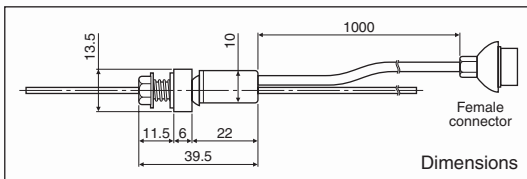
¹ Cable unit consists of a reading head, a cable and a connector.

² LG10, LH51/52, LH61 and LY51/52. Both adapter cable and adapter are needed.

Magnescale SR-721SP scale systems for confined spaces

The SR-721SP is a real Magnescale, without housing. By fixing the reading head in place and displacing the scale through the reading head, the mounting size is minimal (for measuring microscopes, robotics and in cylinders).

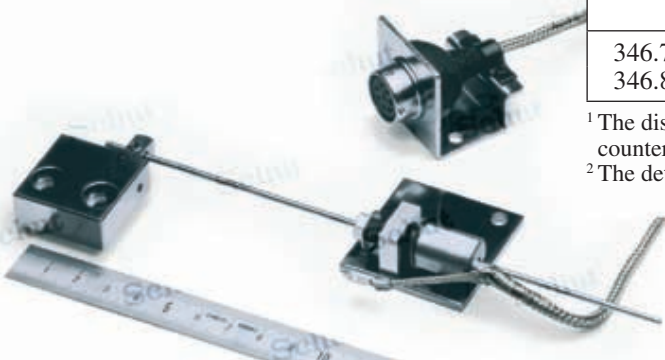
- Measuring range: 0-475 mm.
- Highest resolution: 0.1 µm.
- Accuracy: ± 1 to 3 µm (depending on the measuring range), as specified on the laser measuring report.
- Linear expansion coefficient: $(14 \pm 1) \cdot 10^{-6}/^{\circ}\text{C}$.
- Total length = $L + 100$ mm.
- Standard supplied with braided cable (1 m) and connector.
- Connecting cable unit has to be ordered separately.
- Dimensions reading head (without mounting plate): 14 x 16 x 40 mm.
- Measuring axis: $\varnothing 2$ mm.



Item No.	Measuring range/mm	Price EUR
Magnescale SR-721SP scales:		
344.160	50	
344.161	75	
344.162	100	
344.163	125	
344.164	150	
344.165	175	
344.167	200	
344.168	225	
344.169	250	
344.170	275	
344.171	300	
344.172	325	
344.173	350	
344.140	375	
344.141	400	
344.142	425	
344.143	450	
344.144	475	

Item No.	To	Length/m	Price EUR
Standard cables:			
324.005	Displays ¹	3	
324.006	Displays ¹	5	
324.007	Displays ¹	10	
324.695	Detectors ²	3	
324.696	Detectors ²	5	
324.697	Detectors ²	10	
Cables with stainless steel conduit protection:			
324.000	Displays ¹	3	
324.698	Displays ¹	5	
324.001	Displays ¹	10	
324.002	Detectors ²	3	
324.699	Detectors ²	5	
324.003	Detectors ²	10	
324.004	Extension cable (10 m) for all cables		
346.793	Adapter SZ70-1 ¹		
346.867	Adapter cable CK-T157 ¹		

¹ The displays LG20, LH70/71, LY71/72, LT30 and the counter module MG-DK.
² The detector MD20B.



Magnescale gauge systems

The Magnescale LU20 is a portable display to read out the Magnescale DM10 digital lever gauge or a Magnescale USB gauge (see Magnescale USB gauges elsewhere in this catalog). The LU20 has a lithium-ion battery with a very long operating life (up to 80 hours). With the standard included magnetic stand, the LU20 can be securely positioned. The 2.7" color touch-screen is easy to set up and displays, both digitally and through an analog pointer, very accurately any movements with a resolution starting at 0.1 μm. By setting tolerance limits, Go and NoGo graphs can be displayed.

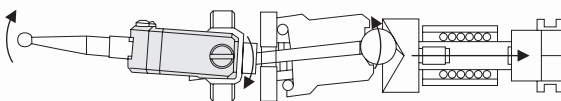
The LU20 has the following functions: current, max, min, max-min, and tolerance value display, and even a graphical display of straightness and roundness. This makes the LU20 extremely useful for evaluating geometry and the alignment of mechanical parts. Data can be sent using the Bluetooth transmitter. To utilize this, apps are available for IOS-, Android- and Windows operating systems. Storage of data is possible by using a MicroSD card.

LU20

- USB Type-A connector gauge input.
- Storage for min, max, and max-min values.
- Reset/preset.
- Zero setting possible at any position.
- Measure with or without tolerance limits; Go/NoGo displayed.
- Bluetooth data transfer, storage on MicroSD card.
- USB Type-C connector rechargeable lithium-ion battery (charger not included).
- Key lock.
- Operating temperature: 0 - 40°C.
- Battery operating life: 80 hours (DM10), 8 hours (USB gauge).
- Dimensions: 64(W) x 40(D) x 91(H) mm.
- **Standard included:** Magnetic stand, extension cable, manual, 2 lithium-ion batteries (interchangeable).

DM10

- Measuring range: 346.423: 1 mm, 346.424: 2 mm.
- Stylus length: 346.423: 11 mm, 346.424: 41 mm.
- Resolution: 346.423: 0.1 μm, 346.424: 0.2 μm.
- Cable length: 200 mm.
- Connector: USB Type-A.



346.425
+ 346.423



USB probe



Item No.	Type/description	Price EUR
346.425	LU20 display	
346.423	DM10-01 electronic probe	
346.424	DM10-02 electronic probe	

Magnescale digital dial indicators

By using the same display as the LU20, this very robust Magnescale DU10 digital dial indicator offers the same functions. This means that graphs are shown directly and in real-time, as well as that data can be stored, or sent through Bluetooth. To utilize this, apps are available for IOS-, Android- and Windows operating systems. Storage of data is possible by using a MicroSD card. The DU10 digital dial indicator has an exceptionally high accuracy suitable for high precision measurements, but is also very suitable for use in the workshop due to its robust construction.

DU10-12/DU10-30

- Measuring range: 0 - 30.
- Resolution: 346.426: 0.1 µm
346.427: 0.5 µm.
- Storage for min, max, and max-min values.
- Reset/preset.
- Zero setting possible at any position.
- Measure with or without tolerance limits; Go/No-Go displayed.
- Bluetooth data transfer, storage on MicroSD card.
- USB Type-C connector rechargeable lithium-ion battery (charger not included).
- Key lock.
- Operating temperature: 0 - 40°C.
- Dimensions: 64(W) x 49(D) x 156(H) mm.



346.426

NEW



Item No.	Type/description	Measuring range/mm	Accuracy/µm	Price EUR
346.426	DU10-12 digital dial indicator	0 - 12	1	
346.427	DU10-30 digital dial indicator	0 - 30	1.5	

Magnescale Rolling Mill

Magnescale Rolling Mill is a feedback scale system used in rolling mills where metal is rolled into sheets and bars. Magnescale is a proven and reliable system, which is shock- and waterproof and resistant against high pressure.



Magnescale specials

Due to the slim design and resistance against harsh environments the Magnescale scales can be implemented in various systems and processes. The SR-721SP can for example be built into linear actuator cylinders.



Magnescale DK805SB/812SB gauges

The Magnescale DK gauges are developed using the MR (magnetoresistance) sensor principle and have direct A/B phase output. The MR technology enables a 0.1 µm detection resolution. The gauges have a built-in reference point at 1 mm from the idle point of the spindle. Various models are available, e.g. with pneumatic push or vacuum retract.

- Measuring range: 5 or 12 mm.
- Resolution: 0.1 or 0.5 µm.
- Accuracy (p-p) at 20°C: resolution 0.1 µm: 1 µm,
resolution 0.5 µm: 1.5 µm.
- Max. measuring speed: resolution 0.1 µm: 42 m/min,
resolution 0.5 µm: 100 m/min.

Types with a higher measuring speed are available on request.

- Output: A/B phase and reference point Z (TTL line driver RS422).
- Cable length: 2.5 m (with extension cable: max. 22 m).
- Dimensions: ø8 x 79.6 mm (DK805SB) or ø8 x 105 mm (DK812SB).
- Measuring force at 20°C:
 - DK805SB: upward: 0.35 ± 0.25 N,
lateral: 0.4 ± 0.25 N,
downward: 0.45 ± 0.25 N,
 - DK812SB: upward: 0.4 ± 0.3 N,
lateral: 0.5 ± 0.3 N,
downward: 0.6 ± 0.3 N.

- Reference point.
- Clamping stem: ø8 mm.
- Protection: IP67.
- Resistant to oil, dirt, shocks and vibrations.
- Delivery incl. air fittings.
- Power supply: 5±5% Vdc, 1 W.
- Also available with 30 mm measuring range (DK830S series).

Type designation

DK8 05/12^① SB -/F^② -/L/V^③ R -/5^④

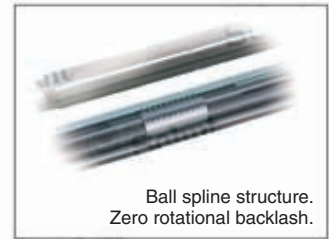
- ① Measuring range in mm.
- ② With (F) or without (-) flange.
- ③ Cable connection:
axial, with spring push (-),
radial, with vacuum retract (L), or
radial, with pneumatic push (V).
- ④ Resolution: 0.1 µm (-) or 0.5 µm (5).

Option for L types

Item No.	Description	Price EUR
344.465	Pneumatic retraction device DZ-801	



DK812SBLR
DK812SBR



Ball spline structure.
Zero rotational backlash.

Item No.	Type	Price EUR
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Resolution 0.1 µm:

346.512	DK805SBR	
346.513	DK805SBLR	
346.514	DK805SBFR	
346.515	DK805SBFLR	
346.516	DK812SBR	
346.517	DK812SBLR	
346.518	DK812SBFR	
346.519	DK812SBFLR	
346.520	DK812SBVR	

Resolution 0.5 µm:

346.521	DK805SBR5	
346.522	DK805SBLR5	
346.523	DK805SBFR5	
346.524	DK805SBFLR5	
346.525	DK812SBR5	
346.526	DK812SBLR5	
346.527	DK812SBFR5	
346.528	DK812SBFLR5	
346.529	DK812SBVR5	

Magnescale DK10/25/50/100/155/205 gauges

The Magnescale DK gauges are developed using the MR (magnetoresistance) sensor principle and have direct A/B phase output. The gauges either have a spring push and a built-in reference point at 1 mm (DK10-100) or no spring push, and with a built-in reference point at 5 mm (DK155/205) from the idle point of the spindle.

- Measuring range: up to 205 mm.
- Resolution: 0.5 μm .
- Max. measuring speed: 250 m/min.
- Clamping stem: $\varnothing 20$ mm (DK155/205: $\varnothing 32$ mm).
- Output: A/B phase and reference point Z (TTL line driver RS422).
- Cable length: 2.5 m (with extension cable: max. 22 m).
- DK10-100: carbide ball tip $\varnothing 2.5$ mm.
- DK155/205: flat magnet $\varnothing 22$ mm (10 N) with in the center a ball $\varnothing 4$ mm.
- Reference point.
- Operating temperature: 0 to 50°C.
- Protection: IP50 or IP64.
- Resistant to shocks and vibrations.
- Power supply: 5 \pm 5% Vdc, 1 W.



For measuring stands with clamping shaft $\varnothing 20$ mm, $\varnothing 25$ mm or $\varnothing 32$ mm see measuring stands elsewhere in this catalog.



Type designation

DK 10/25/50/100/155/205^① **N/P**^② **-/L**^③ **R5**

- ① Measuring range in mm.
 ② Protection: IP50 and with a reduced measuring force (N), or IP64 (P).
 ③ Cable connection: axial (-) or radial (L).

Item No.	Type	Accuracy p-p/ μm	Measuring force ¹ /N	Dimensions mm	Price EUR
346.853	DK10NR5 ²	2	0.3/0.6/0.8	$\varnothing 20 \times 122$	
346.854	DK10PR5	2	≤ 4.9	$\varnothing 20 \times 122$	
346.855	DK10PLR5	2	≤ 4.9	$\varnothing 20 \times 102.5$	
346.857	DK25NR5 ²	2	0.4/0.7/1	$\varnothing 20 \times 179.5$	
346.856	DK25NLR5 ²	2	0.4/0.7/1	$\varnothing 20 \times 160$	
346.858	DK25PR5	2	≤ 4.9	$\varnothing 20 \times 179.5$	
346.859	DK25PLR5	2	≤ 4.9	$\varnothing 20 \times 160$	
346.860	DK50NR5 ²	2	-/0.9/1.3	$\varnothing 20 \times 286$	
346.861	DK50PR5 ²	2	6.2	$\varnothing 20 \times 286$	
346.862	DK100NR5 ²	4	-/1.8/2.7	$\varnothing 25 \times 443.5$	
346.863	DK100PR5 ²	4	9.3	$\varnothing 25 \times 443.5$	
346.864	DK155PR5	5	2.7	$\varnothing 32 \times 571$	
346.865	DK205PR5	6	2.7	$\varnothing 32 \times 721$	

¹ In case of reduced measuring force (N types): measuring force upward, lateral and downward, respectively.

² Also available as models with USB interface.

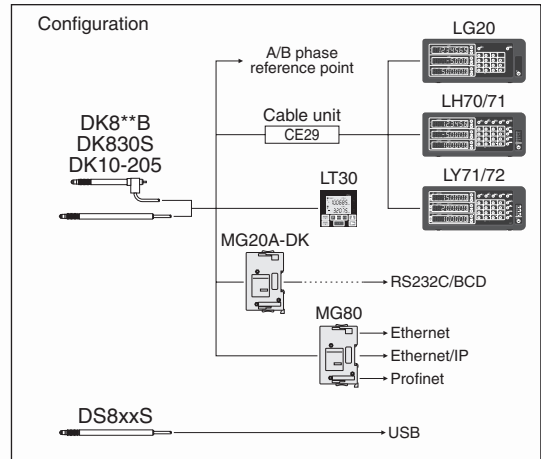


Cables and configuration Magnescale DK gauges

Item No.	Type	Length/m	Price EUR
Adapter cables:			
346.145	CE29-003	0.3	
346.146	CE29-01	1	
346.147	CE29-03	3	
346.148	CE29-05	5	
346.149	CE29-10	10	

Item No.	Type	Length/m	Price EUR
Extension cables:			
346.741	CK-T12	1	
346.742	CK-T13	3	
346.743	CK-T14	5	
346.744	CK-T15	10	
346.745	CE22-01 ¹	1	
346.746	CE22-03 ¹	3	
346.747	CE22-05 ¹	5	
346.748	CE22-10 ¹	10	

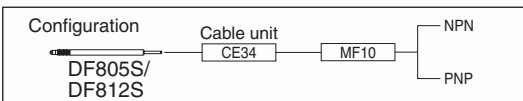
¹ Open end, TTL line driver RS422.



Magnescale DF805S/812S gauges + MF10 Digital Tolerance Indicator

The robust DF probes combine a high resolution with a compact body. The MF10 counter module is suitable for the DF and DT probes. The module has a clear display and can also generate Go/NoGo output.

- Measuring range: 5 or 12 mm.
- Resolution: 0.1 µm.
- Go/NoGo tolerance evaluation.



Type designation

DF8 05/12^① S -/F^② -/L^③ R

- ① Measuring range in mm.
- ② With (F) or without (-) flange.
- ③ Cable connection:
axial, with spring push (-),
radial, with vacuum retract (L).

Item No.	Type/description	Price EUR
346.414	MF10-P1 NPN output	
346.415	MF10-P2 PNP output	

Item No.	Type	Price EUR
346.540	DF805SR	
346.541	DF805SLR	
346.542	DF805SFR	
346.543	DF805SFLR	
346.544	DF812SR	
346.545	DF812SLR	
346.546	DF812SFR	
346.547	DF812SFLR	

Item No.	Type	Length/m	Price EUR
Extension cables:			
346.548	CE34-005	0.5	
346.549	CE34-02	2	
346.550	CE34-05	5	
346.551	CE34-10	10	
346.552	CE34-15	15	
346.553	CE34-20	20	



Magnescale DS805S/812S USB gauges

Accurate and robust probes with USB interface for easy connection to a PC. Simple PC software for connecting the USB probe can be downloaded for free. Measured values can be displayed with the software and stored in a CSV file.

- Measuring range: 5 or 12 mm.
- Resolution: 0.5 μm (0.1 μm on request).
- Cable length: approx. 2.5 m.
- Reference point.
- Operating temperature: 0 to 50°C.
- Clamping stem: \varnothing 8 mm.
- Resistant to oil, dirt, shocks and vibrations.
- Also available up to 100 mm measuring range.

Item No.	Type	Price EUR
346.090	DS805SLR5	
346.089	DS805SR5	
346.095	DS812SR5	
346.096	DS812SLR5	
346.097	DS812SVR5	

Type designation

DS8 05/12^① S -/F^② -/L^③ R

- ① Measuring range in mm.
- ② With (F) or without (-) flange.
- ③ Cable connection:
axial, with spring push (-),
radial, with vacuum retract (L), or
radial, with pneumatic push (V).



Magnescale MT30 USB adapter for DT probes

Using the MT30 adapter, a DT probe can easily be connected to the USB port of a PC. The MT30-01 is suitable for DT512 probes. The MT30-05 is suitable for DT12 and DT32 probes. Simple PC software for connecting the USB probe can be downloaded for free. Measured values can be displayed with the software and stored in a CSV file.

Item No.	Type	Price EUR
346.418	MT30-01	
346.419	MT30-05	

Favourably priced set of a DT probe with MT30 adapter:

Item No.	Type	Price EUR
346.416	DT12N and MT30-05	
346.417	DT12P and MT30-05	

Sets are also available with DT32 and DT512 probes on request.



Magnescale DT gauges

These gauges are especially suitable for the built-in display LT10A (DT12/32) and LT11A (DT512). Together they form an economically favourable and very compact measuring system. The gauges DT512 are the same as the DT12 gauges, but have a resolution of 1 µm (in combination with the detector MT12 this is 5 µm).

- Measuring range: 12 mm or 32 mm.
- Highest resolution:
DT12/32: 5 µm, DT512: 1 µm.
- Accuracy:
DT12/32: ±5 µm, DT512: ±3 µm.
- Measuring force at 20°C:
DT12/512N: upward: 0.7±0.5 N,
lateral: 0.8±0.5 N,
downward: 0.9±0.5 N,
DT12/512P: ≤1.7 N,
DT32N/NV: upward: 1.1±0.8 N,
lateral: 1.3±0.8 N,
downward: 1.5±0.8 N,
DT32P: ≤2.9 N,
DT32PV: ≤9 N.
- Spring push, except DT32NV/PV:
pneumatic push.
- Cable length: 2 m.



Item No.	Type	Measuring range/mm	Price EUR
344.855	DT12N	12	
344.856	DT12P	12	
346.495	DT32N	32	
346.496	DT32P	32	
346.497	DT32NV	32	
346.498	DT32PV	32	
344.853	DT512N	12	
344.854	DT512P	12	
346.477 Adapter DZ51			
346.793 Adapter SZ70-1			
346.145 CE29-003			
344.426* Pneumatic retraction device DZ176			

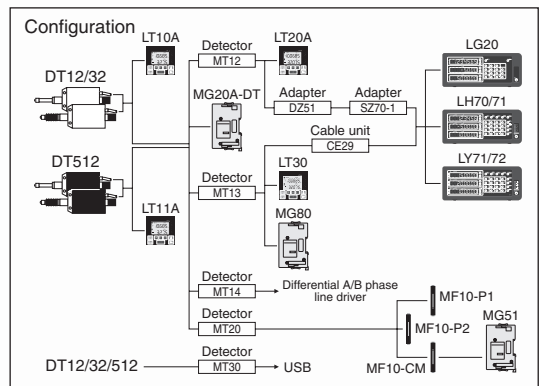
* Only for the DT12 and DT512 gauges.

Item No.	Type	Length/m	Price EUR
Extension cables:			
346.136	CE08-1	1	
346.137	CE08-3	3	
346.138	CE08-5	5	
346.139	CE08-10	10	
346.140	CE08-15	15	

- Dimensions *l x w x t* and weight (excl. cable unit):
DT12/512N: 116 x 35 x 12 mm, 75 g,
DT12/512P: 116 x 35 x 12 mm, 80 g,
DT32N/P: 218 x 35 x 12 mm, 120 g,
DT32NV/PV: 217.5 x 35 x 12 mm, 140 g.
- Protection DT12P/512P,
DT32P/PV: IP64.



Item No.	Type	Resolution µm	Price EUR
To LG20, LH70/71, LY71/72, LT20A:			
346.851	MT12-05	5	
346.871	MT12-10	10	
To LT30/MG80:			
346.872	MT13-01	1	
346.852	MT13-05	5	
346.873	MT13-10	10	
A/B phase (TTL line driver RS422):			
346.874	MT14-01	1	
346.875	MT14-05	5	
346.876	MT14-10	10	
334.684	AC adapter for MT14		
To MF10:			
346.412	MT20-01	1	
346.413	MT20-05	5	



Magnescale MG modular multi-interface system

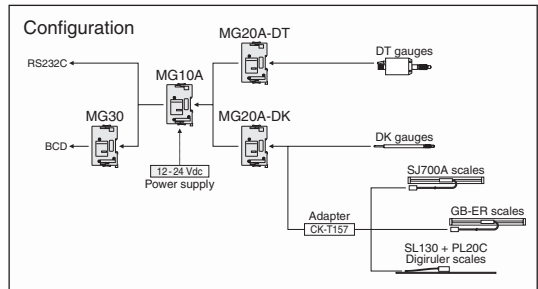
The MG-series is a modular multi-interface system designed to be incorporated into assembly lines and inspection equipment. Different MG modules with various outputs are available for the various Magnescale probes and scales. The MG10A/20A/30 interfaces are connectable via RS232C or BCD. Up to 16 MG20A modules can be linked to one MG10 module. Four MG10A modules can be connected, which enables output of measuring data of up to 64 gauges through one RS232C port or BCD via an additional MG30.

The MG40/50/80 series enables output through Ethernet, EtherCat, CC-link, RS232C, EthernetIP or Profinet. By connecting different modules multiple probes can be connected.

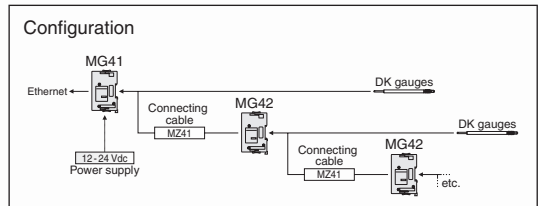
Ask for the detailed brochure



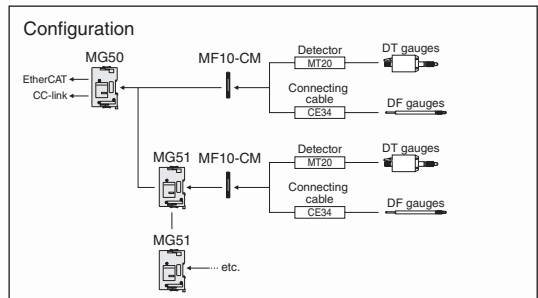
MG30 + MG10A + 6xMG20A



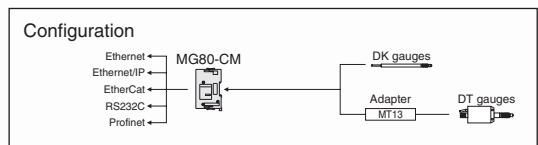
MG41 + MG42



MG50 + 7xMF10



MG80-NE / EI / PN



MG80-EC / SC / CM

NEW

Retraction device DZ801

Pneumatic retraction device for the L type of the DK805/812 gauges.



Item No.	Type	Price EUR
344.465	DZ801	

Retraction devices DZ174

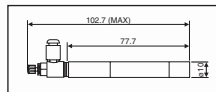
These pneumatic retraction devices are made for (DK) gauges with a clamping stem of $\phi 20$ mm. Working pressure: 30 - 50 N/cm².



Item No.	Type	For	Price EUR
344.416	DZ174-010	DK10	
344.417	DZ174-025	DK25	
344.418	DZ174-050	DK50	

Retraction device DZ176

Retraction device for pneumatic push of the DT12 and DT512 gauges.



Item No.	Type	For	Price EUR
344.426	DZ176	DT12/512	

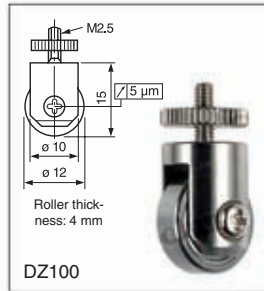
Probe accessories



DZ210



DZ811



DZ100



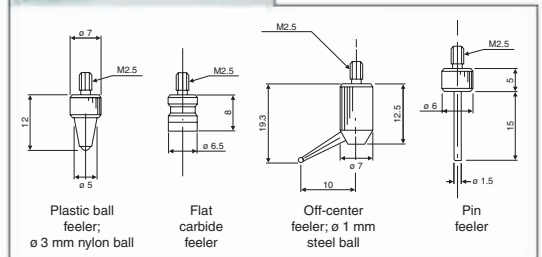
DZ181



DZ5100



DZ170



Item No.	Type/description	Price EUR
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344.406	DZ210 Gauging bracket $\phi 20$ mm	
344.470	DZ811 Adapting bush $\phi 20 - \phi 8$ mm	
346.870	DZ161 Retraction lever bottom mounted with M2.5 thread	
344.408	DZ170 Retraction device $\phi 20$ mm with lever	
344.402	DZ100 Roller feeler	
344.715	DZ181 Magnetic contact point $\phi 22$ mm for DK155/205	
344.409	DZ5100 Set of 4 probes	

Magnescale LG20 and LH70/71 display units

These Magnescale display units, for 1, 2 or 3 axes, have a clearly readable display, are easy to operate and equipped with many functions.

- For 1, 2 or 3 axes.
- Highest resolution: SJ700A: 5 μm , GB-ER: 0.5 μm , PL20C (Digiruler): 10 μm , SR-721SP: 0.5 μm , DK802/812: 0.1 μm , DK10-205: 0.5 μm , DT12/32/512: 5 μm .
- mm/inch conversion.
- Display: 7 digits, orange LED display and floating minus sign.
- Reset: resettable at any point on the scale.
- Preset: up to 3 values per axis.
- Recall: recall data stored by preset.
- Input: A/B phase (according EIA/RS422).
- Alarm signal for temporary power failure, exceeded max. measuring speed, error in stored data, disconnected scale or gauge and display overflow.
- Operating temperature: 0 to 40°C (with no condensation).
- Memory for the last display value and preset values at power loss.
- Diameter read-out.
- Linear error compensation: LG20 max. $\pm 600 \mu\text{m/m}$, LH70/71 max. $\pm 1000 \mu\text{m/m}$.
- Energy saving function.
- Power supply: 12 Vdc or 100-240 Vac (when using AC adapter).
- Power consumption: max. 32 VA.
- Dimensions: 289 x 123 x 80 mm.
- Weight: approx. 1.5 kg.

LH70/71 only:

- ABS/INC switchable. In the ABS mode the distance to the reference point is displayed.
- Midpoint calculation for centering purposes.
- Canned cycle functions (2-axes and 3-axes models): bolt hole circle function, line hole function (LH71 only), radius function for angles.
- Hold function: hold of display value and set as a tool offset value.
- Tool offset memory (3-axes models only): LH70: 12 values, LH71: 99 values.
- Addition function for two selectable axes: $\pm Z1 \pm Z2$ (3-axes models only).

- Reference point detection for scales with a fixed reference point.
- Reference point memory: LH70: 10 reference points, LH71: 150 reference points.



LH71 only:

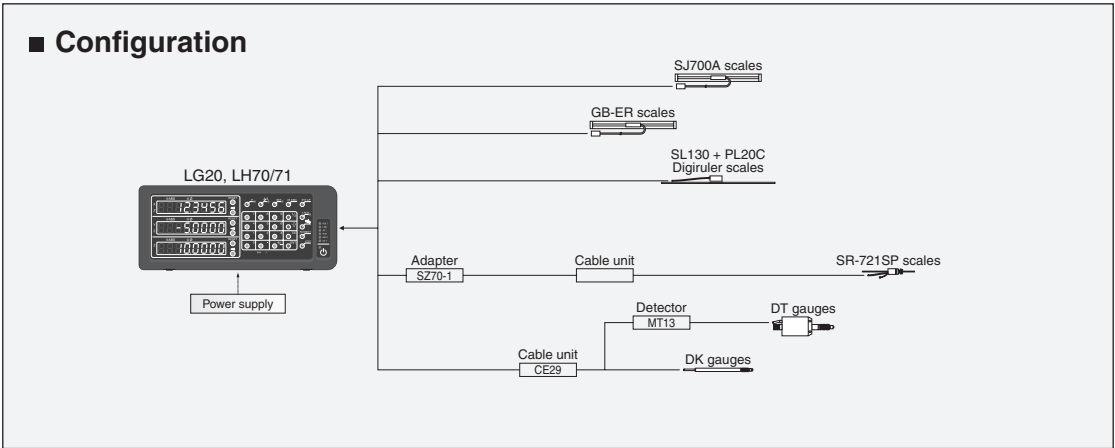
- Read-out of arcs, highest resolution: 1" (Digiruler only).
- Segmented error compensation: max. $\pm 600 \mu\text{m/m}$, up to 32 sections (requires scale with reference point).
- Scaling function: display value = actual movement distance x scaling value 0.100000-9.999999.
- Program function:
 - 1) by manual input,
 - 2) by data storage while functioning (teach-in);
 - 3) by using mirror image function while running the program;
 - 4) by inserting canned cycle functions.



Item No.	Type/description	Price EUR
346.846	LG20-1 / 1 axis	
346.847	LG20-2 / 2 axes	
346.848	LG20-3 / 3 axes	
346.774	LH70-1 / 1 axis	
346.775	LH70-2 / 2 axes	
346.776	LH70-3 / 3 axes	
346.777	LH71-1 / 1 axis	
346.778	LH71-2 / 2 axes	
346.779	LH71-3 / 3 axes	
346.780	AC adapter 12 Vdc, 3 A	

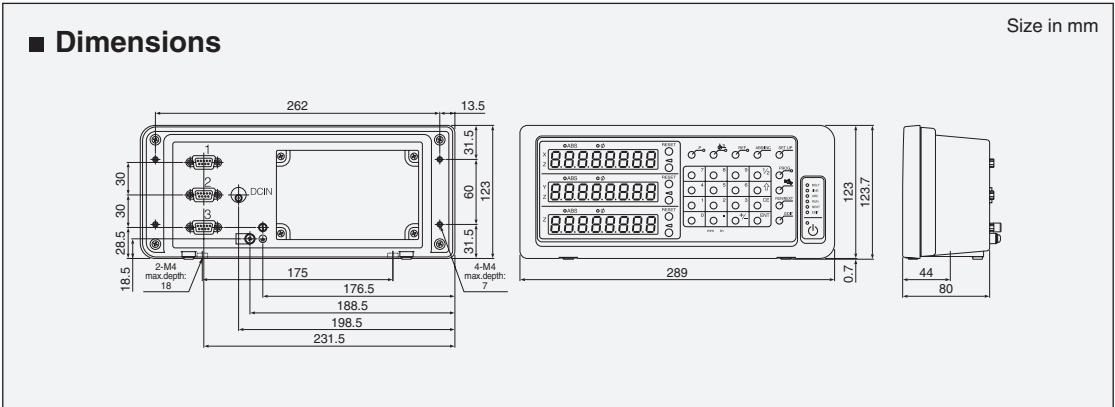
Magnescale LG20, LH70/71 and LY71/72 display units

■ Configuration



■ Dimensions

Size in mm



Magnescale MD20B detector (for SR-721SP)

Because not all Magnescale scales and gauges contain electronics, a detector is necessary as an interface to connect these sensors to the controls of a CNC system.

- Resolution: 0.1-0.2-0.5-1-2-2.5-4-5-10 μm .
- Output: A, B, Z, alarm, PCU, PCD,
A, B, Z, alarm, PCU, PCD.
- Dimensions: 171 x 144 x 32 mm.

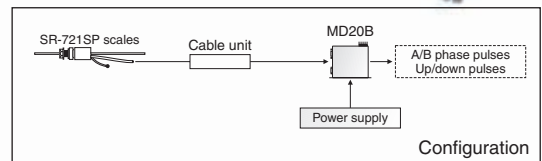
- Power supply: 5 Vdc, 400 mA.
- Standard supplied with Honda output connector.



MD20B

Item No.	Type/description	Price EUR
344.884	Detector box MD20B	
430.115	Power supply, 94-264 Vac / 5 Vdc, 5 A*	
344.878	Connector set reference point PZ001	

* To connect per power supply: 10 pcs. MD20B.



Configuration



Magnescale LY71/72 display units

Multifunctional display units of which the LY71 is expandable with optional interchangeable expansion boards and the LY72 is equipped with an RS232C interface and programmable I/O connector.

- Highest resolution: SJ700A: 5 µm, GB-ER: 0.5 µm, PL20C (Digiruler): 10 µm, SR-721SP: 0.5 µm, DK802/812: 0.1 µm, DK10-205: 0.5 µm, DT12/32/512: 5 µm.
- mm/inch conversion.
- ABS/INC switchable. In the ABS mode the distance to the reference point is displayed.
- Display: 7 digits, orange LED display and floating minus sign.
- Display data: current/min/max/P-P values (LY72 applications with scale: only current).
- Preset/reset/restart.
- Input: A/B phase (according EIA/RS422).
- Alarm signal for temporary power failure, exceeded max. measuring speed, error in stored data, disconnected scale or gauge and display overflow.
- Operating temperature: 0 to 40°C (with no condensation).
- Memory for the last display value and preset values at power loss.
- Two hold functions: hold of display value (while latched) and peak calculation hold (while paused). LY72 applications with scale: only hold of display value.
- Peak hold function convenient for statistical measurement.
- External input functions for automatic measurement.
- Multiplier function: display value = actual movement distance x multiplier 0.100000 - 9.999999.
- Linear error compensation: max. ± 1000 µm/m.

- Power supply: 12 Vdc or 100 - 240 Vac (when using AC adapter).
- Power consumption: max. 32 VA.
- Dimensions: 289 x 123 x 80 mm.
- Weight: approx. 1.5 kg.

LY71 only:

- Input for 1 or 2 axes.
- Addition function.
- Optional expansion boards.

LY72 only:

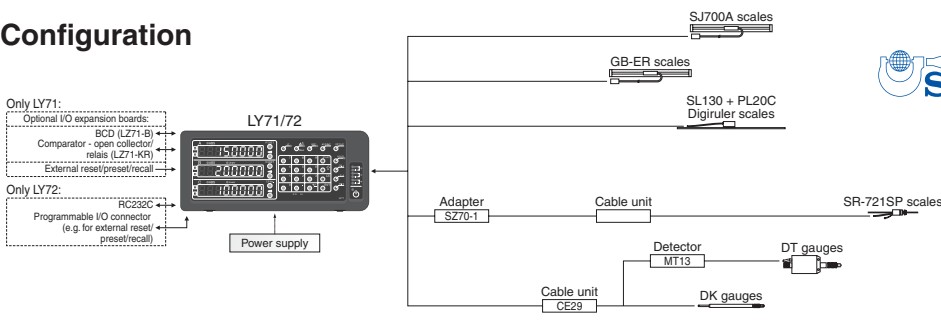
- Up to 3 axes can be connected.
- RS232C data output.

Item No.	Type/description	Price EUR
346.849	LY71	
346.850	LY72	
346.780	AC adapter 12 Vdc, 3 A	
Options LY71:		
346.868	BCD-I/O board LZ71-B	
346.869	Comparator I/O open collector/relay LZ71-KR	
Options LY72:		
495.169	RS232C cable for PC connection (D sub 9 pin)	
264.505	Mitutoyo DP-1VA SPC printer ¹	
348.042	RS232C→Mitutoyo interface ²	
900.825	Printing paper (5 rolls)	

¹ Incl. AC adapter (6 Vdc) and a roll of printing paper.

² Makes e.g. the Magnescale signal suitable for the SPC printer (495.169 required).

Configuration

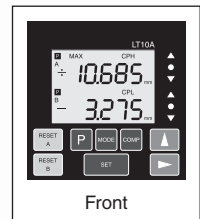
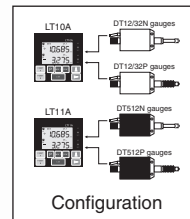


Magnescale LT10A/11A display units

Very compact display unit, which is easy to install into measuring systems due to its small size. Display unit with one or two DT12/32 (LT10A) or DT512 (LT11A) measuring gauge connections and several functions and output signals.

- Highest resolution:
5 μm (LT10A) or 1 μm (LT11A).
- Illuminated LCD display with 5 digits and floating minus sign.
- Output: BCD (type B), RS232C (type C).
- Reset/preset.
- Min/max/P-P function, recall function.
- Addition function: $\pm A \pm B$ (2-axes models).
- Comparator values for Go/NoGo indication and output signals (open collector). The BCD models have 4 different preset selections.
- Max. measuring speed: 60 m/min.
- Dimensions: 72 x 72 x 80 mm.
- Weight: 200-270 g.
- Power supply: 12-24 Vdc (max. 9 W).

Item No.	Type/description	Price EUR
Display unit for 1 measuring gauge:		
344.857	LT10A-105	
344.858	LT10A-105B (BCD)	
344.859	LT10A-105C (RS232C)	
344.863	LT11A-101	
344.864	LT11A-101B (BCD)	
344.865	LT11A-101C (RS232C)	
Display unit for 2 measuring gauges:		
344.860	LT10A-205	
344.861	LT10A-205B (BCD)	
344.862	LT10A-205C (RS232C)	
344.866	LT11A-201	
344.867	LT11A-201B (BCD)	
344.868	LT11A-201C (RS232C)	
334.695	Mini AC adapter 12 Vdc, 1 A	
Options:		
348.276	Stand-alone housing with on/off switch	
348.122	RS232C cable for PC connection (D sub 9 pin)	

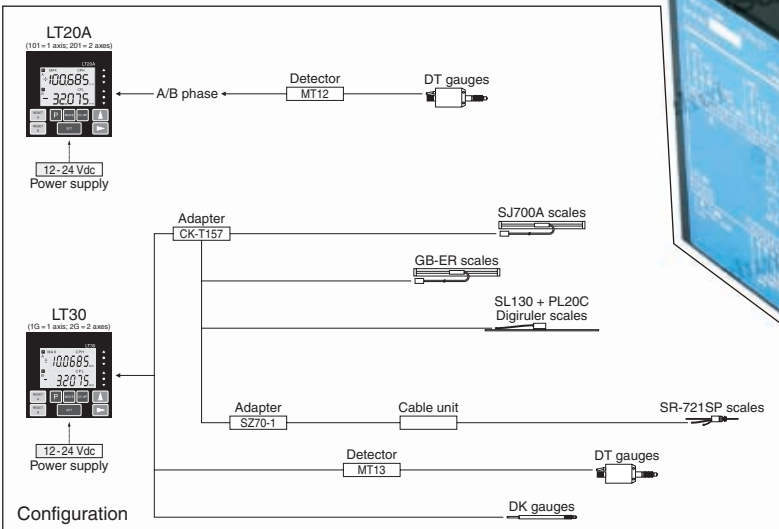


Magnescale LT20A/30 display units

Very compact display unit, which is easy to install into measuring systems due to its small size. Can be used for many Magnescale scales and gauges.

- Highest resolution:
0.5 μm (LT20A) or 0.1 μm (LT30).
- Display: backlight LCD display with 6 digits, floating minus sign and mode indication.
- Measuring mode setting by key switch or external signal.
- Input: A/B phase (10p DIN plug).
Output: BCD (type B), RS232C (type C).
- Terminal connection:
Input: reset, peak-hold start, preset, recall.
Output: Go/NoGo.
- Reference point detection (only LT30).
- Alarm signals.
- Data storage of: resolution, measuring direction, preset value, tolerance limits, measuring mode, BCD logic (positive/negative) and RS232C communication parameters.
- Reset/preset/recall.
- Min/max/P-P function.
- Addition function: ±A ±B (2-axes models).
- Comparator values for Go/NoGo indication and output signals (open collector). The BCD models have 4 different preset selections.
- Dimensions: LT20A: 72 x 72 x 104.5 mm,
LT30: 72 x 72 x 71.8 mm.
- Weight: 200 - 270 g.
- Power supply: 12 - 24 Vdc (max. 9 W).

Item No.	Type/description	Price EUR
Display unit for 1 measuring gauge:		
346.460	LT20A-101	
346.461	LT20A-101B (BCD)	
346.462	LT20A-101C (RS232C)	
346.787	LT30-1G	
346.788	LT30-1GB (BCD)	
346.789	LT30-1GC (RS232C)	
Display unit for 2 measuring gauges:		
346.463	LT20A-201	
346.464	LT20A-201B (BCD)	
346.465	LT20A-201C (RS232C)	
346.790	LT30-2G	
346.791	LT30-2GB (BCD)	
346.792	LT30-2GC (RS232C)	
334.695	Mini AC adapter 12 Vdc, 1 A	
Options:		
348.276	Stand-alone housing with on/off switch	
348.122	RS232C cable for PC connection (D sub 9 pin)	



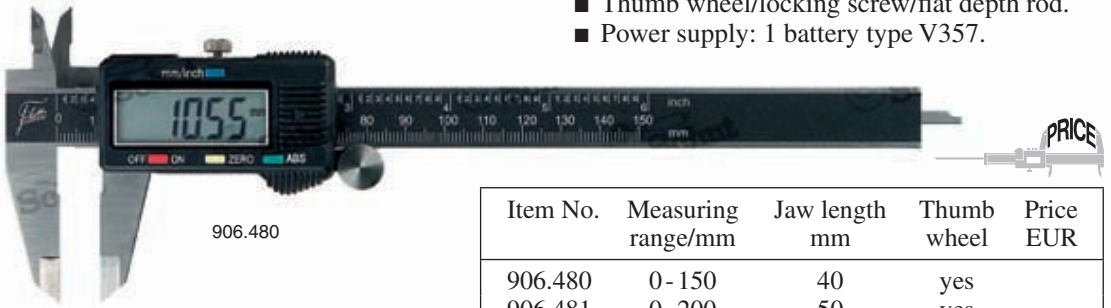
Calipers / Depth calipers and micrometers



Absolute digital calipers

Calipers with an absolute measuring system for easy incremental and absolute conversion.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Power supply: 1 battery type V357.



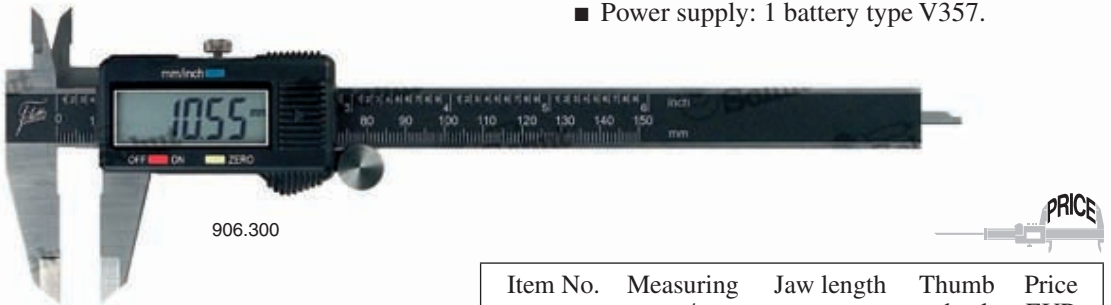
906.480



Item No.	Measuring range/mm	Jaw length mm	Thumb wheel	Price EUR
906.480	0-150	40	yes	
906.481	0-200	50	yes	
906.482	0-300	60	yes	
Option:				
836.535	Spare battery			

Digital calipers with excellent price-performance ratio

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display (except 906.483/484).
- Thumb wheel (except 906.299/483/484).
- Locking screw/flat depth rod.
- Power supply: 1 battery type V357.



906.300



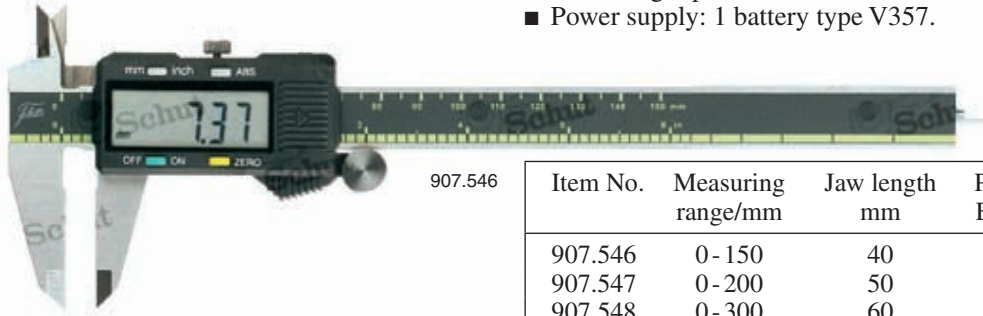
906.299

Item No.	Measuring range/mm	Jaw length mm	Thumb wheel	Price EUR
906.483	0- 75	30	no	
906.484	0-100	30	no	
906.300	0-150	40	yes	
906.302	0-200	50	yes	
906.304	0-300	60	yes	
Left-handed model:				
906.299	0-150	40	no	
Option:				
836.535	Spare battery			

Absolute digital calipers

Calipers with an absolute measuring system for easy incremental and absolute conversion. The advantage of these calipers is the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the calipers without having to reset the zero position at every use.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



907.546

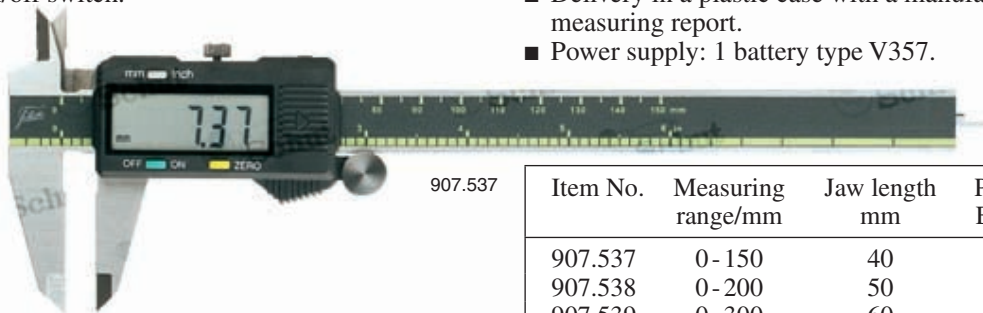
Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.546	0-150	40	
907.547	0-200	50	
907.548	0-300	60	
Option:			
836.535	Spare battery		

PRICE

Digital calipers

The advantage of these calipers is the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the calipers without having to reset the zero position at every use.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



907.537

Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.537	0-150	40	
907.538	0-200	50	
907.539	0-300	60	
Option:			
836.535	Spare battery		

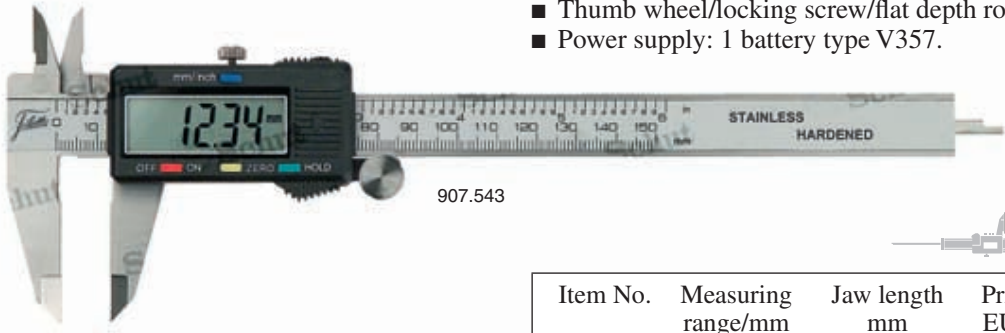
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PRICE

Digital calipers with hold function

Digital calipers with a function to hold the display value at any position.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Hold function.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Power supply: 1 battery type V357.



907.543

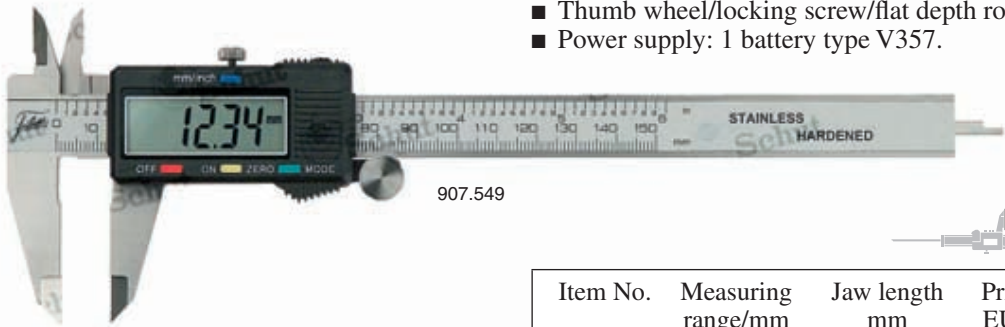
PRICE

Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.543	0-150	40	
907.544	0-200	50	
907.545	0-300	60	
Option:			
836.535	Spare battery		

Digital calipers with min/max function

By keeping the mode button pressed you can hold the minimum and maximum measuring values.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Min/max function.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Power supply: 1 battery type V357.



907.549

PRICE

Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.549	0-150	40	
907.550	0-200	50	
907.551	0-300	60	
Option:			
836.535	Spare battery		



CO2.302-EN-20230522

Digital calipers 0.005 mm

Calipers with a higher resolution and a measuring range up to 300 mm.

- Measuring range: 0 - 300 mm.
- Resolution: **0.005 mm**.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset.
- Thumb wheel/locking screw/flat depth rod.
- Power supply: 1 battery type CR2032.



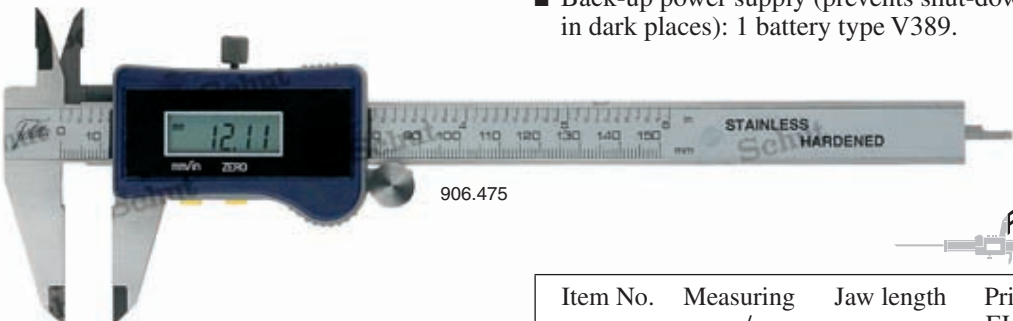
PRICE

Item No.	Measuring range/mm	Jaw length mm	Price EUR
906.821	0 - 150	40	
906.822	0 - 200	50	
906.823	0 - 300	60	
Option:			
495.157	Spare battery		

Digital solar calipers

The solar power supply functions already with a low illumination level.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Automatic switch-off.
- Reset.
- Thumb wheel/locking screw/flat depth rod.
- Back-up power supply (prevents shut-down in dark places): 1 battery type V389.



PRICE

Item No.	Measuring range/mm	Jaw length mm	Price EUR
906.475	0 - 150	40	
906.492	0 - 200	50	
906.493	0 - 300	60	
Option:			
498.823	Spare battery		



Digital calipers with glass ruler

Equipped with a glass ruler. Very smooth displacement by non-contact movement.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- ABS/INC switchable (only 909.443/444/445).
- With data output.
- On/off switch.
- Automatic switch-off.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2025.



USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).

Item No.	Measuring range/mm	Jaw length mm	Price EUR
909.440	0 - 150	40	
909.441	0 - 200	50	
909.442	0 - 300	60	
Absolute calipers:			
909.443	0 - 150	40	
909.444	0 - 200	50	
909.445	0 - 300	60	
Options:			
495.214	Spare battery		
909.446	USB interface		
909.687	Footswitch for USB interface		

Digital calipers with tolerance function

Digital calipers with a function to set tolerance limits with Go/NoGo reading.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- With data output.
- Tolerance function.
- On/off switch.
- Automatic switch-off.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2025.



Item No.	Measuring range/mm	Jaw length mm	Price EUR
906.412	0 - 150	40	
906.413	0 - 200	50	
906.414	0 - 300	60	
Options:			
495.214	Spare battery		
909.446	USB interface		
909.687	Foot switch		



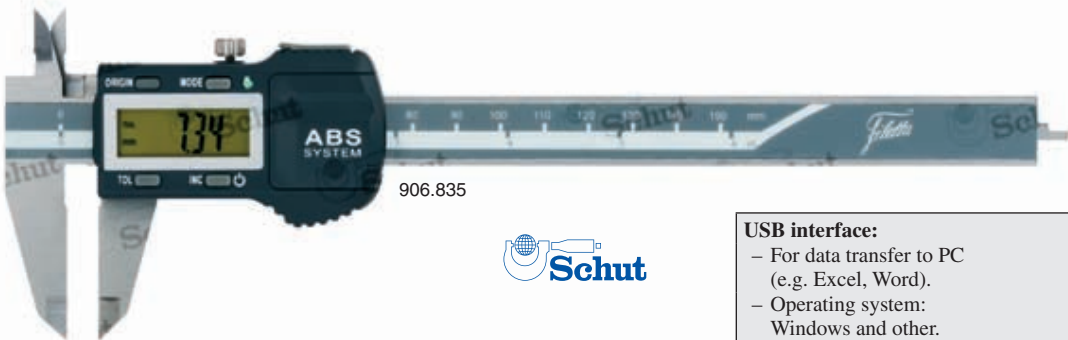
Absolute digital calipers IP54

Calipers with an absolute measuring system for easy incremental and absolute conversion. The advantage of these calipers is the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the calipers without having to reset the zero position at every use. These calipers have a protection degree of IP54 and are therefore protected against splash water and resistant to oil and dust. The models with the tolerance limit function are provided with a clear optical Go (NoGo) indication.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With data output.
- On/off switch.
- Automatic switch-off.
- Reset.
- Max. measuring speed: unlimited.
- Locking screw/flat depth rod.
- Protection: IP54.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

Models with tolerance display:

- Adjustable tolerance limits.
- Tolerance display by means of illuminated green LED at GO value.



906.835



USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).

Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
906.838	0 - 150	0.02	40	
906.839	0 - 200	0.03	50	
906.840	0 - 300	0.03	60	
Models with tolerance display:				
906.835	0 - 150	0.02	40	
906.836	0 - 200	0.03	50	
906.837	0 - 300	0.03	60	
Options:				
495.157	Spare battery			
906.618 ^{1,2}	USB interface			
909.687	Footswitch for USB interface			
910.038	Wireless USB receiver			
906.619 ²	Wireless transmitter			



906.618



909.687



906.619/910.038

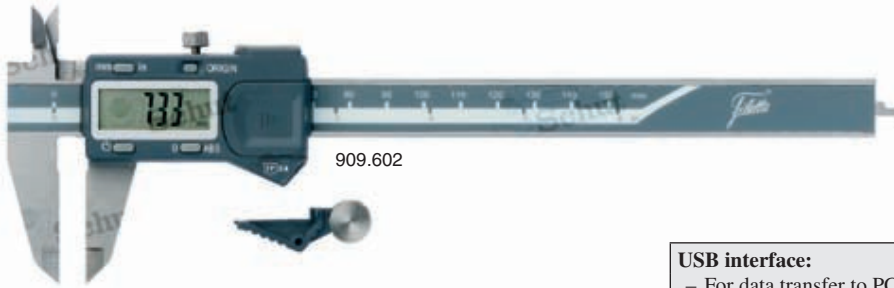
¹ Standard configured for PC with English (US) keyboard.
Also available on request for alternative keyboards.

² With micro-USB connection.

Absolute digital calipers IP54

Calipers with an absolute measuring system for easy incremental and absolute conversion. This gives you the advantage that the caliper stores the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the caliper without having to reset the zero point with each use. These calipers have a protection degree of IP54 and are therefore protected against splash water and resistant to oil and dust.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset.
- Max. measuring speed: unlimited.
- Thumb wheel supplied separately.
- Locking screw/flat depth rod.
- Protection: IP54.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



909.602

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



909.686



909.687



910.039/038



Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
909.602	0 - 150	0.02	40	
909.603	0 - 200	0.03	50	
909.604	0 - 300	0.03	60	

Options:

- 495.157 Spare battery
- 909.686^{1,2} USB interface
- 909.687 Footswitch for USB interface
- 910.038 Wireless USB receiver
- 910.039² Wireless transmitter

¹ Standard configured for PC with English (US) keyboard. Also available on request for alternative keyboards.

² For instruments with a Digimatic data output.

Absolute digital calipers IP54

Calipers with an absolute measuring system for easy incremental and absolute conversion. This gives you the advantage that the caliper stores the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the caliper without having to reset the zero point with each use. These calipers have a protection degree of IP54 and are therefore protected against splash water and resistant to oil and dust.

- Measuring range: 0- 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset.
- Thumb wheel/locking screw/flat depth rod.
- Protection: IP54.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



906.177



Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
906.177	0 - 150	0.02	40	
906.178	0 - 200	0.03	50	
906.179	0 - 300	0.03	60	

Option:

495.157 Spare battery

Digital calipers IP54

These calipers have a protection degree of IP54 and are therefore protected against splash water and resistant to oil and dust.

- Measuring range: 0- 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Thumb wheel/locking screw/flat depth rod.
- Protection: IP54.
- Power supply: 1 battery type V357.



907.900

Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.900	0 - 150	40	
907.901	0 - 200	50	
907.902	0 - 300	60	

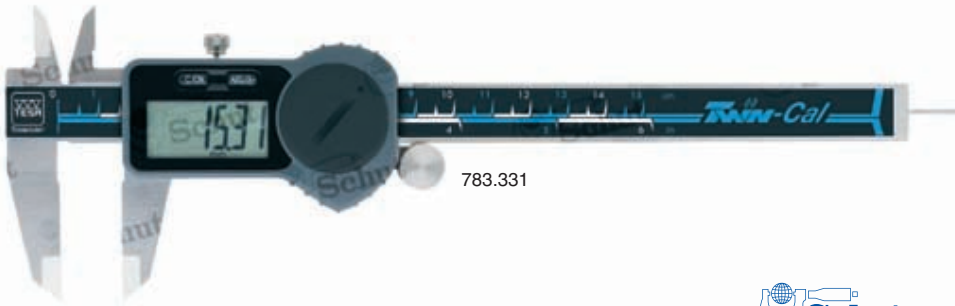
Option:

836.535 Spare battery

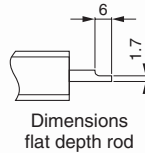
TESA TWIN-Cal absolute digital calipers

New generation IP40 calipers, TESA TWIN-Cal, with an excellent price-performance ratio. These calipers have a unique connectivity concept TESA LINK. All TWIN-Cal calipers are equipped with a data output. Connect the TESA Link Connector to the TWIN-Cal for “plug and play” (wireless) data transfer.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Digit height: 11 mm.
- Automatic switch-off.
- Reset.
- Max. measuring speed: approx. 2.5 m/s.
- Thumb wheel (except 783.334).
- Locking screw.
- Flat depth rod (except 783.331: round depth rod $\varnothing 1.5$ mm).
- Protection: IP40.
- ISO 13385-1.
- Standard supplied with data output (USB, Digimatic or wireless).
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



783.331



Item No.	Measuring range/mm	Jaw length mm	Depth rod	Price EUR
783.334	0-150	40	flat	
783.331	0-150	40	round	
783.332	0-200	50	flat	
783.333	0-300	64	flat	
Options:				
495.157	Spare battery			
779.362 ¹	Depth measuring base 75 x 6 mm			
783.300 ¹	Thumb wheel			
783.301 ²	TESA Link Connector USB			
783.302 ²	TESA Link Connector Digimatic			
783.555 ²	TESA Link Connector Bluetooth			

¹ Only suitable for 783.334.

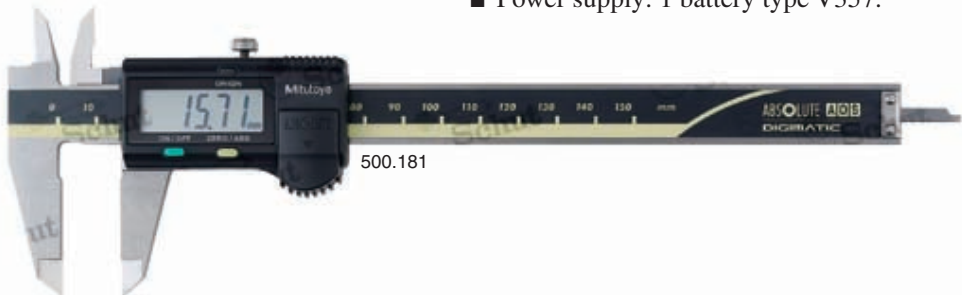
² The TESA Link Connector will replace the battery cover.



Mitutoyo Absolute Digimatic calipers

Mitutoyo digital calipers equipped with an AOS inductive encoder. The measuring signal is not affected by dirt (water, oil, etc.) on the ruler surface due to the electromagnetic inductive ABS encoder. The one-time setting of origin remains as the absolute zero position until the battery has to be changed.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable.
- With or without Digimatic data output.
- Reset.
- Max. measuring speed: unlimited.
- Flat depth rod (except 500.158, 500.180, 500.184 and 500.203: round depth rod \varnothing 1.9 mm).
- Protection: IP40.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
Without Digimatic data output:				
500.180 ¹	0-100	0.02	40	
500.181	0-150	0.02	40	
500.184 ¹	0-150	0.02	40	
500.182	0-200	0.02	50	
With Digimatic data output:				
500.161	0-150	0.02	40	
500.203 ¹	0-150	0.02	40	
500.158 ^{1,2}	0-150	0.02	40	
500.151 ²	0-150	0.02	40	
500.162	0-200	0.02	50	
500.152 ²	0-200	0.02	50	
500.205	0-300	0.03	64	
500.153 ²	0-300	0.03	64	



¹ With round depth rod \varnothing 1.9 mm.

² With thumb wheel.

³ With data switch.

⁴ Connector + transmitter are needed.

Options

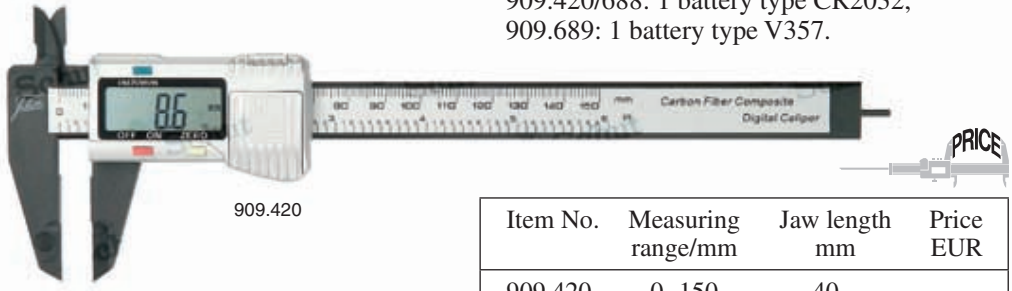
Item No.	Description	Price EUR
836.535	Spare battery	
959.149 ³	Digimatic signal cable 1 m	
959.150 ³	Digimatic signal cable 2 m	
106.382 ³	USB Input Tool Direct cable 2 m	
102.300 ^{3,4}	U-WAVE fit connector	
264.620 ⁴	U-WAVE fit transmitter IP67	
264.621 ⁴	U-WAVE fit transmitter	
264.624 ⁴	U-WAVE Bluetooth transmitter IP 67	
264.625 ⁴	U-WAVE Bluetooth transmitter	



Digital carbon fiber calipers

Digital calipers made of carbon fiber.

- Measuring range: 0-300 mm.
- Resolution: 0.1 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Flat depth rod (only 909.420).
- Power supply:
909.420/688: 1 battery type CR2032,
909.689: 1 battery type V357.



909.420

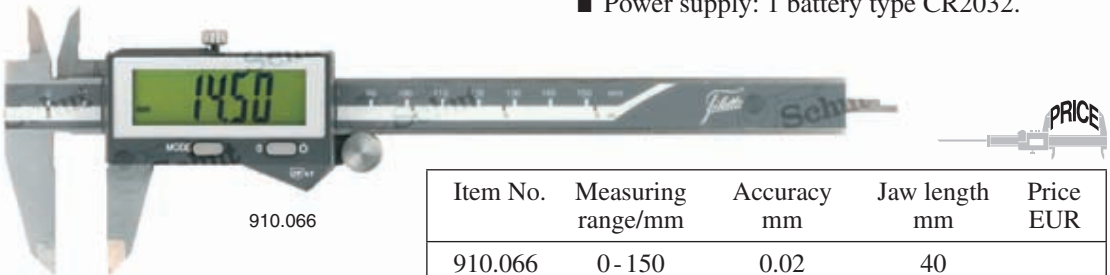


Item No.	Measuring range/mm	Jaw length mm	Price EUR
909.420	0-150	40	
909.688	0-150	75	
909.689	0-300	90.5	
Options:			
495.157	Spare battery type CR2032		
836.535	Spare battery type V357		

Digital calipers IP67

These IP67 protected calipers are especially suitable for use in production environments: they are fully protected against dust intrusion and even temporary immersion.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Automatic switch-off.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Protection: IP67.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



910.066



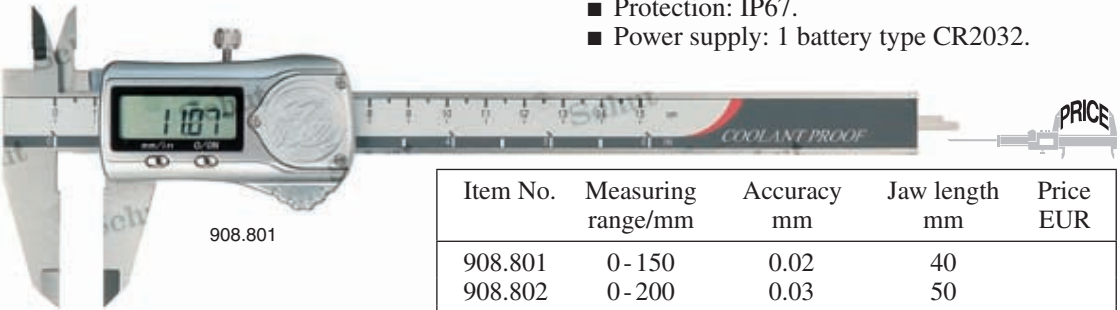
Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
910.066	0-150	0.02	40	
910.067	0-200	0.03	50	
910.068	0-300	0.03	60	
With Bluetooth:				
910.069	0-150	0.03	40	
Option:				
495.157	Spare battery			

Absolute digital calipers IP67

These IP67 protected calipers are especially suitable for use in production environments: they are fully protected against dust intrusion and even temporary immersion.

Calipers with an absolute measuring system for easy incremental and absolute conversion. The advantage of these calipers is the one-time setting of the absolute zero position until the battery has to be changed. This reduces the chance of measuring errors and enables you to use the calipers without having to reset the zero position at every use.

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset.
- Locking screw/flat depth rod.
- Protection: IP67.
- Power supply: 1 battery type CR2032.



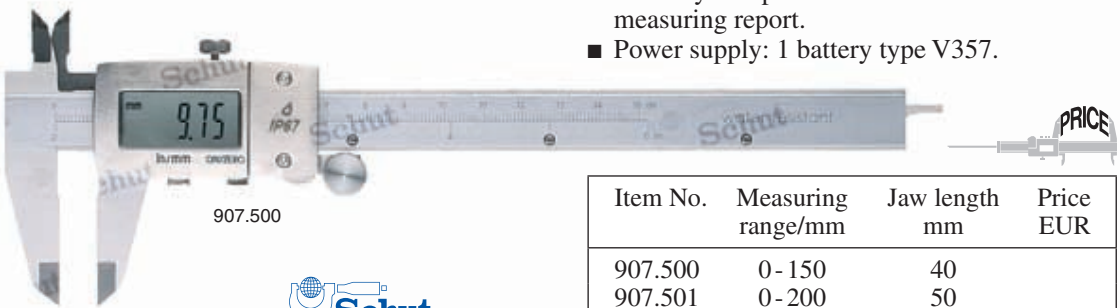
908.801

Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
908.801	0 - 150	0.02	40	
908.802	0 - 200	0.03	50	
908.803	0 - 300	0.03	60	
Option:				
495.157	Spare battery			

Digital calipers IP67

These IP67 protected calipers are especially suitable for use in production environments: they are fully protected against dust intrusion and even temporary immersion.

- Measuring range: 0 - 200 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Thumb wheel/locking screw/flat depth rod.
- Protected rack.
- Protection: IP67.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



907.500

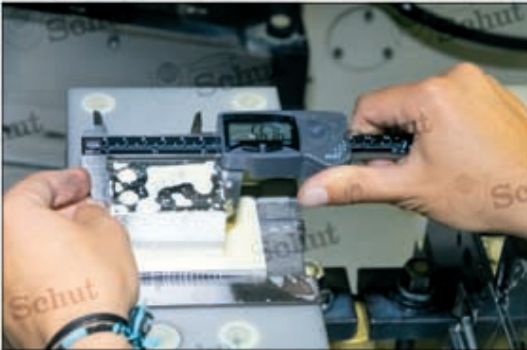


Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.500	0 - 150	40	
907.501	0 - 200	50	
Option:			
836.535	Spare battery		

TESA-Cal absolute digital calipers IP67

As an alternative to the TESA TWIN-Cal caliper line, TESA offers these TESA-Cal calipers with an excellent price-performance ratio. These IP67 rated TESA-Cal calipers are especially suitable for use in the production environments: they are fully protected against dust and can even withstand temporary immersion.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Automatic switch-off.
- Reset.
- Thumb wheel (only 783.593 and 783.594).
- Locking screw.
- Flat depth rod (except 783.595: round depth rod \varnothing 1.5 mm).
- Protection: IP67.
- ISO 13385-1.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

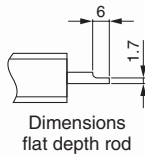
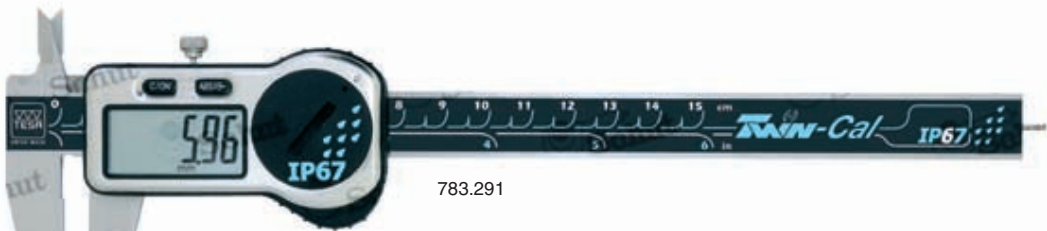


Item No.	Measuring range/mm	Jaw length mm	Depth rod	Price EUR
783.592	0 - 150	40	flat	
783.595	0 - 150	40	round	
783.594	0 - 200	50	flat	
783.593	0 - 300	64	flat	
Option:				
495.157	Spare battery			

TESA TWIN-Cal absolute digital calipers IP67

New generation IP67 calipers, TESA TWIN-Cal, with an absolute measuring system and a “soft touch” grip. These calipers have a unique connectivity concept TESA LINK. All TWIN-Cal calipers are equipped with a data output. Connect the TESA Link Connector to the TWIN-Cal for “plug and play” (wireless) data transfer.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- mm/inch conversion.
- Digit height: 11 mm.
- Automatic switch-off.
- Reset.
- Max. measuring speed: approx. 2.5 m/s.
- Thumb wheel (except 783.290/291); also optionally available.
- Locking screw.
- Round ($\varnothing 1.5$ mm) or flat depth rod.
- Protection: IP67 (also in combination with data output cable).
- ISO 13385-1.
- Standard supplied with data output (USB, Digimatic or wireless).
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Jaw length mm	Depth rod	Price EUR
783.290	0-150	40	flat	
783.291	0-150	40	round	
783.292	0-150	40	round	
783.293	0-200	50	flat	
783.294	0-300	64	flat	

Options:

- 495.157 Spare battery
- 779.362¹ Depth measuring base 75 x 6 mm
- 783.300¹ Thumb wheel
- 783.301² TESA Link Connector USB
- 783.302² TESA Link Connector Digimatic
- 783.555² TESA Link Connector Bluetooth

¹ Only suitable for the calipers with measuring range 0-150 mm.

² The TESA Link Connector will replace the battery cover.



Mitutoyo Absolute Digimatic Coolant Proof calipers IP67

Series digital calipers with the unique Absolute measuring system to prevent inaccuracy due to an incorrect zero position. These IP67 protected calipers are especially suitable for use in production environments; they even last temporary immersion. The one-time setting of origin remains as the absolute zero position until the battery has to be changed.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- With or without Digimatic data output.
- Digit height: 9 mm.
- Automatic switch-off.
- Reset.
- Max. measuring speed: unlimited.
- Locking screw.
- Flat depth rod (except 500.709: round depth rod \varnothing 1.9 mm).
- Protection: IP67.
- Battery life: approx. 18 000 hours.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.
- Also available with thumb wheel.



500.706



Item No.	Measuring range/mm	Accuracy mm	Jaw length mm	Price EUR
Without Digimatic data output:				
500.706	0-150	0.02	40	
500.709 ¹	0-150	0.02	40	
500.707	0-200	0.02	50	
500.708	0-300	0.03	64	
With Digimatic data output:				
500.716	0-150	0.02	40	
500.727 ²	0-150	0.02	40	
500.717	0-200	0.02	50	
500.728 ²	0-200	0.02	50	
500.718	0-300	0.03	64	



¹ With round depth rod \varnothing 1.9 mm.

² Provided with tungsten carbide measuring faces.

³ With data switch.

⁴ Connector + transmitter are needed.

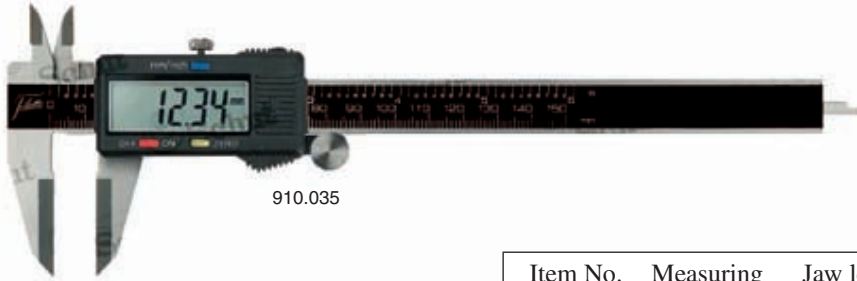
Options

Item No.	Description	Price EUR
836.535	Spare battery	
105.624 ³	Digimatic signal cable, 1 m	
105.625 ³	Digimatic signal cable, 2 m	
106.381 ³	USB Input Tool Direct cable 2 m	
102.310 ^{3,4}	U-WAVE fit connector IP67	
264.620 ⁴	U-WAVE fit transmitter IP67	
264.621 ⁴	U-WAVE fit transmitter	
264.624 ⁴	U-WAVE Bluetooth transmitter IP 67	
264.625 ⁴	U-WAVE Bluetooth transmitter	



Digital calipers with tungsten carbide measuring faces

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Tungsten carbide measuring faces.
- Power supply: 1 battery type V357.

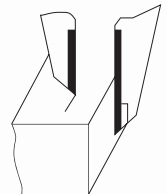


Item No.	Measuring range/mm	Jaw length mm	Price EUR
910.035	0-150	40	
910.036	0-200	50	
910.037	0-300	60	
Option:			
836.535	Spare battery		

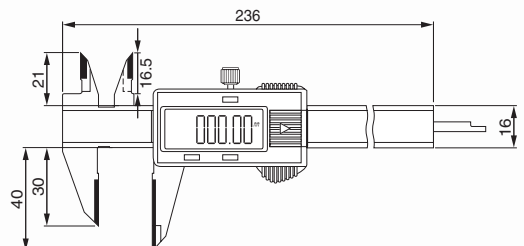
Digital Caliper with long measuring jaw

Digital caliper with long measuring jaw for use as scribing tool.

- Measuring range: 0-150 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw/flat depth rod.
- Tungsten carbide measuring faces.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
910.284	0-150	
Option:		
836.535	Spare battery	

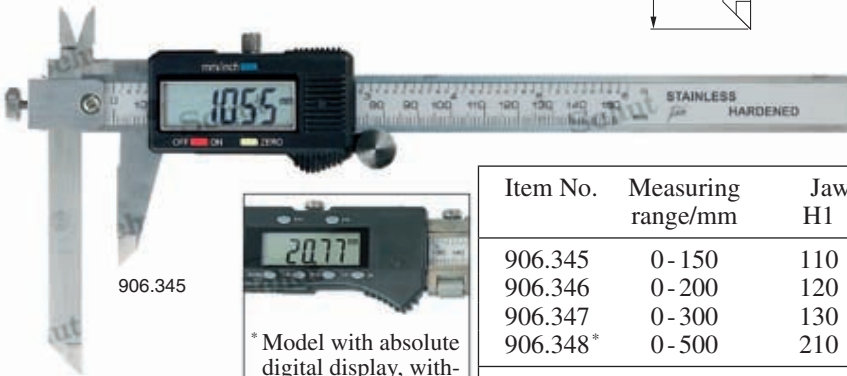
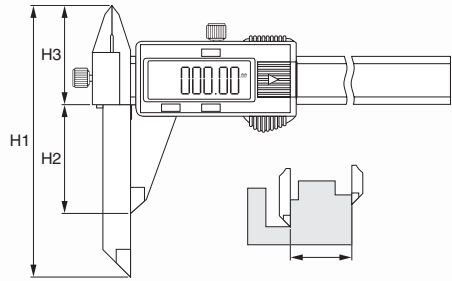


C02.334-EN 20230522

Digital calipers with slidable measuring jaw

For measuring distances between planes at different levels. Very suitable as scribing tool!

- Measuring range: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw.
- Power supply: 1 battery type V357 (except 906.348).



906.345



* Model with absolute digital display, without thumb wheel, with fine adjustment and preset function.

Item No.	Measuring range/mm	Jaw length/mm			Price EUR
		H1	H2	H3	
906.345	0 - 150	110	40	37	
906.346	0 - 200	120	50	40	
906.347	0 - 300	130	60	42	
906.348*	0 - 500	210	100	66	

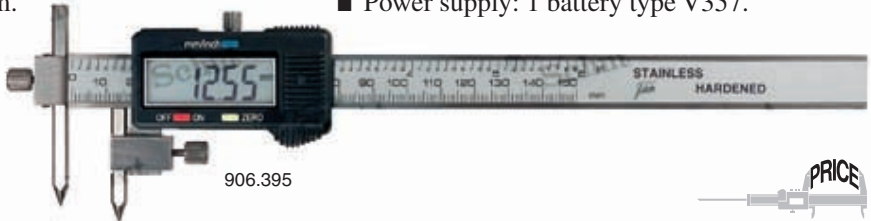
Options:
 836.535 Spare battery type V357
 495.157 Spare battery type CR2032



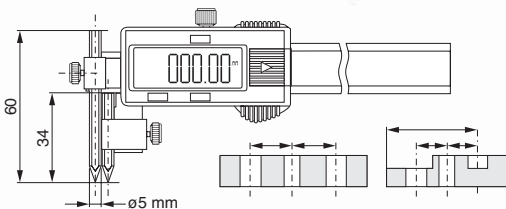
Digital calipers for measuring center distances

Suited for measuring center distances between bores from $\varnothing 1$ up to 4.5 mm. Because both measuring jaws are adjustable in height it is possible to measure center distances between bores that are positioned at different levels.

- Measuring range: 5 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.



906.395



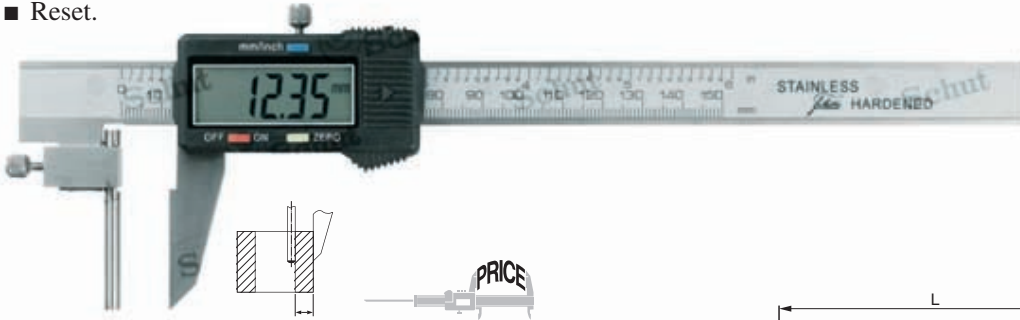
Item No.	Measuring range/mm	Price EUR
906.395	5 - 150	
906.396	5 - 200	
906.397	5 - 300	

Option:
 836.535 Spare battery

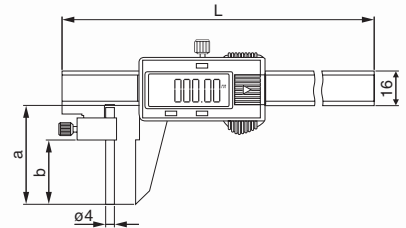
Digital caliper with pin-shaped anvil

Digital caliper for measuring e.g. (tube) wall thickness.

- Measuring range: 0- 150 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Pin-shaped anvil: $\varnothing 4$ mm.
- Locking screw.
- Power supply: 1 battery type V357.



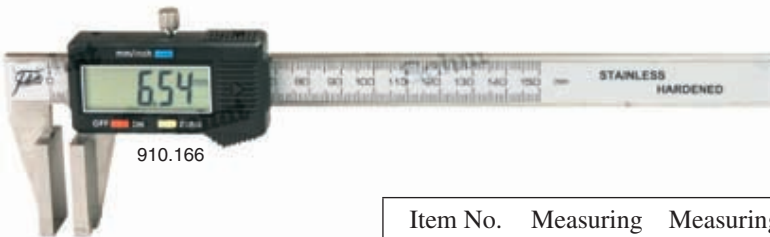
Item No.	Measuring range/mm	a mm	b mm	Price EUR
910.262	0- 150	46	30	
Option:				
836.535	Spare battery			



Digital calipers with large measuring faces

Calipers with large rectangular measuring faces for the measurements of for example round shafts and cables.

- Measuring range: 0- 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.

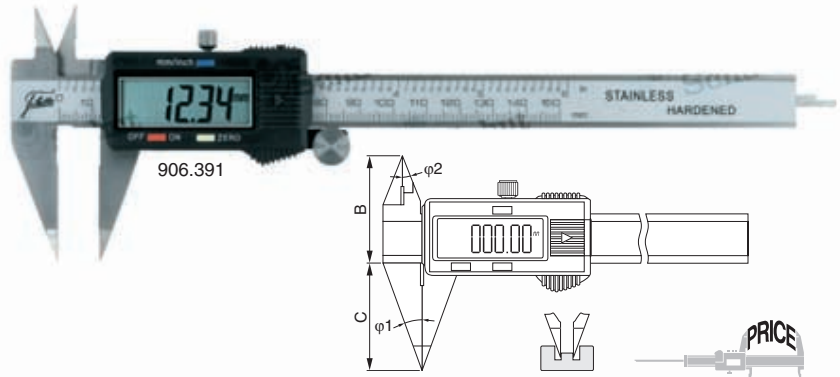


Item No.	Measuring range/mm	Measuring face width/mm	Measuring face height/mm	Price EUR
910.166	0- 150	20	30	
910.167	0- 200	30	40	
910.168	0- 300	40	50	
Option:				
836.535	Spare battery			

Digital calipers with pointed measuring jaws

The pointed measuring jaws of these calipers enable you to measure distances in places that are hard to reach.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw/flat depth rod.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Jaw length C/mm	Length B/mm	Angle phi1	Angle phi2	Price EUR
906.391	0-150	40	37	20°	20°	
906.392	0-200	50	40	20°	22.5°	
906.393	0-300	60	42	20°	22.5°	
Option:						
836.535 Spare battery						

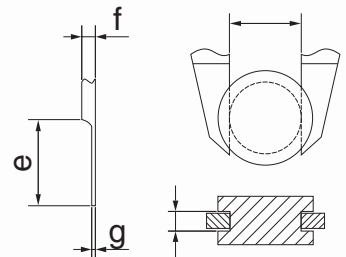
Digital calipers with thin measuring jaws

Digital calipers with extra thin measuring jaws for measuring inside small grooves.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw/flat depth rod.
- Delivery in a case.
- Power supply: 1 battery type V357.



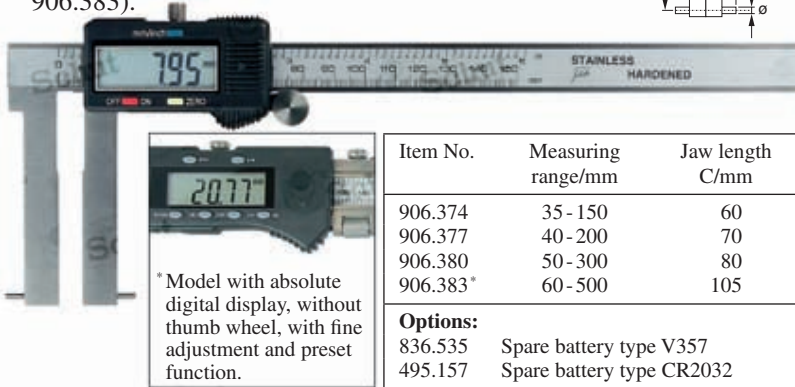
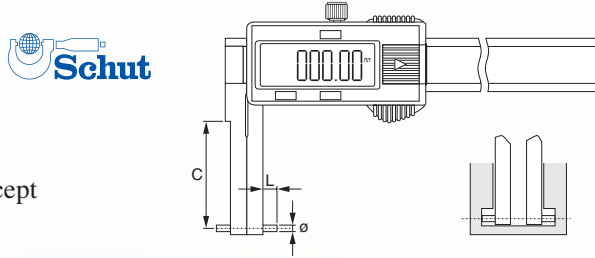
Item No.	Measuring range/mm	Accuracy mm	e mm	f mm	g mm	Price EUR
910.274	0-150	±0.06	20	3.6	0.75	
910.275	0-200	±0.10	20	3.6	0.75	
910.276	0-300	±0.10	20	3.8	1	
Option:						
836.535 Spare battery						



Digital calipers with outside angled measuring pins

These calipers are equipped with outward angled rounded pins.

- Measuring range: 35 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw.
- Power supply: 1 battery type V357 (except 906.383).



906.374



Item No.	Measuring range/mm	Jaw length C/mm	Pin ø/mm	Pin length L/mm	Price EUR
906.374	35 - 150	60	2	6	
906.377	40 - 200	70	3	7	
906.380	50 - 300	80	3	10	
906.383*	60 - 500	105	3	10	
Options:					
836.535	Spare battery type V357				
495.157	Spare battery type CR2032				

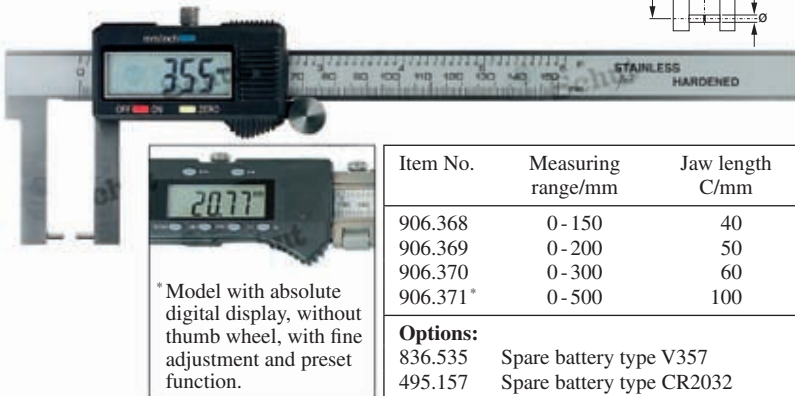
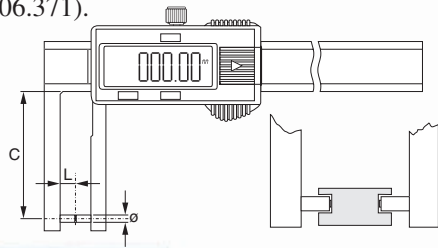
* Model with absolute digital display, without thumb wheel, with fine adjustment and preset function.

Digital calipers with inside angled measuring pins

These calipers are equipped with inward angled rounded pins.

- Measuring range: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw.

- Power supply: 1 battery type V357 (except 906.371).



906.368



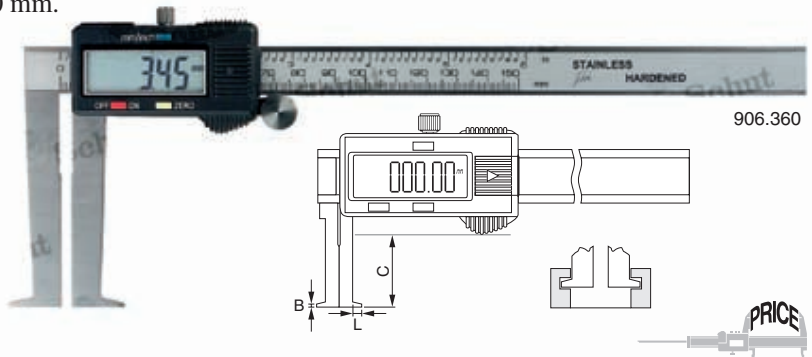
Item No.	Measuring range/mm	Jaw length C/mm	Pin ø/mm	Pin length L/mm	Price EUR
906.368	0 - 150	40	2	5	
906.369	0 - 200	50	2.5	8	
906.370	0 - 300	60	2.5	10	
906.371*	0 - 500	100	3	12	
Options:					
836.535	Spare battery type V357				
495.157	Spare battery type CR2032				

* Model with absolute digital display, without thumb wheel, with fine adjustment and preset function.

Digital calipers with outside angled measuring jaws

These calipers are equipped with outward angled V-shaped measuring jaws.

- Measuring range: 35 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw.
- Power supply:
1 battery type V357
(except 906.363).



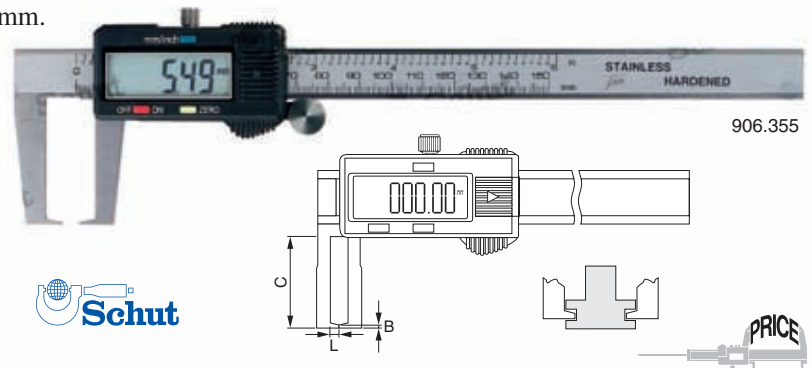
* Model with absolute digital display, without thumb wheel, with fine adjustment and preset function.

Item No.	Measuring range/mm	Jaw length C/mm	Measuring face B/mm	Jaw length L/mm	Price EUR
906.360	35 - 150	50	1.5	6	
906.361	40 - 200	60	1.5	7	
906.362	50 - 300	70	1.5	8	
906.363*	60 - 500	110	2	10	
Options:					
836.535	Spare battery type V357				
495.157	Spare battery type CR2032				

Digital calipers with inside angled measuring jaws

These calipers are equipped with inward angled V-shaped measuring jaws.

- Measuring range: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Thumb wheel/locking screw.
- Power supply:
1 battery type V357
(except 906.358).



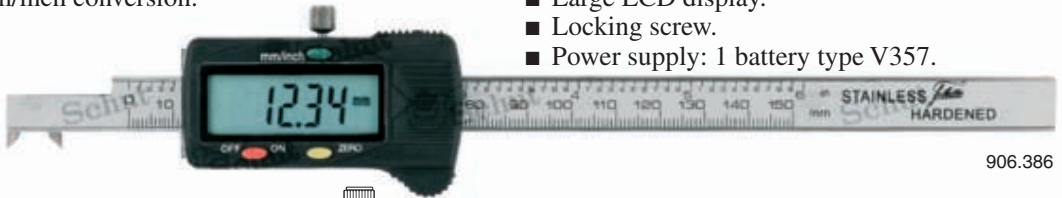
* Model with absolute digital display, without thumb wheel, with fine adjustment and preset function.

Item No.	Measuring range/mm	Jaw length C/mm	Measuring face B/mm	Jaw length L/mm	Price EUR
906.355	0 - 150	40	1	5	
906.356	0 - 200	50	1	7	
906.357	0 - 300	60	1.5	8	
906.358*	0 - 500	100	2	12	
Options:					
836.535	Spare battery type V357				
495.157	Spare battery type CR2032				

Digital calipers for internal length measurement

Calipers with outward angled, pointed measuring jaws for the measurement of for example internal grooves.

- Measuring range: 3 - 200 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.



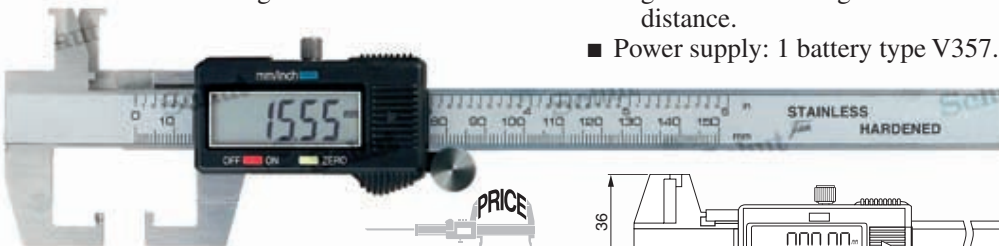
906.386

Item No.	Measuring range/mm	Price EUR
906.386	3 - 125	
906.387	3 - 200	

Option:
836.535 Spare battery

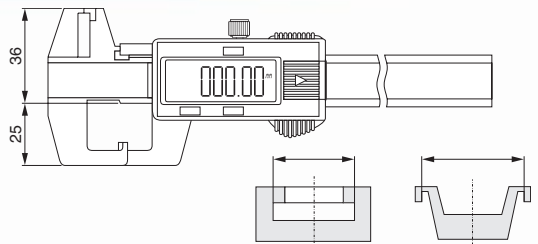
Digital caliper for groove measurements

- Measuring range: 0 - 125 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Equipped with small measuring jaws on top of the caliper.
- Thumb wheel/locking screw.
- Also suitable for:
 - internal diameter attached collar,
 - internal diameter U-shaped flange on axis,
 - center distances blind holes under-surface flange on axis,
 - hole diameter hard-to-reach places,
 - height measurement,
 - groove width and groove distance.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
906.365	0 - 125	

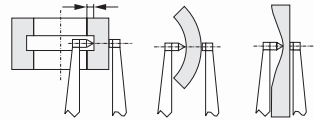
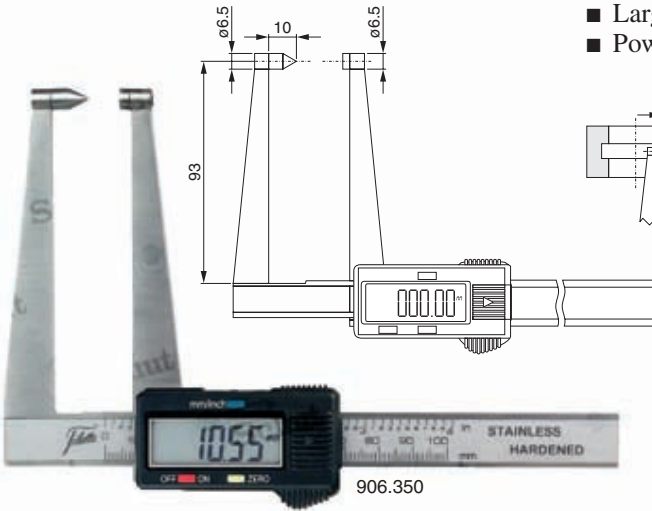
Option:
836.535 Spare battery



Digital calipers with pointed anvil

With the pointed anvil and the long measuring jaws you can measure all sorts of wall thicknesses in places that are hard to reach and of for example round surfaces.

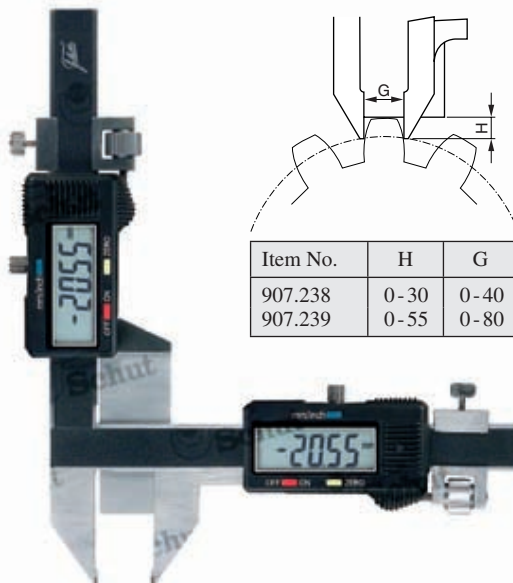
- Measuring range: 0- 150 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
906.350	0- 75	
906.351	0- 125	
906.352	0- 150	
Option:		
836.535	Spare battery	

Digital gear tooth thickness calipers

The vertical slider sets the height (H) from the top of the tooth to the pitch line. Subsequently, the horizontal slider measures the tooth thickness (G) at the pitch line.



Item No.	H	G
907.238	0- 30	0- 40
907.239	0- 55	0- 80

- Measuring range: module 1- 50.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Fine adjustment.
- Locking screw.
- Tungsten carbide measuring faces.
- Power supply: 2 batteries type V357.



Item No.	Module	Price EUR
907.238	1- 30	
907.239	5- 50	
Option:		
836.535	Spare battery (2 needed)	

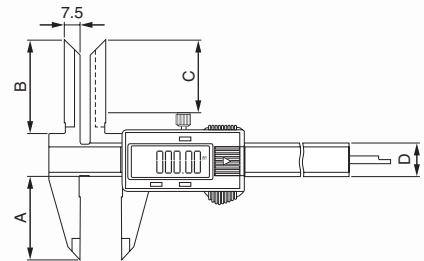
Digital calipers with long measuring knives

Digital calipers with long measuring knives for internal measurements.

- Measuring range: 0-200 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw/flat depth rod.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	A mm	B mm	C mm	D mm	Price EUR
910.280	0-150	40	45	35	16	
910.281	0-200	50	50	40	16	
Option:						
836.535	Spare battery					



Digital calipers for internal measurements

Calipers with long measuring jaws for internal measurements.

- Measuring range: 15-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357 (except 906.825/827/829).

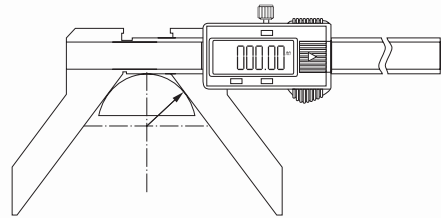
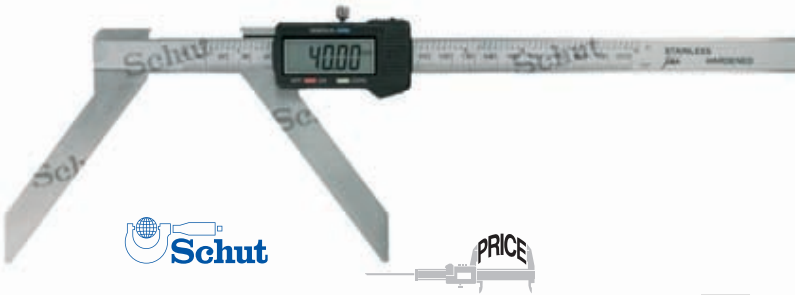


Item No.	Measuring range/mm	Effective jaw length mm	Price EUR
906.824	15-150	50	
906.825*	25-150	130	
906.826	18-200	65	
906.827*	25-200	130	
906.828	20-300	80	
906.829*	25-300	130	
Options:			
836.535	Spare battery type V357		
495.157	Spare battery type CR2032		

Digital radius caliper

Digital caliper for direct measurement of a radius for an arc that has an opening angle smaller than 180° (min. 107°).

- Measuring range: 3 - 150 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
910.272	3 - 150	
Option:		
836.535	Spare battery	

Digital calipers with rotatable LCD display

- Measuring range: 0 - 300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Rotatable display.
- Rotatable display value.
- Thumb wheel/locking screw/flat depth rod.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



910.072



Item No.	Measuring range/mm	Jaw length mm	Price EUR
910.072	0 - 150	40	
910.073	0 - 200	50	
910.074	0 - 300	60	
Option:			
495.157	Spare battery		

Calipers with prismatic anvil

Calipers with prismatic anvil for measuring objects with an uneven number of grooves like cutters, reamers and drills. The angle of the prism aperture is designed for workpieces having a number of 3 or 5 flutes.

- Measuring range: 1 - 40 mm.
- Locking screw.
- Accuracy: ± 0.05 mm.

Analog

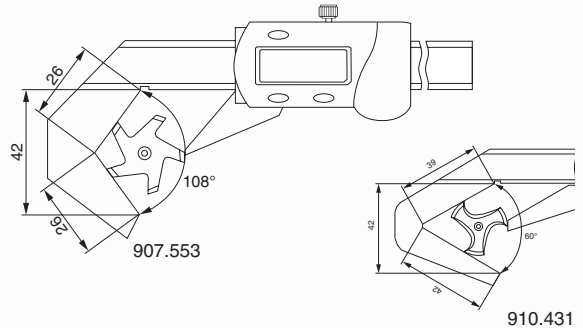
- Graduation: 0.02 mm.

Digital

- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Preset.
- Reset.
- Including setting gauge $\varnothing 1$ mm.
- Power supply: 1 battery type V357.



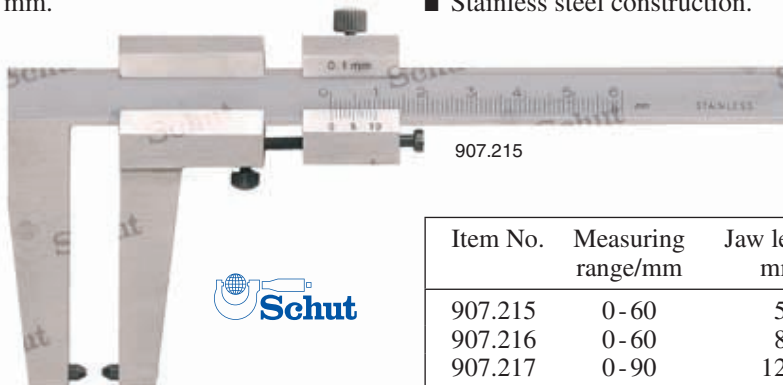
Item No.	For work-pieces with	Measuring range/mm	Price EUR
Analog 910.431	3 flutes	4 - 40	
Digital 907.553	5 flutes	1 - 40	
Option: 836.535	Spare battery		



Brake disc calipers

Brake disc calipers especially designed for measuring the groove depth of brake discs.

- Measuring range: 0 - 90 mm.
- Vernier: 0.1 mm.
- Locking screw.
- Stainless steel construction.



Item No.	Measuring range/mm	Jaw length mm	Price EUR
907.215	0 - 60	55	
907.216	0 - 60	80	
907.217	0 - 90	120	

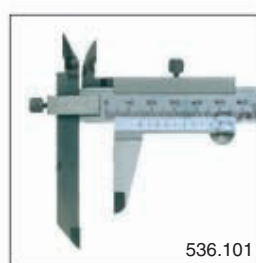


Mitutoyo special-purpose calipers

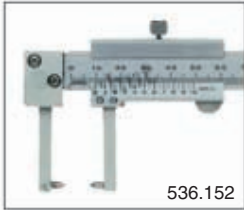
Mitutoyo special-purpose analog (vernier) and digital (Absolute Digimatic Coolant Proof IP67) calipers. For more information please contact our sales department.

Item No.	Measuring range/mm	Read-out* mm	Price EUR
With thinner tungsten carbide measuring jaws (thickness 0.75 mm):			
536.134	0 - 150	0.05 (V)	
536.135	0 - 200	0.05 (V)	
573.635	0 - 150	0.01 (D)	
With pointed measuring jaws:			
536.121	0 - 150	0.05 (V)	
573.622	0 - 150	0.01 (D)	
With thin pointed measuring jaws:			
573.626	0 - 150	0.01 (D)	
For scribing, with tungsten carbide measuring jaws:			
536.221	0 - 150	0.05 (V)	
536.222	0 - 200	0.05 (V)	
536.223	0 - 300	0.05 (V)	
573.676	0 - 150	0.01 (D)	
573.677	0 - 200	0.01 (D)	
573.679	0 - 300	0.01 (D)	
With slidable measuring jaw:			
536.101	0 - 150	0.05 (V)	
536.102	0 - 200	0.05 (V)	
536.103	0 - 300	0.05 (V)	
573.611	0 - 150	0.01 (D)	
573.612	0 - 200	0.01 (D)	
573.614	0 - 300	0.01 (D)	
For center distances:			
536.105	10 - 150	0.05 (V)	
536.106	10 - 200	0.05 (V)	
536.107	10 - 300	0.05 (V)	
573.615	10 - 160	0.01 (D)	
573.616	10 - 210	0.01 (D)	
573.618	10 - 310	0.01 (D)	

* V = vernier read-out, D = digital read-out.



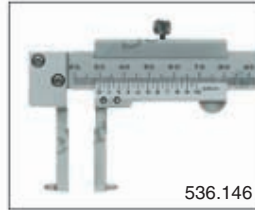
Mitutoyo special-purpose calipers (continued)



536.152



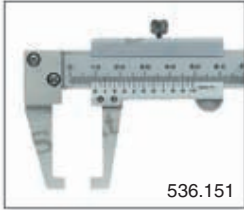
573.654



536.146



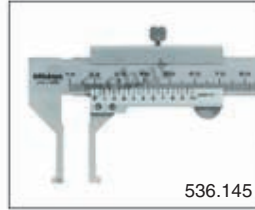
573.648



536.151



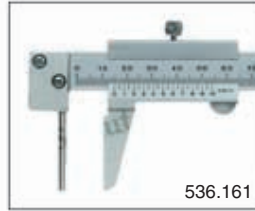
573.653



536.145



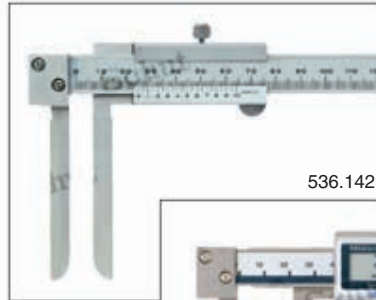
573.647



536.161



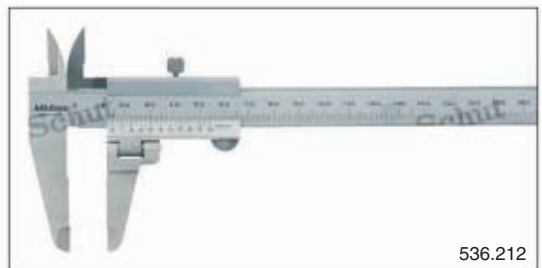
573.662



536.142



573.643



536.212

Item No.	Measuring range/mm	Read-out* mm	Price EUR
With inside angled measuring pins:			
536.152	0 - 150	0.05 (V)	
573.654	0 - 150	0.01 (D)	
With inside angled measuring jaws:			
536.151	0 - 150	0.05 (V)	
573.653	0 - 150	0.01 (D)	
With outside angled measuring pins:			
536.146	20 - 150	0.05 (V)	
536.147	30 - 300	0.05 (V)	
536.148	70 - 450	0.05 (V)	
536.149	70 - 600	0.05 (V)	
573.648	20 - 170	0.01 (D)	
With outside angled measuring jaws:			
536.145	10 - 150	0.05 (V)	
573.647	10 - 160	0.01 (D)	
For tube wall thickness measurements:			
536.161	0 - 150	0.05 (V)	
573.662	0 - 150	0.01 (D)	
For internal measurements:			
536.142	10 - 200	0.05 (V)	
573.643	10 - 200	0.01 (D)	
With swivelling measuring jaw:			
536.212	0 - 200	0.05 (V)	

* V = vernier read-out, D = digital read-out.

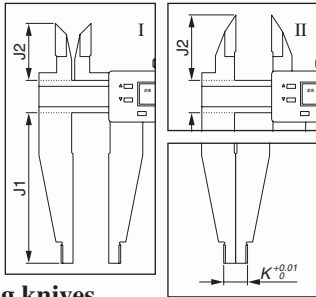
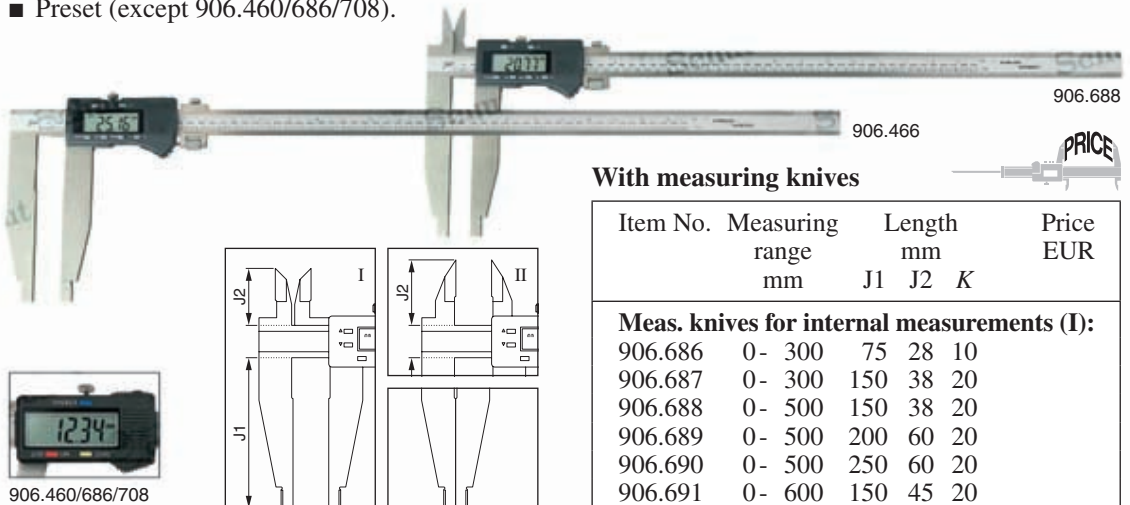
Absolute digital workshop calipers

Large and solid, stainless steel digital calipers with no-glare chrome finished beam.

- Measuring range: 0-2000 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable (except 906.460/686/708).
- On/off switch.
- Reset.
- Preset (except 906.460/686/708).



- Memory for measuring values when the display is switched off.
- Rounded jaw ends for internal measurements.
- Fine adjustment and locking screw.
- Delivery in a plastic case or a wooden case.
- Power supply: 1 battery type CR2032 (except 906.460/686/708).



Without measuring knives

Item No.	Measuring range mm	Length mm		Price EUR
		J1	K	
906.708	0- 300	75	10	
906.709	0- 300	150	20	
906.465	0- 500	150	20	
906.470	0- 500	200	20	
906.718	0- 500	250	20	
906.466	0- 600	150	20	
906.471	0- 600	200	20	
906.719	0- 600	300	20	
906.467	0-1000	200	20	
906.472	0-1000	300	20	
906.468*	0-1500	200	20	
906.473*	0-1500	300	20	
906.469*	0-2000	200	20	
906.474*	0-2000	300	20	

Item No.	Description	Price EUR
495.157	Spare battery type CR2032	
836.535	Spare battery type V357	

With measuring knives

Item No.	Measuring range mm	Length mm			Price EUR
		J1	J2	K	
Meas. knives for internal measurements (I):					
906.686	0- 300	75	28	10	
906.687	0- 300	150	38	20	
906.688	0- 500	150	38	20	
906.689	0- 500	200	60	20	
906.690	0- 500	250	60	20	
906.691	0- 600	150	45	20	
906.692	0- 600	200	60	20	
906.693	0- 600	300	60	20	
906.694	0-1000	200	60	20	
906.695	0-1000	300	60	20	
906.696*	0-1500	200	60	20	
906.697*	0-1500	300	60	20	
906.698*	0-2000	200	60	20	
906.699*	0-2000	300	60	20	

Meas. knives for external measurements (II):					
906.460	0- 300	75	38	10	
906.758	0- 300	150	56	20	
906.461	0- 500	150	56	20	
906.759	0- 500	200	67	20	
906.760	0- 500	250	80	20	
906.761	0- 600	150	56	20	
906.762	0- 600	200	67	20	
906.763	0- 600	300	80	20	
906.462	0-1000	200	67	20	
906.764	0-1000	300	80	20	
906.463*	0-1500	200	80	20	
906.765*	0-1500	300	80	20	
906.464*	0-2000	200	80	20	
906.766*	0-2000	300	80	20	

* Without graduation on the caliper beam.

Digital lightweight workshop caliper

Lightweight digital aluminum workshop caliper with both measuring jaws being moveable. Hardened stainless steel measuring jaws, with rounded jaw ends for internal and external measurements. Excellent sliding properties due to double prismatic joint.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Jaw length standard delivered jaw: 90 mm.
- Length meas. knives for external measurements: 40 mm.
- Locking screws.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



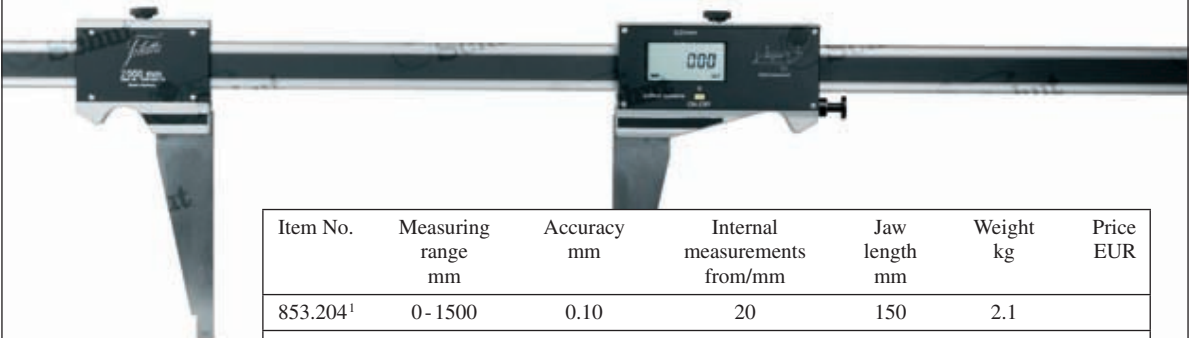
Item No.	Measuring range/mm	Accuracy mm	Weight kg	Price EUR
853.200	0-300	0.04	0.5	
Options:				
853.219 ¹	Pair measuring jaws 90 mm			
853.220	Pair measuring jaws 125 mm			
853.221	Pair measuring jaws 150 mm			
836.535	Spare battery			

¹ Standard included.

Digital lightweight workshop caliper

Lightweight digital aluminum workshop caliper with both measuring jaws being moveable. Hardened stainless steel measuring jaws, with rounded jaw ends for internal and external measurements. Excellent sliding properties due to double prismatic joint.

- Measuring range: 0-1500 mm.
- Resolution: 0.01 mm.
- On/off switch.
- Reset.
- Fine adjustment by means of carriage for constant measuring force of 3 N.
- Locking screws.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range mm	Accuracy mm	Internal measurements from/mm	Jaw length mm	Weight kg	Price EUR
853.204 ¹	0-1500	0.10	20	150	2.1	
Option:						
495.157	Spare battery					

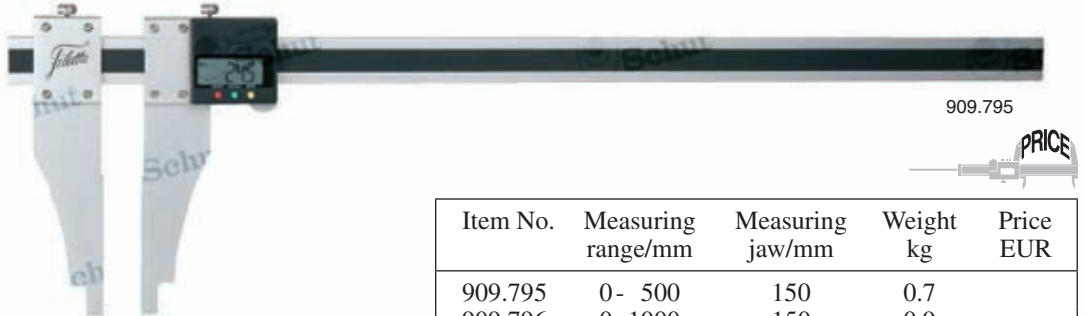
¹ Delivery ex Groningen, Netherlands.



Digital aluminum workshop calipers

Lightweight digital aluminum workshop calipers with both measuring jaws being moveable.

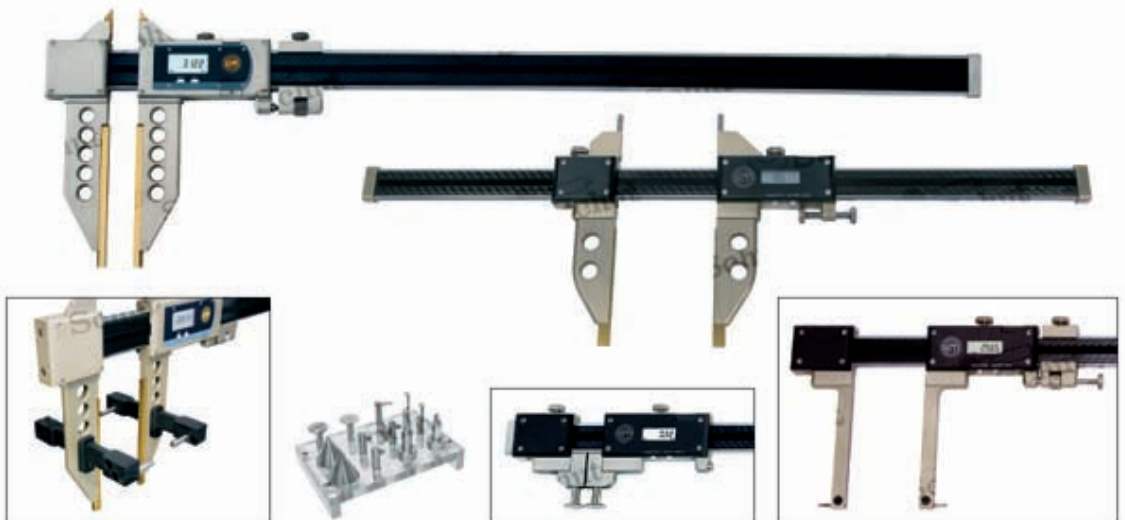
- Measuring range: 0- 1500 mm.
- Resolution: 0.1 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Aluminum scale with hollow construction (8 x 30 mm).
- Both of the measuring jaws can be moved.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Measuring jaw/mm	Weight kg	Price EUR
909.795	0- 500	150	0.7	
909.796	0- 1000	150	0.9	
909.797	0- 1500	150	1.1	
Option:				
836.535	Spare battery			

Digital lightweight carbon workshop calipers

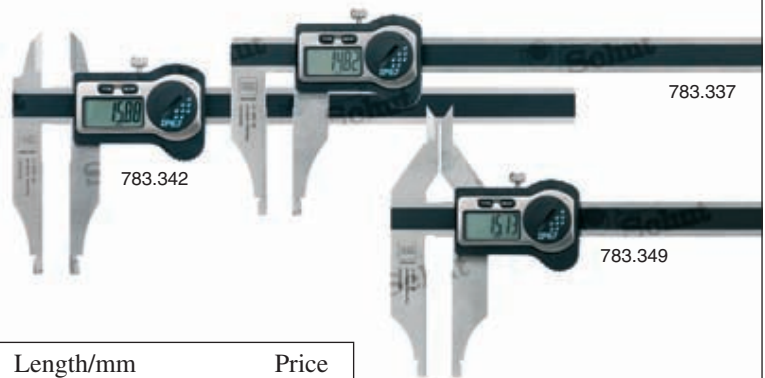
Different models are available in many lengths. Calipers can be supplied with for instance extra long measuring jaws, TiN coated or hardened measuring jaws or both measuring jaws being moveable. There are also models where special inserts or slide on probes can be used for measuring for instance center distances, grooves or diameters.



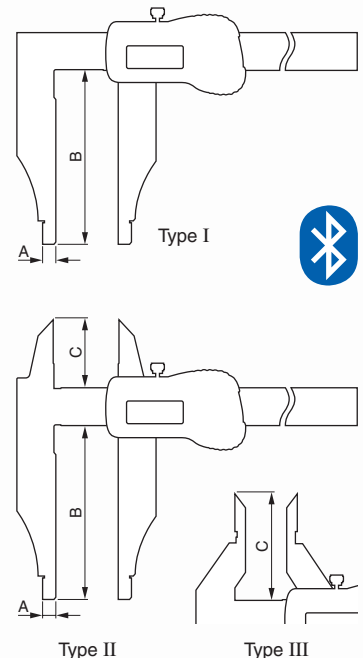
TESA TWIN-Cal absolute digital workshop calipers IP67

New generation IP67 workshop calipers with measuring ranges up to 1000 mm, TESA TWIN-Cal, with an absolute measuring system and a “soft touch” grip. These workshop calipers have a unique connectivity concept TESA LINK. All TWIN-Cal workshop calipers are equipped with a data output. Connect the TESA Link Connector to the TWIN-Cal for “plug and play” (wireless) data transfer. Hardened stainless steel measuring jaws, with rounded jaw ends for internal and external measurements. Available with or without measuring knives for internal or external measurements.

- Measuring range: 0- 1000 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Digit height: 11 mm.
- Automatic switch-off.
- Reset.
- Hold function.
- Max. measuring speed: approx. 2.5 m/s.
- Locking screw.
- Protection: IP67 (also in combination with data output cable).
- ISO 13385-1.
- Standard supplied with data output (USB, Digimatic or wireless).
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Length/mm			Price EUR
		A	B	C	
Without measuring knives (I):					
783.335	0- 200	5	80	–	
783.337	0- 300	5	90	–	
783.338	0- 500	10	150	–	
783.339	0- 600	10	150	–	
783.340	0- 800	10	150	–	
783.341	0- 1000	10	150	–	
With measuring knives for external measurements (II):					
783.342	0- 200	5	80	30	
783.344	0- 300	5	90	37	
783.345	0- 500	10	150	60	
783.346	0- 600	10	150	60	
783.347	0- 800	10	150	56	
783.348	0- 1000	10	150	56	
With measuring knives for internal measurements (III):					
783.349	0- 250	5	80	54	
Options:					
495.157	Spare battery				
783.301 ¹	TESA Link Connector USB				
783.302 ¹	TESA Link Connector Digimatic				
783.555 ¹	TESA Link Connector Bluetooth				



¹ The TESA Link Connector will replace the battery cover.

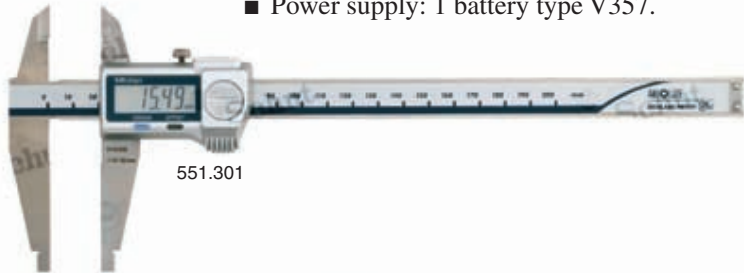
Mitutoyo Absolute Digimatic workshop calipers

Series of large digital calipers with the unique Absolute measuring system to prevent inaccuracy due to an incorrect zero position. The one-time setting of origin remains as the absolute zero position until the battery has to be changed.

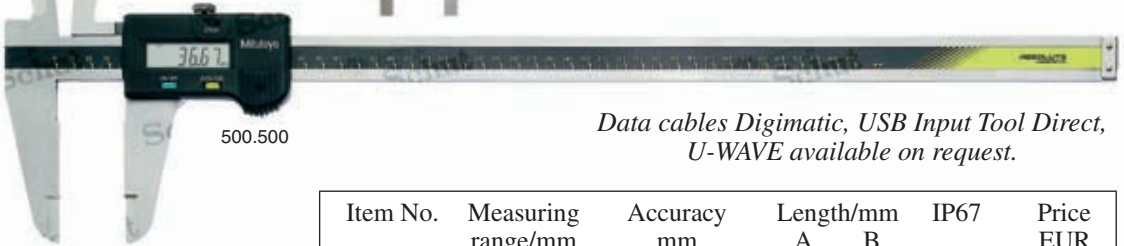
- Measuring range: 0- 1000 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset.
- Max. measuring speed: unlimited.
- With or without measuring knives.
- Locking screw.



- Types I and II with rounded jaw ends for internal measurements:
 - measuring range \leq 300 mm: from 10 mm,
 - measuring range \geq 450 mm: from 20 mm.
- Protection: IP40 or IP67.
- Conforms to factory standard.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.

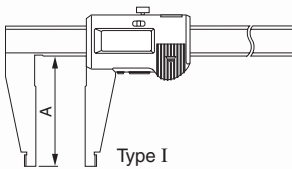


551.301

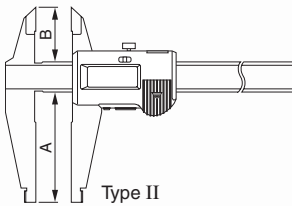


500.500

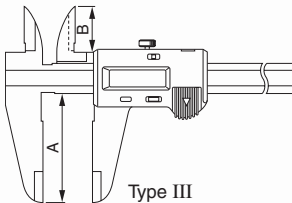
Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.



Type I



Type II



Type III

Item No.	Measuring range/mm	Accuracy mm	Length/mm A B	IP67	Price EUR
Without measuring knives (I):					
550.301 ¹	0- 200	± 0.03	60 -	IP67	
550.331 ²	0- 300	± 0.04	75 -	IP67	
550.203	0- 450	± 0.05	100 -	-	
550.205	0- 600	± 0.05	100 -	-	
550.207	0-1000	± 0.07	140 -	-	
With measuring knives for external measurements (II):					
551.301 ¹	0- 200	± 0.03	60 30	IP67	
551.331 ²	0- 300	± 0.04	90 40	IP67	
551.204	0- 500	± 0.06	150 56	-	
551.206	0- 750	± 0.06	150 56	-	
551.207	0-1000	± 0.07	150 56	-	
With measuring knives for internal measurements (III):					
500.500	0- 450	± 0.05	90 38	-	
500.501	0- 600	± 0.05	90 38	-	
500.502	0-1000	± 0.07	130 50	-	
Option:					
836.535	Spare battery				

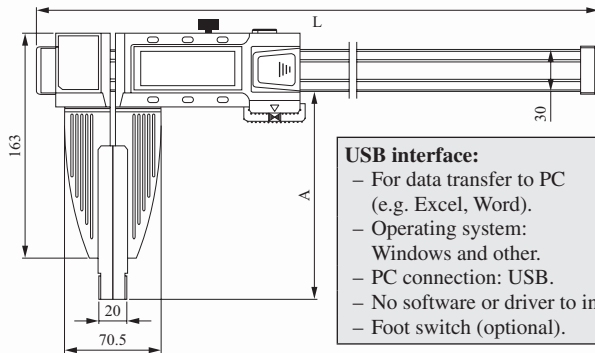
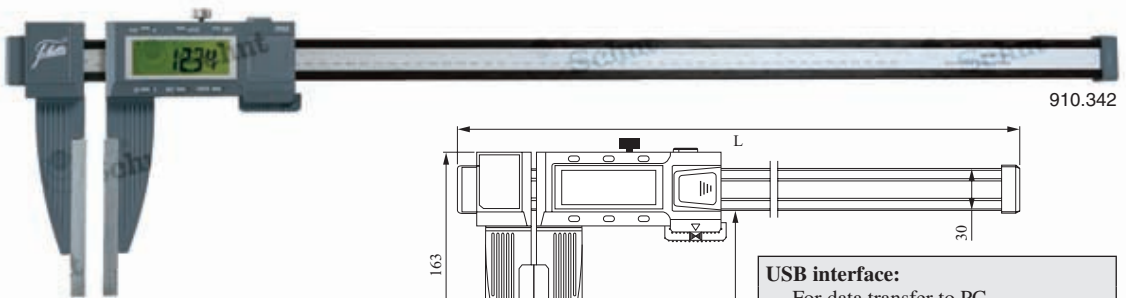
¹ Offset function.

² Offset and preset function.

Digital carbon workshop calipers IP65

Workshop calipers with large measuring jaws, Bluetooth, and an ultra lightweight carbon fiber construction that saves up to 65% of the total weight compared to a steel workshop caliper.

- Measuring range: 0-2000 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Digimatic data output.
- Bluetooth data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Fine adjustment by means of carriage for constant measuring force between 5-10 N.
- Carbon jaws with steel measuring faces.
- Rounded jaw ends for internal measurements.
- Locking screw.
- Protection: IP65.
- Delivery in a wooden case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



Item No.	Measuring range/mm	Accuracy mm	Jaw length A/mm	Weight kg	Length L/mm	Price EUR
910.342	0- 600	±0.06	130	1.3	826	
910.343	0- 600	±0.08	200	1.4	826	
910.344	0- 600	±0.12 ¹	300	1.5	826	
910.345	0-1000	±0.08	130	1.5	1226	
910.346	0-1000	±0.12	200	1.6	1226	
910.347	0-1000	±0.16 ¹	300	1.7	1226	
910.349	0-1500	±0.16	150	2.0	1736	
910.350	0-1500	±0.21 ¹	300	2.1	1736	
910.352	0-2000	±0.21	200	2.6	2246	
910.353	0-2000	±0.25 ¹	300	2.7	2246	

Options:

- 495.157 Spare battery
- 909.686² USB interface
- 909.687 Footswitch for USB interface
- 910.038 Wireless USB receiver
- 910.039² Wireless transmitter

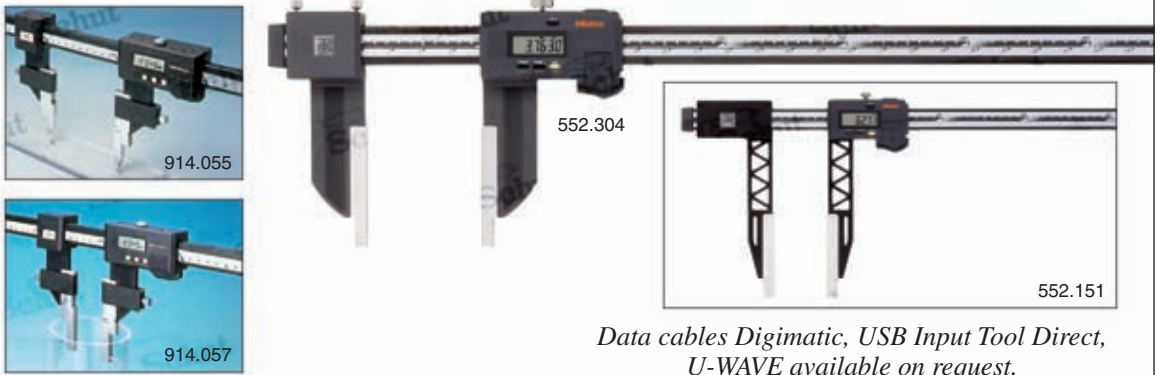
¹ Depending on the measuring force, only valid in the upper part of the measuring jaws.

² For instruments with a Digimatic data output.

Mitutoyo Digimatic carbon workshop calipers

Workshop calipers, with a data output and an ultra lightweight carbon fiber construction that saves up to 50% of the total weight compared to a steel workshop caliper. Interchangeable measuring jaws for special purposes (and the necessary holders) are optionally available.

- Measuring range: 0-2000 mm, internal measurements from 20 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Offset function for direct read-out of internal measurements.
- Max. measuring speed: unlimited.
- Protection: IP66.
- Conforms to factory standard.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.



Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Item No.	Measuring range/mm	Accuracy/mm	Jaw length/mm	Weight/kg	Price EUR
With steel measuring faces:					
552.302	0- 450	±0.04	100	0.7	
552.303	0- 600	±0.04	100	0.8	
552.304	0-1000	±0.05	150	1.8	
552.305	0-1500	±0.09	150	2.2	
552.306	0-2000	±0.12	150	2.6	
With ceramic measuring faces:					
552.155	0- 450	±0.04	100	0.7	
552.156	0- 600	±0.04	100	0.8	
Long measuring jaws with steel measuring faces:					
552.150	0- 450	±0.06	200	1.2	
552.151	0- 600	±0.06	200	1.3	
552.152	0-1000	±0.07	200	2.1	
552.153	0-1500	±0.11	200	2.5	
552.154	0-2000	±0.14	200	2.9	
Options:					
836.535	Spare battery				
914.055*	Measuring jaws (pair) for center distances from 10 mm				
914.057*	Measuring jaws (pair) for internal groove diameters from 50 mm				
914.053*	Holders (pair) for separate measuring jaws, up to measuring range 0- 600 mm				
914.054*	Holders (pair) for separate measuring jaws, from measuring range 0- 1000 mm				

* Not suited for use with the workshop calipers with long measuring jaws (552.150 - 154).

Universal digital calipers

Large universal digital calipers for internal and external measurements.

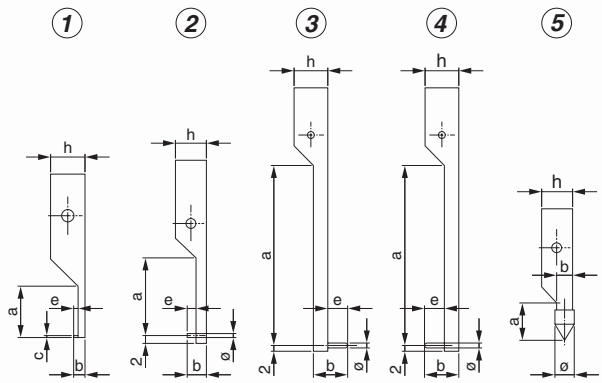
In combination with these universal calipers many inserts are available e.g. for internal/external measurements or measuring center distances between bores up to \varnothing 14.5 mm.

- Internal measuring range¹: 20-300 mm.
- External measuring range¹: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.
- Delivery without inserts.



Item No.	Measuring range/mm internal ¹ external ¹	Price EUR
910.285	20-200 0-200	
910.286	20-300 0-300	
Option: 836.535 Spare battery		

¹ The measuring range can change depending on inserts.



Inserts

No.	Item No.	Description	Length/mm					ø mm	Price EUR
			a	b	c	e	h		
①	910.287	For internal/external measurements	12	2.5	0.4	1	8		
①	910.288	For internal/external measurements	16	3.5	0.4	2	8		
①	910.289	For internal/external measurements	25	7.5	0.6	5	8		
①	910.290	For internal/external measurements	30	10	1	6.5	8		
①	910.292	For internal/external measurements	80	22	1	10	12		
②	910.293	For internal/external measurements	20	5		2	8	1	
②	910.294	For internal/external measurements	40	10		5	8	2	
②	910.295	For internal/external measurements	80	22		10	12	2	
③	910.296	For external measurements	70	12		7	12	2	
③	910.297	For external measurements	70	12		7	12	4	
④	910.298	For internal measurements	70	12		7	12	2	
④	910.299	For internal measurements	70	12		7	12	4	
⑤	910.300	For center distances	10	4	–		8	5	
⑤	910.301	For center distances	20	4	–		8	10	
⑤	910.302	For center distances	25	8	–		12	15	

Universal digital calipers

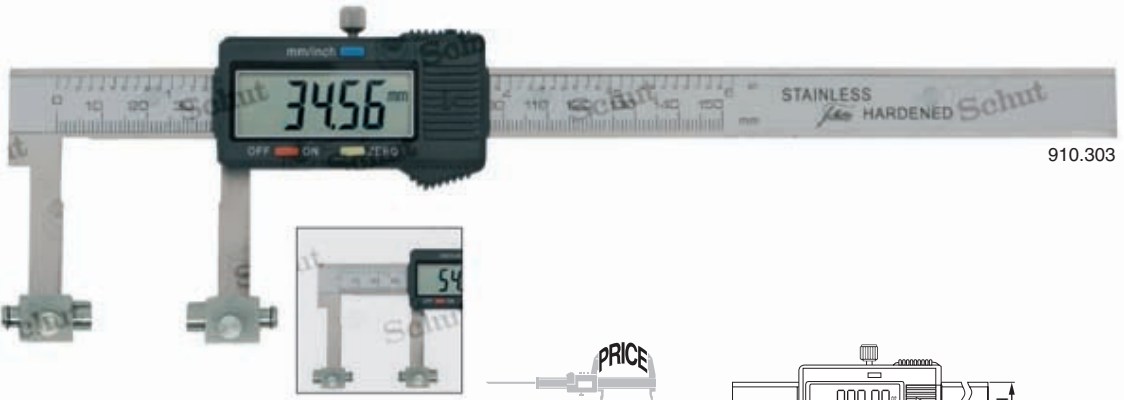
Universal digital calipers with exchangeable measuring inserts for special purposes. Thanks to the seven interchangeable measuring inserts, which are available as an option, you are very flexible with these universal calipers.

- Internal measuring range¹: 40-500 mm.
- External measuring range¹: 0-500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.

- Locking screw.
- Power supply: 1 battery type V357.
- Standard supplied with measuring insert 1.

Only 910.306:

- Absolute digital display.
- Reset/preset.
- Power supply: 1 battery type CR2032.



910.303

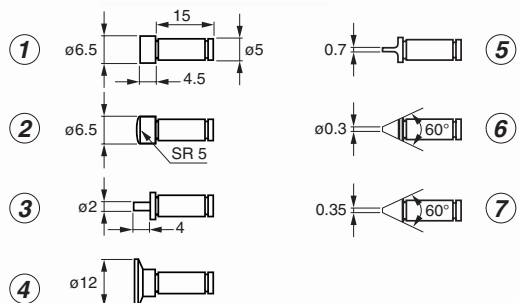
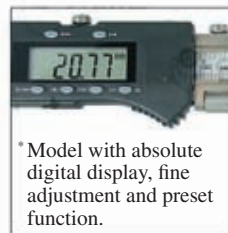
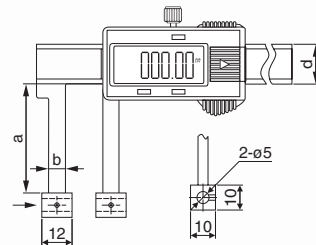
Item No.	Measuring range/mm internal ¹ external ¹	a/mm	b/mm	Price EUR
910.303	40-150 0-150	45	7	
910.304	40-200 0-200	85	10	
910.305	40-300 0-300	100	15	
910.306*	40-500 0-500	140	20	

Options:

- 836.535 Spare battery type V357
- 495.157 Spare battery type CR2032

¹ The measuring range can change depending on inserts. The measuring range indicated is with standard inserts.

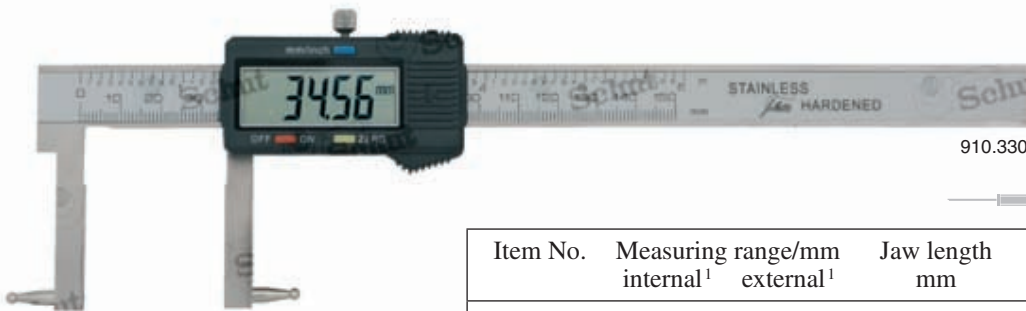
No.	Item No.	Description measuring faces	Price EUR
Measuring inserts, per pair:			
①	906.788	flat	
②	906.789	spherical	
③	906.790	small	
④	906.791	disc	
⑤	906.792	knife/flat	
⑥	906.793	point	
⑦	906.794	knife	
	906.795	Set of 7 pairs	



Universal digital calipers

Universal digital calipers with interchangeable measuring inserts for varying purposes. By using M2.5 thread, many different measuring inserts can be used in combination with these calipers. Please see the dial indicator accessories for these inserts.

- Internal measuring range¹: 20-500 mm.
 - External measuring range¹: 0-500 mm.
 - Resolution: 0.01 mm.
 - mm/inch conversion.
 - On/off switch.
 - Reset.
 - Large LCD display.
 - Locking screw.
 - Power supply: 1 battery type V357.
 - Standard supplied without inserts.
- Only 910.333:**
- Absolute digital display.
 - Reset/preset.
 - Power supply: 1 battery type CR2032.



910.330

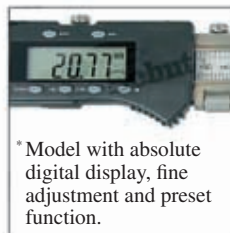
PRICE



Item No.	Measuring range/mm		Jaw length mm	Price EUR
	internal ¹	external ¹		
910.330	20-150	0-150	45	
910.331	25-200	0-200	85	
910.332	30-300	0-300	90	
910.333*	35-500	0-500	150	

Options:
 836.535 Spare battery type V357
 495.157 Spare battery type CR2032

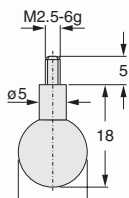
¹ The measuring range can change depending on inserts.



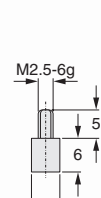
* Model with absolute digital display, fine adjustment and preset function.



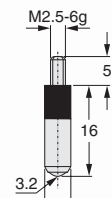
Inserts examples. For more information see the dial indicator accessories section.



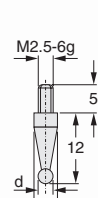
852.426-430



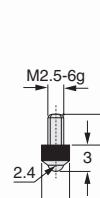
852.431/432



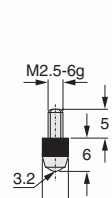
852.406-409



852.414-425



852.401



852.402-405

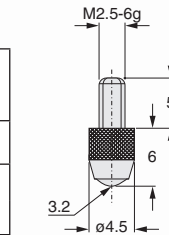
Digital lightweight universal workshop caliper

Universal lightweight aluminum workshop caliper with interchangeable measuring inserts for special purposes with both measuring jaws being moveable. All inserts with M2.5 thread can be used with this caliper. Please see the dial indicator accessories section for these inserts.

- Internal measuring range¹: 30-300 mm.
- External measuring range¹: 0-300 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Tolerance function.
- On/off switch.
- Reset/preset.
- Interchangeable measuring inserts: 1 pair included (ball attachment $\varnothing 3.2$ mm, $l=6$ mm).
- Fine adjustment.
- Locking screws.
- Delivery in a plastic case.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm internal ¹ external ¹	Accuracy mm	Weight kg	Price EUR
853.206	30- 300 0- 300	0.04	1	
Option: 495.157 Spare battery				



¹ The measuring range can change depending on inserts.

Inserts examples. For more information see the dial indicator accessories section.

Item No.	Measuring range/mm	Accuracy/mm	Weight/kg	Price/EUR
852.426-430	30-300	0.04	1	
852.431/432	30-300	0.04	1	
852.406-409	30-300	0.04	1	
852.414-425	30-300	0.04	1	
852.401	30-300	0.04	1	
852.402-405	30-300	0.04	1	

HELIOS-PREISSER universal digital calipers

Universal calipers with interchangeable measuring inserts for special purposes. All inserts with M2.5 thread can be used with these calipers. Please see the dial indicator accessories section for these inserts.

- Internal measuring range¹: 15 - 500 mm.
- External measuring range¹: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Variable data output (Digimatic/USB/RS232C).
- On/off switch.
- Reset/preset.
- Hold function.
- Interchangeable measuring inserts:
 - 150 mm: 2 pairs included (ball $\varnothing 5$ mm and planar $\varnothing 4.8$ mm),
 - 300/500 mm: not included.
- Locking screw.
- Stainless steel construction.
- Protection: IP65 (836.548: IP67).
- Delivered with accurate setting standard 50 mm (only 836.548).
- Delivery in a wooden case.
- Power supply: 1 battery type CR2032.



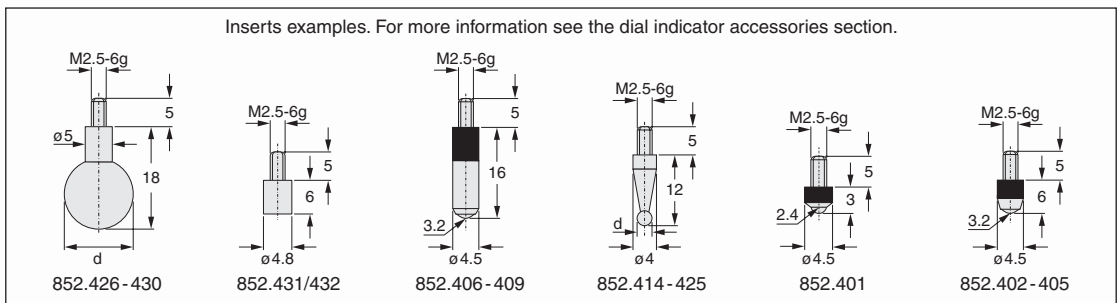
Item No.	Measuring range/mm internal ¹ external ¹	Jaw length mm	Jaw width mm	Weight kg	Price EUR
836.548	15 - 150 0 - 150	40	5	0.7	
836.569	30 - 300 0 - 300	90	12	1.2	
836.570	40 - 500 0 - 500	100	16	2.5	

Options:

- 495.157 Spare battery
- 836.119 Digimatic output cable (2 m)
- 836.552 USB output cable (2 m) incl. software
- 836.571 RS232C output cable (2 m)



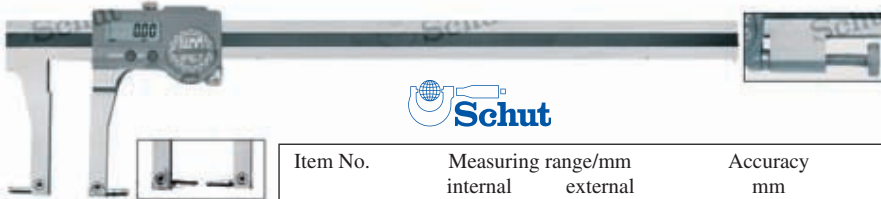
¹ The measuring range can change depending on inserts.



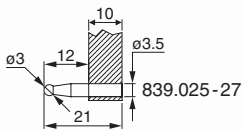
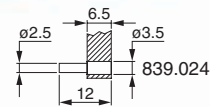
Universal digital calipers IP67

Large universal digital calipers made of stainless steel for internal and external measurements. In combination with these universal calipers many inserts are available e.g. for measuring thread. See accessories universal digital calipers.

- Internal measuring range: 24 - 650 mm.
- External measuring range: 0 - 570 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.02 or ± 0.03 mm.
- mm/inch conversion.
- Proximity data output.
- On/off switch.
- Reset/preset.
- Interchangeable measuring inserts.
- Many extensions and inserts available.
- Protection: IP67.
- Conforms to factory standard.
- Delivery in a wooden case with a manufacturer measuring report, two inserts and two insert holders.
- Power supply: 1 battery type CR2032.



Also models with spring system available.



Item No.	Measuring range/mm internal external	Accuracy mm	Jaw length mm	Price EUR
839.024	24 - 250 0 - 210	± 0.02	64	
839.025 ¹	42 - 350 0 - 270	± 0.03	103	
839.026 ¹	42 - 450 0 - 370	± 0.03	103	
839.027 ¹	42 - 650 0 - 570	± 0.03	103	
Options:				
495.157	Spare battery			
840.666	Proximity USB cable (2 m)			

¹ Inserts 837.821 and insert holders standard included.

Universal digital calipers accessories

Inserts for thread measurements, per pair

Pitch mm	Item No.	Price EUR	Item No.	Price EUR
0.4 - 0.5	839.010		839.018	
0.6 - 0.9	839.011		839.019	
1 - 1.75	839.014		839.020	
2 - 3	839.015		839.021	
3.5 - 5	839.016		839.022	
5.5 - 7	839.017		839.023	
	Internal meas.:		External meas.:	



839.010-
839.017



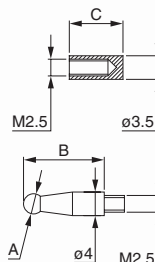
839.018-
839.023

Steel inserts (M2.5), per pair

Item No.	Diameter A/mm	Length B/mm	Price EUR
837.818	1.5	12	
837.819	2	12	
837.820	2.5	12	
837.821	3	12	
837.822	3.5	12	
837.823	4	12	
837.824	4.5	12	
837.825	5	12	
837.826	5.5	12	
837.827	6	12	
837.828	6.5	12	
837.829	7	18	
837.830	8	18	
837.831	10	18	

Insert holders (M2.5), per piece

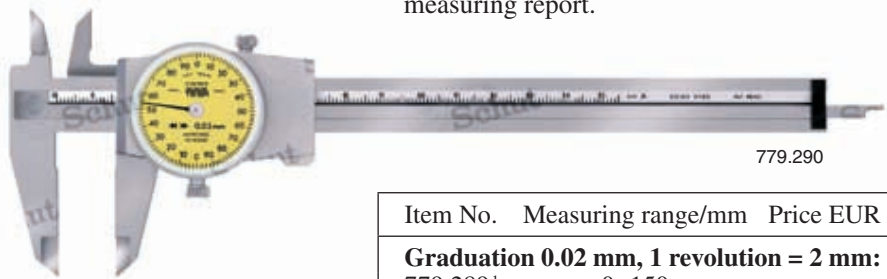
Item No.	Length C/mm	Price EUR
837.832	8	
837.833	10	
839.054	12	
839.055	20	
839.056	50	



TESA dial calipers

Rugged dial calipers model CCMA-M and CCMA-P, out of hardened stainless steel and with patented shockproof design. Ideal for use in the workshop.

- Measuring range: 0- 300 mm.
- Graduation: 0.01 or 0.02 mm.
- Rotatable dial, \varnothing 32 mm.
- Shockproof.
- Thumb wheel (only 782.528/529).
- Hardened stainless steel construction.
- ISO 13385-1.
- Delivery in a plastic case with a manufacturer measuring report.



779.290



782.444



779.289

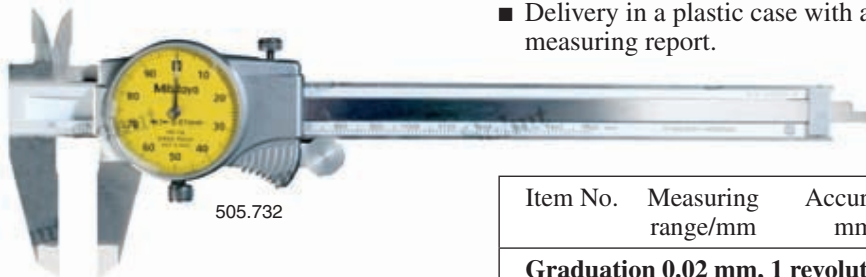
Item No.	Measuring range/mm	Price EUR
Graduation 0.02 mm, 1 revolution = 2 mm:		
779.289 ¹	0 - 150	
779.290	0 - 150	
782.528 ²	0 - 200	
782.529 ²	0 - 300	
Graduation 0.01 mm, 1 revolution = 1 mm:		
782.444	0 - 150	

¹ Plastic dial housing.² With thumb wheel.

Mitutoyo dial calipers

Mitutoyo dial calipers, made of special corrosion-free steel, with hardened and lapped measuring faces and protected rack. The slider is titanium coated (except 505.745).

- Measuring range: 0- 300 mm.
- Graduation: 0.01 mm or 0.02 mm.
- Rotatable dial.
- Shockproof.
- Caliper and dial with locking screw.
- Dial indicator jewel beared.
- Conforms to factory standard.
- Delivery in a plastic case with a manufacturer measuring report.



505.732

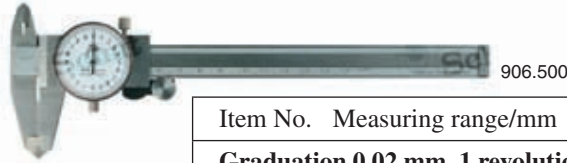
Item No.	Measuring range/mm	Accuracy mm	Price EUR
Graduation 0.02 mm, 1 revolution = 2 mm:			
505.730	0 - 150	± 0.03	
505.731	0 - 200	± 0.03	
505.745	0 - 300	± 0.04	
Graduation 0.01 mm, 1 revolution = 1 mm:			
505.732	0 - 150	± 0.02	



Dial calipers

Stainless steel dial calipers with protected rack.

- Measuring range: 0 - 300 mm.
- Graduation: 0.01 or 0.02 mm.
- Accuracy: ± 0.03 mm.
- 1 pointer revolution = 1 or 2 mm.
- Rotatable dial.
- Thumb wheel.
- Delivery in a plastic case.



Item No.	Measuring range/mm	Price EUR
Graduation 0.02 mm, 1 revolution = 2 mm:		
906.500	0 - 150	
906.499	0 - 200	
906.501	0 - 300	
Graduation 0.01 mm, 1 revolution = 1 mm:		
906.498	0 - 150	



High-quality plastic calipers

These modern designed Swiss calipers are made of fiberglass reinforced plastic, which makes them very firm and light, wear-proof, and resistant to all kinds of chemicals – ideal for the workshop!

- Measuring range: 0 - 150 mm.
- Thumb wheel.
- Flat depth rod.
- Delivery in a plastic case.

Vernier caliper

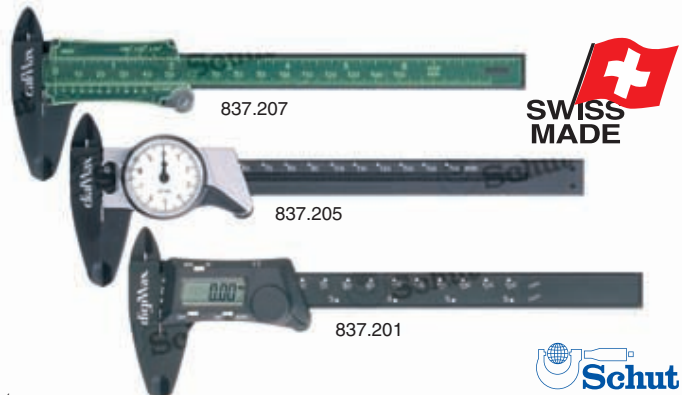
- Vernier: 0.1 mm / 1/64 inch.
- The scale lights up with minimal light.

Dial caliper

- Graduation: 0.1 mm.
- 1 pointer revolution = 10 mm.
- Rotatable dial, $\varnothing 32$ mm.
- The dial is shockproof and can be set to zero.

Digital caliper

- Resolution: 0.01 mm.
- mm/inch conversion.
- On/reset switch.
- Off switch.
- Power supply: 1 battery type V357.

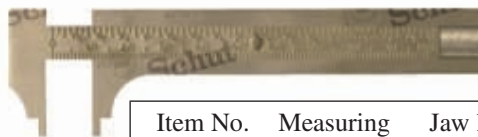


Item No.	Description	Price EUR
837.207	Vernier caliper	
837.205	Dial caliper	
837.201	Digital caliper	
Option:		
836.535	Spare battery	

Brass caliper

Brass caliper with a vernier.

- Measuring range: 0 - 100 mm.
- Vernier: 0.1 mm, parallax-free.
- Dovetail guide.
- Antimagnetic.

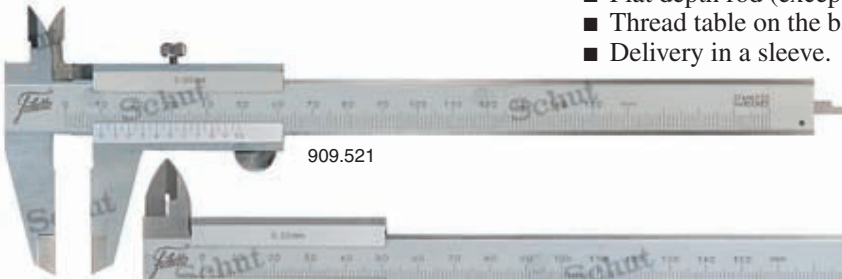


Item No.	Measuring range/mm	Jaw length mm	Price EUR
841.629	0 - 100	20	

Calipers

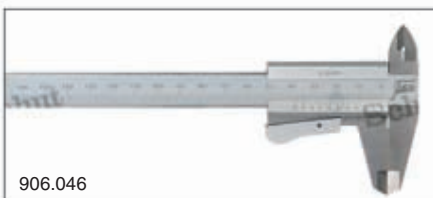
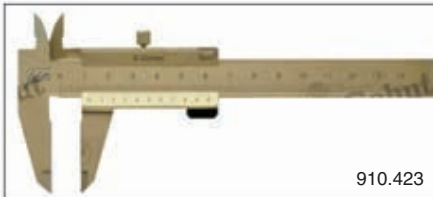
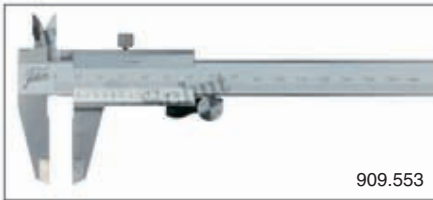
Hardened stainless steel calipers with a matt chrome-plated beam and vernier.

- Measuring range: 0-300 mm.
- Vernier: 0.05 or 0.02 mm.
- Raised sliders (except 909.538).
- Accuracy: ± 0.03 mm.
- Monoblock.
- Locking screw or spring release.
- Flat depth rod (except 909.423/424).
- Thread table on the back side.
- Delivery in a sleeve.



NEW

PRICE



Item No.	Measuring range/mm	Vernier mm	Jaw length mm	Price EUR
Locking screw on top:				
909.541	0-150	0.02	40	
909.542	0-160	0.02	40	
909.543	0-200	0.02	50	
909.544	0-300	0.02	62	
Locking screw on top:				
909.520	0-100	0.05	30	
909.521	0-150	0.05	40	
909.522	0-160	0.05	40	
909.523	0-200	0.05	50	
909.524	0-300	0.05	62	
With thumb wheel (locking screw on top):				
909.553	0-150	0.05	40	
909.554	0-200	0.05	50	
909.555	0-300	0.05	62	
Spring release:				
909.525	0-150	0.05	40	
909.526	0-160	0.05	40	
909.527	0-200	0.05	50	
909.528	0-300	0.05	62	
Brass calipers (without depth rod):				
910.424	0-150	0.05	40	
910.423	0-150	0.02	40	
Parallax-free (spring release):				
909.538	0-150	0.05	40	
Spring release, left-handed model:				
906.046	0-150	0.05	40	
906.047	0-150	0.02	40	

Mitutoyo calipers

Mitutoyo calipers suitable for outside, inside, height and depth measurements. Measuring jaws and knives with beveled measuring faces for measuring small grooves and bores.

- Measuring range: 0-300 mm.
- Vernier: 0.05 mm / 1/128 inch or 0.02 mm.
- Flat depth rod (except 530.102: round depth rod \varnothing 1.9 mm).
- Raised sliders.
- Thread table on the back side (only 531.122/530.316).
- Matt chrome-plated beam and vernier.
- Lapped, hardened steel measuring faces.
- Tungsten carbide outside measuring jaws (only 530.320/335).
- Tungsten carbide inside measuring jaws (only 530.335).



530.104



531.122



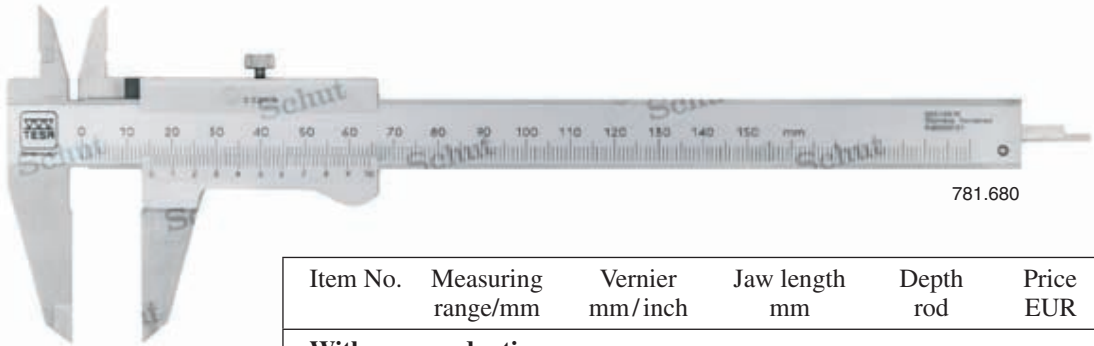
Item No.	Measuring range/mm	Vernier mm	Accuracy mm	Jaw length mm	Price EUR
Locking screw on top:					
530.122 ¹	0-150	0.02	± 0.03	40	
530.123 ¹	0-200	0.02	± 0.03	50	
530.124 ¹	0-300	0.02	± 0.04	64	
Locking screw on top:					
530.104	0-150	0.05	± 0.05	40	
530.114	0-200	0.05	± 0.05	50	
530.115	0-300	0.05	± 0.08	64	
Locking screw on top:					
530.102 ¹	0-150	0.05	± 0.05	40	
530.101 ¹	0-150	0.05	± 0.05	40	
Locking screw on top:					
530.320 ¹	0-150	0.05	± 0.05	40	
Locking screw on top:					
530.335 ¹	0-150	0.05	± 0.05	40	
Locking screw on the bottom-side:					
530.316	0-150	0.05	± 0.05	40	
Spring release:					
531.122	0-150	0.05	± 0.05	40	
531.108	0-200	0.05	± 0.05	50	
531.109	0-300	0.05	± 0.08	64	

¹ Without inch graduation.

TESA calipers

Swiss high-precision stainless steel caliper with a matt chrome-plated beam and vernier.

- Measuring range: 0-300 mm.
- Vernier: 0.02 mm, 0.05 mm or 0.05 mm / 1/128 inch.
- Locking screw.
- ISO 13385-1.
- Delivery in a plastic case with a declaration of conformity.



781.680



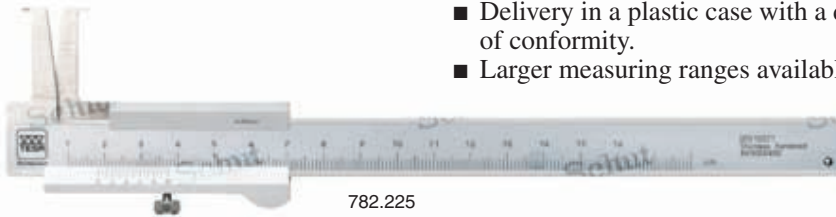
783.276

Item No.	Measuring range/mm	Vernier mm/inch	Jaw length mm	Depth rod	Price EUR
With mm graduation:					
781.680	0-150	0.02	40	flat	
783.275	0-150	0.05	40	flat	
With mm/inch graduation:					
783.489	0-150	0.02/0.001	40	flat	
783.276	0-150	0.05/1/128	40	round	
783.277	0-200	0.05/1/128	50	flat	
783.278	0-300	0.05/1/128	64	–	

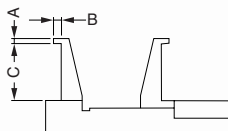
TESA calipers with outside angled measuring jaws

Specially designed for measuring bore and internal groove diameters, e.g. on internal safety rings.

- Measuring range: 10-160 mm.
- Vernier: 0.05 mm.
- Locking screw.
- Hardened stainless steel construction.
- Conforms to factory standard.
- Delivery in a plastic case with a declaration of conformity.
- Larger measuring ranges available on request.



782.225

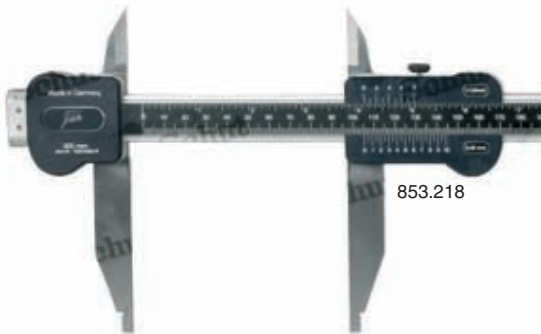


Item No.	Measuring range/mm	Length/mm			Price EUR
		A	B	C	
782.225	10-160	0.9	3	25	
782.226	20-160	2	5	40	

Parallax-free lightweight workshop calipers

Lightweight parallax-free aluminum workshop calipers with interchangeable hardened stainless steel measuring jaws, with rounded jaw ends for internal and external measurements. High contrast reading due to white print on black background. Excellent sliding properties due to double prismatic joint.

- Measuring range: 0-900 mm.
- Vernier: 0.05 mm / 1/128 inch.
- Jaw length standard delivered jaw: 90 mm.
- Length meas. knives for external measurements: 40 mm.
- Parallax-free.
- Locking screw.
- Delivery in a plastic case.



Item No.	Measuring range/mm	Weight kg	Price EUR
853.217	0-500	0.6	
853.218	0-900	0.8	
Options:			
853.219 ¹	Pair measuring jaws 90 mm		
853.220	Pair measuring jaws 125 mm		
853.221	Pair measuring jaws 150 mm		

¹ Standard included.

Workshop calipers

Hardened stainless steel workshop calipers with a matt chrome-plated beam and vernier.

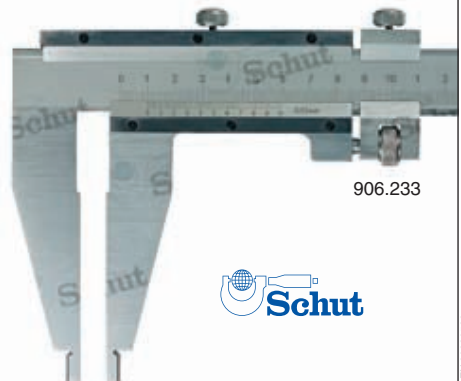
- Measuring range: 0-1500 mm.
- Vernier: 0.02 mm.
- Raised sliders.
- Fine adjustment.
- With measuring knives or rounded jaw ends for internal measurements.
- Locking screws.
- Delivery in a plastic case.



906.230



Item No.	Measuring range mm	Internal measurements from/mm	Jaw length mm	Price EUR
With measuring knives for internal measurements:				
906.230	0- 300	-	65	
With rounded jaw ends for internal measurements:				
906.231	0- 300	10	90	
906.233	0- 500	10	100	
906.234	0- 600	10	100	
906.235	0-1000	20	125	
906.236	0-1500	20	125	



906.233

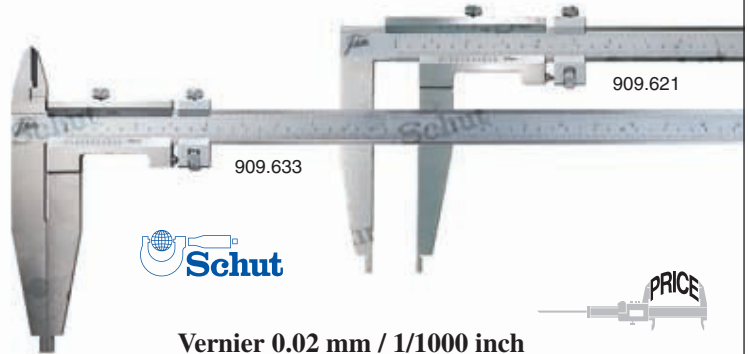
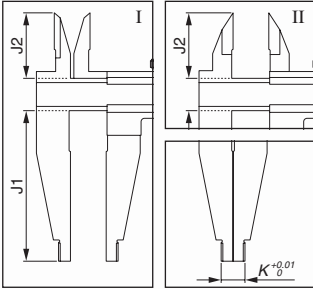


C02.218-EN-20230522

Workshop calipers

Large and solid, stainless steel calipers with a matt chrome-plated beam and vernier.

- Measuring range: 0-2000 mm.
- Vernier: 0.02 mm / 1/1000 inch or 0.05 mm / 1/128 inch.
- Fine adjustment.
- With or without measuring knives for internal or external measurements.
- Monoblock.
- Rounded jaw ends for internal measurements; measuring range ≤ 600 mm: $K = 10$ mm, measuring range > 600 mm: $K = 20$ mm.
- Locking screws.
- Delivery in a wooden case.



Vernier 0.05 mm / 1/128 inch

Item No.	Measuring range mm	Length mm			Price EUR
		J1	J2	K	
Without measuring knives:					
909.670	0- 300	90	-	10	
909.620	0- 450	150	-	10	
909.621	0- 500	150	-	10	
909.622	0- 600	150	-	10	
909.623	0- 800	150	-	20	
909.624	0-1000	150	-	20	
909.639	0-1500	200	-	20	
909.640	0-2000	200	-	20	
Meas. knives for internal measurements (I):					
909.672	0- 300	90	22	10	
909.632	0- 400	100	46	10	
909.633	0- 500	150	46	10	
909.634	0- 600	150	46	10	
909.635	0- 750	150	54	20	
909.636	0-1000	150	54	20	
909.637	0-1500	200	66	20	
909.638	0-2000	200	66	20	
Meas. knives for external measurements (II):					
909.674	0- 300	90	22	10	
909.656	0- 400	100	46	10	
909.657	0- 500	150	46	10	
909.658	0- 600	150	46	10	
909.659	0- 750	150	54	20	
909.660	0-1000	150	54	20	
909.661	0-1500	200	66	20	
909.662	0-2000	200	66	20	

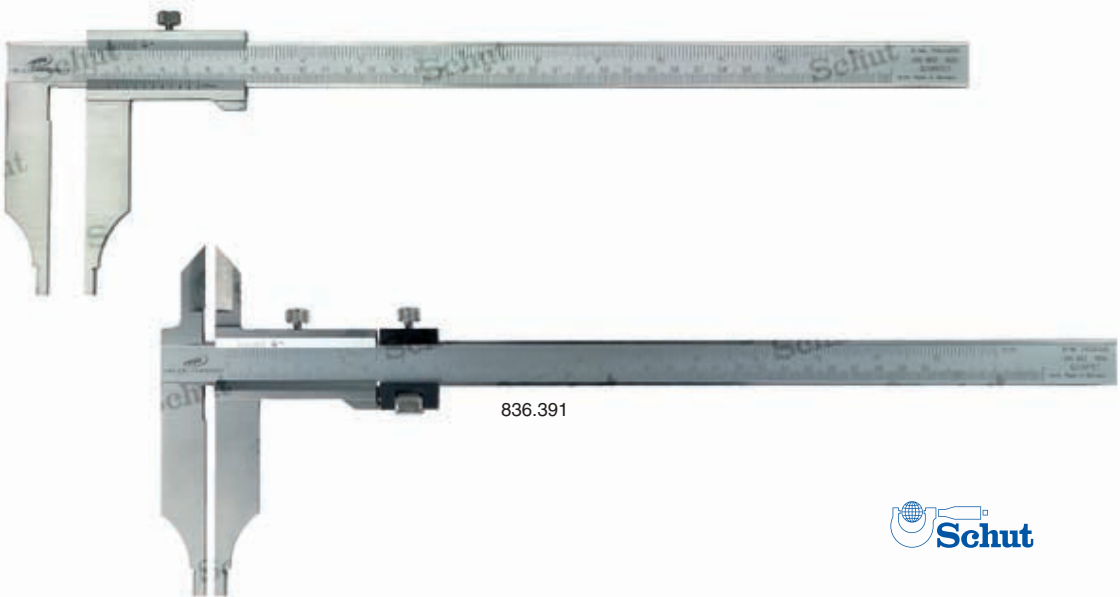
Vernier 0.02 mm / 1/1000 inch

Item No.	Measuring range mm	Length mm			Price EUR
		J1	J2	K	
Without measuring knives:					
909.671	0- 300	90	-	10	
909.615	0- 450	150	-	10	
909.616	0- 500	150	-	10	
909.617	0- 600	150	-	10	
909.618	0- 800	150	-	20	
909.619	0-1000	150	-	20	
909.641	0-1500	200	-	20	
909.642	0-2000	200	-	20	
Meas. knives for internal measurements (I):					
909.673	0- 300	90	22	10	
909.625	0- 400	100	46	10	
909.626	0- 500	150	46	10	
909.627	0- 600	150	46	10	
909.628	0- 750	150	55	20	
909.629	0-1000	150	55	20	
909.630	0-1500	200	66	20	
909.631	0-2000	200	66	20	
Meas. knives for external measurements (II):					
909.675	0- 300	90	22	10	
909.663	0- 400	100	46	10	
909.664	0- 500	150	46	10	
909.665	0- 600	150	46	10	
909.666	0- 750	150	55	20	
909.667	0-1000	150	55	20	
909.668	0-1500	200	66	20	
909.669	0-2000	200	66	20	

HELIOS-PREISSER workshop calipers

Large and solid, stainless steel calipers with a matt chrome-plated beam and vernier. The calipers with a measuring range up to 300 mm have a mm/inch graduation, those with a measuring range of 400 mm and more only have a metric graduation.

- Measuring range: 0-2000 mm.
- Vernier: 0.05 mm.
- Rounded jaw ends for internal measurements.
- With or without fine adjustment.
- With or without measuring knives for external measurements.
- Locking screw.
- Delivery with a manufacturer measuring report.



Without measuring knives

Item No.	Measuring range/mm	Jaw length mm	Price EUR
Without fine adjustment:			
836.360	0- 200	80	
836.363	0- 500	150	
836.365	0- 800	150	
836.367	0-1000	150	
With fine adjustment:			
836.340	0-2000	300	

With meas. knives for external measurements

Item No.	Measuring range/mm	Jaw length mm	Price EUR
Without fine adjustment:			
836.371	0-300	90	
836.372	0-400	125	
836.373	0-500	150	
836.375	0-800	150	
With fine adjustment:			
836.390	0-200	80	
836.391	0-300	90	
836.392	0-400	125	
836.393	0-500	150	

Probe set for calipers

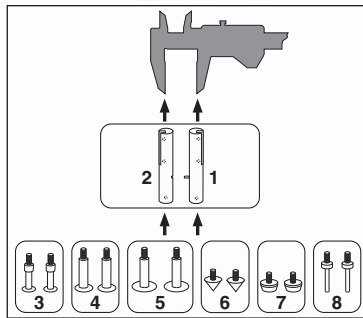
This probe set enlarges the possibilities with a regular caliper. Probe holders are slid on the measuring jaw of the caliper. The different probes can be screwed into them. The probe set makes it possible to perform measurements which are not possible with a regular caliper, such as measuring internal grooves and center distances.

- Screw thread probe holder: M3.
- Maximum caliper jaw thickness: 3.5 mm (mostly compatible with calipers with a measuring range ≤ 150 mm).
- Delivery in a wooden case.



The set consists of:

- ① right probe holder,
- ② left probe holder,
- ③ pair of disc probes $\varnothing 6$ mm,
- ④ pair of disc probes $\varnothing 10$ mm,
- ⑤ pair of disc probes $\varnothing 12.5$ mm,
- ⑥ pair of cone probes $\varnothing 9$ mm, 60° ,
- ⑦ pair of cone probes $\varnothing 12.5$ mm, 60° ,
- ⑧ pair of cylindrical probes $\varnothing 1.5 \times 9$ mm,
- ⑨ hexagon key.



\varnothing		
6 mm	>16 mm	>4 mm
10 mm	>20 mm	>1 mm
12.5 mm	>22 mm	>0 mm

3, 4, 5
Disc probes for internal measurements.

6
Conical probes (9 mm) for measuring center distances of two equal holes.

7
Conical probes (12.5 mm) for measuring center distances of two equal holes.

8
Horizontally positioned cylindrical probes for measuring internal grooves > 45 mm.

8
Vertically positioned cylindrical probes.

Item No.	Description	Price EUR
909.655	Probe set for calipers	

Caliper inspection set

For checking the accuracy of DIN 862 calipers. The set consists of three special steel gauge blocks (30 mm, 41.3 mm and 131.4 mm, ISO 3650 class 1), two steel setting rings (ø4 mm and ø25 mm) and a pair of gloves.

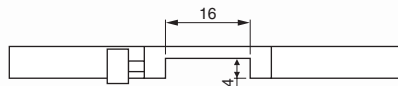
- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Description	Price EUR
909.347	Caliper inspection set	

Depth measuring base for calipers

Universal depth measuring base for stable and accurate depth measurements. Suitable for most of the calipers with a depth rod and a measuring range up to 200 mm. For more information please contact our sales department.



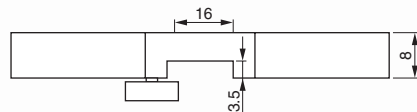
Item No.	Measuring face l x w/mm	Price EUR
909.156	75 x 6	

Depth measuring bases for calipers

Universal depth measuring bases for stable and accurate depth measurements. Suitable for most of the calipers with a depth rod and a measuring range up to 200 mm. For more information please contact our sales department.



909.386



Item No.	Measuring face l x w/mm	Price EUR
909.386	80 x 8	
909.387	100 x 8	



Mitutoyo caliper inspection set

For checking the accuracy of DIN 862 or ISO 13385-1: 2011.
 516.124: gauge blocks 30, 41.3 and 131.4 mm, setting rings $\varnothing 4$ and $\varnothing 25$ mm.
 516.526: gauge blocks 10, 30, 50 and 125 mm, setting rings $\varnothing 4$ and $\varnothing 25$ mm, measuring pin $\varnothing 10$ mm.

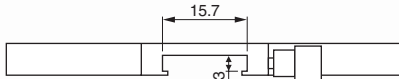


- Delivery in a wooden case with a manufacturer measuring report.

Item No.	Description	Price EUR
516.124	Inspection set DIN 862	
516.526	Inspection set ISO 13385-1: 2011	

TESA depth measuring base for calipers

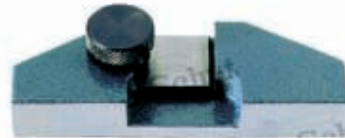
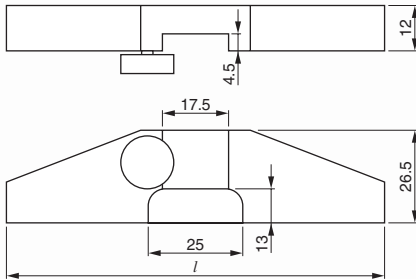
Suitable for most of the TESA calipers with a depth rod and measuring range 150 mm.



Item No.	Measuring face l x w/mm	Price EUR
779.362	75 x 6	

Mitutoyo depth measuring bases for calipers

Universal depth measuring bases for stable and accurate depth measurements. Suitable for most of the calipers with a depth rod and a measuring range up to 200 mm.



150.083



150.084



Item No.	Measuring face l x w/mm	Price EUR
150.083	75 x 12	
150.084	100 x 12	

Wooden cases for calipers

Wooden cases of high quality with foam inlay for calipers.



836.416

Item No.	Inside dimensions <i>l x w x h</i> /mm	Price EUR
836.455	250 x 90 x 20	
836.437	315 x 145 x 20	
836.416	435 x 175 x 20	
836.406	610 x 180 x 20	
836.400	690 x 200 x 20	
836.349	690 x 250 x 25	
836.387	790 x 200 x 25	
836.399	1000 x 270 x 25	
841.305	1100 x 480 x 25	



Caliper holder

Plastic holder for calipers (analog and digital; regular shaped) of 150 mm.

- For regular shaped calipers (analog and digital).
- Delivery including mounting set (belt clip and mounting clip).
- Rotatable 360°.



Item No.	For meas. range/mm	Price EUR
360.000	150	

Cases for calipers

- For regular shaped vernier calipers.
- For regular shaped calipers (analog, digital and dial type) (only 910.108 - 910.110).



909.495



910.108



Item No.	For meas. range/mm	Price EUR
Plastic cases:		
910.108	150	
910.109	200	
910.110	300	
Soft cases made of synthetic leather:		
909.494	100	
909.495	150	
909.496	160	
909.497	200	
909.498	300	

Digital protractor

Compact digital protractor to attach to a caliper or height gauge.

- Measuring range: 180°.
- Resolution: 0.01° or 1'.
- Accuracy: ±5'.
- Digimatic data output.
- On/off switch.
- Automatic switch-off (adjustable).
- Preset or hold function.
- Reset.
- Reversible measuring direction.
- Weight: 160 g.
- Delivery in a wooden case including assembly key, mounting bracket (clamping shaft 9 x 9 mm) and clamping screw for height gauge.
- Power supply: 2 batteries type AAA.

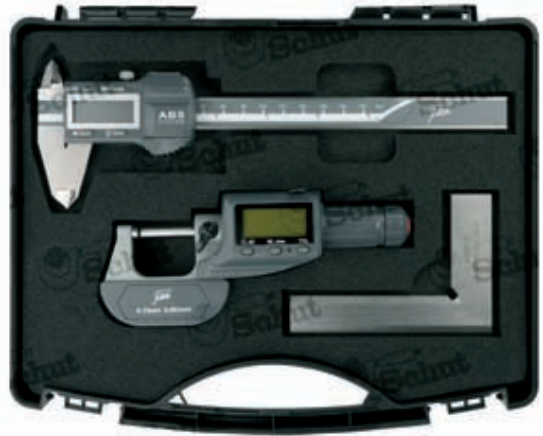


Item No.	Description	Price EUR
855.803	Digital protractor	
Options:		
497.914	Spare battery (2 needed)	
905.338	Digimatic cable, 1 m	
905.409	Digimatic cable, 2 m	

Measuring instruments set

For specifications see relevant pages elsewhere in this catalog.

- Digital caliper 906.838: measuring range 0-150 mm, resolution 0.01 mm.
- Digital micrometer 906.862: measuring range 0-25 mm, resolution 0.001 mm, with tolerance indication.
- Bevelled edge square 907.252: dimensions 100 x 70 mm, DIN 875/00.
- Delivery in a plastic carrying case.



Item No.	Description	Price EUR
910.338	Meas. instruments set	

Measuring instruments set

For specifications see relevant pages elsewhere in this catalog.

- Caliper 909.521: measuring range 0-150 mm, vernier 0.05 mm.
- Micrometer 906.000: measuring range 0-25 mm, graduation 0.01 mm.
- Bevelled edge square 907.252: dimensions 100 x 70 mm, DIN 875/00.
- Ruler 835.421: measuring range 0-150 mm, graduation 0.5 mm.
- Delivery in a plastic case.



Item No.	Description	Price EUR
910.339	Meas. instruments set	

Measuring instruments set

- Caliper: measuring range 0-150 mm, vernier 0.02 mm.
- Micrometer: measuring range 0-25 mm, graduation 0.01 mm.
- Bevelled edge square: dimensions 100 x 70 mm.
- Ruler: measuring range 0-150 mm, 0-50 mm: graduation 0.5 mm.
- Delivery in a plastic case.



Item No.	Description	Price EUR
906.176	Meas. instruments set	

Depth calipers

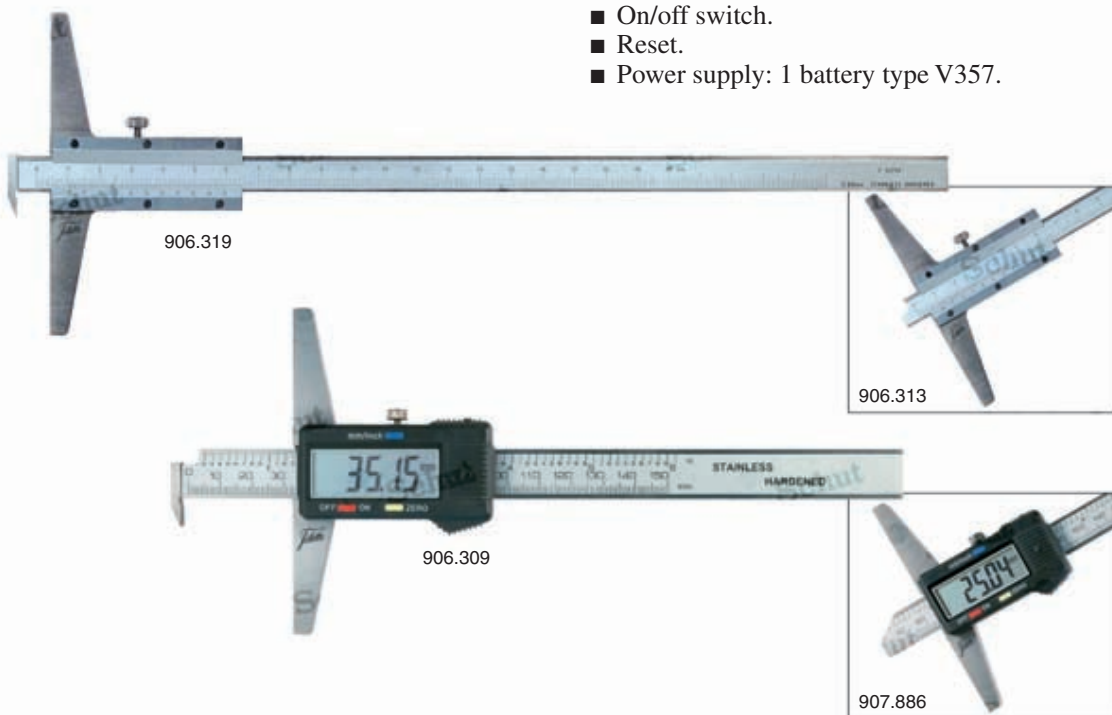
- Measuring range: 0 - 500 mm.
- Analog: vernier 0.02 mm, digital: resolution 0.01 mm.
- With or without hook (8 x 3 mm, *l* x *w*).
- Locking screw.

Analog

- Stainless steel construction.
- Matt chrome-plated beam and vernier.

Digital

- mm/inch conversion.
- On/off switch.
- Reset.
- Power supply: 1 battery type V357.



Analog

Item No.	Measuring range/mm	Base length/mm	Price EUR
Without hook:			
906.314	0 - 150	100	
906.313	0 - 200	100	
906.315	0 - 300	100	
906.317	0 - 500	100	
With hook:			
906.318	0 - 150	100	
906.319	0 - 200	100	
906.321	0 - 300	100	
906.322	0 - 500	100	

Digital

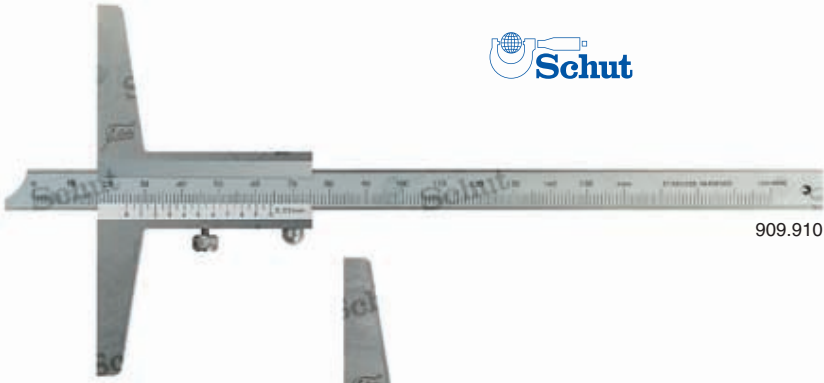
Item No.	Measuring range/mm	Base length/mm	Price EUR
Without hook:			
907.886	0 - 150	100	
907.887	0 - 200	100	
907.888	0 - 300	100	
907.898	0 - 500	100	
With hook:			
906.309	0 - 150	100	
906.310	0 - 200	100	
906.311	0 - 300	100	
906.312	0 - 500	100	
Option:			
836.535	Spare battery		



Depth calipers

Depth calipers with or without hook.

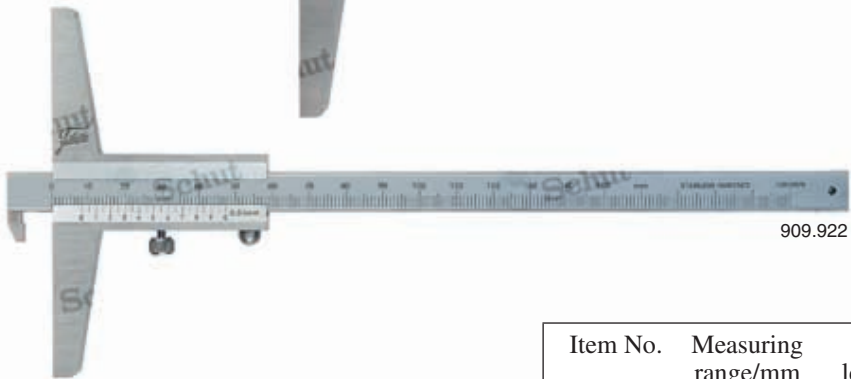
- Measuring range: 0-300 mm.
- Vernier: 0.05 mm.
- Accuracy: ± 0.03 mm.
- Locking screw.
- Matt chrome-plated beam and vernier.
- Monoblock.
- Stainless steel construction.



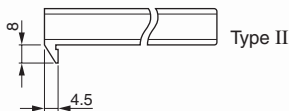
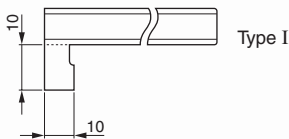
909.910



909.916



909.922

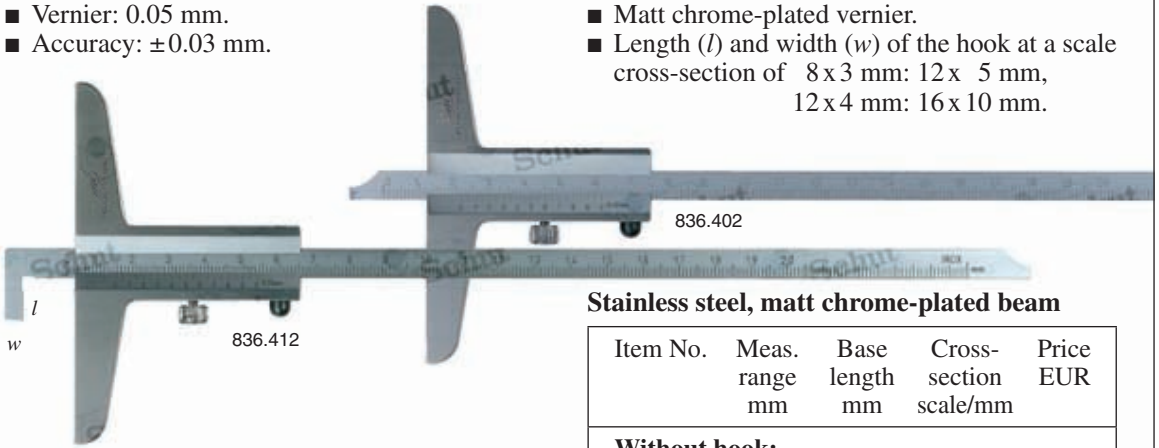


Item No.	Measuring range/mm	Base length/mm	Price EUR
Without hook:			
909.910	0-150	100	
909.911	0-200	100	
909.912	0-300	100	
With hook (type I):			
909.916	0-150	100	
909.917	0-200	100	
909.918	0-300	100	
With hook (type II):			
909.922	0-150	100	
909.923	0-200	100	
909.924	0-300	100	

HELIOS-PREISSER depth calipers

Depth calipers with or without hook. The models with a hook have graduations on both sides of the scale, allowing reverse usage (i.e. without hook) of the instrument.

- Measuring range: 0- 1000 mm.
- Vernier: 0.05 mm.
- Accuracy: ± 0.03 mm.
- Locking screw.
- Matt chrome-plated vernier.
- Length (l) and width (w) of the hook at a scale cross-section of 8 x 3 mm: 12 x 5 mm, 12 x 4 mm: 16 x 10 mm.



Stainless steel

Item No.	Meas. range mm	Base length mm	Cross-section scale/mm	Price EUR
Without hook:				
836.622	0-200	100	8 x 3	
836.621	0-500	150	12 x 4	
With hook:				
836.628	0-500	150	12 x 4	

Stainless steel, matt chrome-plated beam

Item No.	Meas. range mm	Base length mm	Cross-section scale/mm	Price EUR
Without hook:				
836.402	0- 200	100	8 x 3	
836.403	0- 300	150	12 x 4	
836.404	0- 500	150	12 x 4	
836.405	0- 500	250	20 x 5	
836.407	0- 800	250	20 x 5	
836.410	0-1000	250	20 x 5	
With hook:				
836.412	0- 200	100	8 x 3	
836.413	0- 300	150	12 x 4	
836.414	0- 500	150	12 x 4	

Mitutoyo depth calipers

Depth calipers also available with hook or with fine adjustment.

- Measuring range: 0- 300 mm.
- Vernier: 0.05 mm or 0.02 mm.
- Locking screw.
- Length measuring base: 100 mm.
- Stainless steel construction.

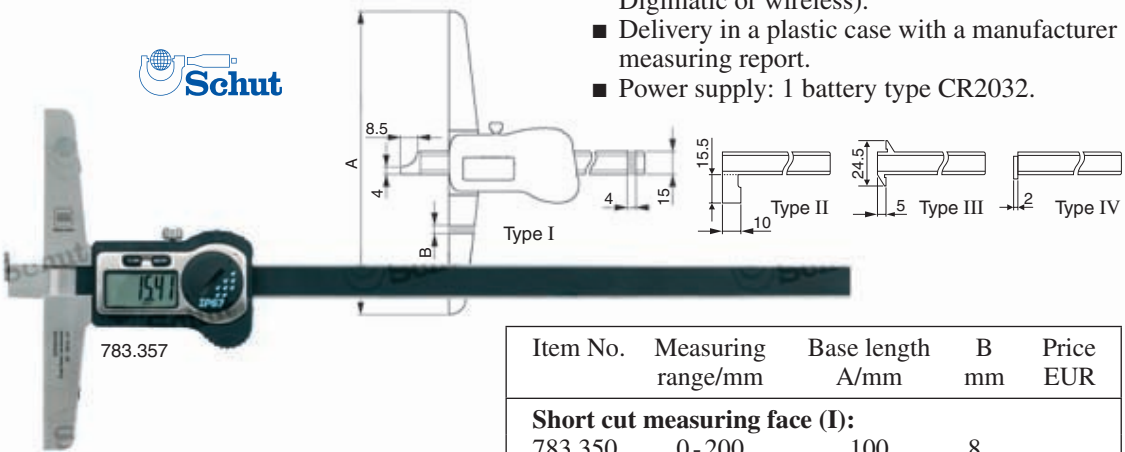


Item No.	Meas. range mm	Vernier mm	Price EUR
527.201	0- 150	0.05	
527.202	0- 200	0.05	
527.203	0- 300	0.05	
Options:			
900.370	Measuring base 180 mm		
900.371	Measuring base 260 mm		
900.372	Measuring base 320 mm		

TESA TWIN-Cal absolute digital depth calipers IP67

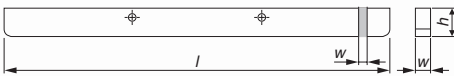
New generation IP67 depth calipers, TESA TWIN-Cal, with an absolute measuring system and a “soft touch” grip. These depth calipers have a unique connectivity concept TESA LINK. All TWIN-Cal depth calipers are equipped with a data output. Connect the TESA Link Connector to the TWIN-Cal for “plug and play” (wireless) data transfer. Waterproof, hardened stainless steel depth calipers, in different versions of the beam’s measuring face. Suited for use with removable bridges. There is also a small depth gauge available.

- Measuring range: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- Digit height: 11 mm.
- Automatic switch-off.
- Reset.
- Max. measuring speed: approx. 2.5 m/s.
- Locking screw.
- Protection: IP67 (also in combination with data output cable).
- ISO 13385-2.
- Standard supplied with data output (USB, Digimatic or wireless).
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

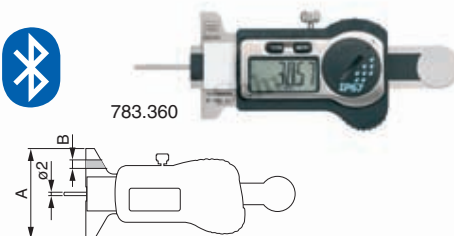


Removable bridges*

Item No.	Meas. face l x w/mm	Height h/mm	Price EUR
782.886	200 x 8	10 ± 0.005	
782.949	300 x 8	16 ± 0.005	
782.887	400 x 8	16 ± 0.005	



* Not suited for use with 783.360.



Item No.	Measuring range/mm	Base length A/mm	B mm	Price EUR
Short cut measuring face (I):				
783.350	0 - 200	100	8	
783.352	0 - 300	150	8	
783.353	0 - 500	150	8	
Measuring face with one hook (II):				
783.354	0 - 300	150	8	
783.355	0 - 500	150	8	
Measuring face with two hooks (III):				
783.356	0 - 300	150	8	
Measuring face with rotary stop (IV):				
783.357	0 - 250	100	8.5	
783.358	0 - 350	100	8.5	
783.359	0 - 500	150	8.5	
Small depth gauge with steel depth rod:				
783.360	0 - 25	50	7.4	
Options:				
495.157	Spare battery			
783.301 ¹	TESA Link Connector USB			
783.302 ¹	TESA Link Connector Digimatic			
783.555 ¹	TESA Link Connector Bluetooth			

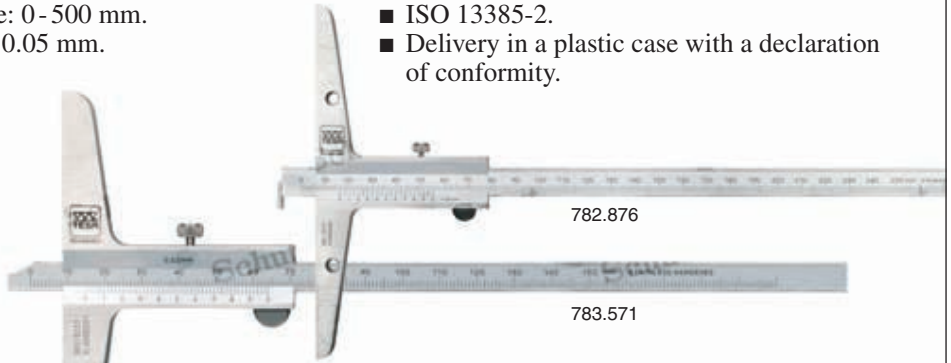
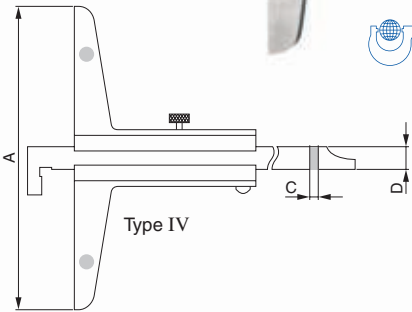
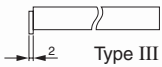
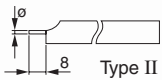
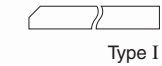
¹ The TESA Link Connector will replace the battery cover.

TESA depth calipers

Hardened stainless steel depth calipers with a matt chrome-plated beam and vernier. Reduced scale section for easy access to difficult measuring points. The main scale is slightly set back for wear protection. Suited for use with removable bridges.

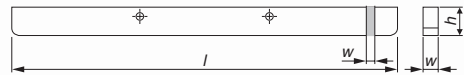
- Measuring range: 0-500 mm.
- Vernier: 0.02 or 0.05 mm.
- Locking screw.

- ISO 13385-2.
- Delivery in a plastic case with a declaration of conformity.



Removable bridges*

Item No.	Measuring face <i>l</i> x <i>w</i> /mm	Height <i>h</i> /mm	Price EUR
783.627	180 x 8	17	
783.628	260 x 8	17	
783.629	320 x 8	17	



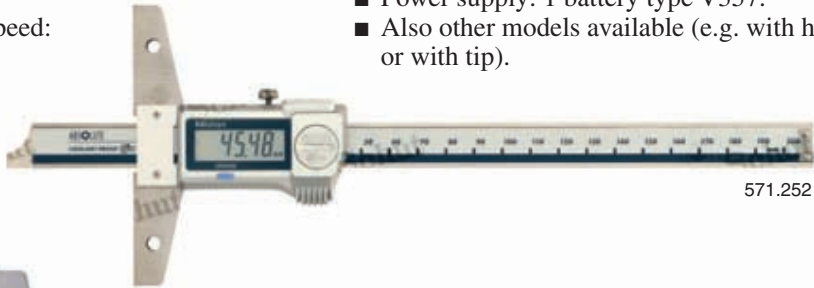
* For depth calipers from 300 mm.

Measuring range/mm	Base length <i>A</i> /mm	Dimensions/mm			Vernier 0.05 mm		Vernier 0.02 mm	
		<i>C</i>	<i>D</i>	ϕ	Item No.	Price EUR	Item No.	Price EUR
Short cut measuring face (I):								
0-150	100	3	8	-	782.872		782.300	
0-200	100	3	8	-	782.075		783.571	
0-300	150	4	12	-	782.076		783.572	
0-500	150	4	12	-	782.873		783.612	
Steel tip (II):								
0-150	100	3	8	1.5	782.304		782.870	
0-200	100	3	8	1.5	782.079		783.573	
0-250	100	3	8	1.5	-		782.305	
0-300	150	4	12	2	782.161		783.574	
Measuring face with rotary stop (III):								
0-150	150	4	12	-	782.858		782.306	
0-250	150	4	12	-	782.876		782.307	
0-500	150	4	12	-	782.877		782.308	
Convertible models with a hook and a short cut measuring face (IV):								
0-150	100	3	8	-	782.879		782.878	
0-200	100	3	8	-	782.162		783.575	
0-300	150	4	10	-	782.883		782.882	
0-500	150	4	10	-	782.885		782.884	

Mitutoyo Absolute Digimatic depth calipers

Mitutoyo depth calipers with the Absolute measuring system. For use in workshop conditions, Mitutoyo has also developed *Coolant Proof* models with high protection degree (IP67); these are resistant to oil and coolants, and even last temporary immersion.

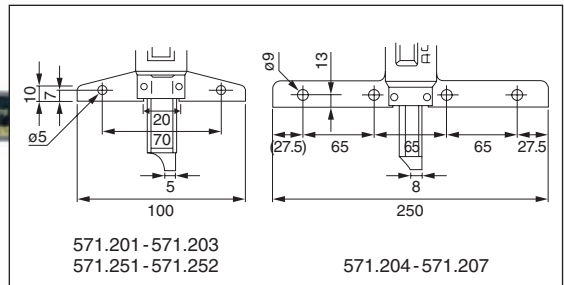
- Measuring range: 0- 1000 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable (except 571.251 - 253).
- Digimatic data output.
- Reset.
- Max. measuring speed: unlimited.
- Beam: 16 x 3.5 mm.
- Protection: IP67 (only *Coolant Proof* models).
- Conforms to factory standard.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.
- Also other models available (e.g. with hook or with tip).



571.252



571.201



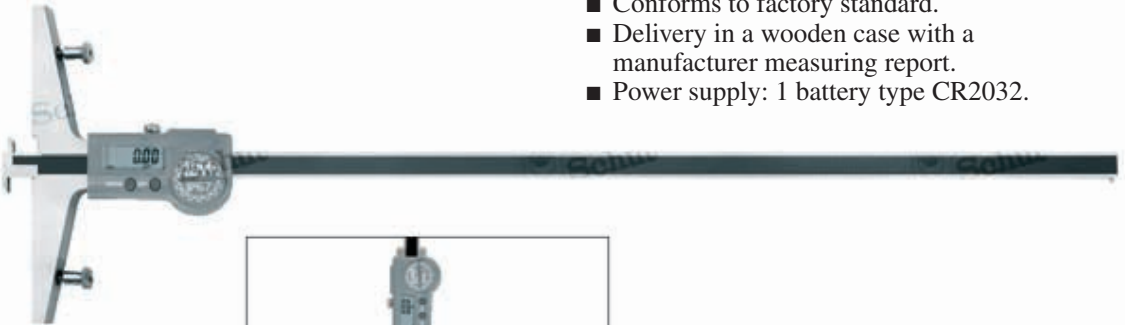
Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Item No.	Measuring range/mm	Base length/mm	Accuracy/mm	Price EUR
571.201	0- 150	100	±0.02	
571.202	0- 200	100	±0.02	
571.203	0- 300	100	±0.03	
571.204	0- 450	250	±0.05	
571.205	0- 600	250	±0.05	
571.206	0- 750	250	±0.06	
571.207	0- 1000	250	±0.07	
Protection IP67 (Coolant Proof):				
571.251	0- 150	100	±0.02	
571.252	0- 200	100	±0.02	
571.253	0- 300	100	±0.03	
Options:				
836.535	Spare battery			
900.370	Removable bridge, length 180 mm (for depth calipers up to 300 mm)			
900.371	Removable bridge, length 260 mm (for depth calipers up to 300 mm)			
900.372	Removable bridge, length 320 mm (for depth calipers up to 300 mm)			

Depth calipers

Waterproof, hardened stainless steel depth calipers, in different versions of the beam's measuring face. Suited for use with removable bridges.

- Measuring range: 0- 800 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm or ± 0.04 mm.
- Proximity data output.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Hold function.
- Locking screw.
- Protection: IP67.
- Standard supplied with insert 839.077.
- Conforms to factory standard.
- Delivery in a wooden case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
839.069	0- 300	± 0.03	
839.070	0- 400	± 0.03	
839.071	0- 500	± 0.03	
839.072	0- 600	± 0.03	
839.073	0- 800	± 0.04	

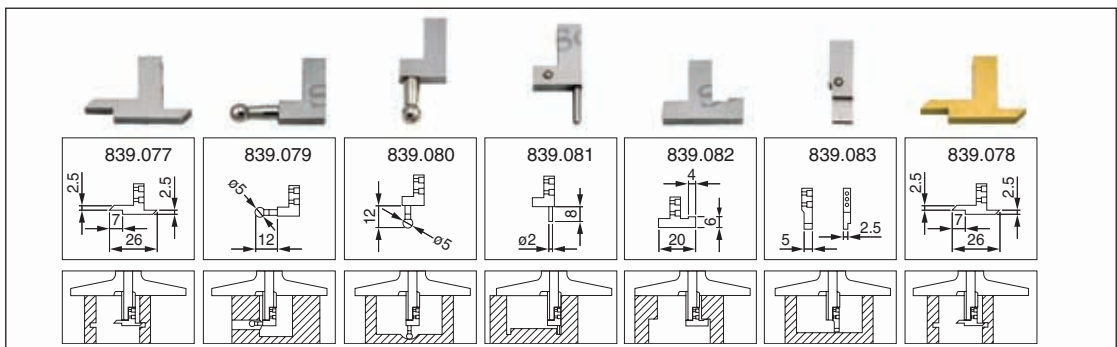
Option:
 495.157 Spare battery
 840.666 Proximity USB cable (2 m)

Removable bridges

Item No.	Length/mm	Price EUR
839.074	400	
839.075	500	
839.076	600	

Inserts

Item No.	Description	Price EUR
839.077	Insert	
839.079	Insert	
839.080	Insert	
839.081	Insert	
839.082	Insert	
839.083	Insert	
839.078	Insert	



Digital lightweight depth calipers

Universal lightweight aluminum depth calipers with two interchangeable measuring inserts set at 90° and 3 measuring bases. All inserts with M2.5 thread can be used with these calipers. Please see the dial indicator accessories section for these inserts. Excellent sliding properties due to double prismatic joint.

- Measuring range: 0-800 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Length included measuring bases: 150, 300 and 450 mm.
- Interchangeable measuring inserts: 2 measuring inserts included (ball attachments $\phi 3.2$ mm, $l=6$ mm and $\phi 5$ mm, $l=12$ mm).
- Locking screw.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.

Item No.	Measuring range/mm	Accuracy mm	Weight kg	Price EUR
853.209	0-300	0.04	0.4	
853.210	0-500	0.05	0.5	
853.211	0-800	0.06	0.8	
Options:				
836.535 Spare battery				



Digital lightweight depth calipers with with round depth rod

Universal lightweight aluminum depth calipers with round depth rod and M2.5 threaded hole for interchangeable inserts. Inserts with M2.5 thread can be used with these calipers. Please see the dial indicator accessories section for these inserts. Excellent sliding properties due to double prismatic joint.

- Measuring range: 0-500 mm.
- Diameter depth rod: Measuring range 0-300 mm $\phi 4$ mm Measuring range 500 mm $\phi 6$ mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Length included measuring base: 350 mm.
- Interchangeable measuring inserts: 2 measuring inserts included (ball attachment $\phi 3.2$ mm, $l=6$ mm and disc attachment $\phi 10$ mm, $d=2$ mm at 0-300 mm or disc attachment $\phi 20$ mm, $d=2$ mm at 500 mm).
- Locking screw.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Weight kg	Price EUR
853.212	0-200	0.03	0.3	
853.213	0-300	0.04	0.4	
853.214	0-500	0.05	0.6	
Options:				
853.222	Measuring base 550 mm			
853.223	Measuring base 750 mm			
853.224	Measuring base 950 mm			
836.535	Spare battery			

Digital depth calipers with with round depth rod

Universal depth calipers with round depth rod with M2.5 threaded hole for exchangeable inserts. Inserts with M2.5 thread can be used with these calipers. Please see the dial indicator accessories section for these inserts.

- Measuring range: 0- 150 mm.
- Diameter depth rod: 4 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Length measuring base: 85 mm.
- Interchangeable measuring inserts: disc attachment included $\varnothing 8$ mm, $d=1$ mm.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
910.355	0- 100	
910.356	0- 150	
Option:		
836.535	Spare battery	



Digital depth gauge

- Measuring range: 0- 21.5 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Locking screw.
- Measuring face: 45 x 6 mm.
- Measuring pin: 6 x 2.3 mm, taper to 4 x 2.3 mm.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
907.861	0- 21.5	
Option:		
836.535	Spare battery	

Digital depth gauge

Digital tire tread depth gauge made of high quality plastic.

- Measuring range: 0- 25 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Measuring face: 60 x 5.7 mm.
- Measuring pin: $\varnothing 4$ mm.
- Measuring tip: 2.6 x 0.9 mm.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
910.357	0- 25	
Option:		
836.535	Spare battery	

Depth caliper for keyway depths

- Measuring range: keyway depths 0-25 mm.
- Application range: cylinders $\phi 5-200$ mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Measuring pin: $\phi 2$ mm.
- Power supply: 1 battery type V357.



Item No.	Application range/mm	Price EUR
910.258	$\phi 5-200$	
Option:		
836.535	Spare battery	

Depth calipers for keyway depths

- Measuring range: keyway depths 0-60 mm.
- Application range: cylinders $\phi 5-200$ mm.
- Vernier: 0.05 mm.
- Stainless steel construction.



Item No.	Application range/mm	Price EUR
907.192	$\phi 5-80$	
907.193	$\phi 6-120$	
907.194	$\phi 7-160$	
907.195	$\phi 8-200$	

Digital depth gauge

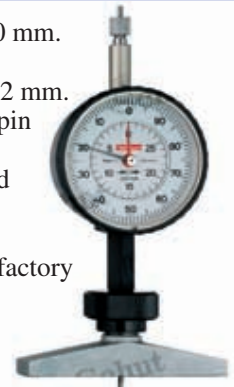
- Measuring range: 0-80 mm.
- Resolution: 0.05 mm.
- mm/inch conversion.
- On/off switch.
- Detachable measuring pin $\phi 4.3$ mm, length 50 mm.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Price EUR
906.428	0-80	
Option:		
495.157	Spare battery	

Käfer depth dial indicators

- Measuring range: 0-30 mm.
- Graduation: 0.01 mm.
- Measuring pin shaft: $\phi 2$ mm.
- Measuring depth with pin 852.385: 200 mm.
- Excl. measuring pin and measuring base.
- Accuracy according DIN 878 (852.383) or factory standard (852.384).

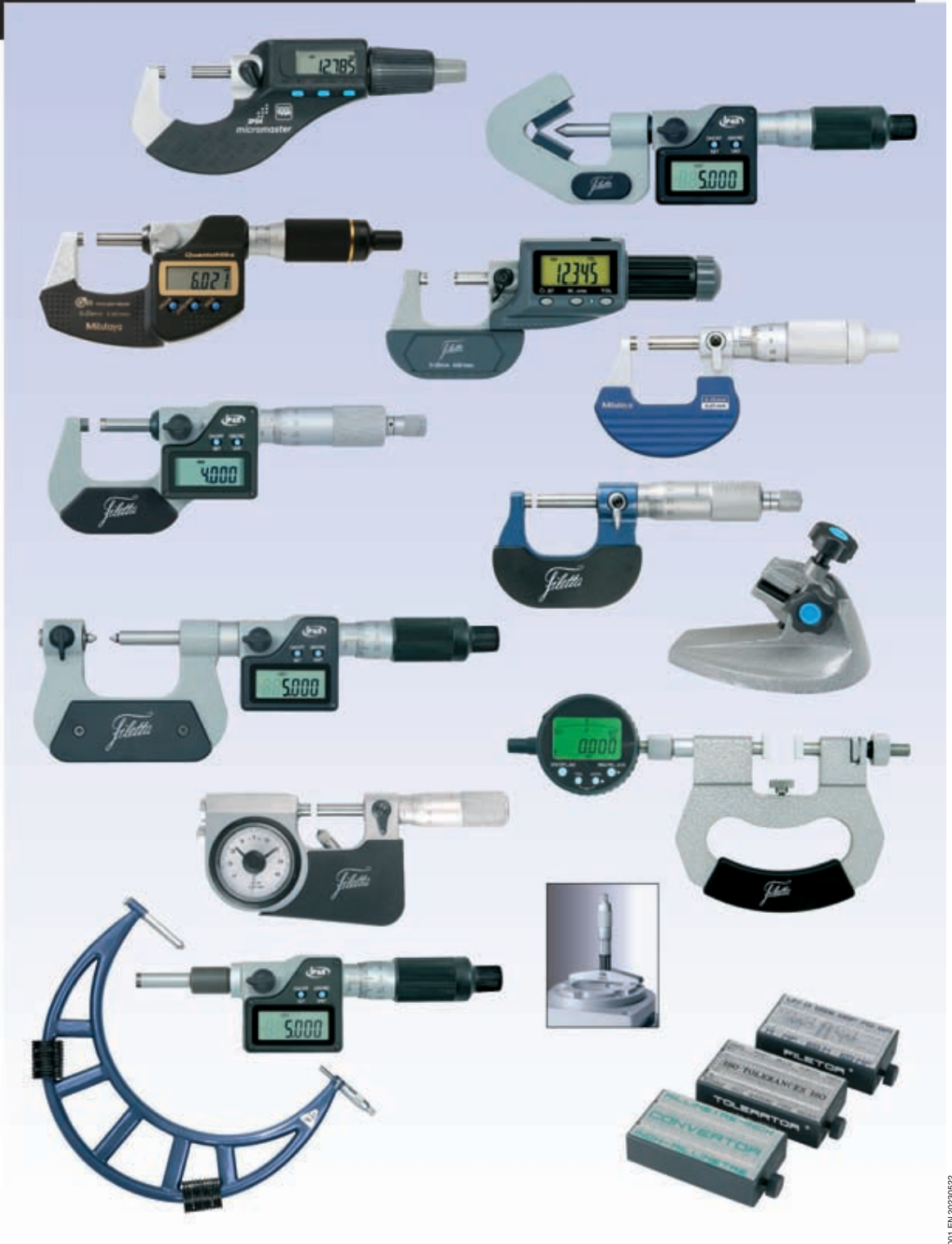


Item No.	Measuring range/mm	Price EUR
852.383	0-10	
852.384	0-30	

Options:		
852.385	Measuring pin $\phi 2$ mm,	
	340 mm	
907.153	Meas. base 63 x 17 mm	
907.165	Meas. base 101.5 x 17 mm*	

* Larger sizes available on request.

Micrometers / Micrometer heads



Digital micrometers

Rugged digital micrometers with simple functions and an excellent price-performance ratio.

- Measuring range: 0 - 200 mm.
- Resolution: 0.001 mm.
- Automatic switch-off.
- Reset/preset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- From measuring range 25 - 50 mm including setting gauge.
- Power supply: 1 battery type V357.



908.758



908.769



Item No.	Measuring range/mm	Accuracy mm	Price EUR
Not switchable:			
908.752	50 - 75	± 0.005	
908.753	75 - 100	± 0.005	
908.755	125 - 150	± 0.006	
Switchable mm/inch and ABS/INC:			
908.758	0 - 25	± 0.004	
908.759	25 - 50	± 0.004	
908.760	50 - 75	± 0.005	
908.761	75 - 100	± 0.005	
908.762	100 - 125	± 0.006	
908.763	125 - 150	± 0.006	
908.764	150 - 175	± 0.007	
908.765	175 - 200	± 0.007	

Sets

Item No.	Measuring range/mm	Pieces	Price EUR
Switchable mm/inch and ABS/INC:			
908.769	0 - 75	3	
908.770	0 - 100	4	
908.771	0 - 150	6	

Option

Item No.	Description	Price EUR
836.535	Spare battery	

Digital micrometers

Rugged digital micrometers with simple functions and an excellent price-performance ratio.

- Measuring range: 0- 150 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- From measuring range 25- 50 mm including setting gauge.

- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.982	0- 25	± 0.003	
909.983	25- 50	± 0.003	
909.984	50- 75	± 0.004	
909.985	75- 100	± 0.004	
909.986	100- 125	± 0.005	
909.987	125- 150	± 0.005	

Option:
495.157 Spare battery

Digital micrometers with double display

This patented micrometer distinguishes itself with its two large displays on both sides of the instrument, which can also display the read-out upside-down. Therefore the measuring value can always be presented upright, which enables ergonomic read-out at all times. Add to this its measuring range of 30 mm, the tungsten carbide measuring faces and you have a micrometer with a great price-performance ratio.

- Measuring range: 0- 205 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Double LCD display.
- Second display can be switched on/off separately.



- Automatic switch-off.
- Reset/preset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- From measuring range 25- 55 mm including setting gauge.
- Delivery in a plastic case.
- Power supply: 1 battery type CR2032.



Measuring value 'upside-down'.



Second display: also for left-handed use.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.682	0- 30	± 0.004	
907.683	25- 55	± 0.004	
907.684	50- 80	± 0.005	
907.685	75- 105	± 0.005	
907.686	100- 130	± 0.006	
907.687	125- 155	± 0.006	
907.688	150- 180	± 0.007	
907.689	175- 205	± 0.007	

Option:
495.157 Spare battery

Digital micrometers with tolerance indication

These absolute digital micrometers are provided with both a tolerance and a hold function, as well as a large display.

- Measuring range: 0- 75 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Digit height: 9 mm.
- Automatic switch-off.
- Reset/preset.
- Hold function.
- Adjustable tolerance limits.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Power supply: 1 battery type V357.



907.570



Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.570	0- 25	± 0.004	
907.571	25- 50	± 0.004	
907.572	50- 75	± 0.005	
Option:			
836.535	Spare battery		

Micrometers with counter

These solid micrometers have a counter with a resolution of 0.01 mm for an error free read-out of the measuring value, and a very favourable price-performance ratio.

- Measuring range: 0- 200 mm.
- Resolution: 0.01 mm.
- Numerical counter adjustable.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery with adjustment tool.
- From measuring range 25 - 50 mm including setting gauge.



906.556



Sets (delivered incl. setting gauges)

Item No.	Measuring range/mm	Pieces	Price EUR
906.564	0- 75	3	
906.565	0- 100	4	
906.566	0- 150	6	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.556	0- 25	± 0.01	
906.557	25- 50	± 0.01	
906.558	50- 75	± 0.01	
906.559	75- 100	± 0.01	
906.560	100- 125	± 0.02	
906.561	125- 150	± 0.02	
906.562	150- 175	± 0.02	
906.563	175- 200	± 0.02	

Mitutoyo Digimatic micrometer

Digital micrometer with a very compact design.

- Measuring range: 0-25 mm.
- Resolution: 0.001 mm.
- Reset.
- Measuring force: 5-10 N.
- Spindle: $\varnothing 6.35$ mm.
- Ground and lapped tungsten carbide measuring faces.
- Varnished frame.
- Weight: 275 g.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
293.821	0-25	± 0.002	
Option:			
836.535	Spare battery		

Mitutoyo Absolute Digimatic Quick micrometers

Very fast adjustable digital micrometer (10 mm/rotation!) with the absolute system and a non-rotating spindle. It works according to the Abbe principle and has an almost unlimited measuring speed. All this makes the Quick Micrometer the most accurate 'quick meter' of its kind.

The model with adjustable measuring force is for measurements of small, vulnerable and deformable objects. Should be used in horizontal position for optimal accuracy of the measuring force.

- Measuring range: 0-30 mm.
- Resolution: 0.001 mm.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Max. measuring speed: unlimited.
- 1 revolution of the thimble = 10 mm.
- Flatness measuring faces: $\leq 0.3 \mu\text{m}$.
- Parallelism measuring faces: $\leq 2.0 \mu\text{m}$.
- Non-rotating spindle.
- Ground and lapped tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- Varnished frame.
- Protection: 293.666: IP65.
- Conforms to factory standard.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.
- Also larger sizes available.



293.666

Item No.	Measuring range/mm	Accuracy mm	Measuring force/N	Price EUR
293.666	0-30	± 0.002	5 - 12	
With adjustable measuring force:				
227.205	0-10	± 0.002	2 - 10	
227.202	0-15	± 0.002	2 - 10	
227.201	0-15	± 0.002	0.5- 2.5	
Option:				
836.535	Spare battery			

Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.



Setting measuring force (227.201/202/205)

Absolute digital micrometers with tolerance indication IP54

Digital micrometers with a function to set tolerance limits with clear optical Go (NoGo) reading.

- Measuring range: 0 - 100 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With data output.
- Adjustable tolerance limits.
- **Tolerance display** by means of illuminated green LED at GO value.
- On/off switch.
- Automatic switch-off.
- Reset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Protection: IP54.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



906.862

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



906.618



909.687



906.619/910.038



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.862	0 - 25	± 0.003	
906.863	25 - 50	± 0.003	
906.864	50 - 75	± 0.004	
906.865	75 - 100	± 0.004	

Options:

- 495.157 Spare battery
- 906.618^{1,2} USB interface
- 909.687 Footswitch for USB interface
- 910.038 Wireless USB receiver
- 906.619² Wireless transmitter

¹ Standard configured for PC with English (US) keyboard. Also available on request for alternative keyboards.

² With micro-USB connection.

Digital micrometers IP54

- Measuring range: 0 - 150 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- Automatic switch-off.
- Reset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Protection: IP54.
- From measuring range 25 - 50 mm including setting gauge.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.



910.041



Sets

Item No.	Measuring range/mm	Pieces	Price EUR
910.053	0 - 75	3	
910.055	0 - 150	6	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
910.041	0 - 25	± 0.004	
910.042	25 - 50	± 0.004	
910.043	50 - 75	± 0.005	
910.044	75 - 100	± 0.005	
910.045	100 - 125	± 0.006	
910.046	125 - 150	± 0.006	

Option:

836.535 Spare battery

Digital micrometers IP65

These IP65 protected micrometers are especially suitable for use in production environments.

- Measuring range: 0 - 100 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Protection: IP65.
- From measuring range 25 - 50 mm including setting gauge.
- Delivery in a plastic case with a manufacturer measuring report and ball attachment.
- Power supply: 1 battery type CR2032.



909.988



Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.988	0 - 25	± 0.003	
909.989	25 - 50	± 0.003	
909.990	50 - 75	± 0.004	
909.991	75 - 100	± 0.004	

Option:

495.157 Spare battery

Digital fast adjustable external measuring instruments IP65

These digital external measuring instruments have an IP65 classification and are therefore not only resistant to dust, but can also withstand water jets. The non-rotating spindle is solely lever operated and fast adjustable.

- Measuring range: 0- 100 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset.
- Non-rotating spindle.
- Tungsten carbide measuring faces: \varnothing 6.5 mm.
- Protection: IP65.
- From measuring range 25 - 50 mm including setting gauge.
- Delivery in a plastic case with a manufacturer measuring report and ball attachment.
- Power supply: 1 battery type CR2032.



909.994

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



909.686



909.687



910.039/038



Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.994	0- 25	\pm 0.003	
909.995	25 - 50	\pm 0.003	
909.996	50 - 75	\pm 0.004	
909.997	75 - 100	\pm 0.004	

With Bluetooth:			
910.075	0- 25	\pm 0.003	

Options:			
495.157	Spare battery		
909.686 ^{1,2}	USB interface		
909.687	Footswitch for USB interface		
910.038	Wireless USB receiver		
910.039 ²	Wireless transmitter		

¹ Standard configured for PC with English (US) keyboard. Also available on request for alternative keyboards.

² For instruments with a Digimatic data output.

Digital micrometers IP65

These digital micrometers have an IP65 classification and are therefore not only resistant to dust but can also withstand water jets. Also available as fast adjustable micrometers with a pitch of 2 mm.

- Measuring range: 0- 300 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With data output.
- On/off switch.
- Automatic switch-off.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Protection: IP65.
- From measuring range 25 - 50 mm including setting gauge.
- Delivery in a plastic case or a wooden case.
- Power supply: 1 battery type V357.

Fast adjustable micrometers

- 1 revolution of the thimble = 2 mm.



909.549



909.545



Fast adjustable micrometers



Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.549	0- 25	± 0.002	
909.550	25- 50	± 0.002	
909.551	50- 75	± 0.003	
909.552	75- 100	± 0.003	
909.556	100- 125	± 0.003	
909.557	125- 150	± 0.003	
909.558	150- 175	± 0.004	
909.559	175- 200	± 0.004	
909.560	200- 225	± 0.004	
909.561	225- 250	± 0.004	
909.562	250- 275	± 0.005	
909.563	275- 300	± 0.005	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.545	0- 25	± 0.002	
909.546	25- 50	± 0.002	
909.547	50- 75	± 0.003	
909.548	75- 100	± 0.003	

Sets

Item No.	Measuring range/mm	Pieces	Price EUR
909.577	0- 75	3	
909.578	0- 100	4	
909.579	0- 150	6	

Options:

- 836.535 Spare battery
- 910.458 Bluetooth transmitter



TESA Micromaster digital *capa μ* micrometers IP54

This line of digital micrometers with the patented *capa μ* measuring system has a very light-weight and ergonomic design and is equipped with a large easy-to-read LCD display with 7 mm large digits. Especially the high protection degree – IP54 against dust and splash water – makes this series of micrometers very suitable for use in workshop conditions. The friction thimble ensures a constant measuring force of approximately 10 N for optimal repeatability. The models with Opto-RS232C data output are suitable for data transfer by means of a cable, or wireless with the TESA Link Connector-Bluetooth and Opto-RS232/TLC adapter.

- Measuring range: 0- 300 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With or without bidirectional Opto-RS232C data output.
- Automatic switch-off.
- Reset/preset and hold function.
- Locking screw.
- Friction thimble.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm (from measuring range 100- 125 mm: $\varnothing 8$ mm).
- Matt chrome-plated frame with insulating grip.
- Protection: IP54.
(When using data output: IP40.)
- Delivery in a plastic case or a wooden case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
Without Opto-RS232C data output:			
782.100 ¹	0- 30	±0.004	
782.101	0- 30	±0.004	
782.102	25- 50	±0.004	
782.103	50- 75	±0.005	
782.104	75- 100	±0.005	
With Opto-RS232C data output:			
782.105	0- 30	±0.004	
782.106	25- 50	±0.004	
782.107	50- 75	±0.005	
782.108	75- 100	±0.005	
782.115	100- 125	±0.006	
782.116	125- 150	±0.006	
782.117	150- 175	±0.007	
782.118	175- 200	±0.007	
782.119	200- 225	±0.008	
782.122	225- 250	±0.008	
782.123	250- 275	±0.009	
782.124	275- 300	±0.009	
Options:			
495.157	Spare battery		
783.556	TESA Link Connector Adapter Opto-RS232/TLC		
783.555	TESA Link Connector Bluetooth		
781.887	Opto-RS232C cable 9p (2 m)		

¹ Micromaster “Easy”: simple model with protection IP40 and without preset function.

Mitutoyo Digimatic and *QuantuMike* micrometers IP65

These digital *Coolant Proof* micrometers have an IP65 classification and are therefore not only resistant to dust but can also withstand water jets and splashing coolant. The large and clear LCD with 7.5 mm high digits enables easy read-out. The revolutionary *QuantuMike* has a spindle pitch of 2 mm. The spindle feed is therefore 4x faster compared to a standard micrometer.

- Measuring range: 0- 150 mm.
- Resolution: 0.001 mm.
- ABS/INC switchable.
- Automatic switch-off.
- Reset.
- ABS reset by means of origin.
- Hold function.
- 1 revolution of the thimble = 2 mm (only *QuantuMike*).
- Tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- Varnished frame with insulating grip.
- Protection: IP65.
- Conforms to factory standard.
- Delivery in a plastic case with a manufacturer measuring report (0- 50 mm).
- Power supply: 1 battery type V357.
- Battery life: approx. 2.4 years.
- The standard model with data output (293.230-293.233) is available up to 300 mm, and is also available in sets.
- Models with ratchet thimble are available up to 100 mm measuring range.



Item No.	Measuring range/mm	Accuracy mm	Digimatic output	Price EUR
293.240	0- 25	± 0.001	no	
293.241	25- 50	± 0.001	no	
293.242	50- 75	± 0.001	no	
293.243	75- 100	± 0.002	no	
293.230	0- 25	± 0.001	yes	
293.231	25- 50	± 0.001	yes	
293.232	50- 75	± 0.001	yes	
293.233	75- 100	± 0.002	yes	
293.250	100- 125	± 0.002	yes	
293.251	125- 150	± 0.002	yes	
293.234 ¹	0- 25	± 0.001	yes	
293.244 ¹	0- 25	± 0.001	no	

Available up to 300 mm measuring range.



QuantuMike:

293.145	0- 25	± 0.001	no
293.146	25- 50	± 0.001	no
293.147	50- 75	± 0.001	no
293.148	75- 100	± 0.002	no
293.140	0- 25	± 0.001	yes
293.141	25- 50	± 0.001	yes
293.142	50- 75	± 0.001	yes
293.143	75- 100	± 0.002	yes

Options:

836.535	Spare battery
105.662 ²	Digimatic data cable, 1 m
105.663 ²	Digimatic data cable, 2 m
106.380 ²	USB Input Tool Direct cable, 2 m
102.310 ^{2,3}	U-WAVE fit connector
264.622 ³	U-WAVE fit transmitter IP67
264.626	U-WAVE Bluetooth transmitter IP 67

¹ With ratchet thimble.

² With data switch.

³ Connector + transmitter are needed.



Mitutoyo Absolute Digimatic Submicrometer MDH

Micrometer with a higher resolution (switchable) and accuracy.

- Measuring range: 0-25 mm.
- Resolution: **0.0001** or 0,0005 mm.
- Digimatic data output.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Hold function.
- Measuring force: 7-9 N.
- Spindle: \varnothing 6.35 mm.
- Locking screw.
- Tungsten carbide measuring faces: \varnothing 3.2 mm.
- Varnished frame with insulating grip.
- Absolute rotary sensor.
- Weight: 400 g.
- Conforms to factory standard.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
293.100	0-25	\pm 0.0005	
Options:			
495.157	Spare battery		
105.662 ¹	Digimatic data cable, 1 m		
105.663 ¹	Digimatic data cable, 2 m		
106.380 ¹	USB Input Tool Direct cable, 2 m		
102.791 ¹	U-WAVE data cable		

¹ With data switch.

Mitutoyo Quick Mini digital quick thickness gauge

The measuring instrument to always carry with you. Pull back the lever, insert the sample, release the lever and read the value!

- Measuring range: 0-12 mm.
- Resolution: 0.01 mm.
- Accuracy: \pm 0.02 mm.
- Repeatability: 0.01 mm.
- ABS/INC switchable.
- Reset.
- Measuring force: 2 N.
- Anvil measuring face: \varnothing 6.5 mm.
- Pin measuring face: \varnothing 5 mm.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Price EUR
700.119	0-12	
Option:		
836.535	Spare battery	

Micrometers

- Measuring range: 0 - 300 mm.
- Graduation: 0.01 mm.
- Friction thimble.
- Tungsten carbide measuring faces: $\phi 6.5$ mm.
- From measuring range 25 - 50 mm including setting gauge.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.000	0 - 25	± 0.004	
906.001	25 - 50	± 0.004	
906.002	50 - 75	± 0.005	
906.003	75 - 100	± 0.005	
906.004	100 - 125	± 0.006	
906.005	125 - 150	± 0.006	
906.006	150 - 175	± 0.007	
906.007	175 - 200	± 0.007	
906.008	200 - 225	± 0.008	
906.009	225 - 250	± 0.008	
906.010	250 - 275	± 0.009	
906.011	275 - 300	± 0.009	
Model for left- and right-handed use:			
907.167	0 - 25	± 0.004	
907.168	25 - 50	± 0.004	
907.169	50 - 75	± 0.005	
907.170	75 - 100	± 0.005	

Sets

Item No.	Measuring range/mm	Price EUR
906.055	0 - 75	
906.056	0 - 100	
906.057	0 - 150	
906.058	150 - 300	
906.059	0 - 300	



Micrometers 0.001 mm, parallax-free

Rugged micrometers with a vernier graduation of 0.001 mm and a favourable price-performance ratio.

- Measuring range: 0-200 mm.
- Vernier: 0.001 mm, parallax-free by enlarged thimble.
- Friction thimble.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery incl. adjustment tool.
- From measuring range 25 - 50 mm including setting gauge.



906.280



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.280	0- 25	± 0.004	
906.281	25- 50	± 0.004	
906.282	50- 75	± 0.005	
906.283	75-100	± 0.005	
906.284	100-125	± 0.006	
906.285	125-150	± 0.006	
906.286	150-175	± 0.007	
906.287	175-200	± 0.007	

Fast adjustable micrometers

Fast adjustable micrometers due to one revolution resulting in a displacement of 1 mm. The measuring value can be read directly from the 100 step graduation on the thimble.

- Measuring range: 0-200 mm.
- Graduation: 0.01 mm.
- 1 revolution of the thimble = 1 mm.
- Thimble with 100 step graduation.
- Tungsten carbide measuring faces: $\varnothing 8$ mm.
- From measuring range 25 - 50 mm including setting gauge.



907.000



Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.000	0- 25	± 0.004	
907.001	25- 50	± 0.004	
907.002	50- 75	± 0.005	
907.003	75-100	± 0.005	
907.004	100-125	± 0.006	
907.005	125-150	± 0.006	
907.006	150-175	± 0.007	
907.007	175-200	± 0.007	



Mitutoyo lightweight micrometers

Mitutoyo micrometers in a lightweight workshop design.

- Measuring range: 0- 300 mm.
- Graduation: 0.01 mm.
- Measuring force: 5- 10 N
(from 100 mm: 5- 15 N).
- Locking screw.
- Tungsten carbide measuring faces: $\phi 6.35$ mm.
- Varnished frame, from 75 mm with insulating grip.
- Delivery in a plastic case with a manufacturer measuring report (0- 50 mm), adjustment tool and setting gauge (except 103.137). Sets delivered in a wooden case.
- Available up to 1000 mm.



103.137



Item No.	Measuring range/mm	Accuracy mm	Price EUR
103.137	0- 25	± 0.002	
103.138	25- 50	± 0.002	
103.139	50- 75	± 0.002	
103.140	75- 100	± 0.003	
103.141	100- 125	± 0.003	
103.142	125- 150	± 0.003	
103.143	150- 175	± 0.004	
103.144	175- 200	± 0.004	
103.145	200- 225	± 0.004	
103.146	225- 250	± 0.005	
103.147	250- 275	± 0.005	
103.148	275- 300	± 0.005	



Sets (delivered incl. setting gauges)

Item No.	Measuring range/mm	Pieces	Price EUR
103.927	0- 75	3	
103.913	0- 150	6	
103.915	150- 300	6	
103.914	0- 300	12	

TESA micrometers

- Measuring range: 0- 100 mm.
- Graduation: 0.01 mm.
- Tungsten carbide measuring faces: $\phi 6.5$ mm.
- No-glare chrome finished frame and thimble.
- DIN 863 T1.
- Delivery in a plastic case with a manufacturer measuring report.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
TESA Isomaster			
779.005	0- 25	± 0.004	
779.006	25- 50	± 0.004	
779.007	50- 75	± 0.005	
779.008	75- 100	± 0.005	



779.005

Sets

Item No.	Measuring range/mm	Price EUR
781.975	0- 100	

Mitutoyo micrometers

- Measuring range: 0 - 100 mm.
- Graduation: 0.01 mm.
- Measuring force: 5 - 10 N.
- Locking screw.
- Tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- Varnished frame with insulating grip.
- Delivery in a plastic case with a manufacturer measuring report (0 - 50 mm), adjustment tool and setting gauge (except 102.301).



102.301



Set (delivered incl. setting gauges)

Item No.	Measuring range/mm	Pieces	Price EUR
102.911	0 - 100	4	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
102.301	0 - 25	± 0.002	
102.302	25 - 50	± 0.002	
102.303	50 - 75	± 0.002	
102.304	75 - 100	± 0.003	

Mitutoyo micrometers with ratchet thimble

Mitutoyo micrometers with a special ratchet thimble, it works both from the thimble and the speeder. For easy one-handed operation.

- Measuring range: 0 - 50 mm.
- Graduation: 0.01 mm or vernier 0.001 mm.
- Measuring force: 5 - 10 N.
- Locking screw.
- Tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- Varnished frame with insulating grip.
- Delivery in a plastic case with a manufacturer measuring report, adjustment tool and setting gauge (except 102.701/707).



102.707

Item No.	Measuring range/mm	Graduation mm	Accuracy mm	Price EUR
102.701	0 - 25	0.01	± 0.002	
102.702	25 - 50	0.01	± 0.002	
102.707	0 - 25	0.001	± 0.002	
102.708	25 - 50	0.001	± 0.002	



102.701

Micrometers with a large measuring range

The varnished tubular frame is very stable and equipped with heat insulating grips. With two spacers for a large measuring span.

- Measuring range: 300 - 2000 mm.
- Measuring span:
 - 300 - 1000 mm: 100 mm
(travel 25 mm, spacers 25 and 50 mm),
 - 1000 - 2000 mm: 200 mm
(travel 50 mm, spacers 50 and 100 mm).
- Graduation: 0.01 mm.
- Rotating spindle.
- Tungsten carbide measuring faces: $\varnothing 8$ mm.
- Matt chrome-plated thimble.
- With two setting gauges.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
Measuring span 100 mm:			
906.012	300 - 400	± 0.011	
906.013	400 - 500	± 0.013	
906.014	500 - 600	± 0.015	
906.015	600 - 700	± 0.016	
906.016	700 - 800	± 0.018	
906.017	800 - 900	± 0.020	
906.018	900 - 1000	± 0.020	
Measuring span 200 mm:			
906.019	1000 - 1200	± 0.020	
906.020	1200 - 1400	± 0.024	
906.021	1400 - 1600	± 0.028	
906.022	1600 - 1800	± 0.031	
906.023	1800 - 2000	± 0.034	



Delivery ex Groningen, Netherlands

Micrometers with a large measuring range

Micrometers with a large measuring range, with very accurate, interchangeable anvils.

- Measuring range: 0-300 mm.
- Graduation: 0.01 mm.
- Tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- Delivery in a plastic case, incl. setting gauges and interchangeable anvils (increasing per 25 mm).



906.290



Item No.	Measuring range/mm	Accuracy mm	Number of anvils	Number of setting gauges	Price EUR
906.290	0- 50	± 0.004	2	1	
906.294	0-100	± 0.005	4	3	
906.292	0-150	± 0.006	6	5	
906.291	50-100	± 0.005	2	2	
906.295	100-200	± 0.007	4	4	
906.293	150-300	± 0.009	6	6	
906.296	200-300	± 0.009	4	4	

Micrometers with adjustable anvil with dial indicator

Micrometers with an adjustable anvil with dial indicator, for measurements in a wide measuring range.

- Measuring range: 0-1000 mm.
- Graduation: 0.01 mm.
- Tungsten carbide measuring faces: $\varnothing 8$ mm.
- Delivery in a plastic case.

Specifications dial indicator:

- Graduation: 0.01 mm.
- Range adjustable anvil: 5 mm.
- Max. measuring force anvil with dial indicator: 10 N.
- Adjustable tolerance markers.



907.015

Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.015	0- 100	± 0.006	
907.016	100- 200	± 0.007	
907.017	200- 300	± 0.008	
907.018	300- 400	± 0.009	
907.019	400- 500	± 0.010	
907.020	500- 600	± 0.011	
907.021	600- 700	± 0.012	
907.022	700- 800	± 0.013	
907.023	800- 900	± 0.014	
907.024	900-1000	± 0.015	



Digital micrometers IP65 with a large measuring range

- Measuring range: 0 - 1000 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Rotating spindle.
- Adjustable tolerance limits.
- Tungsten carbide measuring faces: $\varnothing 6.35$ mm.
- 0 - 300 mm: cast iron frame, 300 - 1000 mm: tubular steel frame with insulating grips.
- Protection: IP65.
- Delivery in a wooden case with setting gauges interchangeable anvils.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Number of anvils	Number of setting gauges	Price EUR
909.580	0 - 100	± 0.005	4	3	
909.581	100 - 200	± 0.007	4	4	
909.582	200 - 300	± 0.008	4	4	
909.583	300 - 400	± 0.009	4	2	
909.584	400 - 500	± 0.010	4	2	
909.585	500 - 600	± 0.010	4	2	
909.586	600 - 700	± 0.011	4	2	
909.587	700 - 800	± 0.012	4	2	
909.588	800 - 900	± 0.013	4	2	
909.589	900 - 1000	± 0.013	4	2	
Option:					
836.535 Spare battery					

Micrometers with dial indicator

Micrometers with adjustable anvil and clamping shaft for a dial indicator. Especially suitable for Go/NoGo determination and batch measurements.

- Measuring range: 0- 175 mm.
- Graduation thimble and dial indicator: 0.01 mm.
- Range adjustable anvil: 8 mm.
- Trigger for (fast) adjustment.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery in a wooden case.
- Can also be used in combination with various other dial indicators with clamping stem $\varnothing 8$ mm.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.008	0- 25	± 0.004	
907.009	25- 50	± 0.004	
907.010	50- 75	± 0.005	
907.011	75-100	± 0.005	
907.012	100-125	± 0.006	
907.013	125-150	± 0.006	
907.014	150-175	± 0.007	

Mini-micrometer

- Measuring range: 0- 15 mm.
- Graduation: 0.01 mm.
- Measuring faces: $\varnothing 5$ mm.
- Without friction thimble.
- Dimensions:
total length: 70 mm,
throat depth: 14 mm.
- Delivery in a plastic case.



Item No.	Measuring range/mm	Price EUR
906.180	0- 15	

Micrometer with an extra large measuring range

The measuring range of this micrometer can be 'switched' from 25- 50 to 0-25 mm by easy mounting of the extension anvil.

- Measuring range: 0- 50 mm.
- Graduation: 0.01 mm.
- Accuracy: ± 0.004 mm.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery in a wooden case, incl. adjustment tool and extension anvil.

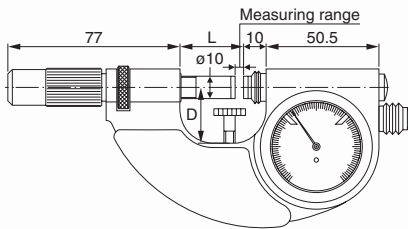
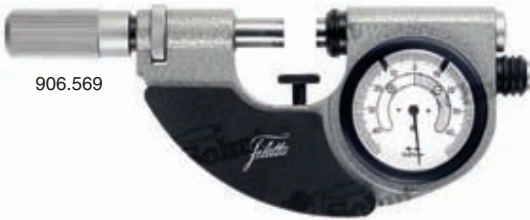


Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.567	0- 50	± 0.004	

Tolerance micrometers with precision dial indicator

Because of the retractable anvil, the fine adjustment and the tolerance markers, this micrometer is very suitable for batch inspection and tolerance measurements.

- Measuring range: 0- 100 mm.
- Measuring range dial indicator: ± 0.04 mm.
- Graduation (dial indicator): 0.001 mm.
- Accuracy:
micrometer: ± 0.003 mm (only 906.568),
dial indicator: ± 0.001 mm.
- Measuring force: 5- 10 N
(only 906.569/570/571/614).
- Adjustable tolerance markers.
- Tungsten carbide measuring faces:
906.568-599: $\phi 6.5$ mm,
906.569-614: $\phi 10$ mm.
- Delivery in an aluminum case.



Item No.	D/mm	L/mm
906.569	25	28.5
906.570	35	53.5
906.571	47.5	78.5
906.614	60	103.5

Item No.	Measuring range/mm	Graduation mm	Vernier thimble/mm	Price EUR
906.568	0- 25	0.001	0.002	
906.597	25- 50	0.001	—	
906.598	50- 75	0.001	—	
906.599	75-100	0.001	—	
With protection IP54:				
906.569	0- 25	0.001	—	
906.570	25- 50	0.001	—	
906.571	50- 75	0.001	—	
906.614	75-100	0.001	—	

Tolerance micrometers with two spindles

Can be used as a Go/NoGo micrometer by setting of the lower and upper limits.



- Measuring range: 0- 50 mm.
- Vernier: 0.002 mm.
- Accuracy: ± 0.003 mm.
- Tungsten carbide measuring faces: $\phi 6.5$ mm.

906.288



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.288	0- 25	± 0.003	
906.289	25- 50	± 0.003	

Dial snap gauges

Snap gauges with adjustable anvil and clamping shaft for a dial indicator. Especially suitable for Go/NoGo determination and batch measurements.

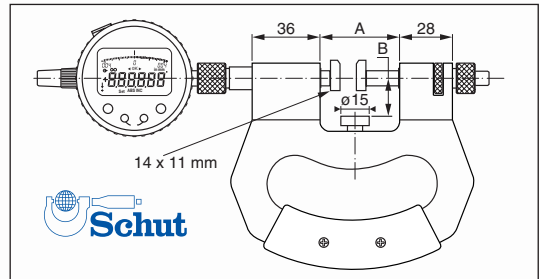
- Measuring range: 0- 300 mm.
- Measuring force: 6-9 N.
- Clamping shaft: \varnothing 8 mm (dial gauge not included).
- Travel of moving anvil: 3 mm.
- Anvil size: 14 x 11 mm.
- Chamfered anvils for easy insertion.
- Delivery in a wooden case.

- For suitable dial indicators refer to the dial indicators elsewhere in this catalog.



906.237
+ 907.879

Item No.	Measuring range/mm	Length/mm		Price EUR
		A	B	
906.237	0- 25	42	20	
906.238	25- 50	69	32.5	
906.239	50- 75	94	45	
906.240	75- 100	119	57.5	
906.241	100- 125	144	70	
906.242	125- 150	169	82.5	
906.243	150- 175	194	95	
906.244	175- 200	219	107.5	
906.245	200- 225	244	120	
906.246	225- 250	269	132.5	
906.247	250- 275	294	145	
906.248	275- 300	319	157.5	



Digital vertical micrometers

Digital vertical micrometers for easy reading, for example, when measuring the thickness of metal or plastic sheet. These micrometers have an IP65 classification and are therefore not only resistant to dust but can also withstand water jets.

- Measuring range: 0- 50 mm.
- Resolution: 0.001 mm.
- Accuracy: \pm 0.002 mm.
- mm/inch conversion.
- ABS/INC switchable.

- On/off switch.
- Automatic switch-off.
- Tungsten carbide measuring faces: \varnothing 6.5 mm.
- Protection: IP65.
- Delivery in a wooden case.
- Power supply: 1 battery type V357.



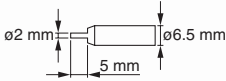
909.458

Item No.	Measuring range/mm	Price EUR
909.458	0- 25	
909.459	25- 50	
Option:		
836.535	Spare battery	

Micrometers with small measuring faces

For measuring hard-to-reach measuring points such as grooves.

- Measuring range: 0- 175 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Tungsten carbide measuring pins: $\varnothing 2 \times 5$ mm.
- Delivery in a plastic case.



Digital

- mm/inch conversion.
- ABS/INC switchable.
- Reset/preset.
- Hold function.
- Preservation of the min/max value.
- Protection: IP65.
- Power supply: 1 battery type V357.



906.135



909.591

Analog

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.135	0- 25	± 0.004	
906.136	25- 50	± 0.004	
906.137	50- 75	± 0.005	
906.119	75- 100	± 0.005	
909.320	100- 125	± 0.006	
909.321	125- 150	± 0.006	
909.322	150- 175	± 0.007	

Digital

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.591	0- 25	± 0.002	
909.592	25- 50	± 0.002	
909.593	50- 75	± 0.003	
909.594	75- 100	± 0.003	
909.595	100- 125	± 0.003	
909.596	125- 150	± 0.003	
909.597	150- 175	± 0.004	

Option:

836.535 Spare battery



Micrometers with spherical anvil

Micrometers for measuring bent surfaces and wall thicknesses of tubes, bearings, rings, etc.

- Measuring range: 0- 100 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery in a plastic case.

Digital

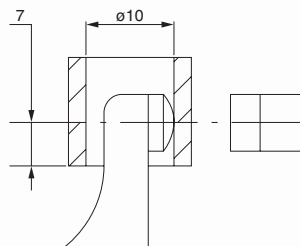
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



906.155



909.598



Analog

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.155	0- 25	± 0.004	
907.044	25- 50	± 0.004	
907.045	50- 75	± 0.005	
907.046	75- 100	± 0.005	

Digital

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.598	0- 25	± 0.002	
909.599	25- 50	± 0.002	
909.600	50- 75	± 0.003	
909.601	75- 100	± 0.003	

Option:

836.535 Spare battery



Universal micrometers with interchangeable anvils

With these micrometers you are an all-rounder. The instruments have two interchangeable anvils, which gives them a lot of application possibilities. They can also be used as a height gauge, when the clamp for clamping the anvils is removed.

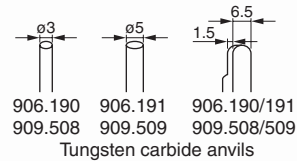
- Measuring range: 0-50 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Accuracy: ± 0.004 mm.
- Tungsten carbide measuring face: $\varnothing 6.5$ mm.
- Delivery in a plastic case, incl. 2 tungsten carbide anvils.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset/preset.
- Adjustable tolerance limits (only 909.508).
- Protection: IP65.
- Power supply: 1 battery type V357.



906.190



909.508

Analog

Item No.	Measuring range/mm	Price EUR
906.190	0-25	
906.191	25-50	

Digital

Item No.	Measuring range/mm	Price EUR
909.508	0-25	
909.509	25-50	
Option:		
836.535	Spare battery	



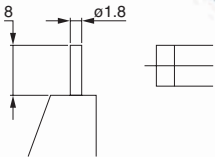
Digital micrometers IP65 with pin-shaped anvil

Digital micrometers for measuring e.g. (tube) wall thickness.

- Measuring range: 0- 50 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Pin-shaped anvil: \varnothing 1.8 mm.
- Tungsten carbide measuring face: \varnothing 6.5 mm.
- Protection: IP65.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.



909.684



Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.684	0- 25	± 0.005	
909.685	25- 50	± 0.005	
Option:			
836.535	Spare battery		

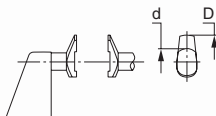
Digital micrometers with special measuring jaws

Digital micrometers with special measuring jaws for measurements in hard-to-reach places such as cut-outs in workpieces, gear pitches, etc.

- Measuring range: 0- 200 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Non-rotating spindle.
- Delivery in a plastic case.
- Power supply: 1 battery type V357.



909.676



Item No.	Measuring range/mm	Accuracy mm	D mm	d \varnothing /mm	Price EUR
909.676	0- 25	± 0.006	R10	8	
909.677	25- 50	± 0.006	R10	8	
909.678	50- 75	± 0.007	R10	8	
909.679	75- 100	± 0.007	R10	8	
909.680	100- 125	± 0.009	R15	12	
909.681	125- 150	± 0.009	R15	12	
909.682	150- 175	± 0.010	R15	12	
909.683	175- 200	± 0.010	R15	12	
Option:					
836.535	Spare battery				

Gear pitch micrometers

Micrometers with large, disk-shaped measuring faces for measuring e.g. gear pitches, paper and foil thickness.

- Measuring range: 0-200 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Non-rotating spindle: $\varnothing 8$ mm.
- Measuring faces: stainless steel (HRC 52-54).
- Delivery in a plastic case.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Measuring faces \varnothing /mm	Price EUR
Analog:				
906.580	0- 25	± 0.006	20	
906.581	25- 50	± 0.006	20	
906.582	50- 75	± 0.007	20	
906.583	75-100	± 0.007	20	
906.584	100-125	± 0.009	30	
906.585	125-150	± 0.009	30	
906.586	150-175	± 0.010	30	
906.587	175-200	± 0.010	30	
Digital:				
909.777	0- 25	± 0.006	20	
909.778	25- 50	± 0.006	20	
909.779	50- 75	± 0.007	20	
909.780	75-100	± 0.007	20	
909.781	100-125	± 0.009	30	
909.782	125-150	± 0.009	30	
909.783	150-175	± 0.010	30	
909.784	175-200	± 0.010	30	
Option:				
836.535	Spare battery			



Universal micrometers

With the seven interchangeable measuring inserts, which are available as an option, you are very flexible with these micrometers.

- Measuring range: 0-200 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Non-rotating spindle.
- Insert shaft: $\varnothing 5$ mm.
- Delivery in a plastic case with cut-outs for inserts.

Digital

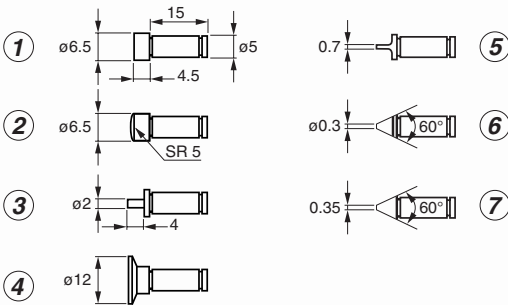
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Preset (except 909.785).
- Power supply: 1 battery type V357.



906.780



909.785



No.	Item No.	Description measuring faces	Price EUR
Measuring inserts, per pair:			
①	906.788	flat	
②	906.789	spherical	
③	906.790	small	
④	906.791	disc	
⑤	906.792	knife/flat	
⑥	906.793	point	
⑦	906.794	knife	
	906.795	Set of 7 pairs	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
Analog, without measuring inserts:			
906.780	0- 25	± 0.004	
906.781	25- 50	± 0.004	
906.782	50- 75	± 0.005	
906.783	75-100	± 0.005	
906.784	100-125	± 0.008	
906.785	125-150	± 0.008	
906.786	150-175	± 0.009	
906.787	175-200	± 0.009	
Digital, without measuring inserts:			
909.785	0- 25	± 0.004	
909.786	25- 50	± 0.004	
909.787	50- 75	± 0.005	
909.788	75-100	± 0.005	
909.789	100-125	± 0.008	
909.790	125-150	± 0.008	
909.791	150-175	± 0.009	
909.792	175-200	± 0.009	
Option:			
836.535	Spare battery		

Deep frame micrometers

Micrometers with a deep frame especially for measuring the thickness of e.g. sheet metal, paper and plastic sheets.

- Measuring range: 0-50 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Delivery in a wooden case.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



907.068



909.694



Item No.	Measuring range/mm	Accuracy mm	Throat depth/mm	Price EUR
Analog:				
907.068	0-25	± 0.004	50	
907.069	25-50	± 0.004	50	
907.070	0-25	± 0.005	100	
907.071	25-50	± 0.005	100	
907.072	0-25	± 0.006	150	
907.073	25-50	± 0.006	150	
Digital:				
909.694	0-25	± 0.004	50	
909.695	25-50	± 0.004	50	
909.696	0-25	± 0.005	100	
909.697	25-50	± 0.005	100	
909.698	0-25	± 0.006	150	
909.699	25-50	± 0.006	150	
Option:				
836.535	Spare battery			

Brake disc micrometers

Micrometers especially suited for measuring the groove depth of brake discs.

- Measuring range: 7.6 - 50 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Anvil with 60° point.
- Tungsten carbide measuring face: $\varnothing 6.5$ mm.
- Throat depth: 88 mm.
- Delivery in a wooden case (except 909.794: delivery in a plastic case).



907.056

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



909.793

Analog

Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.056	7.6 - 33	± 0.004	
907.057	25 - 50	± 0.004	

Digital

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.793	7.6 - 33	± 0.004	
909.794	25 - 50	± 0.004	

Option:
836.535 Spare battery

Digital micrometers IP65 with large anvils

- Measuring range: 0 - 50 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- On/reset switch.
- Tungsten carbide measuring face: $\varnothing 6.5$ mm.
- Anvil size:
909.488: 50 x 14 mm,
909.489: 60 x 14 mm.

- Protection: IP65.
- Delivery in a wooden case.
- Power supply: 1 battery type V357.



909.488



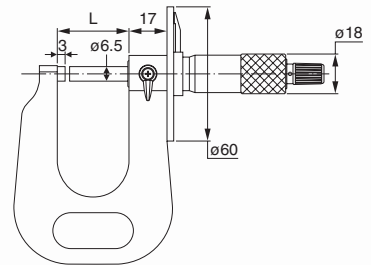
Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.488	0 - 25	± 0.004	
909.489	25 - 50	± 0.004	

Option:
836.535 Spare battery

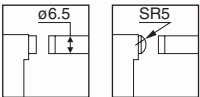
Sheet metal micrometers

Micrometers especially suited for measuring the thickness of metal sheets, e.g. sheet metal. The large dial makes the reading very easy and quick.

- Measuring range: 0-25 mm.
- Graduation: 0.01 mm.
- Tungsten carbide measuring faces: $\varnothing 6.5$ mm.
- Throat depth: 50.
- Delivery in a wooden case.



Item No.	Measuring range/mm	Accuracy mm	Measuring faces	L mm	Price EUR
907.058	0-15	± 0.004	flat/flat	22	
907.059	0-25	± 0.004	flat/flat	32	
907.099	0-15	± 0.004	spherical/flat	22	
907.100	0-25	± 0.004	spherical/flat	32	



Micrometers with extra large measuring faces

Micrometers with extra large disk-shaped measuring faces for measurements of e.g. paper thickness and soft materials.

- Measuring range: 0-100 mm.
- Graduation: 0.01 mm.
- Non-rotating spindle.
- Tungsten carbide measuring faces: $\varnothing 60$ mm.
- Delivery in a wooden case.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.588	0-25	± 0.008	
906.589	25-50	± 0.008	
906.590	50-75	± 0.010	
906.591	75-100	± 0.010	

Gear micrometers

Micrometers with ball-tipped measuring faces for measurements of straight and tapered external gears. Several measuring inserts optionally available.

- Measuring range: 0-175 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Dimensions of anvil-tail: $\varnothing 5 \times 15$ mm.
- Tungsten carbide, ball-tipped measuring faces.
- Delivery in a plastic case with cut-outs for inserts.

Digital

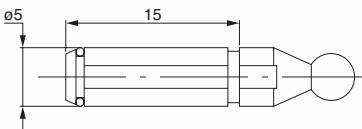
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



907.081



909.859



Item No.	Ball \varnothing /mm	Module	Price EUR
Measuring inserts, per pair:			
907.088	1.0	0.6-0.65	
907.089	1.5	0.9-1.0	
907.090	2.0	1.25	
907.091	2.5	1.5	
907.092	3.0	1.75	
907.093	3.5	2	
907.094	4.0	2.25	
907.095	4.5	2.5	
907.096	5.0	2.75	
907.097	6.0	3.5	
907.098	Set 907.088 - 907.097		

Item No.	Measuring range/mm	Accuracy mm	Price EUR
Analog, without measuring inserts:			
907.081	0- 25	± 0.004	
907.082	25- 50	± 0.004	
907.083	50- 75	± 0.005	
907.084	75-100	± 0.005	
907.085	100-125	± 0.006	
907.086	125-150	± 0.006	
907.087	150-175	± 0.007	
Digital, without measuring inserts:			
909.859	0- 25	± 0.004	
909.860	25- 50	± 0.004	
909.861	50- 75	± 0.005	
909.862	75-100	± 0.005	
909.863	100-125	± 0.006	
909.864	125-150	± 0.006	
909.865	150-175	± 0.007	
Option:			
836.535	Spare battery		



Micrometers with prism-shaped anvil

Analog and digital micrometers with prism-shaped anvil for measuring the diameters of objects with an odd number of flutes such as taps, reamers and mills. The angle of the prism aperture is designed for 3-, 5- or 7-fluted workpieces.

- Measuring range: 1 - 105 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Spindle: $\varnothing 6.5$ mm.
- Tungsten carbide measuring faces. The 906.160 and 909.866 have a pointed spindle for the smallest objects.
- V-groove for:
 - 3-fluted objects: 60° ,
 - 5-fluted objects: 108° ,
 - 7-fluted objects: $128^\circ 34' 17''$.
- Delivery in a plastic case, with a setting standard.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



906.161



909.866



Item No.	Measuring range/mm	Accuracy mm	Price EUR	Item No.	Price EUR
For 3-fluted objects (60°), analog:				Digital:	
906.160	1 - 15	± 0.004		909.866	
906.161	5 - 20	± 0.004		909.867	
906.162	20 - 35	± 0.005		909.868	
906.163	35 - 50	± 0.005		909.869	
906.164	50 - 65	± 0.006		909.870	
906.165	65 - 80	± 0.006		909.871	
907.060	80 - 95	± 0.007		909.872	
For 5-fluted objects (108°), analog:				Digital:	
906.166	5 - 25	± 0.004		909.873	
906.167	25 - 45	± 0.005		909.874	
906.168	45 - 65	± 0.006		909.875	
906.169	65 - 85	± 0.007		909.876	
907.061	85 - 105	± 0.008		909.877	
For 7-fluted objects ($128^\circ 34' 17''$), analog:				Digital:	
906.170	5 - 25	± 0.004		909.878	
906.171	25 - 45	± 0.005		909.879	
906.172	45 - 65	± 0.006		909.880	
906.173	65 - 85	± 0.007		909.881	
Option:					
836.535 Spare battery					



Setting standards

Item No.	\varnothing mm	Price EUR
909.323	5	
909.324	20	
909.325	25	
909.326	35	
909.327	45	
909.328	50	
909.329	65	
909.330	80	
909.331	85	



909.326

Micrometers with pointed measuring faces

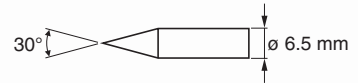
- Measuring range: 0 - 100 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Delivery in a plastic case.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Preset.
- Protection: IP65.
- Power supply: 1 battery type V357.



906.145



909.643



Analog

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.145	0 - 25	±0.004	
906.146	25 - 50	±0.004	
906.147	50 - 75	±0.005	
906.199	75 - 100	±0.005	

Digital

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.643	0 - 25	±0.004	
909.644	25 - 50	±0.004	
909.645	50 - 75	±0.005	
909.646	75 - 100	±0.005	

Option:

836.535 Spare battery

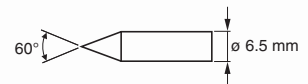


Micrometers with one pointed measuring face

- Measuring range: 0 - 50 mm.
- Graduation: 0.01 mm.
- Delivery in a plastic case.



906.151



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.151	0 - 25	±0.004	
906.153	25 - 50	±0.004	



Blade micrometers

For measuring grooves, keyways and other hard-to-reach places.

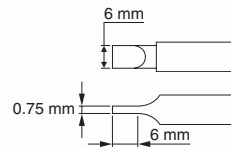
- Measuring range: 0- 175 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Non-rotating spindle.
- Blade width: 0.75 mm, blade length: 6 mm, blade width: 6 mm.
- Delivery in a plastic case.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- Reset/preset.
- Hold function.
- Power supply: 1 battery type V357.



906.141



909.882

Analog

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.141	0- 25	±0.004	
906.142	25- 50	±0.004	
906.143	50- 75	±0.005	
906.144	75- 100	±0.005	
906.222	100- 125	±0.006	
906.223	125- 150	±0.006	
906.224	150- 175	±0.007	

Digital

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.882	0- 25	±0.004	
909.883	25- 50	±0.004	
909.884	50- 75	±0.005	
909.885	75- 100	±0.005	
909.886	100- 125	±0.006	
909.887	125- 150	±0.006	
909.888	150- 175	±0.007	

Option:

836.535 Spare battery



Screw thread micrometers

- Measuring range: 0 - 200 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Insert shaft: $\varnothing 5$ mm.
- DIN 863 T3.
- Delivery incl. adjustment tools.
- From measuring range 25 - 50 mm including setting gauge 60°.
- Matt chrome-plated thimble.
- Delivery in a plastic case with cut-outs for inserts.

Digital

- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset/preset.
- Protection: IP65.
- Power supply: 1 battery type V357.

Analog

- Non-rotating spindle.



906.751



909.889

Analog, without measuring inserts

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.750	0- 25	± 0.004	
906.751	25- 50	± 0.004	
906.752	50- 75	± 0.005	
906.753	75- 100	± 0.005	
906.754	100- 125	± 0.006	
906.755	125- 150	± 0.006	
906.756	150- 175	± 0.007	
906.757	175- 200	± 0.007	

Digital, without measuring inserts

Item No.	Measuring range/mm	Accuracy mm	Price EUR
909.889	0- 25	± 0.004	
909.890	25- 50	± 0.004	
909.891	50- 75	± 0.005	
909.892	75- 100	± 0.005	
909.893	100- 125	± 0.006	
909.894	125- 150	± 0.006	
909.895	150- 175	± 0.007	
909.896	175- 200	± 0.007	

Option:

836.535 Spare battery



Screw thread micrometers (continued)

Measuring inserts for screw thread micrometers with clamping shaft $\varnothing 5$ mm.



Item No.	Threads per inch	Price EUR
Measuring inserts for Whitworth threads, 55° flank angle, per pair:		
906.730	60 -48	
906.731	48 -40	
906.732	40 -32	
906.733	32 -24	
906.734	24 -18	
906.735	18 -14	
906.736	14 -10	
906.737	10 - 7.0	
906.738	7.0- 4.5	
906.739	4.5- 3.5	
906.740	Set 60-3.5	

Item No.	Pitch/mm	Price EUR
Measuring inserts for metric threads, 60° flank angle, per pair:		
906.720	0.4-0.5	
906.721	0.6-0.9	
906.722	1.0-1.75	
906.723	2.0-3.0	
906.724	3.5-5.0	
906.725	5.5-7.0	
906.726	Set 0.4-7.0	

Item No.	Threads per inch	Price EUR
Measuring inserts for UN, UNC and UNF threads, 60° flank angle, per pair:		
906.741	64 -48	
906.742	44 -28	
906.743	24 -14	
906.744	13 - 9	
906.745	8 - 5	
906.746	4.5- 3.5	
906.747	Set 64-3.5	



909.305



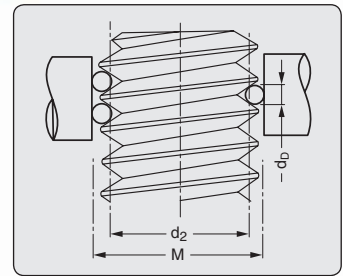
Item No.	Length/mm	Price EUR
Hardened steel setting standards for threads with 60° flank angle:		
909.304	25	
909.305	50	
909.306	75	
909.307	100	
909.308	125	
909.309	150	
909.310	175	
909.311	200	

Item No.	Length/mm	Price EUR
Hardened steel setting standards for threads with 55° flank angle:		
909.312	25	
909.313	50	
909.314	75	
909.315	100	
909.316	125	
909.317	150	
909.318	175	
909.319	200	

Thread measuring wires

For measuring external threads using the three-wire method. The flank diameter can be determined according to the measured diameter, using tables.

- For micrometers with measuring faces $\phi 6.35$, $\phi 6.5$ or $\phi 8$ mm. (Also available for measuring faces $\phi 6.8$ and $\phi 7.5$ mm.)
- Very high measuring accuracy: ± 0.001 mm.
- In pairs or in a set.
- The wire holders are held in position on the anvil and spindle by a spring clamp.
- The wires are mounted on the holder in such a way that they position themselves on the thread.



Thread measuring wires for micrometers with measuring faces $\phi 6.35$, $\phi 6.5$ or $\phi 8$ mm

$\phi 6.35$ mm		$\phi 6.5$ mm		$\phi 8$ mm		Wire diameter d_w /mm	Metric, pitch in mm	Whitworth, threads per inch	UN/UNC/UNF, threads per inch
Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR				
833.442		779.161		836.689		0.17	0.25; 0.3	–	–
833.443		781.651		836.690		0.195	–	–	80
833.444		779.162		836.691		0.22	0.35	–	72
833.445		779.163		835.844		0.25	0.4	–	64
833.446		779.164		834.499		0.29	0.45; 0.5	–	56
833.447		779.165		834.498		0.335	0.6	40	48; 44
833.448		781.652		837.848		0.390	–	–	40
833.449		779.166		833.872		0.455	0.7-0.8	–	36
833.450		779.167		834.585		0.53	–	32; 28	32; 28
833.451		779.168		834.480		0.62	1	26; 24	24
833.452		779.169		834.586		0.725	1.25	22; 20; 19	20
833.453		779.170		834.290		0.895	1.5	18; 16	18; 16
833.454		779.171		834.502		1.10	1.75	14	14; 13
833.455		779.172		834.291		1.35	2	12; 11	12; 11
833.456		779.173		833.871		1.65	2.5	10; 9	10; 9
833.457		779.174		834.292		2.05	3.0; 3.5	8; 7	8; 7
833.458		779.175		834.416		2.55	4.0; 4.5	6	6
833.459		779.176		834.483		3.20	5.0; 5.5	5; 4.5	5; 4.5
837.501		837.642		834.509		4.00	6.0	4; 3.5	4
834.580		779.160		834.581		Set with wire diameters 0.17 to 3.20 mm			

Hub micrometers

Micrometers with a shallow bracket for measuring the thickness of bearing bushes, bore shoulders and other hard-to-reach places.

- Measuring range: 0- 100 mm.
- Graduation: 0.01 mm.
- Tungsten carbide measuring faces: \varnothing 6.5 mm.
- Varnished frame.
- Throat depth: 10.2 mm.
- Throat height: 21.2 mm (907.133: 18.7 mm).



907.133

Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.133	0- 25	\pm 0.004	
907.134	25- 50	\pm 0.004	
907.135	50- 75	\pm 0.004	
907.136	75- 100	\pm 0.005	



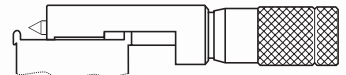
Can seam micrometer

Micrometer especially for measuring the depth and thickness of e.g. the seams of steel cans.

- Measuring range: 0- 13 mm.
- Graduation: 0.01 mm.
- Accuracy: \pm 0.004 mm.
- Tungsten carbide measuring faces: \varnothing 5 mm.



Item No.	Measuring range/mm	Price EUR
907.175	0- 13	



Wire and ball micrometer

- Measuring range: 0- 10 mm.
- Graduation: 0.01 mm.
- Accuracy: \pm 0.004 mm.
- Tungsten carbide measuring faces: \varnothing 6.5 mm.



Item No.	Measuring range/mm	Price EUR
906.175	0- 10	



Mitutoyo special-purpose micrometers

Mitutoyo special-purpose analog and digital micrometers. For more information please contact our sales department.



Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With small measuring faces $\varnothing 3$ mm:			
111.115	0- 25	0.01 (A)	
111.116	25- 50	0.01 (A)	
111.117	50- 75	0.01 (A)	
111.118	75-100	0.01 (A)	
331.251 ²	0- 25	0.001 (D)	
331.252 ²	25- 50	0.001 (D)	
331.253 ²	50- 75	0.001 (D)	
331.254 ²	75-100	0.001 (D)	
With small measuring faces $\varnothing 2$ mm:			
111.215	0- 25	0.01 (A)	
331.261 ²	0- 25	0.001 (D)	
331.262 ²	25- 50	0.001 (D)	
331.263 ²	50- 75	0.001 (D)	
331.264 ²	75-100	0.001 (D)	
With prism-shaped anvil (with grooves):			
114.101	1- 15	0.01 (A)	
114.102	10- 25	0.01 (A)	
314.251	1- 15	0.001 (D)	
314.252	10- 25	0.001 (D)	
With prism-shaped anvil (without grooves):			
114.161	1- 15	0.01 (A)	
114.204 ³	2.3- 25	0.01 (A)	
114.162	10- 25	0.01 (A)	
114.103	25- 40	0.01 (A)	
314.261	1- 15	0.001 (D)	
314.262	10- 25	0.001 (D)	
314.253	25- 40	0.001 (D)	



Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With pointed measuring faces 15°:			
112.153	0- 25	0.01 (A)	
112.154	25- 50	0.01 (A)	
342.251 ²	0- 25	0.001 (D)	
342.252 ²	25- 50	0.001 (D)	
342.253 ²	50- 75	0.001 (D)	
342.254 ²	75-100	0.001 (D)	
With pointed measuring faces 30°:			
112.201	0- 25	0.01 (A)	
112.202	25- 50	0.01 (A)	
342.261 ²	0- 25	0.001 (D)	
342.262 ²	25- 50	0.001 (D)	
342.263 ²	50- 75	0.001 (D)	
342.264 ²	75-100	0.001 (D)	
With pointed measuring face and lamellar anvil:			
112.401	0- 25	0.01 (A)	
342.271 ²	0- 20	0.001 (D)	
With lamellar measuring faces:			
122.101	0- 25	0.01 (A)	
122.102	25- 50	0.01 (A)	
122.103	50- 75	0.01 (A)	
122.104	75-100	0.01 (A)	
122.105	100-125	0.01 (A)	
122.106	125-150	0.01 (A)	
122.107	150-175	0.01 (A)	
122.108	175-200	0.01 (A)	
422.230	0- 25	0.001 (D)	
422.231	25- 50	0.001 (D)	
422.232	50- 75	0.001 (D)	
422.233	75-100	0.001 (D)	



¹ A = analog read-out, D = digital read-out.
² Digimatic Coolant Proof (IP65) model.
³ With tungsten carbide measuring faces.

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Mitutoyo special-purpose micrometers (continued)

Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With disk-shaped measuring faces for gear pitch measurements:			
123.101	0 - 25	0.01 (A)	
123.102	25 - 50	0.01 (A)	
123.103	50 - 75	0.01 (A)	
123.104	75 - 100	0.01 (A)	
123.105	100 - 125	0.01 (A)	
123.106	125 - 150	0.01 (A)	
123.107	150 - 175	0.01 (A)	
123.108	175 - 200	0.01 (A)	
123.109	200 - 225	0.01 (A)	
123.110	225 - 250	0.01 (A)	
123.111	250 - 275	0.01 (A)	
123.112	275 - 300	0.01 (A)	
323.250 ²	0 - 25	0.001 (D)	
323.251 ²	25 - 50	0.001 (D)	
323.252 ²	50 - 75	0.001 (D)	
323.253 ²	75 - 100	0.001 (D)	
With non-rotating spindle and disk-shaped measuring faces for soft materials:			
169.101	0 - 25	0.01 (A)	
169.201 ³	0 - 25	0.01 (A)	
369.250 ³	0 - 25	0.001 (D)	
369.251 ³	25 - 50	0.001 (D)	
369.252 ³	50 - 75	0.001 (D)	
369.253 ³	75 - 100	0.001 (D)	
Universal, with interchangeable anvils:			
117.101	0 - 25	0.01 (A)	
117.102	25 - 50	0.01 (A)	
317.251 ²	0 - 25	0.001 (D)	
317.252 ²	25 - 50	0.001 (D)	
With measuring jaws for hard-to-reach places:			
143.101	0 - 25	0.01 (A)	
143.102	25 - 50	0.01 (A)	
143.103	50 - 75	0.01 (A)	
143.104	75 - 100	0.01 (A)	
343.250	0 - 25	0.001 (D)	
343.251	25 - 50	0.001 (D)	
343.252	50 - 75	0.001 (D)	
343.253	75 - 100	0.001 (D)	
With exchangeable ball inserts for external gears⁴:			
224.251 ²	0 - 25	0.001 (D)	
224.252 ²	25 - 50	0.001 (D)	
224.253 ²	50 - 75	0.001 (D)	
224.254 ²	75 - 100	0.001 (D)	

¹ A = analog read-out, D = digital read-out.² Digimatic Coolant Proof (IP65) model.

Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
For thread measurements (pitch diameters)⁴:			
126.125	0 - 25	0.01 (A)	
126.126	25 - 50	0.01 (A)	
126.127	50 - 75	0.01 (A)	
126.128	75 - 100	0.01 (A)	
126.129	100 - 125	0.01 (A)	
126.130	125 - 150	0.01 (A)	
326.251 ²	0 - 25	0.001 (D)	
326.252 ²	25 - 50	0.001 (D)	
326.253 ²	50 - 75	0.001 (D)	
326.254 ²	75 - 100	0.001 (D)	

³ Offset measuring faces.⁴ Measuring inserts separately available.

TESA special-purpose micrometers

TESA special-purpose analog and digital micrometers. For more information please contact our sales department.



782.111

Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With small measuring faces ø 2 mm:			
782.111 ¹	0-30	0.001	



779.090

Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With non-rotating spindle and disk-shaped measuring faces for gear pitch measurements:			
779.090	25-50	0.01	



782.190

Item No.	Measuring range/mm	Read-out ¹ mm	Price EUR
With prism-shaped anvil² (V-angle 60°, for 3-fluted objects):			
782.190 ¹	5-20	0.001	

Accessories for (wireless) data transfer available on request.

¹ Model with IP54 protection (IP40 when using data output).

² Setting standards are separately available.

Setting gauges

Cylindrical gauges for micrometers with flat parallel measuring faces.

- Measuring faces $L < 100$ mm: $\varnothing 7$ mm, flat,
 $L < 300$ mm: $\varnothing 8$ mm, flat,
 $L \geq 300$ mm: $\varnothing 8$ mm, spherical.
- With plastic insulating grip.
- Larger sizes available on request.



907.464



Setting standards

Cylindrical setting standards for micrometers with prism-shaped anvil.



909.326

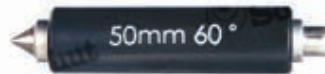


Item No.	Length mm	Accuracy μm	Price EUR
907.464	25	± 2	
907.465	50	± 2	
907.466	75	± 2.5	
907.467	100	± 2.5	
907.468	125	± 3	
907.469	150	± 3	
907.470	175	± 3.5	
907.471	200	± 4	
907.472	225	± 4	
907.473	250	± 4	
907.474	275	± 4.5	
907.475	300	± 4.5	
907.476	325	± 5	
907.477	350	± 5	
907.478	375	± 5.5	
907.479	400	± 5.5	
907.480	425	± 6	
907.481	450	± 6	
907.482	475	± 6.5	
907.483	500	± 6.5	
907.484	525	± 7	
907.485	575	± 7.5	
907.486	625	± 7.5	
907.487	675	± 8	
907.488	725	± 8.5	
907.489	775	± 9.5	
907.490	825	± 10	
907.491	875	± 10.5	
907.492	925	± 11	
907.493	975	± 11.5	
907.494	1050	± 12	
907.495	1150	± 13	
907.496	1250	± 14	
907.497	1350	± 15	
907.498	1450	± 16	
909.529	1550	± 17	
909.530	1650	± 18	
909.531	1750	± 19	
909.532	1850	± 20	
909.533	1950	± 21	

Item No.	Diameter/mm	Price EUR
909.323	5	
909.324	20	
909.325	25	
909.326	35	
909.327	45	
909.328	50	
909.329	65	
909.330	80	
909.331	85	

Setting standards

Hardened steel setting standards for threads with 55° or 60° flank angle.



909.305



Item No.	Length/mm	Price EUR
For threads with 60° flank angle:		
909.304	25	
909.305	50	
909.306	75	
909.307	100	
909.308	125	
909.309	150	
909.310	175	
909.311	200	
For threads with 55° flank angle:		
909.312	25	
909.313	50	
909.314	75	
909.315	100	
909.316	125	
909.317	150	
909.318	175	
909.319	200	

Micrometer stand

Rigid table stand for micrometers.

- Inclination adjustable.
- Weight: 1.1 kg.



Item No.	Clamping range/mm	Price EUR
906.212	0 - 18	

Micrometer stand

Cast steel stand for micrometers.

- Fixed inclination: 45°.
- Weight: 0.7 kg.

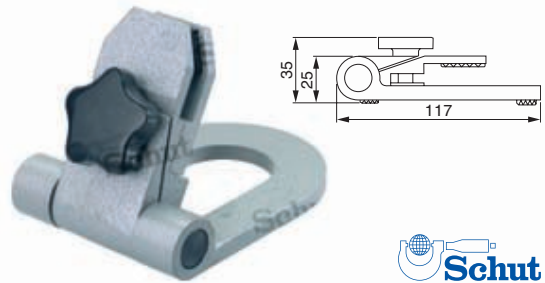


Item No.	Clamping range/mm	Price EUR
908.983	4 - 12	

Foldable micrometer stand

Portable stand with a folded structure for micrometers.

- Inclination adjustable.
- Weight: 1 kg.



Item No.	Clamping range/mm	Price EUR
907.152	7 - 14	

Ball attachments

These ball attachments can be clamped on any anvil and spindle with a diameter of 6.5 or 8 mm.

- Ball: \varnothing 5 mm.



Item No.	Description	Price EUR
907.150	Ball attachment, \varnothing 6.5 mm	
907.166	Ball attachment, \varnothing 8 mm	

Measuring force indicators

Within the range of 5 to 12 N these measuring force indicators can show the measuring force of micrometers.



Item No.	For micrometers	Price EUR
907.151	0 - 25 mm	
908.947	25 - 50 mm	
908.948	50 - 75 mm	
908.949	75 - 100 mm	

Probe set for micrometers

These attachments can be clamped on any anvil and spindle with a diameter of 6.5 mm. The set consists of a point-shaped, knife-edged, blade-shaped, disk-shaped, ball-shaped probe and one with a small and one with a very small measuring face.

- Delivery in a plastic case.



Item No.	Description	Price EUR
909.118	Probe set for micrometers	



Micrometer inspection sets

For the inspection of micrometers according DIN 863. Suitable for micrometers with a measuring range up to 25 mm.

- Nominal sizes (mm):
2.5 - 5.1 - 7.7 - 10.3 - 12.9 - 15.0 - 17.6 - 20.2 - 22.8 - 25.0.
- Including plan parallel optical flat $\varnothing 30 \times 12$ mm.
- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Material	Grade	Price EUR
909.346	steel	1	
909.345	steel	0	
909.162	ceramic	1	
909.340	ceramic	0	



909.340

Thread and tolerance tables

Thread table

Table with all standard international thread indications: metric, BSW, Gas, BSF, Pg, BA, UNC, UNF, UNEF, EG-M and EG-MF.

Tolerance table

Table comprising all tolerances and fits according ISO 286-2, up to 500 mm (table with over 6400 pairs of tolerance values for internal and external measurements).

Conversion table mm/inch

For converting from mm to inch and from inch to mm.

Item No.	Description	Price EUR
835.162	Thread table	
835.163	Tolerance table	
835.164	Conversion table mm/inch	



835.162

835.163

835.164

Digital depth micrometers IP65

Digital depth micrometers with interchangeable, spherical rods or flat rods. With the flat rods mainly flat and spherical surfaces can be measured very accurately. The spherical rods are especially suitable for beveled and hollow surfaces. The high accuracy of the rods makes resetting after exchanging the rods unnecessary. Two models with different base lengths available.

- Measuring range: 0-300 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Preset.
- Measuring rods: \varnothing 4.5 mm.
- Locking screw.
- Protection: IP65.
- Power supply: 1 battery type V357.



Model with spherical rods especially for hollow and beveled surfaces

Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Accuracy mm	Number of rods
Base 63 mm:		Base 101.5 mm:				
909.753		909.759		0- 25	\pm 0.005	1
909.754		909.760		0- 50	\pm 0.005	2
909.755		909.761		0-100	\pm 0.006	4
909.756		909.762		0-150	\pm 0.007	6
909.757		909.763		0-200	\pm 0.008	8
909.758		909.764		0-300	\pm 0.009	12

Model with flat rods especially for flat and spherical surfaces

Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Accuracy mm	Number of rods
Base 63 mm:		Base 101.5 mm:				
909.765		909.771		0- 25	\pm 0.005	1
909.766		909.772		0- 50	\pm 0.005	2
909.767		909.773		0-100	\pm 0.006	4
909.768		909.774		0-150	\pm 0.007	6
909.769		909.775		0-200	\pm 0.008	8
909.770		909.776		0-300	\pm 0.009	12

Option

Item No.	Description	Price EUR
836.535	Spare battery	



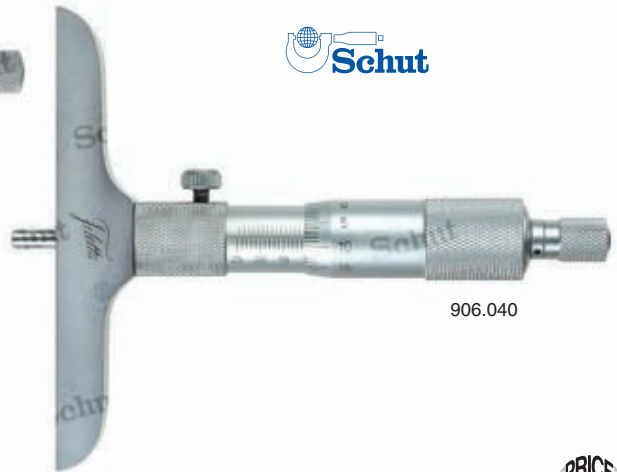
Depth micrometers

Depth micrometers with interchangeable, spherical or flat rods. With the flat rods mainly flat and spherical surfaces can be measured very accurately. The spherical rods are especially suitable for beveled and hollow surfaces. The high accuracy of the rods makes recalibration after exchanging the rods unnecessary. Two models with different base lengths available.

- Measuring range: 0-300 mm.
- Graduation: 0.01 mm.
- Measuring rods: $\varnothing 4.5$ mm.
- Locking screw.



906.970



906.040



Model with spherical rods especially for hollow and beveled surfaces

Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Accuracy mm	Number of rods
Base 63 mm:		Base 101.5 mm:				
906.964		906.040		0- 25	± 0.005	1
906.965		906.039		0- 50	± 0.005	2
906.966		906.041		0-100	± 0.006	4
906.967		906.042		0-150	± 0.007	6
906.968		906.043		0-200	± 0.008	8
906.969		906.044		0-300	± 0.009	12

Model with flat rods especially for flat and spherical surfaces

Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Accuracy mm	Number of rods
Base 63 mm:		Base 101.5 mm:				
906.970		906.976		0- 25	± 0.005	1
906.971		906.977		0- 50	± 0.005	2
906.972		906.978		0-100	± 0.006	4
906.973		906.979		0-150	± 0.007	6
906.974		906.980		0-200	± 0.008	8
906.975		906.981		0-300	± 0.009	12

Mitutoyo depth micrometers

- Measuring range: 0 - 300 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Accuracy micrometer: ± 0.003 mm (0 - 25 mm).
- Increment of measuring rods: 25 mm.
- Length tolerance measuring rods: ± 0.004 mm (0 - 150 mm) ± 0.006 mm (0 - 300 mm).
- Hardened steel measuring rods: $\varnothing 4$ mm.
- Conforms to factory standard.
- Delivery in a plastic case with adjustment tool.

Digital (Mitutoyo Digimatic)

- ABS/INC switchable.
- Digimatic data output.
- Reset/preset.
- Hold function.
- Power supply: 1 battery type V357.



329.250



128.101



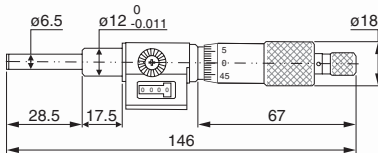
Item No.	Measuring range/mm	Base l x w/mm	Number of rods	Price EUR
Mitutoyo analog depth micrometers:				
128.101	0 - 25	63.5 x 16	1	
128.102	0 - 25	101.6 x 16	1	
129.109	0 - 50	63.5 x 16	2	
129.113	0 - 50	101.6 x 16	2	
129.110	0 - 75	63.5 x 16	3	
129.114	0 - 75	101.6 x 16	3	
129.111	0 - 100	63.5 x 16	4	
129.115	0 - 100	101.6 x 16	4	
129.112	0 - 150	63.5 x 16	6	
129.116	0 - 150	101.6 x 16	6	
129.152	0 - 300	63.5 x 16	12	
129.153	0 - 300	101.6 x 16	12	
Mitutoyo Digimatic digital depth micrometers:				
329.250	0 - 150	101.6 x 16	6	
329.251	0 - 300	101.6 x 16	12	
Option:				
836.535	Spare battery			

Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Micrometer head with counter

Micrometer head with an easy read-out at 0.01 mm by means of the counter mechanism.

- Measuring range: 0-25 mm.
- Resolution: 0.01 mm.
- Accuracy: ±0.003 mm.
- Numerical counter adjustable.
- Rotating spindle: ø6.5 mm.
- Tungsten carbide measuring face.
- Delivery with adjustment tool.



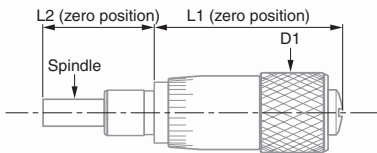
Item No.	Measuring range/mm	Spindle ø/mm	Price EUR
906.543	0-25	6.5	

Micrometer heads

- Measuring range: 0-25 mm.
- Graduation: 0.01 mm or vernier 0.002 mm.



906.072



906.074



906.070



Item No.	Measuring range/mm	Graduation mm	Accuracy mm	Spindle ø/mm	Dimensions/mm clamping	D1	L1	L2	Price EUR
Without friction thimble, steel measuring face:									
906.070	0- 6.5	0.01	±0.005	3.5 (flat)	ø 6 x 6	ø10	23	14	
906.074	0- 6.5	0.01	±0.005	3.5 (spherical)	ø 6 x 6	ø10	23	14	
906.071	0- 13	0.01	±0.004	5.0 (flat)	ø 9.5x 9.5	ø14	33	26	
Friction thimble with spring click in measuring thimble, tungsten carbide measuring face:									
906.072	0-25	0.01	±0.003	6.5 (flat)	ø12 x 17	ø19	65	46	
906.073	0-25	0.002	±0.003	6.5 (flat)	ø12 x 17	ø19	65	46	

Digital micrometer heads

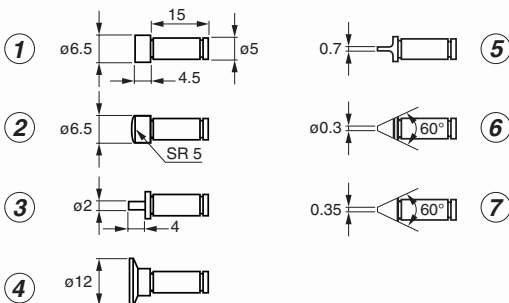
Several digital micrometer heads with different possibilities.

- Measuring range: 0-50 mm.
- Resolution: 0.001 mm.
- Accuracy: ± 0.003 mm
(909.900/901: ± 0.005 mm).
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Memory absolute measuring value.
- Preset for ABS measurement.
- Friction thimble.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Dimensions/mm		Description		Price	
		spindle	clamping	L1	L2	measuring faces	EUR
With IP65 protection:							
909.897	0-25	$\phi 6.5$	$\phi 12 \times 17.5$	115	46	flat, tungsten carbide measuring face	
909.898	0-25	$\phi 6.5$	$\phi 12 \times 17.5$	115	46	spherical	
909.899	0-25	$\phi 6.5$	$\phi 12 \times 17.5$	116	56	flat, non-rotating tip	
909.900	0-50	$\phi 7.5$	$\phi 12 \times 35.5$	140	89	flat, tungsten carbide measuring face	
909.901	0-50	$\phi 7.5$	$\phi 12 \times 35.5$	140	89	spherical	
With non-rotating spindle:							
909.902	0-25	$\phi 7.5$	$\phi 12 \times 10$	124	39	flat, tungsten carbide measuring face	
909.903	0-25	$\phi 7.5$	$\phi 12 \times 10$	123	39	interchangeable measuring inserts	
Option:							
836.535	Spare battery						

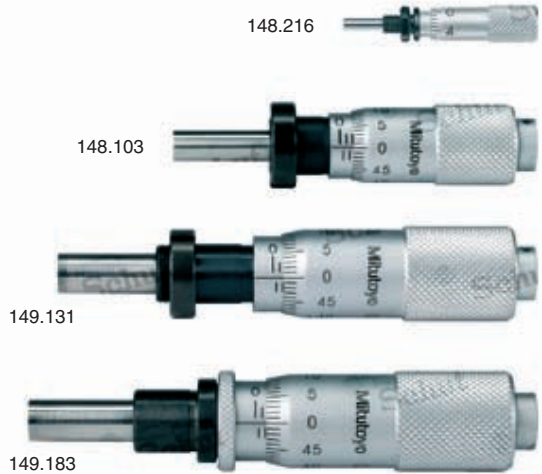
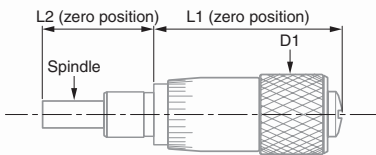
Interchangeable measuring inserts for 909.903



No.	Item No.	Description	Price
		measuring faces	EUR
Measuring inserts, per pair:			
①	906.788	flat	
②	906.789	spherical	
③	906.790	small	
④	906.791	disc	
⑤	906.792	knife/flat	
⑥	906.793	point	
⑦	906.794	knife	
	906.795	Set of 7 pairs	

Mitutoyo micrometer heads

- Measuring range: 0-25 mm.
- Graduation: 0.01 or 0.02 mm.
- Clamping stem: with or without clamp nut.
- Conforms to factory standard.
- Many models available, like:
 - with reversed reading,
 - with rotating or non-rotating spindle,
 - with spindle lock,
 - with large thimble diameter, for easy reading.



Item No.	Measuring range/mm	Graduation mm	Accuracy mm	Clamp nut	Dimensions/mm			Price EUR
					spindle	D1	L1	
For general applications:								
148.104	0-13	0.01	±0.002	no	∅5	∅13	31.5	27
148.103	0-13	0.01	±0.002	yes	∅5	∅13	31.5	27
For general applications with spherical measuring face:								
148.801	0-13	0.01	±0.002	no	∅5	∅13	31.5	27
148.802	0-13	0.01	±0.002	yes	∅5	∅13	31.5	27
Ultra-small micrometer heads with spherical measuring face:								
148.215	0-5	0.02	±0.005	no	∅2	∅6	20.5	11.5
148.216	0-5	0.02	±0.005	yes	∅2	∅6	20.5	11.5
148.205	0-6.5	0.01	±0.005	no	∅3.5	∅9	21.7	15
148.207	0-6.5	0.01	±0.005	yes	∅3.5	∅9	21.7	15
With lapped tungsten carbide measuring face:								
149.132	0-15	0.01	±0.002	no	∅6.35	∅15	43.5	32
149.131	0-15	0.01	±0.002	yes	∅6.35	∅15	43.5	32
With lapped tungsten carbide spherical measuring face:								
149.801	0-15	0.01	±0.002	no	∅6.35	∅15	43.5	32
149.802	0-15	0.01	±0.002	yes	∅6.35	∅15	43.5	32
With lapped tungsten carbide measuring face, with spindle lock:								
149.183	0-15	0.01	±0.002	no	∅6.35	∅15	49	26.5
149.184	0-15	0.01	±0.002	yes	∅6.35	∅15	49	26.5
With lapped tungsten carbide measuring face, with ratchet:								
150.192	0-25	0.01	±0.002	no	∅6.35	∅18	67	42
150.191	0-25	0.01	±0.002	yes	∅6.35	∅18	67	42
With lapped tungsten carbide spherical measuring face, with ratchet:								
150.801	0-25	0.01	±0.002	no	∅6.35	∅18	67	42
150.802	0-25	0.01	±0.002	yes	∅6.35	∅18	67	42

Mitutoyo Digimatic micrometer heads IP65

These digital micrometer heads have an ergonomic design and a high protection degree against water jets (IP65).

- Measuring range: 0-25 mm.
- Resolution: 0.001 mm.
- ABS/INC switchable.
- Digimatic data output.
- Reset/preset.
- Hold function.
- Non-rotating spindle (only 350.261).
- Protection: IP65.
- Resistant to workshop conditions.
- Conforms to factory standard.
- Power supply: 1 battery type V357.



Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Item No.	Measuring range/mm	Accuracy/mm	Spindle ϕ /mm	Clamp nut	Price EUR
350.261	0-25	± 0.002	6.35	no	
350.271	0-25	± 0.002	6.35	no	
350.272	0-25	± 0.002	6.35	yes	
Option:					
836.535	Spare battery				

Mitutoyo Digimatic micrometer head

Digital micrometer head with non-rotating spindle for integration into machinery and measuring systems such as XY measuring tables of microscopes and projectors. The display and operating unit is rotatable over 330° and guarantees an ideal read-out in any position.

- Measuring range: 0-50 mm.
- Resolution: 0.001 mm.
- ABS/INC switchable.
- LCD display 330° rotatable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Clamping stem without clamp nut.
- Non-rotating spindle.
- Reversible measuring direction.
- Lapped tungsten carbide measuring face: $\phi 8$ mm.
- Conforms to factory standard.
- Power supply: 1 battery type V357.

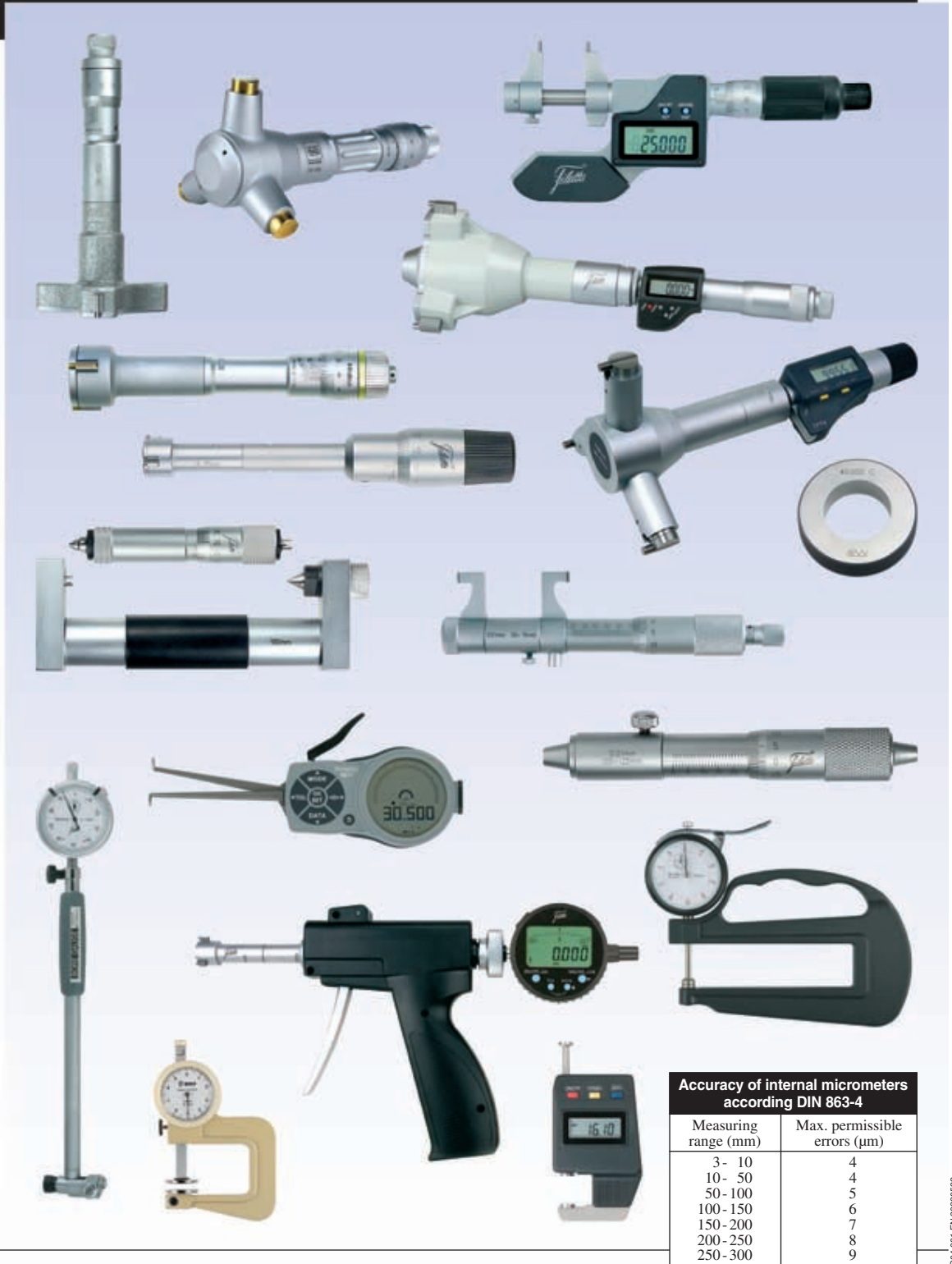


Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Item No.	Measuring range/mm	Accuracy mm	Spindle ϕ /mm	Price EUR
164.163	0-50	± 0.003	8	
Option:				
836.535	Spare battery			



Internal micrometers / Internal & external measuring instruments



Accuracy of internal micrometers according DIN 863-4	
Measuring range (mm)	Max. permissible errors (µm)
3 - 10	4
10 - 50	4
50 - 100	5
100 - 150	6
150 - 200	7
200 - 250	8
250 - 300	9

Three-point internal micrometers

Three-point internal micrometers for quick and accurate measurement of internal dimensions, within a large measuring range.

- Measuring range: \varnothing 3.5 - 300 mm.
- Graduation: 0.001 mm (\varnothing 3.5 - 12 mm),
0.005 mm (\varnothing 12 - 300 mm).
- Self-centering.
- Tungsten carbide measuring faces.
- Sets are delivered incl. setting rings and extension (836.730 without extension).
- Setting rings are conform to factory standard.
- Delivery in a wooden case.



836.708



836.718



836.745



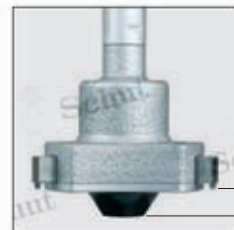
Measuring head
(measuring range)
 \varnothing 3.5 - 50 mm



\varnothing 50 - 100 mm



\varnothing 100 - 300 mm



\varnothing 100 - 300 mm

17.5 mm



Three-point internal micrometers (continued)

Item No.	Measuring range/mm	Accuracy mm	Length L/mm	Length A/mm	Price EUR
836.700	∅ 3.5- 4	±0.005	19	1.5	
836.701	∅ 4.0- 4.5	±0.005	19	1.5	
836.702	∅ 4.5- 5.5	±0.005	19	1.5	
836.703	∅ 5.5- 6.5	±0.005	19	1.5	
836.704	∅ 6 - 8	±0.005	52	1.5	
836.705	∅ 8 - 10	±0.005	52	1.5	
836.706	∅ 10 - 12	±0.005	52	1.5	
836.707	∅ 12 - 16	±0.005	71	1.5	
836.708	∅ 16 - 20	±0.005	71	1.5	
836.709	∅ 20 - 25	±0.005	82	1.5	
836.710	∅ 25 - 30	±0.005	82	1.5	
836.711	∅ 30 - 35	±0.005	84	1.5	
836.712	∅ 35 - 40	±0.005	84	1.5	
836.713	∅ 40 - 50	±0.006	100	1.5	
836.714	∅ 50 - 60	±0.006	100	1.5	
836.715	∅ 60 - 70	±0.006	100	1.5	
836.716	∅ 70 - 80	±0.006	100	1.5	
836.717	∅ 80 - 90	±0.006	100	1.5	
836.718	∅ 90 - 100	±0.006	100	1.5	
836.719	∅ 100 - 125	±0.008	110	17.5	
836.720	∅ 125 - 150	±0.008	110	17.5	
836.721	∅ 150 - 175	±0.008	110	17.5	
836.722	∅ 175 - 200	±0.008	110	17.5	
836.723	∅ 200 - 225	±0.012	110	17.5	
836.724	∅ 225 - 250	±0.012	110	17.5	
836.725	∅ 250 - 275	±0.012	110	17.5	
836.726	∅ 275 - 300	±0.012	110	17.5	



Extensions

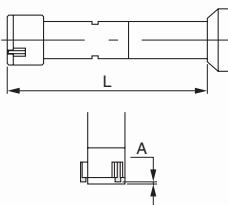
Item No.	Extension mm	For measuring range/mm	Price EUR
836.780	100	∅ 6- 12	
836.782	150	∅ 12- 20	
836.784	150	∅ 20- 40	
836.786	150	∅ 40- 100	



836.784



Sets



Item No.	Measuring range/mm	Setting rings mm	Extension mm	Number of instruments	Price EUR
836.730*	∅ 3.5- 6.5	∅ 4, 5.5	-	4	
836.735	∅ 6 - 12	∅ 8, 10	100	3	
836.740	∅ 12 - 20	∅ 16	150	2	
836.745	∅ 20 - 40	∅ 25, 35	150	4	
836.750	∅ 40 - 100	∅ 50, 70, 90	150	6	

* Without extension.

Three-point internal micrometers

Three-point internal micrometers, with a manufacturer measuring report, for accurately measuring (blind) bores.

- Measuring range: \varnothing 6-300 mm.
- Self-centering.
- Tungsten carbide measuring faces (measuring range \varnothing 6-12 mm: hardened steel).
- Separate instruments within measuring range \varnothing 6-100 mm and the sets are delivered incl. setting ring(s) and extension.
- Setting rings are conform to factory standard.
- To \varnothing 100 mm: implementation for blind bores. From \varnothing 100 mm: implementation for through holes or blind bores.
- Delivery in an aluminum case (\varnothing 6-40 mm) or an aluminum carrying case (\varnothing 40-300 mm and sets) with a manufacturer measuring report.

Analog

- Graduation: 0.001 mm (\varnothing 6- 12 mm), 0.005 mm (\varnothing 12- 300 mm).

Digital

- Resolution: 0.001 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Preset.
- Hold function.
- Protection: IP54.
- Power supply: 1 battery type V357.



909.811



909.832



Measuring head (measuring range) \varnothing 6-50 mm



\varnothing 50 - 100 mm



\varnothing 100 - 175 mm



\varnothing 175 - 300 mm



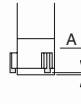
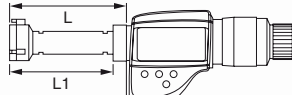
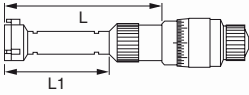
For blind bores



For through holes



Three-point internal micrometers (continued)



Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Accuracy mm	L/mm	Length L/mm	A/mm
Analog (blind bores):		Digital (blind bores):				Analog:	Digital:	
						L1 L	L1 L	
909.807		909.828		∅ 6- 8	±0.004	27 -	43 -	1
909.808		909.829		∅ 8- 10	±0.004	50 -	43 -	1
909.809		909.830		∅ 10- 12	±0.004	50 -	43 -	1
909.810		909.831		∅ 12- 16	±0.004	50 -	45 -	0.4
909.811		909.832		∅ 16- 20	±0.004	50 -	45 -	0.4
909.812		909.833		∅ 20- 25	±0.004	- 80	53 -	0.4
909.813		909.834		∅ 25- 30	±0.004	- 80	53 -	0.4
909.814		909.835		∅ 30- 40	±0.004	- 90	- 80	0.4
909.815		909.836		∅ 40- 50	±0.005	- 90	- 80	0.4
909.816		909.837		∅ 50- 63	±0.005	- 100	- 80	0.5
909.817		909.838		∅ 62- 75	±0.005	- 100	- 80	0.5
909.818		909.839		∅ 75- 88	±0.005	- 100	- 80	0.5
909.819		909.840		∅ 87-100	±0.005	- 100	- 80	0.5
910.150		910.158		∅ 100-125	±0.008	- 140	- 140	0.5
910.151		910.159		∅ 125-150	±0.008	- 140	- 140	0.5
910.152		910.160		∅ 150-175	±0.008	- 140	- 140	0.5
910.153		910.161		∅ 175-200	±0.008	- 140	- 140	0.5
910.154		910.162		∅ 200-225	±0.008	- 140	- 140	0.5
910.155		910.163		∅ 225-250	±0.008	- 140	- 140	0.5
910.156		910.164		∅ 250-275	±0.008	- 140	- 140	0.5
910.157		910.165		∅ 275-300	±0.008	- 140	- 140	0.5
Analog (through holes):		Digital (through holes):				Analog:	Digital:	
						L1 L	L1 L	
909.820		909.841		∅ 100-125	±0.008	- 140	- 140	20
909.821		909.842		∅ 125-150	±0.008	- 140	- 140	20
909.822		909.843		∅ 150-175	±0.008	- 140	- 140	20
909.823		909.844		∅ 175-200	±0.008	- 140	- 140	20
909.824		909.845		∅ 200-225	±0.008	- 140	- 140	20
909.825		909.846		∅ 225-250	±0.008	- 140	- 140	20
909.826		909.847		∅ 250-275	±0.008	- 140	- 140	20
909.827		909.848		∅ 275-300	±0.008	- 140	- 140	20

Sets

Item No.	Price EUR	Item No.	Price EUR	Measuring range/mm	Setting rings ∅/mm	Extension mm	Number of instruments
Analog:		Digital:					
909.849		909.853		∅ 6- 12	8, 10	50	3
909.850		909.854		∅ 12- 20	16	100	2
909.851		909.855		∅ 20- 50	25, 40	150	4
909.852		909.856		∅ 50- 100	62, 87	150	4

Options

Item No.	Description	Price EUR
836.535	Spare battery	
For meas. range ∅ 100 - 300 mm:		
909.857	Extension with length 150 mm	

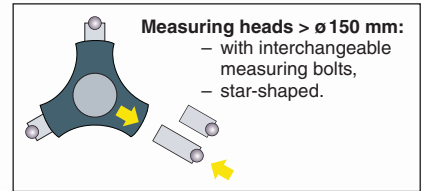
909.850



Three-point internal micrometers

Three-point internal micrometers for accurately measuring (blind) bores.

- Measuring range: \varnothing 6-300 mm.
- Graduation: 0.001 mm (\varnothing 6- 12 mm),
0.005 mm (\varnothing 12-300 mm).
- Self-centering.
- Tungsten carbide measuring faces.
- Interchangeable measuring bolts from measuring range \varnothing 150-175 mm.
- Delivery in an aluminum case (\varnothing 6-40 mm) or an aluminum carrying case (\varnothing 40-300 mm and sets) with extension 150 mm (\varnothing 6-12 mm: 100 mm).
- Separate instruments within measuring range \varnothing 6-100 mm and the sets are delivered incl. setting ring(s).
- Setting rings are conform to factory standard.



908.654



908.662



Measuring head
(measuring range)
 \varnothing 6-50 mm



\varnothing 50-100 mm



\varnothing 100-300 mm



For blind bores



Three-point internal micrometers (continued)

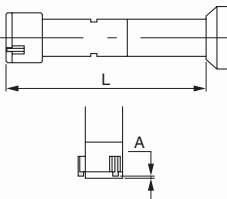


Per piece

908.672

Item No.	Measuring range/mm	Setting ring ϕ /mm	Accuracy mm	Length L/mm	Length A/mm	Price EUR
908.650	ϕ 6- 8	6	± 0.004	54.5	0.7	
908.651	ϕ 8- 10	8	± 0.004	54.5	0.7	
908.652	ϕ 10- 12	10	± 0.004	54.5	0.7	
908.653	ϕ 12- 16	16	± 0.004	80	0.7	
908.654	ϕ 16- 20	16	± 0.004	80	0.7	
908.655	ϕ 20- 25	25	± 0.004	90	0.7	
908.656	ϕ 25- 30	25	± 0.004	90	0.7	
908.657	ϕ 30- 40	40	± 0.004	97	0.7	
908.658	ϕ 40- 50	40	± 0.005	97	0.7	
908.659	ϕ 50- 63	62	± 0.005	114	0.7	
908.660	ϕ 62- 75	62	± 0.005	114	0.7	
908.661	ϕ 75- 88	87	± 0.005	114	0.7	
908.662	ϕ 87-100	87	± 0.005	114	0.7	
908.663	ϕ 100-125	-	± 0.005	145	0.7	
908.664	ϕ 125-150	-	± 0.005	145	0.7	
908.665	ϕ 150-175	-	± 0.005	145	0.7	
908.666	ϕ 175-200	-	± 0.005	145	0.7	
908.667	ϕ 200-225	-	± 0.007	145	0.7	
908.668	ϕ 225-250	-	± 0.007	145	0.7	
908.669	ϕ 250-275	-	± 0.007	145	0.7	
908.670	ϕ 275-300	-	± 0.007	145	0.7	

Sets



Item No.	Measuring range/mm	Setting rings ϕ /mm	Extension mm	Number of instruments	Price EUR
908.671	ϕ 6- 12	6, 8, 10	100	3	
908.672	ϕ 12- 20	16	150	2	
908.673	ϕ 20- 50	25, 40	150	4	
908.674	ϕ 50-100	62, 87	150	4	

Digital three-point internal micrometers IP65

Digital three-point internal micrometers with a resolution of 0.001 mm for accurately measuring (blind) bores. These micrometers have several functions, and combined with the accurate read-out this results in a favourable price-performance ratio.

- Measuring range: \varnothing 6-300 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Self-centering.
- Tungsten carbide measuring faces.
- Complete measuring range without changing the measuring bolts.
- Protection: IP65.
- Delivery in an aluminum case (\varnothing 6-40 mm) or an aluminum carrying case (\varnothing 40-300 mm and sets) with extension 150 mm (\varnothing 6-12 mm: 100 mm).
- Separate instruments within measuring range \varnothing 6-100 mm and the sets are delivered incl. setting ring(s) (conforms to factory standard).
- Power supply: 1 battery type V357.



Measuring head
(measuring range)
 \varnothing 6-50 mm



\varnothing 50 - 100 mm



\varnothing 100 - 300 mm



For blind bores



Digital three-point internal micrometers IP65 (continued)



910.134

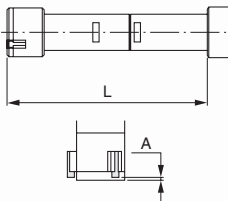


Per piece

Item No.	Measuring range/mm	Setting ring ϕ /mm	Accuracy mm	Length L/mm	Length A/mm	Price EUR
910.113	ϕ 6- 8	6	± 0.004	54.5	1.5	
910.114	ϕ 8- 10	8	± 0.004	54.5	1.5	
910.115	ϕ 10- 12	10	± 0.004	54.5	1.5	
910.116	ϕ 12- 16	16	± 0.004	80	0.7	
910.117	ϕ 16- 20	16	± 0.004	80	0.7	
910.118	ϕ 20- 25	25	± 0.004	90	0.7	
910.119	ϕ 25- 30	25	± 0.004	90	0.7	
910.120	ϕ 30- 40	40	± 0.004	97	0.7	
910.121	ϕ 40- 50	40	± 0.005	97	0.7	
910.122	ϕ 50- 63	62	± 0.005	114	0.7	
910.123	ϕ 62- 75	62	± 0.005	114	0.7	
910.124	ϕ 75- 88	87	± 0.005	114	0.7	
910.125	ϕ 87- 100	87	± 0.005	114	0.7	
910.126	ϕ 100- 125	-	± 0.005	150	0.7	
910.127	ϕ 125- 150	-	± 0.005	150	0.7	
910.128	ϕ 150- 175	-	± 0.005	150	0.7	
910.129	ϕ 175- 200	-	± 0.005	150	0.7	
910.130	ϕ 200- 225	-	± 0.007	150	0.7	
910.131	ϕ 225- 250	-	± 0.007	150	0.7	
910.132	ϕ 250- 275	-	± 0.007	150	0.7	
910.133	ϕ 275- 300	-	± 0.007	150	0.7	

Option:

836.535 Spare battery

Sets

Item No.	Measuring range/mm	Setting rings ϕ /mm	Extension mm	Number of instruments	Price EUR
910.134	ϕ 6- 12	6, 8, 10	100	3	
910.135	ϕ 12- 20	16	150	2	
910.136	ϕ 20- 50	25, 40	150	4	
910.137	ϕ 50- 100	62, 87	150	4	

Digital three-point internal micrometers

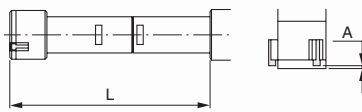
Digital three-point internal micrometers with a large measuring range. With optional extensions, also for measuring in deep (blind) bores.

- Measuring range: ϕ 50 - 300 mm.
- Max. measuring depth: 1100 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Self-centering.
- Tungsten carbide measuring faces.
- Protection: IP54.
- Delivery in an aluminum carrying case with extension 150 mm.
- Separate instruments within measuring range ϕ 50 - 100 mm and the sets are delivered incl. setting ring(s).
- Setting rings are conform to factory standard.
- Power supply: 1 battery type V357.



Extensions

Item No.	Extension mm	Price EUR
906.227	150	
906.228	500	
906.229	1000	



Item No.	Measuring range/mm	Setting ring ϕ /mm	Accuracy mm	Length L/mm	Length A/mm	Price EUR
906.904	ϕ 50 - 70	50	± 0.004	107	0.5	
906.905	ϕ 70 - 100	70	± 0.004	107	0.5	
906.906	ϕ 100 - 150	–	± 0.005	107	0.5	
906.907	ϕ 150 - 250	–	± 0.007	107	0.5	
906.908	ϕ 200 - 300	–	± 0.007	107	0.5	

Sets

Item No.	Measuring range/mm	Setting ring ϕ /mm	Number of instruments	Price EUR
906.909	ϕ 50 - 100	70	2	
906.910	ϕ 100 - 250	150	2	

Option

Item No.	Description	Price EUR
836.535	Spare battery	

Digital three-point internal micrometers up to 1000 mm

Digital three-point internal micrometers with a large measuring range. With optional extensions, also for measuring in deep bores.

- Measuring range: \varnothing 200 - 1000 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Self-centering.
- Tungsten carbide measuring faces.
- Protection: IP54.
- Delivered incl. setting ring.
- Power supply: 1 battery type V357.



907.787

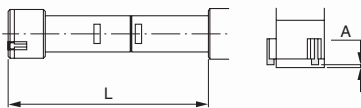
With interchangeable measuring bolts

The measuring range is extra large because of the interchangeable measuring bolts. The high accuracy of the measuring bolts enables exchanging without recalibrating the read-out.

- Max. measuring depth:
907.787: 750 mm,
907.788: 1750 mm.
- Accuracy:
 $\pm(1+0.02L) \mu\text{m}$ (L in mm).
- Delivery in a wooden case with extensions and setting ring.



Item No.	Measuring range/mm	Setting ring \varnothing /mm	Length L/mm	Length A/mm	Extensions mm	Price EUR
907.787	\varnothing 200 - 500	200	105	0.5	150, 500	
907.788	\varnothing 200 - 1000	200	105	0.5	150, 500, 1000	



Option

Item No.	Description	Price EUR
836.535	Spare battery	

Extensions

Item No.	Extension mm	Price EUR
906.227	150	
906.228	500	
906.229	1000	

TESA Imicro three-point internal micrometers

The Imicro measuring system has a unique combination of a threaded cone and three measuring arms. This makes the TESA Imicro a highly accurate measuring instrument.

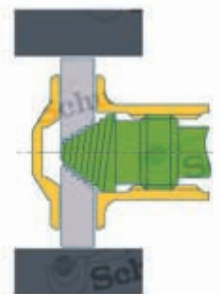
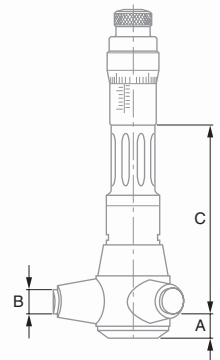
- Measuring range: \varnothing 3.5 - 300 mm.
- Graduation: 0.001 mm (\varnothing 3.5 - 12 mm),
0.005 mm (\varnothing 11 - 100 mm),
0.01 mm (\varnothing 100 - 300 mm).
- Measuring faces:
 \varnothing 3.5 - 12 mm: hardened steel,
 \varnothing 11 - 100 mm: titanium nitride (TiN),
 \varnothing 100 - 300 mm: tungsten carbide.
- DIN 863 T4.
- Delivery in a plastic case with a manufacturer measuring report.



779.542



Item No.	Measuring range mm	Accuracy mm	Repeatability mm	Length/mm			Price EUR
				A	B	C	
779.571	\varnothing 3.5 - 4	± 0.004	0.004	2	1.5	20	
779.572	\varnothing 4 - 4.5	± 0.004	0.004	2	1.5	20	
779.573	\varnothing 4.5 - 5.5	± 0.004	0.004	2	1.5	25	
779.574	\varnothing 5.5 - 6.5	± 0.004	0.004	2	1.5	25	
779.481	\varnothing 6 - 8	± 0.004	0.004	2.5	2.5	52	
779.482	\varnothing 8 - 10	± 0.004	0.004	2.5	2.5	52	
779.483	\varnothing 10 - 12	± 0.004	0.004	2.5	2.5	52	
779.497	\varnothing 11 - 14	± 0.004	0.004	3.5	4	77	
779.498	\varnothing 14 - 17	± 0.004	0.004	3.5	4	77	
779.499	\varnothing 17 - 20	± 0.004	0.004	3.5	4	77	
779.515	\varnothing 20 - 25	± 0.004	0.004	7	7	78	
779.516	\varnothing 25 - 30	± 0.004	0.004	7	7	78	
779.517	\varnothing 30 - 35	± 0.004	0.004	7	7	78	
779.518	\varnothing 35 - 40	± 0.004	0.004	7	7	78	
779.539	\varnothing 40 - 50	± 0.004	0.004	11	12	84	
779.540	\varnothing 50 - 60	± 0.005	0.005	11	12	84	
779.541	\varnothing 60 - 70	± 0.005	0.005	11	12	84	
779.542	\varnothing 70 - 80	± 0.005	0.005	11	12	84	
779.543	\varnothing 80 - 90	± 0.005	0.005	11	12	84	
779.544	\varnothing 90 - 100	± 0.005	0.005	11	12	84	
779.553	\varnothing 100 - 125	± 0.006	0.006	26	18	81	
779.554	\varnothing 125 - 150	± 0.006	0.006	26	18	81	
779.555	\varnothing 150 - 175	± 0.007	0.007	26	18	81	
779.556	\varnothing 175 - 200	± 0.007	0.007	26	18	81	
779.562	\varnothing 200 - 225	± 0.008	0.008	26	18	81	
779.563	\varnothing 225 - 250	± 0.008	0.008	26	18	81	
779.564	\varnothing 250 - 275	± 0.008	0.008	26	18	81	
779.565	\varnothing 275 - 300	± 0.008	0.008	26	18	81	



The threaded cone prevents spindle errors (Abbe-comparator principle).

TESA Imicro three-point internal micrometers in sets

- Measuring range: \varnothing 3.5 - 200 mm.
- Graduation: 0.001 mm (\varnothing 3.5 - 12 mm),
0.005 mm (\varnothing 11 - 100 mm),
0.01 mm (\varnothing 100 - 200 mm).



779.538

- Measuring faces:
 \varnothing 3.5 - 12 mm: hardened steel,
 \varnothing 11 - 100 mm: titanium nitride (TiN),
 \varnothing 100 - 200 mm: tungsten carbide.
- Sets delivered in a plastic carrying case with a manufacturer measuring report incl. setting rings, extension, screw driver and adjustment tool.

Item No.	Measuring range/mm	Extension mm	Price EUR
779.570	\varnothing 3.5 - 6.5	-	
779.480	\varnothing 6 - 12	100	
779.496	\varnothing 11 - 20	150	
779.514	\varnothing 20 - 40	150	
779.538	\varnothing 40 - 100	150	
779.552	\varnothing 100 - 200	150	

TESA centering device



779.664



Item No.	For meas. range/mm	Price EUR
779.664	\varnothing 40 - 100	
779.681	\varnothing 100 - 200	

TESA Imicro extensions

TESA Imicro extensions for measuring in deep bores.



Imicro + extension + centering device

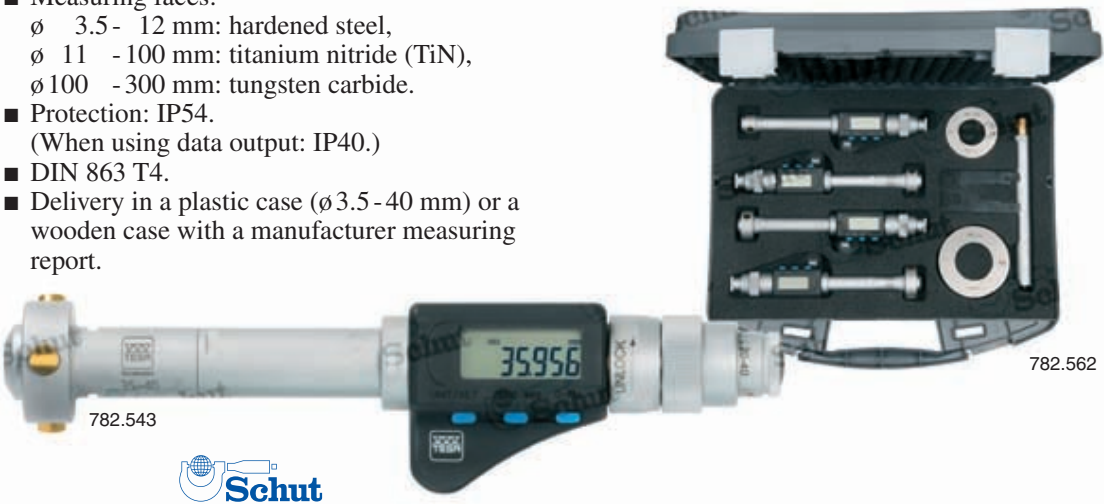
Item No.	Extension mm	For meas. range/mm	Price EUR
779.609	100	\varnothing 6 - 12	
779.623	150	\varnothing 11 - 20	
779.624	500	\varnothing 11 - 20	
779.625	150	\varnothing 20 - 40	
779.626	500	\varnothing 20 - 40	
779.627	1000	\varnothing 20 - 40	

Item No.	Extension mm	For meas. range/mm	Price EUR
779.628	150	\varnothing 40 - 100	
779.629	500	\varnothing 40 - 100	
779.630	1000	\varnothing 40 - 100	
779.631	150	\varnothing 100 - 300	
779.632	500	\varnothing 100 - 300	
779.633	1000	\varnothing 100 - 300	

TESA Imicro digital *capa* μ three-point internal micrometers

These TESA Imicro internal micrometers combine the unique measuring cone, that prevents spindle errors, with the patented *capa* μ measuring system.

- Measuring range: ϕ 3.5 - 300 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- Opto-RS232C data output, bidirectional.
- Automatic switch-off.
- Reset/preset.
- Measuring faces:
 - ϕ 3.5 - 12 mm: hardened steel,
 - ϕ 11 - 100 mm: titanium nitride (TiN),
 - ϕ 100 - 300 mm: tungsten carbide.
- Protection: IP54.
(When using data output: IP40.)
- DIN 863 T4.
- Delivery in a plastic case (ϕ 3.5 - 40 mm) or a wooden case with a manufacturer measuring report.
- Sets delivered in a plastic carrying case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.
- Electronic measuring elements, several sets, individual measuring heads and extensions available.



Sets with individual measuring heads

Consist of 1 electronic measuring element with interchangeable measuring heads, setting rings and an extension (no extension for the 782.564).

Item No.	Measuring range/mm	Price EUR
782.564	ϕ 3.5 - 6.5	
782.565	ϕ 6 - 12	
782.566	ϕ 11 - 20	
782.567	ϕ 20 - 40	
782.568	ϕ 40 - 100	
782.569	ϕ 100 - 200	

Extensions

Item No.	Extension mm	For measuring range/mm	Price EUR
779.609	100	ϕ 6 - 12	
779.623	150	ϕ 11 - 20	
779.625	150	ϕ 20 - 40	
779.628	150	ϕ 40 - 100	
779.631	150	ϕ 100 - 200	

Complete sets

Consist of all the instruments of the measuring range, setting rings and an extension (no extension for the 782.558).

Item No.	Measuring range/mm	Price EUR
782.558	ϕ 3.5 - 6.5	
782.559	ϕ 6 - 12	
782.560	ϕ 11 - 20	
782.561	ϕ 20 - 40	
782.562	ϕ 40 - 100	
782.563	ϕ 100 - 200	

Option

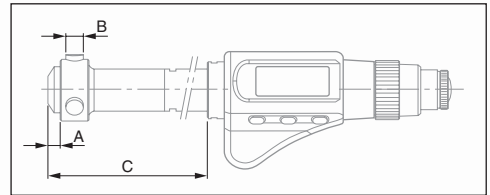
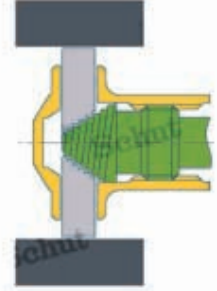
Item No.	Description	Price EUR
495.157	Spare battery	

Accessories for (wireless) data transfer available on request.

TESA Imicro digital three-point internal micrometers (continued)



The threaded cone prevents spindle errors (Abbe-comparator principle).



Complete instruments



Item No.	Measuring range/mm	Accuracy mm	Repeatability mm	Length/mm			Price EUR
				A	B	C	
782.530	∅ 3.5 - 4	±0.004	0.004	2	1.5	20	
782.531	∅ 4 - 4.5	±0.004	0.004	2	1.5	20	
782.532	∅ 4.5 - 5.5	±0.004	0.004	2	1.5	25	
782.533	∅ 5.5 - 6.5	±0.004	0.004	2	1.5	25	
782.534	∅ 6 - 8	±0.004	0.004	2.5	2.5	79	
782.535	∅ 8 - 10	±0.004	0.004	2.5	2.5	79	
782.536	∅ 10 - 12	±0.004	0.004	2.5	2.5	79	
782.537	∅ 11 - 14	±0.004	0.004	3.5	4	93	
782.538	∅ 14 - 17	±0.004	0.004	3.5	4	93	
782.539	∅ 17 - 20	±0.004	0.004	3.5	4	93	
782.540	∅ 20 - 25	±0.004	0.004	7	7	91	
782.541	∅ 25 - 30	±0.004	0.004	7	7	91	
782.542	∅ 30 - 35	±0.004	0.004	7	7	91	
782.543	∅ 35 - 40	±0.004	0.004	7	7	91	
782.544	∅ 40 - 50	±0.005	0.005	11	12	104	
782.545	∅ 50 - 60	±0.005	0.005	11	12	104	
782.546	∅ 60 - 70	±0.005	0.005	11	12	104	
782.547	∅ 70 - 80	±0.005	0.005	11	12	104	
782.548	∅ 80 - 90	±0.005	0.005	11	12	104	
782.549	∅ 90 - 100	±0.005	0.005	11	12	104	
782.550	∅ 100 - 125	±0.006	0.006	26	18	100	
782.551	∅ 125 - 150	±0.006	0.006	26	18	100	
782.552	∅ 150 - 175	±0.007	0.007	26	18	100	
782.553	∅ 175 - 200	±0.007	0.007	26	18	100	
782.554	∅ 200 - 225	±0.008	0.008	26	18	100	
782.555	∅ 225 - 250	±0.008	0.008	26	18	100	
782.556	∅ 250 - 275	±0.008	0.008	26	18	100	
782.557	∅ 275 - 300	±0.008	0.008	26	18	100	

Mitutoyo Holtest three-point internal micrometers

Three-point internal micrometers for quick and accurate measurement of internal dimensions, within a large measuring range. These instruments have an improved ratchet mechanism and the application of high-quality materials ensures a long life span.

- Measuring range: \varnothing 6-300 mm.
- Graduation: 0.001 mm (\varnothing 6- 12 mm),
0.005 mm (\varnothing 12-300 mm).
- Tungsten carbide cone and contact point of the spindle.
- Matt chrome-plated thimble.
- To \varnothing 100 mm: implementation for blind bores.
From \varnothing 100 mm: implementation for through holes.
- Delivery in a plastic case or wooden case with a manufacturer measuring report.

Sets delivered in a wooden carrying case with a manufacturer measuring report.

Measuring range/mm	Accuracy mm	Item No.	Price EUR	Item No.	Price EUR
		Measuring faces with titanium nitride (TiN) coating:		Tungsten carbide measuring faces:	
\varnothing 2 - 2.5	± 0.002			368.001	
\varnothing 2.5- 3	± 0.002			368.002	
\varnothing 3 - 4	± 0.002			368.003	
\varnothing 4 - 5	± 0.002			368.004	
\varnothing 5 - 6	± 0.002			368.005	
\varnothing 6 - 8	± 0.002	368.161			
\varnothing 8 - 10	± 0.002	368.162			
\varnothing 10 - 12	± 0.002	368.163			
\varnothing 12 - 16	± 0.002	368.164		368.764	
\varnothing 16 - 20	± 0.002	368.165		368.765	
\varnothing 20 - 25	± 0.003	368.166		368.766	
\varnothing 25 - 30	± 0.003	368.167		368.767	
\varnothing 30 - 40	± 0.003	368.168		368.768	
\varnothing 40 - 50	± 0.003	368.169		368.769	
\varnothing 50 - 63	± 0.003	368.170		368.770	
\varnothing 62 - 75	± 0.003	368.171		368.771	
\varnothing 75 - 88	± 0.003	368.172		368.772	
\varnothing 87 - 100	± 0.003	368.173		368.773	
\varnothing 100 - 125	± 0.005	368.174		368.774	
\varnothing 125 - 150	± 0.005	368.175		368.775	
\varnothing 150 - 175	± 0.005	368.176		368.776	
\varnothing 175 - 200	± 0.005	368.177		368.777	
\varnothing 200 - 225	± 0.005	368.178		368.778	
\varnothing 225 - 250	± 0.005	368.179		368.779	
\varnothing 250 - 275	± 0.005	368.180		368.780	
\varnothing 275 - 300	± 0.005	368.181		368.781	



Extensions

Item No.	Extension mm	For measuring range/mm	Price EUR
952.322	100	\varnothing 6- 12	
952.621	150	\varnothing 12- 20	
952.622	150	\varnothing 20- 50	
952.623	150	\varnothing 50- 300	

Sets

Measuring range/mm	Extension mm	Item No.	Price EUR	Item No.	Price EUR
		Measuring faces with titanium nitride (TiN) coating:		Tungsten carbide measuring faces:	
\varnothing 2- 3	-	-		368.906	
\varnothing 3- 6	-	-		368.907	
\varnothing 6- 12	100	368.911		-	
\varnothing 12- 20	150	368.912		368.991	
\varnothing 20- 50	150	368.913		368.992	
\varnothing 50-100	150	368.914		368.993	
\varnothing 100-200	150	368.915		368.994	



368.914

Mitutoyo Holtest digital three-point internal micrometers

Digital three-point internal micrometers for quick and accurate measurement of internal dimensions, within a large measuring range. These instruments have an improved ratchet mechanism and the application of high-quality materials ensures a long life span.

- Measuring range: ϕ 6 - 300 mm.
- Resolution: 0.001 mm.
- Measuring faces with titanium nitride (TiN) coating.
- Tungsten carbide cone and contact point of the spindle.
- Matt chrome-plated thimble.
- Digimatic data output.
- Automatic switch-off.
- Reset/preset.
- Hold function.
- To ϕ 100 mm: implementation for blind bores.
- From ϕ 100 mm: implementation for through holes.
- Protection: IP65.
- Delivery in a plastic case or wooden case with a manufacturer measuring report. Sets are delivered with setting rings.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
468.161	ϕ 6 - 8	± 0.002	
468.162	ϕ 8 - 10	± 0.002	
468.163	ϕ 10 - 12	± 0.002	
468.164	ϕ 12 - 16	± 0.002	
468.165	ϕ 16 - 20	± 0.002	
468.166	ϕ 20 - 25	± 0.003	
468.167	ϕ 25 - 30	± 0.003	
468.168	ϕ 30 - 40	± 0.003	
468.169	ϕ 40 - 50	± 0.003	
468.170	ϕ 50 - 63	± 0.003	
468.171	ϕ 62 - 75	± 0.003	
468.172	ϕ 75 - 88	± 0.003	
468.173	ϕ 87 - 100	± 0.003	
468.174	ϕ 100 - 125	± 0.005	
468.175	ϕ 125 - 150	± 0.005	
468.176	ϕ 150 - 175	± 0.005	
468.177	ϕ 175 - 200	± 0.005	
468.178	ϕ 200 - 225	± 0.005	
468.179	ϕ 225 - 250	± 0.005	
468.180	ϕ 250 - 275	± 0.005	
468.181	ϕ 275 - 300	± 0.005	

Sets

Item No.	Measuring range/mm	Extension mm	Price EUR
One instrument with multiple measuring heads and extension			
468.971	ϕ 6 - 12	100	
468.972	ϕ 12 - 20	150	
468.973	ϕ 20 - 50	150	
468.974	ϕ 50 - 100	150	
468.975	ϕ 100 - 200	150	
Multiple instruments			
468.981	ϕ 6 - 12		
468.982	ϕ 12 - 25		
468.983	ϕ 25 - 50		
468.984	ϕ 50 - 75		
468.985	ϕ 75 - 100		



Extensions

Item No.	Extension mm	For measuring range/mm	Price EUR
952.322	100	ϕ 6 - 12	
952.621	150	ϕ 12 - 20	
952.622	150	ϕ 20 - 50	
952.623	150	ϕ 50 - 300	

Options

Item No.	Description	Price EUR
836.535	Spare battery	
104.157	Mounting bracket for micrometer stand	
105.662	Digimatic data cable, 1 m	
105.663	Digimatic data cable, 2 m	
106.380	USB Input Tool Direct cable, 2 m	
102.791	U-WAVE data cable	
102.730	U-WAVE transmitter IP67	



468.973



468.983

Mitutoyo Borematic digital three-point internal micrometers

Three-point internal micrometers with the absolute measuring system and a large 6-digit LCD display for an easy read-out of the measurement and tolerance indication. The tolerance values are shown graphically above the current measurement or full size on the display. The 330° rotatable display guarantees an ideal read-out in any position. Easy and fast one-handed operation.

- Measuring range: \varnothing 6- 125 mm.
- Resolution: 0.001 mm.
- Accuracy: refer to the table. Only valid with close contact of all measuring surfaces.
- ABS/INC switchable.
- LCD display 330° rotatable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Adjustable tolerance limits.
- Measuring faces of hardened steel, with titanium nitride (TiN) coating.
- Conforms to factory standard.
- Delivery in a wooden case with a manufacturer measuring report.
- Power supply: 1 battery type V357.

Item No.	Measuring range/mm	Accuracy/mm	Price EUR
568.361	\varnothing 6- 8	± 0.005	
568.362	\varnothing 8- 10	± 0.005	
568.363	\varnothing 10- 12	± 0.005	
568.364	\varnothing 12- 16	± 0.005	
568.365	\varnothing 16- 20	± 0.005	
568.366	\varnothing 20- 25	± 0.006	
568.367	\varnothing 25- 30	± 0.006	
568.368	\varnothing 30- 40	± 0.006	
568.369	\varnothing 40- 50	± 0.006	
568.370	\varnothing 50- 63	± 0.006	
568.371	\varnothing 62- 75	± 0.006	
568.372	\varnothing 75- 88	± 0.006	
568.373	\varnothing 87- 100	± 0.006	
568.374	\varnothing 100- 113	± 0.006	
568.375	\varnothing 112- 125	± 0.006	

Options:

- 836.535 Spare battery
- 952.322 Extension 100 mm for Borematic \varnothing 6- 12 mm
- 952.621 Extension 150 mm for Borematic \varnothing 12- 20 mm
- 952.622 Extension 150 mm for Borematic \varnothing 20- 50 mm
- 952.623 Extension 150 mm for Borematic \varnothing 50- 300 mm

Sets

Sets consist of one measuring instrument with interchangeable measuring heads and setting rings.

Item No.	Measuring range/mm	Setting rings \varnothing /mm	Price EUR
568.924	\varnothing 6- 12	8, 10	
568.925	\varnothing 12- 25	16, 20	
568.926	\varnothing 25- 50	30, 40	
568.927	\varnothing 50- 100 ¹	62, 87	

¹ Measuring range by means of two sets of interchangeable measuring inserts per measuring head.



568.368

Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.



Three-point internal micrometers

Three-point internal micrometers with a clever pistol-shaped base instrument for quick, easy and accurate measurements of internal measures such as (blind) bores. Easy single handed operation for both right and left handed use. Available as single instruments and as sets, with setting ring(s) and extension.

- Measuring range: \varnothing 6- 100 mm.
- Measuring depth: 0- 270 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Clamping shaft: \varnothing 8 mm.
- Self-centering.
- Excl. dial indicator or measuring probe.
- Tungsten carbide measuring faces.
- Setting rings are conform to factory standard.
- Delivery in an aluminum carrying case.



Separate instruments

Item No.	Measuring range/mm	Accuracy mm ¹	Setting ring \varnothing /mm	Extension mm	Length/mm		Price EUR
					L	A	
907.770	\varnothing 6- 8	± 0.004	8	100	50	2	
907.771	\varnothing 8- 10	± 0.004	8	100	50	2	
907.772	\varnothing 10- 12	± 0.004	10	100	50	2	
907.773	\varnothing 12- 16	± 0.004	16	150	65	0.5	
907.774	\varnothing 16- 20	± 0.004	16	150	65	0.5	
907.775	\varnothing 20- 25	± 0.004	25	150	91	0.5	
907.776	\varnothing 25- 30	± 0.004	25	150	91	0.5	
907.777	\varnothing 30- 40	± 0.004	40	150	97	0.5	
907.778	\varnothing 40- 50	± 0.005	40	150	97	0.5	
907.779	\varnothing 50- 63	± 0.005	62	150	112	0.5	
907.780	\varnothing 62- 75	± 0.005	62	150	112	0.5	
907.781	\varnothing 75- 88	± 0.005	87	150	112	0.5	
907.782	\varnothing 87- 100	± 0.005	87	150	112	0.5	

¹ Excl. accuracy of dial indicator or measuring probe.

Sets

Item No.	Measuring range/mm	Setting ring(s) \varnothing /mm	Number of pistol grips	Extension mm	Price EUR
907.783	\varnothing 6- 12	8, 10	1	100	
907.784	\varnothing 12- 20	16	1	150	
907.785	\varnothing 20- 50	25, 40	2	150	
907.786	\varnothing 50- 100	62, 87	1	150	

Dial bore gauge for through bores

Dial bore gauge consisting of a grip (clamping shaft \varnothing 8 mm), with a two point split contact point with a needle.

- Measuring range: 3 - 18 mm.
- Measuring elements: hardened steel.
- Measuring needles: hardened steel.
- Including standard dial indicator 0 - 3 mm / 0.01 mm.
- Constant measuring force as a result of a built-in spring, thus eliminating user influence.
- Delivery in a plastic case.

NEW



Item No.	Measuring range/mm	Measuring depth/mm	Number of inserts	Price EUR
910.326	3 - 4	20	4	
910.327	4 - 6	30	4	
910.328	6 - 10	40	4	
910.329	10 - 18	130	8	



910.329

Optional dial indicators

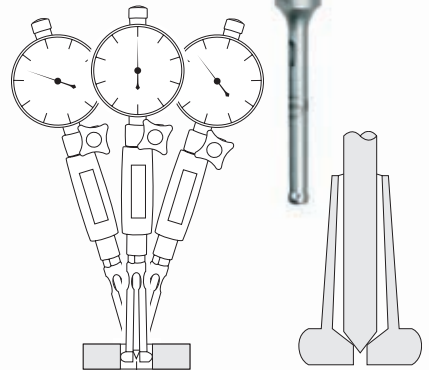
Item No.	Measuring range/mm	Graduation mm	Accuracy mm	Price EUR
Analog:				
907.933 ¹	0 - 10	0.01	—	
Digital (with determination of the reversal point):				
910.004 ¹	0 - 12.7	0.001	± 0.004	
909.250 ¹	0 - 12.5	0.002	± 0.015	
909.251 ¹	0 - 12.5	0.0005	± 0.006	
910.340 ²	0 - 15	0.0005	± 0.002	
Option:				
852.446	Probe extension 10 mm			

¹ Extension 10 mm 852.446 required (only for 910.326 and 910.327).

² Only suitable for 910.326 and 910.327.



910.327



910.004



910.340

Schwenk Osimess dial bore gauges for through bores

Schwenk dial bore gauges consisting of a grip (clamping shaft \varnothing 8 mm), with a two point split contact point with a needle. Constant measuring force as a result of a built-in spring, thus eliminating user influence. For more information please contact our sales department.

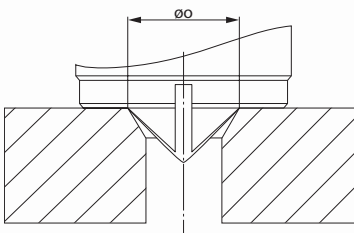


Schwenk internal chamfer gauges

For measuring the large diameter of the countersink of a bore.



NEW



Item No.	Angle	Measuring range/mm	Price EUR
852.069	90°	0.5 - 20	
852.300	90°	20 - 40	
852.267	127°	0.5 - 20	
851.954	127°	20 - 40	

Internal measuring instruments

Internal measuring instruments used for measuring diameters of cylindrical bores and form deviations for instance roundness and cylindricity, compared to standards such as setting rings. In order to read out the measured values, any existing dial indicator or measuring probe with a clamping stem of $\varnothing 8$ mm can be used. The reversal point marks the diameter of the bores. When using digital indicators a model with a hold function for minimal measuring value is recommended. Please see the dial indicators section for these dial indicators.

- Measuring range: 6 - 450 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Incl. standard dial indicator 0 - 3 mm / 0.01 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering (except 907.230).
- Interchangeable measuring inserts with tungsten carbide stylus tip (907.230 with spherical measuring face).
- Delivery in a plastic case or a wooden case incl. standard dial indicator and measuring inserts.



907.230



907.231



907.232



907.233



907.235



907.236



907.237



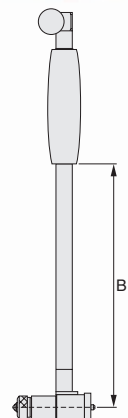
907.235 + 907.933



907.235 + 907.933



Item No.	Measuring range/mm	Effective measuring range/mm	Measuring depth (B)/mm	Number of probes	Price EUR
907.230	6 - 10	0.5	40	9	
907.231	10 - 18	0.5	100	9	
907.232	18 - 35	1.2	150	9	
907.233	35 - 50	1.2	150	4	
907.235	50 - 160	1.2	150	12	
907.236	160 - 250	1.2	400	5	
907.237	250 - 450	1.2	400	5	



Peacock internal measuring instruments

Internal measuring instruments used for measuring diameters of cylindrical bores and form deviations for instance roundness and cylindricity, compared to standards such as setting rings. In order to read out the measured values, any existing dial indicator or measuring probe with a clamping stem of $\varnothing 8$ mm can be used. The reversal point marks the diameter of the bores. When using digital indicators a model with a hold function for minimal measuring value is recommended. Please see the dial indicators section for these dial indicators.

- Measuring range: 6 - 400 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering bridge.
- Interchangeable measuring inserts with tungsten carbide stylus tip.
- Delivery in a plastic case or a wooden case.
- Excl. dial indicator or measuring probe.



855.010



855.018



855.035



855.060



855.150



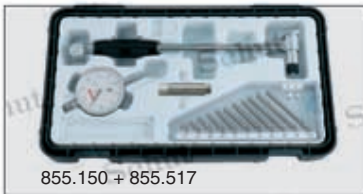
855.160



855.250



855.260



855.150 + 855.517



859.557 + 855.517

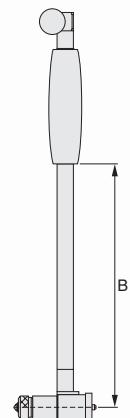


855.150 + 855.517

Item No.	Measuring range/mm	Effective measuring range/mm	Measuring depth (B)/mm	Number of probes	Price EUR
855.010	6 - 10	0.5	50	9	
855.018	10 - 18	0.5	100	9	
855.035	18 - 35	1.2	150	9	
855.060	35 - 60	1.2	150	6	
855.150	50 - 150	1.2	150	11	
855.160	100 - 160	1.2	250	7	
855.250	160 - 250	1.2	250	10	
855.260	250 - 400	1.2	400	16	

Options:

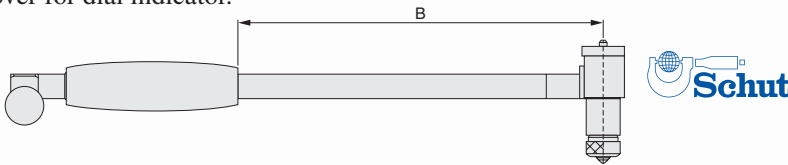
- 855.517 Peacock dial indicator 0-5 mm, graduation 0.01 mm
- 859.557 Protection for dial indicator



Mitutoyo bore gauges with dial indicator

Internal measuring instruments used for measuring diameters of cylindrical bores and form deviations for instance roundness and cylindricity, compared to standards such as setting rings. In order to read out the measured values, any existing dial indicator or measuring probe with a clamping stem of $\varnothing 8$ mm can be used. The reversal point marks the diameter of the bores. When using digital indicators a model with a hold function for minimal measuring value is recommended. Please see the dial indicators section for these dial indicators.

- Measuring range: 18 - 400 mm.
- Measuring range dial indicator:
 - 204.601: 0 - 10 mm,
 - 210.912: 0 - 1 mm,
 - 543.310: 0 - 12.7 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: 0.002 mm.
- Repeatability: 0.0005 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Interchangeable measuring inserts with tungsten carbide stylus tip.
- Plastic cover for dial indicator.
- Several accessories available.
- Delivery in a plastic case with dial indicator and measuring inserts.
- Other models also available, including for the measurement of blind bores.



Item No.	Measuring range/mm	Dial indicator No.	Read-out mm	Measuring depth (B)/mm	Price EUR
511.711	18 - 35	204.601	0.01	100	
511.712	35 - 60	204.601	0.01	150	
511.713	50 - 150	204.601	0.01	150	
511.714	100 - 160	204.601	0.01	150	
511.715	160 - 250	204.601	0.01	250	
511.716	250 - 400	204.601	0.01	250	
511.721	18 - 35	210.912	0.001	100	
511.722	35 - 60	210.912	0.001	150	
511.723	50 - 150	210.912	0.001	150	
511.724	100 - 160	210.912	0.001	150	
511.725	160 - 250	210.912	0.001	250	
511.726	250 - 400	210.912	0.001	250	

Sets

Item No.	Measuring range/mm	Dial indicator No.	Read-out mm	Price EUR
Analog:				
511.921	18 - 150	204.601	0.01	
511.922	18 - 150	210.912	0.001	
Digital (with determination of the reversal point):				
511.925	18 - 150	543.310	0.001	

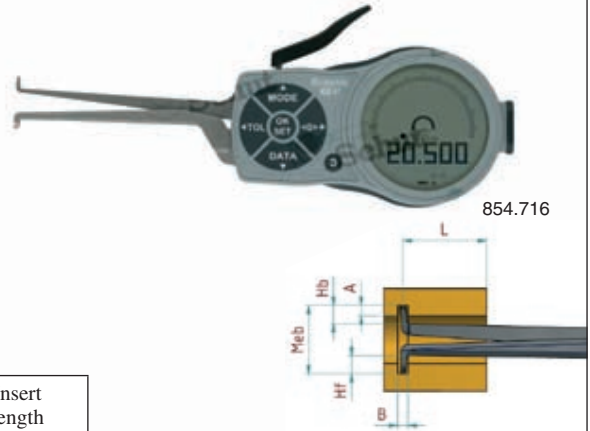


511.921

Krœplin digital internal measuring instruments (3-point)

Krœplin digital internal measuring instruments (3-point) for easier centering.

- Measuring range: 7 - 105 mm.
- Resolution: 0.001, 0.002, 0.005, 0.01, 0.02 or 0.05 mm, adjustable.
- mm/inch conversion.
- ABS/INC switchable.
- Mitutoyo Digimatic, Mitutoyo U-WAVE, Bluetooth and USB data outputs optionally available.
- Automatic switch-off.
- Storage for 100 measuring values.
- Reset/preset.
- With tolerance display by means of red/green LED.
- Hold and min/max functions.
- Protection: IP67.
- Delivery with a manufacturer measuring report.
- Power supply: 2 batteries AAA.



Item No.	Meas. depth L/mm	Groove depth A/mm	Groove width B/mm	Type of insert	Insert length Hb/mm
854.715	34	2.2	0.8	①	2.5
854.716	75	3.5	1.6	②	4.6
854.717	77	5.0	1.6	②	5.8
854.718	84	7.0	1.6	③	7.3
854.719	84	8.0	1.6	③	12.2
854.720	84	8.0	1.6	③	12.2
854.721	84	8.5	1.6	③	12.2
854.722	84	9.0	1.6	③	12.2

Types of inserts



Item No.	Measuring range/mm	Accuracy mm	Repeatability mm	Price EUR
854.715	7 - 14	±0.01	0.004	
854.716	10 - 20	±0.02	0.01	
854.717	15 - 30	±0.02	0.01	
854.718	25 - 45	±0.02	0.01	
854.719	40 - 60	±0.02	0.01	
854.720	55 - 75	±0.02	0.01	
854.721	70 - 90	±0.02	0.01	
854.722	85 - 105	±0.02	0.01	

Options:

- 497.914 Spare battery type AAA
- 854.952¹ Interface
- 965.013¹ Digimatic cable
- 206.380¹ USB cable
- 102.790¹ U-WAVE cable
- 854.092² Bluetooth interface adapter (only K and L series)
- 854.073 Bluetooth PC dongle
- 854.113 Wooden case (only K and L series)
- 859.233 Wooden case (only C and G series)

¹ For data output an interface and cable are needed.

² Bluetooth interface adapter is delivered with a Bluetooth PC dongle (854.073).



Schwenk internal measuring instruments

Internal measuring instruments used for measuring diameters of cylindrical bores and form deviations for instance roundness and cylindricity, compared to standards such as setting rings. In order to read out the measured values, any existing dial indicator or measuring probe with a clamping stem of $\varnothing 8$ mm can be used. The reversal point marks the diameter of the bores. When using digital indicators a model with a hold function for minimal measuring value is recommended.

- Measuring range: 4.5 - 800 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: 4.5 - 290 mm: ≤ 0.002 mm,
280 - 800 mm: ≤ 0.003 mm.
- Repeatability: 4.5 - 290 mm: ≤ 0.0005 mm,
280 - 800 mm: ≤ 0.0015 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering bridge.
- Measuring pins supplied with tungsten carbide ball tip.
- Interchangeable pins also available with steel or ruby ball tip.
- Centering bridge also available with a wear-resistant coating.
- Delivery in a wooden case with measuring inserts and spacer rings (from 12 mm).
- Excl. dial indicator or measuring probe.
- Measuring depth extensions available on request.
- Sets consist of 2 or 3 instruments in one wooden case.

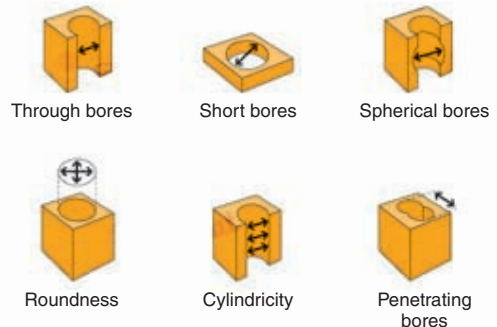


See for dial indicators the page "Schwenk precision dial indicators".

Sets

Item No.	Measuring range/mm	Measuring depth/mm	Price EUR
852.500	4.5 - 6	80	
852.501	6 - 8	100	
852.502	8 - 12	100	
852.503	12 - 20	110	
852.504	18 - 35	110	
852.505	35 - 60	177	
852.506	50 - 100	177	
852.507	50 - 150	177	
852.508	100 - 160	234	
852.509	100 - 230	234	
852.510	160 - 290	234	
852.511	160 - 360	234	
852.512	280 - 410	400	
852.513	280 - 510	400	
852.514	400 - 800	400	

Item No.	Measuring range/mm	Number of instruments	Price EUR
851.925	18 - 100	3	
852.752	18 - 150	3	
851.926	50 - 160	2	
852.624	50 - 230	2	



Schwenk internal measuring instruments for great depths

Special series of internal measuring instruments with extra long handles for measuring cylindrical bores and form deviations of bores up to 2.5 meters.

- Measuring range: 4.5 - 800 mm.
- Measuring depth: 250 - 2500 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering bridge with wear-resistant coating.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable probes supplied with tungsten carbide ball tip.
- Delivery in a wooden case with measuring inserts and spacer rings (from 12 mm).
- Excl. dial indicator or measuring probe.



Meas. depth	250 mm	500 mm	750 mm	1000 mm	1250 mm	1500 mm	2000 mm	2500 mm
Measuring range/mm	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR	Item No. Price EUR
4.5 - 6	852.520							
6 - 8	852.521	852.522	852.523	852.524				
8 - 12	852.525	852.526	852.527	852.528				
12 - 20	852.529	852.530	852.531	852.532				
18 - 35	852.533	852.534	852.535	852.536	852.537			
35 - 60	852.538	852.539	852.540	852.541	852.542	852.543	852.544	852.545
50 - 100	852.546	852.547	852.548	852.549	852.550	852.551	852.552	852.553
50 - 150	852.554	852.555	852.556	852.557	852.558	852.559	852.560	852.561
100 - 160		852.562	852.563	852.564	852.565	852.566	852.567	852.568
100 - 230		852.569	852.570	852.571	852.572	852.573	852.574	852.575
160 - 290		852.576	852.577	852.578	852.579	852.580	852.581	852.582
160 - 360		852.583	852.584	852.585	852.586	852.587	852.588	852.589
280 - 410		852.590	852.591	852.592	852.593	852.594	852.595	852.596
280 - 510		852.597	852.598	852.599	852.600	852.601	852.602	852.603
500 - 800				852.604	852.605	852.606	852.607	852.608

See for dial indicators the page "Schwenk precision dial indicators".

Schwenk internal measuring instruments with ball probes

Special internal measuring instruments for measuring profiles and internal gearing without a centering bridge. The fixed pin gauge and interchangeable inserts come with internal screw thread, in which ball probes can be placed.

- Measuring range: 8 - 510 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.002 mm.
- Repeatability: ≤ 0.0005 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Ball probes available from $\varnothing 0.5$ mm, incrementing with 0.001 mm. Deviation diameter: < 0.002 mm.
- Delivery in a wooden case with measuring inserts and spacer rings (from 12 mm).
- Excl. ball probes and dial indicator or measuring probe.



Internal measuring instruments

Item No.	Measuring range/mm	Measuring depth/mm	Price EUR
852.625	8 - 12	100	
852.627	12 - 22	102	
852.629	22 - 55	110	
852.632	55 - 250	177	
852.636	100 - 510	235	
852.635	Adapter for ball probes (M1.6/M2.5)		
852.091	Adapter for ball probes (M2.5/M4)		

See for dial indicators the page "Schwenk precision dial indicators".

Item No.	Diameter mm	Thread	Price EUR
Set of ball probes (pair)¹ for 852.625:			
852.107	1	M1.6	
852.004	1.5	M1.6	
852.005	2	M1.6	
Set of ball probes (pair)¹ for 852.627:			
852.982	1	M1.6	
852.006	1.5	M1.6	
852.007	2	M1.6	
852.008	2.5	M1.6	
852.009	3	M1.6	
852.675	3.5	M1.6	
852.671	4	M1.6	
Set of ball probes (pair)¹ for 852.629:			
852.092	1	M2.5	
852.010	1.5	M2.5	
852.011	2	M2.5	
852.012	2.5	M2.5	
852.674	3	M2.5	
852.650	3.5	M2.5	
852.676	4	M2.5	
852.651	4.5	M2.5	
852.677	5	M2.5	
852.013	5.5	M2.5	
852.655	6	M2.5	
852.014	6.5	M2.5	
852.678	7	M2.5	
852.015	7.5	M2.5	
852.016	8	M2.5	
852.017	8.5	M2.5	
852.018	9	M2.5	
852.019	9.5	M2.5	
852.020	10	M2.5	
Set of ball probes (pair)¹ for 852.632/852.636:			
852.021	1	M4	
852.022	1.5	M4	
852.023	2	M4	
852.116	2.5	M4	
852.670	3	M4	
852.653	3.5	M4	
852.913	4	M4	
852.186	4.5	M4	
852.672	5	M4	
852.195	5.5	M4	
852.673	6	M4	
852.024	6.5	M4	
852.914	7	M4	
852.025	7.5	M4	
852.026	8	M4	
852.027	8.5	M4	
852.657	9	M4	
852.028	9.5	M4	
852.656	10	M4	

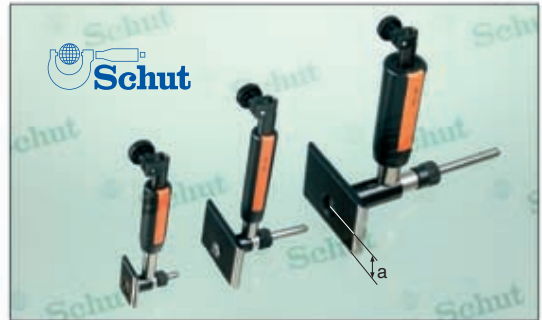
¹ Special sizes on request.

Schwenk Vario internal measuring instruments

The Vario internal measuring instruments come with an extra high centering bridge that gives a more stable alignment, which means that it is no longer necessary to look for the reversal point. Therefore, these internal measuring instruments are highly useful for serial inspection.

- Measuring range: 20 - 170 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.002 mm.
- Repeatability: ≤ 0.001 mm.
- Clamping shaft: $\varnothing 8$ mm.
- High self-centering and self-aligning bridge.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable probes supplied with tungsten carbide ball tip.
- Short handle.
- Delivery in a wooden case with measuring inserts and spacer rings.
- Excl. dial indicator or measuring probe.

Item No.	Measuring range/mm	a mm	Price EUR
852.610	20 - 35	21	
852.611	35 - 55	23	
852.612	50 - 80	24	
852.613	80 - 120	24	
852.614	120 - 170	30	



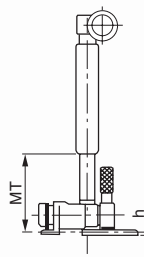
See for dial indicators the page "Schwenk precision dial indicators".

Schwenk internal measuring instruments for blind bores

These internal measuring instruments have been designed in such a way that they can measure the roundness and cylindricity of blind bores almost to the bottom. The adjustable measuring axis can be changed easily, and is equipped with graduations and gearing, so it can't move during measurement.

- Measuring range: 20 - 400 mm (up to 600 mm on request).
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: 20 - 60 mm: ≤ 0.004 mm,
50 - 400 mm: ≤ 0.0025 mm.
- Repeatability: ≤ 0.001 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering bridge.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable, adjustable measuring axes standard supplied with tungsten carbide ball tip.
- Fixed probe and interchangeable axes also available with ruby ball tip.
- Distance ball tips to bottom blind bores (h):
20 - 140 mm: 1.5 mm, 110 - 400 mm: 2.0 mm.
- Delivery in a wooden case with interchangeable axes.
- Excl. dial indicator or measuring probe.

Item No.	Measuring range/mm	MT mm	h mm	Price EUR
852.615	20 - 50	77	1.5	
852.616	20 - 60	77	1.5	
852.617	50 - 110	60	1.5	
852.618	50 - 140	60	1.5	
852.619	110 - 300	90	2.0	
852.620	110 - 400	90	2.0	

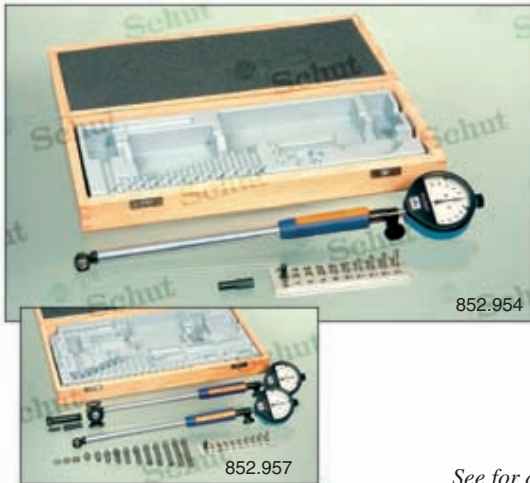


See for dial indicators the page "Schwenk precision dial indicators".

Schwenk Rabito internal measuring instruments

The design of the Rabito internal measuring instruments is based on Schwenk's well-proven principle, and has been developed to offer a high accuracy at a low price. Due to the robust construction very suited for use in the clean room as well as for batch measurements on the production floor.

- Measuring range: 18 - 150 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.004 mm.
- Repeatability: ≤ 0.002 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Travel: 1.4 mm (18 - 25 mm: 1.3 mm).
- Fixed and interchangeable measuring probes supplied with tungsten carbide ball tip.
- Item 852.957 consists of item 852.954, an extension up to 50 mm and item 852.956.
- Delivery in a wooden case with measuring inserts and spacer rings.
- Excl. dial indicator or measuring probe.



Item No.	Measuring range/mm	Measuring depth/mm	Price EUR
852.954	18 - 35	176	
852.955	35 - 60	178	
852.956	50 - 150	178	
852.957	18 - 150	178	

See for dial indicators the page "Schwenk precision dial indicators".

Schwenk internal measuring instruments/contourmeters

Internal measuring instruments to measure the cross-sections of round and not-round bores. The surface of the bores can either be smooth or rough.

- Measuring range: 14 - 330 mm.
- Graduation: 0.1 mm.
- Stainless steel strip.
- Tape width: 20 mm.
- Delivery in a plastic tube.
- Available on request:
 - for outer diameters,
 - with measuring report,
 - digital model (incl. display).



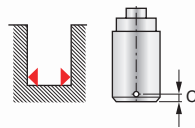
Item No.	Measuring range/mm	Price EUR
852.683	14 - 24	
852.684	22 - 40	
852.685	35 - 60	
852.697	55 - 100	
852.937	95 - 180	
852.991	170 - 255	
852.992	245 - 330	



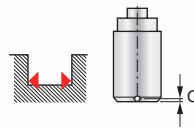
Marposs M1 Star internal bore gauges

The Marposs bore gauges are ideal for checking bores with high accuracy, even in the workshop. With the self-centering measuring heads control of e.g. diameters and ovality are easy to perform with high repeatability. The measuring heads are supplied based on the minimum value to be measured. Via an optional digital dial indicator measuring values can be exported to a PC for data analysis in for instance Microsoft Excel.

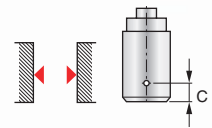
- Measuring range: 3 - 300 mm.
 - Read-out depends on the type of dial indicator or measuring probe.
 - Accuracy (L = measuring range):
 - 0 - 26 mm: $\pm(3\%L + 1 \mu\text{m})$,
 - 26 - 300 mm: $\pm(1\%L + 1 \mu\text{m})$.
 - Repeatability: ≤ 0.001 mm.
 - Clamping shaft: $\varnothing 8$ mm.
 - Tungsten carbide stylus tip.
 - Available for blind bores and through bores.
- Excl. dial indicator or measuring probe.
 - Special-purpose gauge heads and extensions available on request.
 - Also available with stylus tip for $RA \geq 2 \mu\text{m}$.
 - Several accessories available.



Standard



Blind bores



Through bores

Measuring heads

Diameter mm	Thread	C mm	Measuring range/mm	Price EUR	C mm	Measuring range/mm	Price EUR	C mm	Measuring range/mm	Price EUR
3 - 4	M3.5	2.5	0.055		1	0.055		—	—	—
4 - 4.5	M3.5	2.5	0.055		1	0.055		—	—	—
4.5 - 5.5	M3.5	2.5	0.070		1	0.070		6	0.070	
5.5 - 7.5	M3.5	3	0.120		1	0.120		6	0.120	
7.5 - 9.5	M3.5	3	0.120		1	0.120		6	0.120	
9.5 - 15	M6	3	0.120		1	0.120		6	0.120	
15 - 20	M6	3	0.120		1	0.120		6	0.120	
20 - 26	M6	3.5	0.120		1	0.120		6	0.120	
26 - 40	M10	3.5	0.150		1	0.150		6	0.150	
40 - 50	M10	3.5	0.150		1	0.150		8	0.150	
50 - 60	M10	3.5	0.150		1	0.150		8	0.150	
60 - 70	M10	3.5	0.150		1	0.120		8	0.150	
70 - 80	M10	3.5	0.150		1	0.120		8	0.150	
80 - 90	M10	3.5	0.150		1	0.120		8	0.150	
90 - 100	M10	3.5	0.150		1	0.120		8	0.150	

Larger sizes available on request.

Item No.	Description	Price EUR
880.000	M1 Star handle with M3.5 thread	
880.001	M1 Star handle with M6 thread	
880.002	M1 Star handle with M10 thread	
880.003	M1 Star handle with M3.5 thread compact	
880.004	M1 Star handle with M6 thread compact	
880.005	M1 Star handle with M10 thread compact	
Options:		
880.007	Dial indicator protector depth 39 mm	
880.006	Dial indicator protector depth 52 mm	
880.008	Adapter M3.5 for M6 handle	
880.009	Adapter M3.5 for M10 handle	
880.010	Adapter M6 for M10 handle	



Marposs I-Wave2

The I-Wave2 is an innovative, wireless measuring instrument with integrated 1.8" TFT color display with direct display of the measured value and graphic tolerance evaluation. This digital version is extra accurate thanks to a linearized internal measuring probe. The same measuring heads and advantages as the Marposs M1 Star are applied. The measured values can be saved in the most popular formats such as csv, txt, etc. via the bluetooth function with the Ready2Gauge app.

- Resolution: 0.0001 mm.
- Repeatability: $\leq 1 \mu\text{m}$.
- Linear deviation: 0.0003 mm / 5 mm.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Hold function.
- Reversible measuring direction.
- Adjustable tolerance limits.
- Protection: IP67.
- 1.8" clear TFT color display with automatic rotation.
- Bluetooth for wireless data transfer.
- Software for Windows (7 and 10) and app for Android and iOS available as download.
- Power supply: rechargeable Li-ion battery included (required inductive charger, power supply and power cable excluded).

Also available:

- Models with Star Lock quick change system,
- Measuring heads for various internal measurements,
- Measuring heads for external diameters,
- Angle adapters,
- Extensions,
- Depth stops.



Item No.	Description	Price EUR
880.011	Iwave 2 Handle with M3.5 thread	
880.012	Iwave 2 Handle with M6 thread	
880.013	Iwave 2 Handle with M10 thread	
880.014	Inductive charger	
880.015	Power supply	
880.016	Power cable	
Options:		
880.017	Adapter M3.5 for Iwave 2	
880.018	Adapter M6 for Iwave 2	
880.019	Adapter M10 for Iwave 2	
880.020	Bluetooth Dongle	

Many optional accessories are available on request.

Mitutoyo setting instrument for internal measuring instruments

This instrument offers you the best way to accurately set the zero position of your internal measuring instruments with dial indicator. Gauge blocks are used to set the exact reference value. The special mounting holes assure that the centering device of the micrometer also functions when in use on this instrument, making the checking just as easy as measuring.

The complete instrument (excl. gauge blocks) consists of:

- 1 stand with double guidance, for measuring ranges up to 400 mm,
 - 1 receiver for measuring ranges 18 - 35 and 35 - 60 mm,
 - 1 receiver for measuring ranges 50 - 100 and 100 - 160 mm,
 - 1 receiver for measuring ranges 100 - 250 and 250 - 400 mm,
 - 2 flat measuring jaws.
- Delivery in a wooden box.



Item No.	Adjustment range/mm	Price EUR
515.590	18 - 400	



Mitutoyo setting instruments for stick micrometers

This instrument has been especially developed for the calibration of stick micrometers. It consists of a step gauge with ceramic gauge blocks, two clamping elements with V-shaped supports and two 10 mm ceramic gauge blocks.

The ceramic gauge blocks can be clamped to the step gauge at any desired distance of each other. In that way the stick micrometer that has to be checked rests perfectly aligned on the V-shaped supports and touches the gauge blocks with its measuring points. Only suited for mechanical stick micrometers.

- Adjustment range: 25 - 600 mm.
- Increment: 25 mm.
- Max. deviation: 25 - 300 mm: 0.003 mm,
300 - 600 mm: 0.005 mm.
- Conforms to factory standard.



515.585

Item No.	Adjustment range/mm	Price EUR
515.585	25 - 300	
515.586	25 - 600	

Setting instrument for internal measuring instruments

This instrument offers you the best way to accurately set the zero position of your internal measuring instruments with dial indicator. Gauge blocks are used to set the exact reference value. The special mounting hole assures that the centering device of the micrometer also functions when in use on this instrument, making the checking just as easy as measuring.

- Adjustment range: 18 - 400 mm.
- The setting instrument consists of a stand with double guidance and a flat measuring jaw.
- Excl. gauge blocks.
- Delivery in a wooden box.



Item No.	Adjustment range/mm	Price EUR
907.877	18 - 400	

Setting gauges for inside micrometers

Used for setting of inside micrometers.

- Measuring range: 50 - 275 mm.
- Delivery in a wooden case.



Item No.	Length mm	Accuracy mm	Parallelism mm	Price EUR
910.005	50	± 0.003	0.003	
910.006	75	± 0.004	0.004	
910.007	100	± 0.005	0.005	
910.008	150	± 0.005	0.005	
910.009	200	± 0.005	0.005	
910.010	250	± 0.005	0.005	
910.011	275	± 0.005	0.005	

Stick micrometers

- Measuring range: 50 - 600 mm.
- Graduation: 0.01 mm.
- Locking screw (except 906.078).
- Spherical tungsten carbide measuring faces: $\varnothing 8 \times 8$ mm (906.078/079: $\varnothing 9 \times 2.5$ mm).
- With insulating grips (only 906.083 - 906.099).
- Delivery in a wooden case.
- Excl. setting gauge.



906.080



906.096



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.078	50 - 75	±0.006	
906.079	75 - 100	±0.006	
906.080	100 - 125	±0.006	
906.081	125 - 150	±0.008	
906.082	150 - 175	±0.008	
906.083	175 - 200	±0.008	
906.084	200 - 225	±0.009	
906.085	225 - 250	±0.009	
906.086	250 - 275	±0.009	
906.087	275 - 300	±0.009	
906.088	300 - 325	±0.009	

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.089	325 - 350	±0.009	
906.090	350 - 375	±0.010	
906.091	375 - 400	±0.010	
906.092	400 - 425	±0.010	
906.093	425 - 450	±0.010	
906.094	450 - 475	±0.011	
906.095	475 - 500	±0.011	
906.096	500 - 525	±0.011	
906.097	525 - 550	±0.011	
906.098	550 - 575	±0.011	
906.099	575 - 600	±0.012	

Stick micrometer sets

- Measuring range: 50 - 5000 mm.
- Measuring range micrometer:
 906.911 - 906.917: 50- 63 mm,
 906.918: 150- 175 mm,
 906.919 - 906.923: 1000- 1050 mm.
- Graduation: 0.01 mm.
- Accuracy:
 906.911 - 906.918: $\pm(3+n+L/50) \mu\text{m}$,
 906.919 - 906.923: $\pm(7+n+L/50) \mu\text{m}$
 (n = number of extensions,
 L = max. measuring length in mm).
- Locking screw.
- Spherical tungsten carbide measuring faces.
- With insulating grips
 (only 906.918 - 906.923).
- External diameter micrometer/extensions:
 906.911 - 906.917: 15.5 mm,
 906.918: 22 mm,
 906.919 - 906.923: 28 mm.
- Incl. setting gauge
 (only 906.911 - 917: 50 mm,
 906.918: 150 mm).
- Delivery in a wooden case.



906.918

Item No.	Measuring range/mm	Number of extensions	Price EUR
906.911*	50- 63	–	
906.912	50- 100	2	
906.913	50- 150	3	
906.914	50- 300	5	
906.915	50- 500	6	
906.916	50-1000	8	
906.917	50-1500	10	
906.918	150-2000	9	
906.919*	1000- 1050	–	
906.920	1000-2000	5	
906.921	1000-3000	6	
906.922	1000-4000	7	
906.923	1000-5000	8	



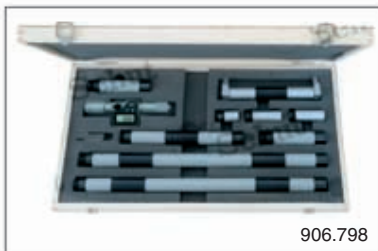
* Single instrument (without extensions).

Digital stick micrometer sets

- Measuring range: 150 - 2000 mm.
- Measuring range micrometer: 150 - 175 mm.
- Resolution: 0.001 mm.
- Locking screw.
- Spherical tungsten carbide measuring faces.
- With insulating grips
 (only 906.797 - 906.799).
- External diameter micrometer/extensions:
 22 mm.
- Incl. setting gauge: 150 mm.
- Delivery in a wooden case.



906.796



906.798



Item No.	Measuring range/mm	Number of extensions	Accuracy μm	Price EUR
906.796*	150- 175	–	6.5	
906.797	150-1000	6	29	
906.798	150-1500	8	41	
906.799	150-2000	9	52	

* Single instrument (without extensions).

Inside micrometers with interchangeable anvils

Screw thread micrometers for internal measurements of pitch diameters. The interchangeable anvils allow measurements of several kinds of screw thread.

- Measuring range: 75 - 300 mm.
- Graduation: 0.01 mm.
- Locking screw (125 - 300 mm).
- Insert shaft: $\varnothing 5$ mm.
- Delivery incl. setting gauge for metric thread, 60° flank angle.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
Inside micrometers without inserts:			
906.924	75 - 100	± 0.035	
906.925	100 - 125	± 0.035	
906.926	125 - 150	± 0.035	
906.927	150 - 175	± 0.035	
906.928	175 - 200	± 0.045	
906.929	200 - 225	± 0.045	
906.930	225 - 250	± 0.045	
906.931	250 - 275	± 0.045	
906.932	275 - 300	± 0.055	

Item No.	Threads per inch	Price EUR
Inserts for Whitworth threads, 55° flank angle, per pair:		
906.940	60 - 48	
906.941	48 - 40	
906.942	40 - 32	
906.944	32 - 24	
906.945	24 - 18	
906.946	18 - 14	
906.947	14 - 10	
906.948	10 - 7	
906.949	7 - 4.5	
906.950	4.5 - 3.5	
906.951	Set 60 - 3.5	

Item No.	Pitch/mm	Price EUR
Inserts for metric threads, 60° flank angle, per pair:		
906.933	0.4 - 0.5	
906.934	0.6 - 0.9	
906.935	1 - 1.75	
906.936	2 - 3	
906.937	3.5 - 5	
906.938	5.5 - 7	
906.939	Set 0.4 - 7	

Item No.	Threads per inch	Price EUR
Inserts for UN, UNC and UNF threads, 60° flank angle, per pair:		
906.952	64 - 48	
906.953	44 - 28	
906.954	24 - 14	
906.955	13 - 9	
906.956	8 - 5	
906.957	4.5 - 3.5	
906.958	Set 64 - 3.5	

Internal micrometers

Internal micrometers with special measuring jaws for measurements in hard-to-reach places.

- Measuring range: 5 - 200 mm.
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Tungsten carbide cylindrical measuring faces.
- Internal micrometers within measuring range 5 - 50 mm are delivered incl. setting ring.
- Delivery in a plastic case.

Analog

- Matt chrome-plated design.

Digital

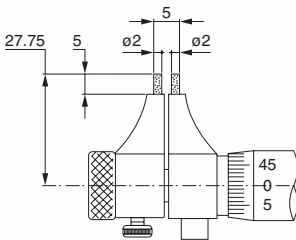
- mm/inch conversion.
- ABS/INC switchable.
- Automatic switch-off.
- Reset/preset.
- Power supply: 1 battery type V357.



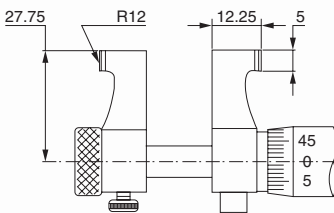
906.509



909.974



906.509 / 909.974



906.510-533 / 909.975-981



906.510-533 / 909.975-981

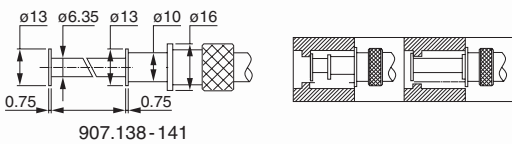
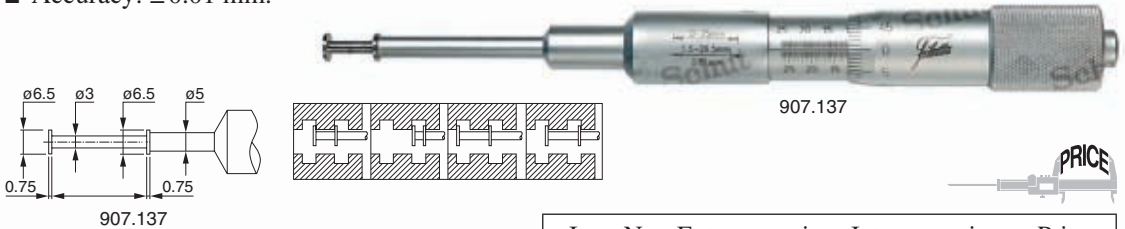


Item No.	Measuring range/mm	Accuracy mm	Price EUR
Analog:			
906.509	5- 30	±0.005	
906.510	25- 50	±0.006	
906.511	50- 75	±0.007	
906.512	75-100	±0.008	
906.530	100-125	±0.009	
906.531	125-150	±0.009	
906.532	150-175	±0.010	
906.533	175-200	±0.010	
Digital:			
909.974	5- 30	±0.005	
909.975	25- 50	±0.006	
909.976	50- 75	±0.007	
909.977	75-100	±0.008	
909.978	100-125	±0.009	
909.979	125-150	±0.009	
909.980	150-175	±0.010	
909.981	175-200	±0.010	
Option:			
836.535	Spare battery		

Groove micrometers

Micrometers for measuring e.g. steps in bores and internal cross grooves. With double graduation for internal and external measurements. By means of the disk-shaped measuring faces the wide, depth and location of grooves in bores can be determined.

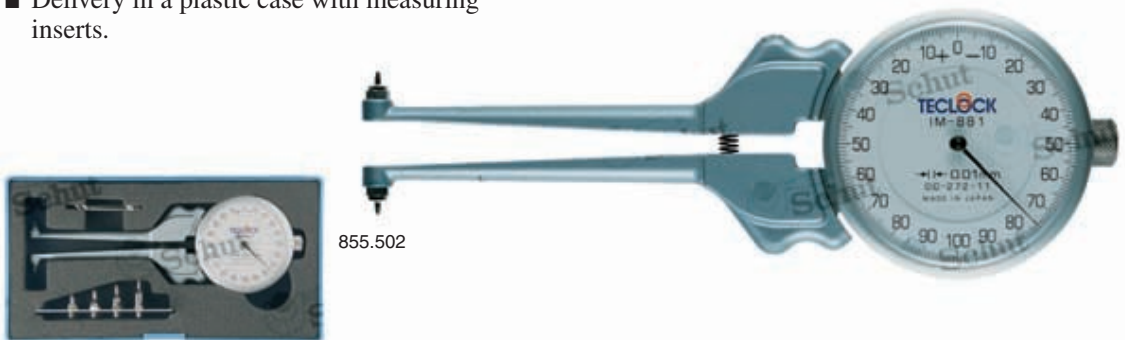
- Measuring range:
 - external measuring: 0 - 100 mm,
 - internal measuring: 1.6- 101.5 mm.
- Graduation: 0.01 mm.
- Accuracy: ± 0.01 mm.
- Diameter measuring faces:
 - 907.137: 6.5 mm,
 - 907.138-907.141: 13 mm.
- Double graduation.



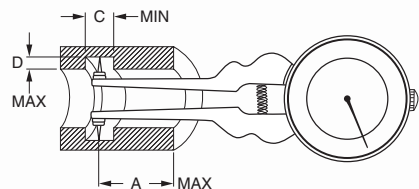
Item No.	Ext. measuring range/mm	Int. measuring range/mm	Price EUR
907.137	0- 25	1.6- 26.5	
907.138	0- 25	1.6- 26.5	
907.139	25- 50	26.5- 51.5	
907.140	50- 75	51.5- 76.5	
907.141	75- 100	76.5- 101.5	

Two-point internal measuring instruments

- Measuring range: 20- 150 mm.
- Graduation: 0.01 mm.
- Interchangeable measuring inserts.
- Delivery in a plastic case with measuring inserts.



Item No.	Measuring range/mm	A _{max} mm	C _{min} mm	D _{max} mm	Price EUR
855.501	20- 34	60	2	3	
855.502	30- 60	75	2.5	5	
855.503	55- 150	90	4	9	



Diatest crankshaft meters

- Measuring range: 45 - 500 mm.
- Graduation: 0.01 mm.
- Rotatable dial.

- Delivery in a wooden case with dial indicator, counter-weight and extensions.

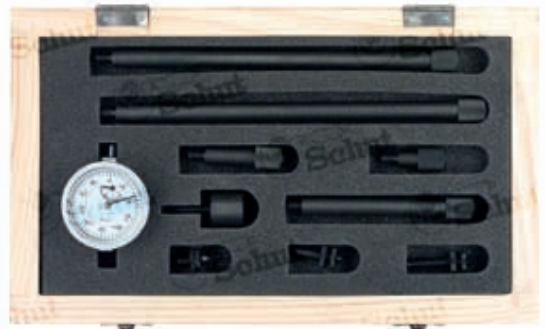


Item No.	Measuring range/mm	Price EUR
831.469	45 - 150	
831.470	60 - 300	
831.471	60 - 500	
Options:		
831.472	Separate dial indicator for 831.469	
831.473	Counterweight for 831.469	
831.474	Separate dial indicator for 831.470 and 831.471	
831.475	Counterweight for 831.470 and 831.471	



Crankshaft meters

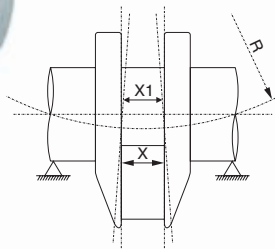
- Measuring range: 60 - 500 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Delivery in a wooden case with dial indicator, counter-weight and extensions.



907.919



907.917

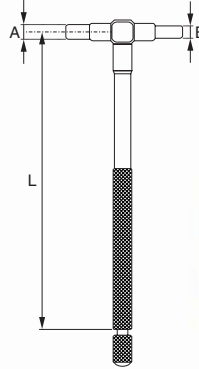
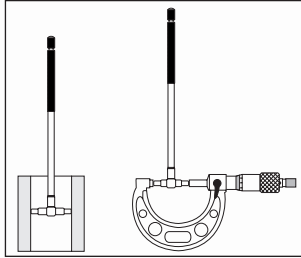


Item No.	Measuring range/mm	Price EUR
907.918	60 - 300	
907.919	60 - 500	
Option:		
907.917	Separate dial indicator	

Telescopic gauges

In places that are hard to reach with standard measuring instruments, you can use these telescopic gauges. The spring gauge is put into the bore and centers itself, after that you can turn on the locking screw. Then the gauge is pulled out and you can measure the result, for instance with a micrometer.

- Measuring range: 8 - 150 mm.
- Chrome finished.



Individual gauges

Item No.	Measuring range/mm	Dimensions/mm			Price EUR
		L	A	B	
906.604	8 - 12.7	102	4	3	
906.605	12.7 - 19	102	5	4	
906.606	19 - 32	102	5	4	
906.607	32 - 54	127	7.5	6	
906.608	54 - 90	127	7.5	6	
906.609	90 - 150	127	7.5	6	

Set of gauges

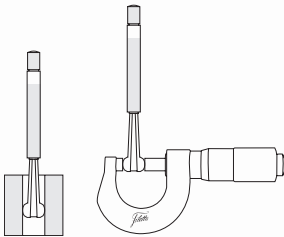
Item No.	Measuring range/mm	Price EUR
906.610	8 - 150	



Plug gauges for small bores (blind/through)

Ideal for measuring of small bores (blind and through) and grooves. The spring gauge is put into the bore and centers itself, after that you can turn on the locking screw. Then the gauge is pulled out and you can measure the result, for instance with a micrometer. Separate set for blind bores and through bores.

- Measuring range: 3 - 13 mm (4 gauges: 3-5 mm, 5-7.5 mm, 7.5-10 mm and 10-13 mm).
- Chrome finished.



Set of gauges

Item No.	Description	Price EUR
907.747	For blind bores	
907.748	For through bores	



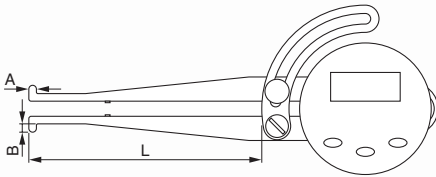
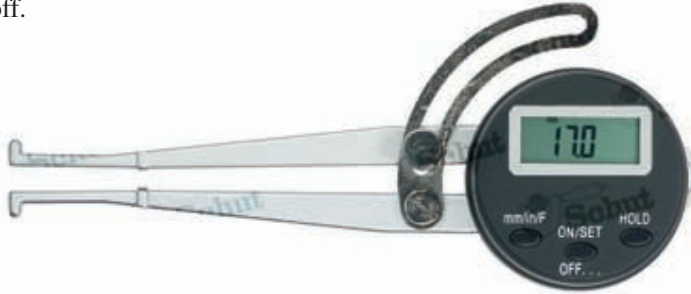
907.747



907.748

Digital internal measuring instrument

- Measuring range: 12.7 - 170 mm.
- Resolution: 0.1 mm.
- Accuracy: ± 0.2 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Hold function.
- Locking screw.
- Power supply: 1 battery type CR2032.



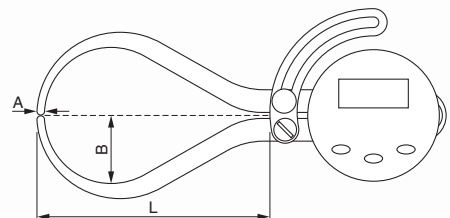
Item No.	Measuring range/mm	Length/mm			Price EUR
		L	A	B	
909.409	12.7-170	85	3	3	
Option: 495.157 Spare battery					

Digital external measuring instrument

- Measuring range: 0 - 160 mm.
- Resolution: 0.1 mm.
- Accuracy: ± 0.2 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Hold function.
- Locking screw.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Length/mm			Price EUR
		L	A	B	
909.408	0-160	85	3	25	
Option: 495.157 Spare battery					



Digital internal measuring instruments

Digital internal measuring instruments for measurements of bores, internal grooves and other hard-to-reach places.

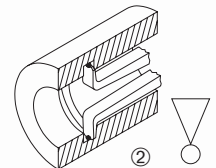
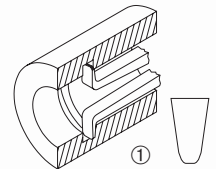
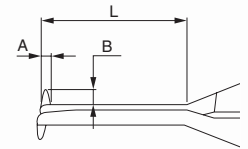
- Measuring range: 5 - 60 mm.
- Resolution: 0.005 mm. Digital-analog display changes automatically between 0.01, 0.02 and 0.05 mm (± 20 scale divisions).
- mm/inch conversion.
- ABS/INC switchable.
- Large LCD display, 340° rotatable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Hold and min/max functions.
- Adjustable tolerance limits.
- Measuring faces with different contact points.
- Delivery in an aluminum case.
- Power supply: 1 battery type CR2032.



908.810



Item No.	Measuring range/mm	Accuracy mm	Length/mm			Contact point/mm	Price EUR
			L	A	B		
Range 10 mm:							
908.810	5 - 15	± 0.02	20	1	1.5	① R 0.3	
908.811	10 - 20	± 0.02	25	1.5	3.0	① R 0.3	
908.812	20 - 30	± 0.02	30	2	6.5	① R 0.5	
908.813	30 - 40	± 0.02	30	2.5	9.0	① R 0.5	
908.814	40 - 50	± 0.02	30	2.5	9.0	① R 0.5	
908.816	10 - 20	± 0.02	25	1.5	3.0	② $\varnothing 1.5$	
908.817	20 - 30	± 0.02	30	2	6.5	② $\varnothing 1.5$	
908.818	30 - 40	± 0.02	30	2.5	9.0	② $\varnothing 1.5$	
908.819	40 - 50	± 0.02	30	2.5	9.0	② $\varnothing 1.5$	
Range 20 mm:							
908.820	5 - 25	± 0.03	35	1	1.5	① R 0.3	
908.821	10 - 30	± 0.03	55	2	3.5	① R 0.5	
908.822	20 - 40	± 0.03	80	3	6.5	① R 0.5	
908.823	30 - 50	± 0.03	80	3	8.5	① R 0.5	
908.824	40 - 60	± 0.03	80	3	8.5	① R 0.5	
908.826	10 - 30	± 0.03	55	2	3.5	② $\varnothing 1.5$	
908.827	20 - 40	± 0.03	80	3	6.5	② $\varnothing 1.5$	
908.828	30 - 50	± 0.03	80	3	8.5	② $\varnothing 1.5$	
908.829	40 - 60	± 0.03	80	3	8.5	② $\varnothing 1.5$	
Option:							
495.157	Spare battery						



Internal measuring instruments

Internal measuring instruments for measurements of bores, internal grooves and other hard-to-reach places.

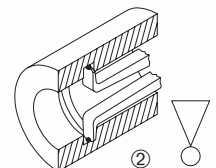
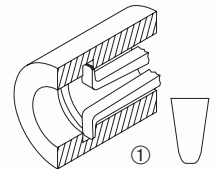
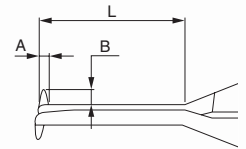
- Measuring range: 5 - 60 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Measuring faces with different contact points.
- Delivery in an aluminum case.



908.830



Item No.	Measuring range/mm	Accuracy mm	Length/mm			Contact point/mm	Price EUR
			L	A	B		
Range 10 mm:							
908.830	5 - 15	±0.02	20	1	1.5	① R 0.3	
908.831	10 - 20	±0.02	25	1.5	3.0	① R 0.3	
908.832	20 - 30	±0.02	30	2	6.5	① R 0.5	
908.833	30 - 40	±0.02	30	2.5	9.0	① R 0.5	
908.834	40 - 50	±0.02	30	2.5	9.0	① R 0.5	
908.836	10 - 20	±0.02	25	1.5	3.0	② ø1.5	
908.837	20 - 30	±0.02	30	2	6.5	② ø1.5	
908.838	30 - 40	±0.02	30	2.5	9.0	② ø1.5	
908.839	40 - 50	±0.02	30	2.5	9.0	② ø1.5	
Range 20 mm:							
908.840	5 - 25	±0.03	35	1	1.5	① R 0.3	
908.841	10 - 30	±0.03	55	2	3.5	① R 0.5	
908.842	20 - 40	±0.03	80	3	6.5	① R 0.5	
908.843	30 - 50	±0.03	80	3	8.5	① R 0.5	
908.844	40 - 60	±0.03	80	3	8.5	① R 0.5	
908.846	10 - 30	±0.03	55	2	3.5	② ø1.5	
908.847	20 - 40	±0.03	80	3	6.5	② ø1.5	
908.848	30 - 50	±0.03	80	3	8.5	② ø1.5	
908.849	40 - 60	±0.03	80	3	8.5	② ø1.5	



Digital external measuring instruments

Digital external measuring instruments for measurements of external grooves, axis diameters, wall thicknesses and other hard-to-reach places.

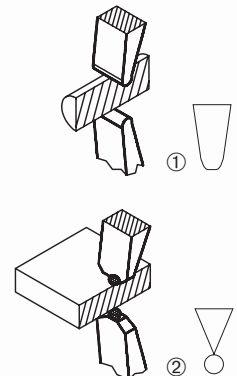
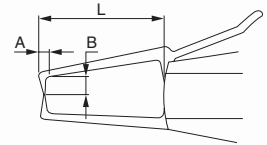
- Measuring range: 0-60 mm.
- Resolution: 0.005 mm. Digital-analog display changes automatically between 0.01, 0.02 and 0.05 mm (± 20 scale divisions).
- mm/inch conversion.
- ABS/INC switchable.
- Large LCD display, 340° rotatable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Hold and min/max functions.
- Adjustable tolerance limits.
- Measuring faces with different contact points.
- Delivery in an aluminum case.
- Power supply: 1 battery type CR2032.



908.850



Item No.	Measuring range/mm	Accuracy mm	Length/mm			Contact point/mm	Price EUR
			L	A	B		
Range 10 mm:							
908.850	0-10	± 0.02	40	3	8	① R 0.5	
908.851	10-20	± 0.02	40	3	8	① R 0.5	
908.852	20-30	± 0.02	40	3	8	① R 0.5	
908.853	30-40	± 0.02	40	3	8	① R 0.5	
908.854	40-50	± 0.02	40	3	8	① R 0.5	
908.855	0-10	± 0.02	40	3	8	② $\phi 1.5$	
908.856	10-20	± 0.02	40	3	8	② $\phi 1.5$	
908.857	20-30	± 0.02	40	3	8	② $\phi 1.5$	
908.858	30-40	± 0.02	40	3	8	② $\phi 1.5$	
908.859	40-50	± 0.02	40	3	8	② $\phi 1.5$	
Range 20 mm:							
908.860	0-20	± 0.03	80	6.5	25	① R 0.75	
908.861	10-30	± 0.03	80	6.5	25	① R 0.75	
908.862	20-40	± 0.03	80	6.5	25	① R 0.75	
908.863	30-50	± 0.03	80	6.5	25	① R 0.75	
908.864	40-60	± 0.03	80	6.5	25	① R 0.75	
908.865	0-20	± 0.03	80	6.5	25	② $\phi 1.5$	
908.866	10-30	± 0.03	80	6.5	25	② $\phi 1.5$	
908.867	20-40	± 0.03	80	6.5	25	② $\phi 1.5$	
908.868	30-50	± 0.03	80	6.5	25	② $\phi 1.5$	
908.869	40-60	± 0.03	80	6.5	25	② $\phi 1.5$	
Option:							
495.157	Spare battery						



External measuring instruments

External measuring instruments for measurements of external grooves, axis diameters, wall thicknesses and other hard-to-reach places.

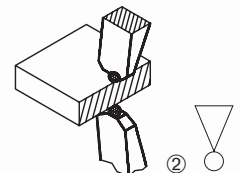
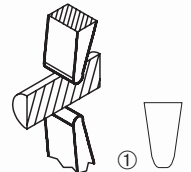
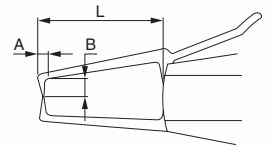
- Measuring range: 0-60 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Measuring faces with different contact points.
- Delivery in an aluminum case.



908.870



Item No.	Measuring range/mm	Accuracy mm	Length/mm			Contact point/mm	Price EUR
			L	A	B		
Range 10 mm:							
908.870	0-10	±0.02	40	3	8	① R 0.5	
908.871	10-20	±0.02	40	3	8	① R 0.5	
908.872	20-30	±0.02	40	3	8	① R 0.5	
908.873	30-40	±0.02	40	3	8	① R 0.5	
908.874	40-50	±0.02	40	3	8	① R 0.5	
908.875	0-10	±0.02	40	3	8	② ø 1.5	
908.876	10-20	±0.02	40	3	8	② ø 1.5	
908.877	20-30	±0.02	40	3	8	② ø 1.5	
908.878	30-40	±0.02	40	3	8	② ø 1.5	
908.879	40-50	±0.02	40	3	8	② ø 1.5	
Range 20 mm:							
908.880	0-20	±0.03	80	6.5	25	① R 0.75	
908.881	10-30	±0.03	80	6.5	25	① R 0.75	
908.882	20-40	±0.03	80	6.5	25	① R 0.75	
908.883	30-50	±0.03	80	6.5	25	① R 0.75	
908.884	40-60	±0.03	80	6.5	25	① R 0.75	
908.885	0-20	±0.03	80	6.5	25	② ø 1.5	
908.886	10-30	±0.03	80	6.5	25	② ø 1.5	
908.887	20-40	±0.03	80	6.5	25	② ø 1.5	
908.888	30-50	±0.03	80	6.5	25	② ø 1.5	
908.889	40-60	±0.03	80	6.5	25	② ø 1.5	



Krœplin digital internal and external measuring instruments

Krœplin's new generation of QuickTest measuring instruments has a compact, ergonomical design. The digital-analog display makes read-out easier. Now with wireless rechargeable battery and Bluetooth data interface.

- Measuring range: 0-25 mm.
- Resolution: 0.001, 0.002, 0.005, 0.01, 0.02 or 0.05 mm, adjustable.
- mm/inch conversion.
- ABS/INC switchable.
- Mitutoyo Digimatic, Mitutoyo U-WAVE, USB or Bluetooth data outputs optionally available.
- With tolerance display by means of red/green LED.
- Hold and min/max functions.
- Bluetooth: up to 8 gauges simultaneously.
- Automatic switch-off.
- Storage for 100 measuring values.
- Reset/preset.
- Protection: IP67.
- Wireless charging.
- Delivery with a manufacturer measuring report and charging pad.
- Power supply: rechargeable li-polymer battery.



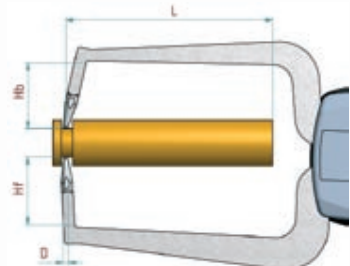
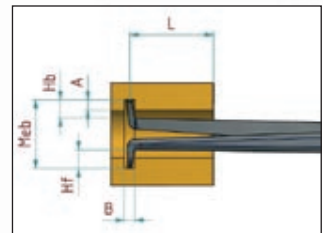
Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Repeatability mm	Price EUR
Internal measuring instruments:					
854.066	2.5 - 12.5	0.001	±0.01	0.005	
854.067	5 - 20	0.001	±0.01	0.005	
854.068	10 - 25	0.001	±0.01	0.005	
External measuring instruments:					
854.069	0 - 15	0.001	±0.01	0.005	
854.070	0 - 15	0.001	±0.015	0.005	
Options:					
854.071	Digimatic interface				
965.013 ¹	Digimatic cable				
206.380 ¹	USB cable				
102.790 ¹	U-WAVE cable				
854.072 ²	Bluetooth interface adapter				
854.073	Bluetooth PC dongle				
854.074	Wooden case				

¹ For data output the Digimatic interface and cable are needed.

² Bluetooth interface adapter is delivered with a Bluetooth PC dongle (854.073).

Item No.	Meas. depth L/mm	Groove depth A/mm	Groove width B/mm	Type of insert	Insert length Hb/mm	Insert length Hf/mm
854.066	12	0.7	0.6	① R0.12	0.9	0.9
854.067	44	2.2	0.8	② ø0.6	2.2	2.2
854.068	46	4	1.5	② ø1	4.4	4.4
854.069	45	-	-	③ ø1.5	17	17
854.070	45	-	-	④ R0.4	12	12

See for ① and ②: ① and ② on the page "Overview Krœplin internal measuring instruments".
See for ③ and ④: ① and ② on the page "Overview Krœplin external measuring instruments".



Krœplin digital internal measuring instruments

Krœplin's new generation of quickest measuring instruments has a compact, ergonomical design. The digital-analog display makes read-out easier.

- Measuring range: 2.5 - 200 mm.
- Resolution: 0.001, 0.002, 0.005, 0.01, 0.02 or 0.05 mm, adjustable.
- mm/inch conversion.
- ABS/INC switchable.
- Mitutoyo Digimatic, Mitutoyo U-WAVE, Bluetooth and USB data outputs optionally available.
- Automatic switch-off.
- Storage for 100 measuring values.
- Reset/preset.
- With tolerance display by means of red/green LED.
- Hold and min/max functions.
- Protection: IP67.
- Delivery with a manufacturer measuring report.
- Power supply: 2 batteries type AAA.



854.915

Item No.	Measuring range/mm	Accuracy mm	Repeatability mm	Price EUR
854.913 ^①	2.5 - 12.5	±0.015	0.005	
854.914 ^①	5 - 15	±0.015	0.005	
854.915 ^①	10 - 30	±0.03	0.01	
854.916 ^①	20 - 40	±0.03	0.01	
854.917 ^①	30 - 50	±0.03	0.01	
854.918 ^①	40 - 60	±0.03	0.01	
854.919 ^①	50 - 70	±0.03	0.01	
854.920 ^①	60 - 80	±0.03	0.01	
854.921 ^①	70 - 90	±0.03	0.01	
854.960 ^①	80 - 100	±0.03	0.01	
854.012 ^②	13 - 43	±0.04	0.02	
854.013 ^②	30 - 60	±0.04	0.02	
854.014 ^②	50 - 80	±0.04	0.02	
854.015 ^②	70 - 100	±0.04	0.02	
854.016 ^②	90 - 120	±0.04	0.02	
854.017 ^②	15 - 65	±0.05	0.03	
854.018 ^②	40 - 90	±0.05	0.03	
854.042 ^②	70 - 120	±0.05	0.03	
854.100 ^②	100 - 150	±0.05	0.03	
854.700 [*]	150 - 200	±0.05	0.03	
Options:				
497.914	Spare battery type AAA			
854.952 ¹	Interface			
965.013 ¹	Digimatic cable			
206.380 ¹	USB cable			
102.790 ¹	U-WAVE cable			
854.092 ²	Bluetooth interface adapter (only K and L series)			
854.073	Bluetooth PC dongle			
854.113 ^③	Wooden case (only K and L series)			
854.084 ^②	Wooden case (only K and L series)			



854.113

For specifications refer to the Krœplin internal measuring instruments overview.

¹ For data output an interface and cable are needed.

² Bluetooth interface adapter is delivered with a Bluetooth PC dongle (854.073).

^{*} Delivery incl. wooden case.

Kröplin internal measuring instruments Intertest

Measuring instruments for accurate and reliable measurements of internal dimensions.

- Measuring range: 2.5- 430 mm.
- Graduation: 0.005, 0.01, 0.05, 0.1 or 0.2 mm.
- Very fine tolerances on the various parts.
- Impact and shock-resistant housing.
- Dust and drip proof.
- Damped movement of the measuring arm.
- Adjustable tolerance markers.
- Protection: IP65.
- Delivery with a manufacturer measuring report.



854.922



854.924

Item No.	Meas. range mm	Graduation mm	Accuracy mm	Repeatability mm	Price EUR
854.922 [®]	2.5- 12.5	0.005	±0.015	0.005	
854.923 [®]	5- 15	0.005	±0.015	0.005	
854.924 [®]	10- 30	0.01	±0.03	0.01	
854.925 [®]	20- 40	0.01	±0.03	0.01	
854.926 [®]	30- 50	0.01	±0.03	0.01	
854.927 [®]	40- 60	0.01	±0.03	0.01	
854.928 [®]	50- 70	0.01	±0.03	0.01	
854.929 [®]	60- 80	0.01	±0.03	0.01	
854.930 [®]	70- 90	0.01	±0.03	0.01	
854.931 [®]	80- 100	0.01	±0.03	0.01	
854.019 [®]	15- 65	0.05	±0.05	0.025	
854.020 [®]	40- 90	0.05	±0.05	0.025	
854.021 [®]	70- 120	0.05	±0.05	0.025	
854.022 [®]	100- 150	0.05	±0.05	0.025	
854.023 [*]	130- 180	0.05	±0.05	0.025	
854.024 [*]	150- 200	0.05	±0.05	0.025	
854.227 [*]	50- 150	0.1	±0.15	0.1	
854.228 [*]	70- 170	0.1	±0.15	0.1	
854.361 [*]	90- 190	0.1	±0.3	0.1	
854.360 [*]	150- 250	0.1	±0.3	0.1	
854.362 [*]	200- 400	0.2	±0.4	0.2	

Options:

- 859.233[®] Wooden case
- 854.098[®] Wooden case

* Delivery incl. wooden case.

For specifications refer to the Kröplin internal measuring instruments overview.



859.233

Item No.	Meas. range mm	Graduation mm	Accuracy mm	Repeatability mm	Price EUR
854.932 [*]	50- 100	0.01	±0.03	0.015	
854.933 [*]	90- 140	0.01	±0.03	0.015	
854.957 [*]	130- 180	0.01	±0.03	0.015	
854.025 [*]	180- 310	0.05	±0.1	0.05	
854.026 [*]	300- 430	0.05	±0.15	0.05	

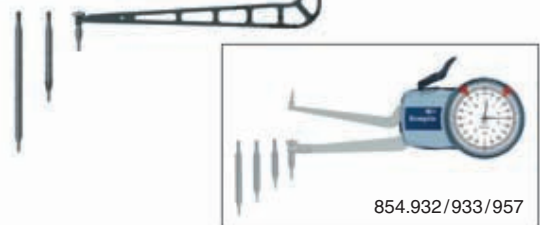
* Delivery incl. wooden case.



Types of inserts



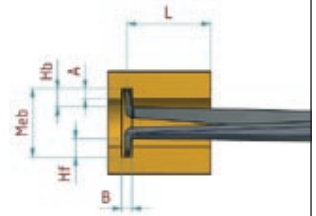
854.025/026



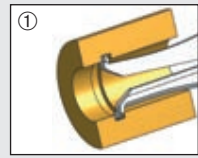
854.932/933/957

Overview Kroeplin internal measuring instruments

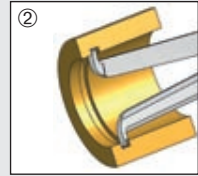
Item No.	Measuring range mm	Meas. depth L/mm	Groove depth A/mm	Groove width B/mm	Type of insert	Insert length/mm Hb Hf	
Digital internal measuring instruments:							
854.913	2.5 - 12.5	12	0.7	0.5	① R0.12	0.9	0.9
854.914	5 - 15	35	2.3	0.8	② ϕ 0.6	2.5	2.5
854.915	10 - 30	85	5.2	1.5	② ϕ 1	5.3	5.3
854.916	20 - 40	85	7	1.5	② ϕ 1	7.3	7.3
854.917	30 - 50	85	7	1.5	② ϕ 1	7.3	7.3
854.918	40 - 60	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.919	50 - 70	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.920	60 - 80	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.921	70 - 90	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.960	80 - 100	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.012	13 - 43	127	5.7	1.6	② ϕ 1.3	5.9	5.9
854.013	30 - 60	132	6.2	1.8	③ ϕ 1.5	6.5	6.5
854.014	50 - 80	132	8.3	2.5	③ ϕ 2	8.5	8.5
854.015	70 - 100	132	8.3	2.5	③ ϕ 2	8.5	8.5
854.016	90 - 120	132	8.3	2.5	③ ϕ 2	8.5	8.5
854.017	15 - 65	188	5.5	2	② ϕ 1.5	6	6
854.018	40 - 90	192	8.3	2.5	③ ϕ 2	8.5	8.5
854.042	70 - 120	192	8.3	2.5	③ ϕ 2	8.5	8.5
854.100	100 - 150	192	8.3	2.4	③ ϕ 2	8.5	8.5
854.700	150 - 200	192	8.3	2.4	③ ϕ 2	8.5	8.5
Internal measuring instruments Interest:							
854.922	2.5 - 12.5	12	0.7	0.5	① R0.12	0.9	0.9
854.923	5 - 15	35	2.3	0.8	② ϕ 0.6	2.5	2.5
854.924	10 - 30	85	5.2	1.5	② ϕ 1	5.3	5.3
854.925	20 - 40	85	7	1.5	② ϕ 1	7.3	7.3
854.926	30 - 50	85	7	1.5	② ϕ 1	7.3	7.3
854.927	40 - 60	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.928	50 - 70	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.929	60 - 80	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.930	70 - 90	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.931	80 - 100	85	8.3	1.5	③ ϕ 1	8.5	8.5
854.019	15 - 65	188	5.5	2	② ϕ 1.5	6	6
854.020	40 - 90	192	8.3	2.5	③ ϕ 2	8.5	8.5
854.021	70 - 120	192	8.3	2.5	③ ϕ 2	8.5	8.5
854.022	100 - 150	192	8.3	2.4	③ ϕ 2	8.5	8.5
854.023	130 - 180	192	8.3	2.4	③ ϕ 2	8.5	8.5
854.024	150 - 200	192	8.3	2.4	③ ϕ 2	8.5	8.5
854.227	50 - 150	395	3	5.5	④ ϕ 5	4	4
854.228	70 - 170	395	13	5.5	④ ϕ 5	14	14
854.361	90 - 190	535	12	5.5	④ ϕ 5	13	13
854.360	150 - 250	535	29	5.5	④ ϕ 5	30	30
854.362	200 - 400	720	28	21	⑤ SR20	29	29
Item No.	Measuring range mm	Number of inserts	Measuring range per insert/mm	Meas. depth L/mm	Type of insert	Insert length/mm Hb Hf	
Internal measuring instruments Interest:							
854.932	50 - 100	4	20	85	③ ϕ 1	12	21/31/41/51
854.933	90 - 140	4	20	85	③ ϕ 1	12	21/31/41/51
854.957	130 - 180	4	20	85	③ ϕ 1	12	21/31/41/51
854.025	180 - 310	3	50	170	③ ϕ 2	21	20/60/100
854.026	300 - 430	3	50	170	③ ϕ 2	21	20/60/100



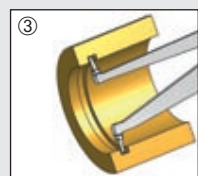
Types of inserts



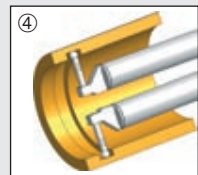
①
R=0.1 mm



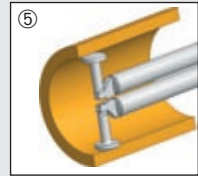
②
TC-ball
 ϕ 0.6, 1, 1.3 or 1.5 mm



③
TC-ball ϕ 1 or 2 mm



④
 ϕ 5 mm



⑤
SR 20 mm

Wooden cases for Kröplin internal and external measuring instruments

Wooden cases of high quality with foam inlay for Kröplin internal and external measuring instruments. For more information please contact our sales department.



Item No.	Description	Price EUR
854.113	Wooden case for K1..., K2..., L1..., L2.. models	
854.084	Wooden case for K3..., K4..., L3..., L4.. models	
859.233	Wooden case for C1..., C2..., D1..., D2..., G1..., G2..., H1..., H2.. models	
854.098	Wooden case for C3..., C4..., D4..., G3..., G4..., H4.. models	
854.074	Wooden case for C0..., G0.. models	

Holders for Kröplin internal and external measuring instruments

These holders are intended for mounting Kröplin internal and external measuring instruments in your measurement setup. With the $\varnothing 8$ mm clamping shank, these holders can be used with most dial indicator stands. For these stands see dial indicator stands elsewhere in the catalog. For more information please contact our sales department.



Item No.	Description	Price EUR
854.725	Holder for K and L models	
854.850	Holder for C1..., C2..., D1..., D2..., G1..., G2..., H1..., H2.. models	
854.711	Holder for C3..., C4..., D4..., G3..., G4..., H4.. models	
854.980	Holder for C0..., G0.. models	

Krœplin digital external measuring instruments

Krœplin's new generation of QuickTest measuring instruments has a compact, ergonomic design. The digital-analog display makes read-out easier.

- Measuring range: 0- 50 mm.
- Resolution: 0.001, 0.002, 0.005, 0.01, 0.02 or 0.05 mm, adjustable.
- mm/inch conversion.
- ABS/INC switchable.
- Mitutoyo Digimatic, Mitutoyo U-WAVE, Bluetooth and USB data outputs optionally available.
- Automatic switch-off.
- Storage for 100 measuring values.
- Reset/preset.
- With tolerance display by means of red/green LED.
- Hold and min/max functions.
- Protection: IP67.
- Delivery with a manufacturer measuring report.
- Power supply: 2 batteries type AAA.



854.908

Item No.	Measuring range/mm	Accuracy mm	Repeatability mm	Price EUR
854.905 ^①	0- 10	±0.015	0.005	
854.961 ^①	0- 10	±0.015	0.005	
854.906 ^①	0- 10	±0.02	0.005	
854.907 ^①	0- 10	±0.015	0.005	
854.962 ^①	0- 10	±0.015	0.005	
854.908 ^①	0- 20	±0.03	0.01	
854.963 ^①	0- 20	±0.03	0.01	
854.955 ^①	0- 20	±0.04	0.01	
854.950 ^①	0- 20	±0.03	0.01	
854.956 ^①	0- 20	±0.03	0.01	
854.027 ^②	0- 30	±0.04	0.02	
854.036 ^②	0- 30	±0.04	0.02	
854.029 ^②	0- 30	±0.06	0.04	
854.028 ^②	0- 30	±0.04	0.02	
854.037 ^②	0- 30	±0.04	0.02	
854.030 ^②	0- 50	±0.05	0.03	
854.032 ^②	0- 50	±0.06	0.04	
854.031 ^②	0- 50	±0.05	0.03	
Options:				
497.914	Spare battery type AAA			
854.952 ¹	Interface			
965.013 ¹	Digimatic cable			
206.380 ¹	USB cable			
102.790 ¹	U-WAVE cable			
854.092 ²	Bluetooth interface adapter (only K and L series)			
854.073	Bluetooth PC dongle			
854.113 ^③	Wooden case (only K and L series)			
854.084 ^②	Wooden case (only K and L series)			



854.113

For specifications refer to the Krœplin external measuring instruments overview.

¹ For data output an interface and cable are needed.

² Bluetooth interface adapter is delivered with a Bluetooth PC dongle (854.073).

Krœplin external measuring instruments Oditest

External measuring instrument in a version which is highly accurate and reliable.

- Measuring range: 0-200 mm.
- Graduation: 0.005, 0.01, 0.05, 0.1 or 0.2 mm.
- Very fine tolerances on the various parts.
- Impact and shock-resistant housing.
- Dust and drip proof.
- Damped movement of the measuring arm.
- Adjustable tolerance markers.
- Protection: IP65.
- Delivery with a manufacturer measuring report.



854.934



For specifications refer to the Krœplin external measuring instruments overview.

Item No.	Meas. range mm	Graduation mm	Accuracy mm	Repeatability mm	Price EUR
854.909 [□]	0-10	0.005	±0.015	0.005	
854.910 [□]	0-10	0.005	±0.02	0.005	
854.911 [□]	0-10	0.005	±0.015	0.005	
854.912 [□]	0-10	0.005	±0.015	0.005	
854.934 [□]	0-20	0.01	±0.03	0.01	
854.935 [□]	0-20	0.01	±0.03	0.01	
854.936 [□]	0-20	0.01	±0.04	0.01	
854.937 [□]	0-20	0.01	±0.03	0.01	
854.938 [□]	0-20	0.01	±0.03	0.01	
854.033 [□]	0-50	0.05	±0.05	0.025	
854.034 [□]	0-50	0.05	±0.05	0.025	
854.035 [□]	0-50	0.05	±0.1	0.05	
854.038 [□]	0-50	0.05	±0.05	0.025	
854.039 [□]	0-50	0.05	±0.05	0.025	
Options:					
859.233 [□]	Wooden case				
854.098 [□]	Wooden case				

Item No.	Meas. range mm	Graduation mm	Accuracy mm	Repeatability mm	Price EUR
854.225 [*]	0-100	0.1	±0.15	0.1	
854.109 [*]	0-100	0.1	±0.15	0.1	
854.226 [*]	0-100	0.1	±0.15	0.1	
854.363 [*]	0-100	0.1	±0.3	0.2	
854.364 [*]	0-100	0.1	±0.3	0.2	
854.365 [*]	0-100	0.1	±0.3	0.2	
854.366 [*]	0-200	0.2	±0.4	0.2	

* Delivery incl. wooden case.



859.233

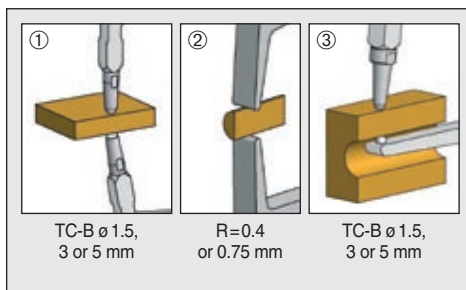
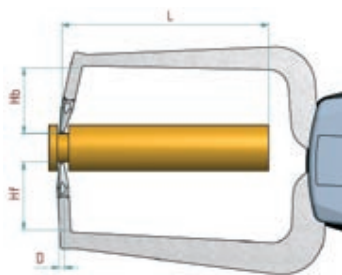
Overview Krøplin external measuring instruments

External measuring instruments Oditest

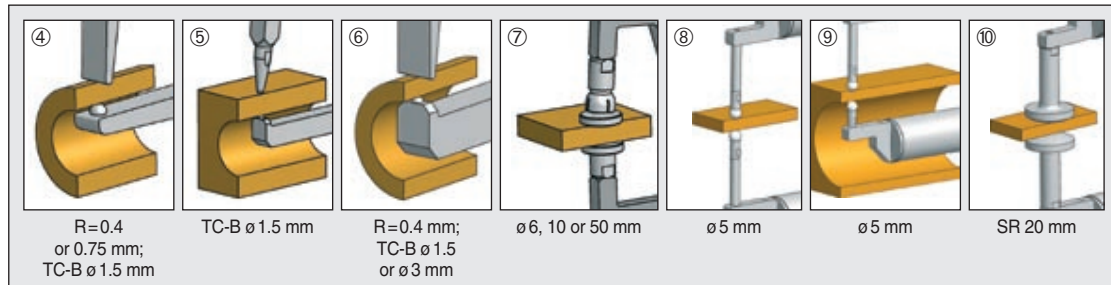
Item No.	Measuring range/mm	Meas. depth L/mm	Type of insert	Insert length Hb	Hf
854.909	0- 10	35	① ϕ 1.5	19.1	18.6
854.910	0- 10	35	⑦ ϕ 6	21.7	14.8
854.911	0- 10	35	③ ϕ 1.5	19.1	0.9
854.912	0- 10	35	④ R0.4	18.8	0.9
854.934	0- 20	85	① ϕ 1.5	24.7	24.6
854.935	0- 20	85	② R0.4	24.7	24.6
854.936	0- 20	85	⑦ ϕ 10	28.2	20.7
854.937	0- 20	80	⑤ ϕ 1.5	24.7	2.5
854.938	0- 20	80	⑥ R0.4	24.7	2.5
854.033	0- 50	167	① ϕ 3	30	30
854.034	0- 50	167	② R0.75	30	30
854.035	0- 50	167	⑦ ϕ 50	36	24
854.038	0- 50	169	③ ϕ 3	30	4.3
854.039	0- 50	169	④ R0.75	30	4.3
854.225	0-100	375	⑧ ϕ 5	33	33
854.109	0-100	382	⑨ ϕ 5	35	15
854.226	0-100	375	⑦ ϕ 50	39	7
854.363	0-100	530	⑧ ϕ 5	30	30
854.364	0-100	530	⑧ ϕ 5	30	124
854.365	0-100	550	⑦ ϕ 50	34	14
854.366	0-200	728	⑩ 20	98	98

Digital external measuring instruments

Item No.	Measuring range/mm	Meas. depth L/mm	Type of insert	Insert length Hb	Hf
854.905	0- 10	35	① ϕ 1.5	19.1	18.6
854.961	0- 10	35	② R0.4	18.8	18.5
854.906	0- 10	35	⑦ ϕ 6	21.7	14.8
854.907	0- 10	35	③ ϕ 1.5	19.1	0.9
854.962	0- 10	35	④ ϕ 1.5	18.8	0.9
854.908	0-20	85	① ϕ 1.5	24.7	24.6
854.963	0-20	85	② R0.4	24.7	24.6
854.955	0-20	85	⑦ ϕ 10	28.2	20.7
854.950	0-20	80	⑤ ϕ 1.5	24.7	2.5
854.956	0-20	80	⑥ ϕ 1.5	24.7	2.5
854.027	0-30	116	① ϕ 3	30	30
854.036	0-30	116	② R0.75	30	30
854.029	0-30	116	⑦ ϕ 50	36	24
854.028	0-30	116	⑤ ϕ 3	30	4
854.037	0-30	116	⑥ ϕ 3	30	4
854.030	0-50	167	① ϕ 3	30	30
854.032	0-50	167	⑦ ϕ 50	36	24
854.031	0-50	169	⑤ ϕ 3	30	4.3



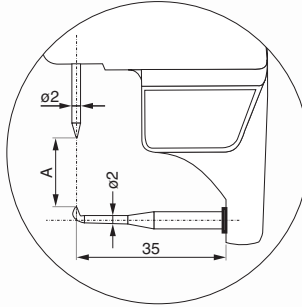
Types of inserts



Digital thickness gauge

This digital thickness gauge has special, pointed measuring faces for measuring in hard-to-reach places of metal parts.

- Measuring range: 0- 15 mm.
- Resolution: 0.01 mm.
- Accuracy: ± 0.03 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Weight: 100 g.
- Power supply:
1 battery type V357.



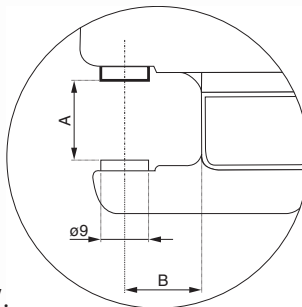
Item No.	Measuring face	Throat depth/mm	Price EUR
906.450	Pointed	35	
Option:			
836.535	Spare battery		



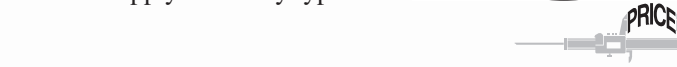
Digital thickness gauges

The shape of the measuring faces makes this digital thickness gauge especially suitable for measuring metal or plastic film, leather, paper, etc.

- Measuring range: 0- 25 mm.
- Resolution: 0.01 mm.
- Accuracy:
0- 15 mm: ± 0.03 mm,
0- 25 mm: ± 0.04 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Weight: 100 g.
- Power supply: 1 battery type V357.



906.451



Item No.	Measuring range/mm	Measuring face ϕ /mm	Throat depth/mm	Price EUR
906.451	0- 15	9	15.0	
906.452	0- 25	9	14.5	
Option:				
836.535	Spare battery			

Digital quick thickness gauges

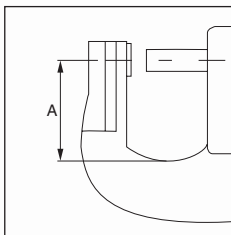
- Measuring range: 0-25 mm.
- Resolution: 0.01 mm.
- Accuracy 910.313: ±0.03 mm.
- Accuracy 910.314: ±0.04 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Anvil 910.313: ϕ 6.3 mm.
- Pin measuring face 910.313: ϕ 5 mm.
- Measuring face 910.314: ϕ 14.5 mm.
- Power supply: 1 battery type V357.



910.313



910.314



Item No.	Measuring range/mm	Throat depth A/mm	Price EUR
910.313	0- 12	19.7	
910.314	0-25	25	
Option: 836.535 Spare battery			

Digital external measuring instruments

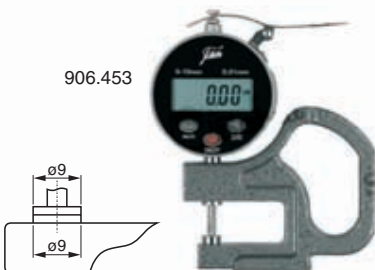
- Measuring range: 0- 10 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- mm/inch conversion.
- Automatic switch-off.
- Reset.
- Max. measuring speed: 1.5 m/s.
- Non-interchangeable inserts.
- Power supply: 1 battery type V357.



906.454



906.453



Item No.	Measuring range/mm	Measuring faces ϕ /mm	Throat depth/mm	Price EUR
906.453	0- 10	9	30	
906.454	0- 10	9	120	
Option: 836.535 Spare battery				

Thickness gauges

- Measuring range: 0-20 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Non-interchangeable inserts.
- Measuring face: \varnothing 10 mm (906.446: \varnothing 6 mm).



906.446



906.447



906.448



Item No.	Measuring range/mm	Throat depth/mm	Price EUR
906.446	0-10	10	
906.447	0-10	30	
906.448	0-20	110	

Thickness gauges with roller measuring inserts

- Measuring range: 0-10 mm.
- Measuring face roller measuring inserts: 7 mm/ \varnothing 22 mm.
- Throat depth: 100 mm.
- Anvil: 28 x 22 mm (3 mm wheel height in anvil).

Analog

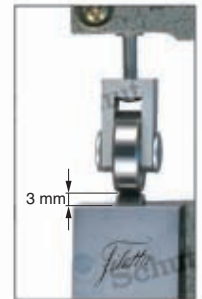
- Graduation: 0.01 mm.
- Rotatable dial with locking screw.
- Adjustable tolerance markers.

Digital

- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Power supply: 1 battery type CR2032.



906.388



3 mm



906.389

Item No.	Description	Price EUR
906.388	Thickness gauge	
906.389	Digital thickness gauge	
Option:		
495.157	Spare battery	

Käfer thickness gauges

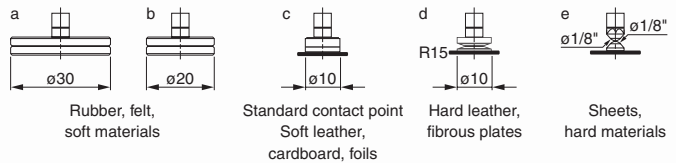
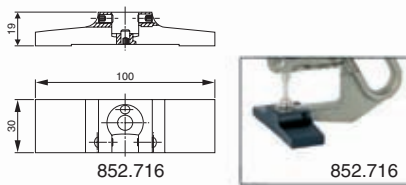
- Measuring range: 0- 50 mm.
- Graduation: 0.1 mm, 0.01 mm or 0.001 mm.
- Standard type of insert: C, \varnothing 10 mm.
- Interchangeable measuring inserts.
- Different types of inserts available (a, b, c, d, e).



Item No.	Measuring range/mm	Graduation mm	Throat depth/mm	Price EUR
852.346	0- 10	0.1	50	
851.714	0- 20	0.1	50	
852.370	0- 30	0.1	50	
852.747	0- 50	0.1	50	
852.100	0- 30	0.1	100	
852.277	0- 30	0.1	200	
851.819	0- 30	0.1	300	
851.969	0- 30	0.1	400	
851.713	0- 10	0.01	50	
851.785	0- 10	0.01	100	
851.702	0- 10	0.01	200	
851.816	0- 5	0.001	50	

Options:
 495.157 Spare battery
 852.716* Stand for thickness gauges

* For thickness gauges with a throat depth of 100 mm or less.

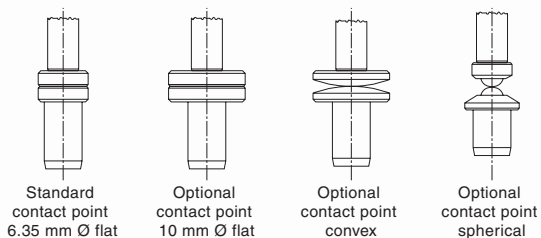


Käfer pocket thickness gauges

- Measuring range: 0- 20 mm.
- Graduation: 0.1 mm or 0.01 mm.
- Different types of inserts available.
- Standard type of insert: \varnothing 6.35 mm flat insert.



Item No.	Measuring range/mm	Graduation mm	Throat depth/mm	Price EUR
851.967	0- 10	0.1	15	
851.712	0- 20	0.1	15	
851.783	0- 8	0.01	12	
852.744	0- 10	0.01	18	



Käfer foil thickness gauges

- Measuring range: 0-3 mm.
- Resolution: 0.001 mm.
- Standard type of insert: \varnothing 6.35 mm flat.
- Different types of inserts available.

Available types of inserts:

- \varnothing 6.35 mm flat.
- \varnothing 10 mm flat.
- Upper insert convex r 15 or r 40, lower insert \varnothing 6.35 mm flat.
- Lower insert convex r 15.
- Spherical.



Item No.	Measuring range/mm	Type of insert	1 pointer revolution	Throat depth/mm	Price EUR
851.760	1	6.35 mm	0.2 mm	30	
852.368	1	6.35 mm	0.1 mm	30	
851.711	0.1	6.35 mm	0.1 mm	30	
852.263	3	6.35 mm	–	30	
Option:					
495.157	Spare battery				

Käfer thickness gauges with roller measuring inserts

- Measuring range: 0-10 mm.
- Resolution: 0.01 mm.

- Measuring face roller measuring inserts: 8.7 mm/ \varnothing 8.4 mm.
- Throat depth: 50 mm.



Item No.	Description	Measuring range/mm	Graduation mm	Price EUR
852.377	Thickness gauge	5	0.01	
852.058	Digital thickness gauge	10	0.01	
Option:				
495.157	Spare battery			

Käfer digital thickness gauges

- Measuring range: 0-25 mm.
- Resolution: 0.01 mm or 0.001 mm.
- Interchangeable measuring inserts.
- Different types of inserts available (a, b, c, d, e).

- Standard type of insert: C, \varnothing 10 mm.
- Delivery in a plastic carrying case.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Resolution mm	Throat depth/mm	Price EUR
852.768	0-12.5	0.01	50	
852.715	0-25	0.01	50	
852.754	0-25	0.01	100	
852.396	0-12.5	0.001	50	
852.741	0-25	0.001	200	
Options:				
495.157	Spare battery			
852.117	RS232C cable 9p (2 m)			
852.118	USB cable (2 m)			
852.716*	Stand for thickness gauges			

* For thickness gauges with a throat depth of 100 mm or less.

Peacock external measuring instruments

- Measuring range: 0 - 10 mm.
- Graduation: 0.01 mm.
- Accuracy: ± 0.02 mm.
- Measuring force: approx. 1.8 N.
- Non-interchangeable measuring inserts.
- Ceramic measuring faces (except 855.761: steel).



855.761



855.751



855.750

NEW

Item No.	Measuring range/mm	Measuring faces ϕ /mm	Throat depth/mm	Price EUR
855.750	0 - 10	10	20	
855.761	0 - 10	10	20	
855.751	0 - 10	10	120	

External measuring instruments

- Measuring range: 0 - 10 mm.
- Graduation: 0.01 mm.
- Different types of inserts available, with hardened steel measuring faces.
- Throat depth: 50 mm.



853.002

Item No.	Type of insert	Price EUR
853.002	B	
853.003	C	
853.004	D	
853.005	E	
853.007	G	

Types of inserts

B Wood, rubber, soft leather

C Soft rubber

D Rubber rings, round material

E Paper, cardboard, fibrous plates

G Metal

Thickness gauge for film measurement

- Measuring range: 0 - 1 mm.
- Graduation: 0.001 mm.
- Measuring force: approx. 3 N.
- Non-interchangeable measuring inserts.
- Throat depth: 25 mm.
- Frame with insulating grip.
- Ceramic measuring faces.
- Delivery in a plastic case with a manufacturer measuring report.



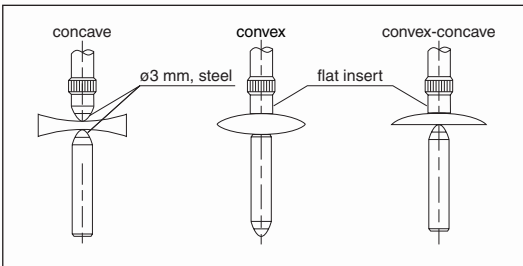
Item No.	Measuring range/mm	Meas. faces ϕ /mm	Price EUR
907.859	0 - 1	10	



Peacock universal thickness gauge

Measuring instrument with dial indicator and adjustable anvil, multi-purpose.

- Span frame: 0 - 20 mm.
- Measuring range dial indicator: 10 mm.
- Graduation: 0.01 mm.
- Accuracy: ± 0.02 mm.
- Throat depth: 25 mm.
- With additional flat insert.



Item No.	Measuring range dial indicator/mm	Price EUR
855.752	0 - 10	

Tube wall thickness gauge

- Measuring range: 0 - 10 mm.
- Graduation: 0.01 mm.
- Measuring force: approx. 1 N.
- Throat depth: 25 mm.
- From inner diameter 8 mm.



Item No.	Measuring range/mm	Price EUR
853.137	0 - 10	

Thickness gauges

- Measuring range: 0 - 50 mm.
- Graduation: 0.1 mm.
- Different types of inserts.
- Hardened steel measuring faces.
- Other models available on request.



Types of inserts

- A**
① General applications
 R6
- B**
② Wood, rubber, soft leather
 $\varnothing 10$
- C**
③ Soft rubber
 $\varnothing 25$
- E**
④ Paper, cardboard, fibrous plates
 $\varnothing 16$
- F**
⑤ Rubber rings, round materials
 $\varnothing 3.5$
- G**
⑥ Metal
 R1.5

Item No.	Measuring range/mm	Type of insert	Throat depth/mm	Price EUR
853.022	0 - 10	②	15	
853.031	0 - 30	⑤	50	
853.032	0 - 30	②	50	
853.033	0 - 30	③	50	
853.034	0 - 30	④	50	
853.035	0 - 30	⑥	50	
853.037	0 - 30	①	50	
853.041	0 - 50	⑤	50	
853.042	0 - 50	②	50	
853.043	0 - 50	③	50	
853.044	0 - 50	④	50	
853.045	0 - 50	⑥	50	
853.047	0 - 50	①	50	
853.052	0 - 25	②	150	
853.053	0 - 25	③	150	
853.054	0 - 25	①	150	
853.055	0 - 25	④	150	
853.056	0 - 25	⑥	150	
853.062	0 - 25	②	300	
853.063	0 - 25	③	300	
853.064	0 - 25	①	300	
853.065	0 - 25	④	300	
853.066	0 - 25	⑥	300	
853.082	0 - 25	②	500	
853.083	0 - 25	③	500	
853.084	0 - 25	①	500	
853.085	0 - 25	④	500	
853.087	0 - 25	⑥	500	

Digital external measuring instruments

- Measuring range: 0-25 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Different types of inserts.
- Hardened steel measuring faces.
- Other models available on request.

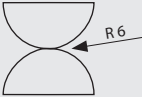

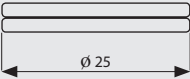
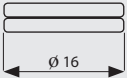




853.074



853.060

Types of inserts

- A**
① General applications

- B**
② Wood, rubber, soft leather

- C**
③ Soft rubber

- E**
④ Paper, cardboard, fibrous plates

- F**
⑤ Rubber rings, round materials

- G**
⑥ Metal




Item No.	Measuring range/mm	Type of insert	Throat depth/mm	Price EUR
853.072	0-25	①	50	
853.073	0-25	②	50	
853.074	0-25	③	50	
853.075	0-25	④	50	
853.076	0-25	⑤	50	
853.077	0-25	⑥	50	
853.057	0-25	①	200	
853.078	0-25	②	200	
853.079	0-25	③	200	
853.080	0-25	④	200	
853.081	0-25	⑥	200	
853.060	0-25	①	300	
853.091	0-25	②	300	
853.092	0-25	③	300	
853.093	0-25	④	300	
853.094	0-25	⑥	300	

Universal measuring instruments

Robust universal measuring instruments for measuring by comparison, consisting of a steel precision cylinder with one fixed (adjustable) and one mobile measuring arm holder. The measuring direction is reversible by a simple turn of the adjusting screw at the end of the instruments. This feature enables measurements of internal and external dimensions. Clamping shaft 8H7 for dial indicator or measuring probe (measuring range 0-10 mm) not included. The nominal size is set with gauge blocks, setting rings or something similar.

Base instrument, with a wooden case

Item No.	Type	Measuring range (internal/external) in mm, with:				Price EUR
		Spherical disc inserts	Spherical needle insert $\phi 2 \times 5$ mm	Ball insert $\phi 3$ mm	Measuring disc $\phi 15 \times 4$ mm	
856.340	2-MR	29-254/9-234	38-263/0-225	36-261/2-227	46-256/16-226	
856.341	2L-MR	29-354/9-334	38-363/0-325	36-361/2-327	46-356/16-326	
856.342	2EL-MR	29-454/9-434	38-463/0-425	36-461/2-427	46-456/16-426	

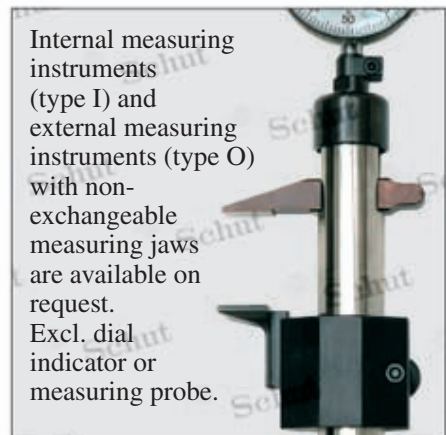
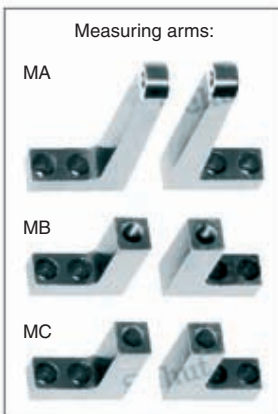


Base instrument type MR



Measuring arms

Item No.	Length mm	Price EUR per piece
Type MA, with $\phi 3.5$ mm bore for interchangeable inserts:		
856.343	25	
856.344	50	
856.345	75	
856.346	100	
Type MB, with internal thread M6 for interchangeable measuring disc:		
856.347	30	
856.348	50	
Type MC, with bore 4H7 for various interchangeable inserts:		
856.349	30	
856.350	50	

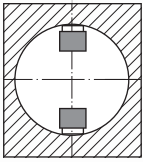


Internal measuring instruments (type I) and external measuring instruments (type O) with non-exchangeable measuring jaws are available on request. Excl. dial indicator or measuring probe.

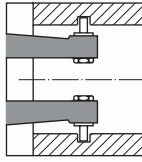
Universal measuring instruments (continued)

Interchangeable inserts for type MA

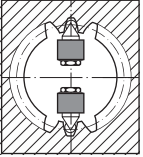
Item No.	Description	Price EUR per piece
856.351	Spherical disc insert	
856.372	Flat disc insert	
856.352	Spherical needle ø2 x 5 mm	
856.376	Ditto, ø2 x 25 mm	
856.353	Ball insert ø3 mm	



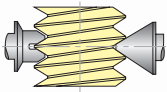
856.351:
measuring
of bores



856.352:
measuring
of narrow
grooves



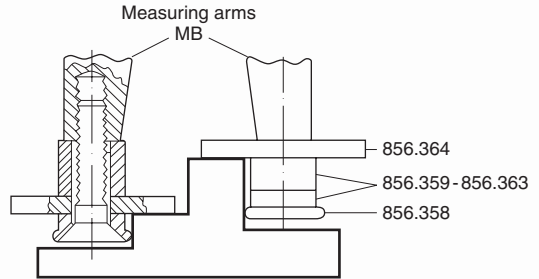
856.353: measuring
of internal gear teeth,
V-grooves, etc.



Available on request: inserts for thread pitch diameters (metric: pitch 0.5 - 7.0; BSW: 14 - 3.0 t.p.i.; UN: 32 - 3.0 t.p.i.). The measuring anvils rotate to follow the helix of the thread.

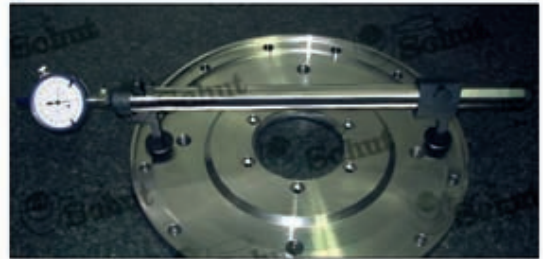
Interchangeable measuring disc for type MB

A measuring disc, which can be fitted by means of spacers and a support washer, is available for measuring arms MB with internal thread M6. For measuring of shoulders at different levels, locating flanges, etc.



Item No.	Description	Price EUR per piece
856.358	Measuring disc ø15 x 4 mm	
856.359	Spacer 1 mm	
856.360	Spacer 2 mm	
856.361	Spacer 3 mm	
856.362	Spacer 6 mm	
856.363	Spacer 10 mm	
856.364	Support washer ø30 x 3 mm	

Example of a complete instrument with measuring arms type MB, measuring discs and a dial indicator.



Extensions and connecting elements

Item No.	Description	Price EUR
856.354	Extension 300 mm	
856.355	Extension 500 mm	
856.356	Connecting element for measuring element and extension	
856.357	End cover for extension	

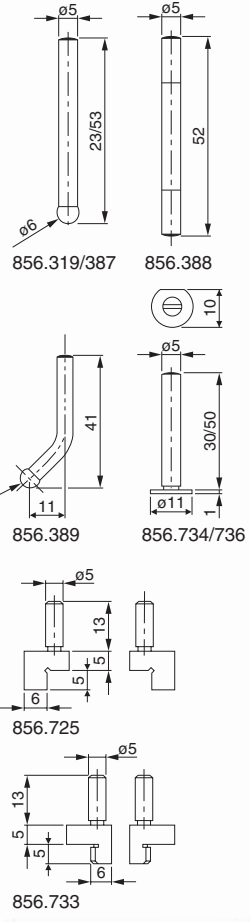
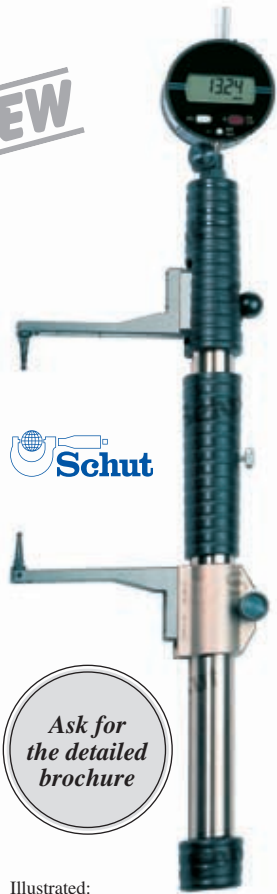
Before placing the extension the measuring direction has to be determined with the adjusting screw.

HELIOS-PREISSER universal gauge

Universal measuring instrument consisting of a steel tube with two mobile measuring arms. The measuring direction is reversible, which enables measurements of internal and external dimensions.

- Measuring range:
 - external measurements: 5 - 220 mm,
 - internal measurements: 15 - 230 mm.
- Measuring range with optional extensions: up to 2000 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Reversible measuring direction.
- Large choice of measuring probes and inserts.
- Inserts also for internal and external screw thread measurements available.
- Base instrument: excl. dial indicator, measuring probes and inserts.
- Delivery in a wooden case.

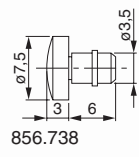
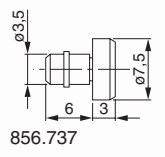
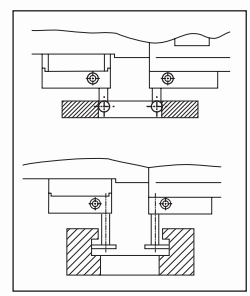
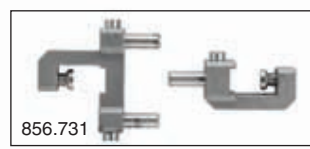
NEW



Ask for the detailed brochure

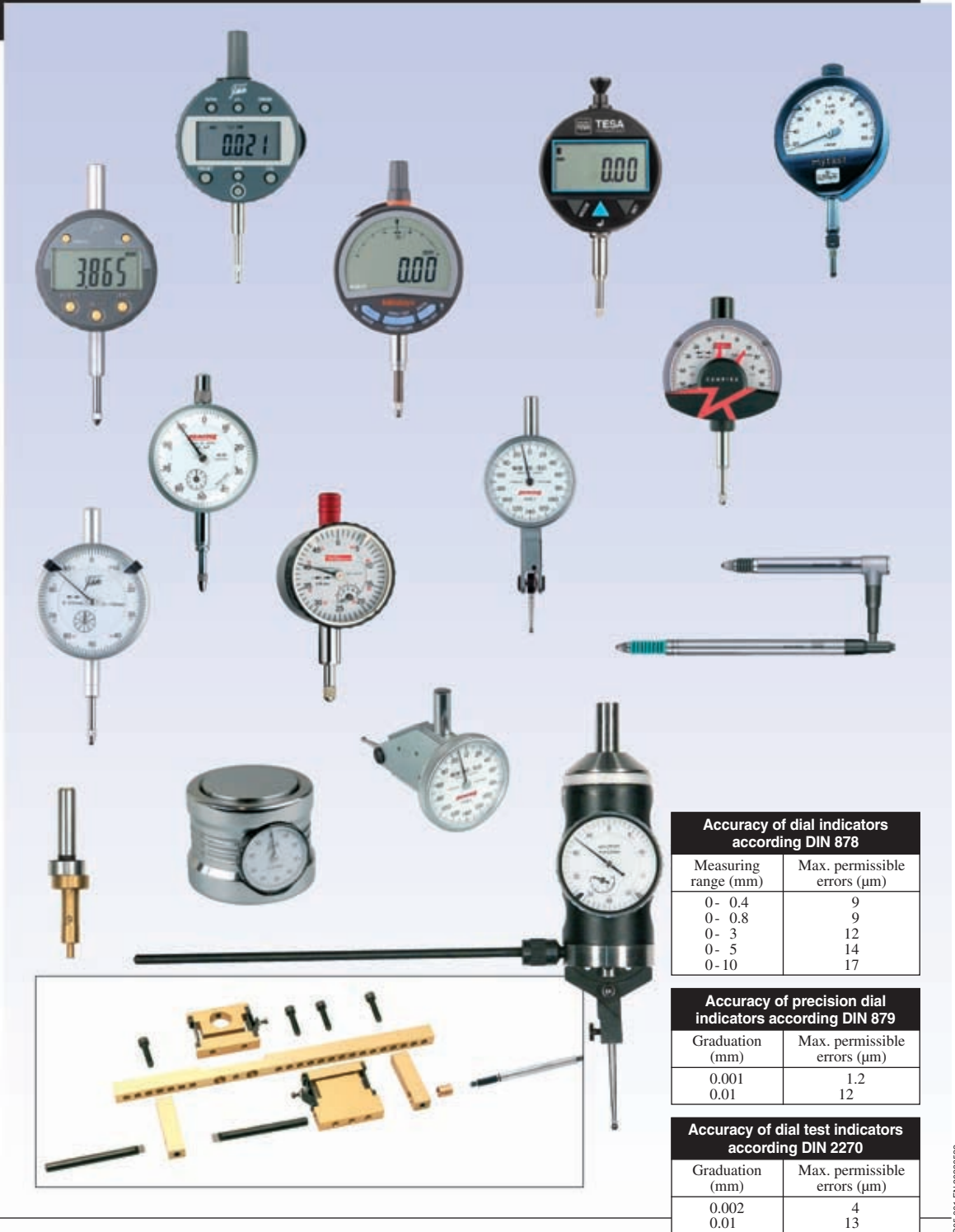
Illustrated: base instrument, measuring arms, ball inserts, extension and dial indicator.

Item No.	Description	Price EUR
856.721	Base instrument	
Options:		
856.732	Measuring probe mounting blocks (pair) for external dimensions	
856.735	Measuring probe mounting blocks (pair) for internal dimensions	
856.723	Extension 100 mm	
856.722	Extension 200 mm	
856.724	Extension 500 mm	
856.319	Ball inserts (pair) $l=23$ mm	
856.387	Ball inserts (pair) $l=53$ mm	
856.388	Cylindrical inserts (pair)	
856.389	Offset inserts (pair)	
856.725	Shoulder insert (pair) for external dimensions	
856.733	Shoulder insert (pair) for internal dimensions	
856.736	Measuring insert discs (pair) 0 - 20 mm $l=30$ mm	
856.734	Measuring insert discs (pair) 20 - 40 mm $l=50$ mm	
856.726	Measuring arms (pair) $l=35$ mm	
856.727	Measuring arms (pair) $l=70$ mm	
856.731	Depth stop attachments for measuring arms (pair)	
856.728	Adapters 5 mm for inserts M2.5 (pair)	
856.737	Measuring inserts flat (pair)	
856.738	Measuring inserts spherical (pair)	
856.713 ¹	Adapters new to old (pair)	
856.712 ²	Adapters old to new (pair)	



¹ For new model accessories on an old 856.380.
² For old model accessories on a new 856.721.

**Dial indicators / Dial test indicators / Center instruments
Edge finders / Probes / MF measuring fixture system**



Accuracy of dial indicators according DIN 878	
Measuring range (mm)	Max. permissible errors (µm)
0- 0.4	9
0- 0.8	9
0- 3	12
0- 5	14
0-10	17

Accuracy of precision dial indicators according DIN 879	
Graduation (mm)	Max. permissible errors (µm)
0.001	1.2
0.01	12

Accuracy of dial test indicators according DIN 2270	
Graduation (mm)	Max. permissible errors (µm)
0.002	4
0.01	13

CG5.001-EN-20230522

Digital dial indicators

Digital dial indicators for a favourable price.

- Measuring range: 0-50 mm.
- Resolution: 0.01 or 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With data output.
- On/off switch.
- Reset.
- Clamping stem: $\varnothing 8$ mm.
- Dial diameter: 57 mm.
- Adjustable tolerance limits.
- Flat back and additional back with lug.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2025.



907.652



907.646



Item No.	Measuring range/mm	Accuracy mm	Price EUR
With resolution 0.01 mm:			
907.634	0-12.5	± 0.02	
907.649	0-25	± 0.03	
907.652	0-50	± 0.04	
With resolution 0.001 mm:			
907.646	0-12.5	± 0.015	
Options:			
495.214	Spare battery		
909.446	USB interface		
909.687	Footswitch for USB interface		



909.446

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).

Absolute digital dial indicators

Absolute digital dial indicators with a function to set tolerance limits with clear optical Go (NoGo) reading.

- Measuring range: 0- 50 mm.
- Resolution: 0.01 mm or 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With data output.
- Adjustable tolerance limits.
- **Tolerance display** by means of illuminated green LED at GO value.
- On/off switch.
- Reset/preset.
- Ceramic stylus tip.



- Max. measuring speed: unlimited.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 60 mm.
- Reversible measuring direction.
- Flat back and additional back with lug.
- Protection: IP54.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



906.870



906.618

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).

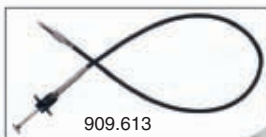


909.687



906.618/910.038

909.611



909.613



909.614

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
910.221	0- 12.7	0.001	± 0.004	
910.222	0- 25.4	0.001	± 0.004	
910.223	0- 50.8	0.001	± 0.005	
906.870	0- 12.7	0.01	± 0.01	
906.871	0- 25.4	0.01	± 0.01	
906.872	0- 50.8	0.01	± 0.015	

Options:

- 495.157 Spare battery
- 906.618^{1,2} USB interface
- 909.687 Footswitch for USB interface
- 910.038 Wireless USB receiver
- 906.619² Wireless transmitter
- 909.611 Retraction lever
- 909.613 Cable retraction device (0.4 m) (maximum travel 10 mm)
- 909.614 Retraction lever (maximum travel 12.7 mm)

¹ Standard configured for PC with English (US) keyboard. Also available on request for alternative keyboards.

² With micro-USB connection.

Absolute digital dial indicators

- Measuring range: 0 - 50.8 mm.
- Resolution: 0.01 mm or 0.001 mm.
- mm/inch conversion.
- ABS/INC switchable.
- LCD display 330° rotatable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Ceramic stylus tip.
- Max. measuring speed: unlimited.
- Measuring force: ≤ 2 N.
- Clamping stem: ø 8 mm.
- Dial diameter: 60 mm.
- Reversible measuring direction.
- With determination of the reversal point (only 910.004).

- Adjustable tolerance limits (except 910.004).
- Flat back.
- With additional back with lug (only 909.998, 910.001/004).
- Protection: IP54.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



PRICE



909.686



909.611

909.687



910.039/038



909.613

909.614

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
909.998	0 - 12.7	0.001	±0.004	
909.999	0 - 25.4	0.001	±0.005	
910.000	0 - 50.8	0.001	±0.006	
910.001	0 - 12.7	0.01	±0.01	
910.002	0 - 25.4	0.01	±0.01	
910.003	0 - 50.8	0.01	±0.015	
For internal measurements:				
910.004	0 - 12.7	0.001	±0.004	
With Bluetooth:				
910.079	0 - 12.7	0.001	±0.004	
910.082	0 - 12.7	0.01	±0.01	
Options:				
495.157	Spare battery			
909.686 ^{1,2}	USB interface			
909.687	Footswitch for USB interface			
910.038	Wireless USB receiver			
910.039 ²	Wireless transmitter			
909.611	Retraction lever			
909.613	Cable retraction device (0.4 m) (maximum travel 10 mm)			
909.614	Retraction lever (maximum travel 12.7 mm)			

¹ Standard configured for PC with English (US) keyboard. Also available on request for alternative keyboards.

² For instruments with a Digimatic data output.

Digital dial indicators with high resolution

Digital dial indicators with digital and digital-analog read-out and a high resolution of 0.0005 mm.

- Measuring range: 0- 50.8 mm.
- Resolution: 0.0005.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- With data output.
- USB-C data output: for data transfer to PC (e.g. Excel, Word), operating system Windows and other.
- Multifunctional functions: automatic switch-off, adjustable tolerance limits, reversible measuring direction, hold-function, min/max-function.
- Reset/preset.
- Clamping stem: $\varnothing 8$ mm.
- Dial diameter: 62 mm.
- Dial 270° rotatable.
- With determination of the reversal point.
- Protection: IP54.
- Delivery with USB-C and a manufacturer measuring report; excluding USB charger.
- Power supply: rechargeable battery.

NEW

PRICE



910.340



Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Measuring force/N	Price EUR
910.340	0- 15	0.0005	± 0.002	1.5	
911.184	0- 25.4	0.0005	± 0.002	1.5	
911.185	0- 50.8	0.0005	± 0.004	1.5	

Option:
910.457* Bluetooth transmitter

* With USB-C connection.

Digital dial indicators

Digital dial indicators with digital and digital-analog read-out.

- Measuring range: 0- 12.5 mm.
- Resolution: 0.002 or 0.0005 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Multifunctional functions: automatic switch-off, adjustable tolerance limits, reversible measuring direction.
- Reset/preset.
- Clamping stem: $\varnothing 8$ mm.
- Dial diameter: 62 mm.
- Dial 315° rotatable.
- With determination of the reversal point.
- Delivery in a plastic case.
- Power supply: 1 battery type CR2032.

PRICE



909.251

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Measuring force/N	Price EUR
909.250	0- 12.5	0.002	± 0.015	1.2	
909.251	0- 12.5	0.0005	± 0.006	1.2	

Option:
495.157 Spare battery

Digital dial indicators

Universal digital indicators with both digital and digital-analog display of the measuring value, and can also be rotated over 340° to ensure easy read-out in all positions.

- Measuring range: 0- 12.7 mm.
- Resolution: 0.001 mm.
- Analog resolution: 0.001/0.002/0.01/0.02/0.05 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Automatic switch-off.
- Reset/preset.
- Clamping stem: $\varnothing 8$ mm.
- Dial diameter: 61 mm.
- Dial 340° rotatable.
- Reversible measuring direction.
- Adjustable tolerance limits.
- Protection: IP54.
- Delivery in a plastic case.
- Power supply: 1 battery type CR2032.



907.879



Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.879	0- 12.7	± 0.01	
907.878	0- 12.7	± 0.005	
Option:			
495.157	Spare battery		



Digital indicators

- Measuring range: 0- 100 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Clamping shaft: $\varnothing 6$ mm.
- Clamping stem: $\varnothing 8$ mm.
- Insert thread: M2.5.
- Power supply: 1 battery type V357.



910.312



Item No.	Measuring range/mm	Measuring force/N	Total length/mm	Price EUR
910.311	0- 50	< 2.5	148	
910.312	0- 100	< 3.2	330	
Option:				
836.535	Spare battery			



910.312

Absolute horizontal digital dial indicators

- Measuring range: 0-30 mm.
- Resolution: 0.001 mm.
- mm/inch conversion.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Ceramic stylus tip.
- With dovetail joint (incl. lug) and clamping stem \varnothing 8 mm.
- Measuring force: \leq 2 N.
- Reversible measuring direction.
- Protection: IP54.
- Delivery with a manufacturer measuring report.
- Power supply:
 - 910.085: 1 battery type CR1632,
 - 910.086: 1 battery type CR2032.

USB interface and wireless USB receiver and transmitter available on request.



910.085

PRICE

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
910.085	0-12.7	0.001	\pm 0.005	
910.086	0-30	0.001	\pm 0.006	
Options:				
497.955	Spare battery type CR1632			
495.157	Spare battery type CR2032			



Digital dial indicator with calculation function

Robust digital dial indicator with built-in calculation function for easy determination of diameters by means of measuring a curved surface. Suitable for measuring both inside and outside diameters and multifunctional dial indicator applications. Delivery with measuring bases of 10, 20, 30, 60 and 100 mm.

- Measuring range: 0-13 mm.
- Resolution: 0.005 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Hold function.
- Clamping stem: \varnothing 8 mm.
- Aluminum construction.
- Delivery in a plastic case.
- Power supply: 1 battery type CR2032.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
907.884	0-13	\pm 0.005*	
Option:			
495.157 Spare battery			

* Accuracy of the indicator without the use of measuring bases. The accuracy with measuring bases depends on the radius and form deviation of the workpiece.



Mitutoyo Absolute Digimatic dial indicators ID-S / ID-S Solar

Standard digital dial indicators with the absolute measuring system and a very good price-performance ratio.

- Measuring range: 0- 12.7 mm.
- Resolution: 0.01 or 0.001 mm.
- Digimatic data output.
- Max. measuring speed: unlimited.
- Measuring force:
543.781/790: ≤2.0 N,
543.500/505: ≤1.5 N.
- Clamping stem: ø 8 mm.
- Tungsten carbide stylus tip.
- Reversible measuring direction.
- Protection: IP42.
- Conforms to factory standard.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type V357 (543.781/790).

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
543.781	0- 12.7	0.01	±0.02	
543.790	0- 12.7	0.001	±0.003	
ID-S Solar:				
543.505	0- 12.7	0.01	±0.02	
543.500	0- 12.7	0.001	±0.003	
Option:				
836.535	Spare battery			



Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Mitutoyo Absolute Digimatic dial indicator ID-U

Dial indicator from Mitutoyo that combines the absolute system with a measuring range of 25.4 mm.

- Measuring range: 0- 25.4 mm.
- Resolution: 0.01 mm.
- Digimatic data output.
- On/off switch.
- Reset.
- Max. measuring speed: unlimited.
- Measuring force: ≤ 1.8 N.
- Clamping stem: ø 8 mm.
- Tungsten carbide stylus tip.
- Reversible measuring direction.
- Dimensions: 207.3 x 38 x 23 mm.
- Protection: IP42.
- Conforms to factory standard.
- Power supply: 1 battery type V357.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
575.121	0-25.4	±0.02	
Options:			
836.535	Spare battery		
540.774	Lift lever (12 mm)		



Data cables Digimatic, USB Input Tool Direct, U-WAVE available on request.

Mitutoyo Absolute Digimatic dial indicators ID-C

Digital dial indicators with the absolute measuring system and a large display for easy reading of the measuring values and the tolerance judgement. The tolerance values are shown graphically above the current measurement on the display. The 330° rotatable display guarantees an ideal read-out in any position.

- Measuring range: 0-50.8 mm.
- Resolution: 0.01 or 0.0005/0.001/0.01 mm.
- Repeatability: 0.01 mm.
- ABS/INC switchable.
- Bidirectional data output.
- LCD display 330° rotatable.
- Digimatic S1 data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Min/max/P-P function.
- Max. measuring speed: unlimited.
- Clamping stem: $\varnothing 8$ mm.
- Tungsten carbide stylus tip.
- Reversible measuring direction.
- Adjustable tolerance limits.
- Protection: IP42.
- Conforms to factory standard.
- Calibration date warning.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.



NEW

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Measuring force/N	Price EUR
543.710	0-12.7	0.01	± 0.02	≤ 0.9	
543.725	0-25.4	0.01	± 0.02	≤ 1.8	
543.735	0-50.8	0.01	± 0.04	≤ 2.3	
543.700	0-12.7	0.0005/0.001/0.01	± 0.003	≤ 1.5	
543.720	0-25.4	0.0005/0.001/0.01	± 0.003	≤ 1.8	
543.730	0-50.8	0.0005/0.001/0.01	± 0.005	≤ 2.3	
With a reduced measuring force:					
543.715	0-12.7	0.01	± 0.02	$\leq 0.2-0.5$	
543.705	0-12.7	0.0005/0.001/0.01	± 0.003	$\leq 0.4-0.7$	
Options:					
495.214	Spare battery				
106.011	Digimatic S1 signal cable without data switch, 1 m				
106.021	Digimatic S1 signal cable without data switch, 2 m				
106.001	USB Input Tool Direct cable S1, 2 m				
102.011	U-WAVE data cable				
106.543	USB-ITPAK V3.0				



Mitutoyo Absolute Digimatic dial indicators ID-C (continued)

Multifunctional dial indicators with special functions for various applications. Which includes a version with min/max/P-P function, a version especially made for internal measurements, and a version with built-in calculation function. The results, for example, inside and outside diameter, groove width, bore diameter, and curve radius, are determined based on the spindle displacement x ; formula: $Ax + B + Cx^{-1}$. The coefficients A, B and C can be set and the calculations are processed and displayed in real-time.

- Measuring range: 0 - 50.8 mm.
- Resolution: 0.0002 to 1 mm, switchable.
- ABS/INC switchable (except 543.310).
- LCD 330° rotatable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Max. measuring speed: unlimited.
- Clamping stem: $\varnothing 8$ mm.
- Adjustable tolerance limits.
- Protection: IP42.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

- Storage for 3 preset values (for example size setting ring).

Bridges for dial indicators with calculation function.

Especially made for dial indicators with calculation function. Combined with these dial indicators, these bridges can provide a multitude of solutions. For these bridges, see bridges elsewhere in the catalog.

Model with min/max/P-P function (543.300)

- Key lock function.

Model for internal measurements (543.310)

- Spindle movement is displayed graphically (determination of the reversal point).



Item No.	Measuring range/mm	Accuracy mm	Measuring force/N	Price EUR
With min/max/P-P function:				
543.300	0 - 12.7	± 0.003	≤ 1.5	
For internal measurements:				
543.310	0 - 12.7	± 0.003	≤ 1.5	
With calculation function:				
543.340	0 - 12.7	± 0.003	≤ 1.5	
543.590	0 - 25.4	± 0.003	≤ 1.8	
543.595	0 - 50.8	± 0.006	≤ 2.3	
Options:				
495.214	Spare battery			
905.338	Digimatic signal cable, 1 m			
905.409	Digimatic signal cable, 2 m			
106.384	USB Input Tool Direct cable, 2 m			
102.795	U-WAVE data cable			
210.198	Retraction lever			
211.301	Cable retraction device			
101.040	Back plate with lug			

Mitutoyo Absolute Digimatic dial indicators ID-B and ID-N

Compact digital dial indicators with the Absolute measuring system and with protection degree IP66. Flexible mounting because the display can also display upside-down.

- Measuring range: 0- 12.7 mm.
- Resolution: 0.01 or 0.001 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Max. measuring speed: unlimited.
- Measuring force: ≤ 2 N (0- 5 mm),
 ≤ 2.5 N (0- 12.7 mm).
- Clamping stem: $\varnothing 8$ mm.
- Tungsten carbide stylus tip.
- Reversible measuring direction.
- Adjustable tolerance limits.
- Protection: IP66.
- Conforms to factory standard.
- Power supply: 1 battery type V357.



Top view 543.580



543.580
(543.585)



543.575
(543.570)

*Data cables Digimatic, USB Input Tool Direct,
U-WAVE available on request.*

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
543.580	0- 5	0.01	± 0.02	
543.585	0- 5	0.001 / 0.01	$\pm 0.003 / \pm 0.01$	
543.570	0- 12.7	0.01	± 0.02	
543.575	0- 12.7	0.001 / 0.01	$\pm 0.003 / \pm 0.01$	
Option:				
836.535	Spare battery			



TESA Dialtronic Easy and Dialtronic digital dial indicators

Digital dial indicators with a measuring range up to 150 mm. The Dialtronic indicators have a tolerance judgement by means of a red/green coloring LED. Data output possible by means of the free TESA Data-Viewer software.

- Measuring range: 0- 150 mm.
- Resolution: 0.01 or 0.001 mm.
- Repeatability: 0.002 mm.
- mm/inch conversion.
- Bidirectional data transfer.
- On/off switch.
- Reset/preset.
- Hold function.
- Reversible measuring direction.
- Measuring force: 0.65- 0.90 N, except IP67 models: 0.7- 1.4 N.
- Max. measuring speed: 1.7 m/s.
- Display 270° rotatable.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

Only Dialtronic models:

- Tolerance judgement.
- Function for dynamic measurements (min, max, max-min) and memory for maximum and minimum values.
- Programmable button.
- Multiplication factor.
- Key lock function.
- Resolution: 0.01 mm or 0.001 mm, switchable.



NEW



783.680



SWISS MADE



783.689



783.690



783.691

Item No.	Measuring range/mm	Accuracy mm	Resolution mm	Protection	Dial ø/mm	Price EUR
TESA Dialtronic Easy:						
783.677	0- 12.5	±0.01	0.01	IP51	59.8	
783.678	0- 12.5	±0.004	0.001	IP51	59.8	
TESA Dialtronic:						
783.679	0- 12.5	±0.01	0.01	IP54	59.8	
783.680	0- 12.5	±0.003	0.001	IP54	59.8	
783.681	0- 12.5	±0.003	0.001	IP67	59.8	
783.682	0- 25	±0.01	0.01	IP54	59.8	
783.683	0- 25	±0.004	0.001	IP54	59.8	
783.684	0- 25	±0.004	0.001	IP67	59.8	
783.685	0- 50	±0.005	0.001	IP54	58	
783.686	0-100	±0.006	0.001	IP54	58	
783.687	0-150	±0.01	0.001	IP54	58	
Options:						
495.157	Spare battery					
783.688	Back with lug					
783.689	Retraction lever for Dialtronic, measuring range up to 12.5 mm					
783.690	Retraction lever for Dialtronic, measuring range up to 25 mm					
783.691	Inductive USB cable for Dialtronic, 3 m					
783.673	Power USB cable for Dialtronic, 3 m					
783.674	90 deg. power USB cable for Dialtronic, 3 m					

TESA Digico digital dial indicators

Digital dial indicators with digital and digital-analog read-out. Authentic Swiss made product.

- Measuring range: 0-25 mm.
- Resolution: 0.01 or 0.001 mm.
- mm/inch conversion.
- USB/RS232C data output.
- Automatic switch-off.
- Absolute mode (spindle position is also read after automatic switch-off).
- Reset.
- Measuring force: ≤ 2.0 N.
- Dial diameter: 57 mm.
- Reversible measuring direction.
- Adjustable tolerance markers.
- Key lock function.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 1 battery type CR2032.

TESA Digico 600

The 270° rotatable display guarantees an ideal read-out in any position.

- Preset.
- Overall reset.
- ABS/INC switchable.
- Numerical tolerance limits.
- Function for dynamic measurements (min, max, max-min) and memory for maximum and minimum values.



783.085

Item No.	Type	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
TESA Digico 200:					
783.000	205 MI	0-12.5	0.01	± 0.02	
TESA Digico 600:					
783.085	605 MI	0-12.5	0.001	± 0.004	
783.144	610 MI	0-25	0.001	± 0.005	
Options:					
495.157	Spare battery				
782.201	AC adapter (without power cable)*				
782.202	EU power cable for AC adapter*				
783.027	Opto-USB cable (2 m)				
781.887	Opto-RS232C cable 9p (2 m)				
781.999	Opto-RS232C cable 9p, bidirectional (2 m)				
783.556	TESA Link Connector Adapter				
	Opto-RS232/TLC				
783.555	TESA Link Connector Bluetooth				

* To be used together for external power supply.



TESA Dialtronic Compact digital mini dial indicators

Designed to be used in tight spaces thanks to the small dial diameter of just 45 mm. Protected against dust, spraying water, oil and coolants due to the IP54 and IP67 protection.

- Measuring range: 0- 12.5 mm.
- Resolution: 0.01 mm or 0.001 mm.
- Accuracy: ± 0.004 mm, except 783.670: ± 0.01 mm.
- Repeatability: 0.002 mm.
- mm/inch conversion.
- USB data output with external power supply.
- Bidirectional data transfer.
- Automatic switch-off.
- Reset/preset.
- Max. measuring speed: 1.7 m/s.
- Measuring force: 0.5 -0.9 (± 0.20) N except 783.672: 0.6 - 1.3 (± 0.20) N.
- Reversible measuring direction.
- Protection: IP54 except 783.672: IP67.
- Delivery with a manufacturer measuring report.
- Power supply: 1 battery type CR2032, external power supply via a USB cable.



783.672



783.670



NEW



783.230 +
783.670



783.672 + 781.727



783.673

Item No.	Measuring range/mm	Resolution mm	Price EUR
783.670	0-12.5	0.01	
783.671	0-12.5	0.001	
783.672	0-12.5	0.001	
Options:			
495.157	Spare battery		
783.230	Retraction lever		
781.727	Retraction lever		
783.673	USB cable (3 m)		

TESA Digico digital mini dial indicators 12/12-HP

Designed to work in the toughest conditions, protected against spraying water, oil and coolants. The diameter of the housing is only 44 mm. Patented, inductive measuring system. The Digico 12-HP dial indicators (*) are high-precision models.

- Measuring range: 0- 12.5 mm.
- Resolution: 0.01 mm or 0.001/0.01 mm.
- Accuracy: ± 0.01 mm.
- Repeatability: 0.005 mm.
- mm/inch conversion.
- ABS/INC switchable (except 12-HP).
- RS232C data output with external power supply.
- Automatic switch-off.
- Preset (except 12-HP) and reset.
- Max. measuring speed: 2 m/s.
- Measuring force: 0.5 -0.9 (± 0.15) N.
- Reversible measuring direction (except 12-HP).
- Protection: IP65.
- Delivery with a manufacturer measuring report (except the 0.01 mm models).
- Power supply: 1 battery type CR2032.

TESA Digico 12-HP*

- Accuracy: ± 0.002 mm.
- Repeatability: 0.002 mm.
- With digital-analog display of the measured value (± 0.025 to ± 1.25 mm).
- Lock of automatic switch-off.
- Min/max/P-P function.



782.435



782.437



782.436



Item No.	Measuring range/mm	Resolution mm	Price EUR
Electronic module IP65 protected:			
782.432	0- 12.5	0.01	
782.436*	0- 5	0.001/0.01	
Mechanics and electronics IP65 protected:			
782.433	0- 12.5	0.01	
782.435	0- 12.5	0.001/0.01	
782.437*	0- 5	0.001/0.01	
Option:			
495.157	Spare battery		

Mitutoyo Absolute Digimatic dial indicators ID-F/ID-H

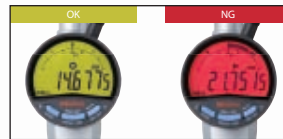
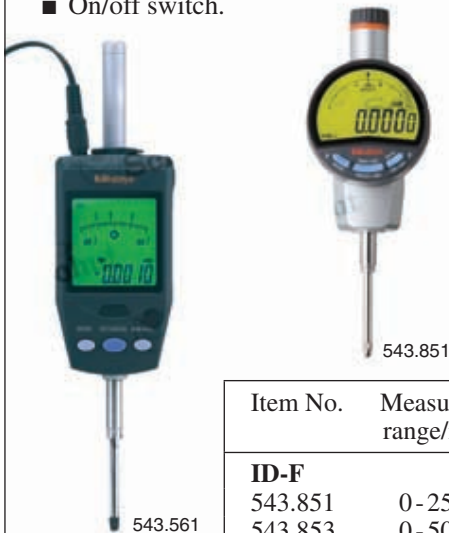
Very advanced Mitutoyo Absolute dial indicators for the demanding user. Besides the high accuracy, these indicators are equipped with many practical functions, among which an automatic hold function for the maximum and minimum measuring value, calculation of min-max difference value and tolerance judgements with help of a color changing display (red/green).

To optimise the reproducibility and stability of measurements for the ID-H dial indicators an optional remote control device is available with which the indicator can be set up without actually physically making contact.

- Measuring range: 0 - 60.9 mm.
- Resolution: 0.01, 0.001 or 0.0005 mm, switchable.
- RS232C data output (only 543.561/563).
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Clamping stem: \varnothing 8 mm.
- Tungsten carbide stylus tip: \varnothing 3 mm.
- Reversible measuring direction.
- Adjustable tolerance limits.
- Conforms to factory standard.
- Power supply: AC adapter.

ID-F

- LCD display 330° rotatable.
- Bidirectional data transfer.
- Digimatic S1 data output.



NEW

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Measuring force/N	Price EUR
ID-F					
543.851	0 - 25.4	0.0005/0.001/0.01	\pm 0.0025	\leq 1.8	
543.853	0 - 50.8	0.0005/0.001/0.01	\pm 0.004	\leq 2.3	
543.857	0 - 50.8	0.0005/0.001/0.01	\pm 0.003	\leq 2.3	
ID-H					
543.561	0 - 30.4	0.001/0.0005	\pm 0.0015	\leq 2.0	
543.563	0 - 60.9	0.001/0.0005	\pm 0.0025	\leq 2.5	
Options:					
210.099 ¹ Remote control					
540.774 ¹ Cable retraction device, 12 mm stroke					
210.131 ¹ RS232C cable, 2 m					
936.937 ¹ Digimatic signal cable without data switch, 1 m					
965.014 ¹ Digimatic signal cable without data switch, 2 m					
106.021 ² Digimatic S1 signal cable without data switch, 2 m					
264.020 USB Input Tool Interface box					
106.383 ¹ USB Input Tool Direct cable, 2 m					
106.001 ² USB Input Tool Direct cable, 2 m					
102.794 ¹ U-WAVE data cable					
106.543 ² USB ITPAK V3.0					



¹ Only for ID-H.

² Only for ID-F.

Dial indicators 0.01 mm

Indicators with an excellent price-performance ratio.

- Measuring range: 0-10 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 55 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Flat back.
- Delivery with a manufacturer measuring report.



Item No.	Measuring range/mm	Price EUR
907.928	0- 3	
907.929	0- 5	
907.930	0-10	
Option:		
908.799	Back with lug	



Dial indicators 0.01 mm

Indicators with a large dial and a locking screw. Shockproof design.

- Measuring range: 0-10 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 60 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Locking screw.
- Flat back.
- Delivery with a manufacturer measuring report.



Item No.	Measuring range/mm	Price EUR
907.931	0- 3	
907.932	0- 5	
907.933	0-10	
Options:		
908.987	Back with lug	
906.359	Retraction lever	



907.933
+ 906.359

Dial indicators 0.01 mm

Indicators with a large measuring range.

- Measuring range: 0 - 100 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Rotatable dial.
- Adjustable tolerance markers (except 907.916).
- Locking screw.
- Flat back.
- Delivery with a manufacturer measuring report.



907.934



907.935



907.936



907.916

Item No.	Measuring range/mm	Dial \varnothing /mm	Price EUR
907.934	0 - 25	60	
907.935	0 - 30	60	
907.936	0 - 50	76	
907.916	0 - 100	80	

Options:
 908.987¹ Back with lug
 908.988² Back with lug

¹ For 907.934/935.

² For 907.936/916.



Splashproof dial indicators 0.01 mm

Indicators with splashproof design.

- Measuring range: 0 - 10 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 55 mm.
- Rotatable dial.
- Shockproof.
- Adjustable tolerance markers.
- Locking screw.
- Back with lug.
- Protection: IP54.
- Conforms to factory standard.



908.779



Item No.	Measuring range/mm	Price EUR
908.777	0 - 3	
908.778	0 - 5	
908.779	0 - 10	



C05_303_EN 20230522

Miniature dial indicator 0.01 mm

Indicator with very small dimensions and an excellent price-performance ratio.

- Measuring range: 0- 10 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 40 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Locking screw.
- Flat back.
- Delivery with a manufacturer measuring report.



Item No.	Measuring range/mm	Price EUR
Graduation 0.01 mm:		
907.925	0- 3	
907.926	0- 5	
907.927	0- 8	
907.914	0- 10	
Option:		
908.986	Back with lug	



907.925

Dial indicators 0.001 mm

Indicators with micrometer reading. Shockproof design.

- Measuring range: 0- 5 mm.
- Graduation: 0.001 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 60 mm.
- Rotatable dial.
- Scale numbering: 0- 100- 0.
- Shockproof.
- Adjustable tolerance markers.
- Locking screw.
- Flat back.
- Delivery with a manufacturer measuring report.



Item No.	Measuring range/mm	Price EUR
907.921	0- 1	
907.922	0- 2	
907.923	0- 3	
907.924	0- 5	
Option:		
908.987	Back with lug	



907.921



Peacock dial indicators 0.1 and 0.01 mm

- Measuring range: 0-80 mm.
- Graduation: 0.1 or 0.01 mm.
- Clamping stem: \varnothing 8 mm (except 855.557: \varnothing 10 mm and 855.589: \varnothing 14 mm).
- Rotatable dial.
- Adjustable tolerance markers.
- Flat back or back with lug*.
- DIN 878.



Item No.	Measuring range/mm	Dial \varnothing /mm	Max. hysteresis mm	Measuring force/N	Accuracy mm	Price EUR
Graduation 0.01 mm:						
855.547	0- 4	36	0.004	<1.4	± 0.018	
855.536	0- 3	40	0.004	<1.4	± 0.016	
855.517	0- 5	53	0.004	<1.4	± 0.015	
855.507	0-10	53	0.004	<1.4	± 0.015	
855.508*	0-10	53	0.004	<1.4	± 0.015	
855.527*	0-20	66.5	0.005	<2.0	± 0.025	
855.537*	0-30	76	0.007	<2.2	± 0.030	
855.557*	0-50	83	0.008	<2.5	± 0.100	
Graduation 0.1 mm:						
855.589*	0-80	112	—	<2.5	± 0.100	

* Back with lug.

Peacock dial indicators 0.005 and 0.001 mm

- Measuring range: 0-5 mm.
- Graduation: 0.005 or 0.001 mm.
- Clamping stem: $\varnothing 8$ mm.
- Rotatable dial.
- Flat back or back with lug*.
- DIN 878.



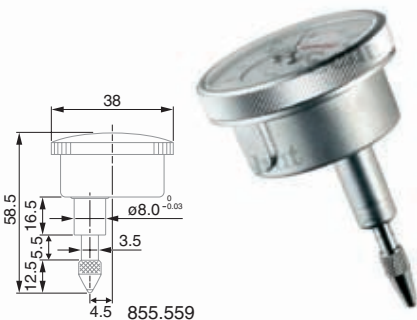
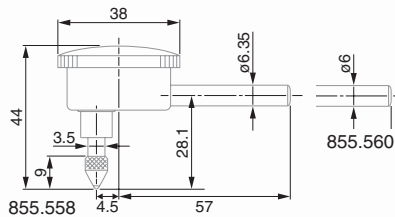
Item No.	Measuring range/mm	Dial \varnothing /mm	Max. hysteresis mm	Measuring force/N	Accuracy mm	Price EUR
Graduation 0.005 mm:						
855.535*	0-3	47	0.004	<1.4	± 0.012	
Graduation 0.001 mm:						
855.509	0-1	53	0.003	<1.5	± 0.006	
855.525*	0-2	66.5	0.003	<1.5	± 0.007	
855.555*	0-5	66.5	0.003	<1.5	± 0.010	

* Back with lug.

Peacock dial indicators with back plunger

The back plunger dial indicator is characterized with easy handling since the spindle with the contact point is moving in the direction perpendicular to the dial face and the gauge is more compact. The dial indicator of this type is convenient for use in achieving a parallelism in machine guides and for applications where most other dial indicators are not applicable, give too great of a measurement error, or are difficult to read due to the applied arrangement.

- Measuring range: 0-5 mm.
- Graduation: 0.01 mm.
- Accuracy: ± 0.018 mm.
- Repeatability: 0.003 mm.
- Max. hysteresis: ± 0.004 mm.
- Measuring force: <1.4 N.
- Rotatable dial.
- Scale numbering: 0-100.
- DIN 878.



Item No.	Measuring range/mm	Clamping stem \varnothing /mm	Price EUR
855.558	0-5	6.35	
855.560	0-5	6	
Clamping stem on back side:			
855.559	0-5	8	

Mitutoyo dial indicators 0.01 and 0.001 mm

Dial indicators from Mitutoyo with a very favourable price-performance ratio. In our catalog we only represent a small part of the Mitutoyo program, but we can supply all Mitutoyo products.

- Graduation: 0.01 or 0.001 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 55.6 mm.
- Rotatable dial.
- Various models available.
- Locking screw and adjustable tolerance markers optionally available.

Graduation 0.01 mm

- Measuring range: 0 - 10 mm.
- Accuracy: ± 0.013 mm.
- Max. hysteresis: 0.003 mm.
- Measuring force: 1.4 N.
- 1 pointer revolution = 1 mm.
- Scale numbering: 0 - 100 (100 - 0).
- Flat back or back with lug¹.

Item No.	Measuring range/mm	Graduation mm	Price EUR
204.600 ¹	0 - 10	0.01	
204.601	0 - 10	0.01	
204.602 ²	0 - 10	0.01	

¹ Back with lug.

² Splashproof model; measuring force 2.5 N.

Graduation 0.001 mm

- Measuring range: 0 - 1 mm.
- Accuracy: ± 0.005 mm.
- Max. hysteresis: 0.002 mm.
- Flat back (Back with lug available on request.)
- Conforms to factory standard.



204.600



210.912



211.010



211.148 + 211.195

Item No.	Measuring range/mm	Graduation mm	1 pointer revolution	Scale numbering	Measuring force/N	Price EUR
210.912	0 - 1	0.001	0.2 mm	0 - 100 - 0	1.5	
211.010	0 - 1	0.001	0.1 mm	0 - 100 (100 - 0)	1.5	

Options:

- 211.148 Locking screw for 2 series dial indicators
- 211.195 Tolerance markers for 2 series dial indicators

TESA dial indicators

TESA precision dial indicators with a high accuracy and a special construction guaranteeing a very long life.

- Measuring range: 0- 50 mm.
- Graduation: 0.1 -0.001 mm.
- Clamping stem: \varnothing 8 mm.
- Rotatable dial with adjustable tolerance markers.
- Flat back, except 782.296.
- Delivery with a declaration of conformity.



Item No.	Measuring range/mm	Accuracy mm	Dial \varnothing /mm	Scale numbering	Shockproof	Price EUR
Graduation 0.1 mm:						
783.632	0- 10	0.055	40	0- 10	no	
782.801	0- 10	0.055	58	0- 10	no	
783.494	0- 30	0.055	58	0- 10	no	
Graduation 0.01 mm:						
783.643	0- 3.5	0.017	28	0- 50	no	
782.723	0- 5	0.012	40	0- 50	yes	
782.724	0- 10	0.015	58	0-100	yes	
783.538	0- 30	0.020	58	0-100	no	
783.633	0- 50	0.025	58	0-100	no	
Graduation 0.01 mm, protection IP67:						
783.644	0- 5	0.012	44.5	0- 50	yes	
783.648	0- 10	0.015	61.5	0-100	yes	
Graduation 0.002 mm:						
783.645	0- 3	0.007	44.5	0- 20	yes	
783.649	0- 5	0.010	61.5	0- 20	yes	
Graduation 0.002 mm, protection IP67:						
783.646	0- 3	0.007	44.5	0- 20	yes	
Graduation 0.001 mm:						
783.647	0- 1	0.005	44.5	0- 10	yes	
783.650	0- 1	0.005	61.5	0- 10	yes	
783.651	0- 5	0.010	61.5	0- 20	yes	
Clamping stem on back side:						
782.296	0- 3	0.012	40	0- 50	no	



C05.333.EN.20230522

TESA dial indicators

TESA precision dial indicators with a high accuracy and a special construction guaranteeing a very long life.

- Measuring range: 0- 10 mm.
- Graduation: 0.01-0.001 mm.
- Clamping stem: \varnothing 8 mm.
- Measuring force: approx. 1 N (only 781.682).
- Rotatable dial (except 781.682).
- Adjustable tolerance markers.
- Fine adjustment (only 781.682).
- Flat back.
- DIN 878 (except 781.682 and 783.221).
- DIN 879 (only 781.682).



Item No.	Measuring range/mm	Accuracy mm	Dial \varnothing /mm	Scale numbering	Shock-proof	Graduation mm	Price EUR
781.681	0- 5	0.014	40	0- 50	no	0.01	
781.693	0- 1	0.005	58	0-100	yes	0.001	
781.695	0- 5	0.005	58	0-200	yes	0.001	
781.691	0-10	0.017	58	0-100	no	0.01	
781.686	0-10	0.017	58	0-100	yes	0.01	
779.913 ¹	0- 1	0.005	40	0-100	yes	0.001	
781.685 ¹	0- 1	0.005	40	0-100	yes	0.001	
781.683 ¹	0- 5	0.014	40	0- 50	no	0.01	
779.925 ¹	0- 5	0.014	40	0- 50	yes	0.01	
779.935 ¹	0- 1	0.005	58	0-100	no	0.001	
783.253	0- 0.4	0.014	40	20-0-20	no	0.01	
782.417	0- 5	0.014	40	0- 50	no	0.01	
783.221	0- 1	0.009	58	50-0-50	yes	0.01	
782.799	0-10	0.017	58	0-100	no	0.01	
781.682 ¹	0- 0.1	0.0012	62	50-0-50	yes	0.001	

¹ Protection: IP54.

Käfer dial indicators 0.01 mm

These recently developed Käfer dial indicators are very stable and have a very good price-performance ratio. Also available in a shockproof design, where blows against the plunger can not damage the mechanics.

- Measuring range: 0- 10 mm.
- Graduation: 0.01 mm.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 40 mm (851.700: 58 mm).
- Scale numbering: 0- 50 (852.291: 0- 100), (851.700: 0- 50- 0).
- Adjustable tolerance markers.
- Flat back.
- Clamping stem and measuring pin out of hardened stainless steel.
- DIN 878.
- Delivery in a plastic case.

Item No.	Measuring range/mm	Graduation mm	Price EUR
852.350	0- 3	0.01	
852.352	0- 5	0.01	
Shockproof design:			
851.700	0- 0.8	0.01	
852.351	0- 3	0.01	
852.353	0- 5	0.01	
852.291	0- 10	0.01	



Käfer dial indicators 0.01 mm

These dial indicators have an almost constant measuring force of 1 N over the total measuring range. This is achieved through a built-in lever construction. The shockproof design protects the mechanics against harsh blows and reduces the possibility of damage. The shockproof design has an unbreakable cover glass.

- Measuring range: 0- 10 mm.
- Graduation: 0.01 mm.
- Measuring force: approx. 1 N.
- Clamping stem: \varnothing 8 mm.
- Dial diameter: 58 mm.
- Scale numbering: 0- 100.
- Adjustable tolerance markers.
- Flat back.
- DIN 878.
- Delivery in a plastic case.

Item No.	Measuring range/mm	Graduation mm	Price EUR
852.354	0- 10	0.01	
Shockproof design:			
852.355	0- 10	0.01	



Käfer dial indicators 0.01 mm

These Käfer dial indicators combine a large measuring range with a high accuracy. The clear dials ensure an easy read-out. Thanks to the special construction, these dial indicators have an almost constant measuring force on the whole measuring range.

- Measuring range: 0- 100 mm.
- Graduation: 0.01 mm.
- Measuring force: approx. 1 N
(852.290 approx. 1.5 N, 852.289 approx. 1.2 N).
- Clamping stem: \varnothing 8 mm
(except 852.289: \varnothing 10 mm).
- Dial diameter: 58 mm.
- Rotatable dial.
- Adjustable tolerance markers.
- Flat back.
- Clamping stem and measuring pin out of hardened stainless steel.
- Conforms to factory standard.



Item No.	Measuring range/mm	Accuracy mm	Scale numbering	Price EUR
852.356	0- 30	± 0.02	0-100	
852.357	0- 50	± 0.025	0-100	
852.290	0- 80	± 0.030	0-100	
852.289	0-100	± 0.050	0-100	

Käfer Feinika dial indicators 0.001 mm

The Käfer Feinika dial indicators have a special construction without gear wheels, comparable to the precision dial indicators. A special lever construction enlarges the measuring range up to 1 mm. This lever construction gives the Feinika a very low hysteresis of maximal 1.5 μ m, making it very suitable for very accurate comparative measurements where a large measuring range is necessary. Just like the precision dial indicators the Feinika has a resolution of 0.001 mm.



- Measuring range: 0- 1 mm.
- Graduation: 0.001 mm.
- Hysteresis: ≤ 0.0015 mm.
- Clamping stem: \varnothing 8 mm.
- Shockproof.
- Adjustable tolerance markers.
- Conforms to factory standard.
- Delivery in a plastic case.

Item No.	Measuring range/mm	Accuracy mm	Dial \varnothing /mm	Scale numbering	Price EUR
852.358	0- 1	± 0.004	40	0- 100	
852.359	0- 1	± 0.004	58	0- 100	

Precision dial indicator

Highly accurate dial indicator for measurements from a fixed reference point. Very suitable for internal measuring instruments and dial indicator stands for example.

- Measuring range: 0.1 mm.
- Graduation: 0.001 mm.
- Measuring force: <2 N.
- Clamping stem: \varnothing 8 mm.
- Travel: 3 mm.
- Adjustable tolerance markers.
- Fine adjustment.
- Delivery in a plastic case with a manufacturer measuring report.



Item No.	Measuring range/mm	Dial \varnothing /mm	Price EUR
907.939	0.1	63.5	

Precision dial indicators

- Measuring range: 0.06 mm.
- Graduation: 0.0005 mm or 0.001 mm.
- Measuring force: approx. 1 N.
- Clamping stem: \varnothing 28 mm.
- Shockproof.
- Fine adjustment.
- Delivery with an inspection report.

For dial indicator stands see dial indicator stands elsewhere in this catalog.



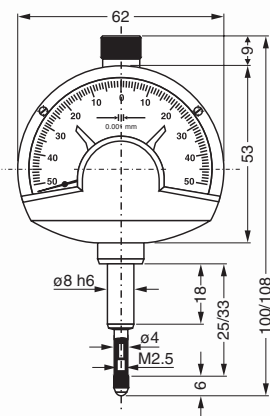
906.333

Item No.	Measuring range/mm	Resolution mm	Scale numbering	Price EUR
906.332	0.03	0.0005	15 - 0 - 15	
906.333	0.06	0.001	30 - 0 - 30	

Käfer Compika precision dial indicators

Accurate precision dial indicators with stable, multiple ball-bearing mechanics. Because of that the Compika has a very low hysteresis. Easy to set by the fine adjustment on top of the dial indicator, that has a protective knob to prevent unintentional displacement of the pointer.

- Measuring range: 0.1 mm.
- Graduation: 0.001 mm.
- Measuring force: approx. 1 N.
- Clamping stem: $\varnothing 8$ mm.
- Max. probe travel: 3 mm.
- Ball bearing probe rod.
- Protective knob.
- Shockproof.
- Waterproof (only 852.386).
- Adjustable tolerance markers.
- Fine adjustment.
- Clamping stem and measuring pin out of hardened stainless steel.
- DIN 879.
- Delivery in a plastic case.



852.360

852.386

Item No.	Measuring range/mm	Waterproof	Dial \varnothing /mm	Scale numbering	Price EUR
852.360	0.1	no	62	50-0-50	
852.386	0.1	yes	62	50-0-50	

Käfer Sensikator low force precision dial indicator

The precision dial indicator Sensikator combines the advantages of high precision with an exceptionally low measuring force. A fine glass pointer allows for a large reduction in inertia. The pointer and scale lines cover each other perfectly, this achieves a very accurate reading.

- Measuring range: 0.1 mm.
- Graduation: 0.001 mm.
- Measuring force: approx. 0.14 N $\pm 20\%$.
- Clamping stem: $\varnothing 8$ mm.
- Max. probe travel: 2.4 mm.
- Shockproof.
- Adjustable tolerance markers.
- Fine adjustment.
- DIN 879.
- Due to the exceptionally low measuring force, only useable in upright position.
- Delivery in a plastic case.

NEW



Schut

Item No.	Measuring range/mm	Dial \varnothing /mm	Scale numbering	Price EUR
851.671	0.1	66	50-0-50	

Schwenk precision dial indicators

Highly accurate shockproof dial indicators for measurements from a fixed reference point. Very suitable for internal measuring instruments and dial indicator stands for example.

- Measuring range: up to 0.5 mm.
- Graduation: 0.01 or 0.001 mm.
- Measuring force: approx. 1 N.
- Clamping stem: $\varnothing 8$ mm.
- Dial diameter: 63 mm.
- Max. probe travel: 3 mm.
- Ball bearing probe rod.
- Adjustable tolerance markers.
- DIN 879.
- Delivery in a plastic case.



852.640



852.641

Item No.	Type	Measuring range/mm	Graduation mm	Price EUR
852.640	Mytast	0.1	0.001	
852.641	Centitast	0.5	0.01	

TESA precision dial indicators

- Measuring range: 0.1 mm.
- Graduation: 0.001 mm.
- Measuring force: approx. 1 N.
- Clamping stem: $\varnothing 8$ mm.
- Max. probe travel: 3 mm.
- Shockproof.
- Protection: IP54 (only 781.700).
- Adjustable tolerance markers.
- Fine adjustment.
- Clamping stem and measuring pin out of hardened stainless steel.
- DIN 879.



781.699

781.700

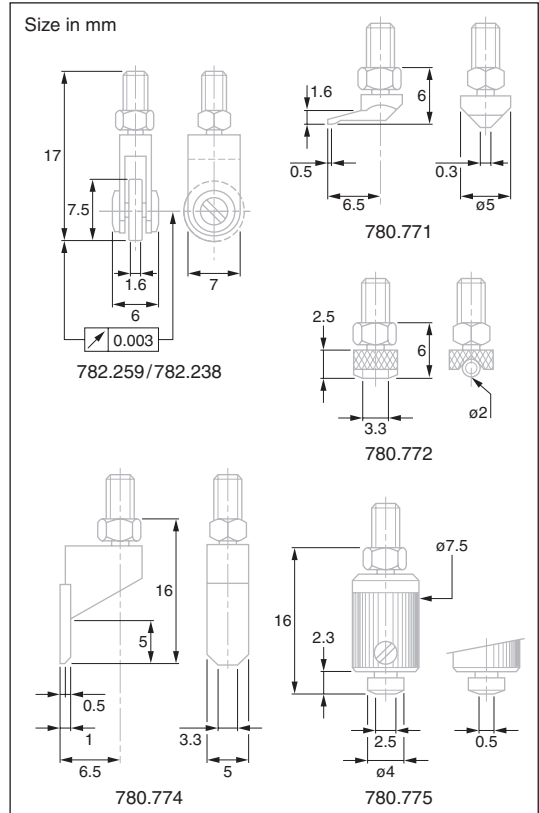
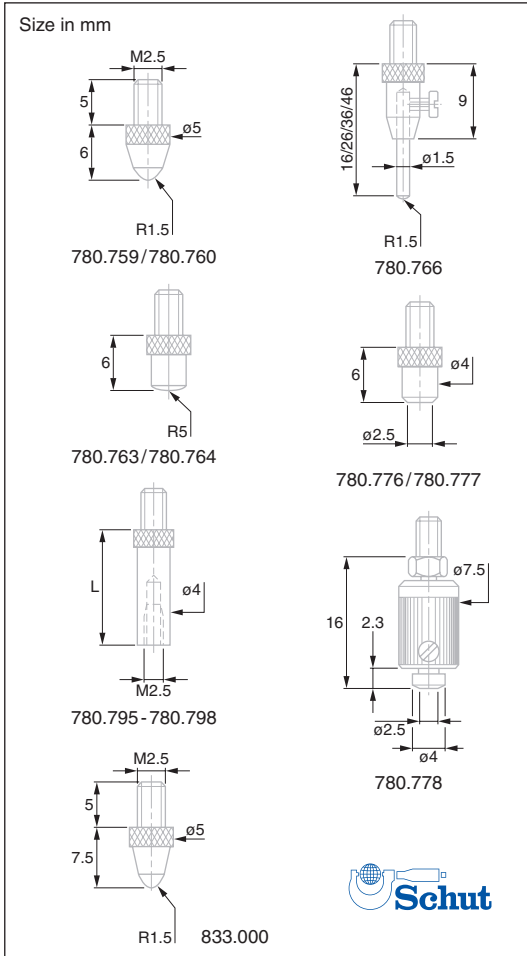


NEW

Item No.	Measuring range/mm	Accuracy mm	IP54	Dial \varnothing /mm	Price EUR
781.699	0.1	0.0012	no	62	
781.700	0.1	0.0012	yes	62	

Inserts and extensions

Most dial indicators are equipped with an interchangeable insert with thread M2.5. Besides the inserts shown below various other types are available.

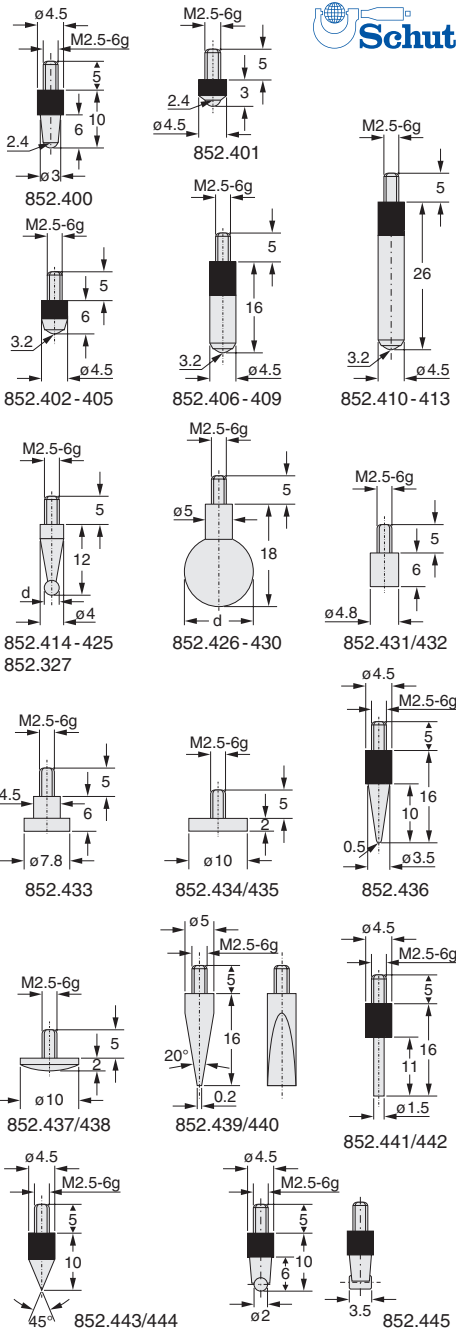


Item No.	Type	Price EUR
Ball radius 1.5 mm:		
780.759	Steel	
780.760	Tungsten carbide	
780.766	4 interchangeable inserts	
Ball radius 5 mm:		
780.763	Steel	
780.764	Tungsten carbide	
Flat:		
780.776	Steel	
780.777	Tungsten carbide	
780.778	Flat, adjustable meas. face	

Item No.	Type	Price EUR
Special forms:		
782.259	Roller with a cylindrical measuring face	
782.238	Roller with a ball-shaped measuring face	
780.771	Offset point	
780.772	Cylindrical point	
780.774	Offset line contact face	
780.775	V-shaped adjustable point	
Extensions:		
780.795	10 mm	
780.796	15 mm	
780.797	20 mm	
780.798	40 mm	
Special probe head:		
833.000	Ceramic ball $\phi 3$ mm	

Käfer inserts

Inserts with thread M2.5. The inserts are made of steel unless otherwise indicated; tungsten carbide (TC), ruby (R) or sapphire (S).

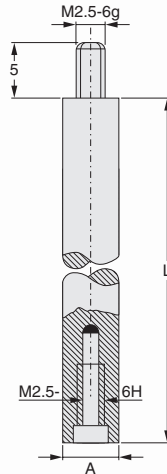


Item No.	Description	Price EUR
Ball probes:		
852.400	$d = 2.4$ mm $l = 10$ mm	
852.401	$d = 2.4$ mm $l = 3.0$ mm	
852.402	$d = 3.2$ mm $l = 6.0$ mm	
852.403	$d = 3.2$ mm $l = 6.0$ mm	TC
852.404	$d = 3.2$ mm $l = 6.0$ mm	R
852.405	$d = 3.2$ mm $l = 6.0$ mm	S
852.406	$d = 3.2$ mm $l = 16$ mm	
852.407	$d = 3.2$ mm $l = 16$ mm	TC
852.408	$d = 3.2$ mm $l = 16$ mm	R
852.409	$d = 3.2$ mm $l = 16$ mm	S
852.410	$d = 3.2$ mm $l = 26$ mm	
852.411	$d = 3.2$ mm $l = 26$ mm	TC
852.412	$d = 3.2$ mm $l = 26$ mm	R
852.413	$d = 3.2$ mm $l = 26$ mm	S
852.414	$d = 1.0$ mm $l = 12$ mm	
852.420	$d = 1.0$ mm $l = 12$ mm	TC
852.327	$d = 1.5$ mm $l = 12$ mm	
852.415	$d = 2.0$ mm $l = 12$ mm	
852.421	$d = 2.0$ mm $l = 12$ mm	TC
852.416	$d = 3.0$ mm $l = 12$ mm	
852.422	$d = 3.0$ mm $l = 12$ mm	TC
852.417	$d = 4.0$ mm $l = 12$ mm	
852.423	$d = 4.0$ mm $l = 12$ mm	TC
852.418	$d = 5.0$ mm $l = 12$ mm	
852.424	$d = 5.0$ mm $l = 12$ mm	TC
852.419	$d = 6.0$ mm $l = 12$ mm	
852.425	$d = 6.0$ mm $l = 12$ mm	TC
852.426	$d = 7.0$ mm $l = 18$ mm	
852.427	$d = 8.0$ mm $l = 18$ mm	
852.428	$d = 9.0$ mm $l = 18$ mm	
852.429	$d = 10.0$ mm $l = 18$ mm	
852.430	$d = 11.0$ mm $l = 18$ mm	
Flat probes:		
852.431	$d = 4.8$ mm $l = 6$ mm	
852.432	$d = 4.8$ mm $l = 6$ mm	TC
852.433	$d = 7.8$ mm $l = 6$ mm	
852.434	$d = 10.0$ mm $l = 2$ mm	
852.435	$d = 10.0$ mm $l = 2$ mm	TC
Spherical probes:		
852.436	conical $l = 16$ mm	
852.437	$d = 10.0$ mm $l = 2.0$ mm	
852.438	$d = 10.0$ mm $l = 2.0$ mm	TC
Knife-edged probes:		
852.439	$d = 5.0$ mm $l = 16$ mm	
852.440	$d = 5.0$ mm $l = 16$ mm	TC
Needle-shaped probes:		
852.441	$d = 1.5$ mm $l = 16$ mm	
852.442	$d = 1.5$ mm $l = 16$ mm	TC
Tapered probes:		
852.443	$d = 4.5$ mm $l = 10$ mm	
852.444	$d = 4.5$ mm $l = 10$ mm	TC
Probe with cylindrical measuring face:		
852.445	$d = 2 \times 3.5$ mm $l = 10$ mm	

Extensions for inserts

Steel extensions for inserts with thread M2.5.

Item No.	Length mm	Price EUR
Extensions with A = ϕ 4 mm:		
852.446	10	
852.447	15	
852.448	20	
852.449	25	
852.450	30	
852.451	35	
852.452	40	
852.453	45	
852.454	50	
852.455	55	
852.456	60	
852.457	65	
852.458	70	
852.459	75	
852.460	80	
852.461	85	
852.462	90	
852.463	95	
852.464	100	

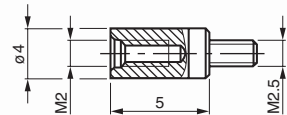


Item No.	Length mm	Price EUR
Extensions with A = ϕ 5 mm:		
852.465	10	
852.466	15	
852.467	20	
852.468	25	
852.469	30	
852.470	35	
852.471	40	
852.472	45	
852.473	50	
852.474	55	
852.475	60	
852.476	65	
852.477	70	
852.478	75	
852.479	80	
852.480	85	
852.481	90	
852.482	95	
852.483	100	

Adapters for inserts

Adapter for attaching other inserts to dial indicators and probes with an interchangeable insert with thread M2.5.

Item No.	External/internal thread	Price EUR
960.276	M2.5/M2	



Käfer long angular heads for dial indicators

- Clamping shaft: ϕ 8 mm.
- Extensions stem: ϕ 8 mm.
- Thread for inserts and extensions: M2.5.
- Max. probe travel: 4 mm.
- One extension and extra insert are needed for the angular head to function.

Please see the dial indicator accessories section for these inserts.



NEW



Item No.	Description	Price EUR
Long angular heads:		
851.019	Long angular head 90°	
851.020	Long angular head 45°	
851.021	Long angular head 0°	
Extensions:		
851.022	Extension 15 mm	
851.023	Extension 25 mm	
851.024	Extension 50 mm	
851.025	Extension 75 mm	
851.026	Extension 100 mm	

Depth measuring bases for dial indicators

Bases which make dial indicators and probes suitable for depth measurements.

- Clamping shaft: 8H7.

Item No.	Measuring face l x w/mm	Price EUR
907.153	63 x 17	
907.165	101.5 x 17	
With V-shaped measuring face:		
906.644	66 x 16	
With cylindrical measuring face:		
907.179	101.5 x R10.9	

Bridges

A number of standard bridges have been developed for arithmetic indicators to provide several convenient measuring solutions. The accuracy depends on the radius and form deviation of the workpiece. Custom-made bridges are also possible.

Item No.	Description	Price EUR
131.047	Bridge, $r = 15 - 80$ mm	
131.040	Bridge, $r = 40 - 210$ mm	
131.043	Bridge, $r > 40$ mm	
131.044	Bridge, $r > 120$ mm	
131.045	Bridge, $r > 420$ mm	
131.046	Bridge, $r > 1000$ mm	
131.042	Groove gauge 2-23 mm	

Retraction levers

To determine the right type of retraction lever please contact our sales department.

Retraction lever

Universal retraction lever, bottom mounted. This lever is fully compatible with TESA dial indicators, but can also be used with a wide range of other dial indicators.



780.782

Item No.	Description	Price EUR
780.782	Retraction lever	
Consisting of:		
780.779	Lever	
780.780	Washer	

Retraction lever

Universal retraction lever, bottom mounted and compatible with any dial indicator with an interchangeable probe with M2.5 thread.



Item No.	Description	Price EUR
781.727	Retraction lever	

Retraction lever

Universal retraction lever, bottom mounted and compatible with any dial indicator.



Item No.	Description	Price EUR
137.693	Retraction lever	

Retraction levers

Universal retraction levers, top mounted. These levers are fully compatible with TESA and Käfer dial indicators of the given diameters, but can also be used with a wide range of other dial indicators.



782.321

Item No.	Description	Dial ø/mm	Price EUR
782.320	TESA lever	40	
782.321	TESA lever	58	
852.387	Käfer lever	58	

Mitutoyo retraction levers

Universal retraction levers, top mounted. These levers are fully compatible with Mitutoyo dial indicators of the given series, but can also be used with a wide range of other dial indicators.



Item No.	Description	Price EUR
210.198	For ID-C, S-SS, series 2, up to 12 mm measuring range	
902.100	For S type and A type series 1	

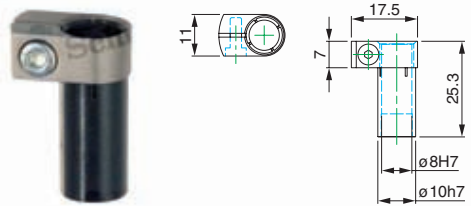
Clamping bush



780.398

Item No.	Description	Price EUR
780.398	Clamping bush VKE	
780.397	Clamping screw VKD	

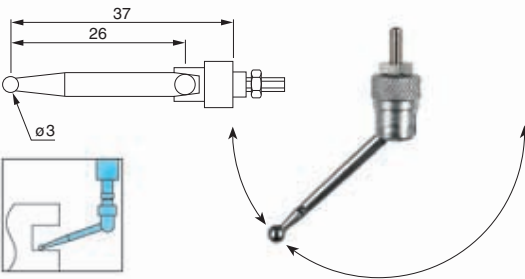
Clamping bush



Item No.	Description	Price EUR
906.497	Clamping bush	

Swivel-type probe

Swivel-type probe for dial indicators with M2.5 thread. The probe can be oriented over 180°. Equipped with a steel ball probe $\varnothing 3$ mm.



Item No.	Description	Price EUR
900.391	Swivel-type probe	

Angle probe and special probe

Probes e.g. for checks and alignments of bores on lathes.

- Probe measuring range: 10 mm.
- Measuring depth: 30 mm (856.149) or 60 mm (856.150).
- Clamping stem: $\varnothing 8$ mm.
- Clamping shaft: $\varnothing 8$ mm.



Item No.	Description	Price EUR
856.149	Angle probe	
856.150	Special probe	

Angle probe

Angle probe used for the transmission of the plunger movements up to 10 mm. Suited for dial indicators with a 0.01 mm graduation. Delivery incl. flat insert $\varnothing 5$ mm.

- Probe measuring range: 10 mm.
- Clamping shaft: $\varnothing 8$ mm.

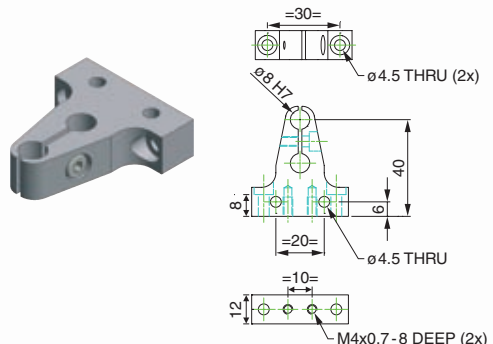


Item No.	Description	Price EUR
782.440	Angle probe	

Probe holder

Probe holder for for surfacemounting.

- Clamping shaft: $\varnothing 8$ mm.
- For attaching with M4 bolts.
- Material: anodized aluminum.

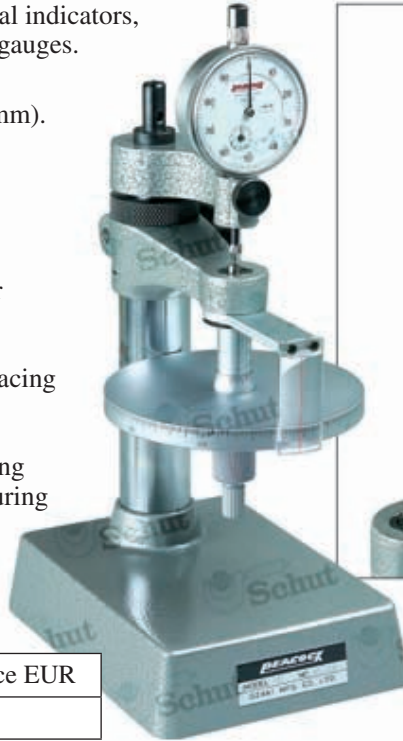


Item No.	Description	Price EUR
993.054	Probe holder	

Peacock dial indicator tester

For checking the accuracy of dial indicators, lever-type dial test indicators and gauges.

- Measuring range: 20 mm (max. spindle thread pitch: 25 mm).
- Graduation: 0.001 mm.
- Accuracy: ± 0.002 mm.
- Several mounting possibilities: vertical intake $\varnothing 8$ mm, horizontal intake $\varnothing 6$ mm.
- Please see the dial test indicator accessories section for other mounting possibilities.
- Provided with mirror for dials facing upward.
- Type NB.
- Delivery in an aluminum carrying case with a manufacturer measuring report.



Item No.	Description	Price EUR
855.620	Dial indicator tester	

Dial indicator backs

Dial indicators are by default delivered with either a flat back or a back with lug. For many dial indicators alternative back plates are available, which considerably increases the flexibility for mounting the dial indicators.

The many possible combinations make it impossible to specify them all. The given selection is an impression of the possibilities.



With lug in the middle



With threaded bush



With shifted lug



With adjustable fixture



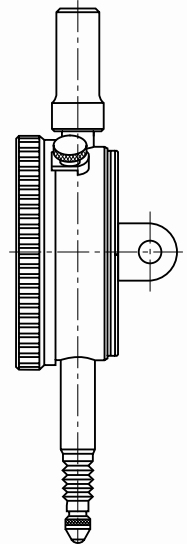
With magnet



With fixing shank



Flat back

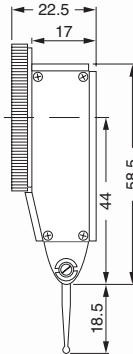


Lever-type dial test indicators

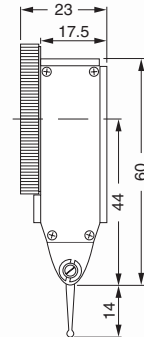
- Measuring range: up to 0.8 mm.
- Graduation: 0.01 or 0.002 mm.
- With dovetail joint and clamping stems $\varnothing 6$ and $\varnothing 8$ mm.
- Dial diameter: 40 mm.
- Rotatable dial.
- Stylus tip: $\varnothing 2$ mm.
- Insert thread: M1.8.
- Delivery with a manufacturer measuring report.



907.941



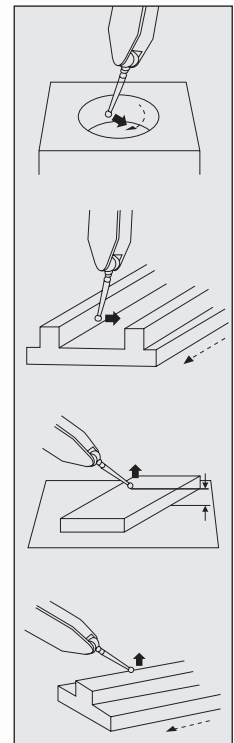
907.942



909.114/115



906.663/664



Clamping stem $\varnothing 6/\varnothing 8$ mm.

Item No.	Measuring range/mm	Graduation mm	Scale numbering	Insert length/mm	Price EUR
907.941	0.8	0.01	0-40-0	19	
907.942	0.2	0.002	0-100-0	13	

Options:

- 909.114 Steel spare stylus tip for 907.941
- 909.115 Steel spare stylus tip for 907.942
- 906.663 Ruby spare stylus tip for 907.941
- 906.664 Ruby spare stylus tip for 907.942

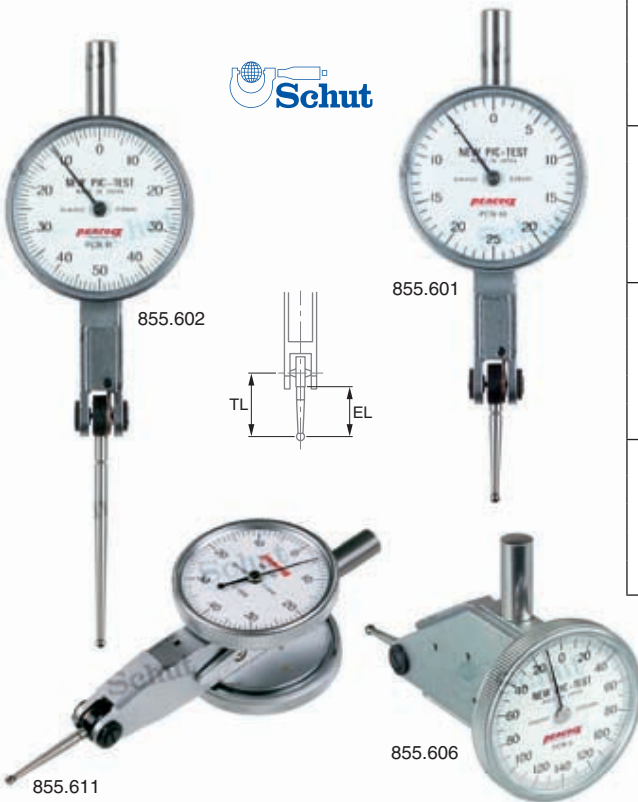


Peacock lever-type dial test indicators

- Measuring range: up to 1 mm.
- Graduation: 0.01, 0.002 or 0.001 mm.
- With dovetail joint and clamping stem $\varnothing 6$ mm.
- Measuring force: <0.3 N (except 855.610: 0.05 N).
- Dial diameter: $\varnothing 35$ mm.
- Tungsten carbide stylus tip: $\varnothing 2$ mm.
- Insert thread: M1.7.
- Delivery in a plastic case with a manufacturer measuring report.

Inserts for lever-type dial test indicators

Item No.	Effective length (EL)/mm	Ball \varnothing /mm	Price EUR
For 855.601, 855.605 and 855.610:			
859.016	17.74	2	
859.152	17.74	1	
859.151	17.74	0.8	
859.290	17.74	0.5	
For 855.602:			
859.126	39.00	2	
859.291	39.00	1	
859.292	39.00	0.8	
859.293	39.00	0.5	
For 855.603 and 855.606:			
859.200	14.33	2	
859.294	14.33	1	
859.295	14.33	0.8	
859.296	14.33	0.5	
For 855.604:			
859.259	8.13	2	
859.297	8.13	1	
859.298	8.13	0.8	
859.299	8.13	0.5	
For 855.611:			
859.464	19.24	2	
859.465	19.24	1	
859.466	19.24	0.8	
859.467	19.24	0.5	



Item No.	Measuring range/mm	Max. hysteresis mm	Accuracy mm	Graduation mm	Scale numbering	Insert	Total insert length (TL)/mm	Price EUR
Horizontal:								
855.601	0.5	0.005	± 0.007	0.01	0-25-0	859.016	21.3	
855.602	1	0.006	± 0.011	0.01	0-50-0	859.126	42.8	
855.603	0.28	0.004	± 0.005	0.002	0-140-0	859.200	17.9	
855.604	0.14	0.004	± 0.005	0.001	0-70-0	859.259	11.7	
855.611	0.8	0.005	± 0.010	0.01	0-40-0	859.464	22.4	
855.610	0.5	0.005	± 0.007	0.01	0-25-0	859.016	21.3	
Perpendicular:								
855.605	0.5	0.005	± 0.007	0.01	0-25-0	859.200	21.3	
855.606	0.28	0.004	± 0.005	0.002	0-140-0	859.200	17.9	

Mitutoyo lever-type dial test indicators 0.01 mm

These dial test indicators are able to measure in both directions without having to switch direction.

- Measuring range: up to 1 mm.
- Graduation: 0.01 mm.
- With dovetail joint and clamping stem $\varnothing 8$ mm.
- Dial diameter: $\varnothing 40$ mm.
- Tungsten carbide stylus tip: $\varnothing 2$ mm.
- Insert thread: M1.7.
- Jewel beared clockwork.
- Antimagnetic.
- Delivery in a plastic case with a manufacturer measuring report and a clamping stem.
- Various different models available.



Inserts

Item No.	Ball \varnothing /mm	Price EUR
For 513.424/426:		
137.557 ¹	2	
290.654 ²	0.5	
190.653 ²	0.7	
137.558 ¹	1	
137.559 ¹	3	
For 513.414:		
131.324 ¹	2	
131.316 ¹	1	
For 513.403/454/484:		
103.006 ¹	2	
290.549 ²	0.5	
290.550 ²	0.7	
103.013 ¹	1	
210.201 ³	2	
103.014 ¹	3	
For 513.415:		
136.013 ¹	2	
290.656 ²	0.5	
290.655 ²	0.7	
136.235 ¹	1	
211.211 ³	2	
136.236 ¹	3	

¹ Tungsten carbide.

² Steel.

³ Ruby.

Item No.	Measuring range/mm	Accuracy f_{ges} /mm	Hysteresis mm	Measuring force/N	Scale numbering	Insert	Insert length (L1/L2)/mm	Price EUR
Horizontal model:								
513.424	0.5	0.006	0.004	≤ 0.3	0-25-0	137.557	22.2/18.7	
513.426	1.5	0.016	0.005	≤ 0.4	0-25-0	137.557	22.2/18.7	
513.414	0.5	0.010	0.005	≤ 0.2	0-25-0	131.324	37.4/33.9	
513.403	0.8	0.009	0.004	≤ 0.3	0-40-0	103.006	20.9/17.4	
513.415	1	0.010	0.005	≤ 0.2	0-50-0	136.013	44.5/41.0	
Vertical model:								
513.454	0.8	0.009	0.004	≤ 0.3	0-40-0	103.006	20.9/17.4	
Parallel model:								
513.484	0.8	0.009	0.004	≤ 0.3	0-40-0	103.006	20.9/17.4	

Mitutoyo lever-type dial test indicators 0.001 and 0.002 mm

These dial test indicators are able to measure in both directions without having to switch direction.

- Measuring range: up to 0.6 mm.
- Graduation: 513.401: 0.001 mm,
513.465/406/425/475: 0.002 mm.
- With dovetail joint and clamping stem \varnothing 8 mm.
- Dial diameter: 513.465: \varnothing 29 mm,
513.401/406/425/475: \varnothing 40 mm.
- Tungsten carbide stylus tip: \varnothing 2 mm, (except 513.475, ruby stylus tip: \varnothing 2 mm).
- Insert thread: M1.7.
- Jewel beared clockwork.
- Antimagnetic.
- Delivery in a plastic case with a manufacturer measuring report and a clamping stem.
- Various different models available.



513.401

Inserts

Item No.	Ball \varnothing /mm	Price EUR
For 513.465/406/425/475:		
103.011 ¹	2	
131.314 ¹	1	
131.315 ¹	3	
210.068 ²	2	
For 513.401:		
103.010 ¹	2	
290.547 ³	0.5	
290.548 ³	0.7	
103.017 ¹	1	
210.209 ²	2	
103.018 ¹	3	

¹ Tungsten carbide.

² Ruby.

³ Steel.

Item No.	Measuring range/mm	Accuracy mm	Measuring force/N	Scale numbering	Insert	Insert length (L1/L2)/mm	Price EUR
513.401	0.14	0.003	≤ 0.3	0-70-0	103.010	14.7/11.2	
513.465	0.2	0.003	≤ 0.3	0-100-0	103.011	18.7/15.2	
513.406	0.2	0.003	≤ 0.3	0-100-0	103.011	18.7/15.2	
513.425	0.6	0.007	≤ 0.4	0-100-0	103.011	18.7/15.2	
513.475	0.2	0.003	≤ 0.3	0-100-0	210.068	18.7/15.2	

Mitutoyo lever-type dial test indicator sets

The sets 513.404/408 consist of:

- lever-type dial test indicator,
- insert with tungsten carbide tip \varnothing 1 mm, \varnothing 2 mm and \varnothing 3 mm,
- union nut, clamping stem \varnothing 4 mm and \varnothing 8 mm,
- universal rotatable holder,
- clamping stem for height gauge (9 x 9 x 100 mm),
- manufacturer measuring report and plastic case.

Set 513.908 consists of:

- lever-type dial test indicator,
- insert with tungsten carbide tip \varnothing 2 mm,
- small magnetic dial indicator stand (150 N magnetic force, holder \varnothing 6 mm and \varnothing 8 mm),
- shaft with serrated clamping ring,
- manufacturer measuring report and plastic case.



513.404

Item No.	Description	Accuracy/mm	Price EUR
513.404	Lever-type dial test indicator 0.8 mm (513.403) with several accessories	0.008	
513.408	Lever-type dial test indicator 0.2 mm (513.406) with several accessories	0.003	
513.908	Lever-type dial test indicator 0.8 mm (513.403) with small magnetic dial indicator stand	0.008	

TESA lever-type dial test indicators

- Measuring range: up to 2 mm.
- Graduation: 0.02, 0.01, 0.002 or 0.001 mm.
- With dovetail joint.
- Tungsten carbide (Tesatast) or ruby (RUBYTAST) stylus tip, $\varnothing 2$ mm.
- Insert thread: M1.4.
- DIN 2270.
- Delivery in a plastic case with a clamping stem (780.172).



780.143-
780.148



780.149-
780.151



780.152-
780.154



781.466-
781.467

Item No.	Measuring range/mm	Accuracy mm	Graduation mm	Dial \varnothing /mm	Scale numbering	Insert length/mm	Price EUR
Tesatast, horizontal:							
780.143	0.8	0.010	0.01	28	0-0.4-0	12.53	
780.144	0.8	0.010	0.01	38	0-0.4-0	12.53	
780.145	0.5	0.010	0.01	28	0-0.25-0	36.53	
780.146	0.5	0.010	0.01	38	0-0.25-0	36.53	
780.147	0.2	0.002	0.002	28	0-100-0	12.53	
780.148	0.2	0.002	0.002	38	0-100-0	12.53	
780.820	0.2	0.002	0.001	38	0-100-0	12.53	
Tesatast, lateral:							
780.149	0.8	0.010	0.01	28	0-0.4-0	12.53	
780.150	2.0	0.027	0.02	38	0-1.0-0	36.53	
780.151	0.2	0.002	0.002	28	0-100-0	12.53	
Tesatast, perpendicular:							
780.152	0.8	0.010	0.01	28	0-0.4-0	12.53	
780.153	0.5	0.010	0.01	28	0-0.25-0	36.53	
780.154	0.2	0.002	0.002	38	0-100-0	12.53	
RUBYTAST, horizontal:							
781.466	0.8	0.010	0.01	28	0-0.4-0	12.53	
781.467	0.2	0.0027	0.002	38	0-100-0	12.53	

Interapid lever-type dial test indicators

- Measuring range: up to 1.6 mm.
- Graduation: 0.01 or 0.002 mm.
- Angle between insert and workpiece for true reading: 12°.
- With dovetail joint and clamping stem $\varnothing 4$ mm.
- Hardened steel stylus tip: $\varnothing 2$ mm.
- Insert thread: M1.7 (optional inserts on request).
- Delivery in a plastic case.

The sets consist of:

- dial test indicator,
- rectangular holder with clamp,
- reducing sleeve,
- swivel holder,
- key,
- case.



781.520



781.524



781.526

Item No.	Measuring range/mm	Accuracy mm	Graduation mm	Dial \varnothing /mm	Scale numbering	Insert length/mm	Price EUR	Item No.	Price EUR
Horizontal:								In a set:	
781.520	1.6	0.023	0.01	37.5	0-40-0	16.5		781.526	
781.521	1.6	0.023	0.01	30	0-40-0	16.5		781.527	
781.522	0.4	0.010	0.002	37.5	0-10-0	15.2		781.528	
781.523	0.4	0.010	0.002	30	0-10-0	15.2		781.529	
Perpendicular:									
781.524	1.6	0.023	0.01	37.5	0-40-0	16.5			
781.525	1.6	0.023	0.01	30	0-40-0	16.5			

Käfer lever-type dial test indicators

Käfer lever-type dial test indicators have a very high accuracy because of the ruby ball bearing. The direction of the rotation is independent of the measuring direction. Equipped with three dovetail mountings. Are standard delivered with a clamping stem $\varnothing 8$ mm.

- Measuring range: up to 0.8 mm.
- Graduation: 0.01 or 0.002 mm.
- With dovetail joint and clamping stem $\varnothing 8$ mm.
- Rotatable dial.
- Tungsten carbide stylus tip: $\varnothing 2$ mm.
- Insert thread: M1.6
(optional inserts on request).
- 240° adjustable measuring insert.
- Ruby ball bearing.
- DIN 2270.
- Delivery in a plastic case with a key.
- Various different models available.



Item No.	Measuring range/mm	Graduation mm	Dial \varnothing /mm	Scale numbering	Insert length/mm	Price EUR
852.361	0.8	0.01	32	0-40-0	12	
852.362	0.5	0.01	32	0-25-0	35	
852.363	0.2	0.002	40	0-100-0	12	

Käfer saw tooth indicator

By placing the indicator on the saw blade you can easily measure the flatness of the blade, enabling you to saw very precisely. With the indicator you can also measure the height difference between the saw blade and the tooth. This principal of differential measuring of thickness or heights is not only suited for saw blades, but has many other applications.

Because the indicator has a two-sided read-out, it is usable for left- as well as right-handers.

- Measuring range: 0-2 mm.
- Graduation: 0.05 mm.
- Rotatable dial.
- Adjustable tolerance marker.



Item No.	Description	Price EUR
852.364	Saw tooth indicator	

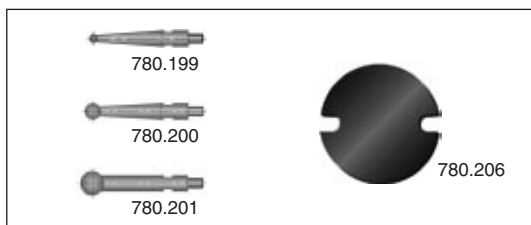
TESA dial test indicator accessories

Item No.	Description	Price EUR
780.171	① Fixing shaft $\phi 4 \times 12$ mm	
780.172	② Fixing shaft $\phi 8 \times 12$ mm	
780.173	③ Cylindrical fixing shaft $\phi 8 \times 80$ mm, clamping shaft $\phi 5.6$ mm	
780.175	④ Swivelling holder $\phi 8 \times 25$ mm	
780.176	⑤ Swivelling holder $\phi 8 \times 90$ mm	
780.177	⑥ Angle holder $\phi 8 \times 25$ mm, clamping shaft $\phi 8$ mm	
780.178	⑦ Centering support $\phi 8 \times 25$ mm, clamping shaft $\phi 4$ mm	
780.208	⑧ Double fixing clamp $\phi 5.6 / \phi 9.5$ mm, with dovetail clamp	
782.787	⑨ Swivelling holder $\phi 8 \times 125$ mm, with fine adjustment	
782.590	⑩ Fixing shaft $\phi 6 \times 12$ mm	
855.600	⑪ Fixing shaft $9 \times 11 \times 106$ mm complete with dovetail clamp and clamping shaft $\phi 6$ mm	



Measuring inserts for lever-type dial test indicators

Inserts for TESA lever-type dial test indicators, with tungsten carbide* tip and thread M1.4



Item No.	Length/mm	ϕ /mm	Price EUR
780.199	12.53	1	
780.200	12.53	2	
780.201	12.53	3	
780.202	36.53	1	
780.203	36.53	2	
780.204	36.53	3	
780.206	Key		

* Also available with ruby tip.

Accessories dial indicators/dial test indicators

Item No.	Description	Price EUR
909.433	Centering support $\varnothing 8 \times 25$ mm, holder $\varnothing 4$ mm	
909.434	Rectangular fixing shaft $12 \times 6 \times 76$ mm, holder $\varnothing 4/\varnothing 8$ mm and dovetail clamp	
909.435	Rectangular fixing shaft $12 \times 6 \times 76$ mm, holder $\varnothing 6/\varnothing 8$ mm and dovetail clamp	
909.436	Rectangular fixing shaft $9 \times 9 \times 76$ mm, holder $\varnothing 4/\varnothing 8$ mm and dovetail clamp	
909.437	Rectangular fixing shaft $9 \times 9 \times 76$ mm, holder $\varnothing 6/\varnothing 8$ mm and dovetail clamp	
909.438	Round, swivelling fixing shaft $\varnothing 6 \times 70$ mm, holder with dovetail clamp	
909.439	Round, swivelling fixing shaft $\varnothing 8 \times 70$ mm, holder with dovetail clamp	



909.434/909.435



909.436/909.437



909.438/909.439



909.433

Reducer



837.190



Item No.	Diameter	Price EUR
781.819	$\varnothing 8 \rightarrow 4$ mm	
837.190	$\varnothing 8 \rightarrow 6$ mm	

Center-accessory

Small magnetic dial indicator stand which, in combination with a lever, could also be used as center-accessory to align bores in workpieces. For use in combination with a machine center.

- Permanent magnet $\varnothing 25$ mm.
- Universal pivot with dovetail clamp.
- Fine adjustment.
- Cylindrical support $\varnothing 10$ mm for insert in the collet chuck of a machine center.



910.341

960.490

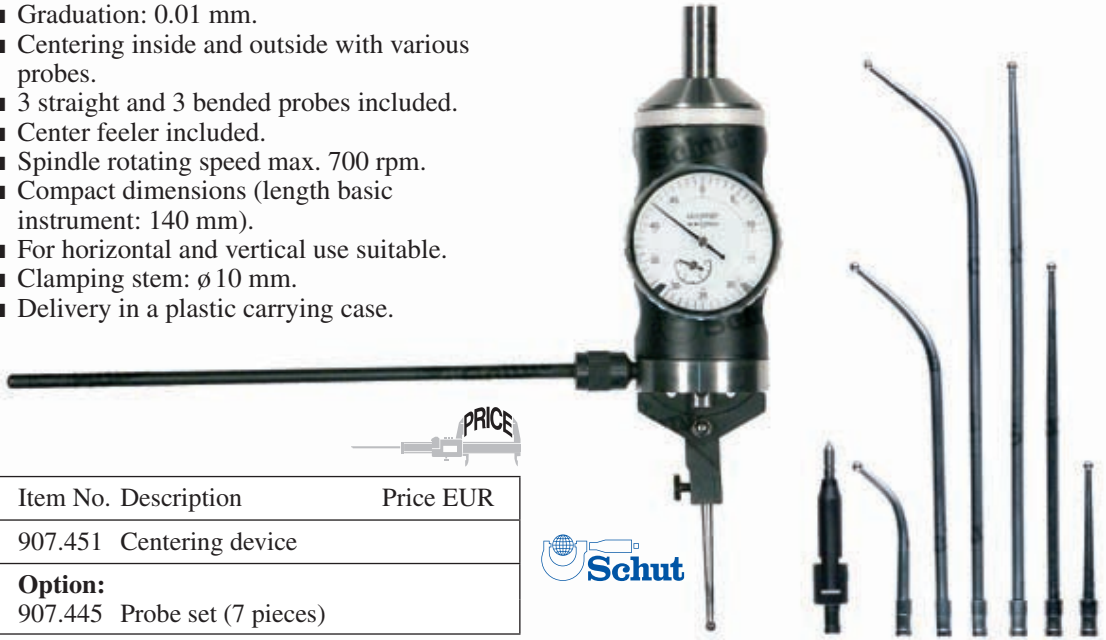


Item No.	Description	Price EUR
910.341	Center-accessory	
960.490	Cylindrical support	

Centering device

Convenient tool to find and set up the position of a workpiece on vertical and horizontal machines. It can also be used to determine the position of a workpiece when the spindle is rotated by hand or automatic. Easy read-out from stationary dial indicator. Instrument with compact dimensions.

- Max. range of use: 300 mm.
- Scale read-out per rotation: 0-3 mm.
- Graduation: 0.01 mm.
- Centering inside and outside with various probes.
- 3 straight and 3 bended probes included.
- Center feeler included.
- Spindle rotating speed max. 700 rpm.
- Compact dimensions (length basic instrument: 140 mm).
- For horizontal and vertical use suitable.
- Clamping stem: \varnothing 10 mm.
- Delivery in a plastic carrying case.



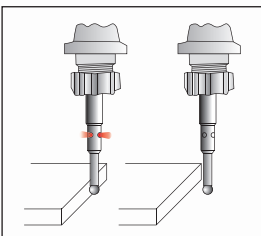
Item No.	Description	Price EUR
907.451	Centering device	
Option:		
907.445	Probe set (7 pieces)	



Edge finders

Edge finders for both stationary and rotating use. As soon as the workpiece is touched by the ballprobe the all around visible LED will light up due to galvanic contact. The ballprobe is held in place by a spring. When the pressure on the tip becomes too large the ball will flip away sideways. The edge finders are also available with additional sound signal for extra working comfort.

- Concentricity: <0.01 mm.
- Diameter ballprobe: 10 mm.
- Power supply:
907.456/460: 2 batteries type V357,
907.454/458: 1 battery type 23A.



Item No.	Clamping stem \varnothing /mm	Length mm	Price EUR
907.454	20	162	
907.456	20	100	
With sound signal:			
907.458	20	162	
907.460	20	100	
Options:			
836.535	Spare battery (2 needed)		
497.931	Spare battery		

3D probes for centering and measuring

For easy and with high accurate setting the reference point of workpiece in all three axes (X, Y and Z), vertically and horizontally.

- Measuring range: max. ± 2 mm (rupture point in probe).
- Analog: graduation 0.01 mm, digital: resolution 0.001 mm.
- Clamping stem: $\varnothing 20$ mm.
- Insert length 25 mm, stylus tip $\varnothing 4$ mm (insert length 65 mm and diameter 8 mm optional).
- mm/inch conversion (only 853.822).
- Digit height: 8.5 mm (only 853.822).
- Isolation between insert and insert thread; for use on all machining centres and EDM machines.
- Insert thread: M3.
- Protection: analog: IP67, digital: IP64.
- Delivery with a manufacturer measuring report.

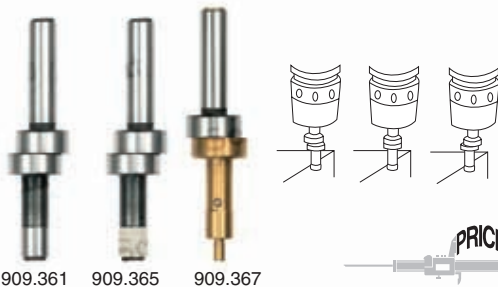


Item No.	Description	Accuracy mm	Repeatability mm	Price EUR
853.821	Analog 3D probe	± 0.01	0.01	
853.822	Digital 3D probe	± 0.005	0.001	
Options:				
495.157	Spare battery			
853.823	Spare insert 25 mm, tip diameter 4 mm			
853.824	Spare insert 65 mm, tip diameter 8 mm			

Edge finders

Rotating edge finders for accurate edge location.

- Resolution: 0.005 mm.
- Repeatability: 0.005 mm.
- Range of use: 400 - 600 rpm.
- Hardness TiN measuring face: 2200 HV.



Item No.	Clamping stem \varnothing /mm	Probe \varnothing /mm	Material (measuring face)	Price EUR
909.360	8	10	steel	
909.361	10	10	steel	
909.362	8	4 and 10	steel	
909.363	10	4 and 10	steel	
909.364	6	6	steel	
909.365	10	10	steel+ceramic	
909.366	10	10	steel+TiN	
909.367	10	4 and 10	steel+TiN	
Options:				
909.368	Spring for 909.360/362			
909.369	Spring for 909.364			
909.359	Spring for 909.365			
909.349	Spring for 909.361/363/366/367			

Z-axis setting gauge

For easy pre-setting of the Z-axis with tools, whether or not in combination with parallel blocks to set a specific height. As soon as the tool touches the setting gauge (with floating top) the built-in red LED illumination will light up. After this the axis will move in opposite direction until the lamp turns off, this is the turning point, and so the setting gauge, to determine the accuracy.

- Repeatability: 0.01 mm.
- With magnetic base.
- Galvanic contact principle.



- Dimensions:
ø 54 x 50 mm (precise height to determine with external measuring instrument).
- Weight: 450 g.
- Power supply: 2 batteries type V389.



Item No.	Description	Price EUR
908.804	Z-axis setting gauge	
Option:		
498.823	Spare battery (2 needed)	

Digital Z-axis setting gauge

For easy pre-setting of the Z-axis with tools, whether or not in combination with parallel blocks to set a specific height.

- Graduation: 0.01 mm.
- Repeatability: 0.01 mm.
- With magnetic base.
- mm/inch conversion.



- Automatic switch-off.
- Height: 50 mm (precise height to determine with external measuring instrument).
- Weight: 377 g.
- Power supply: 1 battery type V357.
- Delivery with reference pin for insert in tool holder.

Item No.	Description	Price EUR
910.169	Z-axis setting gauge	
Option:		
836.535	Spare battery	

Z-axis setting gauge

For easy pre-setting of the Z-axis with tools, whether or not in combination with parallel blocks to set a specific height.

- Graduation: 0.01 mm.
- Repeatability: 0.02 mm.
- With magnetic base.
- Diameter dial indicator: ø 35 mm.



- Height: 50 mm (precise height to determine with external measuring instrument).
- Weight: 1013 g.
- Delivery with reference pin for insert in tool holder.



Item No.	Description	Price EUR
909.460	Z-axis setting gauge	

Tool presetters

Cost effective solution as an additional setup directly next to your machine, for setting up and accurately measuring length and diameter of milling, turning and drilling tools. Increase your machine up-time through rapid manual movement with release/hook-up button and fine adjustment using the hand wheel (only 837.928/916).

- Resolution: 0.01 mm.
- mm/inch conversion.
- RS232C data output.
- On/off switch.
- Preset.
- Interchangeable rotating chuck.
- Delivery incl. rotating chuck ISO 40.
- Conforms to factory standard.
- Delivery with a manufacturer measuring report.
- Power supply: 2 batteries type CR2032.
- Various models with extended functionality available on request.



Options

Item No.	Type	Price EUR
Rotating chuck:		
837.930	ISO 30	
837.917	ISO 40	
837.931	ISO 45	
837.932	ISO 50	
837.933	HSK 40	
837.934	HSK 50	
837.935	HSK 63	
837.936	VDI 40	
837.937	DLBH-SKF 63	
ISO reductions:		
837.938	50-45	
837.939	50-40	
837.940	50-30	
837.941	40-30	
837.942	50HSK40	
837.943	50HSK50	
837.944	50HSK63	
Spare battery:		
495.157	CR2032	

Item No.	Measuring range/mm X-axis Z-axis	Dimensions l x w x h/mm	Weight kg	Price EUR
Without fine adjustment:				
837.929	160 (ø 320) 320	420 x 150 x 755	20	
With hand wheel for fine adjustment:				
837.928	160 (ø 320) 320	584 x 150 x 520	25	
837.916	260 (ø 520) 520	684 x 150 x 848	30	

Electronic probe and read-out unit

Inductive, absolute electronic probe for precision measurements. The measured value is displayed both digitally and digital-analogue. The 2-axes model of the read-out unit has an addition function for the probes.

Electronic probe

- Measuring range: ± 1 mm.
- Resolution: $0.1 \mu\text{m}$.
- Accuracy: $\pm 3.5 \mu\text{m}$.
- Measuring force: 1.2 N .
- Clamping stem: $\varnothing 8 \text{ mm}$.



Digital read-out units

- Measuring range: 2 mm.
- Resolution: $0.1 \mu\text{m}$.
- Digital-analogue graduation:
100/20/10/2/1/0.2/0.1 μm .
Range: $\pm 20\text{x}$ graduation.
- $\mu\text{m}/\text{inch}$ conversion.
- ABS/INC switchable.
- On/off switch.
- Reset/preset.
- Hold function.
- Addition function: $\pm A \pm B$ (only 907.858).
- Adjustable tolerance limits.
- Power supply: 3 batteries type AA.



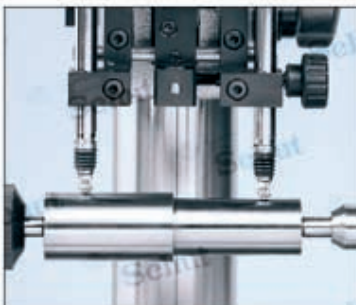
907.791



907.790



Item No.	Description	Price EUR
907.790	Electronic probe	
907.791	Read-out unit, 1 axis	
907.858	Read-out unit, 2 axes	
Option:		
495.111	Spare battery (3 needed)	



TESA TWIN-T10 display unit

Portable electronic display unit for TESA inductive probe with a very long battery operating time (up to 400 hours). The function keys can be operated separately and the soft rubber casing makes the TWIN-T10 very robust and easy to hold.

The large display with a high contrast and the design of the detailed segmentation of the analog scale (5-fold zoom function) makes it possible to visualize very precise movements and slight variations in form or to detect the reversal point. The TWIN-T10 features max, min, max-min and tolerance functions. The TWIN-T10 is very suitable for the evaluation of straightness, run-out, form or geometry during fine adjustment, alignment or fitting of mechanical parts.

The probe is automatically recognized. In the display 7 different measuring ranges can be set and an automatic setting. With the calibration function it is possible to tune the TWIN-T10 in combination with the connected probe, or with a dummy probe. With the TLC-USB cable or the TLC-BLE transmitter (for wireless data transfer) bidirectional communication is possible with the PC. Digimatic data output is also possible with the TLC-Digimatic cable.

- 7 measuring ranges: ± 5 mm, ± 2 mm, ± 500 μm , ± 200 μm , ± 50 μm , ± 20 μm , ± 5 μm and an automatic setting.
- Digital and digital-analog read-out.
- Resolution: 1 μm or 0.1 μm .
- 1 probe input.
- Measure with or without tolerance limits; Go/NoGo indication on display.
- Offset function: within 200 μm directly set to zero.
- Memory for min., max. and max-min. value.
- mm/inch conversion.
- Frequency limit: 10 Hz (relative to the input signal).
- Response time: ≤ 100 ms.
- Calibration with gauge blocks or dummy probe.
- Bidirectional data transfer.
- RS232C data output.
- On/off switch.
- Automatic switch-off.
- Key lock function.
- Reversible measuring direction.
- Operating temperature: 10 to 40°C.
- Autonomy: up to 400 hours.
- Dimensions: 170 x 100 x 38 mm.
- Protection: IP63 (except connections for probe and switch).
- Delivery with 4 batteries type AA.



783.468

Also available in μ -FINDER set 783.548.

Item No.	Description	Price EUR
783.468	TESA TWIN-T10	
Options:		
495.111	Spare battery (4 needed)	
780.652	GT31 probe	
780.951	Hand switch 1.8 m	
780.952	Foot switch 1.8 m	
783.301	TESA Link Connector USB	
783.302	TESA Link Connector Digimatic	
783.555	TESA Link Connector Bluetooth	
783.037	DATA-Direct software for data acquisition	
783.038	STAT-Express for statistical analysis	
779.982	Back support with centered lug	
779.981	Back support with off-centered lug	

TESA TWIN-T20 display-unit

The TWIN-T20 is an interface which allows the user to read two instruments at the same time. Both digital and analog probes, calipers, dial indicators and many more instruments can be connected. The probes are automatically recognized by the interface, ensuring a reliable measurement. The 7" touchscreen allows the user to display up to two different sensors at the same time, and change all the settings intuitively. The TWIN-T20 is very suitable for use in a laboratory or a production environment. Measurement results can be saved on a PC by means of a USB stick, RS232/USB cable or the TLC-BLE Bluetooth transmitter. TESA provides the software "Data-Viewer" which can be downloaded free of charge.

- 2 probe inputs for half bridge probes.
- 2 USB-A inputs for Tesa measuring instruments (except USB probes).
- 2 USB-A inputs for peripherals such as keyboard, foot switch, memory stick, QR / barcode reader.
- 1 USB-B output for HID keyboard.
- Connection for TESA TLC Bluetooth Transmitter.
- RS232/TESA BUS output.
- Display of 2 probes/measuring instruments simultaneously.
- 4 display options.
- 8 measuring ranges: $\pm 5000 \mu\text{m}$ - $\pm 5 \mu\text{m}$ and an automatic setting.
- Resolution: $0.1 \mu\text{m}/0.00001 \text{ in}$.
- Static and dynamic measurements. 4300 samples per second.
- Storage of min., max., max-min value, average.
- Addition function: $\pm A \pm B$.
- Tolerance indication, go, no-go or rework.
- Switching of polarity, choice between internal and external measurements.
- Storage for 2 measurement programs possible.
- Zero point can be set per channel.
- Holder to be mounted on DIN rail.
- Dimensions: 190 x 112 x 119 mm.
- Degree of protection: IP65 (front).
- Delivery with AC adapter, calibration certificate and quick start manual.

NEW



Item No.	Description	Price EUR
783.637	Tesatronic TWIN-T20	
Options:		
780.952	Foot switch 1.8 m	
783.639	Touch pen	
783.301	TESA Link Connector USB	
783.302	TESA Link Connector Digimatic	
783.555	TESA Link Connector Bluetooth	
783.027	Cable USB-Opto RS232 duplex 7	
782.006	RS232C cable 2 m	

Display-unit for measuring probes

Robust, splashproof display-unit, machined from a solid aluminum block, that can be employed in both simple and complex measurements. Both analog and digital display of up to 32 dimensions simultaneously, with (green, yellow, red) tolerance assessment per dimension. The display-unit is universally applicable due to its compatibility with many instrument brands, and powerful due to its ability to display up to 32 dimensions at the same time and its trigonometrical-, statistical and PLC functions. The device is very suitable for efficient quality control without the need for a PC in the workspace.

- 7" colour touch screen.
- Up to 99 probes can be connected.
- Display up to 32 dimensions.
- Store up to 128 measurement configurations.
- Memory for max, min, difference, average.
- Dynamic or static measurements.
- mm/inch conversion.
- ABS/INC switchable.
- Hold function.
- Statistical functions, e.g. histograms with Gauss curve, Pareto graph, q-q plot, CM, CMK.
- Configuration protection by password.
- Multilingual software, e.g. English, French, German, Dutch.
- Works with instruments such as TESA, Mitutoyo, Magnescale and more.

- Dimensions: 200 x 151.6 x 143 mm.
- Storage of measuring data.
- Delivery with AC adapter.
- Modules can be mounted on a standard DIN rail.

Connections:

- Footswitch.
- USB port for USB stick.
- Ethernet (ASCII/Modbus TCP).
- RS232 (ASCII/Modbus RTU).
- M-Bus input for probes.



Item No.	Type/description	Price EUR
857.880	Display-unit	
Options:		
857.806	Module for 4 Digimatic instruments	
857.881	Module for 8 TESA probes	
857.883	Module for 4 Magnescale probes	
857.884*	Power module	
348.287	Connecting cable display-unit/probe module (3 m)	

* For applications using more than 30 analog TESA probes, or 4 Magnescale probes on 1 display-unit.

Modules for various instruments from other brands available on request.



TESA analog and digital probes

- Measuring range: ± 1.5 , ± 2 or ± 5 mm.
- Protection: IP65.
- Other models, ranges and voltages available on request.
- Also available wireless probes or as a model with detachable cable.

TESA analog DC probes

Probes that produce a linear voltage proportional to displacement that can be connected to AD converters in a PC or to PLCs and X-t plotters.

The probe consists of two parts that are connected by a cable (2 m):

- a conventional analog probe (diameter 8 mm),
- the electronics module that converts the signal to DC.

- Accuracy: from $(0.2 + 3.5L^2) \mu\text{m}$ (L in mm).
- Signal output: 782.977/978: ± 2 Vdc,
782.979/980: ± 5 Vdc.
- Power supply: ± 15 Vdc.

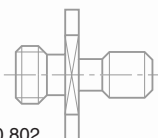
TESA digital USB probes

USB probes are easy to connect, using plug & play and without using interface boards. High accuracy guaranteed within the complete measuring range.

- Compatible with software Data-Direct, Stat-Express and Data-Viewer.
- Simple link with for example Excel files.



Item No.	Type	Measuring range/mm	Price EUR
Analog DC probes:			
782.977	GTL21DC	± 2	
782.978	GTL22DC	± 2	
782.979	GT61DC	± 5	
782.980	GT62DC	± 5	
Digital USB probes:			
783.097	GTL21 USB	± 2	
783.098	GTL22 USB	± 2	
783.226	GTL222 USB	± 1.5	
783.099	GT61 USB	± 5	
783.100	GT62 USB	± 5	
Option:			
780.802*	Air tube connector, M4 thread for tube $\varnothing 4.7/\varnothing 2$ mm		



780.802

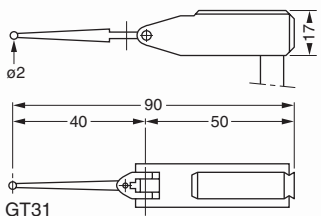
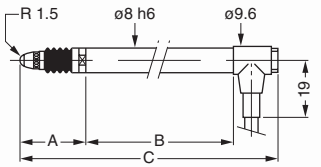
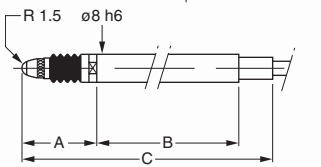
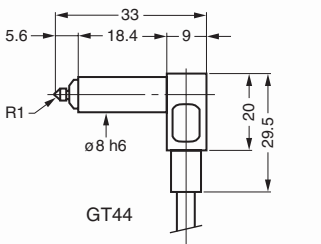
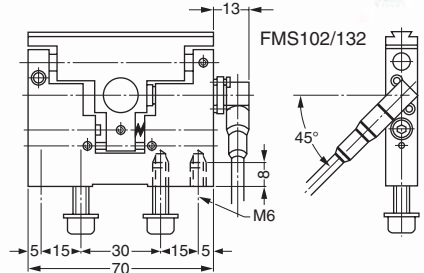
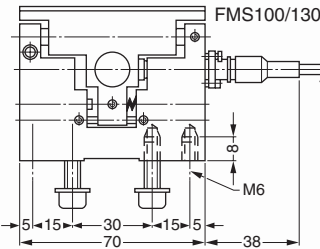
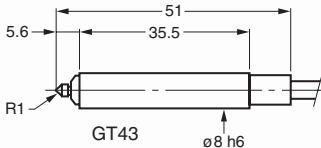
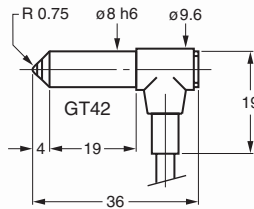
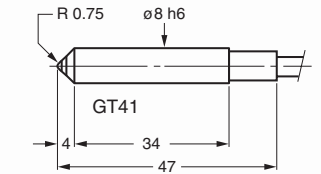
* Also other models available.

Type	Protection	Measuring force/N	Repeatability μm	Accuracy μm (L in mm)	Max. travel/mm	Cable exit	Probe movement
GTL21DC	IP65	0.63	0.1	$0.2 + 3.5L^2$	4.3	axial	spring, extend
GTL22DC	IP65	0.63	0.1	$0.2 + 3.5L^2$	4.3	square	vacuum, retract
GT61DC	IP65	0.9	0.1	$1 + 4L$	10.3	axial	spring, extend
GT62DC	IP65	0.9	0.1	$1 + 4L$	10.3	square	vacuum, retract
GTL21 USB	IP65	0.63	0.1	$0.4 + 2.4L^2$	4.3	axial	spring, extend
GTL22 USB	IP65	0.63	0.1	$0.4 + 2.4L^2$	4.3	square	vacuum, retract
GTL222 USB	IP65	1.2	0.1	$0.4 + 2.4L^2$	3.1	square	air pressure
GT61 USB	IP65	0.9	0.24	$1 + 4L$	10.3	axial	spring, extend
GT62 USB	IP65	0.9	0.24	$1 + 4L$	10.3	square	vacuum, retract

TESA analog probes

For years, TESA measuring probes have been used in both complex and simple measuring systems. The top quality and absolute reliability of these probes is reason enough to use TESA probes again and again. The most popular half-bridge probes, delivered calibrated, are noted in the following table. For more information, also on LVDT probes, please refer to the comprehensive TESA catalog.

- Sensitivity: 73.75 mV/V/mm
(GT61 and GT62: 29.5 mV/V/mm).



Item No.	Type	Measuring range/mm	Dimensions/mm			Price EUR
			A	B	C	
780.654	GT21	±1	20.5	61.5	92	
780.687	GT21HP	±0.2	20.5	61.5	92	
780.662	GT22	±1	20.5	47	81.5	
780.673	GT22HP	±0.2	20.5	47	81.5	
780.692	GT61	±5	29.5	81	120	
780.693	GT62	±5	29.5	67.2	110.7	
781.945	GT622	±5	29.5	67.2	110.7	
780.667	GT41	±0.3	-	-	-	
780.668	GT42	±0.3	-	-	-	
780.686	GT43	±1	-	-	-	
780.670	GT44	±1	-	-	-	
780.652	GT31	±0.3	-	-	-	
780.672	FMS100	±2	-	-	-	
780.679	FMS102	±2	-	-	-	
781.946	FMS130	±2.9	-	-	-	
781.947	FMS132	±2.9	-	-	-	
782.328	Set (10 pcs.) GT21					
782.329	Set (10 pcs.) GT22					
Options:						
783.225	DIN/USB adapter for analog probes with measuring range ±2 mm					
783.284	DIN/USB adapter for analog probes with measuring range ±5 mm					

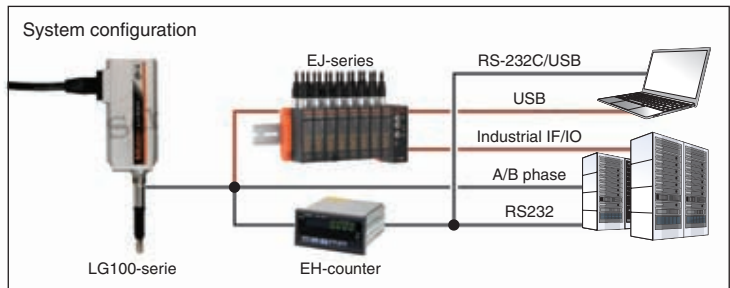
TESA analog probes (continued)

Type	IEC 60529	Measuring force/N	Repeatability μm	Maximum inaccuracy/ μm	Max. travel/mm	Cable exit	Probe movement
GT21	IP65	0.63	0.01	0.2 + 3L ³	4.3	axial	spring, extend
GT21HP	IP64	0.63	0.01	0.07+ 0.4L	4.3	axial	spring, extend
GT22	IP65	0.63	0.01	0.2 + 3L ³	4.3	square	vacuum, retract
GT22HP	IP64	0.63	0.01	0.07+ 0.4L	4.3	square	vacuum, retract
GT61	IP65	0.9	0.05	1 + 4L	10.3	axial	spring, extend
GT62	IP65	0.9	0.05	1 + 4L	10.3	square	vacuum, retract
612-A ¹	IP50	1.0	0.05	1 + 4L	10.3	axial	air pressure
GT622	IP65	2.0	0.05	1 + 4L	10.3	square	1.1 bar, extend
GT41	IP65	0.63	0.01	0.2 + 5L ²	0.7	axial	spring, extend
GT42	IP65	0.63	0.01	0.2 + 5L ²	0.7	square	vacuum, retract
GT43	IP65	0.4	0.1	0.2 + 5L ²	2.1	axial	spring, extend
GT44	IP65	0.4	0.1	0.2 + 5L ²	2.1	square	vacuum, retract
GT31	IP40	0.1	0.1	0.2 + 50L ²	0.7	square	-
FMS100	IP50	2.0	0.5	0.2 + 3L ³	5.8	parallel	air pressure
FMS102	IP50	2.0	0.5	0.2 + 3L ³	5.8	square	air pressure
FMS130	IP50	2.0	0.5	0.2 + 3L ³	5.8	parallel	air pressure
FMS132	IP50	2.0	0.5	0.2 + 3L ³	5.8	square	air pressure

¹No bellow.

Mitutoyo digital gauges

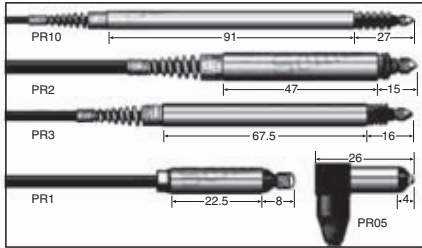
The LG100 is a gauge measuring system designed by Mitutoyo to be incorporated into assembly lines and inspection equipment. With the EH-counter or the EJ-counter modules, measurements can be read-out and saved. By combining multiple EJ-counters on a DIN-rail, they can be read-out at the same time with a maximum of 16 gauges. With the EJ-counters it is not only possible to have a USB output, but also an output to Profinet, Ethernet, or CC-link. Through these outputs, the gauges can be connected to a PLC-system. To process, and apply SPC to this data, optional software is available. Gauges with a measuring range up until 50 mm are available with which a resolution of 0.1 μm and a high accuracy are possible.



Ask for the detailed brochure

Analog probes

- Half-bridge probes.
- Measuring range: ± 0.25 to ± 10 mm.
- Repeatability: $< 0.15 \mu\text{m}$.
- Non-linearity: $< 0.3\%$.
- All non-pneumatic probes with cable guide have a cable exit square to probe body.



Feather Touch probes

Probes with a very small measuring force to measure sensitive materials like electronic components and thin-walled glass products.

Item No.	Type	Measuring range/mm	Max. travel mm	Measuring force/N	Total length mm	Price EUR
Feather Touch probes with a small measuring force and tungsten carbide probe tip:						
360.964	PRFC2P	± 1	3	0.18/1.10 ¹	75.6	
360.965	PRFC5P	± 2.5	6	0.18/1.10 ¹	99.6	
360.966	PRFC10P	± 5	11	0.18/1.10 ¹	130.1	
360.962	PRFC5S	± 2.5	6	0.30	96.3	
360.963	PRFC10S	± 5	11	0.30	118.3	
Option:						
360.967	Nylon probe tip					
Probes with regular measuring force³:						
360.916	PR05	± 0.25	0.6	0.70	26	
360.917	PR1	± 0.5	1.5	0.70	30.5	
360.911	PR2	± 1	2.5	0.70	62	
360.912	PR2P	± 1	3.5	0.80 ²	67	
360.926	PR101P	± 1	11	0.70 ²	117.5	
360.910	PR10	± 5	11	0.70	83.5	
360.909	PR10P	± 5	11	0.70 ²	87.5	
360.905	PR20	± 10	21	0.70	96.5	
360.904	PR20P	± 10	21	0.70 ²	118	

Measuring range, measuring force and extended probe length defined at electrical zero.

P = Pneumatic, probe is operated by air pressure.

¹ Air pressure 0.3 bar (nominal) / Air pressure 1.0 bar (nominal).

² Air pressure 0.4 bar (nominal).

³ Protection: IP65.

Digital absolute measuring probes

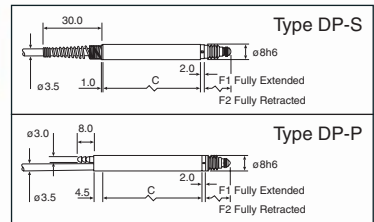
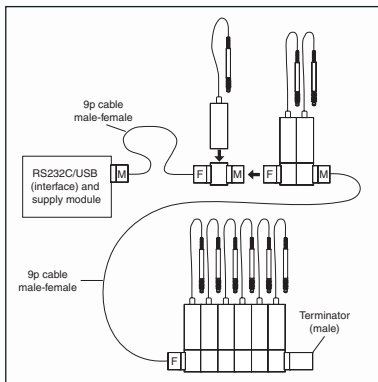
The measuring probe, which replaces the conventional analog probe more and more. These probes, that combine the advantages of the analog and not absolute digital models, are a solution to measuring systems which have to process the measuring data in a PC.

Configuration:

- Probe (clamping shaft 8h6) fixed via a cable (2 m) to the electronics module.
- T-CON connector.
- Cable (standard up to 5 m).
- Supply module (necessary with RS232C module, and with more than five probes on a board or module).
- RS232C/USB module or digital absolute measuring probe board (supports up to 100 probes).

Technical data:

- A maximum of 240 measurements per second.
- Repeatability: <math>< 0.15 \mu\text{m}</math>.
- Accuracy:
 - DP-2S, DP-2P: $\pm 1 + 0.05 \%K$,
 - DP-5S, DP-5P: $\pm 1 + 0.05 \%K$,
 - DP-10S, DP-10P: $\pm 1 + 0.06 \%K$,
 in which K is the displacement (in mm).
- Protection: IP65.
- Measuring force S-types: 0.7 N, P-types (at 0.4 bar pressure): 0.8 N.
- Also available on request as low measuring force *Feather Touch* models.



Item No.	Type	Measuring range/mm	Max. travel/mm	Probe movement	Dimensions/mm			Price EUR
					C	F1	F2	
360.880	DP-2S	± 1	3	spring push	46	13.9	10.9	
360.881	DP-5S	± 2.5	6	spring push	65	17.4	11.4	
360.882	DP-10S	± 5	11	spring push	89	25.4	14.4	
360.883	DP-2P	± 1	3	pneumatic push	52	13.9	10.9	
360.884	DP-5P	± 2.5	6	pneumatic push	71	17.4	11.4	
360.885	DP-10P	± 5	11	pneumatic push	96	25.4	14.4	
360.852	T-CON connector (has to be ordered separately per probe)							
360.835	Supply module (required when using a RS232C module and when connecting more than five probes to a board or module, excl. power cable)							
420.300	Power cable							
360.890	Digiprobe PCI board Orbit 3							
360.888	Digiprobe USB module Orbit 3							
348.287	Cable 3 m between electronic module and board/module							
348.288	Cable 5 m between electronic module and board/module							

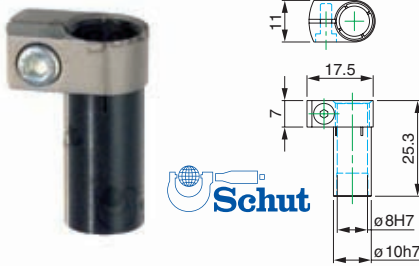
Clamping bush



780.398

Item No.	Description	Price EUR
780.398	Clamping bush VKE	
780.397	Clamping screw VKD	

Clamping bush

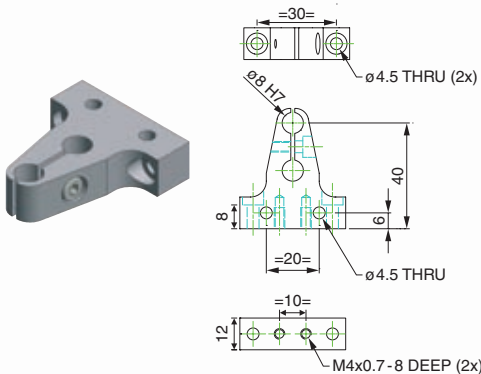


Item No.	Description	Price EUR
906.497	Clamping bush	

Probe holder

Probe holder for for surfacemounting.

- Clamping shaft: $\varnothing 8$ mm.
- For attaching with M4 bolts.
- Material: anodized aluminum.



Item No.	Description	Price EUR
993.054	Probe holder	

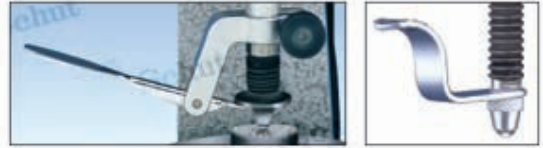
Inserts

Many inserts with thread M2.5 are available. See the dial indicator accessories section for more information.



Retraction levers

Universal retraction levers, bottom or top mounted, compatible with a wide range of probes and dial indicators. You can find various models in the dial indicator accessories section.



Retraction device DZ801

Pneumatic retraction device for Magnescale and TESA gauges, with 1 meter hose and air tube connector.

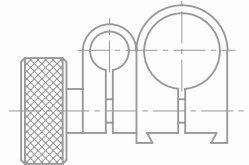


Item No.	Description	Price EUR
344.465	Retraction device	

Clamp collar with dovetail

For clamping TESA GT31 probes and e.g. lever type dial indicators.

- Fastening points: $\varnothing 5.6$ mm, $\varnothing 9.5$ mm and with dovetail.



Item No.	Description	Price EUR
780.208	Clamp collar	

MF measuring fixture system

MF is a universal construction system based on components to quickly and easily build custom measuring fixtures.

The system has been developed by Schut Geometrical Metrology. The parts of MF are made from high quality steel and colored, anodized aluminum.

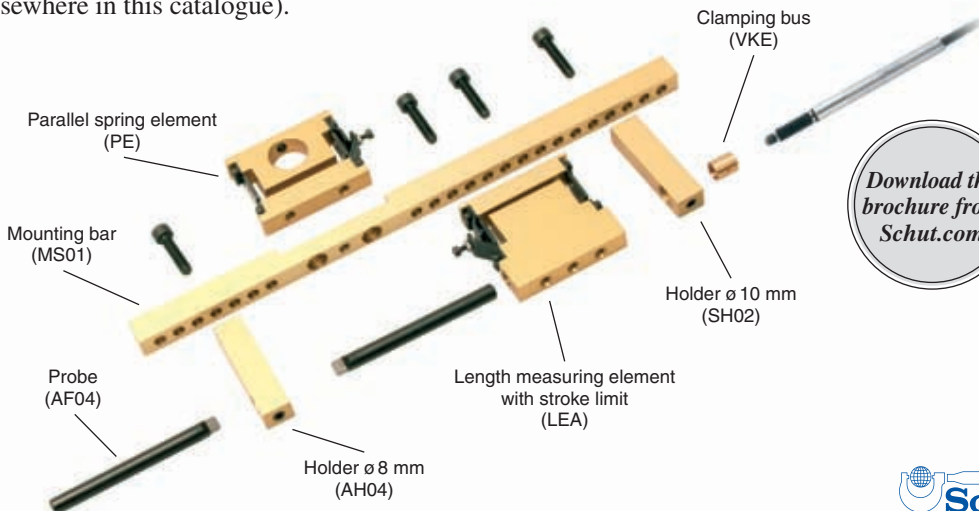
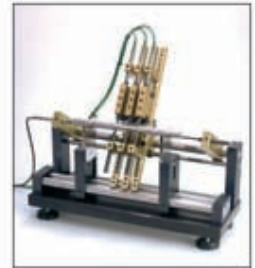
The system consists of, among other things, base plates, parallel spring elements, mounting bars, probe holders and probes. A stable product positioning is required for accurate measurements and because of the system's sophisticated composition, it is possible to generate a complete measuring system with only a few parts. Ideal for repeating measurements.

The components of MF are based on both horizontal support or vertical clamping. The wide range and shapes of probes make the system suitable for e.g. lathed parts but also for (more complicated) milling parts. For these various applications some complete sets are available, as a starter-set or for specific applications. Besides this, the variety of individual components and the ease of use enable almost endless possibilities of applying and incorporating MF in other measuring fixtures that may be custom built or composed of other construction systems.

All individual components are available separately, increasing flexibility of use. Schut Geometrical Metrology has incorporated MF many times in custom built measuring systems (see elsewhere in this catalogue).

MF's high quality and low price make an ideal addition to existing measuring systems and can be applied in production plants.

The universal properties of MF result in a highly flexible construction system. The use of internationally applied units of fit for e.g. dial indicators and electronic probes make the system's components widely applicable. With just some base elements it is very easy to create some individual measuring points on e.g. production machines.



Download the brochure from Schut.com

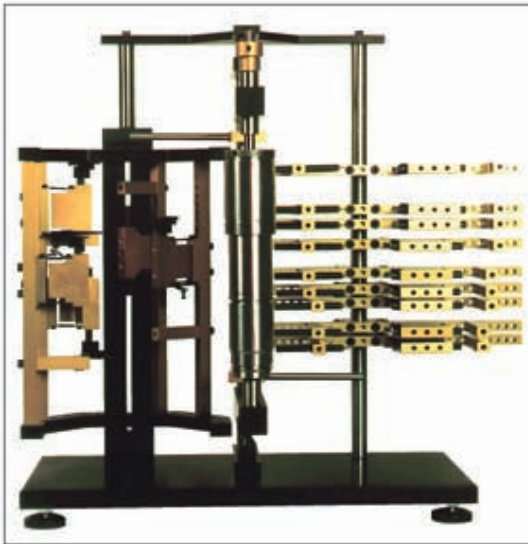


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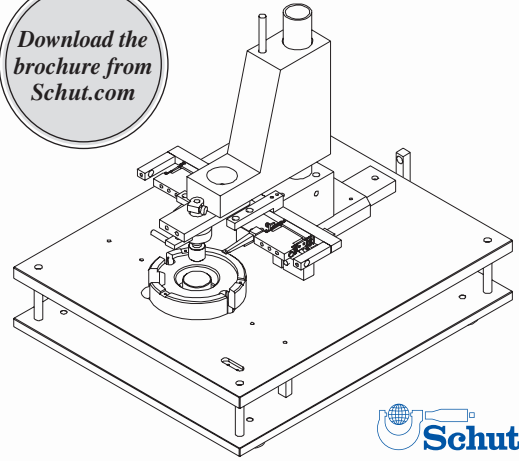
MF measuring fixture system (continued)

For a quick start MF is also available in standard sets for a complete and quick solution for both horizontal support or vertical clamping.

One of the big advantages of MF is the ease and flexibility to create a stable measuring fixture especially suitable for repeating measurements with only very little effort and investments. To make the start with MF as easy as possible some standard sets have been composed that can realize the most occurring measuring fixtures.

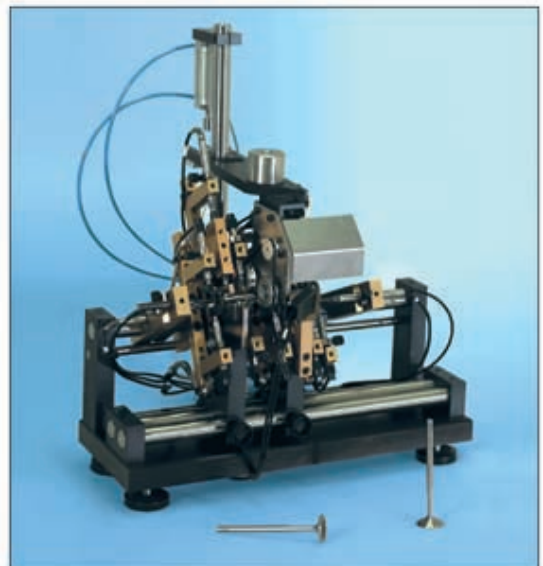


These sets consist of a composition of standard MF components, so it can be easily extended to your liking for specific applications. All in this catalogue depicted measuring fixtures are just a few of the many possibilities of MF.



The easy assembly and modular setup make MF especially suitable for application in tailor-made and designed measuring systems.

For many years now Schut has been developing tailor-made solutions in measuring systems for its customers nationwide and abroad. On many occasions MF parts have been incorporated in these systems. We would be pleased to inform you about the possibilities to have your measuring system custom built, updated or extended.



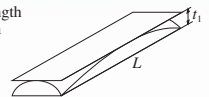
Stands / Bench centers / Surface plates



Flatness tolerances according DIN 876

Class	Flatness t_f (μm)
00	$2 + L/500$
0	$4 + L/250$
1	$10 + L/100$
2	$20 + L/50$
3	$40 + L/25$

L = length
in mm



Dial indicator stands

- With dovetail joint (only 908.958/972).
- With fine adjustment (except 908.958/974).
- On/off switchable magnetic base with V-groove, except 908.973 (*flexform* base with locking mechanism and permanent magnetic force) and 908.974 (flat on/off switchable magnetic base).
- Various bases available.



Item No.	Clamping shaft/mm	Column mm	Arm mm	Desc. of base	Dimensions l x w x h/mm	Magn. force ¹ /N	Thread of base	Price EUR
908.950	ø4/ø8	ø12x176	ø10x150	V-groove	58x50x55	600 ^(S)	M8 x 1.25	
908.951	ø4/ø8	ø12x176	ø10x150	V-groove	60x50x55	800 ^(S)	M8 x 1.25	
908.952	ø6/ø8	ø20x350	2 arms: ø12x220 ø10x150	V-groove	74x50x55	1000 ^(S)	M10x1.5	
908.958	ø8	ø8x130	ø8x130	V-groove	36x30x35	400 ^(S)	M5 x 0.8	
908.972	ø8	ø12x176	ø10x210	V-groove	60x50x55	800 ^(S)	M8 x 1.25	
908.973	ø4/ø8	ø12x176	ø10x150	<i>flexform</i>	75x46x55	400 ^(P)	M8 x 1.25	
908.974	ø6	ø7x50		flat	30x30x30	170 ^(S)	M5 x 0.8	
908.946 ²	ø8	ø12x190	ø10x160	V-groove	54x40x47	800 ^(S)	M8 x 1.25	

¹ S = switchable magnet; P = permanent magnetic force.

² V-groove on 3 sides.

Dial indicator stands

- Clamping shaft $\varnothing 8$ mm for dial indicators and probes (except 910.341: $\varnothing 6$ mm), and dovetail joint for lever-type dial test indicators (908.957 without dovetail joint).
- With fine adjustment (except 908.962/964/957).
- Arm with mechanical central clamping device (908.954/955: hydraulic).
- On/off switchable magnetic base with V-groove, except 908.964 and 910.341 (permanent magnetic force), 908.961 (vacuum base) and 908.975 (*flexform* base with locking mechanism and permanent magnetic force).
- Various bases available.



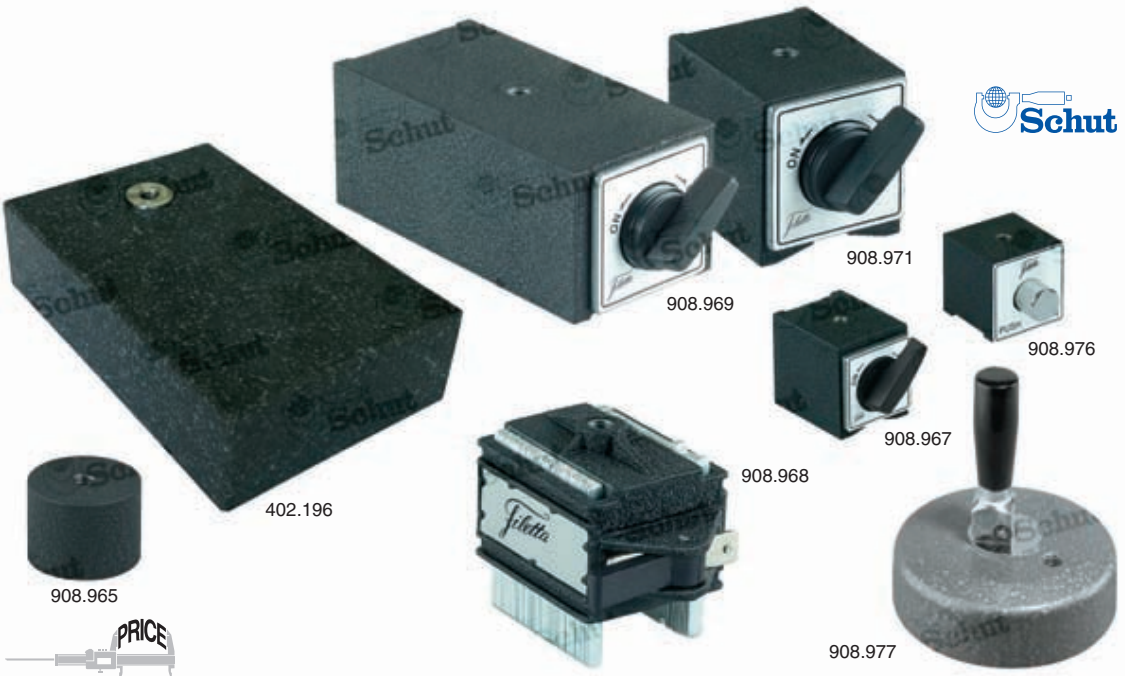
Item No.	Clamping	Arm length ¹ /mm	Description of base	Dimensions l x w x h/mm	Magnetic force ² /N	Thread of base	Price EUR
908.953	mechanical	320	V-groove	58 x 50 x 55	600 ^(S)	M8 x 1.25	
908.959	mechanical	340	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	
908.960	mechanical	285	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	
908.954	hydraulic	380	V-groove	58 x 50 x 55	600 ^(S)	M8 x 1.25	
908.955	hydraulic	380	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	
908.962	mechanical	150	V-groove	36 x 30 x 35	400 ^(S)	M5 x 0.8	
908.964	mechanical	65	cylinder	$\varnothing 30 \times 25$	170 ^(P)	M8 x 1.25	
910.341	mechanical	60	cylinder	$\varnothing 25 \times 25$	100 ^(P)	M5 x 0.8	
908.975	mechanical	280	<i>flexform</i>	75 x 46 x 55	400 ^(P)	M8 x 1.25	
908.961	mechanical	280	vacuum base	$\varnothing 90 \times 25$		M8 x 1.25	
908.956	mechanical	360	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	
908.957	mechanical	320	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	

¹ The outstretched length between base and clamping shaft.

² S = switchable magnet; P = permanent magnetic force.

Bases for dial indicator stands

A solid base is essential for accurate measurements. The dial indicator arms can be mounted on a strong magnetic or vacuum base.

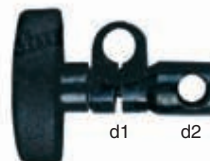


Item No.	Description	Dimensions l x w x h/mm	Magnetic force*/N	Thread	Price EUR
908.971	V-groove	60 x 50 x 55	800 ^(S)	M8 x 1.25	
908.970	V-groove	74 x 50 x 55	1000 ^(S)	M8 x 1.25	
908.969	flat base	118 x 50 x 52	1500 ^(S)	M8 x 1.25	
908.967	V-groove	36 x 30 x 35	400 ^(S)	M5 x 0.8	
908.976	flat base	30 x 30 x 30	170 ^(S)	M5 x 0.8	
908.968	<i>flexform</i>	75 x 46 x 55	400 ^(P)	M8 x 1.25	
908.965	cylinder	∅40 x 30	300 ^(P)	M8 x 1.25	
908.977	vacuum base	∅90 x 25		M8 x 1.25	
402.196	granite base	150 x 100 x 40		M8 x 1.25	

* S=switchable magnet; P=permanent magnetic force.

Fixing clamps for dial indicator stands

Item No.	Fixing clamp ∅/mm		Price EUR
	d1	d2	
907.443	10	8/4	
907.442	10	8/6	
906.398	12	8/6	
907.440	12	10	
907.444	14	8/6	
906.399	20	12	
907.441	20	14	



Magnetic dial indicator stands

Solid dial indicator stands with on/off switchable magnetic base.

- Clamping shaft: $\varnothing 6$ and $\varnothing 8$ mm.
- Magnetic base with V-groove.
- Magnetic face at the back (except 855.707).



Item No.	Dimensions base l x w x h/mm	Magnetic force/N	Column mm	Arm mm	Thread of base	Price EUR
855.701	58 x 50 x 55	800	$\varnothing 12 \times 176$	$\varnothing 10 \times 150$	M8	
855.705	73 x 50 x 55	1000	$\varnothing 20 \times 178$	$\varnothing 14 \times 165$	M8	
855.707	117 x 50 x 55	1300	$\varnothing 20 \times 365$	$\varnothing 14 \times 200$	M20	

Magnetic dial indicator stands

Solid dial indicator stands with on/off switchable magnetic base.

- Clamping shaft: $\varnothing 6$ and $\varnothing 8$ mm.
- Screw thread base: M8.
- Magnetic base with V-groove.
- Magnetic face at the back.



Item No.	Clamping	Dimensions base l x w x h/mm	Magnetic force/N	Arm length* mm	Price EUR
855.706	hydraulic	73 x 50 x 55	1000	335	
855.710	mechanical	58 x 50 x 55	800	335	

* The outstretched length between base and clamping shaft.

Fisso Classic Line dial indicator stands

These dial indicator stands are manufactured according to the classic principle with chrome plated arm parts, joint together with the three hinge points by means of a central mechanic clamping device. Because this is done with one on/off switch control, the stand can be positioned easily and precisely.

- Fine adjustment: with clamping shaft $\varnothing 8$ mm (for dial indicators and probes) and dovetail joint (for lever-type dial test indicators).
- Dial indicator not included.
- Various bases, fine adjustments and other accessories available; see “Fisso dial indicator stand accessories”.



Complete stands (incl. base and fine adjustment)

Item No.	Arm length/mm	Base type*	Magnetic force/N	Price EUR
839.870	130	S2	300	
837.262	200	M	800	
837.290	200	AMO	600	
837.264	200	TM	300	
837.237	200	V	–	
837.245	288	M	800	
837.265	288	SM	1000	
837.238	288	V	–	
837.287	450	SM	1000	
837.266	450	MM	1500	
837.246	630	MM	1500	

*For an extensive description of the base types see “Fisso dial indicator stand accessories”.



Item No.	Arm length/mm	Thread of head	Thread of base	Price EUR	Item No.	Price EUR
Separate arm without fine adjustment:					With fine adjustment:	
839.871	130	M6	M6		839.872	
837.283	197	M6	M8		837.267	
837.284	288	M6	M8		837.252	
837.285	453	M8	M8		837.268	
837.286	635	M8	M10 x 1.25		837.253	



Fisso Strato Line and Strato μ-Line dial indicator stands

These dial indicator stands have a modern design with light metal arm parts in one piece, which, together with the three hinge points, are fixated by means of a mechanical clamping device. Because this is done with one on/off switch, the bases can be positioned easily and precisely.

Also available are the small dial indicator stands with an arm length of 130 mm – especially useful for places with confined space.

- Fine adjustment: with clamping shaft $\varnothing 8$ mm (for dial indicators and probes) and dovetail joint (for lever-type dial test indicators).
- Dial indicator not included.
- Various bases, fine adjustments and other accessories available; see “Fisso dial indicator stand accessories”.
- The Strato μ -Line models are equipped with a precision fine adjustment.

Complete stands (incl. base and fine adjustment)

Item No.	Arm length/mm	Base type ¹	Magnetic force/N	Price EUR
837.297 ⁴	130	S2	300	
837.270	130	TMS	150	
837.288	130	C ²	–	
839.455 ³	130	S3	600	
837.242 ⁵	200	M	800	
837.243	200	TM	300	
837.244	200	AM	600	
837.289	200	AMO	600	
837.239	200	V	–	
839.456 ^{3,5}	200	M	800	
837.240 ⁵	280	M	800	
837.271 ⁵	280	SM	1000	
837.241 ⁶	280	V	–	
837.261 ⁶	280	G	–	
839.457 ^{3,5}	287	M	800	
839.873 ^{3,6}	287	V	–	
839.874 ^{3,5}	287	SM	1000	
837.230 ³	330	SM	1000	
837.231 ³	330	G	–	

¹ For an extensive description of the base types see “Fisso dial indicator stand accessories”.

² Long stem, $\varnothing 10 \times 40$ mm, thread M6 (not separately available).

³ With μ -Line precision fine adjustment (837.204).

⁴ Optional available plastic carrying case (C1: 841.580).

⁵ Optional available plastic carrying case (C2: 841.581).

⁶ Optional available plastic carrying case (C3: 841.582).



837.288



841.581



841.582

Fisso Strato Line and Strato μ -Line dial indicator stands (continued)

Item No.	Arm length/mm	Thread of head	Thread of base	Price EUR	Item No.	Price EUR
Separate arm without fine adjustment (Strato Line):					With fine adjustment (Strato Line):	
837.281	130	M6	M6		837.272	
837.282	200	M6	M8		837.251	
837.247	280	M6	M8		837.250	
Separate arm without fine adjustment (Strato μ-Line):					With fine adjustment (μ-Line):	
839.875	130	M6	M6		839.878 ³	
839.876	200	M6	M8		839.879 ³	
839.877	287	M8	M8		839.880 ³	
837.912	330	M8	M8		837.232 ³	

Fisso Base Line dial indicator stands

Easy and handy dial indicator stands with high stability and accuracy.

- Fine adjustment: with clamping shaft \varnothing 8 mm (for dial indicators and probes) and dovetail joint (for lever-type dial test indicators).
- Mechanical clamping device.
- Dial indicator not included.



Complete stands (incl. base and fine adjustment)

Item No.	Column mm	Arm mm	Base type*	Magnetic force/N	Price EUR
837.224	\varnothing 10 x 106	\varnothing 8 x 75	S2	300	
837.225	\varnothing 12 x 156	\varnothing 10 x 106	M	750	
837.226	\varnothing 14 x 184	\varnothing 12 x 164	M	750	

* For an extensive description of the base types see "Fisso dial indicator stand accessories".

837.224

Fisso dial indicator stand accessories



837.294



837.273



837.276



837.275



837.194



837.274



837.227



837.280



837.803



Item No.	Type/ description	Magnetic force ¹ /N	Dimensions l x w x h/mm	Thread	Price EUR
Magnetic bases:					
837.294	S2 V-groove	300 ^(S)	34 x 30 x 35	M6	
837.750	S3 V-groove	600 ^(S)	40 x 40 x 40	M6	
837.254	M V-groove	800 ^(S)	60 x 50 x 55	M8	
837.255	SM V-groove	1000 ^(S)	75 x 50 x 55	M8	
837.256	MM flat	1500 ^(S)	120 x 60 x 55	M10 x 1.25	
837.275	AM <i>anyform</i>	600 ^(P)	77 x 48 x 55	M8	
837.291	AMO <i>anyform</i>	600 ^(S)	91 x 52 x 55	M8	
837.276	TMS cylinder	150 ^(P)	ø 30 x 25	M6	
837.257	TM cylinder	300 ^(P)	ø 40 x 30	M8	
Other bases:					
837.273	V vacuum base		ø 88 x 27	M8	
837.274	G granite base		150 x 120 x 50	M8	
837.194	- steel base		ø 100 x 20	3x M6	
837.195	- steel base		ø 100 x 20	M8	
837.196	- steel base		ø 150 x 20	M6	
837.292	- steel base		ø 150 x 20	M8	
837.193	- clamping base		80 x 20 x 50	2x M6	
837.227	- clamping base		80 x 30 x 50	2x M8	
Adapters for internal thread/external thread:					
837.280	Adapter M6/M8 (hexagonal 13 x 25 mm, CrNi steel)				
837.211	Adapter M8/M6 (hexagonal 13 x 25 mm, CrNi steel)				
837.804	Adapter M8/M10 (ø 20 x 37 mm, steel)				
837.803	Adapter M8/M12 (ø 20 x 40 mm, steel)				

¹S=switchable magnet; P=permanent magnetic force.

Fisso dial indicator stand accessories (continued)

Item No.	Thread	Price EUR
Fine adjustments*:		
837.279	M6	
837.260	M8	
Precision fine adjustment (μ-Line)*:		
837.204	M8	
Dial indicator holders*:		
837.192	M6	
837.191	M8	
Reducer:		
837.190	ø8 → 6 mm	

*With clamping shaft ø8 mm and dovetail joint.



Item No.	Span	Thread	Clamping jaws	Price EUR
Quick clamps:				
837.220	25 mm	M6	steel	
837.228	50 mm	M8	steel	
837.221	75 mm	M8	steel	
Spring quick clamps:				
837.219	15 mm	M6	rubber, 50 mm	
837.218	15 mm	M6	plastic, 21 mm	

For more clamping and positioning possibilities (e.g. for medical applications) please contact our sales department.

Plastic carrying cases for dial indicator stands

Plastic carrying cases with removeable foam inserts for safe storage of Fisso Strato Line and Strato μ-Line dial indicator stands.

- Carrying case C1 has an extra slot for storage of lever-type dial test indicators.
- Carrying case C2 has extra space for storage of dial indicators with a dial diameter of ø40 mm and ø60 mm, with a maximum measuring range of 0-12.5 mm.



NEW



841.580



841.581



841.582

Item No.	Description	Price EUR
841.580	Plastic carrying case C1	
841.581	Plastic carrying case C2	
841.582	Plastic carrying case C3	

Flexible hoses for coolant with magnetic base

- Suitable for cooling on machines in places of the workpiece that are difficult to reach.
- With 1, 2 or 3 flexible hoses.
- Special coupling for supply hose $\varnothing 8.5$ mm.

Support with magnetic base

- On/off switchable magnetic base with V-groove.
- Magnetic force: 588 N.
- Separate on/off switch for every flexible hose.
- Dimensions base $l \times w \times h$:
 906.213: 62 x 51 x 73 mm,
 906.214: 62 x 51 x 74 mm,
 906.215: 69 x 51 x 75 mm.

With round magnetic base

- Magnetic base $\varnothing 35$ mm, with high adhesive force.
- Metal protection plate under magnetic base.



Item No.	Number of flexible hoses	Price EUR
Support with magnetic base:		
906.213	1	
906.214	2	
906.215	3	

Item No.	Number of flexible hoses	Price EUR
With round magnetic base:		
906.216	1	
906.217	2	
906.218	3	

LED lamp on magnetic stand

- Total length: 215 mm.
- Magnetic force: 120 N.
- Power supply: 3 batteries type AAA.



Item No.	Description	Price EUR
909.607	LED lamp on magnetic stand	
Option:		
497.914	Spare battery (3 needed)	



Measuring stands

- Clamping shaft: $\varnothing 8$ mm.
- Transverse arm with fine adjustment.
- Arm length: 150 mm.
- Ground base.
- Base with V-groove (only 857.120).



857.120

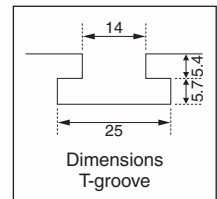


857.121

Item No.	Column \varnothing /mm	Dimensions base/mm	Effective arm length/mm	Price EUR
857.120	16	65 x 40 x 140	250	
857.121	22	60 x 55 x 250	300	

Measuring stand

- Clamping shaft: $\varnothing 8$ mm.
- Effective arm length: 180 mm.
- Fine adjustment.
- Ground base with V- and T-groove, 250 x 60 x 35 mm.
- Column: $\varnothing 16$ x 295 mm.
- Arm: $\varnothing 16$ x 235 mm.
- Mechanical clamping device.
- Dial indicator not included.



Item No.	Description	Price EUR
856.720	Measuring stand	

Measuring stands

- Clamping shaft: \varnothing 8 mm.
- Transverse arm with fine adjustment.
- Ground base with T-groove.
- Base with V-groove (only 909.376).



906.219



Item No.	Column mm	Arm mm	Dimensions base/mm	Price EUR
906.219	\varnothing 14 x 185	\varnothing 12 x 245	220 x 60 x 35	
909.376	\varnothing 16 x 290	\varnothing 16 x 310	260 x 60 x 50	

Measuring stand with spindle adjustment

Measuring stand with clear graduation 0.02 mm on the spindle and a hand wheel for easy adjustment of the height setting.

- Clamping shaft: \varnothing 8 mm.
- Spindle thread pitch: 2 mm.
- Column: \varnothing 35 mm.
- Transverse arm: \varnothing 20 mm.
- Granite measuring table: 260 x 150 x 50 mm, measuring face: 250 x 150 mm, flatness according DIN 876/00.
- Total height: 410 mm.
- Max. measuring height: 160 mm.
- Delivery in a wooden box.



Item No.	Description	Price EUR
907.789	Measuring stand	



Measuring stand

Universal measuring stand, also suitable as a control measuring device.

- Clamping shaft $\varnothing 8$ mm and dovetail joint.
- Fine adjustment.
- Granite measuring table: 150 x 100 x 40 mm, flatness: $\leq 10 \mu\text{m}$.
- Base with groove in the center.
- Screw thread base: M8.
- Long, right side face with two mounting bores (thread M5, distance 120 mm).
- Mechanical clamping device.
- Arm length: 300 mm (the outstretched length between base and clamping shaft).
- Delivery in an aluminum carrying case.



Item No.	Description	Price EUR
910.436	Measuring stand	

Measuring stand

- Clamping shaft: $\varnothing 8$ mm.
- Total height: 200 mm.
- Max. measuring height: 90 mm.
- Effective arm length: 80 mm.
- Measuring table: 60 x 68 mm, ground and lapped.
- Dimensions transverse arm: $\varnothing 18 \times 120$ mm.
- Column: $\varnothing 22$ mm.
- Other dial gauge holders are available on request.

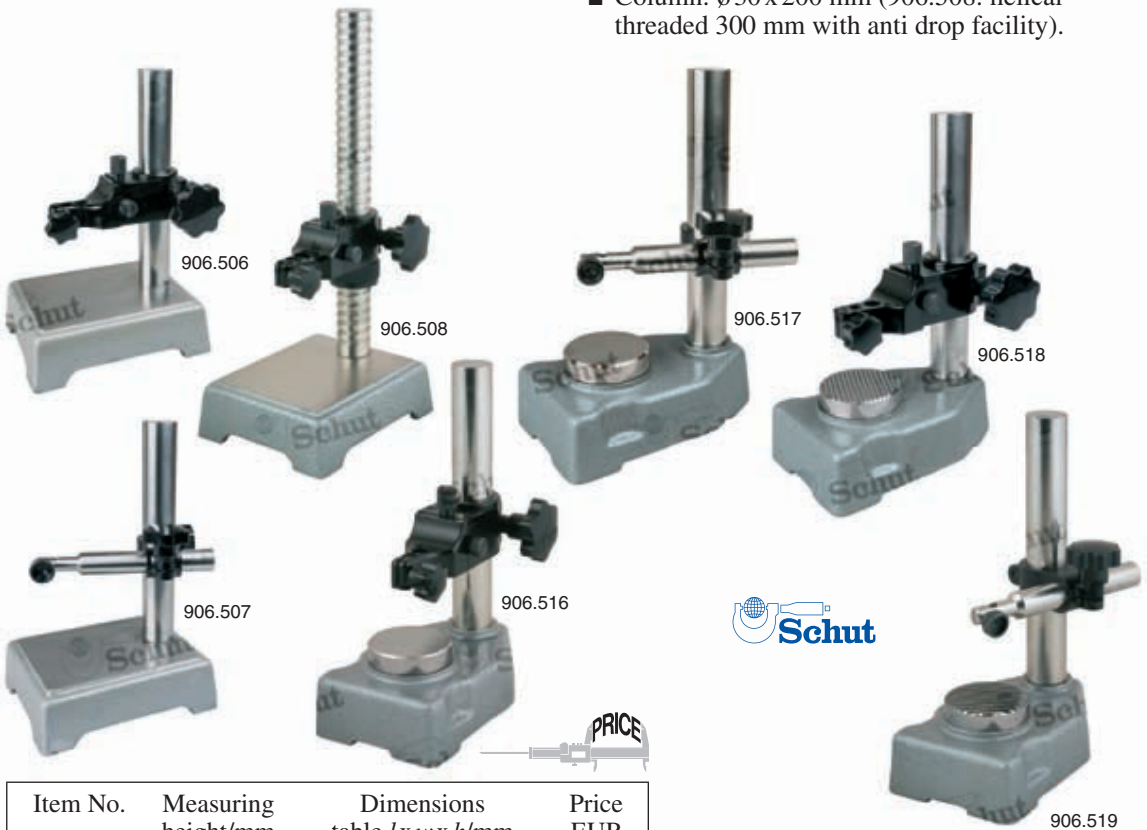


Item No.	Description	Price EUR
857.130	Measuring stand	

Measuring stands

Universal measuring stands with a cast iron, ground measuring table.

- Clamping shaft: $\varnothing 8$ mm (optional available clamp with clamping shaft $\varnothing 28$ mm).
- Fine adjustment: 5 mm (906.506/508/516/518).
- Total height: 250 mm (906.508: 350 mm).
- Max. measuring height: 160 mm (906.508: 260 mm).
- Effective arm length: 68 mm (906.507: max. 105 mm, 906.517/519: max. 95 mm).
- Measuring table: ground, 906.506/507/508: flat anvil/base, 906.516/517: round flat anvil (height anvil: 13.5 mm), 906.518/519: round serrated anvil (height anvil: 13.5 mm).
- Flatness table: $\leq 10 \mu\text{m}$.
- Dimensions transverse arm: $\varnothing 20 \times 150$ mm (906.507/517/519).
- Column: $\varnothing 30 \times 200$ mm (906.508: helical threaded 300 mm with anti drop facility).



Item No.	Measuring height/mm	Dimensions table l x w x h/mm	Price EUR
906.506	140	140 x 105 x 50	
906.507	160	140 x 105 x 50	
906.508	260	140 x 105 x 50	
906.516	130	$\varnothing 60 \times 65$	
906.517	145	$\varnothing 60 \times 65$	
906.518	130	$\varnothing 60 \times 65$	
906.519	145	$\varnothing 60 \times 65$	
Option:			
999.679	Clamp $\varnothing 28$ mm		

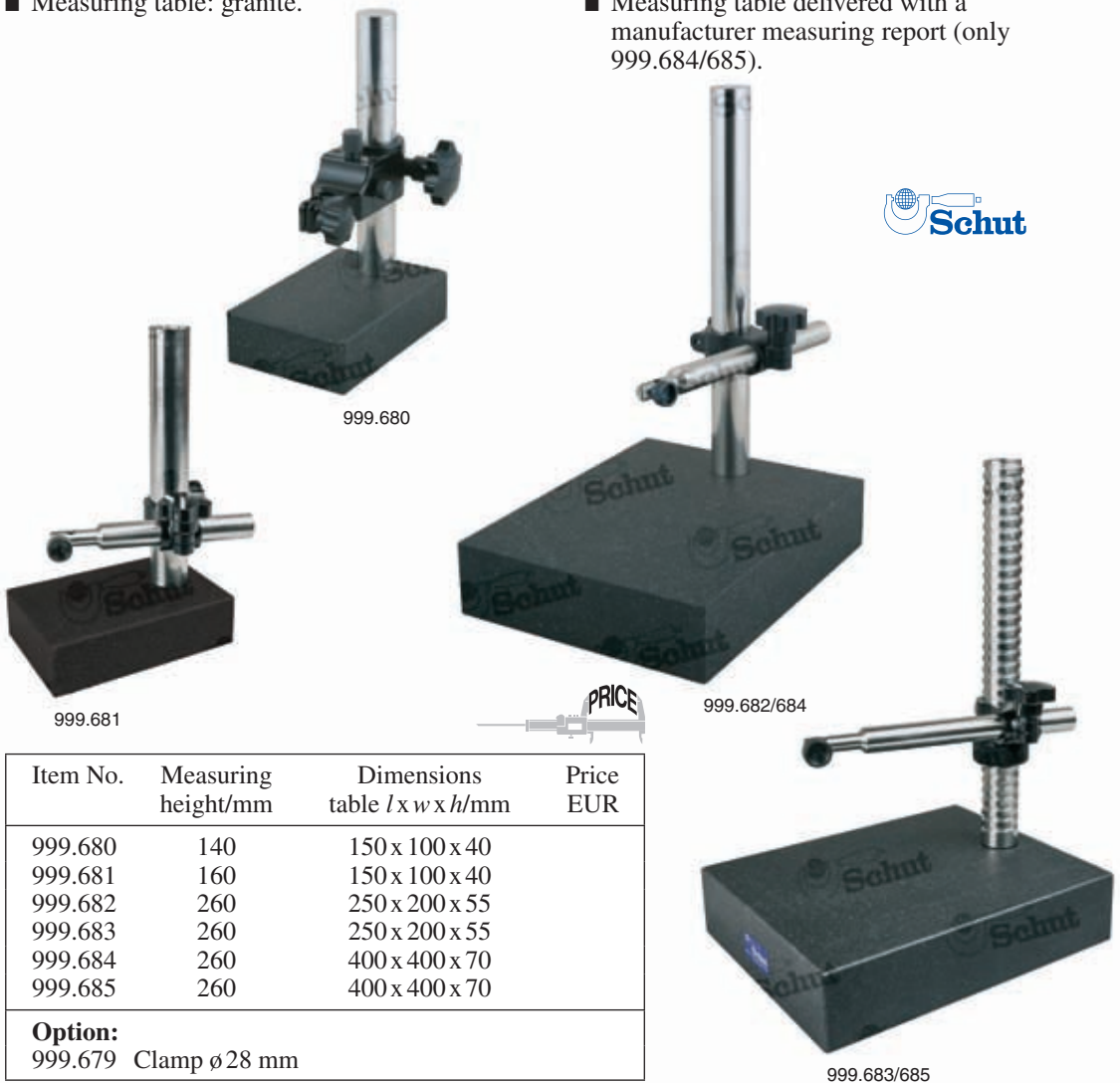


999.679

Measuring stands

Universal measuring stands with a granite measuring table.

- Clamping shaft: $\varnothing 8$ mm (optional available clamp with clamping shaft $\varnothing 28$ mm).
- Fine adjustment: 5 mm (999.680).
- Total height: 240 mm (999.680/681),
355 mm (999.682/683),
370 mm (999.684/685).
- Max. measuring height: 260 mm (999.682/683/684/685).
- Effective arm length:
max. 165 mm (999.682/683/684/685),
(999.681: max. 105 mm, 999.680: 68 mm).
- Measuring table: granite.
- Flatness table: $\leq 5 \mu\text{m}$ (999.684/685: delivery with an inspection report), $\leq 10 \mu\text{m}$ (999.680/681/682/683).
- Dimensions transverse arm:
 $\varnothing 20 \times 150$ mm (999.681),
 $\varnothing 20 \times 210$ mm (999.682/683/684/685).
- Column:
 $\varnothing 30 \times 200$ mm (999.680/681),
 $\varnothing 30 \times 300$ mm (999.682/684),
 $\varnothing 30 \times 300$ mm (999.683/685: helical threaded with anti drop facility).
- Measuring table delivered with a manufacturer measuring report (only 999.684/685).



Item No.	Measuring height/mm	Dimensions table l x w x h/mm	Price EUR
999.680	140	150 x 100 x 40	
999.681	160	150 x 100 x 40	
999.682	260	250 x 200 x 55	
999.683	260	250 x 200 x 55	
999.684	260	400 x 400 x 70	
999.685	260	400 x 400 x 70	

Option:
999.679 Clamp $\varnothing 28$ mm

Measuring stands

Measuring stands with a granite base in two models with a competitive price-performance ratio.

- Clamping shaft: \varnothing 8 mm.
- Max. measuring height: 250 mm.
- Anti drop facility.
- Granite table.
- Own product.



402.165

Item No.	Measuring height/mm	Flatness table/ μ m	Dimensions table l x w x h/mm	Column \varnothing /mm	Effective arm length/mm	Price EUR
402.165	150	10	150 x 100 x 40	25	62	
402.168	250	10	250 x 200 x 55	35	100	

Measuring stand

Heavy-duty precision stand with alumina ceramic grooved table and plain column.

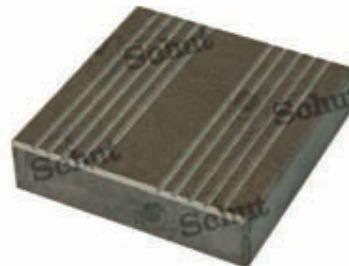
- Clamping shaft: \varnothing 8 mm.
- Max. measuring height: 135 mm.
- Effective arm length: 62 mm.
- Measuring table: 80 x 80 x 22 mm.
- Flatness table: $\pm 2 \mu$ m.
- Column: \varnothing 25 mm.
- Base: 150 x 89 x 37 mm.
- Anti drop facility.
- Own product.



Measuring table

Grooved measuring table made of alumina ceramics as applied to measuring stand 334.690, with the typical advantages of ceramics: high degree of hardness and wear resistance.

- Flatness: $\pm 2 \mu$ m.
- Dimensions: 80 x 80 x 22 mm.
- Bottom-side: 3 tapped holes M6.



Item No.	Description	Price EUR
334.690	Precision stand	

Item No.	Description	Price EUR
841.078	Measuring table	

Measuring stands

- Clamping shaft: $\varnothing 8$ mm.
- Total height: 310 mm.
- Max. measuring height: 180 mm.
- Hard-chrome plated and ground column: $\varnothing 35$ mm.
- 857.126 and 857.128 with adjustable transverse arm ($\varnothing 22$ mm), length 220 mm.
- Granite measuring table: 260 x 150 x 48 mm (*l x w x h*), measuring face: 200 x 150 mm, flatness according DIN 876/00.



857.128



857.125

Item No.	Column	Effective arm length/mm	Price EUR
857.125	plain	104	
857.126	plain	175	
857.127	helical threaded	104	
857.128	helical threaded	175	

Measuring stands

- Clamping shaft: $\varnothing 20$ mm, $\varnothing 25$ mm or $\varnothing 32$ mm.
- Max. measuring height: 290 mm.
- Effective arm length: 167 mm.
- Column: $\varnothing 50$ mm.
- 996.190/315/820 with anti drop facility.
- Granite measuring table: 400 x 400 x 70 mm, flatness: ≤ 5 μm .
- DIN 876/0.
- Measuring table delivered with a manufacturer measuring report.
- Own product.

Item No.	Column	Clamping shaft/mm	Price EUR
996.190	plain	$\varnothing 20$	
996.189	helical threaded	$\varnothing 20$	
996.820	plain	$\varnothing 25$	
996.821	helical threaded	$\varnothing 25$	
996.315	plain	$\varnothing 32$	
Option:			
344.470	Reducing bush $\varnothing 20/8$ mm		



996.190



996.189

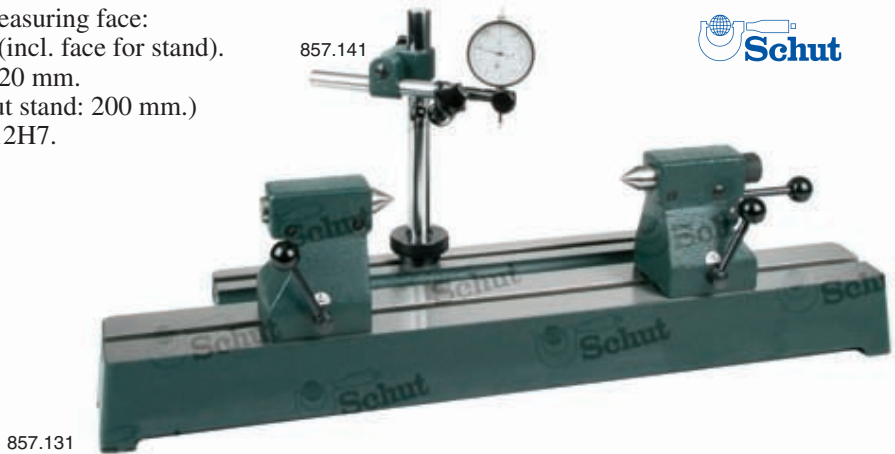
Bench center

Cast iron base with the measuring face's accuracy according DIN 876/1. Supplied with two tailstocks, one with a fixed center point and one with an adjustable center point by means of a lever.

- Center height: 100 mm.
- Max. center distance: 450 mm.
- Center points: 60°.
- Stroke moveable center point: 8 mm.
- Delivery incl. measuring stand 857.141 (column ø22 x 230 mm, clamping shaft 8H7, with fine adjustment), excl. dial indicator or measuring probe.
- Dimensions measuring face: 700 x 180 mm (incl. face for stand).
- Total height: 320 mm. (Height without stand: 200 mm.)
- Width T-slot: 12H7.
- Weight: 35 kg.

- Larger models with granite base are available on request.

Item No.	Type	Price EUR
857.131	RP 100-450	



Item No.	Description	Price EUR
857.179	Pair of center points with tungsten carbide point 60°	
857.178	Pair of center points with bore	
857.175	Pair of prism inserts	
857.136	Pair of V-blocks	
857.137	Pair of roller blocks	
857.176	Stop	
857.177	Dial indicator holder	
857.141	Extra measuring stand	

Center points (ø22 mm)

- With tungsten carbide point 60°, or with bore according DIN 332-A 1.6 x 3.8.



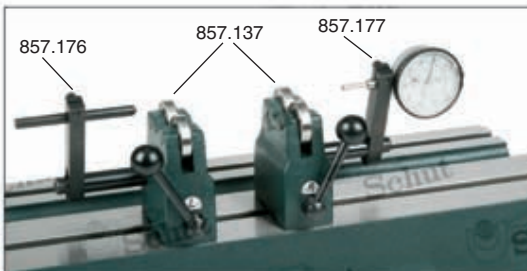
Prism inserts 90°

- Capacity: ø8-45 mm.
- Center height at ø10 mm: 130 mm.



V-blocks 90° and roller blocks

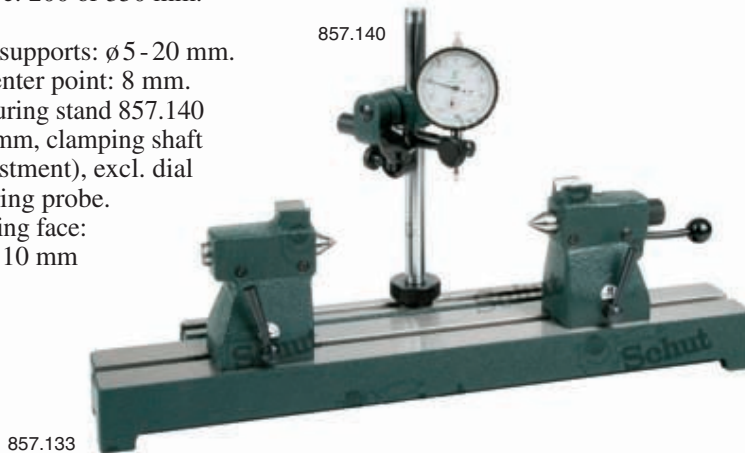
- Capacity V-blocks: ø8-50 mm.
- Capacity roller blocks: ø2-60 mm.
- Center height at ø10 mm: 100 mm.
- Stop (857.176): ø8 mm.
- Dial indicator holder (857.177): shaft 8H7.



Bench centers

Cast iron base with the measuring face's accuracy according DIN 876/1. Supplied with two tailstocks, one with a fixed center point and one with an adjustable center point by means of a lever.

- Center height: 50 mm (without V-shaped supports) or 75 mm (P models; with V-shaped supports on the tailstocks).
- Max. center distance: 200 or 350 mm.
- Center points: 60°.
- Capacity V-shaped supports: \varnothing 5 - 20 mm.
- Stroke moveable center point: 8 mm.
- Delivery incl. measuring stand 857.140 (column \varnothing 16 x 220 mm, clamping shaft 8H7, with fine adjustment), excl. dial indicator or measuring probe.
- Dimensions measuring face: 350 x 110 or 500 x 110 mm (including face for measuring stand).
- Total height (incl. measuring stand): 260 mm.
- Width T-slot: 10H7.
- Vertical models are also available.



Item No.	Type	Center height mm	Max. center distance/mm	Measuring face/mm	Weight kg	Price EUR
857.132	RP 50-200	50	200	350x110	8	
857.133	RP 75-200P	75	200	350x110	9	
857.134	RP 50-350	50	350	500x110	11	
857.135	RP 75-350P	75	350	500x110	12	

Item No.	Description	Price EUR
857.174	Pair of center points with tungsten carbide point 60°	
857.155	Pair of center points with bore	
857.180	Pair of prism inserts	
857.138	Pair of V-blocks	
857.139	Pair of roller blocks	
857.172	Stop	
857.173	Dial indicator holder	
857.140	Extra measuring stand	



857.138



Center points (\varnothing 16 mm)

- With tungsten carbide point 60°, or with bore according DIN 332-A 1.6 x 3.8.



Prism inserts 90°

- Capacity: \varnothing 3 - 15 mm.
- Center height at \varnothing 10 mm: 70 mm (RP 50) or 95 mm (RP 75).



V-blocks 90° and roller blocks

- Capacity V-blocks: \varnothing 5 - 25 mm.
- Capacity roller blocks: \varnothing 2 - 40 mm.
- Center height at \varnothing 10 mm: 65 mm.
- Stop (857.172): \varnothing 8 mm.
- Dial indicator holder (857.173): shaft 8H7.

Bench center

Bench center with rotatable collet chuck. Cast iron base with the measuring face's accuracy according DIN 876/1.

- Center height: 75 mm.
- Measuring range: 0-100 mm (up to center).
- Capacity: $\varnothing 0.5-9.5$ mm.
- Concentricity of the tailstock quill: $\pm 5 \mu\text{m}$.
- Delivery incl. measuring stand 857.140 (column $\varnothing 16 \times 220$ mm, clamping shaft 8H7, with fine adjustment), excl. dial indicator or measuring probe and collet chuck.
- Dimensions measuring face: 200 x 110 mm (DIN 876/1) (incl. face for stand).
- Weight: 5.6 kg (857.184).
- Total height (incl. measuring stand): 270 mm.
- Width T-slot: 10H7.
- Concentricity accuracy collet chucks: 0.03 mm.



Item No.	Center height/mm	Price EUR
857.184	75	
Option:		
857.182	Separate tailstock	

Collet chucks

Item No.	Clamping range	Price EUR
857.272	0.5-1	
857.273	1 -1.5	
857.274	1.5-2	
857.275	2 -2.5	
857.276	2.5-3	
857.277	3 -3.5	
857.278	3.5-4	
857.279	4 -4.5	
857.280	4.5-5	
857.281	5 -5.5	
857.282	5.5-6	
857.283	6 -6.5	
857.284	6.5-7	
857.285	7 -7.5	
857.286	7.5-8	
857.287	8 -8.5	
857.288	8.5-9	
857.289	9 -9.5	

Bench center

Bench center with rotatable collet chuck.

- Measuring range: 0-50 mm (up to center).
- Capacity: $\varnothing 0.5-7$ mm.
- Clamping shaft: 8H7.
- Excl. dial indicator or measuring probe and collet chuck.
- Weight: 1.8 kg.
- Concentricity accuracy collet chucks: 0.03 mm.



Item No.	Description	Price EUR
857.185	Bench center	

Collet chucks

Item No.	Clamping range	Price EUR
857.188	0.5-1	
857.189	1 -1.5	
857.190	1.5-2	
857.191	2 -2.5	
857.192	2.5-3	
857.193	3 -3.5	
857.194	3.5-4	
857.195	4 -4.5	
857.196	4.5-5	
857.197	5 -5.5	
857.198	5.5-6	
857.199	6 -6.5	
857.200	6.5-7	

Fisso run out testers and balancing units

Run out tester with roller wheels or V-blocks for efficient testing of external, internal and surfaces of round products. Balancing unit with roller wheels for efficient testing of grinding wheels and other round products. The supports are adjustable and can be fixed on the base plate by means of a lever. Ideal for checking products in the production environment.

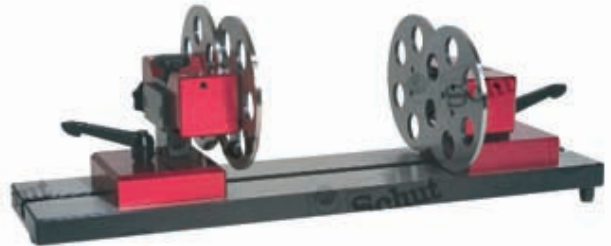
- Diameter compensation run out tester: max. 60 mm.
- Workpiece run out tester: max. \varnothing 240 mm, workpiece balancing unit: max. \varnothing 500 mm.
- Weight workpiece: max. 25 kg.
- Length base plate:
run out tester: 500 or 1000 mm,
balancing unit: 330 or 500 mm.
- Width T-slot: 14 mm.

Model with roller wheels

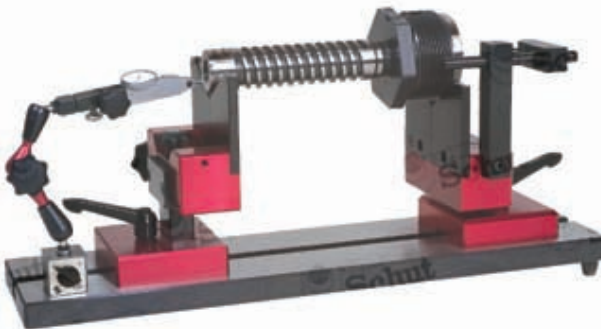
- Accuracy roller wheel: ± 0.005 mm.
- Roller wheel: \varnothing 120 mm.

Model with V-blocks

- Tungsten carbide supports.



837.214



837.216



837.222



Item No.	Length base plate/mm	Weight kg	Price EUR
Run out tester with roller wheels:			
837.214	500	approx. 14	
837.215	1000	approx. 23	
Run out tester with V-blocks:			
837.216	500	approx. 14	
837.217	1000	approx. 23	
Balancing unit:			
837.222	330	approx. 13	
837.223	500	approx. 16	

Granite surface plates

Black granite surface plates according to DIN 876 specifications. Sizes vary from 250 x 250 mm to 2000 x 1000 mm.

- Delivery with an inspection report.
- Straight beveled edges.
- Cover (synthetic leather) optionally available.
- Surface plate stand optionally available (see “surface plate accessories” elsewhere in this catalog).
- Weight including wooden transport packaging.



131.101 +
131.113 +
131.108 +
402.028



402.252



131.100 +
402.028



Delivery ex Groningen, Netherlands

Dimensions <i>l x w x h</i> mm	Weight ¹ kg	Accuracy according DIN 876/1		Accuracy according DIN 876/0		Accuracy according DIN 876/00		Cover ²	
		Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
250 x 250 x 50	13	402.000		402.020		402.040		402.250	
400 x 250 x 50	20	402.001		402.021		402.041		402.251	
400 x 400 x 70	41	402.002		402.022		402.042		402.252	
630 x 400 x 70	65	402.003		402.023		402.043		402.253	
630 x 630 x 80	108	402.004		402.024		402.044		402.254	
800 x 500 x 100	136	402.005		402.025		402.045		402.255	
900 x 600 x 100	188	402.006		402.026		402.046		402.256	
1000 x 630 x 100	223	402.007		402.027		402.047		402.257	
1000 x 630 x 150	317	402.008		402.028		402.048		402.257	
1000 x 1000 x 100	342	402.009		402.029		402.049		402.258	
1000 x 1000 x 150	504	402.010		402.030		402.050		402.258	
1200 x 800 x 120	394	402.011		402.031		402.051		402.259	
1200 x 800 x 150	467	402.012		402.032		402.052		402.259	
1500 x 1000 x 150	750	402.013		402.033		402.053		402.260	
1500 x 1000 x 200	971	402.014		402.034		402.054		402.260	
2000 x 1000 x 200	1295	402.015		402.035		402.055		402.261	
2000 x 1000 x 250	1600	402.016		402.036		402.056		402.261	

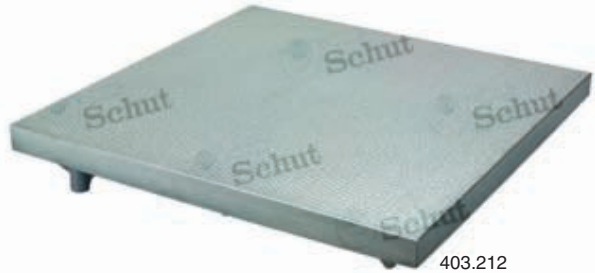
¹ Weight including wooden packing.

² Dimensions of the covers are equal to the length and the width of the surface plate, all covers have a depth of 50 mm.

Cast iron surface plates

Extra heavy, cast iron surface plates.

- Three models:
 - milled (smoothened), accuracy according DIN 876/3,
 - hand scraped, accuracy according DIN 876/1,
 - fine scraped, accuracy according DIN 876/0.
- The side faces of all plates are milled and varnished.
- Surface plate stand optionally available (see “surface plate accessories” elsewhere in this catalog).



403.212



Delivery ex Groningen, Netherlands

Dimensions <i>l x w</i> mm	Weight kg (approx.)	Accuracy according DIN 876/3		Accuracy according DIN 876/1		Accuracy according DIN 876/0	
		Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
200 x 200	7	403.236		403.208		403.185	
250 x 250	12	403.237		403.209		403.186	
300 x 300	15	403.238		403.210		403.187	
400 x 250	25	403.239		403.211		403.188	
400 x 400	35	403.240		403.212		403.189	
500 x 500	50	403.241		403.213		403.190	
600 x 400	45	403.242		403.214		403.191	
630 x 630	90	403.243		403.215		403.192	
800 x 500	95	403.249		403.221		403.193	
1000 x 600	140	403.245		403.217		403.194	
1000 x 1000	270	403.246		403.218		403.195	
1200 x 800	300	403.250		403.222		403.196	
1500 x 1000	650					403.197	
2000 x 1000	1000	403.248		403.220			

Fine scraped plate (DIN 876/1) with lapp and inspection surface

Cast iron duplex plate with one flat inspection surface and one squared lapp surface, both finely scraped according to DIN 876/1. With the optional wooden box the surface plate can be used on both sides, because the top and bottom side of the case can be separated.

- Flatness: 14 μm .
- Dimensions *l x w x h*:
360 x 260 x 65 mm.
- Weight: approx. 24 kg.

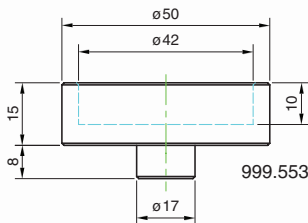
Item No.	Description	Price EUR
403.150	Duplex plate	
403.151	Wooden case (double sided use)	



Surface plate supports

- For use with large granite or cast iron surface plates with a minimum size of 1000 x 630 mm.
- Support adjustable in height, with adjusting bolt and lock nut.
- For granite and cast iron surface plates it is advisable to use 5 surface plate supports, 3 for the Bessel points and 2 for tilt protection or a set of 5 supports, consisting of 3 surface plate supports and 2 sleeping points.

- Delivery incl. adjusting bolt and lock nut, excl. required supporting cup.



Delivery ex Groningen, Netherlands

403.298 + 999.553 (5 pieces) + 997.343



Item No.	Description	Height/mm		Price EUR
		min. ¹	max. ¹	
403.253	Surface plate support	550	580	
403.254	Surface plate support	650	680	
403.298 ²	Set of 5 supports	550	580	
403.299 ²	Set of 5 supports	650	680	
999.553 ³	Supporting cup (per piece)			
997.343 ⁴	Support set			

¹ Height without supporting cup and supporting set (incl. adjusting bolt and lock nut).

² Set consists of 3 supports and 2 tilt protectors.

³ Required for granite and cast iron surface plates.

⁴ Required for granite surface plates (in combination with supporting cups).



Support with supporting cup and supporting set.



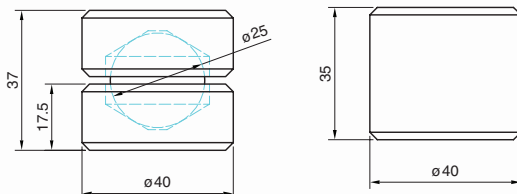
Sleeping point with supporting cup and supporting set.

Support set for surface plates

Support set for placing a small surface plate on a working table.

- Set consists of support based on 3 Bessel points and two tilt protectors.

- Stainless steel construction.
- Diameter: 40 mm.



Item No.	Description	Price EUR
997.343	Support set	



Surface plate stands

Extremely solid surface plate stands with excellent price-quality ratio. Support of the surface plate is determined on the basis of the bessel points and has an optional slide protection and chest of drawers. Working height depends on the surface plate thickness. The models for surface plates equal to or larger than 1000 x 1000 mm directly bear the load at the bessel points to the floor.

- Delivered incl. support (bessel) and sleeping points.
- Difference min. and max. height incl. surface plate: 25 mm.
- Delivered in color RAL 7035.



131.101 +
131.113 +
131.108 +
402.028

Delivery ex Groningen, Netherlands



131.100 +
402.028



Sleeping point.



Bessel point.



131.117

Options

Item No.	For granite surface plates dimensions <i>l x w x t/mm</i>	Height incl. surface plate		Price EUR
		min./mm	max./mm	
Surface plate stand (standard model):				
131.100 ¹	630 x 630 x 80	880	905	
131.100 ¹	800 x 500 x 100	900	925	
131.100 ¹	900 x 600 x 100	900	925	
131.100 ¹	1000 x 630 x 100	900	925	
131.100 ¹	1000 x 630 x 150	950	975	
131.104	2000 x 1000 x 200	850	875	
131.104	2000 x 1000 x 250	900	925	
Surface plate stand (prepared for chest of drawers):				
131.101 ¹	630 x 630 x 80	880	905	
131.101 ¹	800 x 500 x 100	900	925	
131.101 ¹	900 x 600 x 100	900	925	
131.101 ¹	1000 x 630 x 100	900	925	
131.101 ¹	1000 x 630 x 150	950	975	
131.102	1000 x 1000 x 100	850	875	
131.102	1000 x 1000 x 150	900	925	
131.102	1200 x 800 x 120	870	895	
131.102	1200 x 800 x 150	900	925	
131.103	1500 x 1000 x 150	850	875	
131.103	1500 x 1000 x 200	900	925	

¹ Does not directly bear the load to the floor at the bessel points.

² Incl. fasteners.

³ Sleeping 2 and bessel points 3 needed.

⁴ Excl. brass supporting cup.

⁵ Excl. lock nut.

⁶ For 131.100, 131.101, 131.102: 4 needed.

For 131.103, 131.104: 5 needed.

Item No.	For granite surface plates dimensions <i>l x w x t/mm</i>	Price EUR
Slide protection² for surface plate stands:		
131.105	630 x 630 x 80	
131.106	800 x 500 x 100	
131.107	900 x 600 x 100	
131.108	1000 x 630 x 100/150	
131.109	1000 x 1000 x 100/150	
131.110	1200 x 800 x 120/150	
131.111	1500 x 1000 x 150/200	
131.112	2000 x 1000 x 200/250	
Bessel and sleeping points:		
131.115 ^{3,5}	Sleeping point (tilt protection) (height: 30 mm higher than standard)	
131.116 ^{3,4,5}	Bessel point (height: 30 mm higher than standard)	
Surface plate support for extra working height:		
131.117 ⁶	Height: 125 mm higher than standard.	
Chest of drawers:		
131.113 ²	Chest of drawers (RAL 5015), incl. fasteners, 610 x 480 x 470 mm (<i>w x d x h</i>); 3 drawers. Inside dimensions drawers (<i>w x d x h</i>): upper drawer: 515 x 395 x 90 mm, middle drawer: 515 x 395 x 105 mm, lower drawer: 515 x 395 x 135 mm.	

Granite plate cleaner

Special granite plate cleaner to keep the surface of your granite surface plate clean and useable for a long period. Dust, dirt, grease stains, finger and hand prints can easily be removed. A clean and smooth surface provides low friction, less wear and the most accurate measurements. The non-corrosive property of the cleaner prevents corrosion damage to metal products.



Item No.	Description	Price EUR
407.304	Cleaner, 500 ml	

Surface plate stands

Extremely solid surface plate stand. Construction is determined on the basis of the Bessel points and has a slide protection. Working height is standard 900 mm.

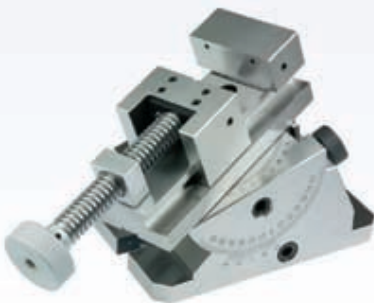


Delivery ex Groningen,
Netherlands

Item No.	For granite surface plates dimensions l x w x t/mm	Price EUR
131.020	630 x 630 x 80	
131.013	900 x 600 x 100	

Item No.	For cast iron surface plates dimensions l x w/mm	Price EUR
131.030	1000 x 600	
131.029	1000 x 1000	
131.041	1200 x 800	
131.022	1500 x 1000	
131.031	2000 x 1000	

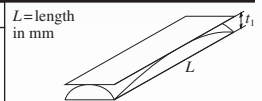
V-blocks / Vises / Angle plates / Cylindrical squares
Squares / Parallels / Straight edges



Flatness tolerances according DIN 874	
Class	Flatness t_1 (μm)
00	$1+L/150$
0	$2+L/100$
1	$4+L/60$
2	$8+L/40$

Squareness tolerances according DIN 875	
Class	Squareness (μm)
00	$2+L/100$
0	$5+L/50$
1	$10+L/20$
2	$20+L/10$

Flatness tolerances according DIN 876	
Class	Flatness t_1 (μm)
00	$2+L/500$
0	$4+L/250$
1	$10+L/100$
2	$20+L/50$
3	$40+L/25$



C07.000.EN.20230522

V-blocks in pairs

V-blocks for clamping, processing, aligning and inspecting cylindrical objects, available in three classes.

■ **Class 3:** Parallelism: 60 µm.

Base and prism face smooth planed, short and long side processed.

Class 1: Parallelism: 16 µm.

Base and prism face hand scraped, short and long side processed.

Class 0: Parallelism: 8 µm.

Base and prism face and short side fine scraped, long side processed.

■ Ground in matched pairs.

■ V-groove: 90°.



Dimensions <i>l x w x h</i> mm	Capa- city ø/mm	Weight p. pair kg	Class 3		Class 1		Class 0	
			Item No.	Price EUR p. pair	Item No.	Price EUR p. pair	Item No.	Price EUR p. pair
Steel:								
100 x 40 x 30	6- 50	1.4	403.396		403.390		403.380	
150 x 50 x 40	8- 60	3.6	403.397		403.391		403.381	
High-quality gray cast iron:								
200 x 70 x 50	8- 75	6.1	403.398		403.392		403.382	
250 x 85 x 60	10-100	10	403.399		403.395		403.383	
300 x 100 x 70	15-120	15	403.400		403.393		403.384	

X-blocks in pairs

The X-blocks have four V-grooves of 90°, all varying in size.

■ **Class 1:** Parallelism: 16 µm.

Flatness of the measuring faces according DIN 876/1.

All surfaces hand scraped.

Class 0: Parallelism: 8 µm.

Flatness of the measuring faces according DIN 876/0.

All surfaces fine scraped.

■ All four V-grooves are ground in matched pairs.

■ Material: high-quality gray cast iron.

■ V-groove: 90°.

■ Holds workpieces on all faces.

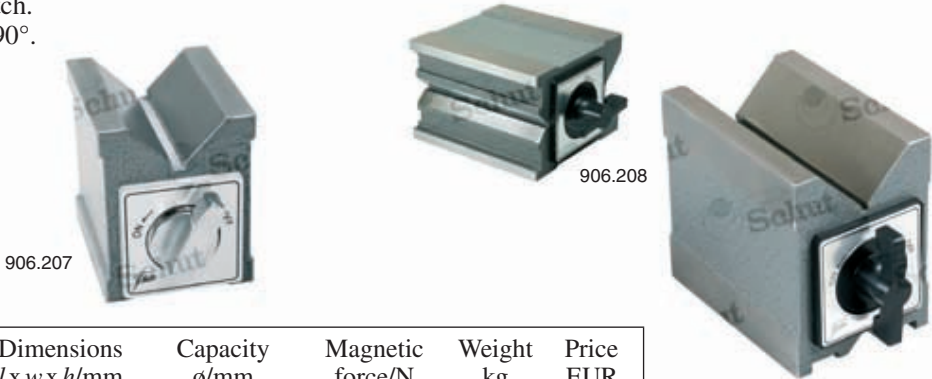


Dimensions <i>l x w x h</i> mm	Capa- city ø/mm	Weight p. pair kg	Class 1		Class 0	
			Item No.	Price EUR p. pair	Item No.	Price EUR p. pair
120 x 100 x 60	8- 90	6	403.370		403.360	
150 x 130 x 75	8-110	10.4	403.371		403.361	
200 x 170 x 90	8-150	25	403.372		403.362	

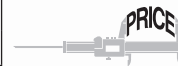


Magnetic V-blocks

- Accuracy: ± 0.02 mm / 100 mm.
- On/off switch.
- V-groove: 90° .



Item No.	Dimensions <i>l x w x h</i> /mm	Capacity ϕ /mm	Magnetic force/N	Weight kg	Price EUR
906.207	70 x 60 x 72	8 - 50	686	1.8	
906.208	100 x 70 x 95	6 - 55	1178	3.7	



Magnetic V-blocks

- Magnetic force: 200 N.
- Ground in matched pairs.
- V-groove: 90° .
- Weight: 2.2 kg (per piece).



Item No.	Dimensions <i>l x w x h</i> /mm	Capacity ϕ /mm	Price EUR
906.210	100 x 50 x 80	6 - 70	

Magnetic V-block

- V-groove: 90° .
- Magnetic force of round spindle axis in V-groove: 450 N, magnetic force of base plate: 450 N.



Item No.	Dimensions <i>l x w x h</i> /mm	Capacity ϕ /mm	Price EUR
855.200	125 x 60 x 73	6 - 50	

Adjustable V-blocks

V-blocks adjustable from 0 to +60 degrees and 0 to -15 degrees. Suitable for metal cutting machines and for various measuring purposes.

- Vernier: 10'.
- Accuracy: 15'.
- Capacity: \varnothing 6-28 mm (906.600),
 \varnothing 6-40 mm (906.601/602).
- Dial: 0 to +60°/0 to -15°.
- Flatness measuring faces: 0.01 mm.
- Hardness: 50-55 HRC (base),
58-62 HRC (V-block).
- V-groove: 90°.
- Adjustable angle by locking Allen.
- Delivery in a plastic case or a wooden case incl. Allen key.



Item No.	Dimensions l x w x h/mm	Price EUR
906.600	75 x 25 x 32.5	
906.601	102 x 30 x 48	
906.602	102 x 46 x 48	



906.601

V-blocks in pairs

- Parallelism measuring faces: $\pm 4 \mu\text{m}$.
- Squareness of front face with bottom face according DIN 2274.
- Hardened ($650 \pm 100 \text{ HV5}$).
- Ground in matched pairs.
- V-groove: 90°.
- Delivery incl. clamp.



666.550

Item No.	Dimensions l x w x h/mm	Capacity \varnothing /mm	Price EUR
666.550	50 x 40 x 40	5-30	
666.551	75 x 55 x 55	5-50	
666.552	100 x 75 x 75	7-70	

V-blocks in pairs

- Parallelism measuring faces: $\pm 4 \mu\text{m}$.
- Squareness of all side faces with each other according DIN 2274.
- Hardened ($650 \pm 100 \text{ HV5}$).
- Ground in matched pairs.
- V-groove: 90°.
- Delivery incl. clamp.

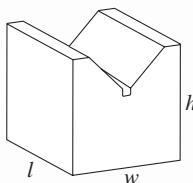


666.540

Item No.	Dimensions l x w x h/mm	Capacity \varnothing /mm	Price EUR
666.540	60 x 58 x 40	5-30	
666.541	75 x 70 x 54	5-50	
666.542	100 x 96 x 75	7-70	

Granite V-blocks in pairs

- V-groove: 90°.
- Material: granite.
- Processed in matched pairs.
- Delivery in an aluminum carrying case with a manufacturer measuring report.



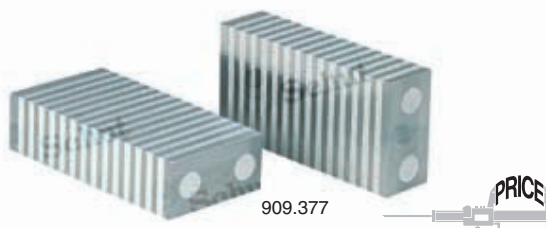
Dimensions $l \times w \times h$ /mm	Capacity ϕ /mm	Weight kg ¹	Item No.	Accuracy μm^2	Price EUR	Item No.	Accuracy μm^2	Price EUR
			Class 1:			Class 0:		
63 x 63 x 63	10 - 50	1.4	402.155	± 6		402.159	± 3	
100 x 100 x 100	15 - 75	5.6	402.156	± 8		402.160	± 4	
100 x 160 x 160	25 - 125	14.2	402.157	± 8		402.161	± 4	
160 x 250 x 250	60 - 200	55.2	402.158	± 10		402.162	± 5	

¹ Weight per pair.

² Parallelism between measuring faces and base.

Magnetic induction blocks in pairs

These magnetic induction blocks are not magnetized themselves. They are placed on a magnetic chuck to induce, to hold objects as for example round bars.



- Material: steel and aluminum alloy.
- Ground in matched pairs.

V-blocks (909.378)

- Capacity: $\phi 7 - 50$ mm.
- V-groove: 90°.



Item No.	Dimensions $l \times w \times h$ /mm	Weight kg	Price EUR
909.377	100 x 50 x 25	1.18	
909.378	50 x 60 x 48	1.13	

Magnetic holders

- Angles 45°, 90° and 135°.

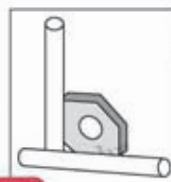


909.342

Item No.	Dimensions $h \times w$ /mm	Thickness mm	Holding power/kg	Price EUR
909.342	80 x 120	14	2.5	
909.332	100 x 155	17	8	



909.332



Mini precision clamping tools

Miniature clamping tools for clamping of small products. Very well suited for measuring for example with roughness testers, microscopes or measuring machines.

Mini precision vises

- Accuracy (parallelism, flatness and squareness): 0.02 mm.
- 856.081: brass, matt chrome-plated; 856.082 and 856.083: aluminum, matt anodized.
- Standard supplied with 2 pairs of jaws (hardened stainless steel and plastic): 1 side with a ground horizontal and vertical prism and 1 flat side.
- 856.081 and 856.082: on the bottom-side provided with 2 x M4 threaded bores with center distances 42 and 62.5 mm; 856.083: on the bottom-side provided with 2 x M6 threaded bores with center distance approx. 83 mm.

Clamp jaw sets

Sets consisting of 1 pair plastic jaws, 1 pair with stepped jaws and 1 jaw with a stopper in the horizontal prism.



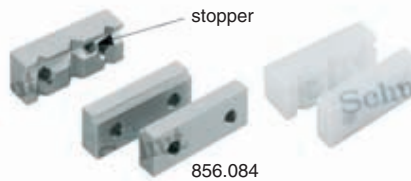
856.081

Item No.	Jaw opening mm	Jaw width mm	Jaw depth mm	Length mm	Weight kg	Price EUR
856.081	14	15	8	50	0.075	
856.082	23	25	15	75	0.16	
856.083	32	35	21	100	0.4	



Options

Item No.	Description	Price EUR
Clamp jaw sets:		
856.084	For 856.081	
856.085	For 856.082	
856.086	For 856.083	



Mini precision vises in a set

Mini precision vises in a set, consists of 856.081, 856.082 and 856.083 with matching clamp jaws.

- Delivery in a plastic carrying case.

NEW

Item No.	Description	Price EUR
856.175	Mini precision vises in a set	



Mini indexable collets

- Clamping range: 0.4 - 6 mm.
- Per approx. 45 degrees indexable.
- Aluminum, blasted.



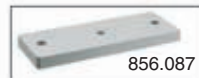
- Mounting by means of two M6 threaded bores on the bottom-side.

Item No.	Clamping range mm	Dimensions l x w x h/mm	Price EUR
856.090	0.4 - 3.5	26 x 21 x 34	
856.091	1.2 - 6	26 x 26 x 39	

Stand for mini precision vises

Stand for use with mini precision vises in combination with base plates. The base plates can also be used with other stands. For these stands see dial indicator stands elsewhere in the catalog.

Item No.	Description	Price EUR
670.057	Stand for 856.081 and 856.082	
Base plates:		
856.087	For 856.081	
856.088	For 856.082	
856.089	For 856.083	



NEW



670.057 +
856.087

XY table for mini precision vises

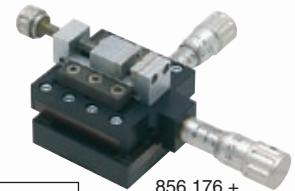
XY table for accurate positioning underneath a microscope, for example.

- Dimensions: 50 x 50 x 27 mm.
- Range: 10 x 10 mm.
- Graduation micrometers: 0.01 mm.

Item No.	Description	Price EUR
856.176	XY table	
856.177	Adapter for mini precision vise 856.081	
856.178	Adapter for mini precision vise 856.082	



NEW



856.176 +
856.177 +
856.081

Mini V-block

- Dimensions: 25 x 20 x 20 mm.
- Stainless steel construction.
- Delivery incl. clamp.

NEW



Item No.	Description	Price EUR
856.179	Mini V-block	

Mini magnetic V-blocks

- Aluminum, hardened steel.



856.173

856.174

NEW

Item No.	Description	Price EUR
856.173	Mini V-block 20 x 20 x 17.5 mm	
856.174	Mini V-block 30 x 30 x 25 mm	

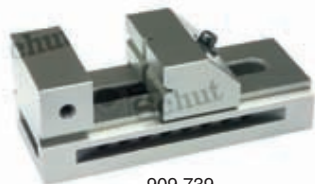
Precision vises

Hardened precision vises for accurate measurements and machine operations.

- Accuracy (parallelism, flatness and squareness):
 ≤100 mm jaw opening = 0.005 mm,
 >100 mm jaw opening = 0.005 mm per 100 mm.
- With horizontally and vertically ground prism in the moveable jaw.



909.734



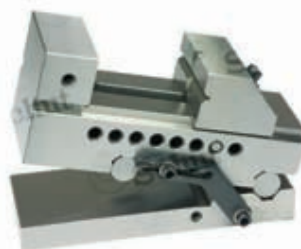
909.739

Precision and universal sine vises

- Stable and accurate to fix in each angle position (0 to 45°).

Universal precision vise

- With 360° rotatable base.
- Accurate degree scale.
- Stable and accurate to fix in each angle position (0 to 45°).



909.746



909.749



909.752



Item No.	Jaw opening mm	Jaw width mm	Jaw depth mm	Length mm	Price EUR
Precision vises:					
909.733	60	50	25	150	
909.734	80	75	35	200	
909.735	120	100	45	250	
909.736	155	125	50	300	
909.737	25	25	10	65	
909.738	65	50	25	140	
909.739	100	75	35	190	
909.740	120	100	45	240	
909.741	155	125	50	280	
Precision sine vises with swivelling front axis:					
909.742	60	50	25	140	
909.743	100	75	35	190	
909.744	120	100	45	250	
Precision sine vises with swivelling rear axis:					
909.745	60	50	25	140	
909.746	100	75	35	190	
909.747	120	100	45	250	
Universal sine vises:					
909.748	60	50	25	140	
909.749	90	75	35	200	
909.750	120	100	45	250	
909.751	155	125	50	300	
Universal precision vise:					
909.752	80	70	30	—	



Modular precision vises

Hardened precision vises for fixation for various machine operations.

- With or without 90° rotatable base.
- Accuracy (parallelism, flatness and squareness):
 - ≤ 100 mm jaw opening = 0.005 mm,
 - > 100 mm jaw opening = 0.005 mm per 100 mm.
- Also available:
 - intermediate sizes with other jaw depths and jaw openings,
 - larger models with jaw width 200 or 300 mm and jaw opening up to 600 mm.



909.702



909.706

Jaw opening mm	Jaw width mm	Jaw depth mm	Length mm	Without rotatable base		With rotatable base	
				Item No.	Price EUR	Item No.	Price EUR
100	100	30	270	909.702		909.706	
150	125	40	345	909.703		909.707	
200	150	50	420	909.704		909.708	
400	175	60	655	909.705		909.709	



Long modular vises

Long hardened vises for fixation for various machine operations.

- Single or two-sided model.
- Also available:
 - intermediate sizes with other jaw depths and jaw openings,
 - larger models with jaw width 200 mm and jaw opening up to 700 mm (single) or 250 mm (two-sided).



909.710



909.714



Jaw width mm	Jaw depth mm	Length mm	Single			Two-sided		
			Item No.	Jaw opening/mm	Price EUR	Item No.	Jaw opening/mm	Price EUR
100	30	460	909.710	290		909.714	90	
125	40	520	909.711	320		909.715	100	
150	50	580	909.712	360		–	–	
150	50	680	–	–		909.716	160	
175	60	866	909.713	600		909.717	220	

Short modular vises

Short hardened vises for fixation for various machine operations.

- With fixed jaw, fixed double jaw or moveable jaw.



909.723



909.728



909.718



Jaw width mm	Jaw depth mm	Length mm	Height mm	Fixed jaw		Fixed double jaw		Moveable jaw	
				Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
100	30	140	65	909.723		909.728		909.718	
125	40	160	80	909.724		909.729		909.719	
150	50	230	100	909.725		909.730		909.720	
175	60	240	118	909.726		909.731		909.721	
200	65	300	135	909.727		909.732		909.722	

Precision sine plates

- Stable and accurate to fix in each angle position (0 to 45°).

Precision sine plates

- Accuracy (parallelism and squareness):
 - ≤ 100 mm dimension l or $w = 0.005$ mm,
 - > 100 mm dimension l or $w = 0.005$ mm per 100 mm.
- Mounting hole pattern 909.690: 13x 1/4 inch,
909.691: 23x 1/4 inch.



Magnetic precision sine plates

Permanently magnetic sine plates for positioning and holding small or odd-shaped workpieces.

- Center distance of the support cylinders:
909.690/692: 76 mm,
909.691/693: 125 mm.



909.690



909.692

Item No.	Dimensions/mm	Price EUR
Precision sine plates:		
909.690	100 x 100 x 50	
909.691	152 x 152 x 57	
Magnetic precision sine plates:		
909.692	100 x 100 x 117	
909.693	152 x 152 x 117	

Granite square blocks with V-nut and tapped holes

Multifunctional granite blocks for e.g. flatness and squareness measurements, with V-nut and several tapped holes. Hold workpieces on several faces.

- Accuracy measuring faces:
flatness conforms to DIN 876/0,
squareness conforms to DIN 875/1.
- Screw thread of tapping holes:
402.170: M6, 402.171/172: M8.

- Equilateral cubic.
- Delivery with a manufacturer's certificate.



Item No.	Dimensions mm	Flatness µm	Squareness µm	Weight kg	Price EUR
402.170	160 x 160 x 160	4	8	9.6	
402.171	200 x 200 x 200	5	9	17	
402.172	250 x 250 x 250	5	10	34	



402.170

Four-sided cast iron parallel blocks in pairs

Hollow but yet stable cast iron parallel blocks because of the internal bridge construction.

- **Class 3:** Parallelism: 64 µm. Smooth planed.
- **Class 1:** Parallelism: 16 µm. Hand scraped.
- **Class 0:** Parallelism: 8 µm. Fine scraped.
- Flatness conforms to DIN 876.
- Squareness conforms to DIN 875.
- Plan parallel and square matched in pairs.



403.622

Dimensions <i>l x w x h</i> /mm	Weight p. pair/kg	Class 3		Class 1		Class 0	
		Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
150 x 150 x 100	18	403.628		403.624		403.620	
200 x 150 x 100	28	403.629		403.625		403.621	
300 x 225 x 150	60	403.630		403.626		403.622	
400 x 300 x 200	140	403.631		403.627		403.623	

Cast iron angle blocks with several clamping possibilities

Cast iron angle block, with four clamping faces with several slots and taps, for aligning and clamping of tools and products. The four faces are planparallel and square matched.

- Slot width: 18 mm (403.607: 20 mm).

Item No.	Dimensions <i>l x w x h</i> /mm	Parallelism µm	Squareness µm	Weight kg	Price EUR
403.605	250 x 150 x 100	50	35	13	
403.606	300 x 200 x 150	52	40	23	
403.607	400 x 250 x 200	56	46	55	



403.606

Cast iron clamping tables with several clamping possibilities

These cast iron clamping tables offer many possibilities for aligning and clamping products for mechanical processing. The six faces are parallel and square milled. Four of these faces are equipped with several clamping slots and the top face with T-slots.

- Flatness according DIN 876/3.
- T-slots according DIN 650.



403.613



Item No.	Dimensions <i>l x w x h</i> /mm	Weight kg	Nom. value T-slots/mm	Slot width mm	Price EUR
403.610	250 x 180 x 150	25	14	16	
403.611	300 x 220 x 200	37	14	18	
403.612	350 x 280 x 250	70	22	22	
403.613	400 x 350 x 300	115	22	22	
403.614	500 x 450 x 400	180	22	22	
403.615	800 x 700 x 600	670	28	30	

Cast iron angle plates with several clamping slots

These cast iron angle plates have several clamping slots both in the base and the clamping face, which make them suitable for all kind of fixtures.

- Flatness according DIN 876.
- Squareness according DIN 875.
- Strengthened outsides.
- Slots in base and clamping face.



403.283

Item No.	Dimensions <i>l x w x h</i> /mm	Weight kg	Flatness and square- ness/ μ m	Slot width mm	Price EUR
Class 3, DIN 876/3, DIN 875/2:					
403.292	150 x 75 x 100	4	30	12	
403.293	200 x 100 x 150	8	30	14	
403.294	275 x 150 x 200	20	40	17	
403.295	300 x 150 x 250	24	45	19	
403.296	400 x 225 x 300	45	50	23	
403.297	500 x 300 x 400	85	60	23	
Class 1, DIN 876/2, DIN 875/1:					
403.286	150 x 75 x 100	4	15	12	
403.287	200 x 100 x 150	8	15	14	
403.288	275 x 150 x 200	20	20	17	
403.289	300 x 150 x 250	24	22	19	
403.290	400 x 225 x 300	45	25	23	
403.291	500 x 300 x 400	85	30	23	
Class 0, DIN 876/1, DIN 875/0:					
403.280	150 x 75 x 100	4	7	12	
403.281	200 x 100 x 150	8	7	14	
403.282	275 x 150 x 200	20	9	17	
403.283	300 x 150 x 250	24	11	19	
403.284	400 x 225 x 300	45	12	23	
403.285	500 x 300 x 400	85	15	23	

Cast iron angle plates

- Ground faces.
- With T-slots.
- Accuracy: flatness according DIN 876, squareness according DIN 875.



Dimensions <i>l x w x h</i> /mm	Weight kg	DIN 876/3 and 875/2		DIN 876/2 and 875/1		DIN 876/1 and 875/0	
		Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
150 x 75 x 100	6	403.264		403.261		403.267	
200 x 100 x 150	11	403.276		403.273		403.270	
275 x 150 x 200	24	403.265		403.262		403.268	
300 x 150 x 250	33	403.277		403.274		403.271	
400 x 225 x 300	54	403.266		403.263		403.269	
500 x 300 x 400	105	403.278		403.275		403.272	

Steel cylindrical squares

Ground and lapped steel cylinder for checking squareness e.g. during the acceptance process of machines and instruments. Out of roundness and straightness: $\leq 1.5 \mu\text{m}$.

Item No.	Dimensions mm	Squareness p-p/ μm	Price EUR
852.190	$\varnothing 90 \times 200$	2	
852.191	$\varnothing 90 \times 250$	2.2	
852.192	$\varnothing 90 \times 300$	2.5	
852.193	$\varnothing 90 \times 350$	2.8	
852.194	$\varnothing 90 \times 400$	3	



Steel cylindrical squares

Ground and lapped steel cylinder for checking squareness.

- Out of roundness and straightness: $\leq 5 \mu\text{m}$.
- Delivery in a wooden case with a manufacturer measuring report.

Item No.	Dimensions mm	Squareness p-p/ μm	Price EUR
906.436	$\varnothing 80 \times 200$	3	
906.437	$\varnothing 80 \times 315$	4	
906.438	$\varnothing 100 \times 500$	5	
906.439	$\varnothing 140 \times 800$	7	



Granite squares

- Triangular model.
- Material: granite.
- Straight beveled edges.
- With weight-saving holes (except 402.120/126).

- Delivery in an aluminum carrying case (only height ≤ 400 mm) with a declaration of conformity.



Item No.	Dimensions <i>h x w x t</i> /mm	Squareness ¹ μm	Flatness ² μm	Weight kg	Price EUR
DIN 875/0:					
402.120	100 x 63 x 16	± 4	2	0.3	
402.121	160 x 100 x 20	± 4	2	0.8	
402.124	630 x 400 x 63	± 9	3	25.5	
402.125 ³	1000 x 630 x 80	± 12	5	102	
DIN 875/00:					
910.437	100 x 63 x 16	± 2	1	0.3	
910.438	160 x 100 x 20	± 2	1	0.8	
910.439	250 x 160 x 25	± 2.5	1	2.4	
910.440	400 x 250 x 40	± 3.5	1.2	7.5	
910.441	630 x 400 x 63	± 4.5	1.5	25.5	
910.442 ³	1000 x 630 x 80	± 6	2.5	102	

¹ Squareness between measuring face and base.

² Flatness of measuring face and base.

³ Weight included package.

Granite squares

- Square model.
- Material: granite.
- Straight beveled edges.
- With weight-saving holes.

- Delivery in an aluminum carrying case (only height ≤ 400 mm) with a declaration of conformity.



Item No.	Dimensions <i>h x w x t</i> /mm	Squareness μm ¹	Weight kg	Price EUR
Class 0:				
402.145	200 x 200 x 25	± 4	2.6	
402.146	250 x 250 x 30	± 4.5	4.9	
402.148	400 x 400 x 40	± 6	14.5	
402.149	500 x 500 x 50	± 7	33	
Class 00:				
910.443	200 x 200 x 25	± 2	2.6	
910.444	250 x 250 x 30	± 2.2	4.9	
910.445	315 x 315 x 30	± 2.6	7.7	
910.446	400 x 400 x 40	± 3	14.5	
910.447	500 x 500 x 50	± 3.5	33	

¹ Squareness between adjacent measuring faces.



402.148

Ceramic squares

- Made of alumina ceramics.
- Delivery in a wooden case.



908.721



908.745

Item No.	Dimensions <i>l x w x t</i> /mm	Flatness long measuring face/mm	Flatness short measuring face/mm	Squareness mm	Price EUR
Triangular, class A:					
908.719	160 x 100 x 20	0.002	0.001	0.004	
908.720	250 x 160 x 25	0.002	0.002	0.005	
908.721	400 x 250 x 40	0.0025	0.002	0.007	
908.722	630 x 400 x 63	0.003	0.0025	0.009	
Triangular, class AAA:					
908.726	250 x 160 x 25	0.0005	0.0005	0.0025	
908.727	400 x 250 x 40	0.0005	0.0005	0.0035	
908.728	630 x 400 x 63	0.0008	0.0005	0.0045	

Item No.	Dimensions <i>l x w x t</i> mm	Flatness measuring faces/mm	Squareness measuring faces/mm	side faces/mm	Parallelism measuring faces/mm	side faces/mm	Price EUR
Rectangular, class A:							
908.742	200 x 200 x 25	0.0018	0.004	0.04	0.004	0.096	
908.745	400 x 400 x 40	0.0026	0.006	0.06	0.006	0.144	
Rectangular, class AAA:							
908.782	300 x 300 x 30	0.0006	0.0013	0.013	0.0013	0.031	

Ceramic parallels in pairs

Parallels to position and layout workpieces in for example clamping jaws for drilling, grinding, milling and measuring.

- Made of alumina ceramics.
- Delivery in a wooden case.



Item No.	Dimensions <i>l x w x h</i> /mm	Flatness measuring faces/mm	Parallelism measur- ing faces/mm	Squareness mm	Height difference/mm	Price EUR
Class A:						
908.733	400 x 63 x 40	0.008	0.008	0.030	0.008	

Ceramic straight edge

- Made of alumina ceramics.
- Delivery in a wooden case.



Item No.	Dimensions <i>l x w x h</i> /mm	Flatness measuring faces/mm	Parallelism measur- ing faces/mm	Squareness mm	Price EUR
Class AAA:					
908.789	400 x 60 x 25	0.0016	0.0024	0.008	

Flat steel squares

- Lapped measuring faces.
- Accuracy according DIN 875.



670.003

Item No.	Dimensions mm	Cross- section/mm	Price EUR
Class III:			
670.061	100 x 70	20 x 5	
670.065	300 x 175	35 x 7	
670.067	500 x 250	40 x 8	
DIN 875/2:			
670.041	75 x 50	15 x 5	
670.042	100 x 70	20 x 5	
670.043	150 x 100	25 x 5	
670.044	200 x 130	30 x 6	
670.045	250 x 165	35 x 7	
670.046	300 x 175	35 x 7	
670.047	400 x 200	35 x 7	
670.048	500 x 250	40 x 8	
670.049 ¹	600 x 300	40 x 8	
670.051 ^{1,2}	1000 x 500	50 x 10	

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/1:			
670.022	75 x 50	15 x 5	
670.023	100 x 70	20 x 5	
670.024	150 x 100	25 x 5	
670.025	200 x 130	30 x 6	
670.026	250 x 165	35 x 7	
670.027	300 x 200	40 x 8	
670.028	400 x 265	45 x 10	
670.029	500 x 330	50 x 10	
670.030 ¹	600 x 400	50 x 10	
DIN 875/0 (with inspection report):			
670.002	75 x 50	15 x 5	
670.003	100 x 70	20 x 5	
670.004	150 x 100	25 x 5	
670.005	200 x 130	30 x 6	
670.006	250 x 165	35 x 7	
670.007	300 x 200	40 x 8	
670.008	400 x 265	45 x 10	
670.009	500 x 330	50 x 10	

¹ Incl. transport package.

² Delivery ex Groningen, Netherlands.

Flat stainless steel squares

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/2:			
670.145	200 x 130	30 x 6	
DIN 875/1:			
670.122	75 x 50	15 x 5	
670.123	100 x 70	20 x 5	
670.124	150 x 100	25 x 5	
670.125	200 x 130	30 x 6	
670.126	250 x 165	35 x 7	
670.127	300 x 200	40 x 8	
670.128	400 x 265	45 x 10	
670.129	500 x 330	50 x 10	
670.130 ¹	600 x 400	50 x 10	
DIN 875/0, hardened (with inspection report):			
670.751	50 x 40	12 x 5	
670.752	75 x 50	15 x 5	
670.753	100 x 70	20 x 5	
670.754	150 x 100	25 x 5	
670.755	200 x 130	30 x 6	
670.758	250 x 165	35 x 7	
670.759	300 x 200	40 x 8	
670.760	400 x 265	45 x 10	
670.761	500 x 330	50 x 10	

¹ Incl. transport package.

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875.



All squares can be delivered with an inspection report or a certificate of an acknowledged measuring laboratory.

For the larger squares it is important to realize that external factors affect the stability of squares, which may influence the accuracy unfavourably.

Wooden cases for squares

Wooden cases for flat squares.



Item No.	Dimensions square/mm	Price EUR
670.465	50 x 40/75 x 50/100 x 70	
670.466	150 x 100	
670.885	150 x 100/200 x 130	
670.467	200 x 130	
670.468	250 x 165/300 x 200	
670.887	250 x 165/300 x 200	
670.470	500 x 330	

Flat stainless steel squares

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875.

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/1:			
907.301	75 x 50	15 x 5	
907.302	100 x 70	20 x 5	
907.303	150 x 100	25 x 5	
907.304	200 x 130	30 x 6	
907.305	250 x 160	35 x 7	
907.306	300 x 200	40 x 8	
DIN 875/0:			
907.282	50 x 40	12 x 3.5	
907.283	75 x 50	15 x 5	
907.284	100 x 70	20 x 5	
907.285	150 x 100	25 x 7	
907.286	200 x 130	30 x 7	



907.284



Flat steel squares



907.362



907.409



Item No.	Dimensions mm	Cross- section/mm	Price EUR
Acute angle squares 45°, DIN 875/2:			
907.359	100 x 70	20 x 5	
907.360	120 x 80	20 x 5	
907.361	150 x 100	20 x 5	
907.362	200 x 130	25 x 5	
Acute angle squares 60°, DIN 875/2:			
907.383	100 x 70	20 x 5	
907.384	120 x 80	20 x 5	
907.385	150 x 100	20 x 5	
907.386	200 x 130	25 x 5	
Hexagon squares 120°, DIN 875/2:			
907.407	50 x 50	15 x 5	
907.408	75 x 75	18 x 5	
907.409	100 x 100	20 x 5	
907.410	150 x 150	25 x 5	
907.411	200 x 200	30 x 6	
Octagon squares 135°, DIN 875/2:			
907.417	50 x 50	15 x 5	
907.418	75 x 75	18 x 5	
907.419	100 x 100	20 x 5	
907.420	150 x 150	25 x 5	
907.421	200 x 200	30 x 6	

Steel squares with base

- Lapped measuring faces.
- Accuracy according DIN 875.



670.203

Item No.	Dimensions mm	Cross- section/mm	Price EUR
Class III:			
670.265	300 x 175	35 x 7	
DIN 875/2:			
670.241	75 x 50	15 x 5	
670.242	100 x 70	20 x 5	
670.243	150 x 100	25 x 5	
670.244	200 x 130	30 x 6	
670.245	250 x 165	35 x 7	
670.246	300 x 175	35 x 7	
670.247	400 x 200	35 x 7	
670.248	500 x 250	40 x 8	
670.249 ¹	600 x 300	40 x 8	
670.250 ¹	750 x 375	45 x 10	
670.251 ^{1,2}	1000 x 500	50 x 10	

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/1:			
670.222	75 x 50	15 x 5	
670.223	100 x 70	20 x 5	
670.224	150 x 100	25 x 5	
670.225	200 x 130	30 x 6	
670.226	250 x 165	35 x 7	
670.227	300 x 200	40 x 8	
670.228	400 x 265	45 x 10	
670.229	500 x 330	50 x 10	
670.230 ¹	600 x 400	50 x 10	
DIN 875/0 (with inspection report):			
670.202	75 x 50	15 x 5	
670.203	100 x 70	20 x 5	
670.204	150 x 100	25 x 5	
670.205	200 x 130	30 x 6	
670.206	250 x 165	35 x 7	
670.207	300 x 200	40 x 8	
670.208	400 x 265	45 x 10	
670.209	500 x 330	50 x 10	

¹ Incl. transport package.

² Delivery ex Groningen, Netherlands.

Stainless steel squares with base

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/2:			
670.343	100 x 70	20 x 5	
670.347	300 x 200	40 x 8	
DIN 875/1:			
670.322	75 x 50	15 x 5	
670.323	100 x 70	20 x 5	
670.324	150 x 100	25 x 5	
670.325	200 x 130	30 x 6	
670.326	250 x 165	35 x 7	
670.327	300 x 200	40 x 8	
670.328	400 x 265	45 x 10	
670.329	500 x 330	50 x 10	
670.330 ¹	600 x 400	50 x 10	
DIN 875/0, hardened (with inspection report):			
670.851	50 x 40	12 x 5	
670.852	75 x 50	15 x 5	
670.853	100 x 70	20 x 5	
670.854	150 x 100	25 x 5	
670.855	200 x 130	30 x 6	
670.762	250 x 165	35 x 7	
670.763	300 x 200	40 x 8	
670.764	400 x 265	45 x 10	
670.765	500 x 330	50 x 10	

¹ Incl. transport package.

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875.



670.323

All squares can be delivered with an inspection report or a certificate of an acknowledged measuring laboratory.

For the larger squares it is important to realize that external factors affect the stability of squares, which may influence the accuracy unfavourably.

Wooden cases for squares

Wooden cases for squares with base.



670.885



Item No.	Dimensions square/mm	Price EUR
670.465	50 x 40 / 75 x 50 / 100 x 70	
670.884	150 x 100	
670.885	150 x 100 / 200 x 130	
670.887	250 x 165 / 300 x 200	
670.888	400 x 265	
670.889	500 x 330	

Stainless steel squares with base

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875.

Item No.	Dimensions mm	Cross- section/mm	Price EUR
DIN 875/1:			
907.287	75 x 50	15 x 5	
907.288	100 x 70	20 x 5	
907.289	150 x 100	25 x 5	
907.290	200 x 130	30 x 6	
907.291	250 x 160	35 x 7	
907.292	300 x 200	40 x 8	
DIN 875/0:			
907.272	50 x 40	12 x 5	
907.273	75 x 50	15 x 5	
907.274	100 x 70	20 x 5	
907.275	150 x 100	25 x 5	
907.276	200 x 130	30 x 6	



907.274



Steel squares with base



907.368



907.429



Item No.	Dimensions mm	Cross- section/mm	Price EUR
Acute angle squares 45°, DIN 875/2:			
907.365	100 x 70	20 x 5	
907.366	120 x 80	20 x 5	
907.367	150 x 100	20 x 5	
907.368	200 x 130	25 x 5	
Acute angle squares 60°, DIN 875/2:			
907.389	100 x 70	20 x 5	
907.390	120 x 80	20 x 5	
907.391	150 x 100	20 x 5	
907.392	200 x 130	25 x 5	
Mitre squares 135°, DIN 875/2:			
907.427	100 x 70	20 x 5	
907.428	120 x 80	20 x 5	
907.429	150 x 100	20 x 5	
907.430	200 x 130	25 x 5	

Hardened stainless steel squares with heavy beam

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875/00.

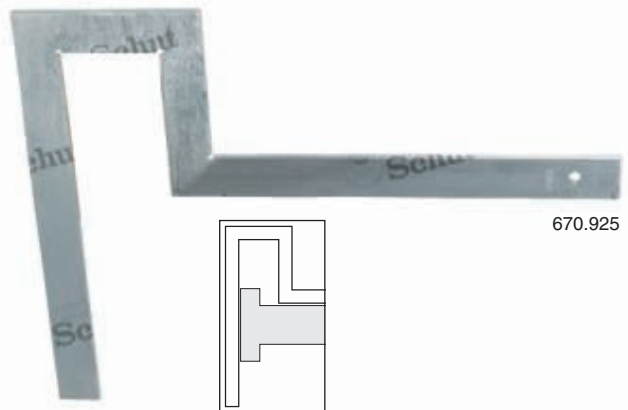
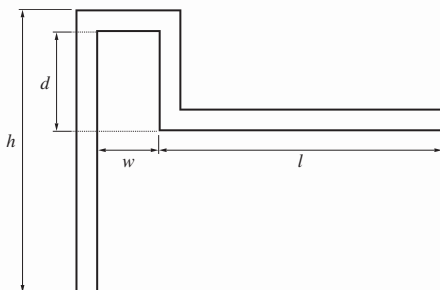


Item No.	Dimensions mm	Cross- section/mm	Price EUR
With knife-edges (DIN 875/00):			
670.601	50 x 40	14 x 10/16 x 2	
670.602	75 x 50	14 x 10/18 x 2	
670.603	100 x 70	16 x 10/18 x 2	
670.604	150 x 100	20 x 12/22 x 2	
670.605	200 x 130	24 x 14/26 x 3	

Flange squares

Special fitter's square. For instance for accurate alignment of flanges.

- Material: steel, galvanised.
- Cross-section: 30 x 5 mm.



Item No.	Dimensions/mm				Max. deviation from squareness of test surfaces/mm	Max. deviation from flatness of test surfaces/mm	Price EUR
	l	h	w	d			
670.925	300	300	65	105	0.3	0.12	
670.926	400	400	65	115	0.3	0.12	
670.927	500	500	70	125	0.4	0.16	

Adjustable squares

Precise base with sliding straight edge. The straight edge can be moved continuously along the base and can be firmly clamped by the spindle. All measuring faces are ground and the complete square is hardened. The adjustable straight edge enables working with for instance short edges and grooves.



Item No.	Dimensions straight edge/mm	Dimensions base/mm	Price EUR
907.874	60 x 4 x 4	23 x 40 x 10	
909.407	125 x 8 x 8	30 x 75 x 12	



907.874

Squares with heavy beam

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875/0.



Item No.	Dimensions mm	Cross- section/mm	Price EUR
907.262	50 x 40	14 x 10/16 x 2	
907.263	75 x 50	14 x 10/16 x 2	
907.264	100 x 70	18 x 12/20 x 3	
907.265	150 x 100	24 x 14/25 x 3	
907.266	200 x 130	28 x 16/30 x 4	



907.264

Squares with heavy beam and knife-edges

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875/00.



Item No.	Dimensions mm	Cross- section/mm	Price EUR
907.245	50 x 40	14 x 10/16 x 2	
907.246	75 x 50	14 x 10/16 x 2	
907.247	100 x 70	18 x 12/20 x 3	
907.248	150 x 100	24 x 14/25 x 3	
907.249	200 x 130	28 x 16/30 x 4	



907.247



Beveled edge squares

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875/00.



Item No.	Dimensions mm	Cross-section/mm	Price EUR
907.250	50 x 40	12 x 4	
907.251	75 x 50	16 x 4	
907.252	100 x 70	20 x 5	
907.253	150 x 100	25 x 6	
907.254	200 x 130	30 x 7	



907.252

Beveled edge squares

- Hardened steel.
- Ground and lapped measuring faces.
- Accuracy according DIN 875/00.



670.435

Item No.	Dimensions/mm	Price EUR
Bright steel:		
670.403	50 x 40	
670.404	75 x 50	
670.405	100 x 70	
670.406	150 x 100	
670.407	200 x 130	
Stainless steel:		
670.433	50 x 40	
670.434	75 x 50	
670.435	100 x 70	
670.436	150 x 100	
670.437	200 x 130	

Toolmakers' set

Consisting of:

- 1 beveled straight edge: 100 mm,
- 1 flat beveled edge square: 75 x 50 mm,
- 1 flat beveled edge square: 40 x 28 mm,
- 1 flat beveled edge square: 25 x 20 mm,
- 1 scriber: 8 x 8 x 60 mm.



Item No.	Description	Price EUR
852.201	Toolmakers' set	

Toolmakers' squares

- Hardened stainless steel.
- Lapped measuring faces.
- Accuracy according DIN 875/00.



Item No.	Dimensions mm	Cross- section/mm	Price EUR
907.255	25 x 20	6 x 3.5 / 5 x 3.5	
907.256	40 x 28	8 x 3.5 / 5 x 3.5	



907.256

Toolmakers' squares

Flat beveled edge squares, with the knife-edge on the inside.

Item No.	Dimensions mm	Angle	Price EUR
852.220	25 x 20	90°	
852.222	40 x 28	90°	
852.223	40 x 28	89°30'	
852.224	40 x 28	90°30'	

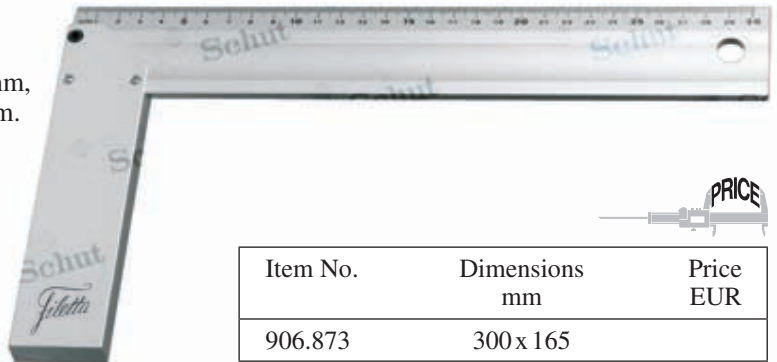


852.223

852.222

Aluminum square with graduation

- Measuring range: 0-300 mm.
- Graduation: 1 mm.
- Anodized aluminum.
- With base for scribing lines in 90° and 45°.
- Cross-section base: 40 x 14 mm, Cross-section ruler: 50 x 5 mm.



Item No.	Dimensions mm	Price EUR
906.873	300 x 165	

TESA Micro-Square 350/600

The TESA Micro-Square is a robust perpendicularity measuring instrument to measure the squareness of your squares and workpieces quickly and with high precision. The holder can be set to the correct height by hand, after which the deviation can be read by means of a lever-type dial test indicator. The lever-type dial test indicator can be placed on the Micro-Square by means of a fixing shaft with dovetail joint. With the GT31 analog probe and the TWIN-T10 display, it is possible to read the measured values digitally. The data can also be sent to a PC by means of the (wireless) TESA Link Connector and the free TESA DATA VIEWER PC software.

- Measuring range: Micro-square 350: 360 mm,
Micro-square 600: 610 mm.
- Repeatability: 0.5 µm.
- Perpendicularity front:
Micro-Square 350: ± 1.5 µm,
Micro-Square 600: ± 2.4 µm.
- Weight: Micro-Square 350: 5.8 kg,
Micro-Square 600: 7.7 kg.



TESA Micro-Square set

Standard supplied items:

- TESA dial test indicator GT31 (780.652),
- TESA TWIN-T10 (783.468),
- hex key 1.5 mm,
- SCS calibration certificate,
- manual.

NEW



783.640 + 783.652



783.653



783.654

Item No.	Description	Price EUR
783.654	TESA Micro-Square 350	
783.655	TESA Micro-Square 600	
783.640	TESA Micro-Square 350 set	
783.641	TESA Micro-Square 600 set	
Options:		
783.652	Base for positioning and clamping of squares	
783.653	Cylindrical probes for GT31 for use on e.g. beveled edge squares	
780.172	Fixing shaft ø8 x 12 mm	

Sine bars

By means of a sine bar and with gauge blocks, a reference plane can be created at an angle of 0° to 60° with respect to the base. The base of the sine bar consists of two rollers with a center to center distance of 100 mm or 200 mm. In order to make a curve the gauge blocks are placed under one of the rollers.

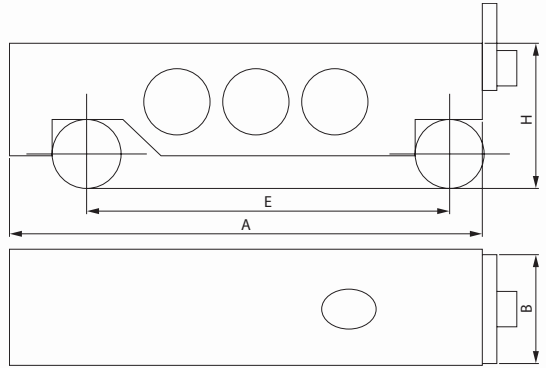
- Straightness and parallelism: 5 µm.
- Surface roughness: Ra0.8 µm.
- Delivery in a plastic case.



910.374

Delivery without gauge block and without clinometer.

NEW



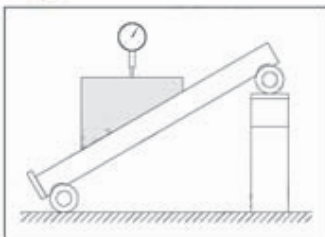
910.375

Item No.	A	B	H	E	Price EUR
910.374	130	30	40	100	
910.375	230	30	40	200	

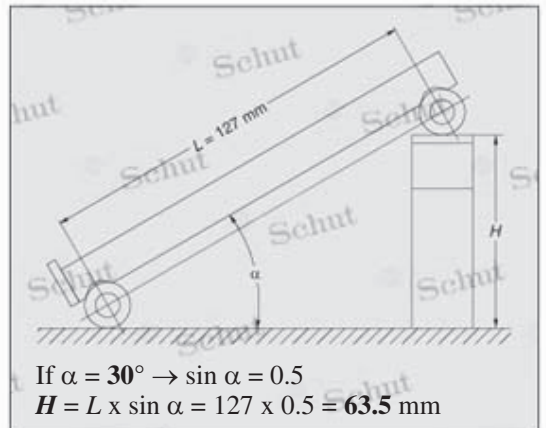
Sine bar

By means of a sine bar and with gauge blocks, a reference plane can be created ($l=150\text{ mm}$, $w=25\text{ mm}$) at an angle of 0° to 60° with respect to the base. The base of the sine bar consists of two rollers with a center to center distance of $127 \pm 0.004\text{ mm}$. In order to make a curve the gauge blocks are placed under one of the rollers.

- Straightness and parallelism: 5 µm.



Item No.	Description	Price EUR
909.417	Sine bar	



Steel parallel blocks

Parallels to position and layout workpieces in e.g. clamping jaws for drilling, grinding, milling and measuring. The workpieces and assemblies can easily be set up to the desired working height.

- Parallelism of the two measuring faces: ± 0.005 mm.
- Size deviation (height): ± 0.01 mm.
- Hardness: 55 HRC.
- Ground in matched pairs.
- Produced of a high-grade steel alloy.
- Delivery in a wooden case with a declaration of conformity.



906.996



(Only available in sets.)

Item No.	Length mm	Price EUR	Width mm	Height mm
Set of 12 pairs:				
909.800	100		10	14 - 16 - 18 - 20 - 22 - 24 - 26 - 28 - 30 - 32 - 35 - 40
909.804	125			
906.995	150			
Set of 14 pairs:				
909.802	100		10	14 - 16 - 18 - 20 - 22 - 24 - 26 - 28 - 30 - 32 - 35 - 40 - 45 - 50
909.805	125			
906.996	150			
Set of 24 pairs:				
909.803	100		8	11 - 16 - 21 - 26 - 31 - 36
909.806	125		10	
909.806	125		12	
906.997	150		14	

Adjustable parallel set

Set of 6 adjustable parallels. The parallels consist of 2 precisely ground tapered parts dovetailed together to ensure easy setting. These allow you to quickly clamp a workpiece in the correct position on a workbench, set a measuring instrument or check the internal dimensions of two parallel surfaces.



Parallel	Measuring range/mm	Measuring face length/mm
A	9.5 - 12.7	45
B	12.7 - 17.5	54
C	17.5 - 23.8	69
D	23.8 - 33.3	90
E	33.3 - 44.5	107
F	44.5 - 57.1	117

NEW

Item No.	Size/mm	Price EUR
910.400	9.5 - 57.1 mm	

Granite parallels in pairs

Flatness, parallelism and straightness of measuring surfaces according DIN 874.

- Material: granite.
- Straight beveled edges.
- Delivery in an aluminum case with a declaration of conformity.



Item No.	Flatness/ Parallelism μm^1	Price EUR	Item No.	Flatness/ Parallelism μm^1	Price EUR	Dimensions mm	Weight per pair kg
Class 0, 2-sided:			Class 00, 2-sided:				
402.104	± 3		402.112	± 1.5		160x 25 x 16	0.5
			402.113	± 2		250x 40 x 25	1.6
402.106	± 8		402.114	± 4		400x 63 x 40	6.5
			402.115	± 6		630x 100 x 63	24.7
Class 0, 4-sided:			Class 00, 4-sided:				
402.100	± 3		910.448	± 1.5		160x 25 x 16	0.5
402.101	± 4		910.449	± 2		250x 40 x 25	1.6
402.102	± 8		910.450	± 4		400x 63 x 40	6.5
402.103	± 12		910.451	± 6		630x 100 x 63	24.7

¹ Flatness and parallelism between opposite surfaces.

Granite straight edges

Flatness, parallelism and straightness of measuring surfaces according DIN 874.

- From length 1000 mm equipped with two bores.
- Material: granite.
- Straight beveled edges.
- Delivery in an aluminum case with a declaration of conformity.



Item No.	Dimensions mm	Weight kg	Straightness/ Flatness/ μm	Parallelism μm	Price EUR
Class 0:					
402.135	400 x 60 x 25	2	± 2.6	± 13	
402.137	1000 x 160 x 50	27	± 5	± 25	
402.138 ¹	1600 x 250 x 80	138	± 7.4	± 37	
402.139 ¹	2000 x 300 x 100	210	± 9	± 45	
Class 00:					
910.452	400 x 60 x 25	2	± 1.6	± 8	
910.453	630 x 100 x 35	7	± 2.1	± 10.5	
910.454	1000 x 160 x 50	27	± 3	± 15	
910.455 ¹	1600 x 250 x 80	138	± 4.4	± 22	
910.456 ¹	2000 x 300 x 100	210	± 5.4	± 27	

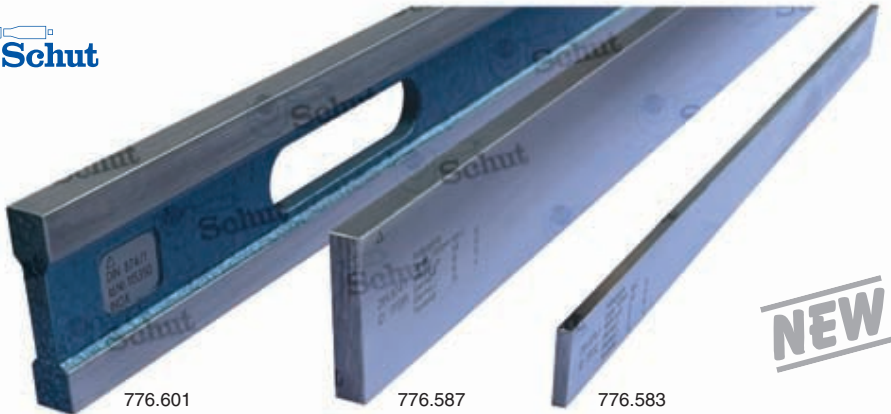


¹ Weight included package.

Bright steel and stainless steel straight edges DIN 874

High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Length: 500 - 3000 mm.
- Class 0 and 1: rectangular cross-section up to length 1500 mm, from length 2000 mm I-shaped with two grip slots.
Class 2: rectangular cross-section.
- Flatness of the measuring faces according DIN 874.
- Delivery with a manufacturer measuring report (the rectangular version has the manufacturer measuring report engraved on the straight edge).



Class	Dimensions/mm	Weight/kg	Item No.	Price EUR	Item No.	Price EUR
			Bright steel		Stainless steel	
DIN 874/0	500 x 50 x 10	2.0	776.569		776.590	
	750 x 50 x 10	3.0	776.570		776.591	
	1000 x 60 x 12	5.7	776.571		776.592	
	1500 x 70 x 15	12.4	776.572		776.593	
	2000 x 80 x 15	13.0	776.573*		776.594*	
	2500 x 100 x 16	22.0	776.574*		776.595*	
	3000 x 120 x 18	36.0	776.575*		776.596*	
DIN 874/1	500 x 40 x 8	1.3	776.576		776.597	
	750 x 50 x 10	3.0	776.577		776.598	
	1000 x 50 x 10	4.0	776.578		776.599	
	1500 x 60 x 12	8.4	776.579		776.600	
	2000 x 70 x 15	12.0	776.580*		776.601*	
	2500 x 80 x 15	17.0	776.581*		776.602*	
	3000 x 100 x 16	26.0	776.582*		776.603*	
DIN 874/2	500 x 30 x 6	0.7	776.583		776.604	
	750 x 40 x 8	2.0	776.584		776.605	
	1000 x 40 x 8	2.5	776.585		776.606	
	1500 x 50 x 10	5.8	776.586		776.607	
	2000 x 60 x 12	11.2	776.587		776.608	
	2500 x 70 x 15	20.6	776.588		776.609	
	3000 x 80 x 15	28.2	776.589		776.610	

* I-shaped with two grip slots.

Bright steel and stainless steel straight edges DIN 874

High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Length: 500 - 4000 mm.
- Flatness of the measuring faces according DIN 874.
- Straight edges of length 1000 mm and longer are marked on the side face at the Bessel points.



776.232



776.143

Class	Dimensions/mm	Item No.	Price EUR	Item No.	Price EUR
		Bright steel		Stainless steel	
DIN 874/0	1500 x 70 x 15 2000 x 80 x 15 2500 x 100 x 16 3000 x 120 x 20	776.123 776.124* 776.125* 776.126*		776.223	
DIN 874/1	500 x 40 x 8 1000 x 50 x 10 1500 x 60 x 12 2000 x 70 x 15 2500 x 80 x 15 3000 x 100 x 16 4000 x 120 x 20	776.131 776.132 776.133 776.134* 776.136* 776.137*		776.232 776.235*	
DIN 874/2	750 x 40 x 8 1000 x 40 x 8 1500 x 50 x 10 2000 x 60 x 12 2500 x 70 x 15 3000 x 80 x 15	776.143 776.144 776.145 776.146 776.147		776.389 776.380 776.383	
DIN 874/3	750 x 30 x 6 1000 x 30 x 6 1500 x 40 x 8 2000 x 40 x 8 2500 x 40 x 8 3000 x 50 x 10	776.155 776.156		776.162 776.163 776.164 776.165 776.166 776.167	

* I-shaped with two grip slots.

Aluminum straight edges

Light and therefore easy-to-use straight edges. Especially when using longer straight edges this is undoubtedly of great significance. High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Length: 500 - 3000 mm.
- I-shaped, from length 2000 mm with two grip slots.
- With protective coating, thickness: 50 $\mu\text{m} \pm 5$.
- Surface hardness: 500 - 550 HV.
- Highly wear resistant.
- Highly corrosion resistant.
- Highly insulating.
- Accuracy according DIN 874.
- Delivery with an inspection report.



776.618

Item No.	Dimensions mm	Weight kg	Price EUR
DIN 874/0:			
776.611	500 x 60 x 12	0.7	
776.612	1000 x 60 x 12	1.4	
776.613	1500 x 100 x 15	4.3	
776.614*	2000 x 100 x 15	5.9	
776.615*	2500 x 100 x 15	7.5	
776.616*	3000 x 150 x 20	15.9	

* With two grip slots.

Item No.	Dimensions mm	Weight kg	Price EUR
DIN 874/1:			
776.617	500 x 60 x 12	0.7	
776.618	1000 x 60 x 12	1.4	
776.619	1500 x 100 x 15	4.3	
776.620*	2000 x 100 x 15	5.9	
776.621*	2500 x 100 x 15	7.5	
776.622*	3000 x 150 x 20	15.9	
DIN 874/2:			
776.623	500 x 60 x 12	0.7	
776.624	1000 x 60 x 12	1.4	
776.625	1500 x 60 x 12	2.1	
776.626*	2000 x 60 x 12	2.8	
776.627*	2500 x 60 x 12	3.5	
776.628*	3000 x 100 x 15	8.7	

Aluminum straight edges

Light and therefore easy-to-use straight edges. Especially when using longer straight edges this is undoubtedly of great significance. High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Highly wear resistant.
- Highly corrosion resistant.
- Surface hardness: 500 - 550 HV.
- Highly insulating.
- With protective coating, thickness: 50 µm.
- With grip slots:
class 2: from length 2500 mm,
class 1 and 0: from length 1500 mm.
- Accuracy according DIN 874.



Item No.	Dimensions mm	Weight kg	Price EUR
DIN 874/2:			
776.193*	1500 x 60 x 12	2.1	
776.194*	2000 x 60 x 12	2.8	
776.196	3000 x 100 x 16	8.7	
776.197	4000 x 100 x 16	11.6	

Item No.	Dimensions mm	Weight kg	Price EUR
DIN 874/1:			
776.181*	500 x 60 x 12	0.7	
776.188	5000 x 150 x 20	26.7	
DIN 874/0:			
776.171*	500 x 60 x 12	0.7	
776.172*	1000 x 60 x 12	1.4	
776.175	2500 x 100 x 16	7.2	

* Without grip slots.

Wooden cases for straight edges

Wooden cases of high quality with foam inlay for straight edges and rulers up to 2 meters.

Item No.	Inside dimensions l x w x h/mm	Price EUR
776.568	525 x 70 x 35	
776.263	765 x 70 x 30	
776.468	1025 x 80 x 35	
776.561	1525 x 90 x 35	
776.562	2025 x 95 x 30	



776.568

Steel straight edges for mounting

I-shaped construction with wide and extra wide measuring faces for application of spirit levels.

- Length: 500 - 4000 mm.
- Flatness of the measuring faces according DIN 874.
- Delivery with an inspection report.

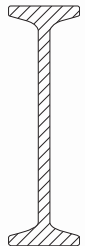
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776.638

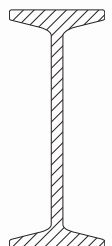
With wide measuring faces

Dimensions/mm	Weight/kg	Item No.	Price EUR	Item No.	Price EUR
		DIN 874/0		DIN 874/1	
1000 x 100 x 30	5.0	776.631		776.645	
1500 x 100 x 30	7.5	776.632		776.646	
2000 x 120 x 40	15.0	776.633		776.647	
2500 x 120 x 40	19.0	776.634		776.648	
3000 x 140 x 40	26.0	776.635		776.649	



With extra wide measuring faces

Dimensions/mm	Weight/kg	Item No.	Price EUR	Item No.	Price EUR
		DIN 874/0		DIN 874/1	
500 x 80 x 40	2.0	776.636		776.650	
750 x 80 x 40	3.5	776.637		776.651	
1000 x 160 x 50	12.0	776.638		776.652	
1500 x 160 x 50	18.0	776.639		776.653	
2000 x 160 x 50	24.0	776.640		776.654	
2500 x 160 x 50	30.0	776.641		776.655	
3000 x 180 x 60	45.5	776.642		776.656	



Steel straight edges for mounting

I-shaped construction with wide and extra wide measuring faces for application of spirit levels.

- Length: 500 - 4000 mm.
- Flatness of the measuring faces according to DIN 874.



DIN 874/1

Item No.	Dimensions/mm	Price EUR
406.620	2000 x 120 x 40	
406.630	3000 x 140 x 40	
406.640	4000 x 140 x 40	
With extra wide measuring faces:		
406.636	500 x 80 x 40	
406.637	750 x 80 x 40	
406.638	1500 x 160 x 50	
406.643	2000 x 160 x 50	
406.644	2500 x 160 x 50	
406.631	3000 x 180 x 60	
Aluminum straight edge		
406.651*	1000 x 100 x 40	

DIN 874/0

Item No.	Dimensions/mm	Price EUR
406.613	1000 x 100 x 30	
406.626	2500 x 120 x 40	
With extra wide measuring faces:		
406.627	750 x 80 x 40	
406.616	1500 x 160 x 50	



* Highly corrosion resistant and high insulation.

Cast iron straight edges with handles

Especially suitable for measuring small surfaces.

- Tension free.
- Flatness and parallelism according to DIN 876.
- DIN 876/1: hand scraped,
DIN 876/0: fine scraped.
- Both measuring faces are flat and parallel matched in pairs.



Dimensions l x w/mm	Weight approx./kg	DIN 876/1		DIN 876/0	
		Item No.	Price EUR	Item No.	Price EUR
500 x 35	12	403.705		403.700	
750 x 50	17	403.706		403.701	
1000 x 56	25	403.707		403.702	
1500 x 70	65	403.708			
2000 x 80	90			403.704	

Bridge-type straight edges

Made of special close-grained cast iron.

- Tension free.
- Flatness according DIN 876:
class 1: hand scraped,
class 0: fine scraped.



Item No.	l x w mm	Weight kg	Flatness µm	Price EUR
DIN 876/1:				
403.658	500 x 40	6	15	
403.659	750 x 45	9	18	
403.680	1000 x 50	17	20	
403.690	1500 x 60	45	25	
403.692	2000 x 70	65	30	
403.698	3000 x 90	210	40	
DIN 876/0:				
403.657	500 x 40	6	6	
403.660	750 x 45	9	7	
403.679	1000 x 50	17	8	
403.691	1500 x 60	45	10	
403.696	2000 x 70	65	12	
403.697	3000 x 90	210	16	

Triangular straight edges

On two sides scraped, triangular straight edge with screwed-in handles. The edge between the scraped sides (45° or 60°) has been accurately processed. The third side has been ground, and recessed for weight reduction at the larger types (from 500 mm).

- Tension free.
- Flatness of both scraped sides according DIN 876:
class 1: hand scraped,
class 0: fine scraped.



Item No.	l x w/mm	Weight/kg	Price EUR
Triangular straight edge 45°, DIN 876/1:			
403.525	250 x 50	2	
403.550	500 x 75	7	
403.575	750 x 90	15	
403.600	1000 x 120	27	
Triangular straight edge 45°, DIN 876/0:			
403.524	250 x 50	2	
403.549	500 x 75	7	
403.574	750 x 90	15	
403.599	1000 x 120	27	
403.601	1500 x 120	48	
Triangular straight edge 60°, DIN 876/1:			
403.425	250 x 45	3	
403.450	500 x 60	6	
403.475	750 x 90	16	
403.500	1000 x 100	28	
Triangular straight edge 60°, DIN 876/0:			
403.424	250 x 45	3	
403.449	500 x 60	6	
403.474	750 x 80	16	
403.499	1000 x 100	28	

Beveled straight edges

High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Straightness tolerance according DIN 874/00.
- Hardened and ground.
- Lapped measuring faces.
- With insulated grip over the entire length.
- Delivery in a soft case.



Item No.	Length/mm	Price EUR
Bright steel:		
772.075	75	
772.100	100	
772.125	125	
772.150	150	
772.200	200	
772.300	300	
772.400	400	
772.500	500	

Item No.	Length/mm	Price EUR
Stainless steel:		
772.076	75	
772.101	100	
772.126	125	
772.151	150	
772.201	200	
772.301	300	
772.401	400	
772.501	500	

Beveled straight edges

High quality wooden cases for straight edges are optionally available. Please see the wooden cases for straight edges section for these wooden cases.

- Straightness tolerance according DIN 874/00.
- Hardened and ground.
- Lapped measuring faces.
- With insulated grip over the entire length.
- Delivery in a soft case.

PRICE



Item No.	Length/mm	Price EUR
Chrome finished steel:		
907.750	75	
907.751	100	
907.752	125	
907.753	150	
907.754	200	
907.755	300	
907.756	400	
907.765	500	
909.237	600	

Item No.	Length/mm	Price EUR
Stainless steel:		
907.757	75	
907.758	100	
907.759	125	
907.760	150	
907.761	200	
907.762	300	
907.763	400	
907.764	500	
909.240	600	

Protractors / Clinometers / Spirit levels



Accuracy of clinometers/spirit levels according DIN 877		
Graduation μm/m	"	Flatness (μm) (L=length in mm)
≤50	≤10	4+L/250
>50-200	>10-40	8+L/125
>200	>40	16+L/60

Universal digital bevel protractor

This digital bevel protractor displays both decimal degrees and degrees-minutes-seconds at the same time.

- Measuring range (switchable): 1x 360°,
2x 180°,
4x 90°.
- Resolution: 0.008° and 30".
- Accuracy: $\pm 0.08^\circ$ or $\pm 5'$.
- On/off switch.
- Reset/preset.
- Reversible measuring direction.
- Fine adjustment.
- Delivery in a wooden case with three blades (150, 200 and 300 mm), a square and an acute angle attachment.
- Power supply: 1 battery type CR2032.



Single blades

Item No.	Description	Price EUR
907.885	Bevel protractor	
Option:		
495.157	Spare battery	

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	

Universal digital bevel protractors

Digital bevel protractors made of stainless steel, with blades of 150, 200 or 300 mm. The blades and all the measuring faces are hardened.

- Measuring range (switchable): 1x 360°,
2x 180°,
4x 90°.
- Resolution: 1', or decimal 0.01°.
- Accuracy: ±2'.
- Clamping spring system for blade.
- Indication switchable from degrees and minutes to decimal degrees.
- Automatic switch-off after 10 minutes of idle time with storage of the displayed measuring value.
- Proximity data output.
- Reset/preset/hold functions.
- Fine adjustment.
- Power supply: 1 battery type CR2032.



856.688

Complete bevel protractors

Item No.	Blade length/mm	Price EUR
856.688	150	
856.689	200	
856.690	300	

Options:

- 495.157 Spare battery
- 856.694 Prism base
- 856.695 Ledge
- 840.666 Proximity USB cable (2 m)

Single blades

Item No.	Blade length/mm	Price EUR
856.685	150	
856.693	200	
856.687	300	



856.694



856.695

Universal digital bevel protractor

This stainless steel, digital bevel protractor is available with blades from 150 to 1000 mm. The blades and all the measuring faces are hardened.

- Measuring range: $\pm 360^\circ$.
- Resolution: 1', or decimal 0.01°.
- Accuracy: $\pm 2'$.
- Repeatability: 1'.
- Indication switchable from degrees and minutes to decimal degrees.
- + and - direction reversible.
- Per 90° adjustable.
- Data output, Mitutoyo Digimatic compatible.
- On/off switch.
- Reset/preset/hold functions.
- Control with 5 keys for several functions.
- Fine adjustment.
- Delivery in a wooden case without blade.
- Power supply: 1 battery type CR2032.



Single blades

Item No.	Description	Price EUR
855.820	Bevel protractor	
Options:		
495.157	Spare battery	
905.409	Data cable 2 m	

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	
855.827	1000	

Dial bevel protractor

- Measuring range: 4 x 90°.
- Graduation: 5'.
- Fine adjustment.
- Hardened stainless steel construction.
- Delivery in a plastic case with 300 mm blade and an acute angle attachment.



Item No.	Description	Price EUR
906.504	Bevel protractor	

Single blades

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	

Bevel protractor with magnifier

- Measuring range: 4 x 90°.
- Vernier: 5', parallax-free.
- Hardened stainless steel construction.

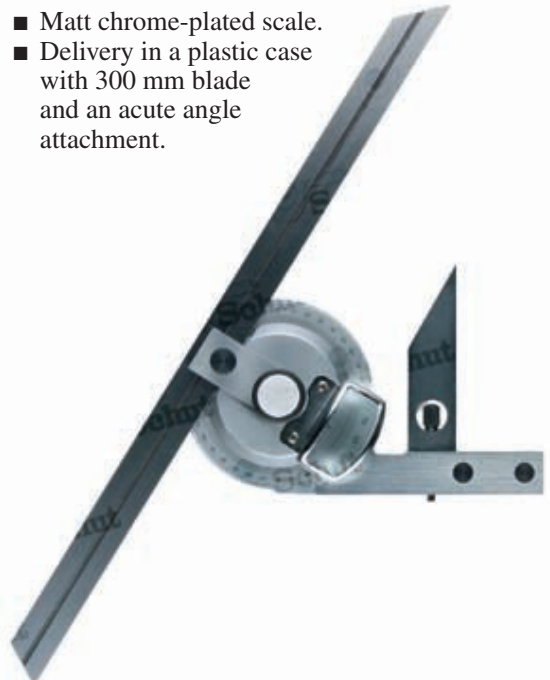
- Matt chrome-plated scale.
- Delivery in a plastic case with 300 mm blade and an acute angle attachment.



Item No.	Description	Price EUR
906.502	Bevel protractor with magnifier	
Option:		
906.505	Spare magnifier	

Single blades

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	



Bevel protractor with magnifier

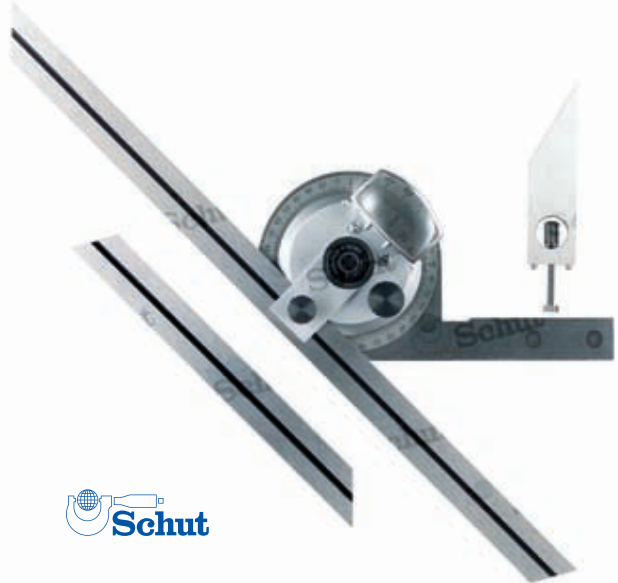
- Measuring range: $4 \times 90^\circ$.
- Vernier: $5'$, parallax-free.
- Fine adjustment.
- Hardened stainless steel construction.
- Matt chrome-plated scale.

- Delivery in a wooden case with two blades (150 and 300 mm) and an acute angle attachment.

Item No.	Description	Price EUR
855.801	Bevel protractor with magnifier	
Option:		
859.179	Spare magnifier	

Single blades

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	



Universal bevel protractor

Universal bevel protractor with micrometer screw adjustment. One rotation of the screw corresponds to an angular change of 1° . Retraction of the micrometer screw enables fast adjustment of the blade and the scale.

- Measuring range: $4 \times 90^\circ$.
- Graduation: $1'$.
- Stainless steel construction, main parts are hardened.
- Delivery in a wooden case with two blades (150 and 300 mm) and a reference square for checking the bevel protractor.



Item No.	Description	Price EUR
855.811	Universal protractor with magnifier	
Option:		
859.019	Spare magnifier	

Single blades

Item No.	Blade length/mm	Price EUR
909.380	150	
909.381	200	
909.382	300	
909.383	500	

Combination bevel protractor

Can be used as bevel protractor, ruler, depth gauge, try square, center square and spirit level.

- Measuring range: 0-180° (90-0-90°).
- Graduation: 1°.
- Double graduation.
- Rotatable.
- Scriber (included in square head).
- Protractor head and square head provided with a spirit level.
- Ruler length: 300 mm.
- Delivery with protractor head, square head, center head, and ruler with mm/mm graduation.



Item No.	Description	Price EUR
906.503	Combination bevel protractor	

Combination bevel protractor

Stainless steel combination bevel protractor with blade and flat square.

- Measuring range: 0-320°.
- Measuring inside and outside angles.
- Accurate adjustment by rack railway.
- Vernier: 2'.
- Delivery in a plastic case.



Item No.	Description	Price EUR
910.215	Combination bevel protractor	

Bevel protractors

Simple and easy to use protractors with a semicircular or rectangular head and swivelling blade.

- Measuring range: 0-180°.
- Graduation: 1°.
- Scale diameter: 85 mm.
- Locking screw.
- Blade length: 150 mm.
- Hardened steel, matt chrome-plated.



Item No.	Shape	Price EUR
907.863	semicircular	
909.399	rectangular	



Digital bevel protractors

- Measuring range: 0-180° (with swivelling blade) or 10-170° (with sliding blade).
- Graduation: 0.05°.
- Accuracy: 0.3°.
- On/off switch.
- Reset/hold function.
- Rotatable display value.
- Locking screw.
- Delivery in a plastic case.
- Power supply: 1 battery (CR2032).



Item No.	Scale ø/mm	Blade length/mm	Price EUR
With swivelling blade:			
906.457	120	150	
906.458	150	200	
906.459	200	300	
With sliding blade:			
906.767	100	150	
906.768	150	300	
906.769	200	400	
Option:			
495.157	Spare battery		



906.457



906.767

Bevel protractors

- Measuring range: 0-180° (with swivelling blade) or 10-170° (with sliding blade).
- Graduation: 1°.
- Locking screw.
- Hardened steel, matt chrome-plated.
- Graduation placed by laser.



907.865



907.870

Item No.	Scale ø/mm	Blade length/mm	Price EUR
With swivelling blade:			
907.864	80	120	
907.865	120	150	
907.866	150	200	
907.867	200	300	
907.868	300	500	
With sliding blade:			
907.869	100	150	
907.870	150	300	
907.871	200	400	
907.872	250	500	
907.873	300	600	

Setting bevel

- Special steel.
- Moveable blade locked with a wing nut.



910.088



Item No.	Blade length/mm	Price EUR
910.088	200	
910.089	300	
910.090	500	

Universal digital bevel protractor with spirit level

Digital bevel protractor for measuring both inside and outside angles. The measuring value is displayed upright at any time. Equipped with four holes and a locking knob for measuring a specific angle.

- Measuring range: 360°.
- Resolution: 0.05°.
- Accuracy: ±0.2°.
- ABS/INC switchable.
- With digital-analog display of the measured value.
- Reversal of display value.
- On/off switch.
- Hold function.
- Reversible measuring direction.
- Aluminum casing.
- Rotatable blade of metal.
- Dimensions: 254 x 50 x 36 mm.
- Power supply: 1 battery type CR2032.



Item No.	Description	Price EUR
909.503	Bevel protractor	
Option:		
495.157	Spare battery	



Universal digital bevel protractors

Digital bevel protractors for measuring both inside and outside angles. Equipped with a locking knob for measuring a specific angle.

- Measuring range: $\pm 360^\circ$.
- Resolution: 0.1° .
- Accuracy: $\pm 0.3^\circ$.
- On/off switch.
- Automatic switch-off.
- Zero setting at any position.
- Graduation rulers: 1 mm and 1/32 inch.
- Cross-section rulers: 35 x 2.5 mm.
- With fixing holes.
- Locking screw.
- Power supply: 1 battery type CR2032.



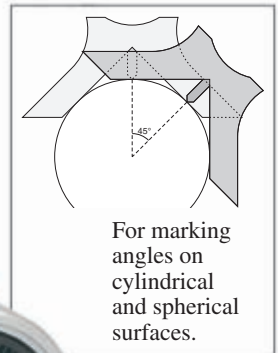
Item No.	Ruler length/mm	Price EUR
909.505	200	
909.506	300	
Option:		
495.157	Spare battery	

Magnetic clinometer with center point finder

Accurate clinometer with an extremely sensitive, balanced needle. The magnetic base with 90° V-groove is precision milled. The center point finder can be used as a center punch.

Very suitable for angular measurements, surface alignment, and the determination of center points and highest/lowest points of cylindrical and spherical surfaces. Therefore ideal as a universal aid to the installation of larger constructions.

- Measuring range: 360° .
- Graduation: 1° .
- Scale numbering: 0-360.
- Aperture V-groove (horizontal): 82 mm (for shafts up to $\varnothing 115$ mm).
- Dimensions $h \times w \times d$: 130 x 130 x 27 mm.



Item No.	Scale numbering	Price EUR
856.702	0-360	
Option:		
856.712	Center pin $\varnothing 12 \times 125$ mm	

Digital clinometer

- Measuring range: 0 - ±180°.
- Resolution: 0.1°.
- Accuracy: ±0.2°.
- Rotatable display.
- Automatic switch-off.
- Hold function.
- Reference measurement function.

- With digital-analog read-out of the vial.
- With magnetic base with V-groove.
- Dimensions: 60 x 56 x 33 mm.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
906.427	Digital clinometer	
Option:		
497.914	Spare battery (2 needed)	



Digital clinometers

- Measuring range: ±180° (with external sensor: ±360°).
- Resolution: 0.1°.
- Accuracy 0- 10°: ±0.1°,
10- 170°: ±0.2°,
170- 180°: ±0.1°.
- Repeatability: 0.1°.

- ABS/INC switchable (except 906.476).
- Automatic switch-off.
- Hold function (only 906.479).
- With magnetic base (906.476/479) or magnetic upper part (909.501/502).
- Dimensions: 51 x 51 x 33 mm (906.476 and 909.501/502).
- Power supply: 1 battery type CR2032.

Models with external sensor

- Accuracy 0- 10°: ±0.1°,
10- 350°: ±0.2°,
350- 360°: ±0.1°.
- Sensor with mounting holes.
- Cable length: 1 m.
- Max. rotation speed: 600 rpm.



906.476



909.501



909.502



906.479



Item No.	Description	Price EUR
906.476	Standard model	
906.479	With vial	
909.501	With external sensor	
909.502	With external sensor with axis ø6 mm	
Option:		
495.157	Spare battery	

Digital clinometer

Instrument for easy measurement of angles, flatness and squareness. All four sides are measuring faces. The measuring value is displayed upright at any time.

- Measuring range: $4 \times 90^\circ$.
- Resolution: 0.1° (909.504: 0.05°).
- Accuracy $0-10^\circ: \pm 0.1^\circ$,
 $10-80^\circ: \pm 0.2^\circ$,
 $80-90^\circ: \pm 0.1^\circ$.
- Repeatability: 0.1° .
- ABS/INC switchable.
- Large, easy-to-read LCD display.
- Automatic switch-off.
- Hold function.
- Blue backlight.
- Sound signal at stable value.
- $^\circ$, mm/m, %, inch/ft conversion.
- Reference plane function.
- Measuring faces bottom- and upper-side with V-groove.
- With magnetic base (2 magnets).
- Protection: IP65.
- Dimensions $l \times w \times h$: 151 x 32 x 60 mm.
- Delivery in a soft case.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
909.504	With V-grooves and magnetic base	
Option:		
497.914	Spare battery type AAA (2 needed)	

Digital clinometer

Instrument for easy measurement of inclination. Equipped with a horizontal and vertical vial. The measuring value is displayed upright at any time.

- Measuring range: 4 x 90°.
- Resolution: 0.1°.
- Accuracy 0-10°: ±0.1°,
10-80°: ±0.2°,
80-90°: ±0.1°.
- ° and % conversion.
- Large, easy-to-read LCD display.
- On/off switch.
- Hold function.
- Sound signal at: 0°, 45°, 90°.
- Measuring face on the bottom- and upper-side.
- Length: 600 mm.
- Delivery in a carrying bag.
- Power supply: 2 batteries type AAA.



906.477



Item No.	Description	Price EUR
906.477	Clinometer	
Option:		
497.914	Spare battery (2 needed)	

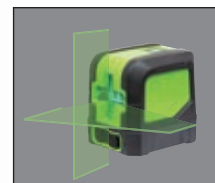
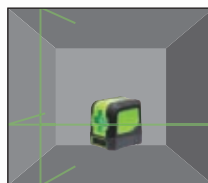
Laser alignment tool

With this alignment tool you can precisely, quickly and easily project vertical, horizontal and crossed laserlines. Within a range of ±4° minor inclination errors are automatically compensated by means of the integrated spirit level, to level the projected horizontal line.

- Range: up to 30 m (dependent on the lighting conditions).
- Self-levelling range: 4°.
- Horizontal and vertical accuracy: ±4.5 mm/ 15 m.
- Laser: 510-530 nm, class 2 conform to IEC 60825-1/2007.
- Lock function for projecting at an angle and transport protection.
- On/off switch.
- Dimensions: 74 x 64 x 75 mm.
- Weight: 270 g.
- Protection: IP54.
- Intake internal thread on the bottom-side: UNC 1/4"-20, thread depth: 8 mm.
- Delivery in a soft case including a plastic mounting bracket with 2 strong magnets.
- Power supply: 2 batteries type AA.



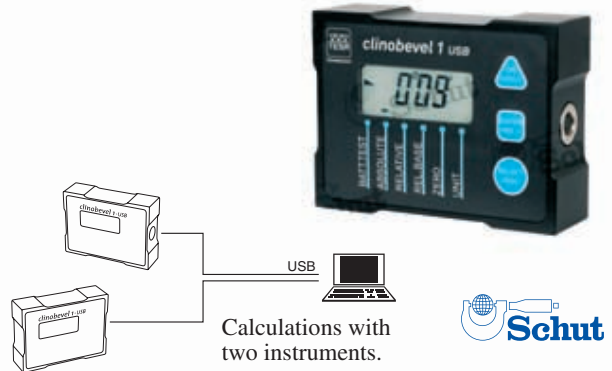
Item No.	Description	Price EUR
910.369	Alignment tool	
Option:		
495.111	Spare battery (2 needed)	



TESA Clinobevel 1-USB digital clinometer

The TESA Clinobevel 1-USB is a compact and universal clinometer with four measuring faces and a reinforced aluminum housing, resistant to workshop conditions. For a higher accuracy 21 correction values can be stored. The software can perform calculations with two instruments and export automatic reports.

- Measuring range: $\pm 45^\circ$.
- Resolution: 0.025 mm/m (5").
- Accuracy: 2' + 1 sd.
- USB data output.
- Read-out after approx. 1 s when idle.
- Dimensions: 100 x 75 x 30 mm.
- Protection: IP65.
- DIN 2276.
- Delivery in a plastic carrying case with a manufacturer measuring report, batteries, USB cable (1.8 m), software and user manual.
- Power supply: 4 batteries type AA.



Read-out angles:

- degrees (2 or 4 decimals)
- degrees and minutes

Read-out inclination:

- mm/m (2 decimals)
- inch/10 inch or inch/12 inch (4 decimals)
- mm or inch/basis length (comparative mode)
- milliradians (whole or 2 decimals)
- gon (2 decimals)

Item No.	Type/description	Price EUR
781.545	Clinobevel 1-USB	
783.624*	Clinobevel 1-USB	
Options:		
495.111	Spare battery (4 needed)	
783.625	USB cable (1.8 m)	

* Without USB cable and software.

TESA Clinobevel 3 digital clinometer

The TESA Clinobevel 3 is a very accurate, robust and easy to use clinometer in cast iron or aluminum housing. Measuring values can be easily read from the clear LCD screen. Two sides are fitted with (optionally magnetic) measuring faces with a fine ground V-groove.

There are two models available:

- Measuring range: $\pm 60^\circ$ or $\pm 1^\circ$ (only available in the cast iron version),
- Resolution: 0,025 mm/m (60° model), 0,001 mm/m (1° model).

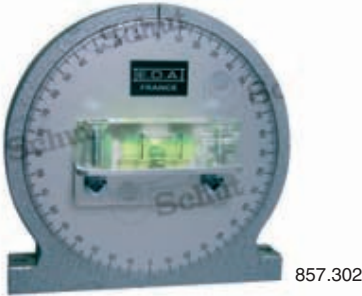


Especially suitable for calibration and measuring of straightness, flatness and squareness of high accuracy measuring and processing machines. For measurements in hard to reach places you can link the Clinobevel via bluetooth to the Android app and the readout will be displayed on your phone or tablet.

Ask for
the detailed
brochure

Clinometers

- Measuring range: 4 x 90°.
- Graduation: 1°.
- Dimensions: 100 x 15 x 100 mm.



857.302

Item No.	Description	Price EUR
857.302	Clinometer with removable base 100 mm	
857.304	Base 200 mm	
857.303	Clinometer with magnetic base 100 mm	

Vernier clinometers

Clinometers with two ground bases with V-groove, or two flat magnetic bases. Vial holder with vernier and fine adjustment.

- Measuring range: 0 - 90°.
- Vernier: 10'.
- Graduation vial: 0.3 mm/m \cong 1'.
- Dimensions: 150 x 39 x 150 mm.



857.301

857.300

Item No.	Description	Price EUR
857.300	Bases with V-groove	
857.301	Flat magnetic bases	

Clinometer

- Measuring range: 4 x 90°.
- Graduation: 1°.
- Graduation vial: 2 - 5 mm/m.
- Flat base: 300 x 25 mm.
- With mounting holes.



Item No.	Description	Price EUR
853.669	Clinometer	

Clinometer

To determine inclinations accurately. Fine-tuning by means of a screw thread spindle, which, to ensure a quick tuning, can be disconnected by pressing the button on the micrometer.

- Measuring range: $\pm 180^\circ$.
- Read-out in degrees and minutes.
- Scale numbering black clockwise, red counterclockwise.
- Graduation vial: 0.3 mm/m \cong 1'.
- Hardened and ground base, with V-groove.
- Base dimensions: 150 x 30 mm.
- Height: 124 mm.



Item No.	Description	Price EUR
857.310	Clinometer	

Digital inspection spirit level and digital frame spirit level

Accurate digital spirit levels in a high grade cast iron housing with fine ground measuring surfaces. The measuring value can be displayed in an App on an Android or Apple phone via Bluetooth.

- Measuring range: $\pm 15^\circ$.
- Graduation: 0.02 mm/m.
- Accuracy according to DIN 2276-2: 0.0015° or $0.04\%H$ (H= Measured value).
- Measuring units: 13; e.g. mm/m, mm/200 or mm/150, inch/ft, $^\circ$, %.
- ABS/INC switchable.
- Hold function.
- Color display with backlight.
- Temperature compensation.
- Semi-automatic calibration.
- Remote display by Bluetooth.
- Measuring surfaces fine ground: inspection spirit level: base with V-groove, frame spirit level: 3 faces with V-groove and 1 flat face.
- Dimensions: inspection spirit level: 200 x 47 x 42 mm, frame spirit level: 150 x 150 x 42 mm.
- Weight: inspection spirit level: 3.4 kg, frame spirit level: 4.4 kg.
- DIN 877 and DIN 2276-2.
- Delivery in a plastic case with an AC adapter.



853.600



853.651



Item No.	Description	Price EUR
853.600	Digital inspection spirit level	
853.651	Digital frame spirit level	



Inspection spirit levels

- Graduation main vial: 0.01 - 0.3 mm/m.
- With cross test vial.
- Base with V-groove.
- Base width: 42 mm
(spirit levels with length 500 mm: 44 mm).
- DIN 877.
- Delivery in a plastic case or wooden case.

Item No.	Length mm	Graduation mm/m	Price EUR
853.601	160	0.3	
853.606	160	0.1	
853.611	160	0.04	
853.616	160	0.02	
853.602	200	0.3	
853.607	200	0.1	
853.612	200	0.04	
853.617	200	0.02	
853.621	200	0.01	
853.603	250	0.3	
853.608	250	0.1	
853.613	250	0.04	
853.618	250	0.02	
853.622	250	0.01	
853.604	300	0.3	
853.609	300	0.1	
853.614	300	0.04	
853.619	300	0.02	
853.623	300	0.01	
853.605	500	0.3	
853.610	500	0.1	
853.615	500	0.04	
853.620	500	0.02	
853.624	500	0.01	

Inspection spirit levels

- Graduation main vial: 0.02 - 0.5 mm/m.
- Adjustable main vial.
- With cross test vial.
- Base with V-groove, interrupted at the center over $\frac{1}{3}$ of the length.
- Base width: 40 mm.
- DIN 877.
- Delivery in a plastic case or wooden case.



853.345

Item No.	Length mm	Graduation mm/m	Price EUR
853.343	150	0.5	
853.341	150	0.1	
853.315	150	0.05	
853.348	150	0.02	
853.345	200	0.5	
853.344	200	0.1	
853.323	200	0.05	
853.322	200	0.02	
853.347	300	0.5	
853.346	300	0.1	
853.324	300	0.05	
853.325	300	0.02	



853.618



Inspection spirit levels

- Graduation main vial: 0.05 or 0.02 mm/m.
- Adjustable main vial.
- With cross test vial.
- Base with V-groove.
- Base width: 46 mm.
- Robust cast iron construction.
- With insulating grip.
- DIN 877.
- Delivery in a wooden case.



908.685



Item No.	Length mm	Graduation mm/m	Price EUR
908.688	150	0.05	
908.684	150	0.02	
908.689	200	0.05	
908.685	200	0.02	
908.690	250	0.05	
908.686	250	0.02	
908.691	300	0.05	
908.687	300	0.02	



Frame spirit levels

- Graduation main vial: 0.05 or 0.02 mm/m.
- Adjustable main vial.
- With cross test vial.
- Two faces with V-groove, two flat faces.
- Robust cast iron construction.
- With insulating grip.
- DIN 877.
- Delivery in a wooden case.



908.693



Item No.	Dimensions mm	Graduation mm/m	Price EUR
908.696	150 x 150 x 40	0.05	
908.692	150 x 150 x 40	0.02	
908.697	200 x 200 x 40	0.05	
908.693	200 x 200 x 40	0.02	
908.698	250 x 250 x 40	0.05	
908.694	250 x 250 x 40	0.02	
908.699	300 x 300 x 40	0.05	
908.695	300 x 300 x 40	0.02	

Frame spirit levels

- Graduation main vial: 0.01 - 0.3 mm/m.
- With cross test vial.
- Three faces with V-groove, one flat face.
- DIN 877.
- Delivery in a plastic case or wooden case.



853.638

Item No.	Dimensions mm	Graduation mm/m	Price EUR
853.625	100 x 100 x 34	0.3	
853.629	100 x 100 x 34	0.1	
853.633	100 x 100 x 34	0.04	
853.626	150 x 150 x 42	0.3	
853.630	150 x 150 x 42	0.1	
853.634	150 x 150 x 42	0.04	
853.637	150 x 150 x 42	0.02	
853.627	200 x 200 x 42	0.3	
853.631	200 x 200 x 42	0.1	
853.635	200 x 200 x 42	0.04	
853.638	200 x 200 x 42	0.02	
853.640	200 x 200 x 42	0.01	
853.628	300 x 300 x 44	0.3	
853.632	300 x 300 x 44	0.1	
853.636	300 x 300 x 44	0.04	
853.639	300 x 300 x 44	0.02	
853.641	300 x 300 x 44	0.01	

Frame spirit levels

- Graduation main vial: 0.02 - 0.5 mm/m.
- Adjustable main vial.
- With cross test vial.
- Three faces with V-groove, interrupted at the center over $\frac{1}{3}$ of the length. One flat face.
- DIN 877.
- Delivery in a plastic case or wooden case.

Item No.	Dimensions mm	Graduation mm/m	Price EUR
853.372	150 x 150 x 40	0.5	
853.371	150 x 150 x 40	0.1	
853.375	150 x 150 x 40	0.05	
853.376	150 x 150 x 40	0.02	
853.374	200 x 200 x 40	0.5	
853.373	200 x 200 x 40	0.1	
853.385	200 x 200 x 40	0.05	
853.382	200 x 200 x 40	0.02	
853.395	250 x 250 x 40	0.05	
853.392	250 x 250 x 40	0.02	



853.376



Crankshaft spirit levels

- Graduation main vial: 0.04 - 0.6 mm/m.
- With cross test vial.
- Base with a longitudinal and a lateral V-groove.



853.688

- Base width: 42 mm.
- DIN 877.

Item No.	Length mm	Graduation mm/m	Price EUR
853.684	60	0.6	
853.687	60	0.2	
853.682	90	0.3	
853.685	90	0.1	
853.688	90	0.04	
853.683	120	0.3	
853.686	120	0.1	
853.689	120	0.04	

Aluminum spirit levels

- Graduation vial: 0.6 mm/m.
- Base with V-groove.
- Base width: 22 mm.
- DIN 877.



853.677



Item No.	Length/mm	Price EUR
853.675	100	
853.676	150	
853.677	200	
853.678	250	
853.679	300	

Small spirit levels

Intended for simple tasks.

- Graduation vial: 0.1 or 0.3 mm/m.
- With longitudinal spirit level.
- Width: 24 mm.

- Equipped with mounting holes $\varnothing 5$ mm.
- Flat base.
- DIN 877.

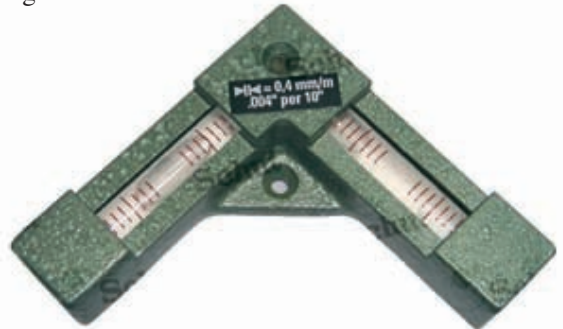
Item No.	Length mm	Graduation mm/m	Price EUR
853.665	100	0.3	
853.666	100	0.1	
853.667	150	0.3	
853.668	150	0.1	



853.666

Cross spirit levels

Cross spirit levels with two vials, in cast iron casing
80 x 80 mm, cross-section 20 x 20 mm, with two
screw holes ϕ 4 mm.



857.338

Item No.	Graduation mm/m	Price EUR
857.338	0.4	
857.339	0.1	
857.340	0.05	



857.342

Cross spirit levels with two vials, in circular chrome casing
with three screw holes ϕ 4 mm.

Item No.	Graduation mm/m	Dimensions mm	Screw holes ϕ /mm	Price EUR
857.342	0.4	ϕ 80 x 23	4	
857.343	0.1	ϕ 80 x 23	4	

Spirit levels with flat base

Spirit levels with a stainless steel strip base, no
screw mounting, with an adjustable plexiglass vial
mounted onto it, graduation approx. 5 mm/m.

Item No.	Dimensions base <i>l</i> x <i>w</i> x <i>t</i> /mm	Price EUR
857.344	100 x 20 x 5	
857.345	150 x 20 x 5	
857.346	200 x 20 x 5	



857.344

Spirit levels with a stainless steel strip base, no screw
mounting, with two ground contact planes. Mounted
onto this an adjustable spirit level with cast iron housing,
graduation 1 mm/m.

Item No.	Dimensions base <i>l</i> x <i>w</i> x <i>t</i> /mm	Price EUR
857.347	100 x 20 x 5	
857.348	150 x 20 x 5	
857.349	200 x 20 x 5	



857.347

Circular spirit levels

Item No.	Diameter mm	Height mm	Sensitivity* mm/m	Price EUR
Plexiglass model with yellow and green base:				
857.315	12	7	approx. 22	
857.316	15	8	approx. 22	
857.317	18	9	approx. 22	
857.318	30	10	approx. 22	
Black synthetic model with frame and screw holes \varnothing2.5 mm and yellow and green base:				
857.320	26/17	7 +3	approx. 19	
857.321	30/20	7.5+3.5	approx. 19	
Chrome casing and white base:				
857.323	15	10	approx. 8	
857.324	18	10	approx. 8	
Chrome casing with frame and screw holes \varnothing2.5 mm (857.325: \varnothing1.5 mm; 857.330/331: \varnothing3.5 mm) and white base:				
857.325	20/13.5	7 +2	approx. 8	
857.326	25/17	7.5+2.5	approx. 8	
857.327	30/17	6.5+3.5	approx. 8	
857.328	35/20	7.5+3.5	approx. 6	
857.329	40/25	8 +4	approx. 6	
857.330	50/34	9.5+5.5	approx. 3	
857.331	60/39	10 +7	approx. 3	
857.332	25/17	7.5+2.5	approx. 2	
White, synthetic casing with frame and screw holes \varnothing3 mm, additional scale circles and white base:				
857.336	60/45	4+6	Reading 0° - 2° - 5°	
Black, synthetic casing with frame and screw holes \varnothing5 mm, additional scale circles and white base:				
857.337	100/75	5+10	Reading 0° - 3° - 6°	

* Sensitivity means: the angle at which the air bubble is moved to the next scale mark or edge of the vial.



Hose water level

- Measuring range: 15 cm.
- Graduation: 1 mm.
- Scale numbering: 0.5 - 15.5 cm.
- Hose length: 20 m (reducible).
- Hose cross-section: 9.5 mm.

Item No.	Description	Price EUR
906.819	Hose water level	



Surface roughness testers / Roughness specimens



Mitutoyo Surftest SJ-210 surface roughness tester

The portable Mitutoyo Surftest SJ-210 is a compact tester of surface roughness parameters, that can also function in hard-to-reach places because of the separable drive unit and probe. The diamond stylus has a radius of 2 μm and is retracted by the drive unit. After selection of the desired parameters, they can be read out clearly on the display. The SJ-210 has a USB, an RS232C and a Digimatic data output to which the Mitutoyo u-wave system can be connected for wireless data transfer. The data can also be stored on a MicroSD card. A large selection of probes and accessories is available.

An S-Drive unit is available on request, with a transverse tracing drive unit, for example for measuring in narrow spaces like crankshafts. Also available on request is the Front Lift model, where the drive lifts the diamond stylus at the end of the measurement and is retracted without touching the surface again.

- Parameters: Ra, Rc, Ry, Rz, Rq, Rt, Rmax, Rp, Rv, R3z, Rsk, Rku, Rc, R_{Pc}, Rsm, Rz1max, S, HSC, RzJIS, R_{ppi}, R_{Δa}, R_{Δq}, Rlr, Rmr, Rmr(c), R_{δc}, Rk, Rpk, Rvk, Mr1, Mr2, A1, A2, Vo, Rpm, tp, Htp, R, Rx, AR.
- Resolution: 0.02 μm , 0.006 μm or 0.002 μm .
- Traverse length: 0.3 - 17.5 mm.
- Primary profile, roughness (R), DF profile, R-Motif.
- Measuring accuracy according JIS, ISO, VDA, ANSI.
- 2.4" TFT color display.
- Display of: roughness profile and ADC/BAC curves.
- User rights protection (password protection).
- Easy calibration procedure.
- Automatic switch-off.
- Memory: 10 settings and 1 profile.
- Go/NoGo tolerance evaluation.
- Measuring speed: 0.25, 0.5 or 0.75 mm/s.
- Probe: 0.75 mN/2 $\mu\text{m}/60^\circ$.
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm and 2.5 mm.
- Probe measuring range: 360 μm .
- Filters: 2CR75, Gaussian and PC75.
- Dimensions: 160 x 65.8 x 52.1 mm.
- Weight: display unit: 290 g, drive unit: 190 g.
- ISO 4287.
- Power supply: AC adapter and battery.
- After use the probe can be retracted to prevent the diamond stylus tip from being damaged.
- Memory card: micro-SD 2 GB (optional). Storage for 10000 measured profiles.
- Also probes available for example for deep grooves or small holes.
- USB and RS232C cables available.
- USB data analysis software can be downloaded for free.



S-Drive unit

Item No.	Type/description	Price EUR
178.560	Surftest SJ-210P	
Options:		
120.210	Extension 50 mm	
178.029*	Stand	
120.221	Adapter for stand (ø8 mm)	
120.222	Adapter for height gauge (9 x 9 mm)	
120.218	Nosepiece for cylindrical workpieces	
178.296	Standard insert	

* Adapter 120.221 required.

Standard accessories:

- standard probe,
- extension cable for the probe unit for measuring in small spaces,
- roughness normal,
- setting piece for calibration,
- AC adapter,
- handy carrying bag.



Mitutoyo Surftest SJ-310 surface roughness tester

The Mitutoyo Surftest SJ-310 is a compact, portable roughness tester with the possibility to print on location the measuring results and roughness curves with the built-in thermo printer. Measurements can be set using the 5.7" color touch screen and measurements can be read. Measurements can be stored on a SD memory card. On request, as for the SJ-210, an S-Drive or Front Lift model is available.

- Parameters: Ra, Rc, Ry, Rz, Rt, Rp, Rq, Rv, Sm, Rmax, S, Pc, R3z, Rsk, Rku, Rz1max, Rir, Rpm, mr (c), Rpk, Rvk, δc, Rk, Mr1, Mr2, Lo, Ppi, R, AR, Rx, A1, A2, Vo, HSC, Rmr, SK, Tp, Htp, Δa, Δq, Wte, Wx, W, AW, λa, λq, RzJIS.
- Resolution: 0.002 μm - 0.02 μm.
- Traverse length: 16 mm.
- Measuring accuracy according ISO, VDA, ANSI and JIS.
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm and 8 mm.
- Probe measuring range: 360 μm.
- Built-in printer for statistical process control.
- ISO 4287.
- Power supply: AC adapter and battery.



Standard accessories:

- standard probe,
- roughness normal,
- support feet,
- nosepiece for flat surface,
- nosepiece for cylinder,
- extension cable for the probe unit,
- touch pen,
- touch panel protection foil,
- printer paper (5 rolls),
- setting piece for calibration,
- AC adapter and battery,
- handy carrying bag.



Item No.	Type	Price EUR
178.570	Surftest SJ-310	

Mitutoyo Surftest SJ-410 surface roughness testers

The Mitutoyo Surftest SJ-410 is unique due to its skidless measuring. Only the stylus follows the product and no skid is used. The probe features a measuring range of 800 μm. The built-in straight guide enables measuring the primary profile, the roughness profile and the waves. By surface radius compensation it is possible to measure radially on a cylinder.

- Parameters: Ra, Rc, Ry, Rz, Rt, Rp, Rq, Rv, Sm, Rmax, S, Pc, R3z, Rsk, Rku, Rz1max, Rir, Rpm, mr (c), Rpk, Rvk, δc, Rk, Mr1, Mr2, Lo, Ppi, R, AR, Rx, A1, A2, Vo, HSC, Rmr, SK, Tp, Htp, Δa, Δq, Wte, Wx, W, AW, λa, λq, RzJIS.
- Resolution: 0.0001 μm - 0.01 μm.
- Measuring accuracy according ISO, VDA, ANSI and JIS.
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm and 8 mm.
- Probe measuring range: 800 μm.

- Straightness x-axis: SJ-411: 0.3 μm/25 mm, SJ-412: 0.5 μm/50 mm.
- Built-in printer for statistical process control.
- ISO 4287.
- Power supply: AC adapter and battery.



Item No.	Type	Traverse length/mm	Price EUR
178.580	Surftest SJ-411	25	
178.582	Surftest SJ-412	50	
Option:			
120.731	Standard stylus 2μm/60°		

TESA Twin-Surf surface roughness tester

The TESA Twin-Surf is a compact, portable roughness tester made to measure diverse and hard to reach places. By means of the standard supplied 8 mm clamping shaft, it is possible to place the TESA Twin-Surf in any compatible stand. The TESA Twin-Surf has a rechargeable battery that enables 300 measurements without the need for mains voltage.

With the OLED display and the 3 buttons on top, the roughness tester is easy to set up and the needed parameters are easy to read.

The roughness parameters are determined through a dragging motion of the probe, which is fitted with a diamond stylus tip with a radius of 2 μm . When the probe is rotated 90° horizontally, it is also possible to measure in the same direction, but perpendicular to the roughness tester. Because of this, it is possible to measure in hard to reach places like crankshafts or deeper parts of your workpiece.

The TESA Twin-Surf can be connected to a PC by means of a USB cable. The Bluetooth version offers wireless data transfer to PC or Android smartphone/tablet. With the standard supplied TESA Data-Studio basic software and the Android App, basic measurements and graphics can be stored. A more detailed analysis can be acquired through the TESA Data-Studio premium software.

- Parameters: According to ISO 4287: Ra, Rq, Rt, Rz, Rc, Rmax, Rsm, R_{Pc}, According to ISO 12085: Pt, R, AR, Rx, P_{Pc}.
- Parameters with premium software according to ISO 4287: R_p, R_v, R_{sk}, R_{ku}, R Δ q, R Δ a, R_{mr} rel, R δ c, R_{mr}(c), P_a, P_q, P_p, P_v, P_t, P_c, R_{Pc}, R_{3z}, P_{sk}, P_{ku}, P_{Sm}, P Δ q, P_{mr} rel, P δ c, P_{mr}(c), R_k, R_{pk}, R_{vk}, A1, A2, Mr1, Mr2, Parameters with premium software according to ISO 12085: R_{ke}, R_{pke}, R_{vke}, A1e, A2e, Mr1e, Mr2e.
- Measuring range: Ra 0-50 μm , Rt 0.05-200 μm .
- Resolution: 0.001 μm / 0.01 μinch .
- Measuring length: 0.25 - 16.0 mm).
- Cut-off length: 0.25 mm, 0.8 mm, 2.5 mm.
- mm/inch conversion.
- USB or Bluetooth data output (BT model).
- Automatic switch-off.
- Internal storage for 30 measurements with additional graphics or 18000 measurements with roughness parameters.
- Measuring force: 0.75 mN (ISO 3274).
- Diamond stylus tip: radius 2 μm , 90°.
- Dimensions: 160 x 34 x 34 mm.
- Weight: 200 g.
- Power supply: AC adapter and battery.

Standard accessories:

- Twin-Surf portable roughness tester,
- SB51 probe,
- roughness specimen (Ra=2.97 μm),
- adapter for 8 mm diameter clamping shafts,
- key to remove the probe protection,
- main charger with EU and US charger adaptors,
- USB A-C cable,
- USB key including: user manual, measuring report, declaration of conformity, TESA Data-Studio software basic version and Android app,
- plastic carrying case.



Item No.	Type	Price EUR
783.656	TESA Twin-Surf	
783.657	TESA Twin-Surf BT (Bluetooth)	
Options:		
783.658	Printer for Twin-Surf	
783.659	TESA Data-Studio Premium software	
783.661	SB31 probe (for small bores ϕ 4 mm)	
783.662	SB51 probe (standard)	
783.663	SB121 probe (for groove depth < 20 mm)	
783.664	100 mm extension	

Roughness specimens

Series of roughness specimens, type Microsurf, covering the nine most frequently occurring manufacturing operations; per set eight specimens will be delivered. In addition to the roughness value R_a in μm , the roughness value CLA in μin and the N values are specified.



Item No.	Machining-method	Number of specimens per set	Roughness R_a μm	Roughness CLA μin	Roughness class N	Price EUR
850.315	Surface grinding	8	0.025 - 3.2	1 - 125	1 - 8	
850.316	Cylindr. grinding	8	0.025 - 3.2	1 - 125	1 - 8	
850.319	Face turning	8	0.4 - 50	16 - 2000	5 - 12	
850.320	Turning	8	0.4 - 50	16 - 2000	5 - 12	
850.321	End milling	8	0.4 - 50	16 - 2000	5 - 12	
850.322	Reaming & drilling	8	0.4 - 12.5	16 - 500	5 - 10	
850.323	Horizontal milling	8	0.4 - 50	16 - 2000	5 - 12	
850.325	Planing	8	0.8 - 100	32 - 4000	6 - 13	
850.331	Spark erosion	8	0.4 - 50	16 - 2000	5 - 12	

Available with declaration of conformity on request.

Wall chart

Eight Microsurf roughness specimens, mounted on a general reference chart, can be obtained for the following manufacturing operations:

- Surface grinding, cylindrical grinding, face turning, turning, end milling, reaming & drilling, horizontal milling and planing.
- Dimensions $w \times h$: 740 x 310 mm.

Item No.	Description	Price EUR
850.314	Microsurf	



Roughness specimens in a set



850.130

This set consists of 30 specimens, mounted in a practical case with instruction card. In addition to the R_a values, the standardized N values and the R_z values are specified.



Set composition

Item No.	Language	Price EUR
850.130	English	
850.131	French	
850.132	German	

Available with declaration of conformity on request.

Number of specimens	Machining method	Roughness $R_a/\mu\text{m}$	Roughness class N
3	Flat lapping	0.05 - 0.2	2, 3, 4
3	Reaming	0.4 - 1.6	5, 6, 7
6	Grinding	0.05 - 1.6	2, 3, 4, 5, 6, 7
6	Horizontal milling	0.4 - 12.5	5, 6, 7, 8, 9, 10
6	Vertical milling	0.4 - 12.5	5, 6, 7, 8, 9, 10
6	Turning	0.4 - 12.5	5, 6, 7, 8, 9, 10

Roughness specimens for blasted surfaces

- Each plate consists of four roughness specimens for grit and shot blasting, in 4 segments.
- Delivered in a soft case.
- Standardized to ISO specifications.



Item No.	Description	Price EUR
850.017	Shot blasting	
850.018	Grit blasting	

**Gauge blocks / Measuring balls
Optical flats and parallel optical flats / Feeler gauges**



Gauge blocks general

Which gauge block is the most suitable for you?



MATERIALS

Steel

Steel is the oldest material and remains the most commonly accepted for gauge blocks. If well taken care of, steel gauges guarantee many years of useful life. They must be cleaned carefully before and after use and stored in a protective case in a dry environment.

Tungsten carbide

When a higher degree of hardness is needed, tungsten carbide is the material to choose. It is less sensitive to wear and damage compared to hardened steel. Especially when used frequently, tungsten carbide has an increased life span compared to steel gauge blocks.

Ceramics

Ceramics is relatively wear resistant and has a high degree of strength and stability. It will not rust and is unaffected by chemicals.

Class 2

Class 2 gauge blocks are intended for general workshop use by skilled workers to set up, for example, measuring instruments.

Class 1

Class 1 gauge blocks are used as working standards in inspection rooms within the production to set and calibrate measuring instruments and equipment as well as to inspect tools, fixtures and machines.

Class 0

Class 0 gauge blocks, with their high accuracy, are intended for use by measuring technicians in environmentally controlled inspection rooms, for example to calibrate measuring equipments.

Class K

Class K gauge blocks have the highest class of accuracy. They are *the* length standards in a calibration laboratory and other calibration values are derived from these gauges. Only with a UKAS certificate – or with another certificate, accepted by UKAS as equivalent (e.g. DAkkS, RvA and COFRAC) – will these gauge blocks be at their best. The most accurate gauges can meet a tolerance of $\pm 0.05 \mu\text{m}$.

ACCURACY CLASSES

Gauge blocks are classified in upgrading order of accuracy according EN ISO 3650: 1998 in the classes: 2, 1, 0, K. The ISO 3650 is an international standard, which is adopted by national standards such as RvA, DAkkS, UKAS, BKO, SCS and COFRAC.

Accuracy according ISO 3650

Nominal size mm	Class K		Class 0		Class 1		Class 2	
	Tolerance on nominal size μm	Deviation* μm	Tolerance on nominal size μm	Deviation* μm	Tolerance on nominal size μm	Deviation* μm	Tolerance on nominal size μm	Deviation* μm
0.5 - 10	± 0.20	0.05	± 0.12	0.10	± 0.20	0.16	± 0.45	0.30
10 - 25	± 0.30	0.05	± 0.14	0.10	± 0.30	0.16	± 0.60	0.30
25 - 50	± 0.40	0.06	± 0.20	0.10	± 0.40	0.18	± 0.80	0.30
50 - 75	± 0.50	0.06	± 0.25	0.12	± 0.50	0.18	± 1.00	0.35
75 - 100	± 0.60	0.07	± 0.30	0.12	± 0.60	0.20	± 1.20	0.35
100 - 150	± 0.80	0.08	± 0.40	0.14	± 0.80	0.20	± 1.60	0.40
150 - 200	± 1.00	0.09	± 0.50	0.16	± 1.00	0.25	± 2.00	0.40
200 - 250	± 1.20	0.10	± 0.60	0.16	± 1.20	0.25	± 2.40	0.45
250 - 300	± 1.40	0.10	± 0.70	0.18	± 1.40	0.25	± 2.80	0.50
300 - 400	± 1.80	0.12	± 0.90	0.20	± 1.80	0.30	± 3.60	0.50
400 - 500	± 2.20	0.14	± 1.10	0.25	± 2.20	0.35	± 4.40	0.60
500 - 600	± 2.60	0.16	± 1.30	0.25	± 2.60	0.40	± 5.00	0.70
600 - 700	± 3.00	0.18	± 1.50	0.30	± 3.00	0.45	± 6.00	0.70
700 - 800	± 3.40	0.20	± 1.70	0.30	± 3.40	0.50	± 6.50	0.80
800 - 900	± 3.80	0.20	± 1.90	0.35	± 3.80	0.50	± 7.50	0.90
900 - 1000	± 4.20	0.25	± 2.00	0.40	± 4.20	0.60	± 8.00	1.00

* Deviation of the measuring face.

Steel gauge blocks

Steel gauge blocks with an excellent price-performance ratio.

- Hardness: 63 - 65 HRC.
- Expansion coefficient: $(11.5 \pm 1) \cdot 10^{-6} / ^\circ\text{C}$.
- Cross-section: 0.5 - 10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.
- Sets delivered with a manufacturer measuring report.
- Delivery in plastic case and sets in wooden case.
- Empty wooden cases with cutouts and size indications for gauge block sets are optionally available. For these cases see wooden cases for gauge block sets elsewhere in the catalog.



Steel gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:					
906.622	2		1.005	–	1
906.621	1		1.01 - 1.09	0.01	9
906.620	0		1.1 - 1.9	0.1	9
			1 - 9	1	9
			10 - 30	10	3
			50	–	1
M47:					
906.625	2		1.005	–	1
906.624	1		1.01 - 1.09	0.01	9
906.623	0		1.1 - 1.9	0.1	9
			1 - 24	1	24
			25 - 100	25	4
M87:					
906.613	2		1.001 - 1.009	0.001	9
906.612	1		1.01 - 1.49	0.01	49
906.611	0		0.5 - 9.5	0.5	19
			10 - 100	10	10
M88:					
906.628	2		1.0005	–	1
906.627	1		1.001 - 1.009	0.001	9
906.626	0		1.01 - 1.49	0.01	49
			0.5 - 9.5	0.5	19
			10 - 100	10	10
M112:					
906.631	2		1.0005	–	1
906.630	1		1.001 - 1.009	0.001	9
906.629	0		1.01 - 1.49	0.01	49
			0.5 - 24.5	0.5	49
			25 - 100	25	4

Steel gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.50	0.01		
1.6 - 2.0	0.1		
2.5 - 7.5	0.5		
8.0 - 10.0	0.5		
10.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

PRICE

Select steel gauge blocks

High quality steel gauge blocks, can be very well wringed to make a combination size. The steel gauge blocks are available in all accuracy classes of ISO 3650 (2, 1, 0, K). Only the most commonly used sizes can be found in this catalog. Special sizes and sets are available on request, as well as special sets for calibration of micrometers and calipers.

- Hardness: approx. 800 HV.
- Expansion coefficient: $\alpha = 11.5 \cdot 10^{-6} \text{ K}^{-1}$.
- Cross-section: 0.5 - 10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.



- Delivery with a traceable manufacturer measuring report.
- Delivery on request with a DAkkS certificate, UKAS acknowledged.
- Sets delivered in luxurious wooden case.
- Plastic cases for separate gauge blocks are optionally available. For these cases see plastic cases for gauge blocks elsewhere in the catalog.

Steel gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:					
831.915	1		1.005	–	1
831.914	0		1.01 - 1.09	0.01	9
			1.1 - 1.9	0.1	9
			1 - 9	1	9
			10 - 30	10	3
			50	–	1
M47:					
831.911	1		1.005	–	1
831.910	0		1.00 - 1.09	0.01	10
			1.1 - 1.9	0.1	9
			2 - 25	1	24
			50 - 100	25	3
M87:					
831.909	1		0.5	–	1
831.908	0		1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			2.0 - 10.0	0.5	17
			20 - 100	10	9
M103:					
831.907	1		0.5	–	1
831.906	0		1.005	–	1
			1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M112:					
831.905	1		0.5	–	1
831.904	0		1.0005	–	1
			1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M122:					
831.903	1		0.5	–	1
831.902	0		1.0005	–	1
			1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			1.6 - 1.9	0.1	4
			2.0 - 25.0	0.5	47
			30 - 70	10	5
			75	–	1
			80 - 100	10	3

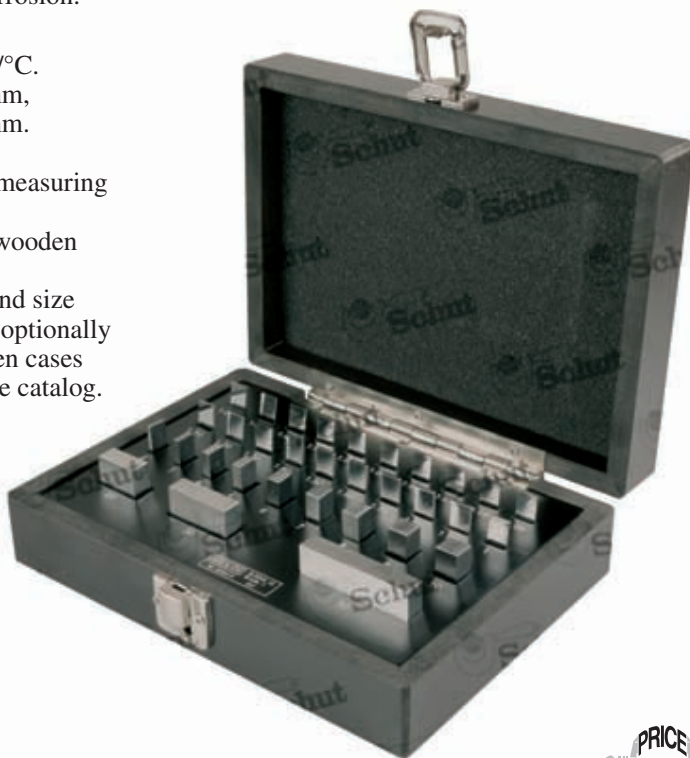
Steel gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.5	0.01		
1.6 - 1.9	0.1		
2.0 - 5.5	0.5		
6.0 - 10.0	0.5		
10.5 - 15.0	0.5		
15.5 - 20.0	0.5		
20.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

Tungsten carbide gauge blocks

Tungsten carbide gauge blocks with an excellent price-performance ratio and a low expansion coefficient. High resistance against corrosion.

- Hardness: 70-72 HRC.
- Expansion coefficient: $(8.5 \pm 1) \cdot 10^{-6}/^{\circ}\text{C}$.
- Cross-section: 0.5-10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.
- Sets delivered with a manufacturer measuring report.
- Delivery in plastic case and sets in wooden case.
- Empty wooden cases with cutouts and size indications for gauge block sets are optionally available. For these cases see wooden cases for gauge block sets elsewhere in the catalog.



Tungsten carbide gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.50	0.01		
1.6 - 1.9	0.1		
2.0 - 10.0	0.5		
10.5 - 15.0	0.5		
15.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

Tungsten carbide gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:			1.005	–	1
906.634	2		1.01 - 1.09	0.01	9
906.633	1		1.1 - 1.9	0.1	9
906.632	0		1 - 9	1	9
			10 - 30	10	3
			50	–	1
M47:			1.005	–	1
906.637	2		1.01 - 1.09	0.01	9
906.636	1		1.1 - 1.9	0.1	9
906.635	0		1 - 24	1	24
			25 - 100	25	4
M87:			1.001 - 1.009	0.001	9
906.662	2		1.01 - 1.49	0.01	49
906.661	1		0.5 - 9.5	0.5	19
906.660	0		10 - 100	10	10
M112:			1.0005	–	1
906.643	2		1.001 - 1.009	0.001	9
906.642	1		1.01 - 1.49	0.01	49
906.641	0		0.5 - 24.5	0.5	49
			25 - 100	25	4



Select tungsten carbide gauge blocks

High quality tungsten carbide gauge blocks, can be very well wringed to make a combination size. The tungsten carbide gauge blocks are available in all accuracy classes of ISO 3650 (2, 1, 0, K). Only the most commonly used sizes can be found in this catalog. Special sizes and sets are available on request.

- Hardness: approx. 1500 HV.
- Expansion coefficient: $\alpha = 4.5 \cdot 10^{-6} \text{ K}^{-1}$.
- Cross-section: 0.5 - 10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.
- Delivery with a traceable manufacturer measuring report.
- Delivery on request with a DAkkS certificate, UKAS acknowledged.

- Sets delivered in luxurious wooden case.
- Plastic cases for separate gauge blocks are optionally available. For these cases see plastic cases for gauge blocks elsewhere in the catalog.



SELECT/

Tungsten carbide gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.50	0.01		
1.6 - 1.9	0.1		
2.0 - 5.5	0.5		
6.0 - 10.0	0.5		
10.5 - 15.0	0.5		
15.5 - 20.0	0.5		
20.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

Tungsten carbide gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:					
828.592	1		1.005	–	1
828.606	0		1.01 - 1.09	0.01	9
			1.1 - 1.9	0.1	9
			1 - 9	1	9
			10 - 30	10	3
			50	–	1
M46:					
828.590	1		1.001 - 1.009	0.001	9
828.604	0		1.00 - 1.09	0.01	10
			1.1 - 1.9	0.1	9
			2 - 10	1	9
			20 - 100	10	9
M47:					
828.589	1		1.005	–	1
828.603	0		1.00 - 1.09	0.01	10
			1.1 - 1.9	0.1	9
			2 - 25	1	24
			50 - 100	25	3
M87:					
828.587	1		0.5	–	1
828.601	0		1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			2.0 - 10.0	0.5	17
			20 - 100	10	9
M103:					
828.585	1		0.5	–	1
828.599	0		1.005	–	1
			1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M112:					
828.584	1		0.5	–	1
828.598	0		1.0005	–	1
			1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M122:					
828.583	1		0.5	–	1
828.597	0		1.0005	–	1
			1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			1.6 - 1.9	0.1	4
			2.0 - 25.0	0.5	47
			30 - 70	10	5
			75	–	1
			80 - 100	10	3

Ceramic gauge blocks

Ceramic gauge blocks with an excellent price-performance ratio, made of Zirconia ceramics. Because of this, these gauge blocks are highly durable, corrosion proof and completely stable for long-term use.

- Highly wear-resistant. Can be used 5 to 10 times longer than steel gauge blocks.
- Rustproof.

- Hardness: 88 - 90 HRC.
- Expansion coefficient: $(9.2 \pm 1) \cdot 10^{-6} / ^\circ\text{C}$.
- Cross-section: 0.5 - 10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.
- Sets delivered with a manufacturer measuring report.
- Delivery in plastic case and sets in wooden case.
- Empty wooden cases with cutouts and size indications for gauge block sets are optionally available. For these cases see wooden cases for gauge block sets elsewhere in the catalog.



Ceramic gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.49	0.01		
1.5 - 1.9	0.1		
2.0 - 5.5	0.5		
6.0 - 9.5	0.5		
10.0 - 20.0	0.5		
20.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

Ceramic gauge blocks in sets

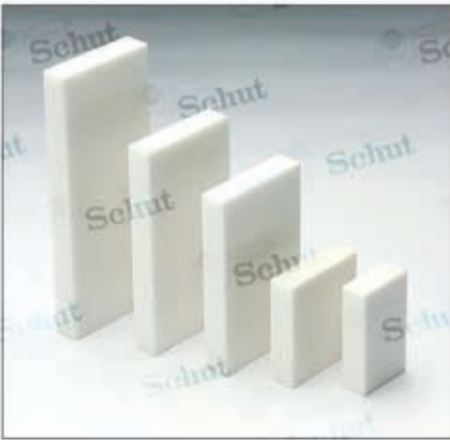
Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:			1.005	–	1
906.646	1		1.01 - 1.09	0.01	9
906.645	0		1.1 - 1.9	0.1	9
			1 - 9	1	9
			10 - 30	10	3
			50	–	1
M47:			1.005	–	1
906.649	1		1.01 - 1.09	0.01	9
906.648	0		1.1 - 1.9	0.1	9
			1 - 24	1	24
			25 - 100	25	4
M87:			1.001 - 1.009	0.001	9
906.652	1		1.01 - 1.49	0.01	49
906.651	0		0.5 - 9.5	0.5	19
			10 - 100	10	10
M103:			1.005	–	1
906.655	1		1.01 - 1.49	0.01	49
906.654	0		0.5 - 24.5	0.5	49
			25 - 100	25	4
M112:			1.0005	–	1
906.658	1		1.001 - 1.009	0.001	9
906.657	0		1.01 - 1.49	0.01	49
			0.5 - 24.5	0.5	49
			25 - 100	25	4



Select ceramic gauge blocks

High quality ceramic gauge blocks, can be very well wringed to make a combination size. The ceramic gauge blocks are available in all accuracy classes of ISO 3650 (2, 1, 0, K). Only the most commonly used sizes can be found in this catalog. Special sizes and sets are available on request, as well as special sets for calibration of micrometers and calipers.

- Hardness: approx. 1350 HV.
- Expansion coefficient: $\alpha = 9.3 \cdot 10^{-6} \text{ K}^{-1}$.
- Cross-section: 0.5 - 10 mm: 30 x 9 mm,
> 10 mm: 35 x 9 mm.
- ISO 3650.



SELECT!

Ceramic gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.5	–		
1	–		
1.0005	–		
1.001 - 1.009	0.001		
1.01 - 1.50	0.01		
1.6 - 1.9	0.1		
2.0 - 5.5	0.5		
6.0 - 10.0	0.5		
10.5 - 15.0	0.5		
15.5 - 20.0	0.5		
20.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

- Delivery with a traceable manufacturer measuring report.
- Delivery on request with a DAkkS certificate, UKAS acknowledged.
- Sets delivered in luxurious wooden case.
- Plastic cases for separate gauge blocks are optionally available. For these cases see plastic cases for gauge blocks elsewhere in the catalog.

Ceramic gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32:					
831.085	1		1.005	–	1
			1.01 - 1.09	0.01	9
831.084	0		1.1 - 1.9	0.1	9
			1 - 9	1	9
			10 - 30	10	3
			50	–	1
M47:					
831.081	1		1.005	–	1
			1.00 - 1.09	0.01	10
831.080	0		1.1 - 1.9	0.1	9
			2 - 25	1	24
			50 - 100	25	3
M87:					
831.079	1		0.5	–	1
			1.001 - 1.009	0.001	9
831.078	0		1.00 - 1.50	0.01	51
			2.0 - 10.0	0.5	17
			20 - 100	10	9
M103:					
831.077	1		0.5	–	1
			1.005	–	1
831.076	0		1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M112:					
831.075	1		0.5	–	1
			1.0005	–	1
831.074	0		1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			2.0 - 25.0	0.5	47
			50 - 100	25	3
M122:					
831.073	1		0.5	–	1
			1.0005	–	1
831.072	0		1.001 - 1.009	0.001	9
			1.00 - 1.50	0.01	51
			1.6 - 1.9	0.1	4
			2.0 - 25.0	0.5	47
			30 - 70	10	5
			75	–	1
			80 - 100	10	3

Mitutoyo steel and ceramic gauge blocks

The Mitutoyo gauge blocks are available in all accuracy classes of ISO 3650. Only the most commonly used sizes can be found in this catalog. Other accuracy classes and sizes are available on request. Gauge blocks from 125 mm have two coupling holes on both ends so that they can be coupled by means of a toggle clamp. Individual gauge blocks and sets are delivered with a manufacturer measuring report.

Steel

These gauge blocks are made of alloy steel, and they are completely stress-relieved and very stable.

- Hardness: 800 HV.
- Available from 0.1 up to 1000 mm.
- Sets M8, M9, M103, M112 and M122 are available on request.

Steel gauge blocks, per piece

Size mm	Increment mm	ISO 3650/1 Price EUR	ISO 3650/0 Price EUR
0.1 - 0.19	0.01		
0.2 - 0.29	0.01		
0.3 - 0.39	0.01		
0.4 - 0.49	0.01		
0.5 - 0.69	0.01		
0.7 - 0.89	0.01		
0.90 - 0.99	0.01		
1.0005	–		
1.001 - 1.009	0.001		
1.00 - 1.49	0.01		
1.5 - 2.0	0.1		
2.5 - 3.0	0.5		
3.5 - 5.0	0.5		
5.5	0.5		
6.0 - 7.0	0.5		
7.5 - 8.5	0.5		
9.0 - 10.0	0.5		
10.5	–		
11.0	–		
11.5 - 12.0	0.5		
12.5 - 13.5	0.5		
14.0 - 15.0	0.5		
15.5	–		
16.0	–		
16.5 - 17.0	0.5		
17.5 - 18.5	0.5		
19.0 - 20.0	0.5		
20.5	–		
21.0 - 21.5	0.5		
22.0 - 24.0	0.5		
24.5 - 25.0	0.5		
30	–		
40	–		
50	–		
60	–		
70	–		
75	–		
80	–		
90	–		
100	–		

Ceramics

The ceramic gauge blocks are made of zirconia. Because of this, these gauge blocks are highly durable and corrosion proof.

- Hardness: 1350 HV.
- Available from 0.5 up to 500 mm.
- Sets M8 and M103 are available on request.
- Also separately available.



Gauge blocks in sets

Item No.	Class	Price EUR	Size mm	Increment mm	Pieces
M32, steel:			1.005	–	1
517.967	1		1.01 - 1.09	0.01	9
517.966	0		1.1 - 1.9	0.1	9
M32, ceramics:			1 - 9	1	9
516.367	1		10 - 30	10	3
516.366	0		60	–	1
M46, steel:			1.001 - 1.009	0.001	9
516.996	1		1.01 - 1.09	0.01	9
516.995	0		1.1 - 1.9	0.1	9
M46, ceramics:			1 - 9	1	9
516.396	1		10 - 100	10	10
516.395	0				
M47, steel:			1.005	–	1
516.963	1		1.01 - 1.19	0.01	19
517.962	0		1.2 - 1.9	0.1	8
M47, ceramics:			1 - 9	1	9
516.363	1		10 - 100	10	10
516.362	0				
M87, steel:			1.001 - 1.009	0.001	9
516.947	1		1.01 - 1.49	0.01	49
516.946	0		0.5 - 9.5	0.5	19
M87, ceramics:			10 - 100	10	10
516.347	1				
516.346	0				

Long gauge blocks from 125 mm

Long steel gauge blocks with an excellent price-performance ratio. These steel gauge blocks are available in the accuracy classes 0, 1 and 2 of ISO 3650. All gauge blocks have two coupling holes on both ends so that they can be coupled by means of a toggle clamp.

- Hardness: 63 - 65 HRC.
- Expansion coefficient: $(11.5 \pm 1) \cdot 10^{-6}/^{\circ}\text{C}$.
- Cross-section: 35 x 9 mm.
- ISO 3650.
- Delivery in wooden case with a manufacturer measuring report.



Size/mm	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
	ISO 3650/2:		ISO 3650/1:		ISO 3650/0:	
125	907.728		907.715		907.702	
150	907.729		907.716		907.703	
175	907.730		907.717		907.704	
200	907.731		907.718		907.705	
250	907.732		907.719		907.706	
300	907.733		907.720		907.707	
400	907.734		907.721		907.708	
500	907.735		907.722		907.709	
600	907.736		907.723		907.710	
700	907.737		907.724		907.711	
800	907.738		907.725		907.712	
900	907.739		907.726		907.713	
1000	907.740		907.727		907.714	
Gauge block set consisting of 125, 150, 175, 200, 250, 300, 400 and 500 mm:						
	907.743		907.742		907.741	
Gauge block set consisting of 600, 700, 800, 900 and 1000 mm:						
	907.746		907.745		907.744	

Select long gauge blocks from 125 mm

High quality long steel gauge blocks. These steel gauge blocks are available in the accuracy classes 0, 1 and 2 of ISO 3650. All gauge blocks have two coupling holes on both ends so that they can be coupled by means of a toggle clamp.

- Hardness: approx. 800 HV.
- Expansion coefficient: $\alpha = 11.5 \cdot 10^{-6} \text{ K}^{-1}$.
- Cross-section: 35 x 9 mm.
- ISO 3650.
- Delivery in a luxurious wooden case with a traceable manufacturer measuring report.
- Delivery on request with a DAkkS certificate, UKAS acknowledged.
- Gauge blocks of 1000 - 1500 mm incl. a DAkkS certificate, UKAS acknowledged available on request.



SELECT/

Size/mm	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
	ISO 3650/2:		ISO 3650/1:		ISO 3650/0:	
125	831.019		831.008		831.000	
150	831.020		831.009		831.001	
175	831.021		831.010		831.002	
200	831.022		831.011		831.003	
250	831.023		831.012		831.936	
300	831.024		831.013		831.937	
400	831.025		831.981		831.946	
500	831.026		831.738		831.004	
600	831.027		831.014		831.947	
700	831.028		831.015		831.005	
800	831.029		831.016		831.948	
900	831.030		831.017		831.006	
1000	831.031		831.018		831.007	
Gauge block set consisting of 125, 150, 175, 200, 250, 300, 400 and 500 mm:						
	831.088		831.087		831.086	
Gauge block set consisting of 600, 700, 800, 900 and 1000 mm:						
	831.091		831.090		831.089	

Mitutoyo toggle clamp for long series gauge blocks

Toggle clamp for the coupling of gauge blocks over 100 mm which have coupling holes on both ends. Very quick assembly by means of spring clamping device (with locking screw).

Item No.	Description	Price EUR
619.031	Toggle clamp for long series gauge blocks	



Caliper inspection set

For checking the accuracy of DIN 862 calipers. The set consists of three special steel gauge blocks (30 mm, 41.3 mm and 131.4 mm, ISO 3650 class 1), two steel setting rings ($\varnothing 4$ mm and $\varnothing 25$ mm) and a pair of gloves.

- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Description	Price EUR
909.347	Caliper inspection set	

Micrometer inspection sets

For the inspection of micrometers according DIN 863. Suitable for micrometers with a measuring range up to 25 mm.

- Nominal sizes (mm):
2.5 - 5.1 - 7.7 - 10.3 - 12.9 - 15.0 - 17.6 - 20.2 - 22.8 - 25.0.
- Including plan parallel optical flat $\varnothing 30 \times 12$ mm.
- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Material	Grade	Price EUR
909.346	steel	1	
909.345	steel	0	
909.162	ceramic	1	
909.340	ceramic	0	



909.340

Gauge block accessories

Various accessories to extract the resulting size of one or more gauge blocks outside or to convert it into an inside gauge. This also enables the creation of setting gauges and marking tools. These accessories considerably increase the applicability of standard gauge blocks.



907.204



907.202



907.210



907.209



907.207

Item No. Description	Price EUR	Set		
		M8	M10	M12
Holder for gauge blocks:				
907.203 Up to 50 mm		•	•	•
907.204 Up to 100 mm		•	•	•
907.205 Up to 200 mm		•	•	•
Pair of measuring jaws, with measuring faces:				
907.206 Cylindrical \varnothing 2 mm and flat ($l=40$ mm)		•	•	•
907.207 Cylindrical \varnothing 5 mm and flat ($l=45$ mm)		•	•	•
907.208 Cylindrical \varnothing 10 mm and flat ($l=70$ mm)			•	•
907.209 Flat ($l=100$ mm, $h=19$ mm)			•	•
907.213 V-shaped ($l=60$ mm, max. \varnothing 60 mm)			•	•
907.210 Straight edge ($l=100$ mm)				•
907.211 Scriber ($l=45$ mm)		•	•	•
907.212 Center point ($l=45$ mm)		•	•	•
907.214 Base for holder ($h=25$ mm)		•		•
Accessory sets, delivered in a case:				
907.200 M8		↑		
907.201 M10			↑	
907.202 M12				↑



907.213



907.211

907.212

Holder for gauge blocks

Holder for gauge blocks for fixation of gauge blocks for serial inspection. Can also be used in combination with inspection sets for micrometers and calipers.

- Suited for use with 10 gauge blocks.
- Anodized aluminum with steel base and hard plastic clamping blocks.
- Thickness gauge block: 9 mm conform ISO 3650.
- Delivery in a plastic carrying case incl. Allen key.



Item No.	Description	Price EUR
910.192	Holder for gauge blocks	

Holder for gauge blocks

- Anodized aluminum.
- Thickness gauge block: 9 mm conform ISO 3650.



Item No.	Description	Price EUR
906.434	Holder for gauge blocks	

Gloves

Comfortable, smooth, lint-free gloves with universal, perfect fit. Ideal for handling gauge blocks and other measuring instruments.

- Perfect thermal isolation.
- Washing machine safe.



Item No.	Description	Price EUR
191.069	Pair of gloves	

Select microfibre cleaning cloth

Microfibre cleaning cloth for gauge blocks. Ideal for measuring rooms.

- Dimensions: 22.5 x 22.5 cm.



Item No.	Description	Price EUR
831.739	Microfibre cleaning cloth	

Plastic cases for gauge blocks

Plastic cases with removable foam inserts to store gauge blocks safely. Available in 3 sizes.



Item No.	Gauge blocks size/mm	Price EUR
906.998	0.50- 13.00	
906.999	13.50- 50.00	
908.808	60.00-100.00	

Wooden cases for gauge block sets

Wooden cases with cutouts and size indications for gauge block sets.



NEW



Item No.	Price EUR	Size mm	Increment mm	Pieces
M32: 910.361		1.005	–	1
		1.01 - 1.09	0.01	9
		1.1 - 1.9	0.1	9
		1 - 9	1	9
		10 - 30	10	3
		50	–	1
M47: 910.362		1.005	–	1
		1.01 - 1.09	0.01	9
		1.1 - 1.9	0.1	9
		1 - 24	1	24
		25 - 100	25	4
M87: 910.363		1.001 - 1.009	0.001	9
		1.01 - 1.49	0.01	49
		0.5 - 9.5	0.5	19
		10 - 100	10	10
M88: 910.364		1.0005	–	1
		1.001 - 1.009	0.001	9
		1.01 - 1.49	0.01	49
		0.5 - 9.5	0.5	19
		10 - 100	10	10
M103: 910.365		1.005	–	1
		1.01 - 1.49	0.01	49
		0.5 - 24.5	0.5	49
		25 - 100	25	4
M112: 910.366		1.0005	–	1
		1.001 - 1.009	0.001	9
		1.01 - 1.49	0.01	49
		0.5 - 24.5	0.5	49
		25 - 100	25	4

Mitutoyo maintenance kit for steel gauge blocks

Contains all necessary requirements for the use, and maintenance, of steel gauge block.

The maintenance kit consists of:

- whetstone “Cerastone”, 100 x 25 x 12 mm,
- pair of tweezers,
- dust remover,
- cleaning cloths,
- washleather,
- pipette bottle for solvent, 100 ml,
- pair of gloves,
- wooden case.



Item No.	Description	Price EUR
516.650	Maintenance kit for steel gauge blocks	

Mitutoyo micrometer inspection sets

These sets are composed for the inspection of micrometers according DIN 863. Micrometers with a measuring range over 25 mm can be inspected if an extra gauge block of 25, 50 or 75 mm is used in addition to the gauge blocks in these sets. Each set consists of ten special gauge blocks and a plan parallel optical flat.

- Nominal sizes (mm): 2.5-5.1-7.7-10.3-12.9-15.0-17.6-20.2-22.8-25.0.
- Including plan parallel optical flat $\varnothing 30 \times 12$ mm.

- Delivery in a wooden case with a manufacturer measuring report.

516.156

Item No.	Material	Grade	Price EUR
516.107	steel	1	
516.106	steel	0	
516.157	ceramic	1	
516.156	ceramic	0	



Mitutoyo caliper inspection set

For checking the accuracy of DIN 862 or ISO 13385-1: 2011.

516.124: gauge blocks 30, 41.3 and 131.4 mm, setting rings $\varnothing 4$ and $\varnothing 25$ mm.

516.526: gauge blocks 10, 30, 50 and 125 mm, setting rings $\varnothing 4$ and $\varnothing 25$ mm, measuring pin $\varnothing 10$ mm.

- Delivery in a wooden case with a manufacturer measuring report for the gauge blocks.



Item No.	Description	Price EUR
516.124	Inspection set DIN 862	
516.526	Inspection set ISO 13385-1: 2011	

Angle gauge block set

Set of twelve hardened steel angle gauge blocks, comprising the angles 1/4° (15'), 1/2° (30'), 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25° and 30°. A combination of angle gauge blocks is possible.

- Accuracy: ±30".
- Thickness gauge blocks: 6 mm.
- Delivery in a wooden case with a declaration of conformity.



Item No.	Description	Price EUR
909.799	Angle gauge block set	



Steel measuring balls

Steel measuring balls for measuring e.g. internal tapers.

- Material: chrome alloy steel.
- Hardness: 63 HRC.
- Nominal dimension tolerance: <2.5 µm.
- Roundness: <0.6 µm.
- Surface roughness: <0.05 µm.
- Two balls of each size.
- Delivery with a declaration of conformity.
- Set 909.647: Delivery in a plastic case.

Item No.	Size mm	Number per size	Price EUR
910.224	1	2	
910.225	2	2	
910.226	3	2	
910.227	4	2	
910.228	5	2	
910.229	6	2	
910.230	7	2	
910.231	8	2	
910.232	9	2	
910.233	10	2	
910.234	11	2	
910.235	12	2	
910.237	13	2	
910.238	14	2	
910.239	15	2	
910.240	16	2	
910.241	17	2	
910.242	18	2	
910.243	19	2	
910.244	20	2	
910.245	21	2	
910.246	22	2	
910.247	23	2	
910.248	24	2	
910.249	25	2	



Set steel measuring balls

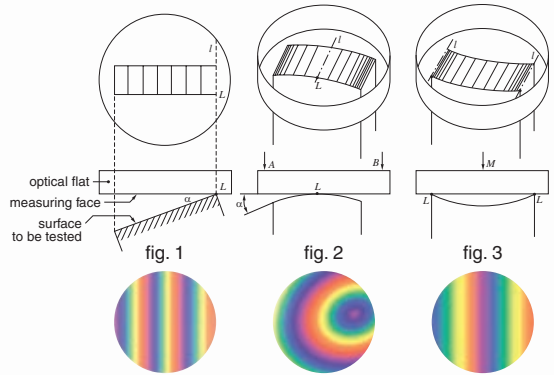
Item No.	Size mm	Incr. mm	Number per size	Total number	Price EUR
909.647	1 - 25	1	2	50	



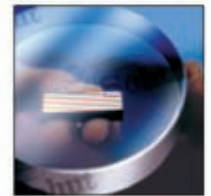
Select optical flats

Optical flats can be used for inspection of the flatness of reflecting surfaces of for example gauge blocks, settings gauges and other lapped surfaces by optical interference.

- Flatness measuring faces: $\leq 0.10 \mu\text{m}$.
- Wedge angle error: $> 10.0'$ (optical flats, double sided).
- On request with a DAkkS certificate, UKAS acknowledged.
- Delivery in an aluminum case.



Item No.	Diameter mm	Thickness mm	Price EUR
Single optical flats, single sided:			
826.625	30	15	
826.626	45	15	
826.627	50	20	
826.628	60	20	
826.629	75	20	
Single optical flats, double sided:			
827.011	30	15	
826.631	45	15	
826.632	50	20	
826.633	60	20	
826.634	75	20	



Select plan parallel optical flats

Plan parallel optical flats can be used for inspection of the parallelism and flatness of measuring surfaces of micrometers and other measuring instruments. Each set consists of 4 sizes plan parallel optical flats for inspection of micrometers on every fourth rotation of the spindle.

- For micrometers with a spindle pitch of 0.5 mm.
- Sets for micrometers with a measuring range of 0-25 mm, 25-50 mm, 50-75 mm and 75-100 mm.
- Diameter: 30 mm.
- On request with a DAkkS certificate, UKAS acknowledged.
- Delivery in an aluminum case.



Item No.	Thicknesses/mm	Flatness measuring faces:	Parallelism measuring faces:	Price EUR
826.635	12.00/12.12/12.25/12.37	$\leq 0.15 \mu\text{m}$	$\leq 0.3 \mu\text{m}$	
826.636	25.00/25.12/25.25/25.37	$\leq 0.15 \mu\text{m}$	$\leq 0.3 \mu\text{m}$	
827.873	50.00/50.12/50.25/50.37	$\leq 0.20 \mu\text{m}$	$\leq 0.5 \mu\text{m}$	
827.874	75.00/75.12/75.25/75.37	$\leq 0.20 \mu\text{m}$	$\leq 0.5 \mu\text{m}$	
Option:				
826.630	Single plan parallel optical flat, thickness 12.00 mm	$\leq 0.15 \mu\text{m}$	$\leq 0.3 \mu\text{m}$	



Feeler gauges

Feeler gauge sets in a holder, for individual use or in combination to measure slits and gaps as well as checking the amount of clearance in sliding guides, bearings, pistons etc.

- Measuring range: 0.03 - 2.00 mm.
- Blade length: 100 mm.
- Nickel plated handle with locking screw.
- Blade width: 10 mm (except stainless steel models: 12 mm), tapered.
- Accuracy according DIN 2275 T2.
- Also available in brass model (anti-magnetic).



910.020



Item No.	Number of blades	Increment(s)				Material	Price EUR
		0.01 mm	0.02 mm	0.05 mm	0.10 mm		
909.904	8			0.05 → 0.30	0.40 → 0.50	hardened steel	
909.905	8			0.05 → 0.30	0.40 → 0.50	stainless steel	
909.906	8			0.05 → 0.30	0.40 → 0.50	brass	
909.907	13			0.05 → 0.30	0.40 → 1.00	hardened steel	
909.908	13			0.05 → 0.30	0.40 → 1.00	stainless steel	
909.909	13			0.05 → 0.30	0.40 → 1.00	brass	
910.019	20			0.05 → 1.00		hardened steel	
910.020	20			0.05 → 1.00		stainless steel	
910.021	20			0.05 → 1.00		brass	
910.022	8	0.03 → 0.10				hardened steel	
910.023	10	0.03 → 0.05		0.10 → 0.30	0.40 → 0.50	hardened steel	
910.024	10				0.10 → 1.00	hardened steel	
910.026	14	0.03 → 0.10		0.15 → 0.30	0.40 → 0.50	hardened steel	
910.027	18	0.05 → 0.10		0.15 → 0.40	0.50 → 1.00	hardened steel	
910.028	19	0.03 → 0.10		0.15 → 0.30	0.40 → 1.00	hardened steel	
910.029	20	0.04 → 0.10		0.15 → 0.50	0.60 → 1.00	hardened steel	
908.978	22	0.03 → 0.05		0.10 → 1.00		hardened steel	
908.979	28	0.03 → 0.10	0.12 → 0.50			hardened steel	
910.034	21			0.05 → 0.10	0.20 → 2.00	hardened steel	

Feeler gauges

- Measuring range: 0.05 - 2.00 mm;
20 blades: 0.05 / 0.10 → 1.00 (except 856.069:
20 blades: 0.10 / 0.10 → 2.00).
- Material: hardened steel.
- Blade width: 12.8 mm (except 856.069:
13.8 mm).



Item No.	Blade length/mm	Price EUR
910.030	200	
910.031	300	
910.033	500	
856.069	200	



910.031

HELIOS-PREISSER feeler stock coils

Feeler stock coils made of steel.

- Measuring range: 0.005 - 1.00 mm.
- Length: 5 m.
- Width: 13 mm.
- Other widths or material (stainless steel or brass) available on request.



856.045



856.030



856.032

Item No.	Thickness/mm	Price EUR
856.036	0.005	
856.037	0.01	
856.038	0.02	
856.039	0.03	
856.040	0.04	
856.041	0.05	
856.042	0.06	
856.043	0.07	
856.044	0.08	
856.045	0.09	
856.046	0.10	
856.047	0.12	
856.048	0.15	
856.049	0.18	
856.050	0.20	
856.051	0.25	
856.052	0.30	
856.053	0.35	
856.054	0.40	
856.055	0.45	
856.056	0.50	
856.057	0.55	
856.058	0.60	
856.059	0.65	
856.060	0.70	
856.061	0.75	
856.062	0.80	
856.063	0.85	
856.064	0.90	
856.065	0.95	
856.066	1.00	

Options

Item No.	Description	Price EUR
856.030	Set 0.01 - 0.25 mm	
856.031	Set 0.3 - 1.00 mm	
856.032	Holder for feeler stock coils	

Gauges / Pin gauges / Thread and tolerance tables



Plug gauges

Manufactured according DIN 2245, 2246 and 2247. Available from 0.5 to 160 mm; up to 70 mm with Go and NoGo on one handle, over 70 mm in two parts. Prices are for H7 plug gauges with Go and NoGo ends in hardened steel.

- H7 fit size in hardened steel.
- Available from 0.5 to 160 mm; up to 70 mm with Go and NoGo on one handle, over 70 mm in two parts.
- Including wear allowance at the Go end.

Wear allowance

New gauges are supplemented with a wear allowance on the Go end: z (plus) for plug gauges. Accordingly, the size indicated on the handle is not similar to the measured value of the new Go end.

Example: plug gauge 20 H7

New Go end:

size	20.000 mm
wear allowance (+z)	<u>0.003 mm</u>
	20.003 mm
manufacturing tolerance	± 0.002 mm
largest value measured	20.005 mm
smallest value measured	20.001 mm

Also available:

- larger sizes,
- without wear allowance,
- many other fit sizes, like H6, H8, P7, G7 etc.,
- hard-chrome plated plug gauges,
- tungsten carbide plug gauges,
- extended plug gauges,
- plug gauges with vent hole,
- plug gauges with easy-entry pilot.



Measuring reports

For all gauges also measuring reports can be ordered.

- ① Manufacturer measuring report (German) per gauge. Stating of product specifications, measured values after production, used traceable measuring devices, measuring inaccuracy and measuring date. A favourable choice when your quality system does not require traceable certificates.
- ② Traceable certificate (Dutch) with measuring reports of the ordered gauges. Besides stating of the measured values the extra assurance of an external inspection.

Size H7 mm	Price EUR	Size H7 mm	Price EUR	Size H7 mm	Price EUR	Size H7 mm	Price EUR	Size H7 mm	Price EUR
1		10		24		42		70	
1.5		11		25		44		72	
2		12		26		45		75	
2.5		13		27		46		78	
3		14		28		47		80	
3.5		15		30		48		82	
4		16		32		50		85	
4.5		17		33		52		88	
5		18		34		55		90	
5.5		19		35		58		92	
6		20		36		60		95	
7		21		37		62		98	
8		22		38		65		100	
9		23		40		68			

Larger sizes available on request.

Plug gauges H7

Manufactured according DIN EN ISO 1938. Available from 1 to 100 mm with Go and NoGo on one handle.

- DIN 7162 and 7164.
- H7 fit size in hardened steel.
- With serial number.
- Delivery with a manufacturer measuring report.
- Individual plug gauges delivered in a plastic tube. Set delivered in a plastic case.
- Including wear allowance at the Go end.

Wear allowance

New gauges are supplemented with a wear allowance on the Go end: z (plus) for plug gauges. Accordingly, the size indicated on the handle is not similar to the measured value of the new Go end.



Item No.	Size H7 mm	Price EUR	Item No.	Size H7 mm	Price EUR	Item No.	Size H7 mm	Price EUR
911.000	1		911.023	19		911.047	47	
911.001	1.5		911.024	20		911.048	48	
911.002	2		911.025	21		911.049	50	
911.003	2.5		911.026	22		911.050	52	
911.004	3		911.027	23		911.051	55	
911.005	3.5		911.028	24		911.052	58	
911.006	4		911.029	25		911.053	60	
911.007	4.5		911.030	26		911.054	62	
911.008	5		911.031	27		911.055	65	
911.009	5.5		911.032	28		911.056	68	
911.010	6		911.033	30		911.057	70	
911.011	7		911.034	32		911.058	72	
911.012	8		911.035	33		911.059	75	
911.013	9		911.036	34		911.060	78	
911.014	10		911.037	35		911.061	80	
911.015	11		911.038	36		911.062	82	
911.016	12		911.039	37		911.063	85	
911.017	13		911.040	38		911.064	88	
911.018	14		911.041	40		911.065	90	
911.019	15		911.042	42		911.066	92	
911.020	16		911.043	44		911.067	95	
911.021	17		911.044	45		911.068	98	
911.022	18		911.045	46		911.069	100	

Set plug gauges

Item No.	Description	Price EUR
911.157	Plug gauges (Go + NoGo) H7: 3, 4, 5, 6, 8, 10, 12 mm	

Plug gauges G7

Manufactured according DIN 7162. Available from 1 to 20 mm; with Go and NoGo on one handle.

- DIN 7162.
- G7 fit size in hardened steel.
- Available from 1 to 20 mm; with Go and NoGo on one handle.
- With serial number.
- Delivery in a plastic tube with a manufacturer measuring report.
- Including wear allowance at the Go end.

Wear allowance

New gauges are supplemented with a wear allowance on the Go end: z (plus) for plug gauges. Accordingly, the size indicated on the handle is not similar to the measured value of the new Go end.



NEW

Item No.	Size G7 mm	Price EUR
911.158	1	
911.159	1.5	
911.160	2	
911.161	2.5	
911.162	3	
911.163	3.5	
911.164	4	
911.165	4.5	
911.166	5	
911.167	5.5	
911.168	6	
911.169	7	
911.170	8	
911.171	9	
911.172	10	
911.173	11	
911.174	12	
911.175	13	
911.176	14	
911.177	15	
911.178	16	
911.179	17	
911.180	18	
911.181	19	
911.182	20	

Pin gauges in sets

Hardened steel pin gauges in sets with favourable price-performance ratio, very well suited for workshop use. Delivery in plastic case with a declaration of conformity and holder for Go/NoGo determination.

- Hardened steel.
- Diameter range: 0.20 - 20.00 mm.
- Increment: 0.01 mm or 0.1 mm.
- Accuracy: ± 0.003 mm.
- Without handle.
- Pin gauges $> \phi 1.5$ mm with size indication.
- Length: 50 mm.
- Delivery in a plastic carrying case with a declaration of conformity with pin gauges in separate plastic tubes with size indication.
- Delivery with holder with Go/NoGo indication.



910.195



Item No.	Diameter mm	Increment mm	Number per set	Price EUR
910.367	0.20 - 10.00	0.1	99	
910.368	10.00 - 20.00	0.1	101	
910.193	0.50 - 1.00	0.01	51	
910.194	1.00 - 2.00	0.01	101	
910.195	2.00 - 3.00	0.01	101	
910.196	3.00 - 4.00	0.01	101	
910.197	4.00 - 5.00	0.01	101	
910.198	5.00 - 6.00	0.01	101	
910.199	6.00 - 7.00	0.01	101	
910.200	7.00 - 8.00	0.01	101	
910.201	8.00 - 9.00	0.01	101	
910.202	9.00 - 10.00	0.01	101	
910.203	10.00 - 11.00	0.01	101	
910.204	11.00 - 12.00	0.01	101	
910.205	12.00 - 13.00	0.01	101	
910.206	13.00 - 14.00	0.01	101	
910.207	14.00 - 15.00	0.01	101	
910.208	15.00 - 16.00	0.01	101	
910.209	16.00 - 17.00	0.01	101	
910.210	17.00 - 18.00	0.01	101	
910.211	18.00 - 19.00	0.01	101	
910.212	19.00 - 20.00	0.01	101	

Holders for Go/NoGo determination:

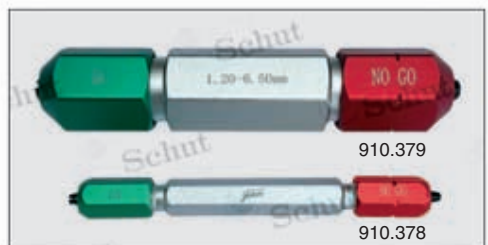
- 910.213 Pin gauge handle
Go-NoGo 0.5-13 mm
- 910.214 Pin gauge handle
Go-NoGo 13-20 mm

Holders for Go/NoGo determination:

- 910.378 0.30 - 1.50
- 910.379 1.20 - 6.50
- 910.380 5.00 - 14.00
- 910.381 12.00 - 16.50
- 910.382 14.00 - 19.50
- 910.383 18.00 - 22.00



910.213



910.379

910.378

PRICE

Pin gauges

Swiss made, hardened and ground steel pin gauges, conforms to DIN 2269; available separately and in sets.

- Hardened, ground, and seasoned steel (HV 760 ± 50).
- Diameter range:
 - without handle: 0.06 - 20.00 mm,
 - with handle: 0.06 - 10.00 mm.
- Increment: 0.01 mm.
- Accuracy: ±0.0015 mm.
- Pin gauges ø 5.00 - 20.00 mm without handle: indication on head.



Also available:

With an accuracy of ±0.0003 or ±0.001 mm;
 – hardened steel ø 0.06 - 20.00 mm,
 – tungsten carbide or ceramics ø 0.50 - 9.99 mm,
 with 0.01 mm increments. The length may deviate. More information available on request.

Diameter/mm	Length/mm	Price EUR
Pin gauge without handle:		
0.06 - 0.09 ¹	30	
0.10 - 0.19 ¹	40	
0.20 - 0.29 ¹	40	
0.30 - 0.49 ¹	40	
0.50 - 0.99 ¹	40	
1.00 - 2.99	70	
3.00 - 4.00	70	
4.01 - 5.00	70	
5.01 - 5.99	70	
6.00 - 9.99	70	
10.00 - 11.99	70	
12.00 - 13.99	70	
14.00 - 15.99	70	
16.00 - 18.99	70	
19.00 - 20.00	70	
Pin gauge with handle²:		
0.06 - 0.09 ¹	23	
0.10 - 0.19 ¹	33	
0.20 - 0.29 ¹	33	
0.30 - 0.49 ¹	33	
0.50 - 0.99 ¹	33	
1.00 - 2.99	62	
3.00 - 4.00	62	
4.01 - 5.00	62	
5.01 - 5.99	62	
6.00 - 10.00	62	

¹ Delivered in a plastic transport case.

² The length here indicates the measuring length and not the total length of the pin gauges.

Item No.	Description	Price EUR
Wooden case (tubes not included):		
833.211	For 50 pin gauges ø 0.10 - 10.00 mm without handle	
833.704	For 100 pin gauges ø 0.10 - 10.00 mm without handle	
833.264	For 50 pin gauges ø 0.10 - 10.00 mm with handle	
833.118	For 40 pin gauges ø 10.01 - 15.00 mm	
833.705	For 80 pin gauges ø 10.01 - 15.00 mm	
833.706	For 30 pin gauges ø 15.01 - 20.00 mm	
Plastic tubes for pin gauges¹:		
833.066	Without handle up to ø 0.99 mm	
838.224	Without handle ø 1.00 - 7.00 mm	
838.089	With handle up to ø 0.99 mm	

¹ For insert in wooden case.



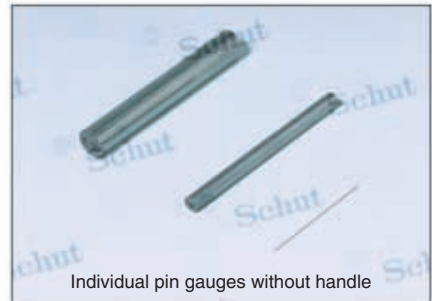
Pin gauges without handle in sets

- Hardened, ground, and seasoned steel (HV 760±50).
- Diameter range: 0.10- 10.00 mm.
- Increment: 0.01 mm.
- Accuracy: ±0.0015 mm.
- Pin gauges ø 5.00- 10.00 mm: indication on head.
- Length: ø 0.10- 0.99 mm: 40 mm, ø 1.00- 10.00 mm: 70 mm.
- Sets with larger diameters and/or with handle are available on request.



Item No.	Diameter mm	Increment mm	Number per set	Price* EUR
833.901	0.10- 1.00	0.01	91	
833.902	1.00- 2.00	0.01	101	
833.903	2.00- 3.00	0.01	101	
833.904	3.00- 4.00	0.01	101	
833.905	4.00- 5.00	0.01	101	
833.906	5.00- 6.00	0.01	101	
833.907	6.00- 7.00	0.01	101	
833.908	7.00- 8.00	0.01	101	
833.909	8.00- 9.00	0.01	101	
833.910	9.00-10.00	0.01	101	
834.190	1.00-10.00	0.10	91	

* Prices per set, in a wooden case.



Pin gauges accessories

Interchangeable handles

- For pin gauges without handle.



Item No.	For diameter/mm	Price EUR
836.043	0.40-0.80	
834.172	0.80-1.30	
836.044	1.30-1.80	
836.045	1.80-2.30	
837.615	2.30-2.80	
837.956	2.80-3.30	
837.957	3.30-3.80	
837.958	3.80-4.30	
837.959	4.30-4.80	
837.960	4.80-5.30	

Holders for Go/NoGo determination

- For two pin gauges without handle.
- With NoGo indication.



Item No.	For diameter/mm	Price EUR
833.310	1.00- 2.00	
833.311	2.00- 4.00	
833.312	4.00- 6.00	
833.313	6.00- 8.00	
833.314	8.00-10.00	



Plug gauges

Ground and lapped, hardened tool steel plug gauges with a high accuracy. Available per piece and in sets. Swiss made.

- Diameter range: \varnothing 0.06 - 10.00 mm.
- Increment: 0.01 mm.
- Accuracy: \pm 0.0005 mm.
- Hardened tool steel (HV 760 \pm 50).
Ground and lapped.
- Measuring length (and total length):
 \varnothing 0.06 - 0.30 mm: 2 mm (34 mm),
 \varnothing 0.31 - 0.50 mm: 3.5 mm (35.5 mm),
 \varnothing 0.51 - 1.50 mm: 5 mm (37 mm),
 \varnothing 1.51 - 2.00 mm: 6 mm (38 mm),
 \varnothing 2.01 - 3.50 mm: 8 mm (43 mm),
 \varnothing 3.51 - 6.00 mm: 10 mm (55 mm),
 \varnothing 6.01 - 8.00 mm: 14 mm (59 mm),
 \varnothing 8.01 - 10.00 mm: 18 mm (63 mm).
- Size indication on the insulated handle.
- Also available in tungsten carbide and ceramic with an accuracy of \pm 0.001 mm.



Per piece

Diameter/mm	Price EUR
0.06 - 0.09	
0.10 - 0.19	
0.20 - 0.29	
0.30 - 0.49	
0.50 - 0.99	
1.00 - 2.99	
3.00 - 5.99	
6.00 - 10.00	

Sets

Item No.	Diameter mm	Pieces	Price EUR
833.761	0.06 - 0.50	45	
833.762	0.51 - 1.00	50	
833.763	1.01 - 1.50	50	
833.764	1.51 - 2.00	50	
833.765	2.01 - 2.50	50	
833.766	2.51 - 3.00	50	
833.767	3.01 - 3.50	50	
833.768	3.51 - 4.00	50	
837.311	4.01 - 4.50	50	
837.312	4.51 - 5.00	50	
837.313	5.01 - 5.50	50	
837.314	5.51 - 6.00	50	
837.315	6.01 - 6.50	50	
837.316	6.51 - 7.00	50	
837.317	7.01 - 7.50	50	
837.318	7.51 - 8.00	50	
837.319	8.01 - 8.50	50	
837.320	8.51 - 9.00	50	
837.321	9.01 - 9.50	50	
837.322	9.51 - 10.00	50	



Select setting rings

Setting rings, manufactured according DIN 2250 form C, 1 to 4 mm.

The size is indicated on the ring to three decimal places.

For all gauges also measuring reports can be ordered.

SELECT/



Item No.	Size/mm	Price EUR
830.001	1	
830.002	1.2	
830.003	1.5	
830.004	1.8	
830.005	2	
830.006	2.2	
830.007	2.5	
830.008	2.8	
830.009	3	
830.010	4	

Setting rings

Manufactured according DIN 2250 form C. Available from 3 to 200 mm.

- DIN 2250 form C.
- Material: hardened steel.
- The size is indicated on the setting rings to three decimal places.
- With serial number.
- Delivery with a manufacturer measuring report.
- Individual setting rings from 3 - 32 mm: delivery in a plastic case, individual setting rings from 33 - 200 mm: delivery in a cardboard case.



Item No.	Size mm	Price EUR	Item No.	Size mm	Price EUR	Item No.	Size mm	Price EUR
911.070	3		911.099	33		911.131	88	
911.071	4		911.100	34		911.132	90	
911.072	5		911.101	35		911.133	92	
911.073	6		911.102	36		911.134	95	
911.074	7		911.103	37		911.135	98	
911.075	8		911.104	38		911.136	100	
911.076	9		911.105	40		911.137	105	
911.077	10		911.106	42		911.138	110	
911.079	11		911.107	44		911.139	115	
911.080	12		911.108	45		911.140	120	
911.081	13		911.109	46		911.141	125	
911.082	14		911.110	47		911.142	130	
911.083	15		911.114	48		911.143	135	
911.084	16		911.115	50		911.144	140	
911.085	17		911.116	52		911.145	145	
911.086	18		911.117	55		911.146	150	
911.087	19		911.118	58		911.147	155	
911.088	20		911.120	60		911.148	160	
911.089	21		911.121	62		911.149	165	
911.090	22		911.122	65		911.150	170	
911.091	23		911.123	68		911.151	175	
911.092	24		911.124	70		911.152	180	
911.093	25		911.125	72		911.153	185	
911.094	26		911.126	75		911.154	190	
911.095	27		911.127	78		911.155	195	
911.096	28		911.128	80		911.156	200	
911.097	30		911.129	82				
911.098	32		911.130	85				

Setting rings

Setting rings, manufactured according DIN 2250 form C, 1 to 315 mm.

- DIN 2250 form C.
- Material: hardened steel.
- The size is indicated on the setting rings to three decimal places to 100 mm. From 100 mm the nominal size is indicated in mm and separately the deviation in μm .
- Price on request up to 3 mm.

Also available:

- Higher accuracy,
- in tungsten carbide from 3 to 38 mm,
- form B rings for pneumatic measuring tools,
- intermediate and larger sizes,
- with coating,
- Go and NoGo limit ring gauges.



Size mm	Price EUR	Size mm	Price EUR	Size mm	Price EUR	Size mm	Price EUR	Size mm	Price EUR
1		18		43		80		165	
1.2		19		44		82		170	
1.5		20		45		84		175	
1.8		21		46		85		180	
2		22		47		86		185	
2.2		23		48		88		190	
2.5		24		49		90		195	
2.8		25		50		92		200	
3		26		52		94		210	
3.5		27		54		95		220	
4		28		55		96		230	
4.5		29		56		98		240	
5		30		58		100		250	
6		31		60		105		260	
7		32		62		110		270	
8		33		64		115		280	
9		34		65		120		290	
10		35		66		125		300	
11		36		68		130		310	
12		37		70		135		315	
13		38		72		140			
14		39		74		145			
15		40		75		150			
16		41		76		155			
17		42		78		160			
									<i>Intermediate sizes over 3 mm are also available</i>

Measuring reports

For all gauges also measuring reports can be ordered.

- ① Manufacturer measuring report (German) per gauge. Stating of product specifications, measured values after production, used traceable measuring devices, measuring inaccuracy and measuring date. A favourable choice when your quality system does not require traceable certificates.
- ② Traceable certificate (Dutch) with measuring reports of the ordered gauges. Besides stating of the measured values the extra assurance of an external inspection.

Taper gauges

To increase the already large capacity to transmit moments, some taper gauges are furnished with a lip which functions as catch lock.



832.539



832.560



832.540



832.561

Morse taper gauges

Indica- tion Morse	Without lip, DIN 229				With lip, DIN 230			
	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
	Plug:		Ring:		Plug:		Ring:	
0	832.531		832.532		832.552		832.553	
1	832.533		832.534		832.554		832.555	
2	832.535		832.536		832.556		832.557	
3	832.537		832.538		832.558		832.559	
4	832.539		832.540		832.560		832.561	
5	832.541		832.542		832.562		832.563	
6	832.543		832.544		832.564		832.565	

Metric taper gauges

Indica- tion metric	Without lip, DIN 234				With lip, DIN 235			
	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
	Plug:		Ring:		Plug:		Ring:	
4	804.001		804.011		–		–	
6	804.002		804.012		–		–	
80	804.003		804.013		804.021		804.031	
100	804.004		804.014		804.022		804.032	
120	804.005		804.015		804.023		804.033	

Short taper gauges

Indica- tion SK	Plug, DIN 2079		Ring, DIN 2080	
	Item No.	Price EUR	Item No.	Price EUR
30	832.568		832.569	
40	832.570		832.571	
50	832.572		832.573	
60	832.574		832.575	



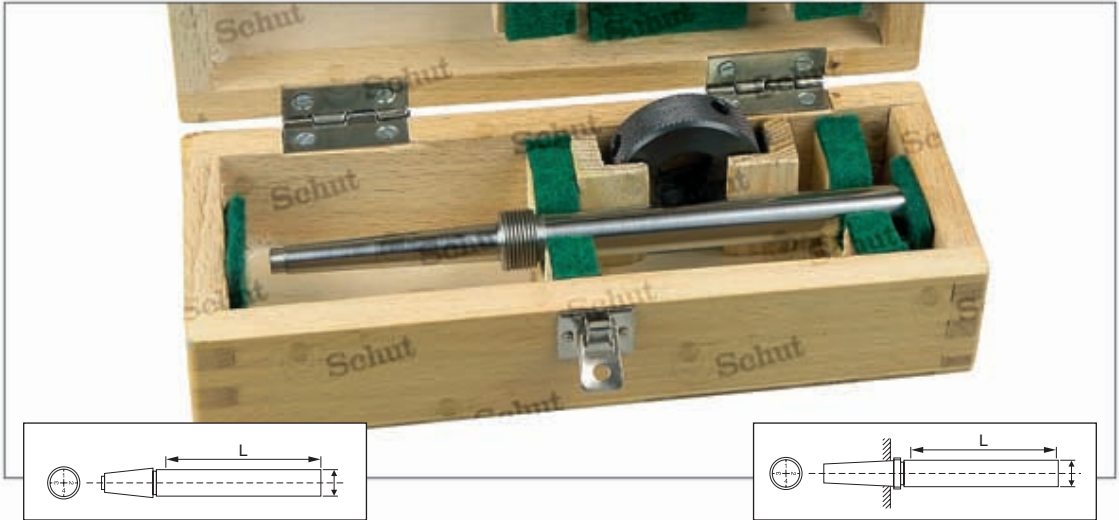
832.568



832.571

Measuring mandrels

The cylinders are hollow and have four marks on the cylinder wall near the thread and numbered marks in successive distances of 90° on the face. The cylinder and the front face are ground and lapped. The hardness is (60 ± 2) HRc.



Measuring mandrels with internal thread, without external screw thread and nut

Item No.	Cone	Dimensions cylinder		Price
		ø/mm	length/mm	EUR
832.591	Sc 20	24	150	
832.592	Sc 30	32	200	
832.593	Sc 30	32	300	
832.594	Sc 40	40	300	
832.595	Sc 45	40	300	
832.596	Sc 50	40	300	
832.597	Sc 50	63	500	

Measuring mandrels without draw bar thread, with external screw thread and nut

Item No.	Cone	Dimensions cylinder		Price
		ø/mm	length/mm	EUR
832.581	Mc 0	12	75	
832.582	Mc 1	12	75	
832.583	Mc 2	24	150	
832.584	Mc 3	32	200	
832.585	Mc 4	40	300	
832.586	Mc 5	40	300	
832.587	Mc 6	63	500	
832.588	Mec 80	80	500	

Specifications of the accuracy:
 straightness of the cylinder $\leq 3 \mu\text{m}$, out of roundness $\leq 3 \mu\text{m}$, eccentricity $\leq 3 \mu\text{m}$.

Other models are available.

Gauges for keyway depths on shafts

- Available in all common fits.
- Prices available on request.



Thread gauges

The prices of the thread gauges apply to the following tolerances:

Kind of thread	Tolerances	
	Thread plug gauge	Thread ring gauge
Metric thread according ISO 1502 (DIN 13) up to and incl. M1.4 larger than M1.4	5H 6H	6h 6g (standard) 4h and 6e
Fixing pipe thread DIN EN ISO 228	center	A
Trapezoidal thread DIN 103	7H	7e

Other tolerances, sizes and kinds of threads are available on request; also available are special screw threads as per your design. Left-hand screw thread: price on request.



Measuring reports

For all gauges also measuring reports can be ordered.

- ① Manufacturer measuring report (German) per gauge. Stating of product specifications, measured values after production, used traceable measuring devices, measuring inaccuracy and measuring date. A favourable choice when your quality system does not require traceable certificates.
- ② Traceable certificate (Dutch) with measuring reports of the ordered gauges. Besides stating of the measured values the extra assurance of an external inspection.

Thread plug and ring gauges

Hardened steel thread plug gauges (up to M39: Go + NoGo, from M42: Go and NoGo separate) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with coarse pitch. Manufactured according ISO 1502 (DIN 13).

Indication M...	Price EUR Thread plug	Price EUR Thread ring	
1 x 0.25			
1.2 x 0.25			
1.4 x 0.3			
1.6 x 0.35			
1.8 x 0.35			
2 x 0.4			
2.2 x 0.45			
2.5 x 0.45			
3 x 0.5			
3.5 x 0.6			
4 x 0.7			
4.5 x 0.75			
5 x 0.8			
6 x 1			
8 x 1.25			
10 x 1.5			
12 x 1.75			
14 x 2			
16 x 2			
18 x 2.5			
20 x 2.5			
22 x 2.5			
24 x 3			
27 x 3			
30 x 3.5			
33 x 3.5			
36 x 4			
39 x 4			
Indication M...	Thread plug Go	Thread NoGo	Thread ring
42 x 4.5			
45 x 4.5			
48 x 5			
52 x 5			
56 x 5.5			
60 x 5.5			

Also most common sets available.



Thread plug and ring gauges (continued)

Hardened steel thread plug gauges (Go + NoGo) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with pitch 0.5. Manufactured according ISO 1502 (DIN 13).

Hardened steel thread plug gauges (Go + NoGo) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with pitch 1. Manufactured according ISO 1502 (DIN 13).

Indication M...x0.5	Price EUR Thread plug	Price EUR Thread ring
5		
6		
8		
10		
12		
14		
16		
18		
20		

Indication M...x1	Price EUR Thread plug	Price EUR Thread ring
8		
10		
11		
12		
14		
16		
18		
20		
22		
24		
25		
26		
27		
28		
30		



Hardened steel thread plug gauges (Go + NoGo) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with pitch 0.75. Manufactured according ISO 1502 (DIN 13).

Hardened steel thread plug gauges (up to M40: Go + NoGo, from M42: Go and NoGo separate) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with pitch 1.5. Manufactured according ISO 1502 (DIN 13).

Indication M...x0.75	Price EUR Thread plug	Price EUR Thread ring
6		
8		
10		
12		
14		
16		
18		
20		
22		
24		
26		
28		
30		

Indication M...x1.5	Price EUR Thread plug	Price EUR Thread ring
12		
14		
16		
18		
20		
22		
24		
25		
26		
27		
28		
30		

(continued on the next page)

Thread plug and ring gauges (continued)

Indication M... x 1.5	Price EUR Thread plug	Price EUR Thread ring
<i>(continued)</i>		
32		
33		
34		
35		
36		
38		
39		
40		
Indication M... x 1.5	Thread plug Go NoGo	Thread ring
42		
45		
48		
50		

Hardened steel thread plug gauges (up to M40: Go + NoGo, from M42: Go and NoGo separate) and thread ring gauges (Go or NoGo) for metric screw thread (ISO) with pitch 2 (ISO 1502).

Indication M... x 2	Price EUR Thread plug	Price EUR Thread ring
20		
22		
24		
26		
28		
30		
32		
34		
36		
38		
40		
Indication M... x 2	Thread plug Go NoGo	Thread ring
42		
45		
48		
50		



Hardened steel thread plug gauges (up to G1": Go + NoGo, from G1 1/8": Go and NoGo separate) and thread ring gauges (Go or NoGo) for non-sealing fixing pipe thread. Manufactured according DIN EN ISO 228.

Indication G..."	Price EUR Thread plug	Price EUR Thread ring
1/8		
1/4		
3/8		
1/2		
5/8		
3/4		
7/8		
1		
Indication G..."	Thread plug Go NoGo	Thread ring
1 1/8		
1 1/4		
1 1/2		
1 3/4		
2		
2 1/4		
2 1/2		
2 3/4		
3		



Hardened steel thread plug and thread ring gauges for sealing pipe thread. Manufactured according DIN 2999.¹

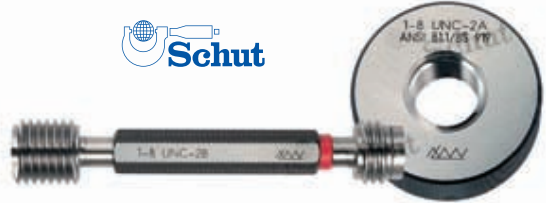
Indication R..."	Price EUR Thread plug	Price EUR Thread ring
1/8		
1/4		
3/8		
1/2		
3/4		
1		
1 1/4		
1 1/2		
2		

Larger sizes available on request

¹ DIN 2999 is replaced with DIN EN 10226 (ISO 7).

Thread plug and ring gauges (continued)

Hardened steel thread plug gauges (up to 1 1/4: Go + NoGo, from 1 3/8: Go and NoGo separate) and thread ring gauges (Go or NoGo) for American screw thread UNC and UNF manufactured according ANSI B1.2 class 2B (thread plug) and BS 919 2A (thread ring; manufactured according ANSI B1.2 class 2A available on request).



Indication UNC	Price EUR Thread plug	Price EUR Thread ring
No 1-64		
No 2-56		
No 3-48		
No 4-40		
No 5-40		
No 6-32		
No 8-32		
No 10-24		
No 12-24		
1/4 -20		
5/16 -18		
3/8 -16		
7/16 -14		
1/2 -13		
9/16 -12		
5/8 -11		
3/4 -10		
7/8 -9		
1 -8		
1 1/8 -7		
1 1/4 -7		

Indication UNC	Thread plug		Thread ring
	Go	NoGo	
1 3/8-6			
1 1/2-6			
1 3/4-5			
2 -4 1/2			
2 1/4-4 1/2			
2 1/2-4			
2 3/4-4			
3 -4			
3 1/4-4			
3 1/2-4			
3 3/4-4			
4 -4			

Indication UNF	Price EUR Thread plug	Price EUR Thread ring
No 0-80		
No 1-72		
No 2-64		
No 3-56		
No 4-48		
No 5-44		
No 6-40		
No 8-36		
No 10-32		
No 12-28		
1/4 -28		
5/16 -24		
3/8 -24		
7/16 -20		
1/2 -20		
9/16 -18		
5/8 -18		
3/4 -16		
7/8 -14		
1 -12		
1 1/8 -12		
1 1/4 -12		

Indication UNF	Thread plug		Thread ring
	Go	NoGo	
1 3/8 -12			
1 1/2 -12			

Hardened steel tapered thread plug and thread ring gauges NPT for sealing pipe thread. Manufactured according ANSI/ASME B1.20.1.



Indication NPT..."	Price EUR Thread plug	Price EUR Thread ring
1/16		
1/8		
1/4		
3/8		
1/2		
3/4		
1		
1 1/4		
1 1/2		
2		
2 1/2		
3		

Thread plug and ring gauges in sets

Sets of thread plug gauges or thread ring gauges for inspection of metric ISO threads.



836.561



836.562



- For threads M3, M4, M5, M6, M8, M10 and M12.
- Tolerance class:
thread plug gauges: 6H,
thread ring gauges: 6g.
- Hardened steel, thread plug gauges with aluminum grip.
- Manufactured according ISO 1502 (DIN 13).
- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Thread gauges set	Price EUR
836.561	Plug gauges (Go+NoGo)	
836.562	Ring gauges (Go)	
836.563	Ring gauges (NoGo)	

Plug gauges and setting rings in sets

- Hardened steel, plug gauges with aluminum grip.
- Set setting rings manufactured according DIN 2250 form C.
- Set plug gauges manufactured according DIN 2248/2249.
- Delivery in a wooden case with a manufacturer measuring report.



Item No.	Description	Price EUR
836.564	Setting rings: $\phi 4$, $\phi 5$, $\phi 6$, $\phi 8$ mm	
836.565	Setting rings: $\phi 10$, $\phi 12$, $\phi 16$, $\phi 20$, $\phi 25$ mm	
836.566	Plug gauges (Go+NoGo) H7: 3, 4, 5, 6, 8, 10, 12 mm	



Thread jaw gauges

Jaw-shaped gauge for inspection of external screw thread. Delivery excl. setting thread plug gauge.

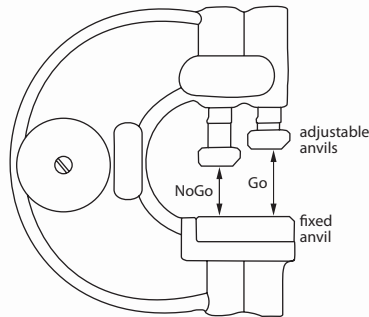


Available on request.

Adjustable snap gauges

Snap gauges with adjustable anvil. Especially suitable for Go/NoGo determination and batch measurements.

- Tungsten carbide measuring faces.
- Flatness of anvil: 1.5 μm .
- Parallelism between anvils: 0-32 mm: 3 μm /32-89 mm: 4 μm /89-152 mm: 5 μm .
- To set for example with gauge blocks.
- Conforms to factory standard.
- Delivery with a manufacturer measuring report.



860.016

Item No.	Measuring range/mm	Price EUR
860.012	0- 6	
860.013	6- 13	
860.014	13- 19	
860.015	19- 25	
860.016	25- 32	
860.017	32- 38	
860.018	38- 44	
860.019	44- 51	
860.020	51- 57	
860.021	57- 63	
860.022	63- 70	
860.023	70- 76	
860.024	76- 82	
860.025	82- 89	
860.026	89- 95	
860.027	95-101	
860.028	101-108	
860.029	108-114	
860.030	114-120	
860.031	120-127	
860.032	127-133	
860.033	133-139	
860.034	139-146	
860.035	146-152	

Drill gauges

Gauge in the form of a steel plate with bores of increasing diameters for determining drill diameters.

- Increment: 0.1 mm.



836.640

Item No.	Measuring range/mm	Number of bores	Price EUR
836.640	0.1 - 10	100	
836.641	3 - 10	71	
856.545	15.1 - 17.5	25	
856.546	17.6 - 20	25	

Measuring wedges

Measuring wedges for quick measurements and checks of slits, key-ways, distances, etc.

- Measuring range: 0.4 - 26 mm.
- Graduation: 0.05, 0.1 or 0.2 mm.
- Laser engraving.



909.537



909.535



909.536



856.331

Item No.	Measuring range/mm	Graduation mm	Price EUR
909.535	0.4 - 6	0.05	
856.331	0.5 - 11	0.1	
909.536	1 - 15	0.1	
909.537	2 - 26	0.2	

Twist drill grinding gauges

For checking twist drills at their top and on the right value of 120° angle of the twist drill point. The maximum drill diameter is 50 mm.



910.372

NEW

Universal twist drill grinding gauge, also called *Y-gauge*. Besides the standard angle of 120°, this gauge also has a 90° angle for countersink drills, and some special angles for center drills.



856.443

Item No.	Description	Price EUR
910.372	Twist drill grinding gauge	
856.443	<i>Y-gauge</i>	

Flat plug gauges

- Measuring range: 1 - 60 mm.
- Graduation: 0.1 mm.
- Stainless steel, matt chrome-plated finish.
- Graduation on both sides.
- Ground measuring faces.
- Laser engraving.



907.876

Item No.	Measuring range/mm	Price EUR
907.876	1 - 15	
909.516	15 - 30	
909.517	30 - 45	
909.534	45 - 60	



Conical plug gauges

- Measuring range: \varnothing 1 - 45 mm.
- Graduation: 0.1 mm.
- Hardened, ground and chrome finished.
- With anodized handle.



909.490

Item No.	Measuring range/mm	Price EUR
909.490	\varnothing 1 - 6	
909.491	\varnothing 4 - 15	
909.492	\varnothing 15 - 30	
909.493	\varnothing 30 - 45	



Nozzle gauges

Set of pins in holder serving as a gauge to determine jet nozzle sizes.



856.107

Item No.	Number of pins	Sizes mm	Price EUR
856.107	20	\varnothing 0.45 - 1.50	
856.108	16	\varnothing 1.50 - 3.00	
856.124	16	\varnothing 3.00 - 4.50	
856.125	16	\varnothing 4.50 - 6.00	

Nozzle gauges with vernier

Nozzle gauges with a hardened and ground tapered needle.

- Measuring range: \varnothing 0 - 5 mm.
- Vernier: 0.01 mm.



Item No.	Measuring range/mm	Price EUR
856.110	\varnothing 0 - 5	

Center gauges

For checking thread cutting tools for Whitworth thread 55° or metric thread 60°.



856.444



856.445

Item No.	Description	Price EUR
856.444	Whitworth 55°	
856.445	Metric 60°	

Thread cutting tool gauges



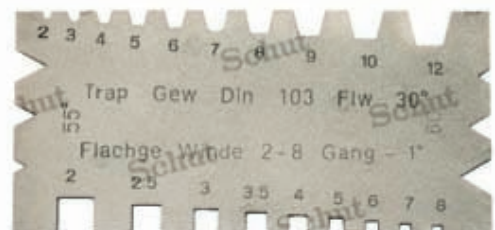
856.446



856.447



856.449

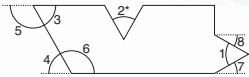


856.451

Item No.	Description	Price EUR
856.446	Universal thread cutting tool gauge for angular thread and flat thread	
856.447	Trapezoidal thread cutting tool gauge for trapezoidal thread DIN 103 (30°, 2-12 mm)	
856.449	Combined lathe and thread cutting tool gauge for – cutting tool wedge angle, – trapezoidal thread DIN 103 (30°, 2-12 mm), and – angular thread (40° - 80°)	
856.451	Thread cutting tool gauge for – rectangular thread, – trapezoidal thread DIN 103 (30°, 2-12 mm), and – angular thread (55° and 60°)	

Angle gauge set

- Measuring range: 5 - 90° (supplementary angles: 90 - 175°).
- Increment: 5° (18 pieces).
- Multiple angles per angle gauge:
 - primary angles (1, 2*, 3, 4),
 - supplementary angles (5, 6), and
 - ½ primary angles (7, 8).
- Delivery in a soft case.



* Angle 2: only with the angle gauges from 20°.



Item No.	Description	Price EUR
909.410	Angle gauge set	

Angle gauges

- Measuring range: 1 - 45°.
- Number of blades: 20.
- Angles: 1° - 2° - 3° - 4° - 5° - 6° - 7° - 8° - 9° - 10° - 12° - 14° - 16° - 18° - 20° - 25° - 30° - 35° - 40° - 45°.



Item No.	Description	Price EUR
908.798	Angle gauges	

Radius gauges

- Measuring range radius: 1 - 25 mm.
- Increment:
 - 1 - 3 mm: 0.25 mm,
 - 3.5 - 20 mm: 0.5 mm,
 - > 20 mm: 1.0 mm.
- Includes blades for both inside and outside radii.



Item No.	Radius range/ mm	Number of blades	Price EUR
907.766	1 - 7	17+17	
907.767	7.5-15	16+16	
907.768	15.5-	15+15	

Shape and radius gauge

This stainless steel gauge can be used to adopt various complex shapes of tools and workpieces. When the gauge is pressed against the part which has to be checked, it takes on the shape of this part. Because of the graduation (mm) on the case, the shape can be checked easily.

Because the tracers were supported under pressure, they don't move on their own.



Item No.	Measuring range/mm	Price EUR
836.319	150 x 40	

Set of welding seam gauges

- For weld thickness: 3 - 12 mm.
- Up to 7 mm increasing with 0.5 mm, plus 8, 10 and 12 mm.
- Total: 12 pieces.
- Bright steel.



Welding seam gauge

For measurement of welding seams.

- Graduation: 0.2 mm.
- Stainless steel.
- Delivery in a soft case.



Item No.	Description	Price EUR
856.452	Welding seam gauges	

Item No.	Description	Price EUR
856.438	Welding seam gauge	

Welding seam calipers

For measurement of welding seams.

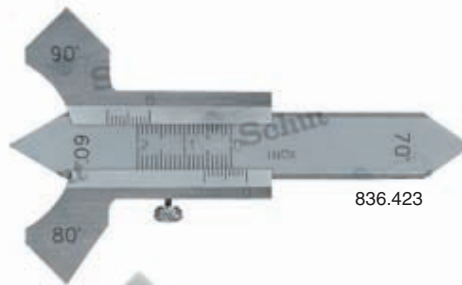
- Measuring range: 0 - 20 mm.
- Analog: vernier 0.1 mm, digital: resolution 0.01 mm.
- Delivery in a soft case (836.423) or a plastic case (906.429).

Analog

- Stainless construction.

Digital

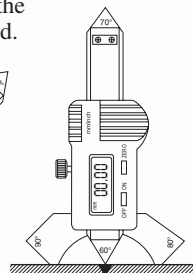
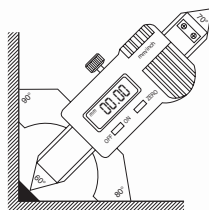
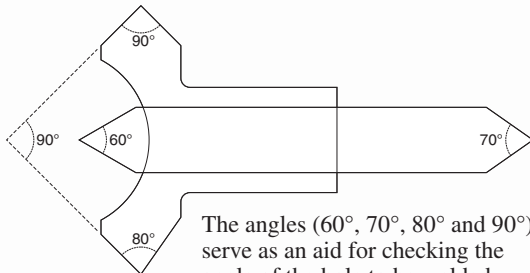
- mm/inch conversion.
- On/off switch.
- Reset.
- Power supply: 1 battery type V357.



836.423



906.429



Item No.	Measuring range/mm	Price EUR
Analog: 836.423	0 - 20	
Digital: 906.429	0 - 20	
Option: 836.535 Spare battery		

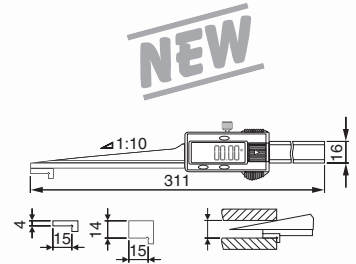
Digital measuring wedge

Digital measuring wedge for measurements and checks of slits, key-ways, distances, etc.

- Measuring range: 0.2 - 30 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Large LCD display.
- Locking screw.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
910.283	0.2 - 30	±0.02	
Option: 836.535 Spare battery			

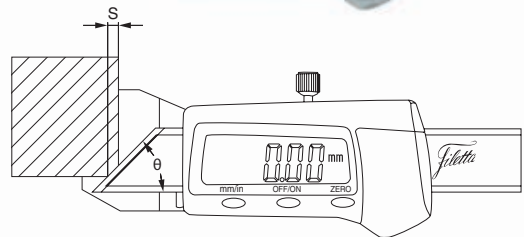


Chamfer calipers

- Measuring range: 0 - 8 mm.
- Resolution: 0.01 mm.
- Accuracy: ±0.03 mm.
- mm/inch conversion.
- On/off switch.
- Reset.
- Locking screw.
- Delivery in a case.
- Power supply: 1 battery type V357.



Item No.	Angle	Price EUR
910.265	30°	
910.266	45°	
910.267	60°	
Option: 836.535 Spare battery		



Universal meter for bevels

Universal instrument for measurement of bevels from 0.5 to 10 mm. Direct reading of the measured bevel (30°, 45°, 60°).

- Measuring range: 30°: 15 mm,
45°: 10 mm,
60°: 5 mm.
- Hardened stainless steel construction.
- Delivery in a wooden case.



Item No.	Description	Price EUR
838.727	Universal meter for bevels	



Thread and tolerance tables

Thread table

Table with all standard international thread indications: metric, BSW, Gas, BSF, Pg, BA, UNC, UNF, UNEF, EG-M and EG-MF.

Tolerance table

Table comprising all tolerances and fits according ISO 286-2, up to 500 mm (table with over 6400 pairs of tolerance values for internal and external measurements).

Conversion table mm/inch

For converting from mm to inch and from inch to mm.



Item No.	Description	Price EUR
835.162	Thread table	
835.163	Tolerance table	
835.164	Conversion table mm/inch	



Flat thickness gauge

Gauge to measure, among others, the thickness of steel plating.

- Measuring range: 1 - 13 mm.
- Graduation: 0.5 mm.
- Stainless steel.



Item No.	Measuring range/mm	Price EUR
907.899	1 - 13	

Screw pitch gauges

Item No.	Type of thread	Number of blades	Price EUR
856.456	Metric	24	
856.457	Whitworth	28	
856.458	BSP	6	
856.459	Metric/Whitworth	52	
856.460	Metric/Whitworth/BSP	58	
856.461	UNC/UNF	30	



Thread	Angle	Number of Blades	Blades
Metric	60°	24	Pitch/mm: 0.25/0.3/0.35/0.4/0.45/0.5/0.6/0.7/0.75/0.8/0.9/1.0/1.25/1.5/1.75/2.0/2.5/3.0/3.5/4.0/4.5/5.0/5.5/6.0
Whitworth	55°	28	Threads per inch: 62/60/48/40/36/32/30/28/26/25/24/22/20/19/18/16/14/13/12/11/10/9/8/7/6/5/4.5/4
BSP	55°	6	Threads per inch: 28/19/14/11/10/8
UNC/UNF	60°	30	Threads per inch: 42/40/38/36/34/32/30/28/27/26/24/22/20/18/16/15/14/13/12/11.5/11/10/9/8/7/6/5.5/5/4.5/4

**Magnifiers / Microscopes / Glass rulers / Stereo microscopes
Video microscopes / Endoscopes / Profile projectors**



Peak stand magnifier 5x

Standard, all-purpose magnifier.

- Dimensions: $\varnothing 35 \times 55$ mm.



Item No.	Price EUR
905.110	

Peak stand magnifier 10x

Standard, all-purpose magnifier. Very suitable for inspection of tissues, structures and photographic negatives.

- Dimensions: $\varnothing 34 \times 41$ mm.



Item No.	Price EUR
905.112	

Peak stand magnifier 10x

A simple, all-purpose magnifier.

- Dimensions: $\varnothing 41 / \varnothing 45 \times 40$ mm.



Item No.	Price EUR
905.316	

Peak stand magnifier 15x

Bright images with high contrast due to a coated achromatic lens. With wide acrylic tube.

- Dimensions: $\varnothing 27 / \varnothing 36 \times 33$ mm.



Item No.	Price EUR
905.114	

Peak stand magnifier 22x

Bright images with high contrast due to a coated achromatic lens. Suitable for inspection of high precision work.

- Dimensions: $\varnothing 28 \times 30$ mm.



Item No.	Price EUR
905.116	

Peak magnetic magnifier 5x

This magnifier has two small magnets which make sure that the magnifier can be put on a fixed position without moving. By placing this magnifier on hard to read scale divisions of, for example, graduated rulers, height gauges or micrometers, the possibility of reading errors substantially reduces.

- Field of view: $\varnothing 30$ mm.
- Dimensions: $\varnothing 44 \times 20 \times 30$ mm.
- Weight: 15 g.



Item No.	Description	Price EUR
905.210	Magnetic magnifier 5x	

Peak eye magnifiers 3.3x...20x

Eye magnifiers can be placed in front of the eye easily, which makes them ideal tools for working on small products like watches, clocks and jewelry.

- Made of aluminum.
- Weight: 10-16 g.
- A small hole in the tube prevents the lens from becoming fogged up.



Item No.	Type	Magnification	Lenses	Price EUR
905.390	A13D	3.3x	1	
905.391	A16D	4.0x	1	
905.392	A20D	5.0x	1	
905.393	A26D	6.7x	1	
905.394	A40D	10.0x	2	
905.299	A48D	12.0x	1	
905.300	A60D	15.0x	1	
905.301	A80D	20.0x	1	

Peak scale magnifier 3x

Scale magnifier with a lens system separated from the scale by a stand, hereby creating a larger working distance, field of view and luminous intensity. The scale is placed in a rotatable ring in the base of the stand.

- Field of view: $\varnothing 58$ mm.
- Measuring range scale: 54 mm.
- Graduation: 0.1 mm.
- Dimensions: 76 x 105 x 96 mm.
- Weight: 378 g.



Item No.	Description	Price EUR
905.328	Magnifier with scale and stand	

Peak zoom magnifiers 8-16x and 10-20x

Unique stepless zoom lens with sufficient brightness in each stage of magnification and a minimum of optical aberration. With click-stop on magnifications 8/10/12/14/16x and 10/15/20x, respectively. Equipped with scale.

- Field of view: \varnothing 20 - 10 mm or \varnothing 13 - 7 mm.
- Graduation: 0.1 mm.
- For optional scales: see "Peak scales \varnothing 35 mm".



Item No.	Magnification	Field of view \varnothing /mm	Adjustment range eye correction	Measuring range/mm	Dimensions mm	Price EUR
905.197	8 - 16x	20 - 10	+2.5D to -5D	16	\varnothing 45 x 65	
905.198	10 - 20x	13 - 7	+5D to -3.5D	12	\varnothing 42 x 52	

Options:
 495.153 Battery (2 needed)
 904.028 Illumination

Peak telecentric magnifier 7x

A telecentric magnifier shows objects, which are at different distances, with the same magnification. In this way 3D objects, or e.g. a needle above a scale, can be shown and measured accurately without parallax error.

- Field of view: \varnothing 24 mm.
- Measuring range scale: 20 mm.
- Graduation: 0.1 mm.
- Adjustable diaphragm with apertures \varnothing 0.5, 1 and 3 mm.
- Dimensions: \varnothing 38 x 74 mm.
- For optional scales: see "Peak scales \varnothing 26 mm".



Item No.	Description	Price EUR
905.136	Telecentric magnifier 7x including case and standard scale (for scales of \varnothing 26 mm)	

Peak stand magnifier 4x

This practical and convenient magnifier can be used for many purposes, like inspecting films. The magnifier is delivered with a clear and a black base, which allows you, depending on the amount of light, to choose the base which is most suitable for your application.

- Field of view: \varnothing 45 mm.
- Dimensions: 51 x 51 x 65 mm.
- Weight: 80 g.



Item No.	Description	Price EUR
905.399	Stand magnifier 4x	

Peak stand magnifier 8x

Convenient and smartly designed magnifier with achromatic lens. A scale is engraved at the bottom of the transparent acrylic base. Photographic negatives can be inspected using the base with opal glass.

- Field of view: 24 x 36 mm.
- Dimensions without base: 46 x 49 x 39 mm.
- Weight: 52 g.



Item No.	Description	Price EUR
905.290	Magnifier w/o base	
Option:		
905.291	Base	

Peak light magnifier 3.5x

Large square lens (52 x 52 mm) of plastic with illumination, e.g. for reading maps and indicators, and for inspection of production processes.

- Dimensions: 60 x 75 x 190 mm.
- Weight (without batteries): 120 g.
- Power supply: 2 batteries type C.



Item No.	Description	Price EUR
905.212	Magnifier (w/o batteries)	
Option:		
495.153	Battery (2 needed)	

Peak monocular telescopes

Lightweight pocket-size telescopes with erect image.

- Dimensions 905.207: \varnothing 22.5 x 50 mm,
905.208: \varnothing 22.5 x 53 mm.
- Weight: 32 g.
- Delivery in a soft case.



905.207

Item No.	Magnification	Lens aperture \varnothing /mm	Close focus distance/mm	Field of view (angle)	Field of view* \varnothing /mm	Field of view* \varnothing /m	Price EUR
905.207	2x	8	100	11°	12	192	
905.208	4x	10	220	10°	29	175	

* Field of view respectively at close focus distance and at 1000 m.

Peak head magnifiers 2.2x ... 5.2x

Because of the velcro strip, the head magnifier can be used easily. The great advantage of a head magnifier is that the user has both hands free for e.g. production and assembly of precision instruments. The head magnifier is designed in such a way that people who wear glasses can use it as well. With the extra pair of lenses inside the head magnifier, the magnification can be enhanced from 2.2x to 3.3x.

- Clear, broad and 3-dimensional view.
- Weight 905.318: 100 g,
905.317: 118 g.

905.318

905.317



Item No.	Magnification	Price EUR
905.318	2.2x / 3.3x	
905.317	2.2x / 3.3x / 4.1x / 5.2x	

Peak pen microscopes with EIM 25x ... 100x

These pen microscopes have a fixed scale and EIM system. With standard microscopes, the magnification is upside down, but because of the EIM system, this is not the case with these pen microscopes.

- Dimensions: $\varnothing 20.7 \times 111$ mm.
- Weight: 25 - 28 g.

905.404

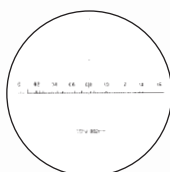


Item No.	Magnification	Field of view \varnothing /mm	Measuring range/mm	Graduation mm	Price EUR
905.404	25x	3.50	3.0	0.05	
905.405	50x	1.70	1.6	0.02	
905.406	75x	1.10	1.0	0.01	
905.407	100x	0.86	0.8	0.005	

Peak pen microscopes 25x ... 100x

- Dimensions: $\varnothing 12.4 \times 127$ mm.
- Weight: 13 - 16 g.
- With a fixed scale (only 905.263/264).

905.267



Item No.	Magnification	Field of view \varnothing /mm	Measuring range/mm	Graduation mm	Price EUR
905.267	25x	3.30	—	—	
905.268	50x	2.00	—	—	
905.269	75x	1.09	—	—	
905.266	100x	0.84	—	—	
With fixed scale:					
905.263	25x	3.30	3.00	0.05	
905.264	50x	2.00	1.60	0.02	

Peak light magnifiers 10x and 15x

Magnifier with illumination.

- Field of view: $\varnothing 25$ mm.
- Dimensions and weight (without batteries):
905.118: 175 x 35 x 41 mm, 81 g,
905.119: 180 x 36 x 42 mm, 90 g.
- Power supply: 2 batteries type C, not included.



905.118

Peak folding magnifiers 7x ... 20x

Steinheil magnifiers with an excellent chromatic correction and a large field of view.

- Dimensions: 39 x 24 x 22 mm.
- Weight: 18 - 22 g.



905.202



Item No.	Magnification	Price EUR
905.118	10x	
905.119	15x	
Option:		
495.153	Battery (2 needed)	

Item No.	Magnification	Field of view \varnothing /mm	Price EUR
905.200	7x	16	
905.202	10x	15.5	
905.204	14x	12	
905.206	20x	7	

Peak folding magnifiers 3x ... 9x

Because of their small size, these folding magnifiers are easy to use. Available in several magnifications, with one or two lenses. The advantage of two lenses is that it gives a very sharp image, because the image error of the first lens is being corrected by the second one.

A mm scale is engraved at each of the four sides of the base. The scale length is equal to the width of the field of view (see table).



905.230



905.379

Item No.	Magnification	Field of view/mm	Number of lenses	Material/color	Price EUR
905.230	9x	10 x 10	1	Al/clear	
905.375	7x	15 x 15	1	Al/clear	
905.376	6x	25 x 25	1	Al/clear	
905.377	9x	10 x 10	1	Al/black	
905.378	7x	15 x 15	1	Al/black	
905.379	6x	25 x 25	1	Al/black	
905.383	4x	30 x 30	2	Al/black	
905.384	3x	50 x 50	2	Al/black	
905.380	9x	10 x 10	2	Zn/black	
905.381	8x	15 x 15	2	Zn/black	
905.382	6x	25 x 25	2	Zn/black	

Peak scale magnifier 7x

All-purpose scale magnifier. Aberrations are avoided by the excellent achromatic lenses.

- Field of view: \varnothing 26 mm.
- Measuring range standard scale: 20 mm.
- Graduation: 0.1 mm.
- Dimensions: \varnothing 36 x 62 mm.
- Weight: 56 g.



Scale magnifier with illumination 905.138

- Field of view: \varnothing 22 mm.
- Dimensions: \varnothing 36 x 58 x 175 mm.
- Weight (without batteries): 118 g.
- Power supply: 2 batteries type C.

Set 905.155

Scale magnifier 7x in a set with the five most frequently used scales (2, 3, 7, 8 and 10).

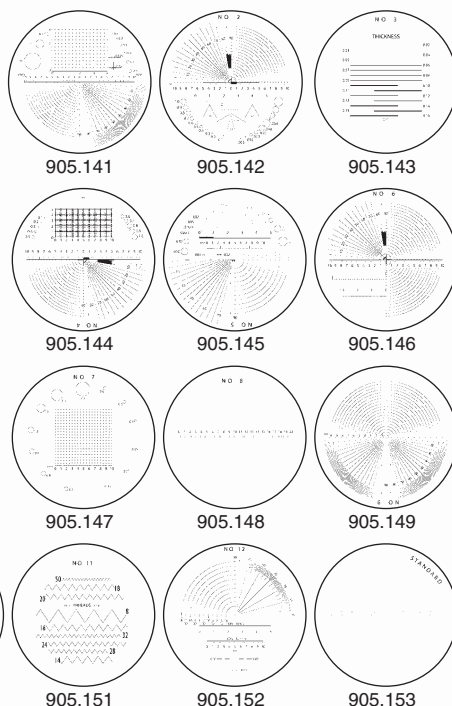


Item No.	Description	Price EUR
905.140	Magnifier with standard scale in a soft case	
905.155	Set of magnifier 7x and five scales in a plastic case	
905.138	Magnifier 905.140 with illumination (without batteries)	
Option:		
495.153	Battery (2 needed)	

Peak scales \varnothing 26 mm

Aside from the standard scale, various other scales are available, each one with its own specific application. These scales are interchangeable in scale magnifiers like the one above.

Item No.	Scale	Price EUR
905.141	no. 1	
905.142	no. 2	
905.143	no. 3	
905.144	no. 4	
905.145	no. 5	
905.146	no. 6	
905.147	no. 7	
905.148	no. 8	
905.149	no. 9	
905.150	no. 10	
905.151	no. 11	
905.152	no. 12	
905.153	standard	



Peak scale magnifier 10x

All-purpose scale magnifier. Aberrations are avoided by the excellent achromatic lenses. High resolution and large field of view.

- Field of view: $\varnothing 35$ mm.
- Measuring range standard scale: 30 mm.
- Graduation: 0.1 mm.
- Dimensions: $\varnothing 46 \times 44$ mm.
- Weight: 74 g.



Scale magnifier with illumination 905.178

- Field of view: $\varnothing 32$ mm.
- Dimensions: $\varnothing 47 \times 45 \times 185$ mm.
- Weight (without batteries): 134 g.
- Power supply: 2 batteries type C.

Set 905.195

Scale magnifier 10x in a set with the five most frequently used scales (2, 3, 7, 8 and 10).

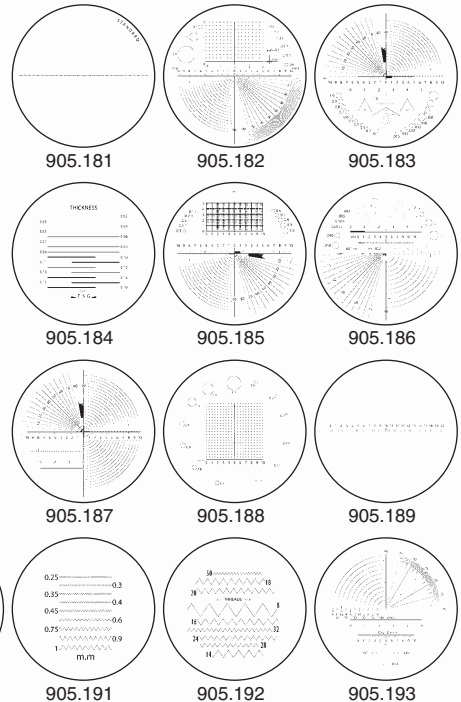


Item No.	Description	Price EUR
905.180	Magnifier with standard scale in a soft case	
905.195	Set of magnifier 10x and five scales in a plastic case	
905.178	Magnifier 905.180 with illumination (without batteries)	
Option:		
495.153	Battery (2 needed)	

Peak scales $\varnothing 35$ mm

Aside from the standard scale, various other scales are available, each one with its own specific application. These scales are interchangeable in scale magnifiers like the one above.

Item No.	Scale	Price EUR
905.181	standard	
905.182	no. 1	
905.183	no. 2	
905.184	no. 3	
905.185	no. 4	
905.186	no. 5	
905.187	no. 6	
905.188	no. 7	
905.189	no. 8	
905.190	no. 9	
905.191	no. 10	
905.192	no. 11	
905.193	no. 12	



Peak scale magnifier 30x

- Field of view: $\varnothing 7$ mm.
- Measuring range standard scale: 5 mm.
- Graduation: 0.05 mm.
- Dimensions: $\varnothing 30 \times 19$ mm.
- Weight: 16 g.



Scale magnifier with LED illumination 905.287

- Dimensions: $\varnothing 43 \times 65 \times 184$ mm.
- Weight (without batteries): 48 g.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
905.285	Scale magnifier in a soft case	
905.287	Magnifier 905.285 with illumination (without batteries)	
Options:		
497.914	Battery (2 needed)	
905.286	Separate standard scale	
905.179	LED penlight	

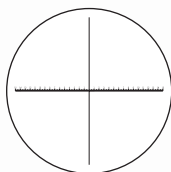
Peak anastigmatic scale magnifiers 4x and 7x

Magnifier with anastigmatic lens. This is a combined objective which reflects a large, undistorted image with sharp features, very suitable for inspection of (photographic) films.

- Large field of view, 905.216: $\varnothing 58$ mm,
905.400: $\varnothing 41$ mm.
- Removable scale with mm graduation.
- Measuring range scale 905.217: 54 mm,
905.401: 36 mm.
- Graduation scale: 0.1 mm.
- Dimensions and weight:
905.216: $\varnothing 73 \times 77$ mm, 272 g,
905.400: $\varnothing 55 \times 53$ mm, 103 g.



905.216

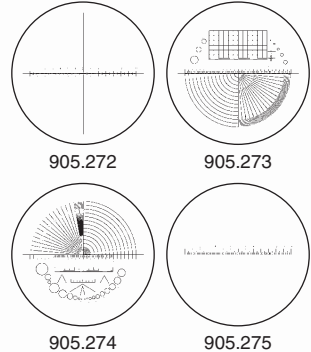


905.400

Item No.	Description	Price EUR
905.216	Scale magnifier 4x	
905.400	Scale magnifier 7x	
Options:		
905.217	Standard scale for magnifier 905.216	
905.401	Standard scale for magnifier 905.400	

Peak scale magnifier 15x

- Field of view: $\varnothing 20$ mm.
- Measuring range standard scale: 14 mm.
- Graduation: 0.1 mm.
- Dimensions: $\varnothing 35 \times 33$ mm.
- Weight: 40 g.



Item No.	Description	Price EUR
905.270	Scale magnifier in a soft case	
905.278	Magnifier 905.270 with illumination (without batteries)	
Options:		
497.914	Battery (2 needed)	
905.272	Separate standard scale	
905.273	Scale no. 1	
905.274	Scale no. 2	
905.275	Scale no. 8	
905.179	LED penlight	

Scale magnifier with LED illumination 905.278

- Dimensions: $\varnothing 43 \times 65 \times 184$ mm.
- Weight (without batteries): 72 g.
- Power supply: 2 batteries type AAA.



Peak stand magnifier 30x

This *microscopic* magnifier has a very high magnification despite its small size. In this way, the magnifier can be held with one hand, while you can hold the product to be inspected in the other. Because of the sophisticated optic design, this magnifier is almost comparable to a microscope of the same size, while the field of view is larger. This magnifier is often used in photo technique, for the production of precision instruments and for inspection of precision work.

Stand magnifier with LED illumination

- Lens aperture: $\varnothing 7$ mm.
- Dimensions: $\varnothing 43 \times 65 \times 184$ mm.
- Weight (without batteries): 40 g.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
905.402	Stand magnifier $M=30x$ with illumination (without batteries)	
Options:		
497.914	Battery (2 needed)	
905.179	LED penlight	



Peak ABC magnifier 3-18x

The ABC magnifier consists of three lenses. Combining the three lenses, seven different magnifications are possible.

- Magnification: 3x, 6x, 9x, 12x, 14x, 16x and 18x.
- Magnification and diameter of the lenses:
 lens A: 12x, \varnothing 14 mm,
 lens B: 3x, \varnothing 28 mm,
 lens C: 6x, \varnothing 20 mm.
- Dimensions: 60 x 39 x 24 mm.
- Weight: 76 g.



Item No.	Description	Price EUR
905.196	ABC magnifier 3-18x	

Peak magnifying glass 2.5-5x

This model of the classic magnifying glass has a lens-in-lens construction. In the big \varnothing 75 mm lens a smaller \varnothing 20 mm lens has been integrated which offers extra strong magnification. The big lens has a 2.5x magnification, the small lens 5x.

- Dimensions: \varnothing 80 x 170 mm.
- Weight: 111 g.



Item No.	Description	Price EUR
905.214	Magnifying glass 2.5-5x	

Magnifier on magnetic stand

- Magnification: 2x (\varnothing 90 mm).
- Total length: 280 mm.
- Magnetic force: 600 N.



Item No.	Description	Price EUR
909.609	Magnifier on magnetic stand	

Peak flexible stand magnifier

This magnifier has a flexible arm which can be adjusted freely from a solid and stabilized stand. The lens can be put in many positions for the most ergonomic use thus leaving both hands of the user free.

- Dimensions:
 145 x 120 x 485 mm
 (maximum height).
- Weight: 1.5 kg.



905.279

Item No.	Magnification	Lens \varnothing /mm	Price EUR
905.279	1.7x	115	
905.427	2.0x	100	
905.428	2.2x	90	

Stand microscopes 20x ... 100x

These stand microscopes are available in four versions. All four are compact and lightweight, but are especially characterized by their large field of view. Delivered in a case, including LED penlight, matching standard scale and objective. The microscopes come with a Huygens eyepiece (magnification 10x) and with a detachable soft rubber eye adapter. All-purpose use with high precision.

A scale graduation (with a 10 mm scale range) has been engraved on the focusing ring which allows height measurements at a resolution of 0.1 mm.

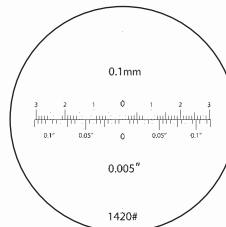
- Focusing with helicoil ring.
- Eyepiece: 10x.
- Dimensions: $\varnothing 41.5 \times 122$ mm.
- Weight (without batteries): 262 - 264 g.
- Power supply: 1 battery type AAA.



910.411



910.422



910.414



910.418

Item No.	Magnification microscope	Price EUR
Standard scales:		
910.414	20x	
910.415	40x	
910.416	60x	
910.417	100x	
910.422	Individual eyepiece 10x	
Objectives:		
910.418	Individual objective 2x	
910.419	Individual objective 4x	
910.420	Individual objective 6x	
910.421	Individual objective 10x	

Item No.	Magnification	Objective	Field of view \varnothing /mm	Working distance/mm	Measuring range/mm	Graduation mm	Price EUR
910.409	20x	2x	7.2	20	6	0.05	
910.410	40x	4x	3.6	21	3	0.02	
910.411	60x	6x	2.4	13.5	2	0.01	
910.412	100x	10x	1.45	7	1	0.005	
Options:							
910.413	LED penlight						
497.914	Spare battery						

Peak stand microscopes 20x ... 200x

These stand microscopes are available in five versions. All five are compact and lightweight, but are especially characterized by their large field of view. Delivery in a case, including LED illumination, matching standard scale and objective. The microscopes come with a Huygens eyepiece (magnification 10x) and with a detachable soft rubber eye adapter. All-purpose use with high precision.

Type 2034

A scale graduation (with a 10 mm scale range) has been engraved on the focusing ring which allows height measurements at a resolution of 0.1 mm.

- Focusing with helicoid ring.
- Dimensions: $\varnothing 63 \times 172$ mm.
- Weight (without batteries): 237 - 241 g.
- Power supply: 2 batteries type AAA.

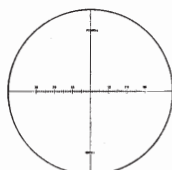


Type 2034

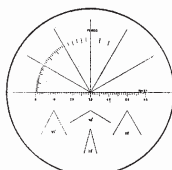
Item No.	Magnification	Field of view \varnothing /mm	Working distance/mm	Measuring range/mm	Graduation mm	Price EUR
905.320	20x	7.2	36	6	0.1	
905.330	40x	3.6	18.7	3	0.05	
905.340	60x	2.4	10.8	2	0.02	
905.350	100x	1.45	5.7	1.2	0.01	
905.355	150x	0.96	9.2	0.9	0.005	
905.370	200x	0.72	6.7	0.6	0.002	
Options:						
497.914	Spare battery (2 needed)					
905.179	LED penlight					

Peak individual scales

The in the eyepiece integrated scale can be changed, for example when the magnification of the microscope changes (see "Individual objectives"). Additionally, an extra eyepiece (without scale and soft rubber eye adapter) is available, so the eyepiece doesn't need to be disassembled each time the scale is being changed.



905.321



905.325

Item No.	Magnification microscope	Scale	Price EUR
Standard scales:			
905.321	20x	no. 54	
905.331	40x	no. 64	
905.341	60x	no. 74	
905.351	100x	no. 84	
905.356	150x	no. 94	
905.337	200x	no. 104	
905.388	300x	no. 114	
For inspection of printed matter and tools:			
905.325	20x	no. 55	
905.335	40x	no. 65	
904.042	Individual eyepiece 10x		

Peak stand microscopes 20x ... 300x (continued)

Type 2054

This type primarily differs from the type 2034 in the focusing mechanism and the sturdy die-cast aluminum base.

- Focusing with rack-and-pinion.
- Dimensions: $\varnothing 63 \times 172$ mm.
- Weight (without batteries): 263 - 267 g.
- Power supply: 2 batteries type AAA.



Type 2054

Peak individual objectives

The objectives are also separately available. This gives you the great advantage that you can get all magnifications with one scale microscope. The magnification of the eyepiece is 10x.

Item No.	Magnification objective	Magnification microscope	Price EUR
905.332	4x	40x	
905.342	6x	60x	
905.352	10x	100x	
905.357	15x	150x	
905.372	20x	200x	
905.387	30x	300x	

Item No.	Magnification	Price EUR
Type 2054:		
905.411	40x	
905.412	60x	
905.413	100x	
905.414	150x	
905.416	300x	
Options:		
497.914	Spare battery (2 needed)	
905.179	LED penlight	

For other specifications: see table of type 2034.

Stand microscopes 20x ... 100x with LED illumination

These stand microscopes are available in four versions. All four are compact and lightweight, but are especially characterized by their large field of view. Delivered in a case, including LED ring light, matching standard scale and objective. The microscopes come with a Huygens eyepiece (magnification 10x) and with a detachable soft rubber eye adapter. All-purpose use with high precision.

A scale graduation (with a 10 mm scale range) has been engraved on the focusing ring which allows height measurements at a resolution of 0.1 mm.

- Focusing with helicoid ring.
- Eyepiece: 10x.
- Illumination: 3 LEDs.
- Dimensions: $\varnothing 41.5 \times 122$ mm.
- Weight (without batteries): 300 g.
- Power supply: 4 batteries type V394.

NEW

PRICE

Item No.	Magnification microscope	Price EUR
Standard scales:		
910.414	20x	
910.415	40x	
910.416	60x	
910.417	100x	
910.422	Individual eyepiece 10x	
Objectives:		
910.418	Individual objective 2x	
910.419	Individual objective 4x	
910.420	Individual objective 6x	
910.421	Individual objective 10x	



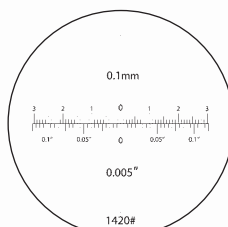
910.404



910.422



910.404



910.414



910.418

Schut

PRICE

Item No.	Magnification	Objective	Field of view \varnothing /mm	Working distance/mm	Measuring range/mm	Graduation mm	Price EUR
910.404	20x	2x	3.3	17	3.0	0.05	
910.405	40x	4x	2.0	11.7	1.6	0.02	
910.406	60x	6x	1.1	11.7	1.0	0.01	
910.407	100x	10x	0.84	11.6	0.8	0.005	
Options:							
910.408	LED ring light						
420.248	Spare battery (4 needed)						

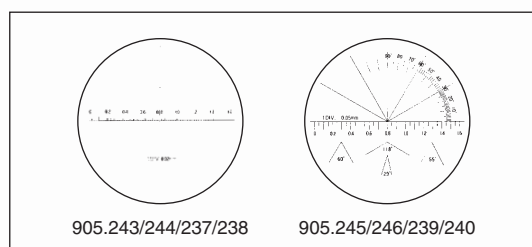
Peak stand microscopes 25x ... 100x

Compact and light-weight stand microscope with scale. The high resolution and bright images as well as its easy focusing make this instrument a practical measuring aid. A scale graduation (scale range 8 mm) has been engraved on the focusing ring which allows height measurements at a resolution of 0.1 mm. With detachable soft rubber eye adapter. Delivery in a case, with matching standard scale.

- Dimensions: $\varnothing 41.5 \times 122$ mm.
- Weight: 83 g.



905.250



905.243/244/237/238

905.245/246/239/240

Item No.	Type	Magnification	Price EUR
Standard scales:			
905.243	24	25x	
905.244	13	50x	
905.237	34	75x	
905.238	44	100x	
Scales for inspection of printed matter and tools:			
905.245	25	25x	
905.246	14	50x	
905.239	35	75x	
905.240	45	100x	

Item No.	Magnification	Field of view \varnothing /mm	Working distance/mm	Measuring range/mm	Graduation mm	Price EUR
905.249	25x	3.3	17.0	3.0	0.05	
905.250	50x	2.0	11.7	1.6	0.02	
905.251	75x	1.1	11.7	1.0	0.01	
905.258	100x	0.84	11.6	0.8	0.005	

Robust Stand magnifier 5x with LED illumination

Robust stand magnifier with aluminum housing, LED illumination and a very large field of view.

- Field of view: $\varnothing 85$ mm.
- Lens diameter: $\varnothing 70$ mm.
- Illumination: 3 LEDs with 3 luminous intensity settings.
- Aluminum housing.
- Dimensions: $\varnothing 94 \times 52$ mm.
- Weight: 194 g.
- Delivery in a soft case with a micro fiber cleaning cloth and micro USB cable.
- Power supply: rechargeable battery with micro USB cable.



Item No.	Magnification	Price EUR
910.254	5x	

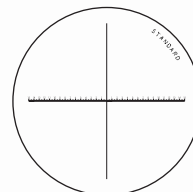
Scale magnifier 10x with LED illumination

All-purpose scale magnifier with LED illumination and a large field of view.

- Field of view: $\varnothing 30$ mm.
- Measuring range standard scale: 30 mm.
- Graduation: 0.1 mm.
- Illumination: 8 LEDs.
- Dimensions: $\varnothing 45 \times 51$ mm.
- Weight: 106 g.
- For optional scales: see “Peak scales $\varnothing 35$ mm”.
- Power supply: 4 batteries (V394).



Item No.	Description	Price EUR
910.319	Magnifier with standard scale in a case (for scales of $\varnothing 35$ mm)	
Option:		
420.248	Spare battery (4 needed)	



Magnifying glass 2-20x with LED illumination

Handy magnifying glass with LED illumination. This magnifying glass has two lenses. One big lens and a small lens in the handle.

- Magnification: 2x (108 x 63 mm) and 20x (ø21 mm).
- Illumination: 2 COB-LED strips (big lens) and 1 LED (small lens).
- Two luminous intensity settings.
- Dimensions: 136 x 96 mm, handle 115 mm.
- Weight (without batteries): 206 g.
- Delivery with a micro fiber cleaning cloth.
- Power supply: 3 batteries 1.5 V (AAA).



Item No.	Description	Price EUR
910.317	Magnifying glass 2-20x	
Option:		
497.914	Spare battery (3 needed)	

Magnifying glass 2-6x with LED and UV illumination

Handy magnifying glass with LED and UV illumination. This model of the classic magnifying glass has a lens-in-lens construction. In the big lens a smaller lens has been integrated which offers extra strong magnification.

- Magnification: 2x (ø85 mm) and 6x (ø21 mm).
- Illumination: switch between 3 LEDs and 1 UV LED.
- Weight (without batteries): 116 g.
- Dimensions: ø99 x 230 mm.
- Power supply: 3 batteries 1.5 V (AA).



Item No.	Description	Price EUR
910.318	Magnifying glass 2-6x	
Option:		
495.111	Spare battery (3 needed)	



Precision scale magnifiers 6x ... 12x

Precision scale magnifiers with parallax-free reading and black anodized aluminum open housing. The eyepiece can be removed to be used as a stand-alone magnifier.

- Precision aplanatic glass lenses.
- Adjustable for individual focus.
- Removable eyepiece.
- Scale accuracy $\pm(0.01 + L/1000)$ mm.
- Delivery in a plastic tube.



903.201



Item No.	Magnification	Scale length mm	Graduation mm	Graduation thickness/mm	Price EUR
903.200	6x	20	0.1	0.02	
903.201	8x	10	0.1	0.02	
903.202	10x	10	0.1	0.02	
903.203	12x	6	0.05	0.01	
Options:					
498.823	Battery (3 needed)				
903.204	LED illumination				



903.204

Scales with guided magnifying glass

Stainless steel scales of up to 400 mm for precise measurement on different surfaces. Delivered with one black anodized aluminum 10x magnifier with parallax-free reading. An optional second sliding magnifier can be added to the scale. The optional LED illumination can be used on these magnifiers as well.

- Measuring range: 0-400 mm.
- Graduation: 0.1 mm.
- Graduation thickness: 0.02 mm.
- Accuracy: ± 0.02 mm.
- Delivery in a plastic case.



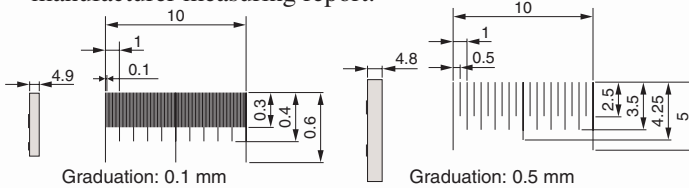
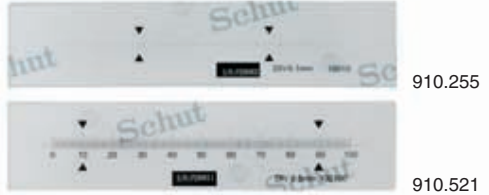
903.205 + 903.209

Item No.	Measuring range/mm	Scale length mm	Price EUR
903.205	100	150	
903.206	212	262	
903.207	300	350	
903.208	400	450	
Options:			
903.209	Second magnifier with slider		
903.204	LED illumination		

Glass rulers L = 50 ... 300 mm

Very accurate glass rulers, made from clear glass with a 0.1 or 0.5 mm graduation. Ideal for checking the magnification accuracy of profile projectors and microscopes, as well as the table feed accuracy of measuring equipment.

- Graduation: 0.1 or 0.5 mm.
- Accuracy: $(1.5 + 2L/1000) \mu\text{m}$;
L = measuring length in mm.
- Material: sodium glass.
- Expansion coefficient: $8.6 \cdot 10^{-6}/^{\circ}\text{C}$.
- Thickness: 5 mm.
- Width: 30 mm.
- With serial number.
- Delivery in an aluminum carrying case with a manufacturer measuring report.



Item No.	Measuring range/mm	Graduation mm	Line thickness graduation/mm	Total length mm	Weight g	Price EUR
910.321	0- 50	0.1	0.01	80	29	
910.322	0- 50	0.5	0.1	80	29	
910.255	0-100	0.1	0.01	130	47	
910.521	0-100	0.5	0.1	130	47	
910.256	0-200	0.1	0.01	230	83	
910.522	0-200	0.5	0.1	230	83	
910.257	0-300	0.1	0.01	330	119	
910.523	0-300	0.5	0.1	330	119	

Electronic carbon scales for magnifier

- Measuring range: 0- 1450 mm.
 - Resolution: 0.01 mm.
 - Intake magnifier: $\varnothing 41$ mm.
 - mm/inch conversion.
 - Proximity data output.
 - Reset/preset.
 - Excl. magnifier (905.180).
- Delivery in a wooden case with a manufacturer measuring report.
 - Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Accuracy mm	Length mm/A	Weight kg	Price EUR
838.715	0- 450	± 0.03	720	1	
838.716	0- 750	± 0.03	1020	1.9	
838.717	0-1150	± 0.05	1420	3	
838.718	0-1450	± 0.06	1720	3.7	

Options:

- 495.157 Spare battery
- 905.180 Magnifier with standard scale 905.181
- 996.664 Holder for Dino-Lite USB measuring microscopes¹



¹For Dino-Lite Edge models with normal working distance; magnification approx. 30x.

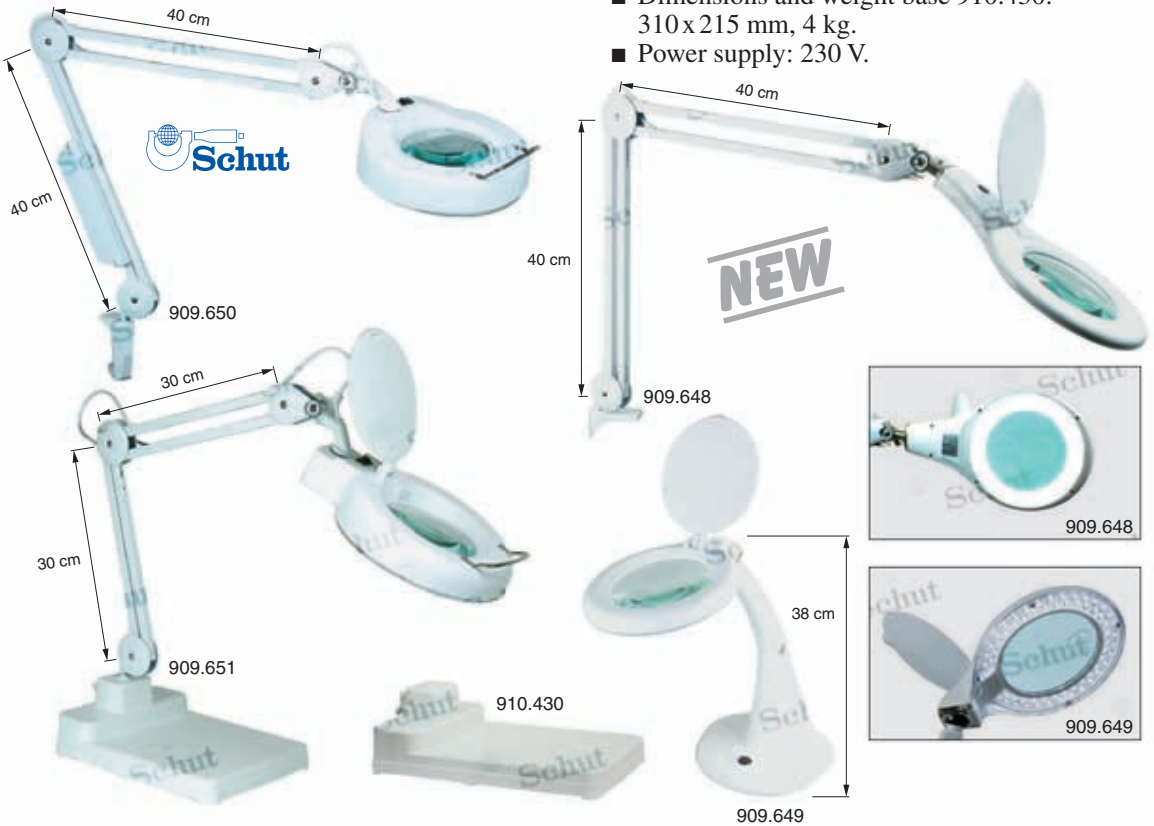
Light magnifiers with fluorescent or LED illumination

Large lens with a large field of view. Very suitable for production and assembly of precision instruments.

■ Magnification:

- 1.75x (3 dpt.): 909.648,
- 1.75x + 4x (3 dpt. + 12 dpt.): 909.649,
- 2.25x (5 dpt.): 909.650, 909.651.

- Lens: ϕ 100 mm + ϕ 20 mm: 909.649,
- ϕ 120 mm: 909.650, 909.651,
- ϕ 127 mm: 909.648.
- Span table clamp: 50 mm.
- Dimensions and weight base 910.430: 310 x 215 mm, 4 kg.
- Power supply: 230 V.



With circular fluorescent tube

Item No.	Description	Price EUR
909.650	With table clamp	
909.651	With base	
Option:		
909.654	Spare bulb 22 W	



Options (only for 909.648 and 909.650):

Item No.	Description	Price EUR
910.427	Table clamp	
910.428	Wall mount	
910.429	Table mount	
910.430	Base	

With LED ring light

Item No.	Description	Price EUR
909.648	56 SMD-LEDs, with table clamp	
909.649	60 LEDs, with base	

Stereo zoom microscopes with auxiliary lenses SSM-10/20

Stereo zoom microscopes with a sharp erect image and a large field of view. Equipped with a double objective (2x/4x is used the most; also available 1x/2x and 1x/3x), so that the magnification can be changed with a simple rotary motion. The magnification of the eyepieces is 10x (optionally 5x, 15x and 20x). The magnification can be adjusted to your application even more with an optional auxiliary lens (0.5x, 0.75x, 1.5x or 2x). For all accessories, please refer to the pages "SSM stereo microscope accessories".

- Stand with round (flattened) column and anti drop facility.
- Microscope head: 360° rotatable.
- Viewing angle: 45°.
- Interpupillary distance: adjustable (55 - 75 mm).
- Left eyepiece with diopter adjustment: ± 5 dpt.
- Working distance (without aux. lens): 72 mm.
- Stage plate: black/white (two-sided).
- Delivery incl. dust cover and soft rubber eye adapters.



909.036

Illumination: LED incident light and LED backlight

Model SSM-20C2 is equipped with LED incident light and LED backlight, and the luminous intensity is adjustable.

- Stage plate: opal glass. Delivery incl. black/white stage plate.
- Power supply: 230 Vac (50 Hz).

Type		SSM-10	SSM-20C2
Eyepiece	M	10x	10x
Objective	M	2x/4x, 1x/2x or 1x/3x	
Total range*	M	5-160x, 2½-80x or 2½-120x	
Illumination		no	yes
Max. object height	mm	100	100
Travel of rack	mm	60	60
Stage plate	ø/mm	75	95
Dimensions	l×w×h/mm	260x170x290	270x235x330
Weight	kg	3.0	4.3

*The magnification range of the microscope in combination with the optional eyepieces 5-20x and auxiliary lenses 0.5-2x.

Item No.	Type	Magnification	Price EUR
909.006	SSM-10	20x/40x	
909.046	SSM-10	10x/20x	
909.036	SSM-10	10x/30x	
909.007 ¹	SSM-20C2	20x/40x	
909.047 ¹	SSM-20C2	10x/20x	
909.037 ¹	SSM-20C2	10x/30x	

¹ With LED illumination.
See for accessories the pages "SSM stereo microscope accessories".



909.007

Stereo microscopes with stepless zoom SSM-E

Stereo zoom microscopes with a sharp erect image and a large field of view. The special microscope head is equipped with stepless zoom; in combination with the standard 10x eyepieces (optionally 20x) you can smoothly zoom in from 10x to 40x magnification. The magnification can be adjusted to your application even more with an optional auxiliary lens (0.5x, 0.75x, 1.5x or 2x). For all accessories, please refer to the pages "SSM stereo microscope accessories".

- Stand with round (flattened) column and anti drop facility.
- Microscope head: 360° rotatable.
- Viewing angle: 45°.
- Interpupillary distance: adjustable (55 - 75 mm).
- Both eyepieces with diopter adjustment: ± 5 dpt.
- Working distance (without aux. lens): 85 mm.
- Equipped with LED incident light and LED backlight, and the luminous intensity is adjustable.
- Stage plate: opal glass.
- Delivery incl. dust cover, soft rubber eye adapters and black/white stage plate.
- Power supply: 230 Vac (50 Hz).

Item No.	Type	Magnification	Price EUR
909.010	SSM-EC2	10 - 40x	
908.998	SSM-3EC2	10 - 40x	

See for accessories the pages "SSM stereo microscope accessories".



909.010



908.998

Type		SSM-EC2	SSM-3EC2
Eyepiece	M	10x	10x
Objective	M	1-4x	1-4x
Total range*	M	5-160x	5-160x
Illumination		yes	yes
Max. object height	mm	110	110
Travel of rack	mm	60	60
Stage plate	ø/mm	95	95
Dimensions	l x w x h/mm	330x235x360	330x235x395
Weight	kg	4.8	5.4

*The magnification range of the microscope in combination with the 10x eyepieces, the optional 20x eyepieces and the optional auxiliary lenses 0.5-2x.



908.998

Camera connection

Model 3EC2 is equipped with camera connection. See the accessories page for the total magnification range with camera.

SSM stereo microscope accessories

USB microscope cameras

For viewing and saving images. They fit in the ocular ($\varnothing 30$ mm) of an SSM microscope and/or the adapter bushing ($\varnothing 23$ mm) of the models SSM-3E/3EC2.

- Field of view: see table.
- Resolution: 1.3 Mpx or 5 Mpx.
- Suitable for Windows and Mac OS X.
- Measuring of distances, radii and angles.

Auxiliary lenses

The magnification can be adjusted to your application even more with an optional auxiliary lens. Note concerning stereo microscopes with a fixed stand: auxiliary lens 0.5x is not suitable, and with auxiliary lenses 1.5x and 2x focusing on the stage plate is not possible (the product needs to be positioned higher).



Pairs of eyepieces



Soft rubber eye adapters

Item No.	Description	Price EUR
909.089	Per pair	



Item No.	Description	Price EUR
Pairs of eyepieces for SSM-2/3/5/10/20:		
909.050	$M=5x$	
909.051	$M=10x$	
909.052	$M=15x$	
909.053	$M=20x$	
Pairs of eyepieces for SSM-E:		
909.055	$M=10x$	
909.057	$M=20x$	
Eyepieces with crosshair for SSM-E:		
909.095	$M=10x$ (per piece)	
909.096	$M=20x$ (per piece)	
Auxiliary lenses (for SSM-10/20/E):		
909.018	$M=0.5x$	
909.019	$M=0.75x$	
909.020	$M=1.5x$	
909.021	$M=2x$	
USB microscope cameras:		
774.145	1.3 Mpx, $\varnothing 23$ mm	
774.296	1.3 Mpx, $\varnothing 23/30/30.5$ mm	
774.243	5 Mpx, $\varnothing 23/30/30.5$ mm	

Magnification objective	Microscope magnification / Field of view/mm			
	Eyepiece 5x	Eyepiece 10x	Eyepiece 15x	Eyepiece 20x
Stereo microscope SSM-2:				
2x	10x / $\varnothing 10.0$	20x / $\varnothing 10.0$	30x / $\varnothing 7.0$	40x / $\varnothing 5.0$
Stereo zoom microscope SSM-3/5:				
1x	5x / $\varnothing 20.0$	10x / $\varnothing 20.0$	15x / $\varnothing 15.0$	20x / $\varnothing 10.0$
2x	10x / $\varnothing 10.0$	20x / $\varnothing 10.0$	30x / $\varnothing 7.0$	40x / $\varnothing 5.0$
3x	15x / $\varnothing 7.0$	30x / $\varnothing 7.0$	45x / $\varnothing 5.0$	60x / $\varnothing 3.5$
4x	20x / $\varnothing 5.0$	40x / $\varnothing 5.0$	60x / $\varnothing 3.5$	80x / $\varnothing 2.5$
Stereo zoom microscope SSM-10/20 (without auxiliary lens):				
1x	5x / $\varnothing 20.0$	10x / $\varnothing 20.0$	15x / $\varnothing 15.0$	20x / $\varnothing 10.0$
2x	10x / $\varnothing 10.0$	20x / $\varnothing 10.0$	30x / $\varnothing 7.0$	40x / $\varnothing 5.0$
3x	15x / $\varnothing 7.0$	30x / $\varnothing 7.0$	45x / $\varnothing 5.0$	60x / $\varnothing 3.5$
4x	20x / $\varnothing 5.0$	40x / $\varnothing 5.0$	60x / $\varnothing 3.5$	80x / $\varnothing 2.5$

Magnification objective	Magnification / Field of view/mm		Field of view camera/mm		
	Eyepiece 10x	Eyepiece 20x	774.145	774.296	774.243
Stereo microscope with stepless zoom SSM-E (without auxiliary lens):					
from 1x to 4x	10x / $\varnothing 20.0$ 40x / $\varnothing 5.0$	20x / $\varnothing 10.0$ 80x / $\varnothing 2.5$	4.5 x 3.3 ¹ 1.2 x 0.8 ¹	6.8 x 5.0 ¹ 1.4 x 1.0 ¹	19.0 x 14.0 ¹ 2.7 x 2.0 ¹
from 1x to 4x				5.6 x 4.1 ² 1.34 x 1.0 ²	18.0 x 12.0 ² 2.4 x 1.8 ²

¹ Camera intake in adapter bushing.

² Camera intake in ocular.

SSM stereo microscope accessories (continued)

LED optical fiber illumination

LED optical fiber ring light^{1,2}

Suitable for stereo microscopes SSM-10/20/E.
Note: not for use in combination with auxiliary lenses.

Ring light^{1,2}

Suitable for SSM-10/20/E (909.085).

Dark field condenser

The contrast of transparent objects is enhanced.
Suitable for all SSM stereo microscopes with backlight.

- Diameter: 94 mm.
- Stage: \varnothing 27 mm.



XY measuring table

- Range: X, Y: 25 mm.
- Intake microscope: \varnothing 94 mm.
- Turnable object plate with degree indication.
- Excl. two analog micrometer heads (intake \varnothing 12 mm; 906.072 measuring range 25 mm).



Item No.	Description	Price EUR
LED optical fiber illumination:		
910.107	Light source LED, 20 W	
909.030	Single flexible arm	
909.028	Dual flexible arm	
909.029	Optical fiber ring light ^{1,2}	
Ring light^{1,2}:		
909.085	Ring light 60 LEDs	
Spare bulbs (standard illumination):		
499.377	For SSM-2/3/5	
498.157	For SSM-20W/EW and for transmitted light SSM-3E	
499.379	For incident light SSM-3E	
438.211	Fuse F 0.5 A, 250 V for SSM-2/3/5/20W/EW/3E	
Other options:		
909.022	Dark field condenser	
908.999	XY measuring table	
960.255	Dial indicator holder	
635.222	Field of view qualifier	

¹ Delivery incl. adapter ring.

² Note: microscopes with standard provided incident light, this incident light must be removed before installing the ring light.

Dial indicator holder

Suitable for stereo microscopes with round column from the series SSM-10/20/E, for height measurements. The accuracy increases with higher magnification.

- Excl. dial indicator.
- The travel of the microscopes is 60 mm; see the dial indicators category for a suitable dial indicator with measuring range 50 or 60 mm.



Field of view qualifier

- Accuracy: ± 0.002 mm.

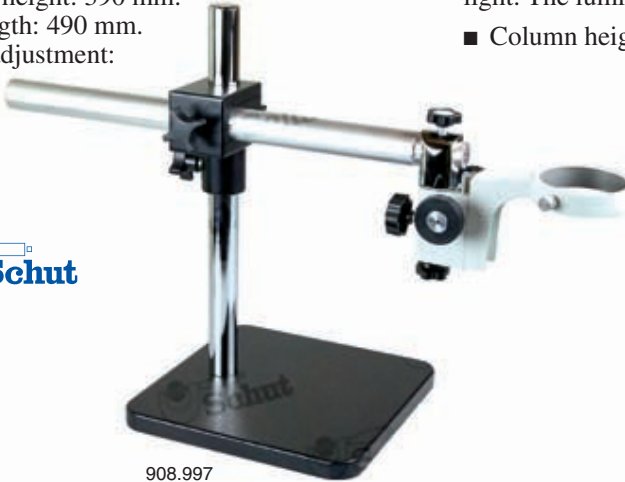
635.222



SSM stereo microscope accessories (continued)

Large stand

- Base: 255 x 255 mm.
- Column height: 390 mm.
- Arm length: 490 mm.
- Height adjustment: 60 mm.



908.997

Stand with illumination

Equipped with LED incident light and back-light. The luminous intensity is adjustable.

- Column height: 185 mm.



909.405

LCD microscope head

- Screen: 8" color.
- CCD: 1/3" color.
- Zoom lens: 0.65 - 5.5.
- Magnification: 10 - 85x.
- Working distance: 10.5 cm.
- Crosshair can be toggled on/off.
- Field of view: from 1.3 x 1.8 mm ($M=85x$) to 12 x 16 mm ($M=10x$).



909.406

Microscope heads

- With or without camera connection.



909.093



909.092



909.405
+ 909.406
+ 870.006
+ 334.695



Item No.	Description	Price EUR
Microscope stands:		
908.997	Large stand	
909.405	Stand with illumination	
870.006 ¹	Column 400 mm	
Microscope heads:		
909.092	Microscope head	
909.093	Microscope head with camera connection	
909.406 ²	LCD microscope head	
334.695	Mini AC adapter 12 Vdc, 1 A	

¹ To be used with stand 909.405 for a larger Z axis range.

² Adapter 334.695 required.

Dino-Lite USB video measuring microscopes

Very versatile and compact digital microscopes with measuring functions for various medical, industrial and educational applications. Optical product inspection can even be performed around your production machine; thanks to the stepless magnification and LED illumination you can display your products very clearly on the screen. Images can be saved as a picture or video file. Geometrical forms, such as distances, radius and angles can be measured.

- Magnification: stepless or fixed.
- Resolution: 1.3 Mpx (1280 x 1024 px) or 5 Mpx (2592 x 1944 px).
- Illumination: 8 LED white ring light.
- With software for Windows and Mac OS X (limited support under Mac OS X).
- Measuring and calibration function and edge detection.
- Plastic or aluminum housing.
- Dimensions: $\varnothing 32 \times 120$ mm.
- Connection and power supply: USB cable (1.8 m).

Also available:

- models with magnification up to 900x or coaxial light,
- models with laser pointer,
- with PAL, VGA or DVI connection for live images on TV screen, monitor or beamer,
- with special illumination by near-UV, near-IR, fluorescent or stroboscopic LEDs,
- WiFi streamer or WiFi module for a wireless connection with a tablet or a smartphone,
- ESD-safe models available,
- USB 3.0 models with a higher frame rate,
- models with extra long working distance for a large field of view.

NEW



Download the brochure from Schut.com



774.278



774.278
+ 774.281



Dino-Lite USB video measuring microscopes (continued)

Item No.	774.081	774.088	774.210	774.106	774.024 ¹	774.250 ¹	774.277 ¹	774.278 ¹	774.280 ¹
Price EUR									
Magnification (stepless)	10-70x	10-70x	10-140x	10-90x	10-140x	10-70x	20-220x	20-220x	10-140x
Magnification (fixed)	200x	200x	–	–	–	–	–	–	–
Resolution px	1.3 M	1.3 M	1.3 M	1.3 M	1.3 M	1.3 M	1.3 M	1.3 M	1.3 M
FLC ²	–	–	–	–	–	–	✓	✓	✓
EDOF/EDR ³	–	–	–	–	–	–	–	✓	✓
AMR ⁴	–	–	–	–	–	–	–	✓	✓
Field of view (mm)									
min. magnif.	19.8x14.9	19.8x14.9	39.0x31.2	19.8x14.9	39.0x31.2	39.0x31.2	19.5x15.6	19.5x15.6	39.0x31.2
max. magnif.	1.7x1.2	1.7x1.2	2.8x2.2	4.4x3.3	2.8x2.2	5.6x4.5	1.8x1.4	1.8x1.4	2.8x2.2
Polarizer	–	✓	✓	✓	✓	–	✓	✓	✓
Long working distance mm	– -2..48	– -2..48	✓ 30..234	✓ 46..151	✓ 30..234	✓ 115..480	– 4.60	– 4.60	✓ 30..234
Removable front	–	–	✓	–	✓	✓	✓	✓	✓
Aluminum housing	–	–	–	✓	–	–	–	–	–
Removable cable for WiFi module	–	–	–	–	–	–	✓	✓	✓
USB interface	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0



Item No.	774.330	774.314 ⁶	774.216 ¹	774.251 ¹	774.246 ¹	774.228 ¹	774.229 ¹	774.252 ¹	774.253 ¹
Price EUR									
Magnification (stepless)	130-220x	20-220x	10-140x	10-70x	10-220x	10-220x	10-140x	10-220x	10-140x
Laser pointer	✓	–	–	–	–	–	–	–	–
Resolution px	5 M	1.3 M	5 M	5 M	5 M	5 M	5 M	5 M	5 M
FLC ²	✓	✓ eFLC	✓	✓	✓	✓	✓	✓	✓
EDOF/EDR ³	–	✓	–	–	–	✓	✓	✓	✓
AMR ⁴	✓	✓	–	–	–	✓	✓	✓	✓
Field of view (mm)									
min. magnif.	3.0x2.2	19.5x14.7	39.0x31.2	39.0x31.2	37.8x28.3	37.8x28.3	39.0x31.2	37.8x28.3	39.0x31.2
max. magnif.	1.8x1.3	1.8x1.3	2.8x2.2	5.6x4.5	1.8x1.3	1.8x1.3	2.8x2.2	1.8x1.3	2.8x2.2
Polarizer	✓	✓	✓	–	✓	✓	✓	✓	✓
Long working distance mm	– 4.5..11.9	– 4.60	✓ 30..234	✓ 115..480	– 12..136	– 12..136	✓ 30..234	– 12..136	✓ 30..234
Removable front	✓	✓	✓	✓	✓	✓	✓	✓	✓
Aluminum housing	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB interface	2.0	2.0 ⁵	2.0	3.0	3.0	2.0	2.0	3.0	3.0

¹ New Edge generation with better optics and exchangeable front sides.

² FLC: Flexible Light Control. eFLC: 2 different intensities possible.

³ EDOF: Extended Depth of Field / EDR: Extended Dynamic Range.

⁴ AMR: Auto-Magnification Read.

⁵ Detachable micro USB cable (included).

⁶ New Edge plus generation with indicative depth measurement.

NEW

Dino-Lite microscope accessories

Stable positioning is required for sharp pictures and accurate measurements. The measuring microscopes can be positioned stably with a microscope stand.



NEW

Item No.	Description	Price EUR
Microscope stands:		
774.272	Basic stand	
774.298	Stand with fine adjustment and tiltable column	
774.262 ¹	Stand with pivoting arm	
774.115	Flexible arm for 774.262	
774.026	High precision aluminum stand	
774.117	Heavy-duty stand with table clamp and jointed arm	
774.118	Heavy-duty stand with base and jointed arm	
774.221 ²	Vertical arm for 774.026/774.262	
774.237	XY-positioning arm for 774.026/774.262	
774.065	Flexibe arm for 774.026/774.262	
WiFi streamers:		
774.022 ³	WiFi streamer WF-10	
774.281 ⁴	WiFi streamer WF-20	
Other options:		
774.259	Calibration target	
774.155	Holder for mounting on a microscope stand	
996.390 ⁵	Reducing coupling $\varnothing 10/8$ mm	
774.130	Rolling stand incl. aluminum holder	
774.153	Aluminum holder	
774.094	XY table	
774.100 ⁶	Polarized backlight stage	
774.120 ⁶	Polarized LED illumination	
774.060	Ring Light Cap for Dino-Lite Edge	
419.030	USB extension cable (3 m)	
774.121	USB foot switch	
774.122	Plastic carrying case (IP67)	



¹ESD-safe model available.
²In combination with microscopes with long working distance.
³In combination with all recent USB 2.0 microscopes.
⁴In combination with microscopes with removable cable.
⁵For mounting holder 774.155 on a dial indicator stand.
⁶More suitable in combination with the microscopes with polarizer.

Industrial endoscope

Industrial endoscope for inspecting hard-to-reach places by means of a flexible cable. Equipped with built-in illumination.

With the endoscope images can be watched on the integrated LCD color display. With the supplied MicroSD card photos and videos can be made and saved.

- Automatic switch-off.
- Bendable camera cable: \varnothing 5.5 mm.
- Cable length: 1 m.
- Field of view: 70°.
- Focus distance: 30-60 mm.
- Camera resolution: 1.0 Mpx HD.
- Camera IP67.
- 5" LCD color display 720P HD.
- Video resolution: 1280 x 720 px.
- Photo resolution: 1920 x 1080.
- 2x digital zoom.
- 180° rotatable image.
- Illumination: 6 LEDs, intensity adjustable.
- Flashlight in the handle.
- Delivery with 45° mirror, magnet, hook and MicroSD card (32 GB).
- Delivery in a plastic carrying case.
- Power supply: 1 rechargeable lithium battery 3.7 V, 5000 mAh.
- USB charging cable included.



910.170



Item No.	Camera \varnothing /mm	Cable \varnothing /mm	Cable length/m	Price EUR
910.170	5.5	5	1	
Options:				
910.172* Cable length 1 m				
910.176* Mirror, magnet and hook				

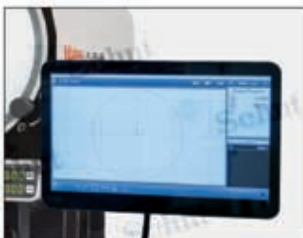
* Standard included.

Mitutoyo profile projectors PJ-Plus series

Convenient and multifunctional profile projector for measurements on small and medium sized objects. Standard equipped with LED surface and contour illumination and a 10x projection lens. The rotatable screen with an effective diameter of 315 mm is provided with a digital protractor to eliminate the need to perform complex calculations. Easy to read digital counters located near the projection screen accurately display XY stage travel. Ergonomically placed hand wheels for normal table adjustments and 'free floating' quick adjustment for axes from 100 mm. Many optional accessories are available.

As an expansion for new and older projectors, a tablet PC with M2 software and optional edge detection is available. Measuring programs and results are saved in its memory. Besides measuring circle, point, line, ellipse, rectangle, distance, intersection and angle you have additional analysis options like squareness and parallelism.

- Measuring range: 100 x 100 or 200 x 100 mm.
- Resolution: 0.001 mm.
- ABS/INC switchable.
- RS232C data output.
- Reset.
- Reversible measuring direction.
- Built-in bevel protractor: measuring range: $\pm 360^\circ$, resolution: $1'/0.01^\circ$ switchable.
- Max. deviation of the enlargement: 0.1% with contour illumination, 0.15% with surface illumination.
- Dimensions: 741 x 1092 x 400 mm.
- Measuring table: PJ-P1010A: 250 x 250 mm, PJ-P2010A: 380 x 250 mm.
- Max. workpiece height: PJ-P1010A: 91 mm, PJ-P2010A: 90.5 mm.
- Illumination: LED lamp.
- Weight: PJ-P1010A: 114 kg, PJ-P2010A: 118 kg.
- Standard accessories:
 - projection lens 10x,
 - dust cover,
 - masking shield.



M2 SET



Item No.	Type	Measuring range/mm	Price EUR
302.801	PJ-P1010A	100 x 100	
302.802	PJ-P2010A	200 x 100	

LED optical fiber illumination

Consists of LED cold light source and fiber optic light guide with single or double arm gooseneck flexible arm. The adjustable flexible arm and adjustable brightness level give you the right angle of illumination and lighting of the product for every situation.



Item No.	Description	Price EUR
910.107	Light source LED, 20 W	
909.030	Single flexible arm	
909.028	Dual flexible arm	

Special cleaner

Special cleaner (120 ml) for objectives, glass plates and other optical components.



Item No.	Description	Price EUR
111.534	Special cleaner	

Field of view qualifier

Glass reference standard with a pattern consisting of wide variety of very accurate optical characteristics, produced with a coating (chrome). Very suitable for use with optical instruments as geometric accuracy standard or as a test and training object.

- Accuracy: ± 0.002 mm.
- Delivery including drawing with size indication.



Item No.	Description	Price EUR
635.222	Field of view qualifier	

Optical cleaning kit

This cleaning kit is ideal to clean optics, microscopes and magnifying glasses, but can also be used on other products.

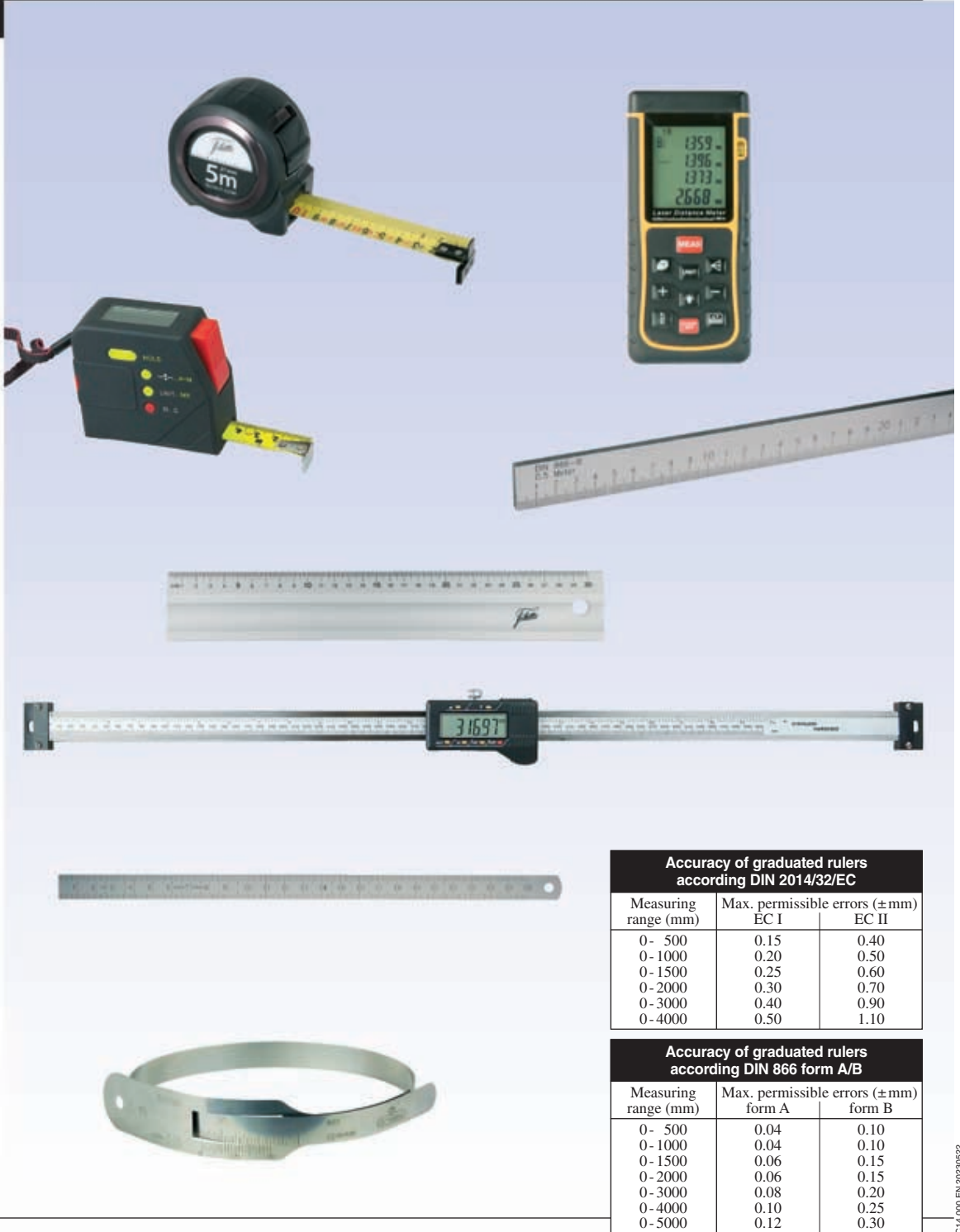
The set consists of:

- a bottle of cleaning solution (15 ml),
- a micro fiber cleaning cloth,
- a soft brush,
- an air blower.



Item No.	Description	Price EUR
909.432	Optical cleaning kit	

**Graduated rulers / Scale units / Circumference tapes
Precision tapes / Distance meters**



Accuracy of graduated rulers according DIN 2014/32/EC		
Measuring range (mm)	Max. permissible errors (\pm mm)	
	EC I	EC II
0- 500	0.15	0.40
0- 1000	0.20	0.50
0- 1500	0.25	0.60
0- 2000	0.30	0.70
0- 3000	0.40	0.90
0- 4000	0.50	1.10

Accuracy of graduated rulers according DIN 866 form A/B		
Measuring range (mm)	Max. permissible errors (\pm mm)	
	form A	form B
0- 500	0.04	0.10
0- 1000	0.04	0.10
0- 1500	0.06	0.15
0- 2000	0.06	0.15
0- 3000	0.08	0.20
0- 4000	0.10	0.25
0- 5000	0.12	0.30

Precision rulers

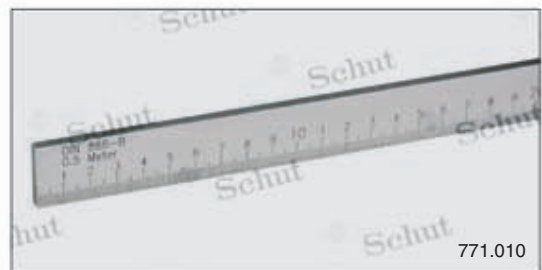
- Measuring range: 0-3000 mm.
- Graduation: 1 mm.
- Material: bright steel or stainless steel.
- No graduation on first 5 mm at both ends.
- Accuracy and construction according DIN 866 form A.
- Available on request up to 5000 mm.



Dimensions <i>l x w x t</i> /mm	Bright steel		Stainless steel		Wooden case	
	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
500 x 30 x 6	771.000		771.005		776.568	
1000 x 40 x 8	771.001		771.006		776.468	
1500 x 40 x 8	771.002		771.007		776.561	
2000 x 50 x 10	771.003		771.008		776.562	
3000 x 50 x 10	771.004		771.009			

Precision rulers

- Measuring range: 0-3000 mm.
- Graduation: 1 mm.
- Material: bright steel or stainless steel.
- Zero coincides with left end.
- Accuracy and construction according DIN 866 form B.
- Available on request up to 5000 mm.



Dimensions <i>l x w x t</i> /mm	Bright steel		Stainless steel		Wooden case	
	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
500 x 25 x 5	771.010		771.015		776.568	
1000 x 30 x 6	771.011		771.016		776.468	
1500 x 30 x 6	771.012		771.017		776.561	
2000 x 40 x 8	771.013		771.018		776.562	
3000 x 40 x 8	771.014		771.019			

Rulers

Rulers with beveled edge for parallax-free reading.

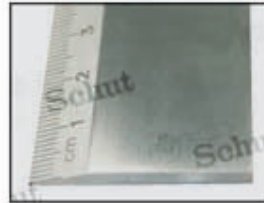
- Measuring range: 0-2000 mm.
- Graduation: 1 mm.
- Material: bright steel.
- Zero coincides with left end.
- With hanger hole.



910.216



Item No.	Dimensions l x w x t/mm	Price EUR
910.216	300 x 40 x 5	
910.217	500 x 40 x 5	
910.218	1000 x 40 x 5	
910.219	1500 x 40 x 5	
910.220	2000 x 40 x 5	



Aluminum rulers

- Measuring range: 0-1000 mm.
- Graduation: 1 mm.
- Material: anodized aluminum.
- Zero coincides with left end.
- With hanger hole.



906.615



Item No.	Dimensions l x w x t/mm	Price EUR
906.615	300 x 50 x 5	
906.616	600 x 50 x 5	
906.617	1000 x 50 x 5	

Aluminum rulers

- Measuring range: 0-1000 mm.
- Graduation: 1 mm.
- Material: anodized aluminum.
- With hanger hole.



775.590



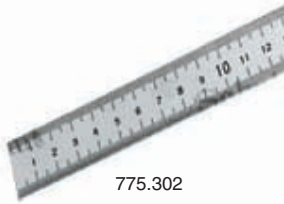
775.600



Item No.	Dimensions l x w x t/mm	Price EUR
775.590	300 x 35 x 5	
775.592	600 x 35 x 5	
775.593	1000 x 35 x 5	
With handle and magnets:		
775.600	450 x 50 x 5	
775.602	1000 x 50 x 5	

Stainless steel rulers

- Measuring range: 0 - 3000 mm.
- Graduation: 1 mm.
- Matt chrome-plated stainless steel surface.
- With mm graduation on the upper edge.
- With 0.5 mm graduation on the lower edge.



Item No.	Dimensions <i>l x w x t/mm</i>	Price EUR
With mm/0.5 mm graduation:		
775.584	1000 x 35 x 1.2	
775.585	1500 x 40 x 2	
775.586	2000 x 40 x 2	
With mm/mm graduation:		
The first 100 mm on the lower edge have a 0.5 mm graduation.		
775.303	1000 x 35 x 1.5	
775.304	2000 x 41 x 2	
775.305	3000 x 39 x 3	

Stainless steel rulers

- Measuring range: 0 - 1000 mm.
- Graduation: 1 mm on the front side on the upper and lower edges, 0.5 mm on the back side on the upper and lower edges.
- Matt chrome-plated stainless steel surface.
- EC class II.
- Etched graduation.



910.323



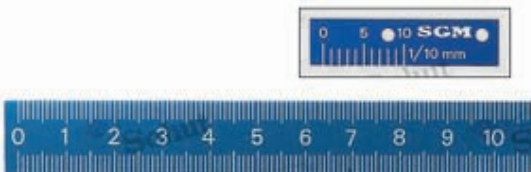
Item No.	Dimensions <i>l x w x t/mm</i>	Price EUR
910.323	300 x 30 x 1	
910.324	500 x 30 x 1	
910.325	1000 x 30 x 1	

Self-adhesive rulers

- Measuring range: 0 - 400 mm.
- Graduation: 1 mm, vernier: 0.1 mm.
- Blue anodized aluminum.
- With self-adhesive back.
- Suitable for positioning on measuring devices and machine elements.

Vernier 0.1 mm

- 10 scale divisions on 19 mm.
- Non-adhesive, furnished with two fixing holes $\varnothing 2.5$ mm.



Item No.	Measuring range/mm	Dimensions <i>l x w x t/mm</i>	Price EUR
775.901	0 - 200	208 x 16 x 0.5	
775.902	0 - 300	308 x 16 x 0.5	
775.903	0 - 400	408 x 16 x 0.5	
775.900	Vernier 0.1 mm	40 x 10 x 0.5	

Stainless steel rulers with L → R or R → L numbering

- Measuring range: 0 - 12000 mm.
- Graduation: 1 mm (type B: 0.5 mm).
- Matt chrome-plated stainless steel surface.
- Etched graduation.
- EC class II (up to 4000 mm).
- Rulers from the main table with hanger hole.

Available on request:

- with graduation from top to bottom or from bottom to top,
- with different combinations (mm/mm, mm/inch, mm/blanc, etc.),
- with 0-point in the middle.
- Thickness: from 300 mm: 1 mm, from 500 mm: 2 mm.



835.124



835.266



Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR	Dimensions l x w x t/mm
L → R type A:		R → L type A:		L → R type B:		R → L type B:		
835.120		835.121		835.421		835.422		150 x 13 x 0.5
835.122		835.123		835.298		835.440		200 x 13 x 0.5
835.124		835.125		835.427		835.441		250 x 13 x 0.5
835.126		835.127		835.129		835.442		300 x 13 x 0.5
835.130		835.131		835.354		835.443		500 x 18 x 0.5
835.132		835.133		835.252		835.444		1000 x 18 x 0.5
835.134		835.135		835.428		835.445		1500 x 18 x 0.5
835.136		835.137		835.429		835.446		2000 x 18 x 0.5
835.138		835.139		835.430		835.447		2500 x 18 x 0.5
835.140		835.141		835.431		835.448		3000 x 18 x 0.5
835.142		835.143		835.432		835.449		3500 x 18 x 0.5
835.144		835.145		835.433		835.450		4000 x 18 x 0.5
835.146		835.147		835.413		835.451		5000 x 18 x 0.5
835.148		835.149		835.434		835.452		6000 x 18 x 0.5
835.150		835.151		835.035		835.453		7000 x 30 x 1
835.152		835.153		835.435		835.454		8000 x 30 x 1
835.154		835.155		835.436		835.455		9000 x 30 x 1
835.156		835.157		835.437		835.456		10000 x 30 x 1
835.158		835.159		835.438		835.457		11000 x 30 x 1
835.160		835.161		835.439		835.458		12000 x 30 x 1



835.355

Type A: mm/mm (bottom and top side 1 mm graduation).

Type B: 0.5 mm/1 mm (top side 0.5 mm, bottom side 1 mm graduation).

Rulers with a self-adhesive back

Item No.	Additional costs	Price EUR
835.165	For rulers up to 1000 mm (price per piece) For rulers from 1000 mm (price per meter)	

The self-adhesive back is *not* separately available.



With 0-point in the middle

Item No.	Dimensions l x w x t/mm	Price EUR
835.266	200 x 13 x 0.5	

Other sizes are also available.

Rulers

Stainless steel rulers with laser engraving

- With mm/mm graduation from left to right.
- Graduation: 1 mm.
- With identification number.
- EC class I.



835.462



Stainless steel rulers with magnet inserts

- Graduation from left to right.
- Laser engraving.
- With 2 flat edges without hanger hole.
- Graduation on front and back side.
- Graduation: front side: 1 mm, 0.5 mm, back side: 1/32", 1/64".
- With removeable magnet inserts.
- EC class II.

835.473

Rulers (black) with laser engraving

- Graduation on front and back side.
- Graduation: front side: 1 mm, 0.5 mm, back side: 1/10", 1/16", 1/20", 1/32", 1/64", 1/50", 1/100".
- EC class II.



835.466

Stainless steel rulers with 90° anvil hook

- Graduation from left to right.
- Laser engraving.
- Graduation: front side: 1 mm, back side: 0.5 mm.
- EC class II.



835.476



Item No.	Dimensions l x w x t / mm	Material	Class	Price EUR
Stainless steel rulers with laser engraving:				
835.096	150 x 13 x 0.5	Matt chrome-plated stainless steel surface	EC class I	
835.459	300 x 13 x 0.5	Matt chrome-plated stainless steel surface	EC class I	
835.460	500 x 20 x 0.5	Matt chrome-plated stainless steel surface	EC class I	
835.461	1000 x 20 x 0.5	Matt chrome-plated stainless steel surface	EC class I	
835.462	300 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class I	
835.463	500 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class I	
835.464	1000 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class I	
835.465	2000 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class I	
Rulers (black) with laser engraving:				
835.466	150 x 18 x 0.5	Steel, black surface	EC class II	
835.467	300 x 30 x 1.0	Steel, black surface	EC class II	
835.468	450 x 30 x 1.0	Steel, black surface	EC class II	
835.469	600 x 30 x 1.0	Steel, black surface	EC class II	
835.470	1000 x 30 x 1.0	Steel, black surface	EC class II	
Stainless steel rulers with magnet inserts:				
835.471	150 x 20 x 1.0	Matt chrome-plated stainless steel surface	EC class II	
835.472	300 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class II	
835.473	600 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class II	
835.474	900 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class II	
835.475	1200 x 30 x 1.0	Matt chrome-plated stainless steel surface	EC class II	
Stainless steel rulers with 90° anvil hook:				
835.476	200 x 13 x 0.5	Matt chrome-plated stainless steel surface	EC class II	
835.477	300 x 13 x 0.5	Matt chrome-plated stainless steel surface	EC class II	
835.478	500 x 18 x 0.5	Matt chrome-plated stainless steel surface	EC class II	

Digital horizontal scale units

These scale units are available in two different models. Up to 300 mm the model matches the photo of the 906.403, from 450 mm the photo of the 906.406.

- Measuring range: 0- 1000 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable (from 450 mm).
- On/off switch.
- Reset.
- Preset (from 450 mm).
- Max. measuring speed:
 <500 mm: 1.5 m/s,
 ≥500 mm: 1 m/s.
- Power supply:
 906.400- 403: 1 battery type V357,
 906.404- 409: 1 battery type CR2032.

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.400	0- 100	±0.03	
906.401	0- 150	±0.03	
906.402	0- 200	±0.03	
906.403	0- 300	±0.04	
906.404	0- 450	±0.05	
906.405	0- 500	±0.05	
906.406	0- 600	±0.05	
906.408	0- 800	±0.06	
906.409	0- 1000	±0.07	
Options:			
836.535	Spare battery type V357		
495.157	Spare battery type CR2032		



Digital vertical scale units

- Measuring range: 0- 1000 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset.
- Preset (from 500 mm).
- Max. measuring speed: 1 m/s.
- Power supply:
 1 battery type V357
 (except 906.416- 419).

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.415	0- 100	±0.03	
906.416	0- 150	±0.03	
906.417	0- 200	±0.03	
906.418	0- 300	±0.04	
906.419	0- 450	±0.05	
906.420	0- 500	±0.05	
906.421	0- 600	±0.05	
906.423	0- 800	±0.06	
906.424	0- 1000	±0.07	
Options:			
836.535	Spare battery type V357		
495.157	Spare battery type CR2032		



Mitutoyo digital horizontal and vertical scale units

These scale units are ideal for a simple digital read-out of linear movements on e.g. machines and measuring systems.

- Measuring range: 0-300 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset.
- Protection: IP66
(only *Coolant Proof* models).
- Conforms to factory standard.
- Power supply: 1 battery type V357.



*Data cables Digimatic,
USB Input Tool Direct, U-WAVE
available on request.*



Item No.	Measuring range/mm	Accuracy mm	Price EUR
Horizontal:			
572.200	0-100	±0.03	
572.201	0-150	±0.03	
572.202	0-200	±0.03	
572.203	0-300	±0.04	
Horizontal, IP66 (Coolant Proof):			
572.600	0-100	±0.03	
572.601	0-150	±0.03	
572.602	0-200	±0.03	
Vertical:			
572.560	0-100	±0.03	
572.561	0-150	±0.03	
572.562	0-200	±0.03	
572.563	0-300	±0.04	

Option

Item No.	Description	Price EUR
836.535	Spare battery	



Schwenk internal circumference tapes

Circumference tapes to measure the internal circumferences and the average cross-section of round and not-round bores. The surface may be smooth or rough.

- Separate graduations for circumference and diameter in mm.
- Vernier: 0.1 mm.
- Tape width: 20 mm.
- Graduation placed by laser.
- Universal clamp for all types.
- Delivery without clamping jaw.
- Stainless steel construction.



NEW

Item No.	Diameter mm	Circumference mm	Price EUR
852.645	230- 490	720- 1550	
852.646	300- 700	940- 2200	
852.647	700- 1100	2190- 3460	
852.648	1100- 1500	3450- 4720	
852.770	1500- 1900	4710- 5980	
852.771	1900- 2300	5970- 7230	
852.262	2300- 2700	7220- 8500	
852.649	Clamping jaw		

Circumference tapes

- Separate graduations for circumference and diameter in mm.
- Vernier: 0.1 mm.
- Bright steel or stainless steel.
- Accuracy according EC class II.
- With manufacturer measuring report on request.



835.101

Bright steel

Item No.	Diameter mm	Circumference mm	Price EUR
835.111	20- 300	60- 950	
835.112	300- 700	940- 2200	
835.113	700- 1100	2190- 3460	
835.114	1100- 1500	3450- 4720	
835.115	1500- 1900	4710- 5980	
835.116	1900- 2300	5960- 7230	
835.117	2300- 2700	7220- 8500	
835.118	2700- 3100	8480- 9760	
835.119	3100- 3500	9730- 11010	

Stainless steel

Item No.	Diameter mm	Circumference mm	Price EUR
835.101	20- 300	60- 950	
835.102	300- 700	940- 2200	
835.103	700- 1100	2190- 3460	
835.104	1100- 1500	3450- 4720	
835.105	1500- 1900	4710- 5980	
835.106	1900- 2300	5960- 7230	
835.107	2300- 2700	7220- 8500	
835.108	2700- 3100	8480- 9760	
835.109	3100- 3500	9730- 11010	

Schwenk circumference tapes

Highly precise circumference tapes, on which the scales have been placed by means of a laser.

- Separate graduations for circumference and diameter in mm.
- Vernier: 0.1 mm.
- Tape width: 16 mm.
- Accuracy according DIN 866.
- The black model (stainless steel) is for a better contrast.
- Available on request:
 - circumference scale in inches,
 - for larger diameters up to 7500 mm,
 - with manufacturer measuring report for one or both scales,
 - vernier 0.05 mm on diameter reading.



852.832

Item No.	Diameter mm	Circumference mm	Price EUR
Bright steel:			
852.823	20- 300	60- 950	
852.824	300- 700	940- 2200	
852.825	700-1100	2190- 3460	
852.826	1100-1500	3450- 4720	
852.827	1500-1900	4710- 5980	
852.828	1900-2300	5960- 7230	
852.829	2300-2700	7220- 8500	
852.830	2700-3100	8480- 9760	
852.831	3100-3500	9730-11010	
Stainless steel:			
852.832	20- 300	60- 950	
852.833	300- 700	940- 2200	
852.834	700-1100	2190- 3460	
852.835	1100-1500	3450- 4720	
852.836	1500-1900	4710- 5980	
852.837	1900-2300	5960- 7230	
852.838	2300-2700	7220- 8500	
852.839	2700-3100	8480- 9760	
852.840	3100-3500	9730-11010	
Black model:			
852.699	20- 300	60- 950	
852.915	300- 700	940- 2200	
852.280	700-1100	2190- 3460	
852.281	1100-1500	3450- 4720	
852.282	1500-1900	4710- 5980	
852.283	1900-2300	5960- 7230	
852.284	2300-2700	7220- 8500	
852.285	2700-3100	8480- 9760	
852.286	3100-3500	9730-11010	

Schwenk circumference tapes for diameters

Circumference tapes for measuring of diameters. The graduation has been placed by means of a laser.

- Graduation for diameter in mm.
- Vernier: 0.05 mm.
- Tape width: 12 mm.
- Stainless steel construction.
- The black model (stainless steel) is for a better contrast.
- With manufacturer measuring report on request.

Item No.	Diameter/mm	Price EUR
852.820	15- 115	
852.821	100- 230	
852.822	200- 330	
852.984	300- 620	
Black model:		
852.706	15- 115	
852.788	100- 230	
852.287	200- 330	
852.288	300- 620	



852.820

Circumference tapes

- Separate graduations for circumference and diameter in mm.
- Vernier: 0.1 mm.
- Tape width: 13 mm.
- Stainless steel with yellow plastic coating for easy reading.
- Accuracy according EC class II.



841.468

NEW



841.663



Stainless steel with yellow plastic coating

Item No.	Diameter mm	Circumference mm	Price EUR
841.468	20- 300	60- 950	
841.469	20-1200	60- 3780	
841.470	20-2400	60- 7540	
841.471	20-3600	60-11310	

Stainless steel

Item No.	Diameter mm	Circumference mm	Price EUR
841.663	20- 300	60- 950	
841.664	20-1200	60- 3780	
841.665	20-2400	60- 7540	
841.666	20-3600	60-11310	

Circumference tapes for diameters

Circumference tapes for measuring of diameters.

- Graduation for diameter in mm.
- Vernier: 0.02 mm.
- Total tape width: 13 mm.
- Bright steel.



910.181

Item No.	Diameter mm	Price EUR
910.181	15- 50	
910.182	50- 300	
910.183	300- 600	
910.184	600- 900	
910.185	900-1200	
910.186	1200-1500	
910.187	1500-1800	
910.188	1800-2100	
910.189	2100-2400	
910.190	2400-2700	
910.191	2700-3000	



910.181

Precision tape for circumference and diameter

Precision tape for measuring of circumference and diameters.

- Separate graduations for circumference and diameter in mm.
- Graduation: 1 mm.
- Tape width: 12.5 mm.
- Lock.
- EC class II.
- White varnished very flexible steel strip with mm graduation.



Item No.	Diameter mm	Circumference mm	Price EUR
911.183	20-960	60-3000	



Schwenk length measuring tapes for plane parallel distances

Length measuring tapes for measuring plane parallel distances. The high contrast graduation has been placed by means of a laser.

- Graduation: 0.1 mm.
- Tape width: 20 mm.
- Tape thickness: 0.5 mm.
- Stainless steel construction.



Item No.	Measuring range/mm	Price EUR
852.734	60- 950	
852.735	940-2200	
841.589	2190-3460	
841.590	3450-4720	
841.591	4710-5980	
841.592	5970-7320	

NEW



Precision tapes

Cost effective rubberized precision tapes.

- Yellow varnished steel strip with mm graduation.
- One-sided printed blade.
- Matt finished steel blade.
- EC class II.
- Standard EC-type hook.
- Lock.
- Standard packing of 12 pieces per carton box (except 910.060: 10 pieces).



Item No.	Length m	Tape width mm	Price EUR
Precision tapes per piece:			
910.056	2	16	
910.057	3	16	
910.058	5	19	
910.059	8	25	
910.060	10	25	

Precision tapes with magnetic dual hook

Precision tapes for professional use with double-sided printed blade and double hook with magnet.

- EC class II (except 910.064).
- EC class I (only 910.064).
- Shockproof til 2 m.
- Matt finished steel blade.
- Double-sided printed blade (except 910.064).
- Blade horizontal stand-out:
19 mm: 1.7 m, 27 mm: 2.8 m.
- EC-type magnet dual hook (except 910.064).
- Lock.
- Extra lock on the bottom-side (except 910.064).
- Standard packing of 10 pieces per carton box.



Item No.	Length m	Tape width mm	Price EUR
Precision tapes per piece:			
910.061	3	19	
910.062	5	27	
910.063	10	27	
EC class I:			
910.064	3	19	

Long stroke precision tape

Long stroke precision tape with blade from fiberglass and with high speed retracting gear.



- Double-sided printed blade.
- Graduation: 2 mm.
- EC class II.



Item No.	Length m	Tape width mm	Price EUR
910.065	30	15	

Long stroke precision tapes

- Black plastic housing with wristlet.



775.540

- White varnished steel strip with mm graduation.
- Wind-up handle.
- EC class II.

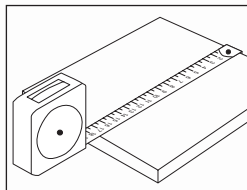
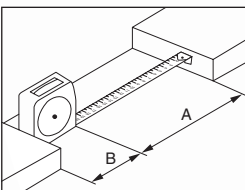
Item No.	Length m	Tape width mm	Price EUR
775.540	10	9.5	
775.541	15	9.5	

Digital measuring tape

Digital measuring tape equipped with a 19 mm wide tape, which is provided with a clear graduation. The digital indication is convertible from external to internal measurements and can be reset to zero at any point on the tape.



- Measuring range: 0-5 m.
- Resolution: 1 mm.
- mm/inch conversion.
- Hold function.
- Reversal of display value.
- Automatic stop.
- Convertible for internal/external measurements.
- Storage for 8 measuring values.
- Dimensions: 75 x 70 mm.
- Power supply: 1 battery type CR2032.



Item No.	Length m	Tape width mm	Price EUR
909.341	5	19	
Option: 495.157 Spare battery			

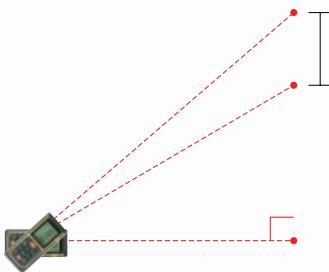
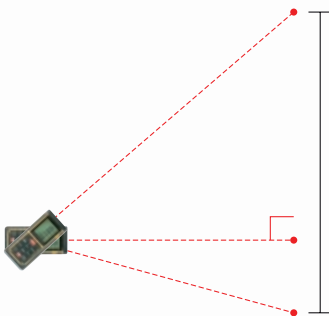
Laser distance meters

With these compact hand laser distance meters you aim a visual laser spot at the object for quick and accurate measurements of the distance without contact.

- Measuring range: 0-80 m.
- Resolution: 0.001 m/0.01 m.
- Accuracy: ± 2 mm.
- Distance, surface and volume measurements, continuous measurements, addition and subtraction, min/max function and Pythagoras function.
- mm/inch/ft conversion.
- Illuminated LCD display.
- On/off switch, automatic switch-off.
- Measurement reference: front or rear.
- Storage for 99 measuring values.
- With thread for tripod: UNC 1/4"-20, thread depth: 6 mm.
- Laser: 635 nm, class II according IEC 60825-1.
- Dimensions: 120 x 55 x 30 mm.
- Weight: 909.453: 180 g, 909.454: 128 g.
- With vial.
- Delivery in a carrying bag.
- Power supply: 2 batteries type AAA.



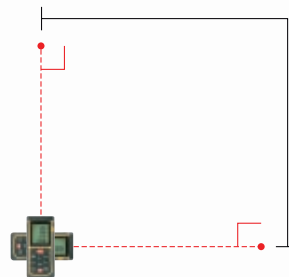
909.454



Pythagoras function



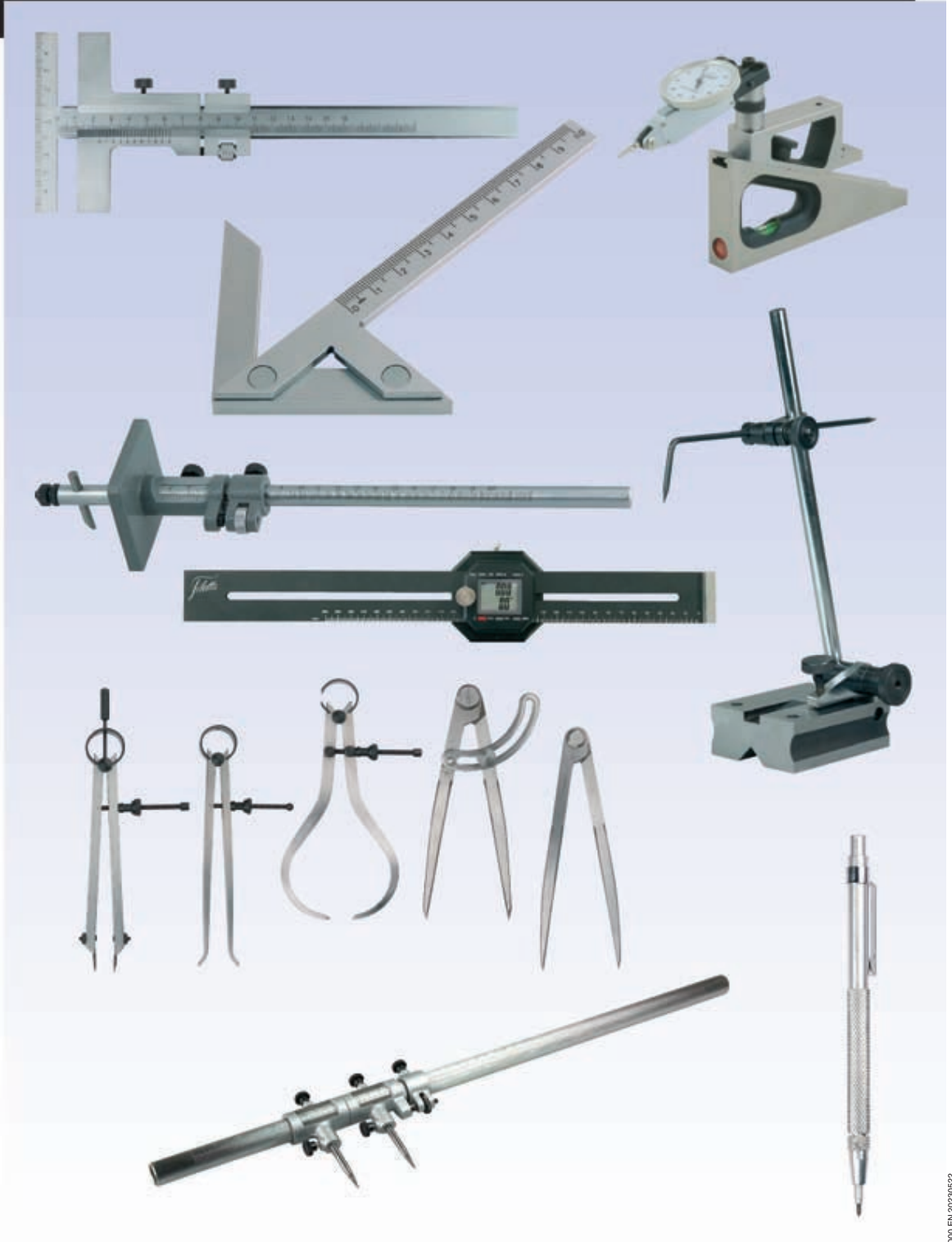
Item No.	Measuring range/m	Price EUR
909.453	0-40	
909.454	0-80	
Option:		
497.914	Spare battery	



Surface function



Scribing tools / Compasses / Center squares



Marking gauges

- Measuring range: 0-400 mm.
- Vernier: 0.1 mm.
- Matt chrome-plated beam.
- Roll stop.



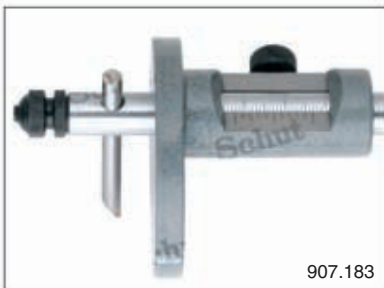
Item No.	Measuring range/mm	Price EUR
836.602	0-200	
836.604	0-400	
836.603	Spare scriber point	

Marking gauges

- Measuring range: 0-500 mm.
- Vernier: 0.1 mm.
- With round rod and mm graduation.



907.187



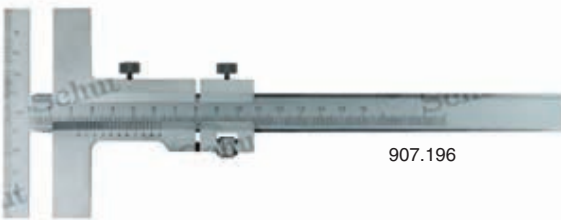
907.183

Item No.	Measuring range/mm	Price EUR
Without fine adjustment:		
907.183	0-200	
907.184	0-300	
907.185	0-400	
907.186	0-500	
With fine adjustment:		
907.187	0-200	
907.188	0-300	
907.189	0-400	
907.190	0-500	
907.191	Spare scriber point (TC)	

Marking calipers

T-shaped stainless steel marking caliper with a large marking face/cross scale. The marking face is sunk into the U-shaped base face.

- Measuring range: 0- 300 mm.
- Locking screw.
- Vernier: 0.05 mm.
- With or without fine adjustment.
- Matt chrome-plated beam.
- Marking face/cross scale with mm graduation (50-0-50 mm).



Item No.	Measuring range/mm	Base length/mm	Price EUR
Without fine adjustment:			
907.575	0-160	140	
907.576	0-250	140	
907.577	0-300	160	
With fine adjustment:			
907.196	0-160	140	
907.197	0-250	140	
907.198	0-300	160	

Marking gauges

- Measuring range: 0- 300 mm.
- Vernier: 0.1 mm.
- Matt chrome-plated beam.



Item No.	Measuring range/mm	Price EUR
907.180	0-200	
907.181	0-250	
907.182	0-300	

Digital marking gauge and protractor

- Measuring range: 0- 300 mm.
- Resolution: protractor: 0.05°, scale: 0.01 mm.
- mm/inch conversion.
- On/off switch.
- Automatic switch-off.
- Reset.
- Hold function.
- Locking screw.
- Protection: IP40.
- Power supply: 1 battery type CR2032.



Item No.	Measuring range/mm	Price EUR
906.669	0-300	
Option:		
495.157	Spare battery	

Scriber



Item No.	Description	Price EUR
909.388	Scriber with clip, with tungsten carbide exchangeable point and magnetic upper part	
Replacement point:		
909.389	1 tungsten carbide scriber point for 909.388	

Trammels

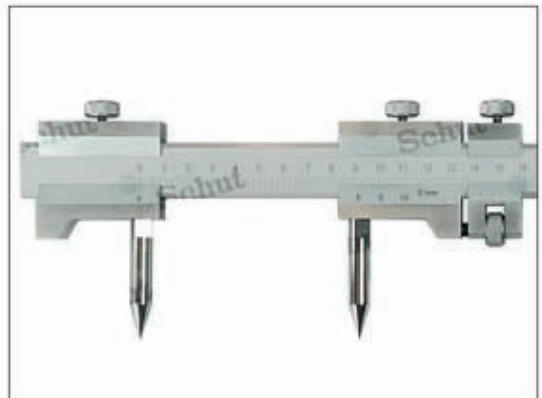
- Round rod with graduation.
 - Milled key groove.
 - Vernier: 0.1 mm.
 - Fine adjustment.
- (Also available without fine adjustment.)



Item No.	Length/mm	Price EUR
671.275	500	
671.276	1000	
671.277	1500	
671.278	2000	
Needles per pair:		
671.234	Hardened steel	
671.239	Tungsten carbide	

Trammels

- Flat beam with graduation.
- Vernier: 0.1 mm.
- Fine adjustment.



Item No.	Length/mm	Price EUR
671.261	500	
671.262	1000	
671.263	1500	
671.264	2000	
Needles per pair:		
671.230	Hardened steel	
671.235	Tungsten carbide	

Spring joint dividers

- Stainless steel construction.
- With adjustment screw.
- With interchangeable points (910.012-018, 907.447-448).
- With pencil holder (907.447-448).



Item No.	Description	Price EUR
907.446	Spare divider point $\varnothing 2 \times 30$ mm	

Length/mm	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
100	910.252		910.012		—	
125	910.253		910.013		—	
150	907.827		910.014		907.447	
175	—		910.015		—	
200	907.828		910.016		907.448	
250	907.829		910.017		—	
300	907.830		910.018		—	
400	907.831		—		—	
500	907.832		—		—	
600	907.833		—		—	

Firm joint compasses

- Stainless steel construction.
- With adjustment arch and locking screw (907.818-826, 909.461-469).
- With pencil holder (909.461-469).



Length/mm	Item No.	Price EUR	Item No.	Price EUR	Item No.	Price EUR
150	907.809		907.818		909.461	
200	907.810		907.819		909.462	
250	907.811		907.820		909.463	
300	907.812		907.821		909.464	
400	907.813		907.822		909.465	
500	907.814		907.823		909.466	
600	907.815		907.824		909.467	
800	907.816		907.825		909.468	
1000	907.817		907.826		909.469	

Internal spring joint compasses

- Stainless steel construction.
- With adjustment screw.



Item No.	Length/mm	Price EUR
907.793	100	
907.794	125	
907.795	150	
907.796	200	
907.797	250	
907.798	300	
907.799	400	
907.800	500	

External spring joint compasses

- Stainless steel construction.
- With adjustment screw.



Item No.	Length/mm	Price EUR
907.801	100	
907.802	125	
907.803	150	
907.804	200	
907.805	250	
907.806	300	
907.807	400	
907.808	500	

Firm joint compasses

- Stainless steel construction.



Item No.	Length/mm	Price EUR
907.836	100	
907.837	125	
907.838	150	
907.839	200	
907.840	250	
907.841	300	
907.842	400	
907.843	500	
907.844	600	
907.845	800	
907.846	1000	

Firm joint compasses

- Stainless steel construction.

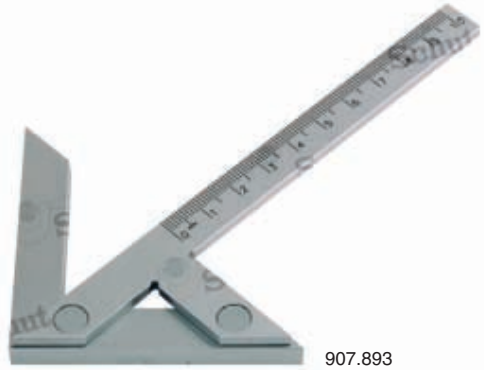


Item No.	Length/mm	Price EUR
907.847	100	
907.848	125	
907.849	150	
907.850	200	
907.851	250	
907.852	300	
907.853	400	
907.854	500	
907.855	600	
907.856	800	
907.857	1000	

Center squares

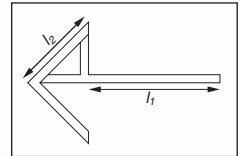
Center squares with mm graduation on the blade, to mark the center on round discs or axes.

- Stainless steel construction, no-glare chrome finished.
- Graduation placed by means of a laser.



907.893

Item No.	Length/mm		Max. ϕ mm	Price EUR
	l_1	l_2		
907.893	100	70	90	
907.894	150	130	190	
907.895	200	150	220	
907.896	250	160	230	
907.897	300	180	280	
909.972	400	250	380	
909.973	500	330	530	



Caliper compasses

- For scribing of diameters of 0-600 mm.
- Vernier: 0.1 mm.
- Stainless steel construction, matt chrome-plated.
- Fixed jaw and beam made out of one piece.
- Hardened, ground and lapped measuring faces.



909.425

Item No.	For scribing up to ϕ /mm	Meas. range mm	Jaw length mm	Price EUR
909.424	300	150	40	
909.425	400	200	40	
909.426	500	250	40	
909.427	600	300	40	



Universal setting instrument

This versatile instrument is specially designed for manufacturers of very accurate products, such as gauges and toolmakers. The guide is installed under an angle of 20° and the components can be moved very accurately. The movable component has several threaded bores M4, by which the setting instrument also can be used as a scriber or height gauge.

- Max. height range incl. extensions: 270 mm.
- Dimensions: 133 x 64 x 18.5 mm.
- Delivery with extensions 25 mm and 75 mm (equipped with thread M4/thread hole M4).
- Base with vial.



Item No.	Description	Price EUR
906.455	Universal setting instrument	



906.455

Surface gauge

Stable foot with V-slot at the ground surface, grips at the side and is also equipped with two bores (ø5.5 mm).

- Foot ground all around (except for the V-slot).
- Fine adjustment.
- Dimensions:
 scriber: ø 4 x 200 mm,
 arm: ø 10 x 450 mm,
 foot: 85 x 65 x 25 mm.



Item No.	Description	Price EUR
906.220	Surface gauge	



Height and scribing gauges / Height gauges



Digital height and scribing gauges

- Measuring range: 0- 1000 mm.
 - Resolution: 0.01 mm.
 - mm/inch conversion.
 - ABS/INC switchable.
 - On/off switch.
 - Reset.
 - Hold function.
 - Fine adjustment.
 - Delivery incl. scriber.
 - Delivery in a plastic carrying case.
 - Power supply:
 909.244/245/246: 1 battery type V357,
 906.267/268: 1 battery type CR2032.
- From measuring range 500 mm:**
- Tolerance function.
 - Preset.



906.267



909.244

Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.267	0- 200	±0.03	
906.268	0- 300	±0.04	
909.244	0- 500	±0.05	
909.245	0- 600	±0.07	
909.246	0- 1000	±0.07	

Options:

- 836.535 Spare battery type V357
- 495.157 Spare battery type CR2032
- 906.029 Scriber for 906.267
- 906.049 Scriber for 906.268
- 906.054 Scriber for 909.244/245
- 906.077 Scriber for 909.246

Absolute digital height and scribing gauges

Digital height and scribing gauges with an absolute measuring system. Combined with a Digimatic dial indicator quick and accurate measurements can be performed with a constant measuring force.

- Measuring range: 0-600 mm.
- Resolution: 0.01 mm.
- Handwheel drive for easy head displacement.
- Interchangeable scriber, intake 9 x 9 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset.
- Hold function.
- Locking screw.
- Delivery incl. scriber, dial indicator holder and Digimatic data cable for dial indicator.
- Delivery in a plastic carrying case.
- Power supply: 1 battery type CR2032.
- For suitable Digimatic dial indicators refer to the dial indicators elsewhere in this catalog.



910.096
Delivery without dial indicator.



910.096

USB interface:

- For data transfer to PC (e.g. Excel, Word).
- Operating system: Windows and other.
- PC connection: USB.
- No software or driver to install.
- Foot switch (optional).



909.686



909.687



910.039/038

Item No.	Measuring range/mm	Accuracy mm	Price EUR
910.096	0-300	0.03	
910.097	0-600	0.05	

With Bluetooth:

910.098	0-300	0.03	
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Options:

495.157	Spare battery		
909.686*	USB interface		
909.687	Footswitch for USB interface		
910.038	Wireless USB receiver		
910.039	Wireless transmitter		
906.256	Scriber		

*Standard configured for PC with English (US) keyboard.
Also available on request for alternative keyboards.

PRICE

Digital height and scribing gauges with dial indicator holder

Solid and stable instruments with integrated dial indicator holder and stainless measuring table.

- Measuring range: 0 - 500 mm.
- Resolution: 0.01 mm.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Preset.
- Reset.
- Hold function.
- Tolerance function.
- Fine adjustment.
- Intake scriber: 8 x 6 mm.
- Delivery incl. scriber.



- Dial gauge clamping shaft 8 mm.
- Measuring table: 906.115/116: 80 x 80 mm,
906.117: 110 x 100 mm.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.115	0 - 200	±0.04	
906.116	0 - 300	±0.04	
906.117	0 - 500	±0.06	

Options:

- 836.535 Spare battery
- 906.343 Scriber



Digital double columns height and scribing gauges

This is a very stable digital height gauge because of its twin guide system. The measuring unit moves over two independent columns with high precision toothed racks, which generates an accurate measurement.

- Measuring range: 0 - 600 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- Handwheel drive for easy head displacement.
- mm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset/preset.

- Intake scriber: 9 x 9 mm.
- Delivery incl. scriber.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.263	0 - 300	±0.04	
906.264	0 - 450	±0.05	
906.265	0 - 600	±0.05	

Option:

- 836.535 Spare battery
- 906.118 Scriber 9 x 9 mm



Mitutoyo digital height and scribing gauges

Ergonomically designed height gauge with data output and a useful hand wheel for both fast and fine adjustment.

- Measuring range: 0- 1000 mm.
- Resolution: 0.005/0.01 mm.
- Accuracy: refer to table.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Max. measuring speed: 500 mm/s.
- Reversible measuring direction.
- Fast and fine adjustment.
- Interchangeable scriber, intake 9 x 9 mm.
- Delivery incl. cover and scriber.
- Conforms to factory standard.
- Power supply: 1 battery type V357.

*Data cables Digimatic,
USB Input Tool Direct, U-WAVE
available on request.*



192.007

With a connection for a probe

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
192.663	0- 300	0.005/0.01	±0.02	
192.664	0- 600	0.005/0.01	±0.04	
192.665	0-1000	0.005/0.01	±0.06	

Options:

- 836.535 Spare battery
- 905.201 Scriber
- 105.033 Scriber holder
- 192.007 Electronic probe

Without connection for a probe

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Price EUR
192.613	0- 300	0.005/0.01	±0.02	
192.614	0- 600	0.005/0.01	±0.05	
192.615	0-1000	0.005/0.01	±0.07	

Options:

- 836.535 Spare battery
- 107.001 Scriber 9 x 9 mm
- 105.033 Scriber holder



192.613

Mitutoyo Absolute Digimatic height gauges

Mitutoyo Absolute Digimatic HDS digital height gauge with data output and useful hand wheel, just as easy to use as the popular 2-column height gauges. Equipped with locking lever, ideal for use as a scribing gauge. The unique Absolute measuring system prevents inaccuracy due to an incorrect zero position. Easy to link with the U-WAVE wireless communication system for fast and reliable data transfer.

- Measuring range: 0- 600 mm.
- Resolution: 0.01 mm.
- ABS/INC switchable.
- Digimatic data output.
- On/off switch.
- Reset/preset.
- Hold function.
- Max. measuring speed: unlimited.
- Interchangeable scriber, intake 9 x 9 mm.
- Delivery incl. scriber.
- Weight: 570.402: 4.3 kg,
570.404: 6.3 kg.
- Conforms to factory standard.
- Power supply: 1 battery type V357.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
570.402	0 - 300	±0.03	
570.404	0 - 600	±0.05	

Options:

- 836.535 Spare battery
- 107.001 Scriber 9 x 9 mm
- 953.638 Holder for 902.053, clamping shaft ϕ 6 mm
- 902.053 Universal clamp for ϕ 4 mm, ϕ 8 mm, dovetail
- 900.872 Electrical contact indicator
- 900.764 Depth gauge attachment 9 x 9 mm
- 951.144 Center-accessory 9 x 9 mm
- 264.505 Mitutoyo DP-1VA SPC printer¹
- 905.338 Digimatic signal cable, 1 m
- 102.810 U-WAVE receiver and software
- 102.880 U-WAVE transmitter standard
- 264.625 U-WAVE Bluetooth transmitter
- 102.795 U-WAVE data cable
- 106.384 USB Input Tool Direct cable, 2 m
- 905.338 Digimatic signal cable, 1 m



Height and scribing gauges with dial and counter

- Measuring range: 0 - 1000 mm.
- Graduation dial indicator: 0.01 mm.
- Resolution counter: 1 mm.
- 1 pointer revolution = 1 mm.
- Rotatable dial.
- Double counter, one indicator in plus direction and one in minus direction.
- Zero setting possible at any height.
- Intake scriber: 9 x 9 mm.
- Delivery incl. scriber.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.250	0 - 300	±0.04	
906.251	0 - 450	±0.05	
906.252	0 - 600	±0.05	
906.253	0 - 800	±0.06	
906.254	0 - 1000	±0.07	
Option:			
906.174	Scriber 9 x 9 mm		



Height and scribing gauges with dial

These height gauges are equipped with a rack, as used for dial calipers.

- Measuring range: 0 - 300 mm.
- Graduation: 0.02 mm.
- 1 pointer revolution = 2 mm.
- Rotatable dial.
- Fine adjustment.
- Delivery in a wooden case with a scriber.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.260	0 - 150	±0.03	
906.261	0 - 200	±0.03	
906.262	0 - 300	±0.04	
Options:			
906.029	Scriber for 906.260/261		
906.049	Scriber for 906.262		



Height and scribing gauges

- Measuring range: 0 - 1000 mm.
- Vernier: 0.02 mm.
- Fine adjustment.
- Delivery incl. scriber.
- Matt chrome-plated scale and vernier.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.325	0 - 200	±0.03	
906.326	0 - 300	±0.04	
906.327	0 - 500	±0.05	
906.328	0 - 1000	±0.07	
Options:			
906.029	Scriber for 906.325		
906.049	Scriber for 906.326		
906.054	Scriber for 906.327		
906.748	Scriber for 906.328		



906.325

Height and scribing gauges with magnifier

To minimize the possibility of reading errors these height gauges are equipped with a magnifier. The magnifier can be adjusted in height, so that it can always be positioned correctly with regard to the vernier.

- Measuring range: 0 - 500 mm.
- Vernier: 0.02 mm.
- Ruler adjustable in height.
- Fine adjustment.
- Intake scriber: 9 x 9 mm.
- Delivery incl. scriber.



Item No.	Measuring range/mm	Accuracy mm	Price EUR
906.255	0 - 300	±0.04	
906.257	0 - 500	±0.05	
Options:			
906.269	Scriber for 906.255		
906.323	Scriber for 906.257		



906.257

TESA Micro-Hite/Micro-Hite+M 350/600/900

The TESA Micro-Hite and the TESA Micro-Hite+M (motorized) 350/600/900 are universal height gauges with air cushion for use in the measuring room as well as in the workshop for 1D as well as 2D measurements. Very suitable for accurate internal, external, height, depth and distance measurements of various measuring objects with flat, parallel or cylindrical surfaces. The measuring program in the control unit calculates all relations between the measuring features automatically. 2D measurements can be performed by rotating the work piece 90° (or other known angle) to determine for example bore coordinates, bolt hole circles or angles between circles.

These height gauges distinguish themselves from other height gauges by excellent performance and logical and easy operation using the rotatable and swivelable control unit. The control unit consists of a touchscreen and physical buttons for fast and intuitive operation. Due to the exclusive transport wheel the TESA Micro-Hite and the TESA Micro-Hite+M combine the speed of a manually operated height gauge with the precision and easy handling of a motorized one.

- Measuring range:
350: 365 mm, 600: 615 mm, 900: 920 mm.
- Max. range with standard holder and probe:
350: 520 mm, 600: 770 mm, 900: 1075 mm.
- Max. range with long probe holder:
350: 745 mm, 600: 995 mm, 900: 1300 mm.
- Resolution: 0.0001/0.001/0.01 mm.
- mm/inch conversion.
- Measuring force: 1.6 ± 0.25 N.
- Squareness (frontal):
350: 7 μ m, 600: 9 μ m, 900: 11 μ m
(with IG13 probe resp. 5 μ m, 7 μ m, 9 μ m).
- SCS certificate included.
- Complete stand-alone design, without cable. Ideal for incoming goods inspection and product inspection in a production environment.
- Air cushion for easy displacement on an optional surface plate (see surface plates elsewhere in this catalog).
- High accuracy in length, straightness and perpendicularity measurements through CAA (Computer Aided Accuracy).
- Fast, easy and reliable probing of the workpiece, in particular with bore measurements, through constant measuring force.
- Optical and acoustic signal to confirm the measuring value.
- Calculations are performed automatically.
- Integrated calculator to perform calculations using measurements.
- Automatic determination of the culmination point with cylindrical surfaces.
- Processing and saving of data through the optional mounted printer, USB stick or via (wireless) TLC connection to the PC.

- Weight: 350: 33 kg, 600: 37 kg, 900: 45 kg.
- For optional probes and accessories see "Probes and accessories TESA Micro-Hite / TESA-Hite".

TESA Micro-Hite 350/600/900

- Accuracy: $2 + 2L/1000$ (L in mm).
- Repeatability:
 ≤ 1 μ m (flat surfaces),
 ≤ 1 μ m (radius).

TESA Micro-Hite+M 350/600/900

- Accuracy: $1.8 + 2L/1000$ (L in mm).
- Repeatability:
 ≤ 0.5 μ m (flat surfaces),
 ≤ 1 μ m (radius).



783.505

TESA Micro-Hite/Micro-Hite+M 350/600/900 (continued)

Control unit

The Micro-Hite/Micro-Hite+M height gauges are equipped with a 2D control unit. This completely renewed control unit can be fully controlled using the touch screen, the physical buttons or a combination of both. Standard functions can be accessed with 1 button, making the height gauge accessible to everyone. During measurements the display shows graphical instructions to guide you through the measuring process. Measurements can be saved as a program. Data can be entered on the display for traceability purposes, for instance product or operator information. After completion of the measurements graphs and tables can be shown including go/nogo classification based on entered tolerance values. The adjustable mounting allows for optimal positioning of the control unit.

The control unit features the following interfaces: 3 x USB output, 1 x RS232 output, 1 x TLC output and can be connected to a PC using the de TLC-USB cable or the TLC-BLE transmitter (wireless). In combination with the free TESA DATA VIEWER PC software measurements can be exported directly to Excel. Using the STAT-EXPRES SPC software measurements can be saved and analysed. Measuring reports (PDF), programs and measuring results can be saved directly to a USB stick. An optional printer allows for printing of the measuring results.



Accessories for (wireless) data transfer available on request.



Item No.	Type/description	Price EUR
783.501	Micro-Hite 350	
783.502	Micro-Hite 600	
783.503	Micro-Hite 900	
783.504	Micro-Hite+M 350	
783.505	Micro-Hite+M 600	
783.506	Micro-Hite+M 900	
Options:		
783.555	TESA Link Connector Bluetooth	
783.509	USB printer for Micro-Hite	
783.524	Paper for USB printer (4 rolls)	

Basic instrument		Micro-Hite/Micro-Hite+M		
		350	600	900
Measuring range	mm	365	615	920
Max. range with standard holder and probe	mm	520	770	1075
Max. range with long probe holder	mm	745	995	1300
Max. deviation of perpendicularity mech. (frontal)	µm	<7	<9	<11
Max. deviation of perpendicularity with IG13 probe	µm	<5	<7	<9

Basic instruments

The Micro-Hite/Micro-Hite+M height gauges are standard supplied with:

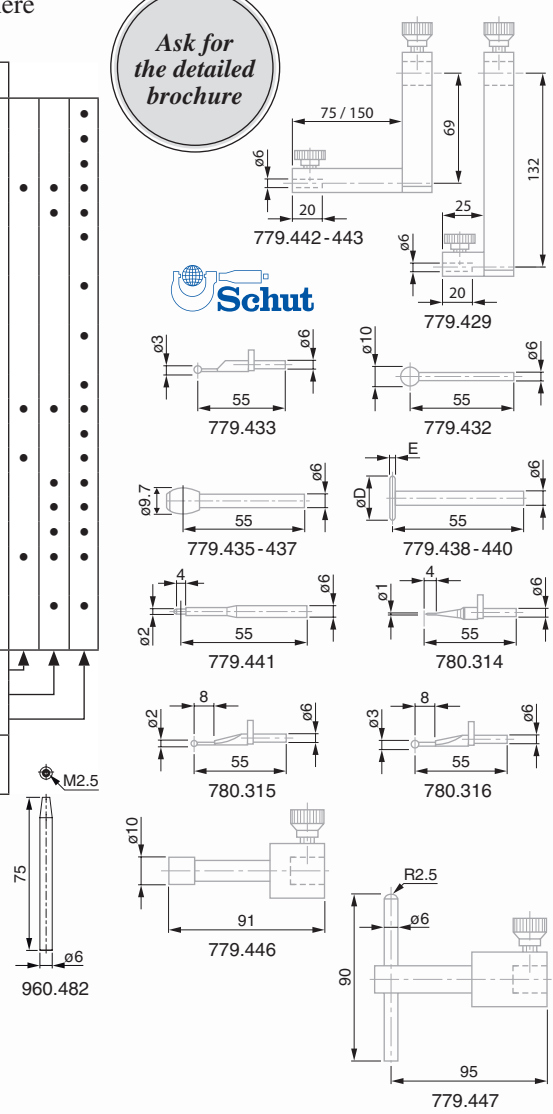
- Micro-Hite(+M) panel with adjustable holder,
- standard probe holder 6 mm (783.511),
- standard probe with carbide ball tip ø 5 mm (782.215),
- reference standard 12.7 mm,
- electric air cushion,
- Li-ion battery,
- AC adapter (783.570) incl. power cable (782.202),
- SCS calibration certificate.

Probes and accessories TESA Micro-Hite / TESA-Hite

Besides the probes and accessories shown below there are various other types available.

Item No.	Type/description	Price EUR
779.442	Probe holder $l = 75$ mm	
779.443	Probe holder $l = 150$ mm	
779.429	Probe holder $l = 25$ mm	
779.433	TC ball probe $\phi 3$ mm	
779.432	TC ball probe $\phi 10$ mm	
779.435	Barrel-shaped probe $\phi 2.2$ mm for thread M3-M16	
779.436	Barrel-shaped probe $\phi 4.5$ mm for thread M6-M48	
779.437	Barrel-shaped probe $\phi 9.7$ mm for thread M12-M150	
779.438	Disc probe $E = 1$ mm, $D = 4.5$ mm	
779.439	Disc probe $E = 2$ mm, $D = 14$ mm	
779.440	Disc probe $E = 3$ mm, $D = 19$ mm	
779.441	Small probe, cylindrical measuring face $\phi 2$ mm	
780.314	$\phi 6$ mm probe, tungsten carbide, $\phi 1$ mm	
780.315	$\phi 6$ mm probe, tungsten carbide, $\phi 2$ mm	
780.316	$\phi 6$ mm probe, tungsten carbide, $\phi 3$ mm	
779.447	Probe holder with pin with 1 spherical and 1 flat face	
779.446	Probe holder with cylindrical measuring face $\phi 10$ mm	
783.383	Starter-set	
781.906	Partial set	
781.474	Complete set	
960.482	Adapter $\phi 6$ $l = 75$ mm for M2.5-threaded inserts from dial indicators	

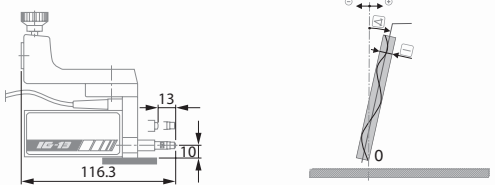
Ask for the detailed brochure



TESA electronic probe

Electronic probe with a measuring range of 13 mm, to measure perpendicularity, straightness, angle deviation, as well as parallelism in relation to the base plane and the roundness.

The probe can assume three positions: straight forward, to the right side and the left side. In these positions, fixed with a fixing piece, the correction factor of the Micro-Hite+M is incorporated automatically in the measurement.



Item No.	Type/description	Price EUR
781.590	Probe IG13 + attachment	



781.474

TESA-Hite Magna / TESA-Hite 400/700

The TESA-Hite height gauges have a simple and robust design and are therefore very suitable for use in a workshop to measure heights, grooves, diameters, pitch circle, center distances and parallelism using a constant measuring force.

Thanks to the robust magnetic measuring system, the TESA-Hite Magna is very suitable for use in harsh environments. The TESA-Hite is suitable for more accurate measurements due to the optical measuring system.

The clear and bright IP65 classified color screen only shows relevant data and has context-sensitive menus and built-in help for easy operation.

The height gauges are equipped with fine adjustment, locking screw and a stable cast iron base, with the TESA-Hite having a built-in air cushion for smooth movement.

Data can be sent to a PC for processing and storage using the (wireless) TESA Link Connector and the free TESA DATA VIEWER PC software.

- Measuring range: 415 and 715 mm resp.
- Max. range with standard probe holder: 570 and 870 mm resp.
- Max. range with long probe holder (782.358): 795 and 1095 mm resp.
- Easy-to-read LCD-color display.
- Process and store data on the PC using the TESA Link Connector data output.
- Measuring force: 1.5 ± 0.5 N.
- SCS certificate included.

- For optional probes and accessories see "Probes and accessories TESA Micro-Hite / TESA-Hite".

TESA-Hite Magna 400/700

Equipped with a robust magnetic measuring system.

- Resolution: 0.001/0.005/0.01 mm.
- Accuracy: ± 8 μ m.
- Repeatability: ≤ 3 μ m (flat surfaces), ≤ 5 μ m (radius).
- Weight: 783.565: 15 kg, 783.566: 18 kg.
- Protection: IP55, control panel: IP65.

TESA-Hite 400/700

Measuring with higher accuracy, also for measuring perpendicularity. Air cushion pump for easy movement on a surface plate. Squareness can be measured using optional probe, holder and display.

- Resolution: 0.0001/0.001/0.01 mm.
- Accuracy: $\pm (2.5 + 0.004L)$ μ m (L in mm).
- Repeatability: ≤ 2 μ m (flat surfaces), ≤ 3 μ m (radius).
- Squareness (frontal): 9 and 13 μ m resp.
- Weight: 783.567: 24 kg, 783.568: 30 kg.
- Protection control panel: IP65.



Standard accessories

The TESA-Hite Magna / TESA-Hite 400/700 is standard supplied with:

- standard probe holder (783.511),
- TC ball probe $\phi 5$ mm (782.215),
- reference standard 6.35 mm,
- electric pump (only TESA-Hite),
- Li-ion battery,
- AC adapter (783.570) incl. power cable (782.202),
- SCS calibration certificate.

Item No.	Type/description	Price EUR
783.565	TESA-Hite Magna 400	
783.566	TESA-Hite Magna 700	
783.567	TESA-Hite 400	
783.568	TESA-Hite 700	
Options:		
783.301 ¹	TESA Link Connector USB	
783.302 ¹	TESA Link Connector Digimatic	
783.555 ¹	TESA Link Connector Bluetooth	



¹ The TESA Link Connector will replace the battery cover.

Mitutoyo CNC height gauges Linear Height LH-600 F/FG

The integration of CNC technology in this height gauge enables fully automated measurements with a fixed measuring speed and measuring force. This ensures the best possible accuracy and repeatability.

The air-bearing of the base (with built-in compressor) allows almost feather-light movement on a surface plate. Equipped with the unique “semi-floating”, ideal for scanning purposes, for example to find a maximum value.

These height gauges distinguish themselves from other height gauges by excellent performance and logical and easy operation using the rotatable and tiltable control unit. The control unit consists of a touchscreen and physical buttons for fast and intuitive operation. The Linear Height has 21 (measuring) functions, motorized probe movement, storage space for 50 programs and 100000 measurements which can be statistically processed. The most occurring measurements can be done by the single press of a button.

A special and fully automated measuring program for squareness checks is included. By connecting an external Digimatic dial indicator, both squareness and position can be measured at the same time.

- Excellent accuracy and a special measuring system with a 0.1 µm resolution.
- Automatic repeat of measuring programs stored with the learning function.
- Direct display of Go/NoGo tolerance judgement after every measurement.
- Data entry from a Digimatic instrument.
- Air cushion for easy displacement on an optional surface plate (see surface plates elsewhere in this catalog).
- Complete stand-alone design, without cable. Ideal for incoming goods inspection and product inspection in a production environment.
- Clear and conveniently laid out graphical color touchscreen with numeric and alphanumeric keys.
- Internal storage for measurement values and measuring programs; optional external data storage with a USB stick or via a USB interface to a PC.
- Direct printing of measurement values on an external printer.
- Delivery with an inspection report.

LH-600 standard accessories

The Mitutoyo Linear Height is standard supplied with:

- probe holder including excentric ball probe ø5 mm,
- block for probe diameter calibration,
- rechargeable Ni-MH battery,
- control panel 1D/2D,
- AC adapter, 12V, 4A (without power cable),
- dust cover.

Item No.	Type	Price EUR
518.360	LH-600 F	
518.361	LH-600 FG	
Option:		
420.300	AC adapter cable (not supplied)	

NEW

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Mitutoyo Linear Height LH-600 F/FG (continued)

Control unit

The LH-600 height gauges are equipped with a 2D control unit. This completely renewed control unit can be fully controlled using the physical buttons, touch screen, or a combination of both. Standard functions can be accessed with one button, making the height gauge accessible to everyone. During measurements the display shows graphical instructions to guide you through the measuring process. Measurements can be saved as a program. Data can be entered by using the display, for example product or operator information, for traceability purposes. After completion of the measurements graphs and tables can be shown including go/nogo classification based on entered tolerance values. The adjustable mounting allows for optimal positioning of the control unit.

The control unit features the following interfaces: 1x USB-A/B output, 1x RS232 output, 1x Digimatic-S1 port, and the standard Digimatic input. Optionally, a footswitch can also be connected. Communication and data transfer to your PC can be done both wired, and wireless. This gives you the option to save the measurement values directly into Excel. Programs and measurement results can also be saved directly to a USB drive. The separately sold printer gives you the option to print out your measurement results.

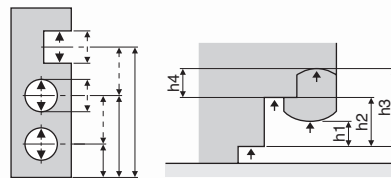
- Measuring range: 0 - 600 mm.
- Max. measuring height: 977 mm.
- Resolution: 0.0001/0.001/0.01/0.1 mm.
- Accuracy:
(1.1 + 0.6L/600) (L in mm).
- Repeatability:
flat 0.0004 mm, bore 0.0009 mm.
- USB/RS232C and Digimatic S2 data output.
- Max. measuring speed: 5 - 40 mm/s.
- Measuring force: 1 N.
- Squareness: 0.005 mm.
- Straightness: 0.004 mm.
- Weight: 27 kg.
- Power supply: AC adapter 230 Vac and built-in rechargeable Ni-MH battery (approx. 4 hours operating time).
- Many display languages, such as English, Dutch, German and French.



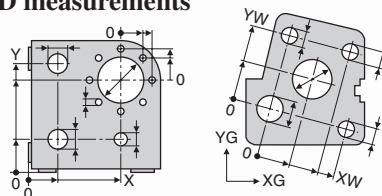
NEW



1D measurements

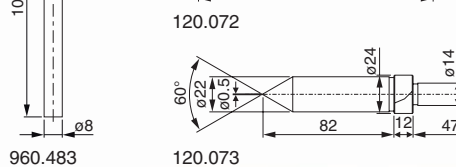
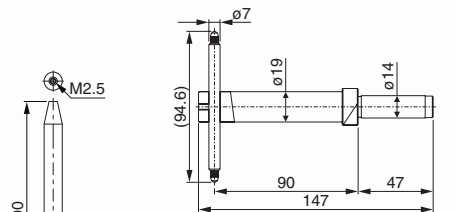
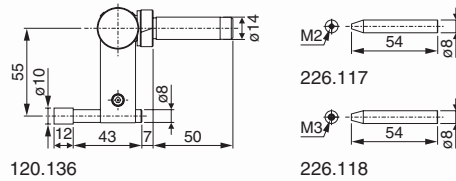
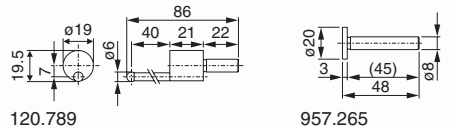
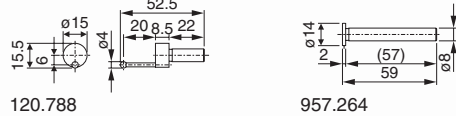
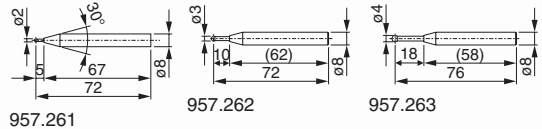
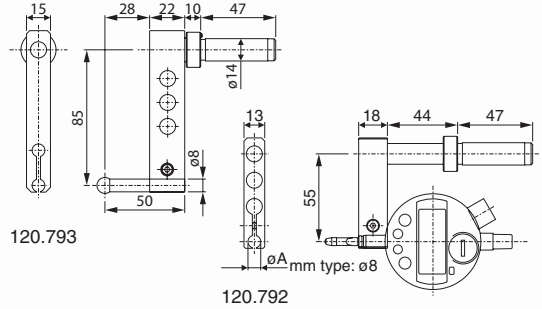


2D measurements



Mitutoyo LH-600 / QM-Height accessories

Item No.	Description	Price EUR
650.986	Probe set for LH600	
120.793	Long probe holder	
120.792	Dial indicator holder (ø8 mm)	
957.261	Ball probe ø2 mm coaxial	
957.262	Ball probe ø3 mm coaxial	
957.263	Ball probe ø4 mm coaxial	
120.788	Excentric ball probe ø4 mm	
120.789	Excentric ball probe ø6 mm	
957.264	Disc probe ø14 mm	
957.265	Disc probe ø20 mm	
120.136	Cylindrical probe ø10 mm with holder	
226.117	Shank ø8 l = 54 mm for Renishaw M2-threaded probes	
226.118	Shank ø8 l = 54 mm for Renishaw M3-threaded probes	
960.483	Adapter ø8 l = 100 mm for M2.5-threaded inserts from dial indicators	
120.072	Depth probe	
120.073	Conical probe ø20 mm	
120.712	Extra battery for LH-600	
106.001	USB Input Tool Direct cable 2 m	
102.011	U-WAVE-T connector cable SF for Digimatic S1 interface	
264.627	U-WAVE Bluetooth transmitter	



NEW



Mitutoyo height gauges QM-Height 350/600

The Mitutoyo QM-Height height gauge, equipped with the highly accurate Absolute linear encoder, delivers high performance in combination with affordability. The high accuracy, repeatability and perpendicularity make the QM-Height very suitable to satisfy your most critical measurement needs. Yet the lightweight, compact design and the simplicity of the controls make this a user-friendly and flexible height gauge, suitable for use in both cleanroom and workshop. All measuring functions can be started by pressing just one button.

The QM-Height is equipped with many advanced measuring functions for measuring height, inside and outside diameters, min/max values and center distances. It is also equipped with a scanfunction, data-output, measuring memory and a Go/NoGo tolerance judgement, making human interpretation errors almost impossible. The QM-Height is available in two measuring ranges and Mitutoyo offers a wide range of accessories. See for all accessories “Mitutoyo LH-600 / QM-Height accessories”.

- Measuring range: 0 - 600 mm.
- Resolution: 0.001/0.005 mm.
- Accuracy: $\pm(2.4 + 2.1L/600)$ μm (L in mm).
- Repeatability: 0.0018 mm.
- USB and Digimatic data output.
- Direct Go/NoGo tolerance judgement by LEDs after every measurement (also on display).
- An air-bearing of the base (with built-in compressor) allows almost feather-light movement on a surface plate.
- Measuring force: 1.5 ± 0.5 N.
- Operating temperature: 0 to 40°C.
- Adjustable tolerance limits.
- Weight: 518.240: 25 kg, 518.242: 29 kg, 518.244: 26 kg, 518.246: 30 kg.
- Delivery with an inspection report.
- Power supply: 4 batteries type AA or optional AC adapter.

*Data cables Digimatic,
USB Input Tool Direct, U-WAVE
available on request.*

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Item No.	Measuring range/mm	Squareness μm	Price EUR
Without air bearing:			
518.240	0-350	7	
518.242	0-600	12	
With air bearing:			
518.244	0-350	7	
518.246	0-600	12	
Options:			
106.369	AC adapter		
495.111	Spare battery (4 needed)		

Standard accessories:

- auxiliary grip,
- block for probe diameter calibration,
- probe holder including eccentric ball probe $\varnothing 5$ mm,
- 4 batteries.

Granite surface plate with stand for height gauges

Correct and accurate use of height gauges demand a robust and flat working table. Especially in combination with the very advanced and accurate Mitutoyo and TESA height gauges this is a necessity in order to benefit the full potential of these instruments.

In combination with the purchase of a TESA or Mitutoyo height gauge, Schut Geometrical Metrology offers granite surface plate and stand sets in various dimensions and accuracy classes for very competitive prices. Combinations that make the purchase of one of these height gauges even more attractive!



Digital protractor

Compact digital protractor to attach to a caliper or height gauge.

- Measuring range: 180°.
- Resolution: 0.01° or 1'.
- Accuracy: ±5'.
- Digimatic data output.
- On/off switch.
- Automatic switch-off (adjustable).
- Preset or hold function.
- Reset.
- Reversible measuring direction.
- Weight: 160 g.
- Delivery in a case including assembly key, mounting bracket (clamping shaft 9 x 9 mm) and clamping screw for height gauge.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
855.803	Digital protractor	
Options:		
497.914	Spare battery (2 needed)	
905.338	Digimatic cable, 1 m	
905.409	Digimatic cable, 2 m	

The stands are very robust and the support of the surface plate is determined on the basis of the Bessel points. All sets are available in surface plate sizes from 630 x 630 mm up to 2000 x 1000 mm, all according DIN 876, accuracy classes 1, 0 en 00.

Check our website www.Schut.com for the most recent promotions and prices.



131.101 +
131.113 +
131.108 +
402.028

With the purchase of a height gauge:

UNIQUE SET PRICES

Surface plate 1000 x 630 x 150 mm, class 0 including stand: EUR

Surface plate 1000 x 630 x 150 mm, class 0 including stand, slide protection, cover, chest of drawers and cleaner: EUR

Delivery ex Groningen, Netherlands

Granite plate cleaner

Special granite plate cleaner to keep the surface of your granite surface plate clean and useable for a long period. Dust, dirt, grease stains, finger and hand prints can easily be removed. A clean and smooth surface provides low friction, less wear and the most accurate measurements. The non-corrosive property of the cleaner prevents corrosion damage to metal products.



Item No.	Description	Price EUR
407.304	Cleaner, 500 ml	

Hardness testers / Thickness gauges / Thermometers
Tachometers / Dynamometers / Inspection instruments



Portable Shore hardness testers

Portable hardness testers to measure Shore hardness A or D, according to DIN ISO 48-4 and ISO 868.

- Measuring range: 0-100 Shore.
- Analog: graduation 1 Shore, digital: resolution 0.1 Shore.
- Measuring length: 2.5 mm.
- Material thickness: ≥6 mm.
- Delivery in a plastic case.

Analog

- Dial diameter: 57 mm.
- Dimensions: 110 x 58 x 30 mm.
- Weight: 230 g.

Digital

Integrated sensor and equipped with comfortable buttons. Possibility for display of current, average and maximum measuring value.

- Accuracy: ± 1 Shore.
- RS232C data output.
- On/off switch.
- Automatic switch-off.
- Max function.
- Calculation of the average of at most 9 measurements in “max mode”.
- Dimensions: 161 x 65 x 28 mm.
- Delivery with a manufacturer measuring report.
- Power supply: 2 batteries type AAA.



909.066



Item No.	Type	Meas. range/Shore	Price EUR
Analog:			
907.882	Shore A	20- 90	
907.889	Shore D	20- 90	
Digital:			
909.066	Shore A	0-100	
909.068	Shore D	0-100	
Options:			
497.914	Spare battery (2 needed)		
909.078	RS232C cable and software		
909.430*	Shore A (approx. 30-90) 6 pieces test block set 50 x 50 x 7.5 mm		
909.431*	Shore D (approx. 15-90) 3 pieces test block set 50 x 50 x 7.5 mm		

*Delivery with a declaration of conformity.

Type	Shore A	Shore D
Max. spring force	8.065 N	44.50 N
Impact module		
Applications	Soft rubber, elastomers, nature rubber, etc.	Hard rubber, thermoplastics, etc.



907.882



909.430



909.431

Hildebrand portable Shore hardness testers

Portable hardness testers to measure Shore hardness A or D, according DIN ISO 48-4 and ISO 868.

- Measuring range: 0- 100 Shore.
 - Graduation: 1 Shore.
 - Accuracy: ±0.5 Shore.
 - Measuring length: 2.5 mm.
 - Material thickness: ≥6 mm.
 - With or without extra pointer for maximum measuring value indication.
 - Dial diameter: 57 mm.
 - Total length: 121 mm.
- Weight: 184 g.
 - Delivery in a plastic case.
 - 2 year factory guarantee.



856.005



Type	Shore A	Shore D
Max. spring force	8.065 N	44.50 N
Impact module		
Applications	Soft rubber, elastomers, nature rubber, etc.	Hard rubber, thermoplastics, etc.

Item No.	Type	Price EUR
856.005	Shore A	
856.006	Shore D	
With maximum value indication:		
856.007	Shore A	
856.008	Shore D	

Measuring stand for Hildebrand Shore hardness testers

To increase the accuracy and repeatability of the measurements, the use of this stand is recommended. It prevents possible errors that can occur by differences in the pressing force or when the hardness tester is not held up right.

- Max. measuring height: 180 mm.
- Measuring table: ø98 mm.
- Standard equipped with a weight (1000 g) for Shore A.
- Load weight: Shore A: 274 g,
Shore D: 4000 g.
- Stable aluminum construction, table of stainless steel.
- Weight: 16.4 kg.



856.012



856.028



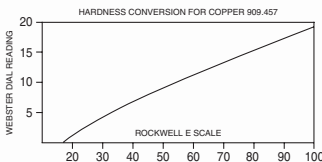
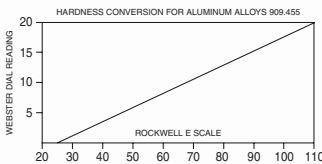
856.010

Item No.	Description	Price EUR
856.010	Measuring stand	
Options:		
856.012	Weight for Shore D	
856.028	Set of setting standards (20, 40, 60 and 80 Shore)	

Portable hardness testers

For measuring the hardness of various materials like aluminum and copper. Fit for various forms like extrusion profiles, tubes and flat materials.

- Measuring range: 0-20 Webster.
Values to convert by means of graph (Rockwell E Scale).
- Material thickness: 0.4-6 mm; $\phi > 10$ mm.
- Round anvil: $\phi^{3/8}$ ".
- Delivery in a plastic carrying case with spare penetrator, screwdriver, adjusting wrench, standard test strip and manual.



Item No.	Rockwell	Material	Price EUR
909.455	E25 - E110	aluminum	
909.457	E20 - E100	copper	

Portable digital hardness tester

This Swiss made quality product allows one to determine HRC hardness in the most simple way. Modern technology resulted in an extremely compact and easy to use tool. No switches, buttons or cables, simply pull up the ring, measure and immediately read out the value. The measurement causes hardly any damage to the product. Especially suitable for larger objects, installed machines and use in hard-to-reach places.

- Measuring range: 20-70 HRC.
- Resolution: 0.1 HRC.
- Accuracy: ± 1.0 HRC.
- Automatic switch-off.
- Operating temperature: 5 to 50°C.
- Dimensions: $\phi 12 \times 140$ mm.
- Weight: 36 g.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 2 batteries type V394.

Requirements

- Solid base (at least 5 kg) for objects < 5 kg.
- Minimum thickness of objects: 3 mm.
- Minimum thickness of a hardened top layer, if any: 0.7 mm.
- Minimum diameter of workpiece: 10 mm.
- Minimum radius of spherical measuring surface: 30 mm.



Item No.	Description	Price EUR
774.075	Digital hardness tester	
Option:		
420.248	Spare battery (2 needed)	

Portable digital hardness testers

- Measuring range:
HL 174 - 900, HB 20 - 655,
HRC 19.6- 68, HV80 - 940,
HRB 13.5- 101.7, HS 32.5- 99.5.
- Accuracy: ±0.5% (at HL 800).
- On/off switch, automatic switch-off.
- Min. radius of spherical surface: 30 mm.
- Tungsten carbide stylus tip.
- USB data output.
- DIN 50156 and ISO 16859.

- Operating temperature: -20 to 40°C.
- Delivery with a manufacturer measuring report.
- Delivery in a plastic carrying case with cable, small supporting ring, cleaning brush and test block D (909.478).

Digital hardness tester (909.470)

- Storage for 10000 measuring values.
- Dimensions basic instrument: 133 x 75 x 29 mm.
- Weight basic instrument: 260 g.
- Delivery with external impact module D (909.471).
- Power supply: 2 batteries type AA.

Requirements



Impact module	Min. weight workpiece/kg ¹	Min. thickness/mm object	Min. thickness/mm hardened top layer ³	Max. roughness Ra/μm
C	0.5	1.5	1	0.2
D/DL	2	5	3	0.8
G	5	15	10	7

¹ On a solid base of at least 5 kg.

² Without solid base.

³ Minimum thickness of a hardened top layer, if any.



909.470



909.470

Item No.	Description	Price EUR
909.470	Digital hardness tester	
909.485	Digital hardness tester	
Options:		
909.477	Set special support rings	
909.478 ¹	Testblock D, 2.5 kg (HLD 790 ± 40)	
909.479 ^{1,2}	Testblock G, 5.5 kg (HLD 590 ± 40)	
Options (only for 909.470):		
495.111	Spare battery (2 needed)	
909.471	Ext. impact module D	
909.472	Ext. impact module G	
909.473	Ext. impact module C	
909.474	Ext. impact module DL	
909.481	Cable for ext. impact module	

PRICE

¹ Delivered with a manufacturer measuring report.

² For use in combination with impact module G.

Selection table materials for impact module D

Material	HLD	HRC	HRB	HB	HS	HV
bright steel	300-900	20.0-68.0	38.4-99.5	80-647	32.5-99.5	80-940
tool steel	300-840	20.4-67.1				80-898
stainless steel	300-800	19.6-62.4	46.5-101.7	85-655		85-802
gray cast iron	360-650			93-334 (30D ²)		
cast iron	400-660			131-387 (30D ²)		
cast aluminum	174-560			20-159 (10D ²)		
brass	200-550		13.5-95.3	40-173 (10D ²)		
bronze	300-700			60-290 (10D ²)		
copper	200-690			45-315 (10D ²)		

Digital hardness tester (909.485)

- Storage for 2000 measuring values.
- With integrated impact module D.
- OLED display.
- Dimensions basic instrument: 158 x 41 x 26 mm.
- Weight basic instrument: 120 g.
- Delivery with AC adapter/charger, software and integrated impact module D.
- Power supply: 1 rechargeable battery 3.7 V.
- AC adapter/charger.



909.485

Portable digital hardness testers (continued)

Optional impact devices (only for 909.470)

External impact module D

Standard module.

External impact module DL

With thin, long probe on the impact module for measuring in grooves, blind bores etc.

External impact module C

4x reduced impact energy for hardened components, thin-walled materials and coatings.

External impact module G

9x higher impact energy for rough casting pieces etc.

Impact devices	D	DL	C	G
Max. roughness (Ra)	2	2	0.4	7
Impacting energy (Nmm)	11	11	3	90
Mass of impact module (g)	5.5	7.8	3.0	20
Impact module length (mm)	147	250	141	254
Max. hardness of workpiece (HV)	940	940	1000	–
Max. hardness of workpiece (HB)	–	–	–	650
Min. weight of sample: of compact shape (kg)	5	5	1.5	15
on solid support (kg)	2	2	0.5	5
coupled on plate (kg)	0.1	0.1	0.02	0.5
Min. thickness of sample: coupled (mm)	3	3	1	10
min. thickness of hardened layers (mm)	0.8	0.8	0.2	–



909.471



909.472



909.473



909.474

Impact body tips (for 909.470)

Item No.	Description	Price EUR
909.482 ¹	Tip for impact body D	
909.483	Tip for impact body G	
909.564	Tip for impact body C	
909.484	Tip for impact body DL	



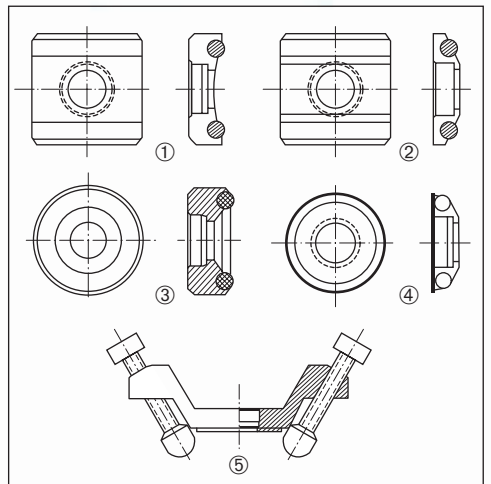
909.477

¹ Also for integrated impact body D 909.485.

Set special support rings

The set consists of

Type	Description
①	Cylindrical outside surface R10 - R15
①	Cylindrical outside surface R14.5 - R30
①	Cylindrical outside surface R25 - R50
②	Cylindrical inside surface R11 - R13
②	Cylindrical inside surface R12.5 - R17
②	Cylindrical inside surface R16.5 - R30
③	Spherical outside surface SR10 - SR15
③	Spherical outside surface SR14.5 - SR30
③	Spherical outside surface SR11 - SR13
④	Spherical inside surface SR12.5 - SR17
④	Spherical inside surface SR16.5 - SR30
⑤	Cylindrical outside surface, radius adjustable $\geq R10$



Digital thickness gauge

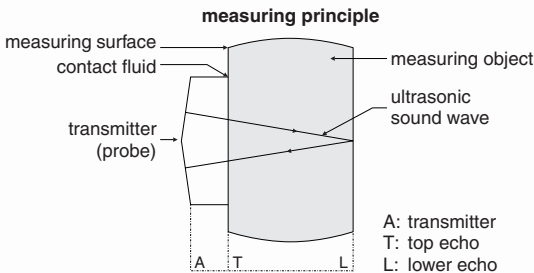
This thickness gauge measures in a non-destructive way the thickness and speed of sound from several materials according to the ultrasonic measuring principle (as illustrated).

- Measuring principle: ultrasonic.
- Measuring range for steel: 1.2 - 200 mm.
- Resolution: 0.1 mm.
- Accuracy: $\pm(0.5\%H+0.1 \text{ mm})$
(H = measured value).
- Measuring frequency: 5 MHz.
- Speed of sound: 1000 - 9000 m/s.
- mm/inch conversion.
- RS232C data output.
- On/off switch.
- Automatic switch-off.
- 11 presets for the speed of sound of various materials (cd01 - cd11) and one configurable speed of sound (cd12).
- Calibration standard on side of basic instrument.
- Operating temperature: 0 to 50°C.
- Admissible relative humidity: < 80%.
- Dimensions: 120 x 60 x 30 mm.
- Weight basic instrument: 260 g.
- Delivery in a plastic case with a manufacturer measuring report.
- Power supply: 4 batteries type AAA.

Test block for calibration (909.398)

For the inspection and calibration of digital thickness gauges.

- Heights: 2.5 - 25 mm, incr. 2.5 mm.
- Tolerance: 0.1 mm (flatness: $\pm 0.05 \text{ mm}$).
- Material: steel.



Delivery including:

- small, rectangular probe (measuring face $\varnothing 10 \text{ mm}$),
- contact fluid,
- manual,
- 4 batteries.



Preset code	Material
cd01	steel
cd02	cast iron
cd03	aluminum
cd04	copper (red copper)
cd05	brass
cd06	zinc
cd07	quartz glass
cd08	polyethylene
cd09	PVC
cd10	gray cast iron
cd11	nodular/ductile cast iron

Item No.	Description	Price EUR
909.139	Thickness gauge	
Options:		
497.914	Spare battery (4 needed)	
909.075	RS232C cable and software	
909.576	Contact fluid (approx. 75 ml)	
909.398	Test block for calibration	

909.398

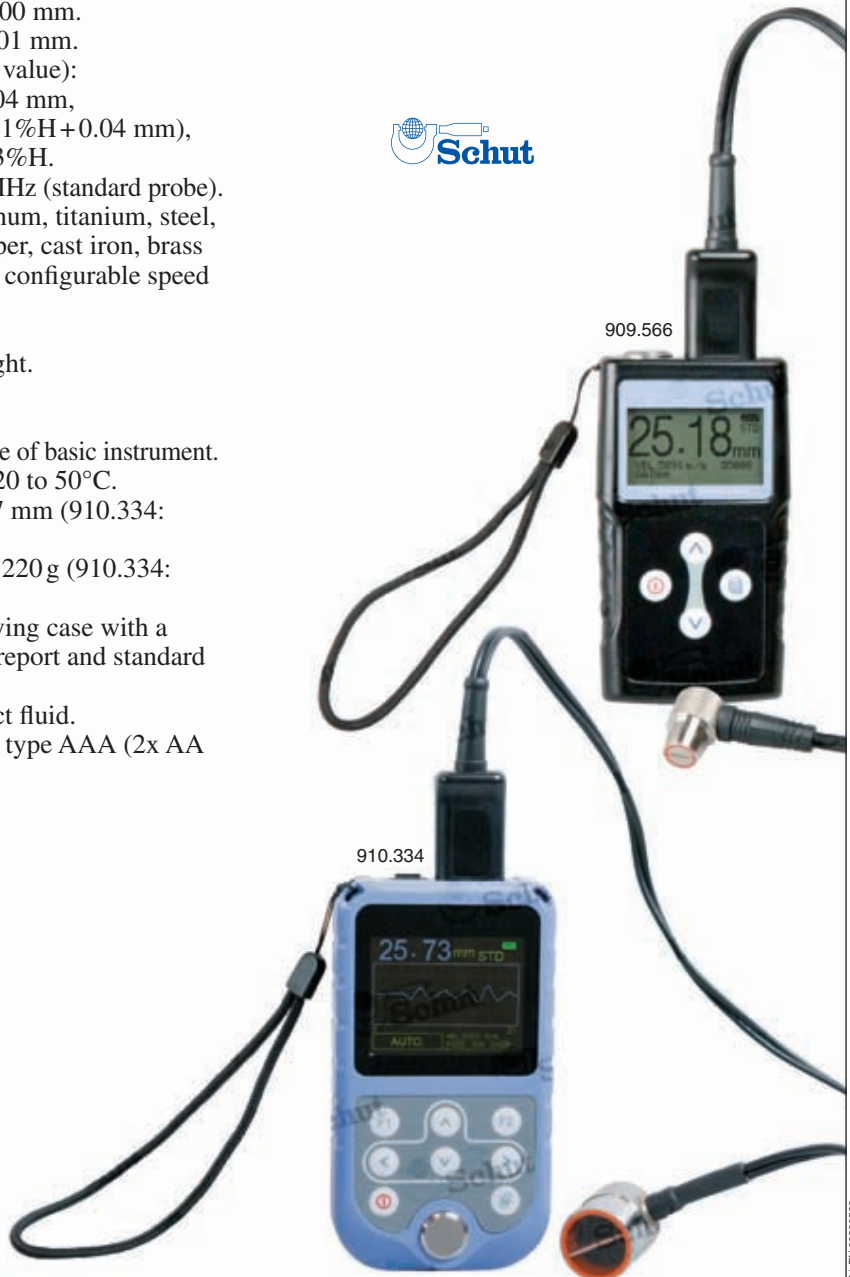


Digital thickness gauges

This thickness gauge measures in a non-destructive way the thickness and speed of sound from several materials according to the ultrasonic measuring principle. The Echo-Echo model is capable of measuring the material thickness even through coatings.

A thickness gauge with glass fiber / composite probe is available for measuring glass fiber parts. For example thicknesses of parts of cars, boats, airplanes and medical devices can be measured ultrasonically.

- Measuring range: 0.65 - 300 mm.
- Resolution: 0.1 mm or 0.01 mm.
- Accuracy (H = measured value):
 - 0.65 - 9.99 mm: ± 0.04 mm,
 - 10.00 - 99.99 mm: $\pm (0.1\%H + 0.04$ mm),
 - 100.0 - 400.0 mm: $\pm 0.3\%H$.
- Measuring frequency: 5 MHz (standard probe).
- 9 preset materials (aluminum, titanium, steel, stainless steel, glass, copper, cast iron, brass and polystyrene) and one configurable speed of sound.
- mm/inch conversion.
- LCD display with backlight.
- On/off/reset switch.
- Automatic switch-off.
- Calibration standard on side of basic instrument.
- Operating temperature: -20 to 50°C.
- Dimensions: 116 x 64 x 27 mm (910.334: 133 x 75 x 29 mm).
- Weight basic instrument: 220 g (910.334: 260 g).
- Delivery in a plastic carrying case with a manufacturer measuring report and standard probe.
- Delivery including contact fluid.
- Power supply: 2 batteries type AAA (2x AA for 910.334).



Digital thickness gauges (continued)

Standard model

- Measuring range: 0.8 - 300 mm (standard probe).
- Delivery including standard probe (909.570).

Echo-Echo model

Echo-Echo mode is only available with the standard probe, 909.575.

- Measuring range:
normal mode: 1.44 - 200 mm (standard probe),
Echo-Echo mode: 3 - 25 mm (standard probe).
- Maximum coating thickness: 1 mm.
- Delivery including standard probe (909.575).

Models with USB output only

- Tolerance settings with alarm function.
- Memory for 5000 measurements.
- Delivery including USB cable.

Glass fiber/composite model

- Measuring range: 3 - 200 mm,
glass fiber/composite: 5 - 40 mm (standard probe).
- Delivery including standard probe (910.335).

Item No.	Description	Price EUR
Thickness gauges:		
909.566	Without USB data output	
909.567	With USB data output	
Echo-Echo model:		
909.568	Without USB data output	
909.569	With USB data output	
Glass fiber/composite model:		
910.334	With USB data output	
Options:		
497.914	Spare battery type AAA (2 needed)	
495.111	Spare battery type AA (2 needed)	
909.576	Contact fluid (approx. 75 ml)	
909.398	Test block for calibration	



Test block for calibration (909.398)

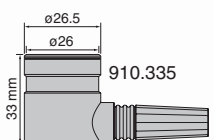
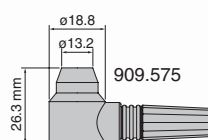
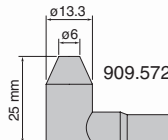
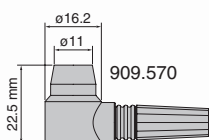
For the inspection and calibration of digital thickness gauges.

- Heights: 2.5 - 25 mm, incr. 2.5 mm.
- Tolerance: 0.1 mm (flatness: ±0.05 mm).
- Material: steel.

909.398

Optional probes

Item No.	Mode	Measuring range/mm	Measuring frequency MHz	Minimum tube diameter/mm	Price EUR
909.570	Normal	0.8 - 300	5	ø 20 x 1.2	
909.572	Normal	0.65 - 20	10	ø 10 x 4.0	
For Echo-Echo model and glass fiber/composite model:					
909.575	Normal	1.44 - 200	5	ø 25 x 3	
	Echo-Echo	3.0 - 25	5		
For glass fiber/composite model only:					
910.335	Normal	3 - 200	1		
	Glass fiber	5 - 40	1		



Digital coating thickness gauges

Measurements of coating thickness of paint, coating, foil etc. (non-magnetic layers) on a magnetic (ferro) and/or non-magnetic (non-ferro) metal substrate. Available with integrated or external sensor, in single or combined (automatically selecting magnetic/non-magnetic) model. Furthermore there is a one-button model, specifically designed for the automobile industry.

- Measuring principles: magnetic induction (ferro) and eddy current (non-ferro).
- Measuring range: 0 - 1250 μm .
- Resolution: 0.1 μm (< 100 μm),
1 μm (\geq 100 μm).
- Accuracy: $\pm 3\%H$ or 3 μm (H = measured value).
- $\mu\text{m}/\text{mil}$ conversion.
- RS232C data output.
- Automatic switch-off.
- Minimum measuring area: 6 x 6 mm.
- Minimum substrate thickness: 0.3 mm.
- Minimum object radius:
ferro: 1.5 mm (convex), 25 mm (concave),
non-ferro: 3 mm (convex), 50 mm (concave).
- Dimensions: 131 x 65 x 28 mm.
- Delivery in a plastic case with ferro and non-ferro base plate and reference standards.
- Power supply: 4 batteries type AAA.



909.070

909.072



Item No.	Type/description	Price EUR
With integrated sensor:		
909.060	Ferro	
909.069	Non-ferro	
909.070	Non-ferro and ferro	
With external sensor:		
909.061	Ferro	
909.071	Non-ferro	
909.072	Non-ferro and ferro	
One-button model:		
909.062	Non-ferro and ferro	
Options:		
497.914	Spare battery (4 needed)	
909.073	RS232C cable and software	
906.943	External sensor ferro (906.061/072)	
906.959	External sensor non-ferro (906.071/072)	



909.062

Digital coating thickness gauge

Measurements of coating thickness of paint, coating, foil etc. (non-magnetic layers) on a magnetic (ferro) and non-magnetic (non-ferro) metal substrate.

- Measuring principles: magnetic induction (ferro) and eddy current (non-ferro).
- Measuring range: 0- 1300 μm .
- Resolution: 1 μm (0- 999 μm),
10 μm (1000- 1300 μm).
- Accuracy: $\pm(3\% + 2 \mu\text{m})$.
- Statistics: number of measurements, mean, minimum, maximum and standard deviation.
- $\mu\text{m}/\text{mil}/\text{mm}$ conversion.
- USB data output.
- Illuminated LED display.
- On/off switch.
- Automatic switch-off.
- Minimum measuring area: $\varnothing 6 \text{ mm}$.
- Minimum substrate thickness:
ferro: 0.5 mm, non-ferro: 0.3 mm.
- Minimum object radius:
1.5 mm (convex), 25 mm (concave).
- Maximum measuring frequency: 2 times per second.
- Adjustable tolerance limits (alarm signal on display and acoustic).
- Operating temperature: 0 to 40°C.
- Admissible relative humidity: 20-90%.
- Dimensions: 110 x 53 x 24 mm.
- Weight: 92 g.
- Delivery in a plastic carrying case with a manufacturer measuring report, USB cable, software, ferro and non-ferro base plate and reference standards.
- Power supply: 2 batteries type AAA.



Item No.	Description	Price EUR
909.116	Coating thickness gauge	
Option:		
497.914	Spare battery (2 needed)	

Infrared thermometers

These hand-held infrared thermometers are extremely suitable for fast non-contact temperature measurements. Equipped with laser for easy aiming at the object. With adjustable emissivity for different surfaces. Applications: for example in the food, automotive and chemical industries, in the process technology and for research purposes.

- Measuring range: -60 to 760°C.
- Resolution: 0.1°C.
- Accuracy: $\pm 2^\circ\text{C}$ or $\pm 2\%$.
- °C/°F conversion.
- Emissivity preset (standard 0.95).
- Automatic switch-off.
- Hold function.
- Min/max function.
- Operating temperature: 0 to 50°C.
- Measuring time: 1000 ms.
- Laser: 635 - 660 nm, class 2.



908.800



909.412

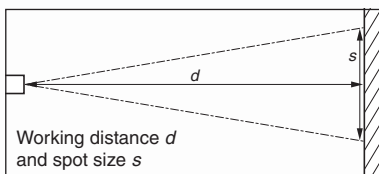


Models

The infrared thermometers have different optics ratios, which makes them applicable for different working distances:

- 908.800: for measurements at small distances,
- 909.412: for measurements at large distances or with a large temperature range.

Material	T/°C	Emissivity
Cement	0 - 200	0.96
Cloth	93	0.90
Paper	38 - 371	0.93
Granite	21	0.45
Steel	25	0.65
Cast iron	100	0.21
Cold milled steel	93	0.75 - 0.85
Stainless steel	24	0.28
White alumina ceramics	93	0.90
Hard rubber	23	0.94
Soft rubber	24	0.86



Spare batteries

Item No.	Type	Price EUR
495.157	CR2032	
497.914	AAA	

Item No.	908.800	909.412
Price	EUR	
Measuring range	°C	-55 to 250
Working distance d		small
Optics ratio $d:s$		6:1
Resolution	°C	0.1
Wave length	μm	5 - 14
Laser pointer		✓
Emissivity		0.05 - 1 (incr. 0.01)
Emissivity preset		0.10 - 1 (incr. 0.01)
Emissivity preset		0.95
Illuminated LCD display		✓
Dimensions	mm	103 x 50 x 23
Weight (incl. batteries)	g	65
Power supply (batteries)		2x CR2032
		2x AAA

Digital thermometers

- Measuring range: -50 to 500°C (in combination with the NR-160 probe).
- Resolution: 909.145: 1°C, 910.434: -50°C to 199.9°C: 0.1°C; 200°C+: 1°C.
- Accuracy (H = measured value): 909.145: -50 to -20°C: ±4°C, -20 to 0°C: ±3°C, 0 to 500°C: ±(1+0.0075 H)°C 910.434: -50 to 199.9°C: ±(0.3% H+1°C), 200 to 500 °C: ±(0.3% H+2°C).
- °C/°F conversion (only 910.434).
- On/off switch.
- Hold function.
- Cable length standard TP01 probe: 1 m.
- Delivery incl. TP01 probe (909.076).
- Weight (incl. battery): 909.145: approx. 150 g, 910.434: approx. 190 g.
- Power supply: 1 battery type PP3 (9 V).



909.145



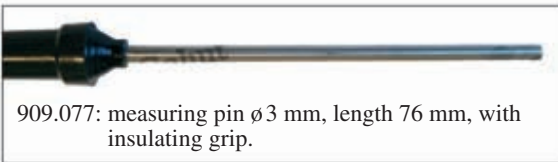
910.434



910.432



910.433



909.077: measuring pin \varnothing 3 mm, length 76 mm, with insulating grip.

Item No.	Measuring range/°C	Price EUR
909.145	-50 to 500	
910.434	-50 to 500	
Option:		
495.161	Spare battery	

Item No.	Type	Measuring range/°C	Applications	Material probe	Price EUR
909.076	TP01	-50 to 200	air	steel	
909.077	TP02	-50 to 400	air, steam, liquids, gels	stainless steel	
910.432	TP04	-50 to 400	surfaces (curved model)	steel	
910.433	NR-160	-50 to 500	surfaces (straight model)	steel	

Digital thermometer

- Measuring range: -40 to 200°C.
- Resolution: 0.1°C.
- Accuracy: 0 to 100°C: ±1°C, 100 to 200°C: ±2°C.
- Stainless steel measuring pin.
- °C/°F conversion.
- On/off switch.
- Power supply: 1 battery type V357.

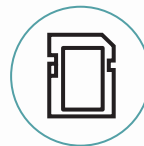


Item No.	Measuring range/°C	Price EUR
909.421	-40 to 200	
Option:		
836.535	Spare battery	

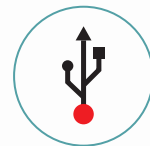
Digital thermohygrograph for permanent monitoring

The new technology for permanent 24 hours registering and checking the temperature and humidity in the area and measuring rooms. Typical metrology room temperature is $20 \pm 0.05^\circ\text{C}$, with a resolution of 0.1°C for registering the temperature.

- Measuring range: -10 to 60°C ,
0-100%RH (with no condensation).
- Resolution: 0.01°C , 0.1%RH.
- Accuracy temperature:
 $\pm(0.1 + |T-20|/250)^\circ\text{C}$ (T in $^\circ\text{C}$).
- Accuracy relative humidity: 4%RH.
- $^\circ\text{C}/^\circ\text{F}$ conversion.
- Min/max/P-P function.
- Stand-alone: memory for 500 000 measurements (interval: adjustable).
- Data-logger with Bluetooth, SD card and USB connection for data analysis (initial settings via PC).
- Including software for Windows (7 or later) and app for Android and iOS.
- Audiovisual alarms:
temperature: 2 upper and 2 lower limits,
humidity: 4 limits,
temperature change: 2 limits.
- Graphs: on e-paper display or PC.
- Including wall support and desk stand.
- Dimensions: 75 x 110 x 30 mm.
- Delivery in a plastic carrying case with a manufacturer measuring report.
- Power supply: 2 batteries type AA or USB (adapter not supplied).



MicroSD card



USB



Bluetooth



App

Item No.	Description	Price EUR
837.800	Thermohygrograph	
Option:		
495.111	Spare battery (2 needed)	

Digital thermohygrometer

- Measuring range: -10 to 50°C, 5-98%RH (with no condensation).
- Resolution: 0.1°C, 0.1%RH.
- Accuracy temperature: ±1°C.
- Accuracy relative humidity at 25°C: ≤30%RH: ±5%RH, >30%RH: ±3%RH.
- °C/°F conversion.
- Measuring frequency: 2.5 times per second.

- Illuminated LCD display.
- On/off switch.
- Automatic switch-off.
- Hold and min/max functions.
- Dimensions: 151 x 83 x 26.5 mm.
- Weight: 251 g.
- Delivery in a plastic case.
- Power supply: 1 battery type PP3 (9 V).



Item No.	Measuring range/°C	Measuring range/%RH	Price EUR
909.130	-10 to 50	5-98	
Option:			
495.161	Spare battery		

Digital thermal imager

With this thermal imager one can easily measure and display (2.8" LCD color display) the thermal image and temperature.

- Measuring range: -20 to 250°C.
- Field of view: 40 x 40°.
- Accuracy: ±2°C or ±2%.
- Thermal sensitivity: 0.1°C.
- Thermal image resolution: 32 x 31 px.
- Emissivity preset: 0.95, selectable 0.10-1.00 per 0.01.
- USB data output.
- On/off switch.
- Automatic switch-off.
- Adjustable tolerance limits.
- Backlight with 3 selectable levels of brightness.
- °C/°F/°K conversion.
- 4 selectable color palettes.
- Alarm for adjustable upper and lower limit of the temperature.
- Frame rate: 9 Hz.
- Spectral range: 8-14 µm.
- Time stamp for images.

- Storage for 25000 images.
- Memory card: micro SDHC 8 GB, including adapter for SD card reader.
- Dimensions: 95 x 75 x 233 mm.
- Weight (incl. batteries): 390 g.
- Protection: IP54.
(When using data output: IP40.)
- Delivery in a plastic carrying case with USB cable and software.
- Power supply: 4 batteries type AA.



Item No.	Description	Price EUR
909.429	Thermal imager	
Option:		
495.111	Spare battery (4 needed)	

Digital tachometers – contact, laser, laser/contact

With these digital laser tachometers very accurate non-contact and/or contact measurements can be done easily.

- Measuring range contact: 0.5 - 19999 rpm,
0.05 - 1999.9 m/min.
- Measuring range laser: 2.5 - 99999 rpm.
- Resolution:
 - < 1000 rpm: 0.1 rpm,
 - ≥ 1000 rpm: 1 rpm,
 - < 100 m/min: 0.01 m/min,
 - ≥ 100 m/min: 0.1 m/min.
- Range: 5 - 50 cm (laser).
- Accuracy: $\pm(0.05\% + 1 \text{ digit})$.
- Laser/contact switchable (909.146).
- Automatic switch-off.
- Functions: max., min. and last measured value.
- Dimensions and weight:
 - 909.148: 174 x 72 x 38 mm, 240 g,
 - 909.152: 182 x 70 x 34 mm, 170 g,
 - 909.146: 198 x 70 x 34 mm, 225 g.
- Laser class 2 according IEC825-1 and EN60825-1.
- Delivery in a soft case (909.146) or a plastic case (909.148 and 909.152).
- Power supply:
 - 909.148: 3 batteries type AA,
 - 909.152: 3 batteries type AAA,
 - 909.146: 3 batteries type AAA.



909.148



909.152



909.146



909.348

Item No.	Description	Price EUR
909.148	Digital contact tachometer	
909.152	Digital laser tachometer	
909.146	Digital laser/contact tachometer	
Options:		
497.914	Spare battery type AAA	
495.111	Spare battery type AA	
906.811	Reflective tape per meter (width 25 mm, for laser tachometers)	
909.348	Set contact points for tachometers 909.146/148	

Tachometer

- Measuring range:
0 - 10000 rpm and 0 - 1000 m/min.
- Graduation: 0.002 x the measuring range.
- Includes attachments.



855.850



Item No.	Measuring range rpm	Measuring range m/min	Price EUR
855.850	0 - 10000	0 - 1000	
Options:			
855.853	Conical tip		
855.855	Concave tip		
855.856	Wheel		

Torquemeters

- Measuring range: 0.2 - 20 Ncm.
- Intended for static measurements.
- Includes 6 attachments for
2 to 7 mm shafts for the small models, and
3 to 8 mm shafts for the large models.



857.740

Item No.	Measuring range/Ncm	Graduation Ncm	Price EUR
Small model:			
857.734	0.2 - 3	0.2	
857.736	0.4 - 6	0.5	
857.738	1 - 12	1	
Large model:			
857.740	2 - 20	0.5	

Strain gauges

Handy strain gauges suitable for measurements in two directions.

- Measuring range: 0.015 - 100 N.
- Indication accuracy:
±2% of the entire scale.
- With peak pointer.



Small model

Item No.	Measuring range/N	Graduation N	Price EUR
857.702	0.015 - 0.15	0.005	
857.703	0.03 - 0.3	0.01	
857.704	0.05 - 0.5	0.01	
857.705	0.1 - 1	0.02	
857.706	0.15 - 1.5	0.05	



857.724

Large model

Item No.	Measuring range/N	Graduation N	Length mm	Price EUR
857.721	0.25 - 2.5	0.05	153.5	
857.722	1 - 5	0.1	153.5	
857.725	3 - 30	0.5	153.5	
857.726	4 - 40	1	153.5	
857.727	5 - 50	1	127.5	
857.728	10 - 100	2	127.5	

Strain gauges

Handy measuring instruments suitable for measurements in two directions. Used to check the measuring force of dial indicators, lever type indicators, CMM probes etc. Small model with flat touch surface has a $\varnothing 1$ mm bore. Large model with curved touch surface of $\varnothing 3.5$ mm.

- Measuring range: 0.01 - 20 N or 1 - 2000 g.
- Indication accuracy:
±2% of the entire scale except 910.143 and 910.149: ±2.5%.
- With peak pointer.
- Metal housing.
- Delivery in a plastic case.



910.138



910.149

Newton model

Item No.	Measuring range/N	Graduation N	Price EUR
Small model:			
910.138	0.01 - 0.05	0.001	
910.139	0.025 - 0.15	0.005	
910.140	0.1 - 0.5	0.01	
910.141	0.25 - 1.5	0.05	
910.142	1 - 5	0.1	
Large model:			
910.143	4 - 20	0.5	

Gram model

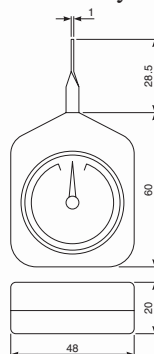
Item No.	Measuring range/g	Graduation g	Price EUR
Small model:			
910.144	1 - 5	0.1	
910.145	2.5 - 15	0.5	
910.146	10 - 50	1	
910.147	25 - 150	5	
910.148	100 - 500	10	
Large model:			
910.149	500 - 2000	50	

Strain gauges

Handy measuring instruments suitable for measurements in two directions. Used to check the measuring force of dial indicators, lever type indicators, CMM probes etc. The flat touch surface has a $\varnothing 1$ mm bore.

- Measuring range: 2 - 500 gram.
- Indication accuracy:
±4% of the entire scale.
- With peak pointer.
- Delivery in a plastic case.

Item No.	Measuring range/g	Graduation g	Price EUR
909.391	2 - 10	0.5	
909.392	5 - 30	1	
909.393	10 - 50	2	
909.394	20 - 100	5	
909.395	25 - 150	5	
909.396	50 - 300	10	
909.397	100 - 500	20	



909.395

Digital spring scale

- Measuring range: 0- 50 kg.
- Resolution:
0.005 kg (measuring range 0- 10 kg),
0.01 kg (measuring range 10- 50 kg).
- Kg/lbs conversion.
- Illuminated LCD display.
- Automatic switch-off.
- Reset.
- Automatic hold function.

- Dimensions: 110 x 65 x 30 mm.
- Weight: 170 g.
- Power supply: 2 batteries type AAA.



Item No.	Measuring range/kg	Price EUR
910.359	0- 50	
Option:		
497.914	Spare battery (2 needed)	

Dynamometers

Robust dynamometers in analog and digital model with several set-up pieces.

- Measuring range: 0- 500 N.
- Push and pull.
- Max/peak function.

Analog

- Accuracy: $\pm 1\%$.
- Graduation: N and kg.
- With 4 tapped holes M3 (for mounting).
- Dimensions: 225 x 60 x 51 mm.
- Weight: approx. 600 g.

Digital

- Accuracy: $\pm 0.2\%$.
- Kg/lb/N conversion.
- On/off switch.
- Automatic switch-off.
- Reversible display value.
- With 4 tapped holes M4 (for mounting).
- Dimensions: 147 x 75 x 38 mm.
- Weight: approx. 400 g.
- Power supply: AC adapter (12 Vdc, 1 A) and rechargeable battery.



909.174

909.182



Item No.	Measuring range/N	Reading N	Price EUR
Analog:			
909.175	0- 10	0.05	
909.178	0- 50	0.2	
909.180	0- 200	1	
909.182	0- 500	2	
Digital:			
909.168	0- 5	0.001	
909.169	0- 10	0.01	
909.171	0- 50	0.01	
909.173	0- 200	0.1	
909.174	0- 500	0.1	

Digital vibration tester

Instrument with external sensor for quick checking of unbalance, misalignment, bearings and gears. For measuring velocity, acceleration, displacement and frequency.

Measuring range

- Velocity: 0.01 - 99.99 mm/s,
100.0 - 400.0 mm/s
(RMS, at frequency 10 Hz - 1 kHz).
- Acceleration: 0.1 - 400 m/s² (peak value,
at frequency 10 Hz - 1 kHz or 10 Hz - 10 kHz).
- Displacement: 0.001 - 4.0 mm
(P-P, at frequency 10 Hz - 1 kHz).
- Frequency: 0.1 - 20 kHz.

Further specifications

- Accuracy: $\pm 5\% + 2$ digits.
- mm/inch conversion.
- RS232C data output.
- Operating temperature: 0 to 50°C.
- Dimensions: 125 x 62 x 31 mm.
- Weight: 255 g.
- Delivery in a plastic case with a manufacturer measuring report, incl. magnet and 2 attachments.
- Power supply: 4 batteries type AAA.



Item No.	Description	Price EUR
909.065	Vibration tester	
Options:		
497.914	Spare battery (4 needed)	
909.074	RS232C cable and software	

Digital sound level meter

Instrument for measuring the sound level.

- Measuring range: 30 - 130 dB.
- Resolution: 0.1 dB.
- Accuracy: ± 1.5 dB.
- Frequency weighting: A and C.
- Frequency range: 31.5 Hz - 8.5 kHz.
- Measuring frequency: 2 times per second.
- Time weighting: fast/slow.
- The current measured value within the range of 50 dB is displayed graphically (adjustable).
- Over range indication.
- Automatic switch-off.
- Max function.
- Dimensions: 207 x 70 x 29 mm.
- Weight: 178 g.
- Delivery in a plastic case.
- Power supply: 1 battery type PP3 (9 V).



Item No.	Measuring range/dB	Price EUR
909.131	30 - 130	
Option:		
495.161	Spare battery	

Refractometers

Refractometers for regular checking of the correct mixing ratio of coolants. A correct ratio is very important.

- Measuring range: 0-32% Brix.
- Graduation: 0.1 or 0.2% Brix.
- Accuracy: $\pm 0.2\%$.
- Adjustable eyepiece.
- Adjustment screw for zero setting (protected by rubber cap).
- Rubber eye adapter.
- Ergonomic design.
- Weight: 200 g.
- Delivery in a plastic case with cleaning cloth, screwdriver, pipette.



909.079



Item No.	Meas. range % Brix	Graduation % Brix	Price EUR
909.090	0-10	0.1	
909.079	0-32	0.2	



Telescopic mirror/magnet

- Magnetic force: 5 N.
- Max. length (extended length): 480 mm.



909.343

909.344



Item No.	Description	Price EUR
909.343	Telescopic mirror	
909.344	Telescopic magnet lifter	

Sonarscope

For tracing mechanical problems by means of sound.



Item No.	Description	Price EUR
909.418	Sonarscope	

Measuring instrument displays and interfaces



Remote Instrument Display

The Remote Instrument Display (RID) is an easy to use 2-channel display unit for connecting both RS232C and Mitutoyo instruments and display the measurement value on a large, clearly readable display. For a quick Go/NoGo indication both channels have their own 24 position LED bar with a user-defined upper and lower tolerance limit. Using the RID can simplify batch measurements significantly and makes human interpretation errors almost impossible. Also a combination of the RID with one or two scale units can be a low-cost solution for a digital read-out system on e.g. a drill press or lathe.

The RID is equipped with a Mitutoyo Digimatic and a RS232C output, so the measured values can be sent directly to a printer or PC by pressing the print button on the RID, the optional foot switch or by sending commands from the PC. Its lightweight construction, compact design and the simplicity of the controls make this RID a user-friendly and flexible accessory for your measuring instruments, suitable for use in both cleanroom and workshop.

- 2 display channels.
- 2 LED bars with 22 positions each.
- LED bar indication option: bar or individual LED.
- User defined upper and lower tolerance limit for Go/NoGo indication.
- 2 RS232C inputs.
- 2 Mitutoyo Digimatic inputs.
- RS232C data output for PC or printer.
- Mitutoyo Digimatic printer output.
- Foot switch input.
- Keyboard data output option (see Smartbox).
- Power supply: mini AC adapter (6 Vdc).



Item No.	Description	Price EUR
348.043	Remote Instrument Display	
Options:		
348.286	RS232C cable 1.8 m	
348.287	RS232C cable 3 m	
348.288	RS232C cable 5 m	
348.186	Foot switch metal Economic	
348.190	Foot switch metal Herga	
348.189	Foot switch metal Industrial	
495.147	PS/2 keyboard cable 1.8 m	

Smartbox

The Smartbox is an interface that connects various digital (measuring) instruments and indicators to computer programs, such as Approve, spreadsheets and databases. This will make a program-oriented software driver redundant.

The measuring value of the connected instrument is read into standard software as spreadsheet or Approve as if it has been entered by means of the keyboard. The USB Smartbox is linked directly to a USB port (cable is included).

It is possible to connect an instrument equipped with a Mitutoyo or RS232C data output with the Smartbox, for example TESA, Magnescale, Kröplin, Helios Preisser. However, instruments need a specific data cable. See also table below.

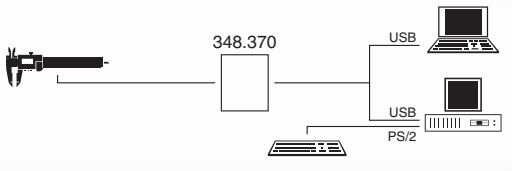
The Smartbox is equipped with a 10p Mitutoyo compatible and an RS232C 9p (male) D-connector, and also has a program-controlled microprocessor. The DIP switches allow you to choose between the various instruments. The Smartbox is powered by your PC.



348.370



Configuration



Item No. Description

Price EUR

348.370 USB Smartbox for 1 instrument

Options:

- 348.186 Metal foot switch Economic
- 348.190 Metal foot switch Herga (0.25 kg)
- 348.189 Metal foot switch Industrial (1 kg)

Besides all Mitutoyo Digimatic cables, the following cables are suitable for the Smartbox:

- 348.109 Cable Kröplin, equipped with a 10p Mitutoyo plug (2 m)
- 348.122 Cable Magnescale U-serie and LT-serie / RS232C 9p (2 m)
- 348.142 RS232C-cable Sartorius 9p (3 m)
- 781.887 Opto-RS232C-cable 9p sub-D for TESA, Sylvac, Preisser etc. (2 m)
- 348.153 RS232C-cable Mettler 9p (female) (3 m)
- 348.154 Cable for Heidenhain RS232C 9p (3 m)
- 348.155 Cable for TESA-TT10 (2 m)
- 348.239 Cable LH20/LY10 RS232C 9p (female) (3 m)

D/RS Instrumentbox

With the D/RS Instrumentbox, RS232C and Mitutoyo Digimatic instruments can be read into a PC, making them available online for Approve or other software. The box is equipped with four 10p Digimatic and four 9p sub-D connectors, allowing the maximum of four RS232C or eight instruments with a Digimatic output to be connected. There is also a foot switch connection. The box can be connected to a PC's COM (RS232C) or, via an optional adapter, USB port.



348.041



495.208



348.186



348.190



348.189

Item No.	Type/description	Price EUR
348.041	D/RS Instrumentbox incl. AC adapter and cable 9p (3 m) (for RS232C cables: see Smartbox)	
Options:		
495.208	RS232C-USB adapter	
348.163	Adapter cable Digimatic - 9p sub-D	
348.186	D/RS foot switch Economic	
348.190	D/RS foot switch Herga	
348.189	D/RS foot switch Industrial	

DiMag converter

The DiMag is an interface for direct data collection from measuring instruments with a Digimatic data output, for example Mitutoyo. The USB connection provides a RS232C interface (according Magnescale U-series dial indicators). Data can also be requested through the built-in data button or foot switch. The USB interface is powered from the data connection and emulates a COM port.

Item No.	Type/description	Price EUR
348.052	DiMag converter USB	
Options:		
348.186	D/RS foot switch Economic	
348.190	D/RS foot switch Herga	
348.189	D/RS foot switch Industrial	



Mitutoyo data processing

Mitutoyo has several options for the collection of measuring data such as printing and statistical analysis using the Digimatic SPC printer, direct data collection via a USB cable or interface modules and wireless via the U-WAVE wireless communication system.

Mitutoyo Digimatic SPC printer

The thermal SPC printer DP-1VA for fast and easy printing of the measuring values of calipers, micrometers and other measuring instruments. Suitable for statistics, calculations and reports. For measuring instruments with an RS232C output a special RS232C→Mitutoyo interface has been developed.

- Prints the measured values with statistical calculations of N, -NG, +NG, P, MAX, MIN, R, \bar{x} , σ_n , σ_{n-1} , Cp, Cpk, Histogram, Xd control charts, control limits, date and time in a clear and surveyable way.
- Timer for automatic input intervals.
- Capacity of 9999 measurement data.
- Delivery with AC adapter, batteries and a roll of printing paper.
- Power supply: AC adapter (6 Vdc) or 4 batteries type AA.

Item No.	Type/description	Price EUR
264.505 ¹	DP-1VA SPC printer	
Options:		
495.111	Spare battery (4 needed)	
348.042	RS232C→Mitutoyo interface	
937.179	Foot switch	
900.825	Printing paper (5 rolls)	

¹ Incl. AC adapter (6 Vdc) and a roll of printing paper.



Mitutoyo Digimatic USB interface

USB interface for sending measured values from a Digimatic measuring instrument into PC applications. Send the measured values by using the data switch or the optional foot switch.

With the free to download USB ITPAK 3.0 (simplified version) it is possible to program Mitutoyo measuring instruments with an S1 connector. Using the PC it is possible to set parameters such as preset value, tolerances, and the calibration date.

Please contact us for instrument specific cables and system requirements.

Item No.	Description	Price EUR
264.020	Digimatic USB interface	
106.001	USB Input Tool Direct cable 2 m	
937.179	Foot switch	



Mitutoyo U-WAVE wireless communication system

Wireless system for the transmission of Digimatic instrument measuring data to a PC for data analysis in for instance Microsoft Excel. The system consists of a transmitter and receiver with a communication distance up to 20 meter within visible range. Up to 100 transmitters can be connected to a receiver and up to 16 receivers to a PC. Measuring data can be sent from the measuring instrument or requested by the PC. A multi-channel input of measured values into e.g. Microsoft Excel is possible. With the USB-ITPAK software (full version) Excel sheets can be easily created.

The U-Wave Fit transmitter system has the advantage that the transmitter fits on the back of the instrument, resulting in better ergonomics. The U-Wave Fit fits calipers with a measuring range up to and including 300 mm, and all standard micrometers. In addition, the U-Wave transmitter system is also available in a Bluetooth version. This enables direct data transfer to a smartphone, tablet, or PC. To do this, Mitutoyo offers free (downloadable) software apps for use with Microsoft Excel. Per PC it is possible to connect up to 7 instruments, and per smartphone or tablet up to 3 instruments.



Please contact us for instrument specific cables and system requirements.



Item No.	Description	Price EUR
102.880	U-WAVE transmitter standard	
102.730	U-WAVE transmitter IP67	
102.810	U-WAVE receiver and software	
264.620 ^{1,5}	U-WAVE Fit transmitter IP67	
264.621 ^{1,5}	U-WAVE Fit transmitter	
264.622 ^{2,5}	U-WAVE Fit transmitter IP67	
264.623 ^{2,5}	U-WAVE Fit transmitter	
264.624 ^{1,5}	U-WAVE Bluetooth transmitter IP 67	
264.625 ^{1,5}	U-WAVE Bluetooth transmitter	
264.626 ^{2,5}	U-WAVE Bluetooth transmitter IP 67	
264.627 ^{2,5}	U-WAVE Bluetooth transmitter	
Options:		
937.179	Foot switch	
102.310 ^{2,3,5}	U-WAVE Fit connector IP67	
102.300 ^{4,5}	U-WAVE Fit connector	
106.543	USB-ITPAK Vers. 3.0 Full version software	

¹ For calipers up to and including 300 mm.

² For Coolant Proof micrometers.

³ For Coolant Proof calipers up to and including 300 mm.

⁴ For standard calipers up to and including 300 mm.

⁵ Connector + transmitter are needed.



TESA data processing

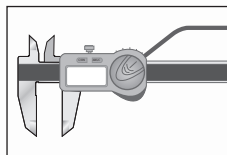
TESA offers multiple options for the processing of measuring data from eligible digital measuring instruments and gauges. This varies from importing data through the USB port, through interface modules, or wireless using the TESA TWIN & LINK connectivity concept. For data processing, several software options can be requested. The TESA DATA-Viewer is free to download and offers the possibility for simple data acquisition in, for example, Microsoft Excel. If a more elaborate data storage is required, such as the sorting of cells within Microsoft Excel or data polling, then DATA-Direct offers the solution. With the TESA software STAT-Express it is even possible to apply extensive process analysis (SPC).

TESA Link Connector (TLC)

TESA Link Connector-USB/Digimatic

Every instrument with an Opto-RS232, Sub-D-RS232, or TLC output, can be connected to USB or Digimatic interface by using the TLC cable. On instruments with the TLC output, the TLC cable can be connected directly. On instruments with an Opto-RS232 or Sub-D-RS232, an adapter is available.

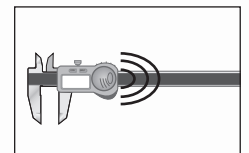
Item No.	Type/description	Price EUR
783.301	TESA Link Connector (TLC)	
783.302	TESA Link Connector-USB/Digimatic	
Options:		
783.037	DATA-Direct software for data acquisition	
783.038	STAT-Express for statistical analysis	



TESA Link Connector-Bluetooth

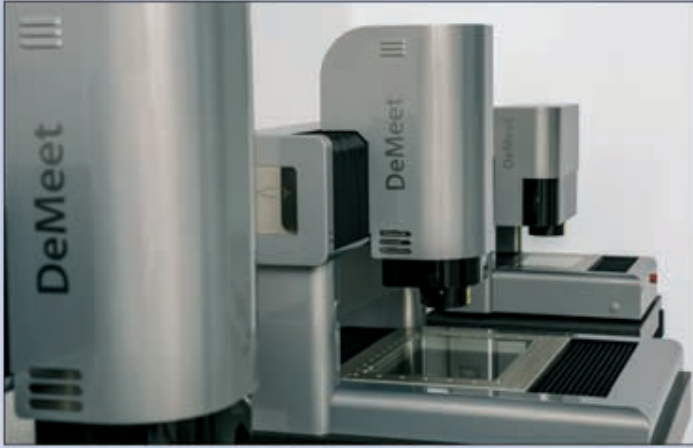
The TESA Link Connector-Bluetooth transmitter is available to send data using Bluetooth. This transmitter can be connected directly to instruments with the TLC connector. On instruments with an Opto-RS232 or Sub-D-RS232, an adapter is available. The startup set consists of a Bluetooth receiver (in case this isn't available) and one TLC-Bluetooth transmitter. On a single Bluetooth dongle, a maximum of eight instruments can be connected at the same time.

Item No.	Type/description	Price EUR
783.555	TESA Link Connector Bluetooth	
783.557	USB dongle receiver for TESA TLC Bluetooth	
783.556	Adapter cable Opto-TLC	
783.558	Adapter cable SUB-D RS232-TLC	
783.449	Footswitch for USB HID interface	
783.552 ¹	Startup set TESA TLC Bluetooth	
Options:		
783.037	DATA-Direct software for data acquisition	
783.038	STAT-Express for statistical analysis	

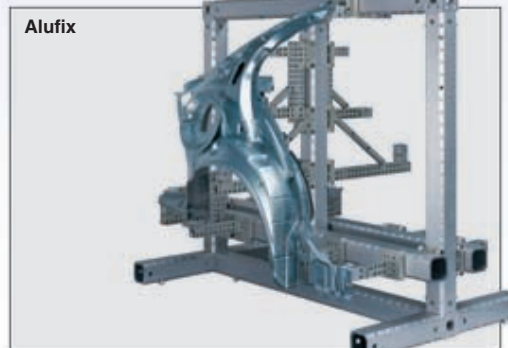
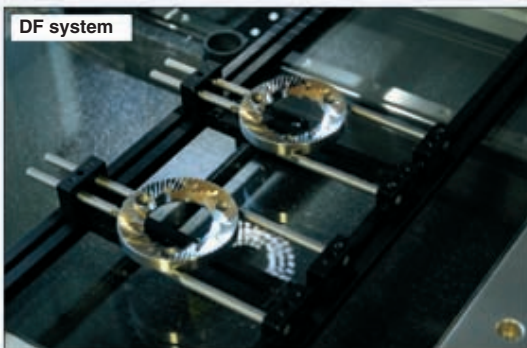
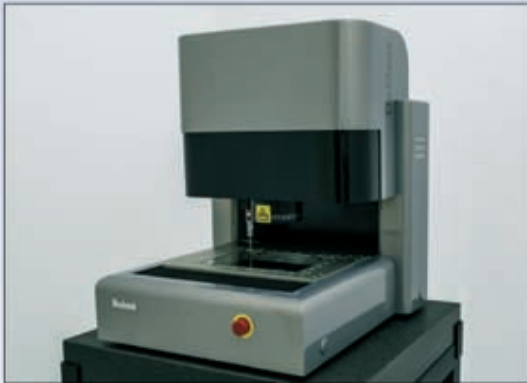


¹ Consisting of a dongle receiver with 1.5 m cable and a TLC Bluetooth transmitter.

**DeMeet 3D CNC coordinate measuring machines
DF fixture system / Alufix fixture system**



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brochure from
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DeMeet video and multi-sensor measuring machines



DeMeet coordinate measuring machines

The DeMeet 3D CNC coordinate measuring machines provide automatic, user-independent quality control with measuring results traceable to the international length standard. The DeMeet measuring machines are available in Video (optical) and Combo model (multi-sensor for combined video and touch probe measurements). The DeMeet multi-sensor measuring machines are an excellent all-in-one alternative to other measuring devices for example a measuring microscope, profile projector and height gauge.

With an excellent price-performance ratio the DeMeet measuring machines enable high precision quality control in measuring laboratories as well as on the production floor. Applications of optical and multi-sensor measuring are among others in the precision engineering, medical, plastics and electronics industry.

Design and quality

The application of quality components made by Schut and by well-known, specialized manufacturers ensures excellent performance and high accurate measurements.

With the new design of the DeMeet measuring machine series no concessions have been made to accuracy and reliability. The new visually screwless cover design provides a better protection in the production environment and is highlighted with nickel-plated aluminum details which can be personalized. The open design of the DeMeet allows for easy operation and loading of the machine from all sides.

The accuracy of the DeMeet measuring machines is guaranteed by a CAA 3D correction model (Computer-Aided Accuracy, error compensation).

Machine construction

The construction is a granite base plate with accuracy grade according to DIN 876/00, placed on well positioned shock absorbing points and resting on a welded base frame (for the DeMeet-220 the base plate is flat grinded cast iron).

The XYZ base structure for the THK precision preloaded caged ball linear guides is made from extremely tension relieved, flat grinded cast iron, as the basis for a mechanical accurate construction. The axis drive system consists of Faulhaber high torque DC servo motors, TFE coated Kerk lead screws and Renishaw TONIC optical linear encoders with low sub-divisional error.

The measuring table is made of tension relieved, wear-resistant, nickel-plated steel, with a mounting hole pattern for product fixtures and a flat aligned glass plate. The video model consists of a DeMeet camera with a Sony sensor and a telecentric optical system. In addition to the optical system the Combo model is equipped with a Renishaw touch probe system.



Download the
brochure from
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DeMeet video measuring machines

Optical measurements

Optical measurements are performed using the camera system, optics and adjustable illumination. Due to the non-contact nature of the measurements there is no risk of product deformation. Optical measuring is very suitable for products with fine structures and contact sensitive products.

Another advantage of optical measurements is that edge information can be defined directly with high density of measuring points. Within the field of view of the DeMeet a very high accuracy can be achieved.

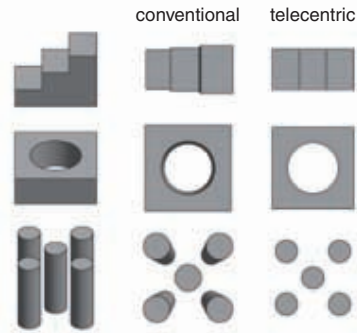


Optical system

A combination of high quality telecentric optics and DeMeet Sony sensor camera is integrated for a clear image with an excellent contrast and a high resolution. In combination with the image processing functionality of the DeMeet, this results in highly accurate measurements.

Telecentric optics are supplied as a standard to avoid perspective image distortion around the center of the field of view. The DeMeet is either equipped with Nikon, Leica-Design or Mitutoyo optics with a large working distance for a brilliant image with high contrast providing optimal edge detection.

Lenses with various magnifications from 1x to 10x are available and can be exchanged during a measuring run, generating a range in display magnification from 40x to 400x.

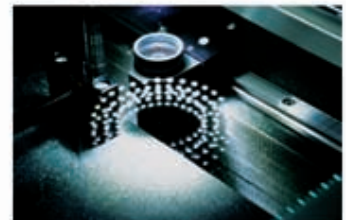


Illumination

Illumination is essential for accurate measurements. The DeMeet is standard equipped with LED based illumination (backlight, coaxial light and segmented ring light). A ring light consisting of a 3 rings, 16 segments and 48 cells LED pattern, that can be controlled per individual ring, segment and cell, is standard supplied for optimal light configuration.

The ring light can be set in intensity and angle to achieve the best contrast with clearly defined edges. The backlight is transmitted from below and is used to highlight the profile of the edges. Coaxial lighting can be used for illumination inside deep located structures. The LED based backlight and coaxial light can be adjusted in intensity.

The configuration of the illumination is automatically controlled during a CNC measuring run. A coaxial laser pointer assists navigation during creation of a measuring program.



DeMeet multi-sensor measuring machines



Multi-sensor measurements

The increasing miniaturization and complexity of product features results in more difficult measuring and inspection procedures. Measuring systems equipped for only optical or contact measurements are often no longer sufficient, in which case multi-sensor measuring machines are required for optimal geometrical quality control.

When measuring certain features encounters the physical limits of non-contact measurement, the DeMeet video machines can be additionally equipped with a touch probe system (contact measuring system).

With the DeMeet Combo model both optical and contact measuring principles are seamlessly integrated and measurements can be performed by the optical and the probing system within one measuring run and even within one feature. Touch probe measurements can also be useful to create a complex 3D product alignment.

Probe modules and styli

Standard a Renishaw TP20 system with a 5-way stylus configuration is supplied. On request various probe modules, systems and stylus configurations are available. Multiple probe modules can be used to leave the stylus configuration on the module to achieve a shorter set-up time for measurements requiring other stylus configurations.

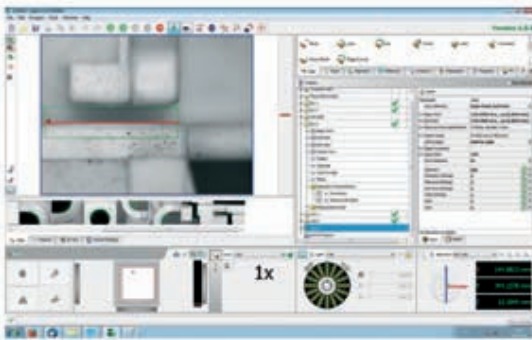
In addition to the standard touch probe system, an optional stylus change rack (automatic probe configuration change) can be utilized. With the stylus change rack probe modules can automatically be exchanged within one measuring run.



DeMeet video and multi-sensor measuring machines (continued)

Approve for DeMeet multi-sensor measuring software

Approve for DeMeet is a true multi-sensor software package, where the difference in sensor origin of the measuring input is limited to only the necessary. All the measuring results of video and touch probe can be displayed, reported, exported and used in constructs together, and are dynamically updated. The measuring results can also be displayed together in a 3D view. Approve for DeMeet is designed to be a user-friendly software package, but is flexible and very elaborate to measure many products.



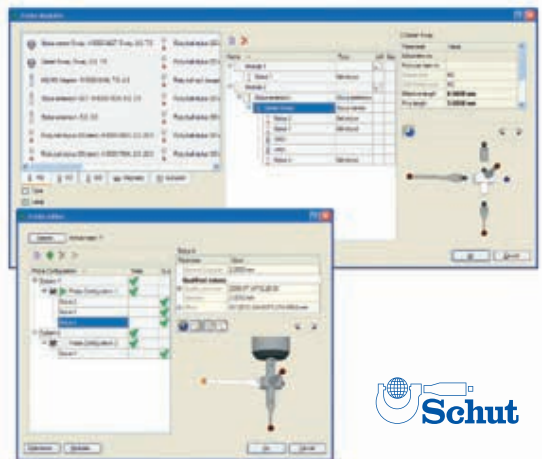
3D Movements

The 3D motor controller in Approve for DeMeet makes blended, smooth moves which makes the DeMeet run more fluent and faster. The DeMeet also moves during video image processing and other calculations, shortening the measuring time considerably. To eliminate hysteresis, and therefore improving accuracy, an approach direction and distance can be set for video measurements. Pretouch and average touch can be set for touch measurements.

Measurements

For video measurements our proprietary image processing algorithms were developed, which are completely different from algorithms used by competing products. The edge find algorithm finds complete curves instead of separate points, the interpolation of the pixels is virtually infinite and very accurate. Video targets larger than one field of view can be measured in one program step, and are automatically split into more images and combined for the fitted result. The illumination for video measurements can be set and changed using a graphical control for backlight, coaxial light and ring light.

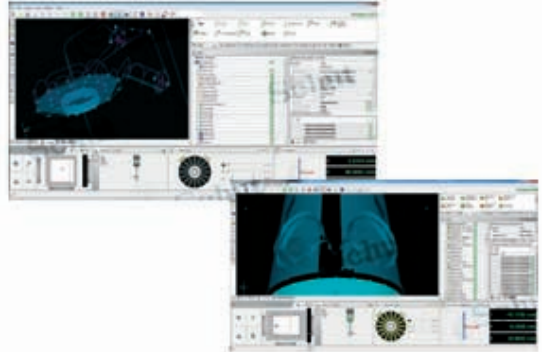
For touch measurements it is normal that the targets are defined in 3D, but now this is also the case for video measurements. Features (like a circle) can be measured properly even if they are not parallel to the camera (optical) plane. The graphical touch probe configuration editor allows for building a custom configuration for a specific measurement by using an extensive touch probe library. Settings can be defined and shared between measuring steps which greatly reduces the complexity of a measuring program.



DeMeet video and multi-sensor measuring machines (continued)

Measuring Program

A measuring program in *Approve for DeMeet* is a graphical program consisting of simple program steps. Program steps can be changed, added, copied, moved and removed very easily, inputs of a program step can be easily changed or linked to other results by using drag-and-drop. A program can be verified by running it step by step, even a single program step can be run for verification. After running a program step an icon appears behind it to indicate its status.



APPROVE
for DeMeet

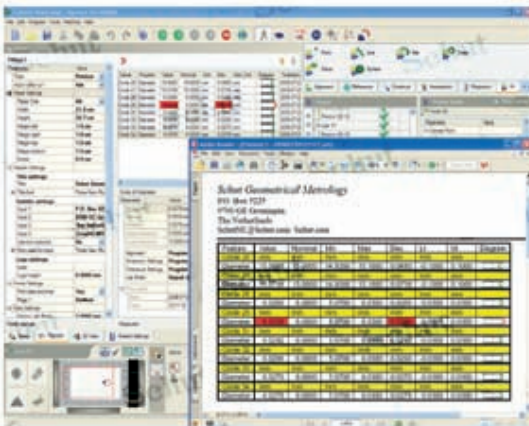
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Results, Report and Export

Results from measurements and calculations (constructs, fits, etc.) as well as from other program steps can be added to an export or report and saved or printed as PDF or CSV file for further analysis. If tolerances are used for a result a graphical tolerance bar is shown. Results and reports can be automatically printed or exported at the end of a measuring program run.

PTB software evaluation

Evaluation software for coordinate measuring machines. The accuracy of the *Approve for DeMeet* software was verified by comparing the results obtained from the software with reference results supplied by the PTB (Physikalisch-Technische Bundesanstalt, Braunschweig, Germany). The *Approve for DeMeet* software has been placed in the class of the smallest deviations.



Specifications DeMeet video and multi-sensor measuring machines

	Video model	Combo model
General		
Video system	DeMeet Sony sensor camera	
Nikon telecentric lenses	3.0x (1.0x, 5.0x and 10.0x optional)	
Leica-Design telecentric lenses	2.0x (1.0x, 5.0x and 10.0x optional)	
Mitutoyo telecentric lenses	3.0x (1.0x, 5.0x and 10.0x optional)	
Ring light ¹	3 rings, 16 segments and 48 cells (adjustable)	
Backlight and coaxial light	adjustable	
Probe system ²	-	Renishaw TP20
Construction ³	fixed bridge with granite base plate DIN 876/00	
Structure	extremely tension relieved, flat grinded cast iron	
Measuring table ⁴	tension relieved, nickel-plated steel	
Linear guides	THK linear guides	
Linear encoders	Renishaw TONIC linear encoders	
Drive system	Faulhaber DC servo motors	
Operating mode	motorized joystick / CNC	
Measuring specifications		
Resolution (µm)	0.1	
Accuracy standard ⁵ (µm)	X/Y/Z 3.9 + L/150	
(L in mm)	XY 4.5 + L/150	XYZ 4.9 + L/150
Accuracy high ⁵ (µm)	X/Y/Z 2.9 + L/200	
(L in mm)	XY 3.5 + L/200	XYZ 3.9 + L/200
Accuracy optional ⁵ (µm)	X/Y/Z 1.9 + L/250	
(L in mm)	XY 2.5 + L/250	XYZ 2.9 + L/250
Travel speed max. (mm/s)	X/Y 250, Z 55	
Acceleration max. (mm/s ²)	X/Y/Z 500	
Power requirements		
Voltage (V)	90 - 120, 210 - 240 (50 - 60 Hz)	
Power (VA)	400	
Environmental conditions		
Operating temperature (°C)	15 - 35	
Measuring temperature (°C)	20 ± 0.5	
Humidity (%)	40 - 70 (no condensation)	

¹ For video models (except DeMeet-220) a ring light with 4 rings, 16 segments and 64 cells can be supplied as an option.

² Other probe systems can be supplied as an option.

³ The base plate of the DeMeet-220 is made of flat grinded cast iron.

⁴ The measuring table of the DeMeet-220 is made of tension relieved, hard anodized aluminum.

⁵ The accuracy of the multi-sensor measuring system should be taken into account.

Specifications apply to all DeMeet models, unless otherwise specified.
Machines with higher specifications and/or modifications are available on request.
Specifications are subject to change without prior notice.
For more specifications refer to our website Schut.com.



Specifications DeMeet video and multi-sensor measuring machines



DeMeet-220		
Measuring range	(mm)	X 220, Y 150, Z 100
Dimensions	(mm)	W 520, L 700, H 615
Weight	(kg)	110
Measuring table	(mm)	X 357, Y 264
Max. load	(kg)	20



DeMeet-400		
Measuring range	(mm)	X 400, Y 250, Z 200
Dimensions	(mm)	W 870, L 930, H 1570
Weight	(kg)	530
Measuring table	(mm)	X 560, Y 426
Max. load	(kg)	50



DeMeet-404		
Measuring range	(mm)	X 400, Y 400, Z 200
Dimensions	(mm)	W 870, L 1245, H 1580
Weight	(kg)	700
Measuring table	(mm)	X 560, Y 584
Max. load	(kg)	50



DeMeet-443		
Measuring range	(mm)	X 400, Y 400, Z 300
Dimensions	(mm)	W 870, L 1245, H 1785
Weight	(kg)	720
Measuring table	(mm)	X 560, Y 584
Max. load	(kg)	50



DeMeet-705		
Measuring range	(mm)	X 700, Y 500, Z 300
Dimensions	(mm)	W 1520, L 1550, H 1820
Weight	(kg)	1400
Measuring table	(mm)	X 930, Y 704
Max. load	(kg)	60



Field of view qualifier

Glass reference standard with a pattern consisting of wide variety of very accurate optical characteristics, produced with a coating (chrome). Very suitable for use with optical instruments as geometric accuracy standard or as a test and training object.

- Accuracy: ± 0.002 mm.
- Delivery including drawing with size indication.



Item No.	Description	Price EUR
635.222	Field of view qualifier	

Worktable DeMeet-220

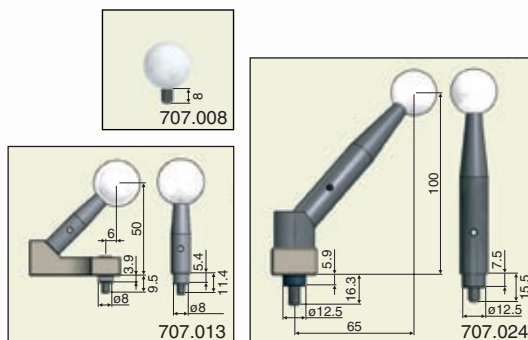
The DeMeet-220 must be placed on a stable worktable for accurate measurements. Placing can be done on a strong work table or on a granite worktable like below.



Item No.	Description	Price EUR
402.004	Granite surface plate 630 x 630 x 80 mm, DIN 876/1	
131.032	Support DeMeet-220 (working height 750 - 800 mm)	

Qualification spheres

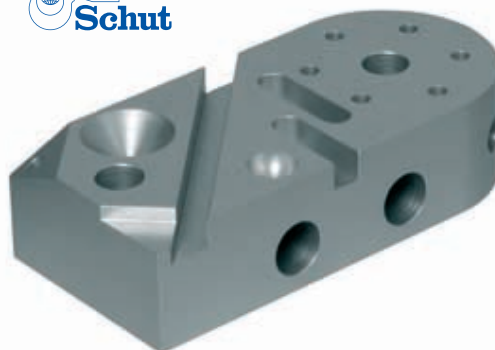
- Ball: $\varnothing 8$ or $\varnothing 25$ mm, made of ceramics.
- Delivery with a manufacturer measuring report.



Item No.	Description	Price EUR
Qualification sphere $\varnothing 8$ mm:		
707.025 ¹	For DeMeet-220	
707.026 ²	For DeMeet-4xx/705	
Qualification sphere $\varnothing 25$ mm:		
707.013 ¹	For DeMeet-220	
707.024 ²	For DeMeet-4xx/705	
707.008 ²	Ball only; M6 external thread	

¹ Thread M4.
² Thread M6.

Training object



Item No.	Description	Price EUR
635.200	Touch probe training object	

Fixture systems

Solid positioning of a measuring object with a fixture system is essential for accurate measurements and the fixing pattern can also be used for batch measurements. The measuring table of the DeMeet is prepared for DF and Alufix fixture systems.

DF product fixture system

DF-System is a fixture system developed and produced by Schut and designed for constructing 3D product fixtures, particularly for optical measurements, and is fully compatible with the measuring table of the DeMeet measuring machines. The DF-system is an easy to mount measurement fixture system and especially developed to use the most of the illumination possibilities for optical measurements. Easy to mount with single-screw couplings to build fixtures with a high repeatability and to realize a short set-up time for measuring tasks.

DF-System consists of a full range of fixture components: bars, connection components and fixing components. Produced from extruded or machined aluminum with either a black or silver anodized finishing. Technically the difference is only applicable for optical measurements in relation to (un)desirable light reflection.

DF is a universal fixture system and can be mounted on any type of measuring machine. With special couplings the system is fully compatible with the measuring tables of the DeMeet video and multi-sensor coordinate measuring machines.

Item No.	Description	Price EUR
717.057	Basic set I DeMeet-220 Black	
717.088	Basic set I DeMeet-220 Silver	
717.095	Basic set II DeMeet-400Y Black	
717.096	Basic set II DeMeet-400Y Silver	
717.058	Basic set III DeMeet-400X/4xxXY Black	
717.089	Basic set III DeMeet-400X/4xxXY Silver	



Alufix fixture system

Alufix is a flexible fixture system made of high-tensile aluminum. Alufix is a uniquely designed modular fixture system to prepare a product-fixture in a short time and is easy to mount and specially suitable for fixtures for heavier measuring objects. A wide range of components is available that can be combined to complete your measuring fixture such as base plates, bars, chucks, rotary plates, centers, magnetic holders, v-blocks, vises and optical targets.

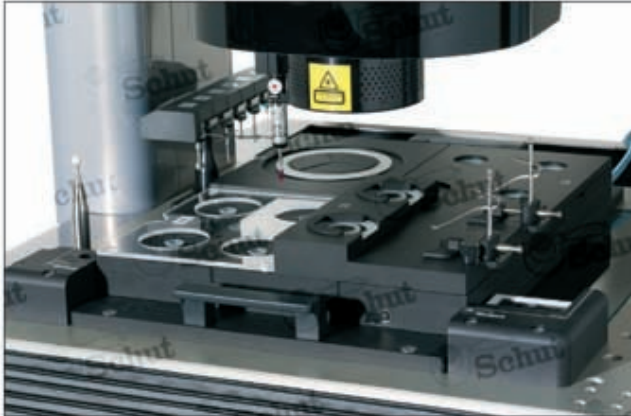
Besides all the separate components two basic sets are composed for the DeMeet: an Alufix 16 set for light weight products and an Alufix 25 set for larger and heavier products.

Item No.	Description	Price EUR
381.100	Basic set Alufix 16 DeMeet for DeMeet-220 and DeMeet-400 (Y-axis)	
381.101	Basic set Alufix 25 DeMeet for DeMeet-400 (X-axis), DeMeet-404 and DeMeet-443	
381.099	Basic set Alufix 25 DeMeet-705 for DeMeet-705	



Custom fixture systems for the DeMeet measuring machines

When products need to be measured in a batch and a standard fixture system does not provide the right solution for example caused by the extraordinary shape or small dimensions of the product, a custom made fixture can provide the solution. This is especially the case for products that need to be measured optically.



A certain repeatability of product positioning in the fixture is important for a quick set-up time in for example the production environment. We can assist in the development and manufacturing of a custom fixture. There is a range of possibilities, from machined fixturing positions in acryl glass to magnet and vacuum fixture systems.

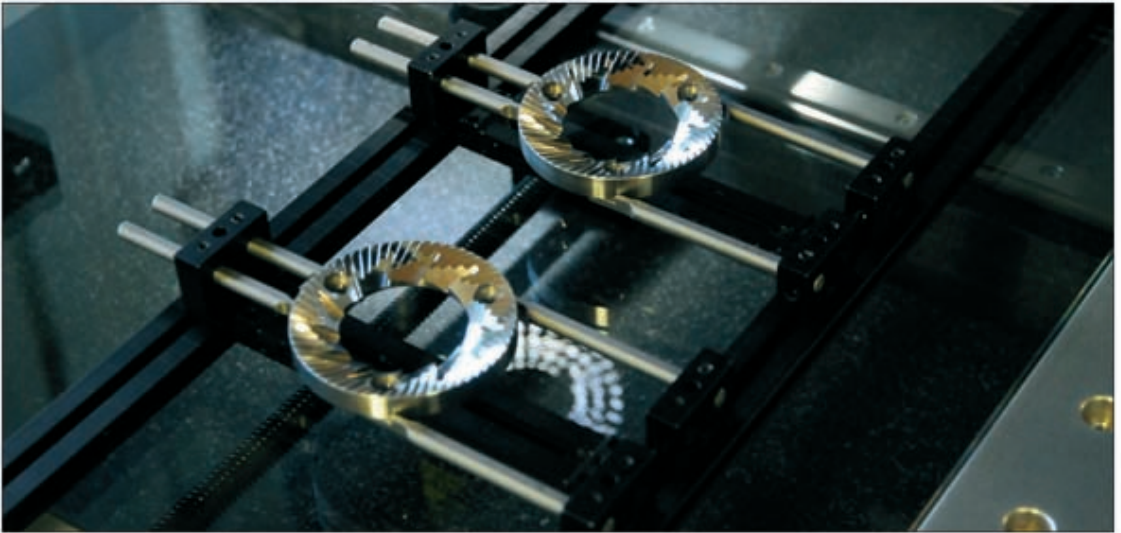


DF product fixture system

DF is a new fixture system developed and produced by Schut and designed for building 3D product fixtures, particularly for optical measurements.

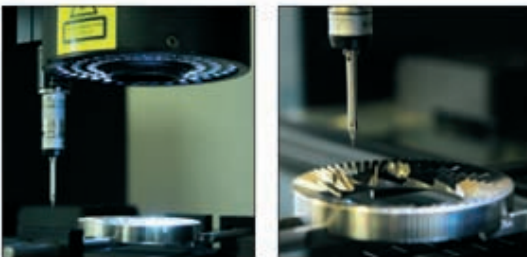
Solid product positioning is essential for accurate measurements. DF is very easy to mount with single-screw couplings to build fixtures with a high repeatability and to realize a short lead-time for measuring jobs.

DF consists of a full range of fixture components: bars, connection components and fixing components. Produced from extruded or machined AlMgSi1 aluminum with either a black or silver anodized finishing. The black anodized version avoids light reflections. The silver components can be applied when light reflections from the fixture are required.



DF is a universal fixture system and can be mounted on any type of measuring machine. With special couplings the system is fully compatible with the measuring tables of the DeMeet video and multi-sensor coordinate measuring machines.

DeMeet



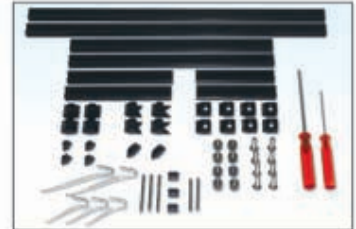
Download the
brochure from
Schut.com



DF product fixture system (continued)

DF is available in separate components and in three basic sets, in black or silver finishing. Basic set I is composed for the DeMeet-220, basic set II for the DeMeet-400 (Y-axis) and basic set III for the DeMeet-400 (X-axis) and the DeMeet-404/443 (X- and Y-axis).

Item No.	Description	Price EUR
717.057	Basic set I DeMeet-220 Black	
717.088	Basic set I DeMeet-220 Silver	
717.095	Basic set II DeMeet-400Y Black	
717.096	Basic set II DeMeet-400Y Silver	
717.058	Basic set III DeMeet-400X/4xxXY Black	
717.089	Basic set III DeMeet-400X/4xxXY Silver	



Item No.		Description	Number	Basic set		
black	silver			I	II	III
717.029	717.073	Mounting block perpendicular	8	•	•	•
717.030	717.074	One point anvil	4	•	•	•
717.031	717.075	One point anvil long	2	•	•	•
717.036	717.077	Mounting block for spring shaft	3	•	•	•
717.040	717.081	V-block 120°	2	•	•	•
717.042	717.083	V-block 90°	2	•	•	•
717.033	717.043	Mounting block side pattern 16	4	•	•	
717.028	717.072	Mounting block end pattern 16	4	•	•	
717.034	717.050	Mounting block side pattern 25	4			•
717.035	717.056	Mounting block end pattern 25	4			•
717.015	717.059	Bar 56 mm	2	•		
717.016	717.060	Bar 88 mm	2		•	
717.097	717.098	Bar 110 mm	2			•
717.017	717.061	Bar 120 mm	2	•		
717.018	717.062	Bar 160 mm	2			•
717.022	717.066	Bar 246 mm	2	•		
717.024	717.068	Bar 310 mm	2		•	•
717.026	717.070	Bar 344 mm	2		•	
717.025	717.069	Bar 460 mm	2			•
717.044		Screw and adapter pattern 16	4	•	•	
380.301		Distance tube with stop pattern 16	8	•	•	
380.304		Distance tube with stop pattern 25	8			•
993.539		Screw M4 x 20 stainless steel	8	•	•	
995.087		Screw M6 x 25 stainless steel	8			•
717.000		Shaft 60 mm for clamping spring	3	•	•	•
717.004		Shaft 50 mm for clamping spring	2	•	•	•
717.010		Clamping spring short	3	•	•	•
717.011		Clamping spring long	2	•	•	•
991.158		Hex screwdriver 2 mm	1	•	•	•
991.160		Hex screwdriver 3 mm	1	•	•	
991.161		Hex screwdriver 4 mm	1			•
717.008		Screw mounting tool	1	•	•	
851.888		Case for DF basic sets I and II	1	•	•	
851.899		Case for DF basic set III	1			•



Item No.	Description	Price EUR
991.158	Hex screwdriver 2 mm	
991.160	Hex screwdriver 3 mm	
991.161	Hex screwdriver 4 mm	
991.276	Adjustable torque hex screwdriver 2 mm with range 0.1 - 0.6 Nm	

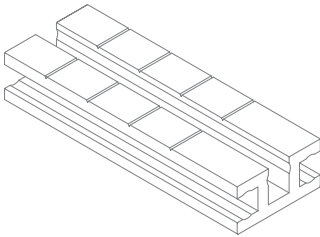


991.276

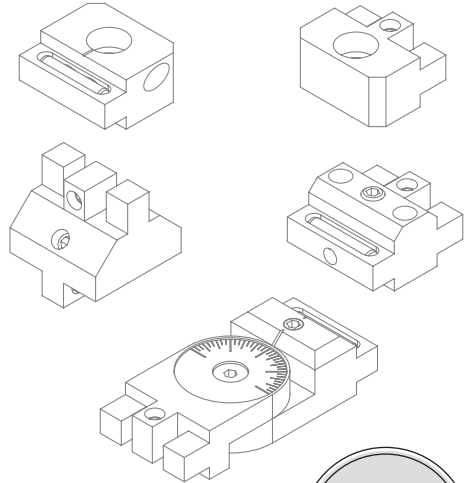
DF components

Besides the components shown below, there are various other types available.

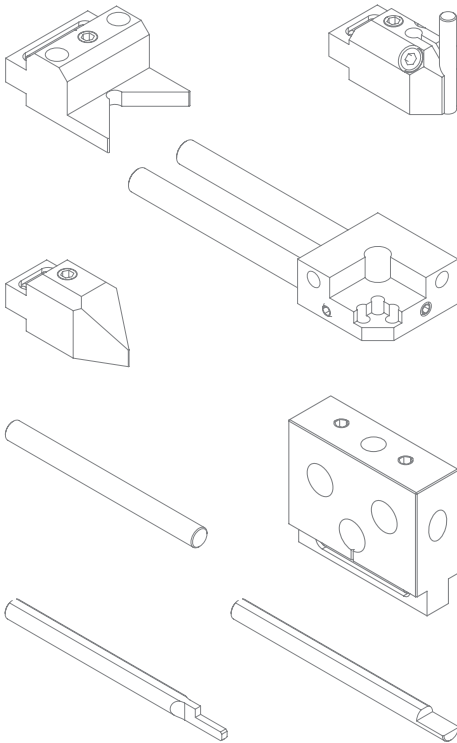
Bars



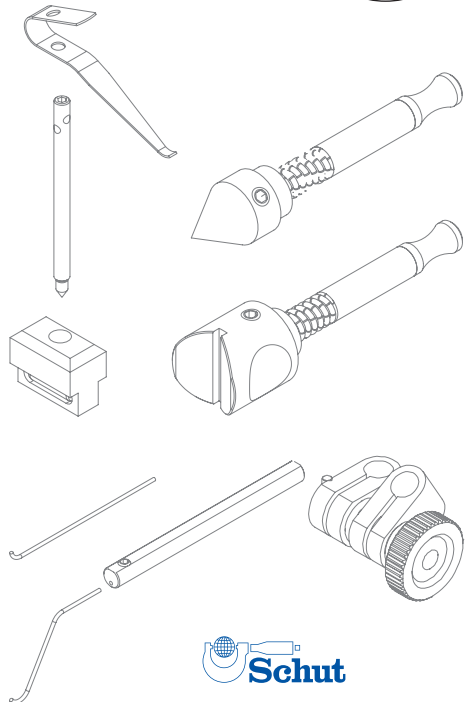
Connection components



Positioning components

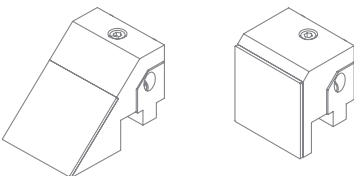


Fixing components



Download the
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Schut.com

Mirrors



Alufix fixture system

Alufix is a flexible fixture system made of high-tensile aluminum, with which, due to the high production accuracy and ease of use, fixture solutions can be created in a short time.

Applications of Alufix are for example:

- Product fixtures for coordinate measuring machines or other measuring systems such as probe/dial indicator measuring systems or height gauges.
- Product fixtures for various mounting purposes.
- Product fixtures for various production applications like welding.

The great diversity of accessories enables a fixture for almost any product. E.g. Alufix is used in aerospace, plastics and car manufacturing industries.

Some advantages of the Alufix system:

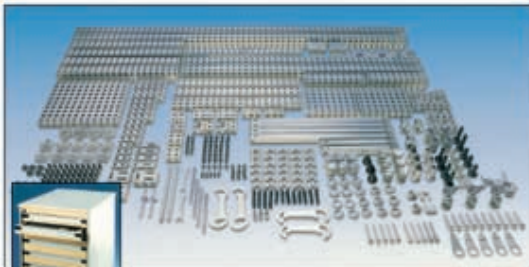
- Alufix can save time and money, because the fixtures are quick and easy to assemble.
- All components are re-usable.
- Aluminum has a low weight and is corrosion free.
- High dimensional accuracy.

The basis consists of a base plate or a “quader”. With different sorts of connecting elements you can fix other basic elements, clamping springs, vices, claw plates, prisms and various other Alufix elements. For many of the basic elements there is also a lighter ECO or Light version available with a favourable price-performance ratio. Components can be supplied black anodized as an option for avoiding light reflections with for example optical measurements.

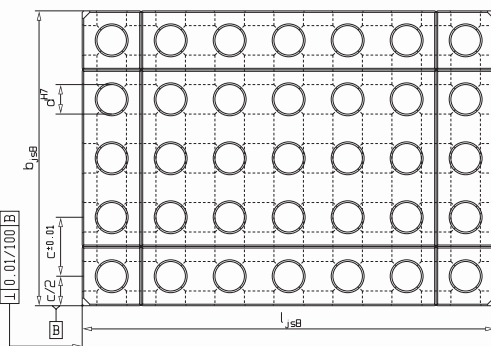
Alufix is available in several base sizes. **Alufix 16** is the smallest version for fixturing small, light objects, **Alufix 25**, **Alufix 40**, **Alufix 50** and the **Fixinspect** system.

The center distances (c) of the bores are indicated by the type number, for example 25 mm for Alufix 25. The diameter (d) of the bores is half of this number, 12.5H7. The various versions can be connected with positioning sleeves.

All Alufix parts are separately available, and can be assembled to create a product specific fixture. There are also sets of a more general composition.



Example of an Alufix basic set: 438 pieces, delivery with workstation.



	Center distance c/mm	Bore diameter d/mm
Alufix 16	16	8
Alufix 25	25	12.5
Alufix 40	40	20
Alufix 50	50	25



Fixtures for height gauges can be rotated by 90° allowing 2 coordinates to be measured.



Alufix base plates



Alufix base plates serve as a basis for small to medium fixtures. They can be connected on all six sides using quick or screw connection elements and can therefore be used in an extremely flexible way.

The Alufix Grid base plates are provided with threaded through holes on one side for elements to be screwed into.



Various sizes and base sizes (Alufix 16, 40 and 50) available. These Alufix plates are also available in a lighter ECO version which have a favourable price-performance ratio.



Alufix quaders

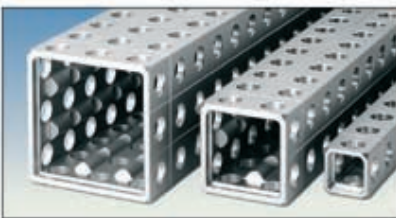
Solid Alufix quaders serve as connection between a base plate and workpiece support. They can be connected on all six sides using quick or screw connection elements.

Quaders are available in single and double models.

Various sizes and base sizes (Alufix 16, 40 and 50) available.



Alufix Light quaders



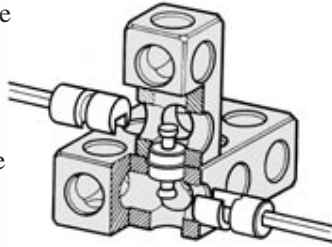
Alufix Light quaders serve as a frame or connection between a base plate and the workpiece in medium or large fixtures. To obtain weight reduction Alufix has designed this "light" version. The rectangular bars (quaders) are hollow instead of solid, and are available in single, double and triple models. They can be connected on all four long sides using quick or screw connection elements. The end faces can be connected using special coupling plates.

Various sizes and base sizes (Alufix 16, 40 and 50) available. These Alufix Light quaders are also available in a lighter ECO version which have a favourable price-performance ratio.

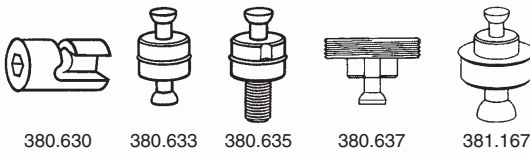


Alufix connection elements

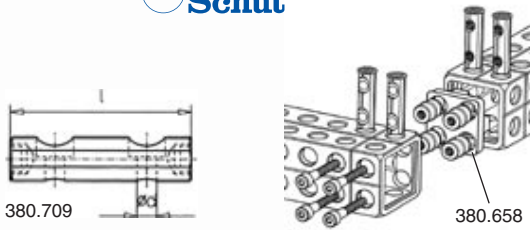
For connecting base plates, quaders and other elements. With the positioning sleeves, the various Alufix systems can be connected.



381.115



Item No.	Description	Price EUR
Alufix 25:		
381.115	36 piece set	
380.630	Lock	
380.633	Twin bolt	
380.635	Combi bolt	
380.637	Bolt disk	
381.167	Pos. sleeve 25/16	

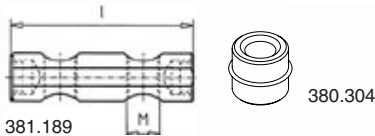


Also available for Alufix 16, 40 and 50.

Couplings for Alufix 25, double model (w x h = 50 x 50 mm)

Item No.	Type	Price EUR
380.658	Single coupling	
380.717	Double coupling	

Also available for Alufix 40 and 50.



Struts for Alufix 25

Give extra support to frames and column type support points.



Screw connections

Item No.	Type	Price EUR
Alufix 25 crosspieces nut:		
380.328	M6 x 25 ¹	
380.709	M6 x 50 ²	
381.185	M6 x 75 ³	
Alufix 25 crosspieces:		
380.325	M6 x 25 ¹	
381.189	M6 x 50 ²	
381.190	M6 x 75 ³	
380.304	Positioning sleeve AF 25	

Item No.	Length/mm	Price EUR
381.123	125	
381.124	250	
380.715	500	
380.716	750	

Also available for Alufix 40 and 50.

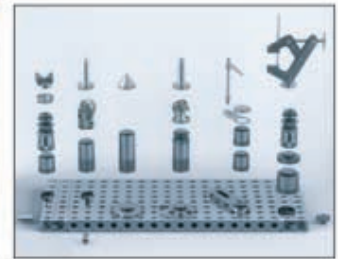
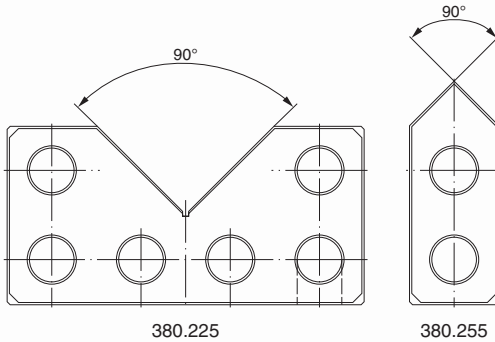
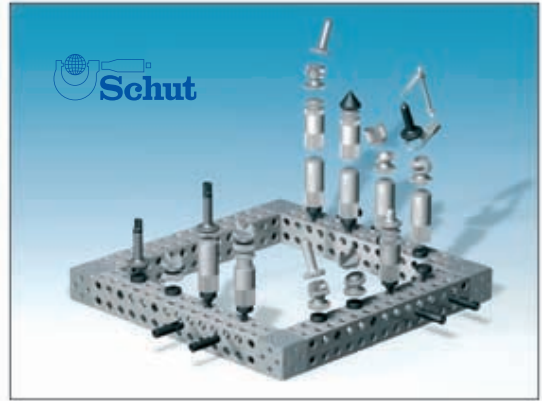
¹Single, ²double or ³triple model. Also available for Alufix 16, 40 and 50.

Alufix positioning and fixing components

Alufix offers a large variety of positioning and fixing components. All of these components are compatible with Alufix 16, 25, 40 and 50.

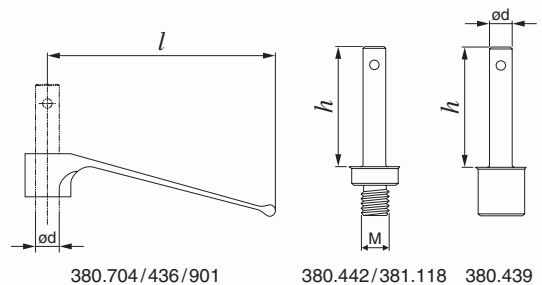
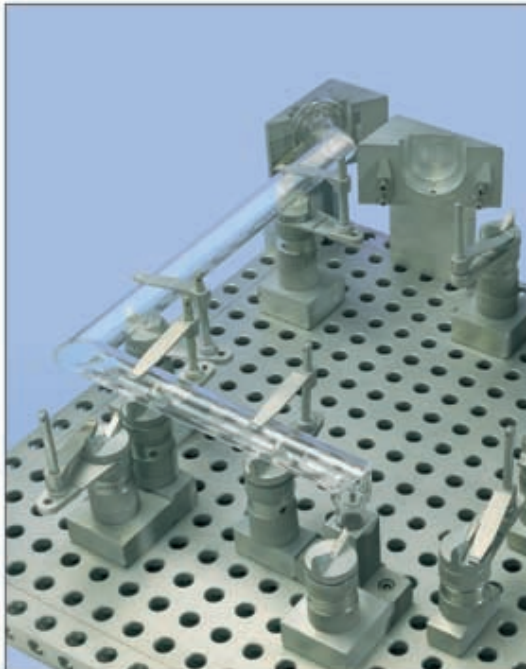
Alufix 25 positioning components

Item No.	Angle	Price EUR
Prisms:		
380.225	90°	
380.227	120°	
Delta blocks:		
380.255	90°	
380.261	120°	

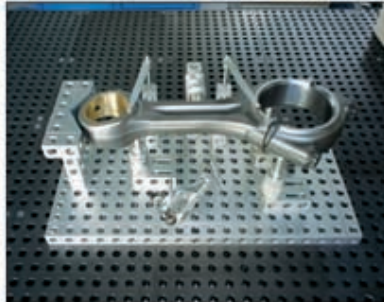


Alufix 25 fixing components

Item No.	Dimensions/mm	Price EUR
Clamping spring:		
380.704	$l = 35$	
380.436	$l = 60$	
380.901	$l = 105$	
Stud for clamping spring:		
380.439	$h = 60$	
380.442	$h = 60$	
381.118	$h = 125$	



Alufix positioning and fixing components (continued)



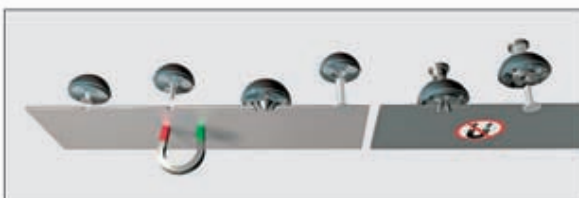
Item No.	Diameter/mm	Price EUR
For Alufix 25:		
381.162	50	
381.075	80	
381.078	125	

Item No.	Jaw width/mm	Price EUR
For Alufix 25:		
381.077	50	
381.164	75	
380.885	100	

Various sizes and base sizes (Alufix 16, 40 and 50) available.

Alufix Fixinspect

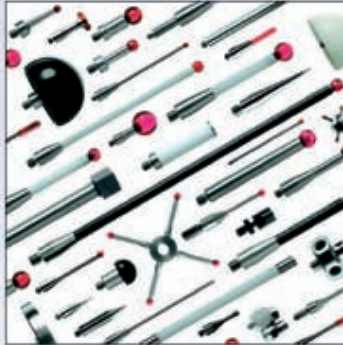
Fixinspect measuring tools are mounted on the workpiece features by use of magnetic coupling, spring clamp or screw connection. Thanks to the Fixinspect measuring tools, positional properties of workpiece features can be determined quickly and easily, both tactile and optical.



Ask for the detailed brochure



Probes and probe systems



Ask for
the detailed
catalog

TP20 probe system

The TP20 probe consists of two parts; a probe body, and a detachable probe module that contains the kinematic touch sensor and carries the stylus assembly.

The probe body has a standard M8 x 1.25 screw connector, which enables simple fitment to all CMMs with a Renishaw standard probe head (including PH6). The body contains a

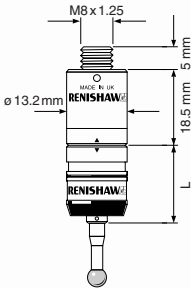
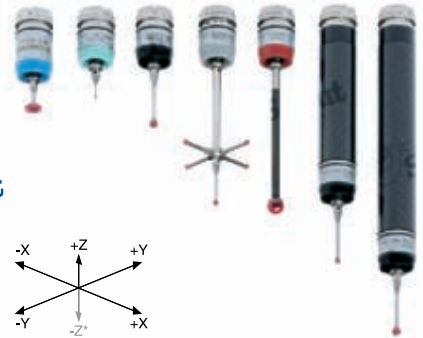
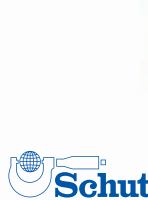


magnetic proximity switch to inhibit triggering of the probe during automatic module changing with the MCR20. (The TP20 NI, *Non-Inhibit*,

is not affected by magnetic fields and must be inhibited through software. The TP20 NI is available on request.)

The probe module is connected to the probe body by a highly repeatable magnetic kinematic coupling, which allows the automatic (CNC) or manual exchange of modules without the need to requalify the stylus tips.

Seven probe module options are available, each with a preset trigger force designed to ensure maximum probe performance when using different stylus configurations.



Module type ¹	Unidirectional repeatability (2σ)/μm	2D (XY) form meas. deviation PTV at 10 mm/μm	Trigger force/N (nominal at stylus tip)		Overall displacement (max at stylus tip)			Length L mm
			XY	Z	XY ²	+Z/mm	-Z/mm	
LF	0.35	±0.6	0.055	0.65	±14°	3.1	-	19.5
SF	0.35	±0.8	0.08	0.75	±14°	4.0	-	19.5
MF	0.5	±1.0	0.1	1.9	±14°	3.7	-	19.5
EF	0.65	±2.0	0.1	3.2	±14°	2.4	-	19.5
6-way	0.80	±1.5	0.14	1.6	±14°	4.5	-	24.5
EM1	0.35	±0.8	0.08	0.75	±14°	4.0	1.5	69.5
EM2	0.35	±0.8	0.08	0.75	±14°	4.0	-	94.5

¹ Probe length: 10 mm, except MF: 25 mm and EF: 50 mm.
² The probe module can get detached if this value is exceeded.

Item No.	Description	Price EUR
TP20 probe sets (incl. stylus tools/cleaning kit and manual):		
876.198	Probe body, probe module SF	
876.244	Probe body, two probe modules SF	
876.200	Probe body, probe modules SF and MF	
	<i>Other set compositions are available on request.</i>	
876.180	Probe module LF: with low force (green)	
876.170	Probe module SF: with standard force (black)	
876.171	Probe module MF: with medium force (gray)	
876.172	Probe module EF: with extended force (brown)	
876.194	Probe module 6W: 6-way (blue)	
876.190	Extension module EM1 (standard force)	
876.195	Extension module EM2 (standard force)	
876.168	CK200 cleaning kit	

PH6 Fixed Probe Head

The PH6 is a compact, vertical probe head for a single probe, with a fixed cable. The correct shank with cable combination must be chosen to suit the mounting features of your CMM. Many combinations are possible and available on request.

- Weight: 48 g (without shank and cable).
- Probe status identification: 1 LED.
- Cable connection: fixed cable (specify on order).
- Probe mounting: M8 thread.

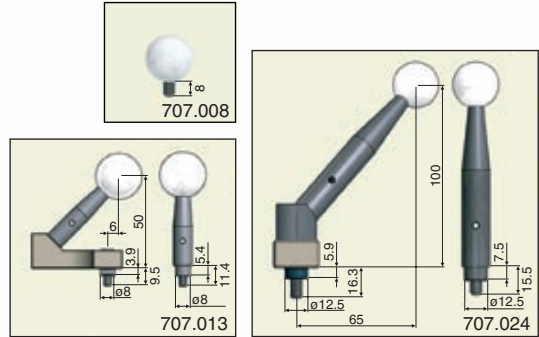


Item No.	Description	Price EUR
876.061 ¹	PH6 Fixed Probe Head	

¹ Equipped with PL1 cable (0.71 m) and MS1/T shank (ø9.500-9.512 mm).

Qualification spheres

- Ball: ø 8 or ø 25 mm, made of ceramics.
- Delivery with a manufacturer measuring report.



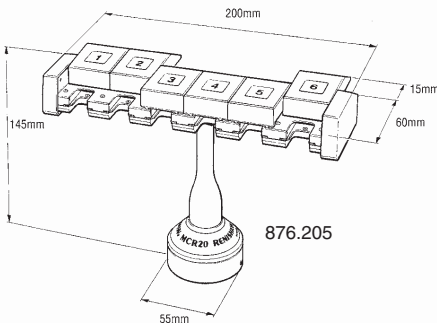
Item No.	Description	Price EUR
Qualification sphere ø 8 mm:		
707.025 ¹	For DeMeet-220	
707.026 ²	For DeMeet-4xx/705	
Qualification sphere ø 25 mm:		
707.013 ¹	For DeMeet-220	
707.024 ²	For DeMeet-4xx/705	
707.008 ²	Ball only; M6 external thread	

¹ Thread M4.
² Thread M6.

MCR20 Probe Module Changing Rack

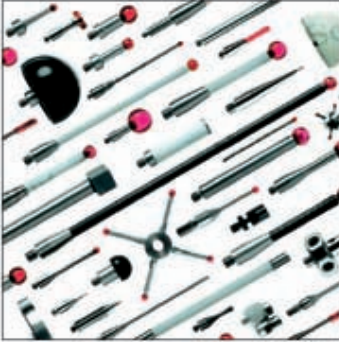
The MCR20 is designed to securely hold up to six probe modules for automatic (CNC) changing and to protect them from airborne contaminants which may be present in the working environment.

- Height:
 - 876.205: 145 mm,
 - 635.141: 108.5 mm,
 - 635.140: 110.5 mm.
- Capacity for 6 TP20 modules.
- Inhibit range: 50 mm.
- Delivery with base, without probe modules.



Item No.	Description	Price EUR
876.205	MCR20	
635.141	MCR20 DeMeet-220	
635.140	MCR20 DeMeet-4xx/705	

Probes and accessories



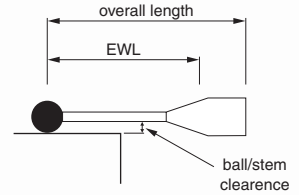
The element of the product to be measured determines the type and length of the probe. Maximum rigidity of the stem and perfect roundness of the ball are very important.

Only the M2 styli of the Renishaw probe program have been included in this catalog. M3, M4 and M5 are also available on request. The M2 probes are primarily suitable for the TP2, TP20 and TP200 probe systems.

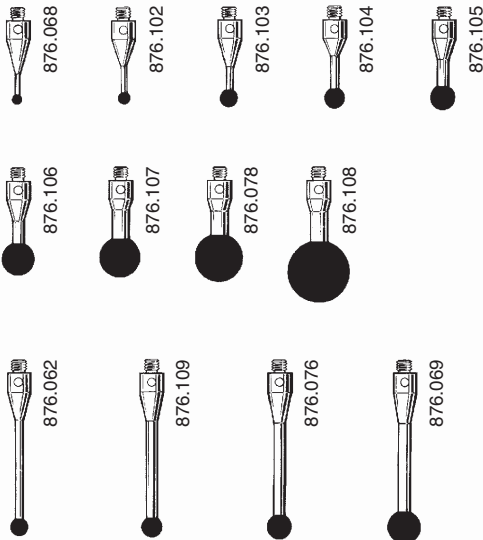
Choosing probes for inspections

In order to maximize the accuracy of the main part of the probe applications, we advise you to use:

- the shortest and stiffest probes possible; the more the probe bends or deviates, the lower the measuring accuracy.
- the largest possible probe ball; the bigger the probe ball, the greater the free space between the ball and the stem and the smaller the effect of the surface condition of the product that has to be measured.
- as little extensions as possible; every connection introduces a potential diffraction or deviation.



Ruby ball styli with stainless steel stem and thread M2

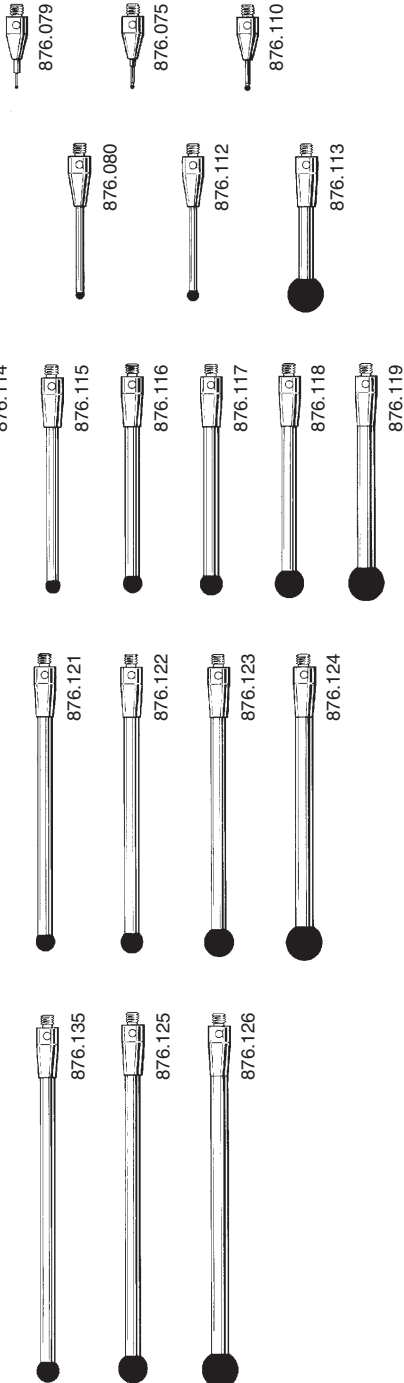


Item No.	Ball ϕ /mm	EWL* mm	Weight g	Price EUR
Total length* 10 mm:				
876.068	1	4.5	0.3	
876.102	1.5	4.5	0.3	
876.103	2	6	0.3	
876.104	2.5	6	0.3	
876.105	3	7.5	0.4	
876.106	4	10	0.4	
876.107	5	10	0.7	
876.078	6	10	0.9	
Total length* 11 mm:				
876.108	8	11	1.5	
Total length* 20 mm:				
876.062	2	14	0.4	
876.109	2.5	14	0.4	
876.076	3	17.5	0.5	
876.069	4	20.2	0.6	

* Total length: from the base of the stem up to the center of the ball. EWL: effective working length.

Probes and accessories (continued)

Ruby ball styli with tungsten carbide stem and thread M2



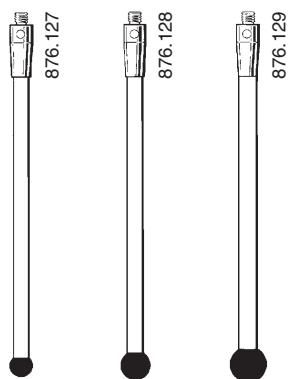
Item No.	Ball ø/mm	EWL* mm	Weight g	Price EUR
Total length* 10 mm:				
876.079	0.3	2	0.3	
876.075	0.5	3	0.3	
876.110	0.7	4	0.3	
Total length* 20 mm:				
876.111	1	7	0.5	
876.080	1	12.5	0.41	
876.112	1.5	15	1.98	
876.113	5	20	1.98	
Total length* 30 mm:				
876.101	1	20.5	0.4	
876.114	1.5	25	0.58	
876.115	2	25	0.99	
876.116	2.5	25	1.48	
876.117	3	25	1.49	
876.118	4	30	1.57	
876.119	5	30	2.57	
Total length* 40 mm:				
876.120	2	35	1.29	
876.121	2.5	35	1.95	
876.122	3	35	1.97	
876.123	4	40	2.04	
876.124	5	40	3.17	
Total length* 50 mm:				
876.135	3	42.5	2.44	
876.125	4	50	2.52	
876.126	5	50	3.75	

* Total length: from the base of the stem up to the center of the ball. EWL: effective working length.

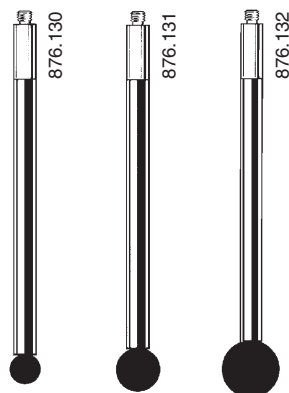


Probes and accessories (continued)

Ruby ball styli with ceramic stem and thread M2, total length¹ 50 mm



Ruby ball styli with carbon fiber stem and thread M2, total length¹ 50 mm

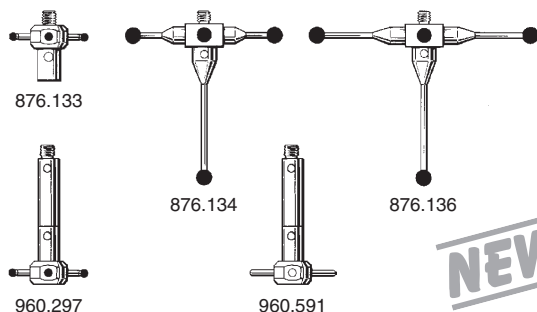


Item No.	Ball ø/mm	EWL ¹ mm	Weight g	Price EUR
876.127	3	42.5	0.83	
876.128	4	50	0.91	
876.129	5	50	1.31	

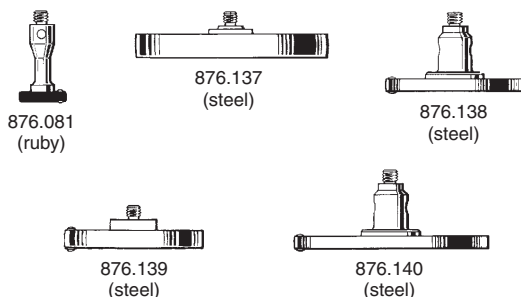
Item No.	Ball ø/mm	EWL ¹ mm	Weight g	Price EUR
876.130	4	50.5	1	
876.131	5	50.5	1.1	
876.132	6	50.5	1.2	

¹ Total length: from the base of the stem up to the center of the ball. EWL: effective working length.

Star styli (fixed) with thread M2



Disc styli with thread M2



Item No.	Ball ø/mm	Work ³ ø/mm	Weight g	Price EUR
876.133	1	10	0.5	
876.134	2	20	1.3	
876.136	2	30	1.8	
960.297	1	11	1.2	
960.591	- ²	11.5	1.3	

Item No.	Disc ø/mm	Disc thick-ness/mm	Weight g	Price EUR
876.081	6	2 ⁴	0.6	
876.137	25	3	3.8	
876.138	18	2.5 ⁴	3	
876.139	18	3 ⁴	2.7	
876.140	25	2.5 ⁴	4	

² Cylinder stylus, radius 0.5 mm.

³ Span (center distance).

⁴ Size is incl. ball probe on the disc.

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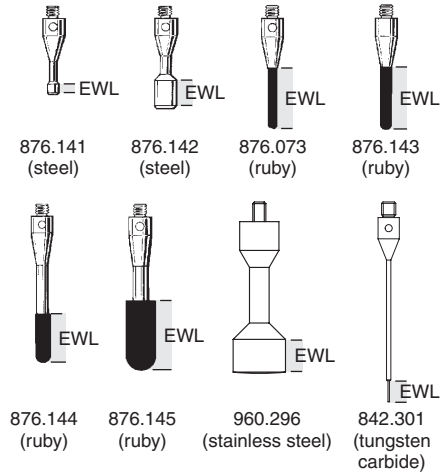
Probes and accessories (continued)

Cylinder styli with thread M2

Item No.	Cylinder ø/mm	Total length ¹ /mm	EWL ¹ mm	Weight g	Price EUR
876.141	1.5	11	1.5	0.3	
876.142	3	13	3.8	0.6	
876.073	1	15	8	0.3	
876.143	1.5	15	8.5	0.3	
876.144	2	20	7.2	0.5	
876.145	4	20	10	0.9	
960.296 ²	8	23	5	4.5	
842.301	0.2	26	3	0.35	

¹ Total length: from the base of the stem up to the center of the ball.
EWL: effective working length.

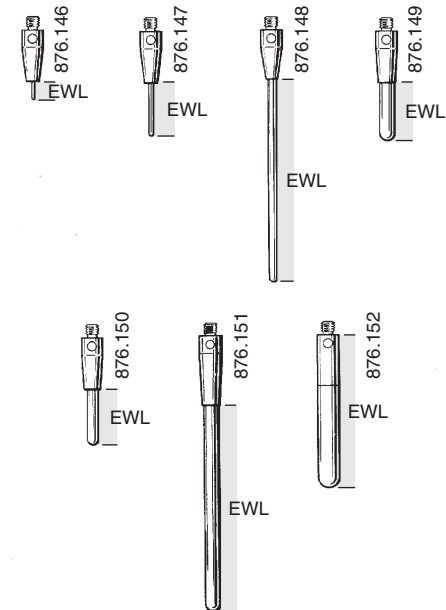
² Radius bottom side 40 mm.



Parallel hemispherical ended styli (tungsten carbide) with thread M2

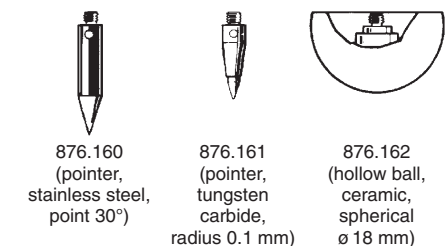
Item No.	Cylinder ø/mm	Total length*/mm	EWL* mm	Weight g	Price EUR
876.146	0.3	10.2	2.7	0.3	
876.147	0.5	15.3	7.8	0.3	
876.148	1	35.5	29.8	0.7	
876.149	1.5	15.8	8.3	0.6	
876.150	2	16	8.5	0.8	
876.151	2	40	32	2	
876.152	3	22.5	22.5	2	

* Total length: from the base of the stem up to the center of the ball.
EWL: effective working length.



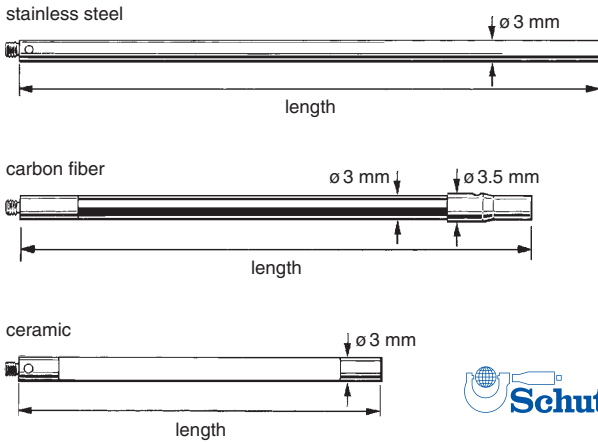
Special purpose styli with thread M2

Item No.	Length mm	Weight g	Material	Price EUR
876.160	15	0.7	stainless steel	
876.161	10	0.7	tungsten carbide	
876.162	11	3.3	ceramic	



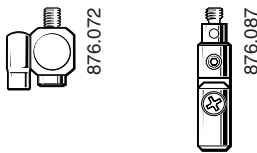
Probes and accessories (continued)

Stylus extensions with thread M2



Item No.	Length mm	Weight g	Price EUR
Stainless steel:			
876.067	5	0.2	
876.077	10	0.4	
876.070	20	0.9	
876.164	30	1.4	
876.165	40	1.8	
Carbon fiber:			
876.153	40	0.9	
876.154	50	1	
876.155	70	1.3	
876.156	90	1.5	
Ceramic:			
876.157	30	0.97	
876.158	40	1.22	
876.159	50	1.51	

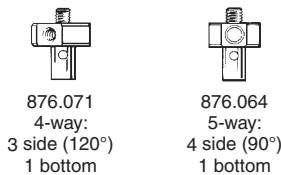
Stylus knuckles to put the probe in any desired position



Item No.	Thread	EWL* mm	Center offset/mm	Weight g	Price EUR
876.072	M2	8	4.5	1.6	
876.087	M2	16.5	–	1.3	

* EWL: effective working length.

Stylus centers for a maximum of 5 styli



Item No.	Thread	EWL* mm	Center size/mm	Weight g	Price EUR
876.071	M2	7.5	7.5	1.1	
876.064	M2	8	7.5	0.8	

* EWL: effective working length.

Adapters (stainless steel)



Item No.	Thread external/internal	Length mm	Weight g	Price EUR
876.074	M2/M3	7	0.4	
960.276	M2.5/M2	5		
876.065	M3/M2	5	0.6	

Styli tool for fitting styli to probe modules, couplings and extentions



Item No.	Description	Price EUR
876.166	Styli tool for M2 and M3 threaded styli	

- A**
- Absolute
 - calipers 26-27, 30-33, 35, 37, 40, 52-54, 58
 - depth calipers 86
 - dial indicators 211-212, 216-219, 224
 - micrometers 95, 101-102
 - probes 266
 - three-point internal micrometers 160
 - Alignment tools 346
 - Alufix fixture system 522-526
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 - Angle blocks (cast iron) 307
 - Angle gauge blocks 378
 - Angle gauges 403
 - Angle plates (cast iron) 308-309
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 - Ball attachments for micrometers 134-135
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 - Bases for dial indicator stands 273, 278
 - Beam compasses 458
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 - Bevel protractors (see Protractors) 335-343
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 - Beveled straight edges 333
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 - (see Internal measuring instruments)
 - Bore gauges (3-point) 167
 - (see Internal measuring instruments)
 - Bore micrometers (2-point) 177-181
 - (see Internal micrometers)
 - Bore micrometers (3-point) 144-161
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 - Caliper Holder 79
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 - Bluetooth 36
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 - carbon 36, 56, 59-60
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 - IP67 36-40, 52-53, 57-58
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 - digital 405
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