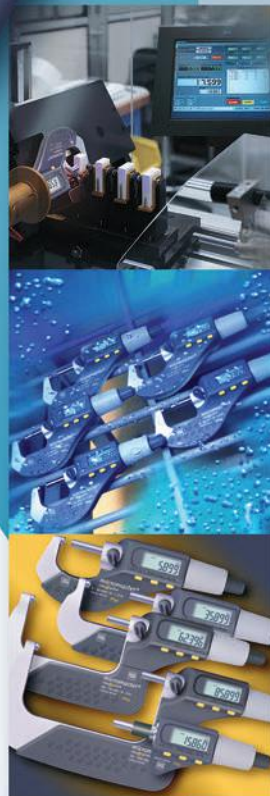


External Micrometers



PRECISION MEASUREMENT





Precision measurement requires the use of micrometers. In 1848, the first measuring tool of this type was patented by the French inventor Jean Laurent Palmer as "calibre à vis et à vernier circulaire" (screw caliper with a circular vernier). Today, we continue to make external micrometers with these typical features. The introduction of the micrometer to the mechanical world came about due to the visit of the two American engineers, Joseph R. Brown and Lucian Sharpe to the Paris Exhibition in 1867. At that time, their attention was drawn to Palmer's invention, which greatly interested them. After some improvements of Palmer's design, the product was manufactured on a large scale and marketed successfully by the two partners. History repeated itself years later as TESA SA decided to manufacture external micrometers, making them the first products produced by the company.

Whether for internal or external measurement, TESA micrometers are distinguishable for their construction and quality. All our models respect the ABBE principle with the exception of the models with large measuring anvils for the measurement of gear teeth for example.



State of the art machining techniques are used for grinding the micrometer spindles, to ensure extreme accuracy and a true reproduction of the thread with negligible pitch deviations. For this reason we can guarantee a very low measuring uncertainty to our instrument users. TESA micrometers are designed to meet the most exacting demands. They are robust and ergonomically designed.

Max. permissible errors

			
Measuring range mm	Maximum permissible errors* μm	Number of interference fringes or rings	μm
0 ÷ 25	4	6	2
25 ÷ 50	4	6	2
50 ÷ 75	5	10	3
75 ÷ 100	5	10	3
100 ÷ 125	6		3
125 ÷ 150	6		3
150 ÷ 175	7		4
175 ÷ 200	7		4
200 ÷ 225	8		4
225 ÷ 250	8		4
250 ÷ 275	9		5
275 ÷ 300	9		5
300 ÷ 325	10		5
325 ÷ 350	10		5
350 ÷ 375	11		6
375 ÷ 400	11		6
400 ÷ 425	12		6
425 ÷ 450	12		6
450 ÷ 475	13		7
475 ÷ 500	13		7

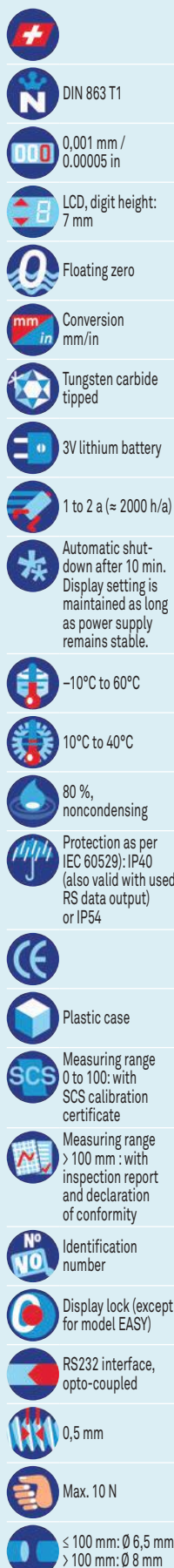
* Including the errors of the measuring element as well as any deviations in the flatness and parallelism of the measuring faces, plus any errors due to the flexing of the frame.

We offer an extensive range of micrometers, from a classic model through to micrometers for special applications, and also micrometer heads, complete sets, accessories and all items needed for calibration. They are available in analogue or digital versions, and also digital versions with results output.

TESA MICROMASTER Electronic Micrometers with Digital Display

With patented TESA CAPA μ SYSTEM.

- Measuring span of 30 mm.
- Large easy-to-read digital display.
- Models:
 - EASY IP40 with a single function key.
 - IP54 with water spray protection as well as IP54 RS with an RS232 interface.



DIN 863 T1

0,001 mm / 0,00005 in

LCD, digit height: 7 mm

Floating zero

Conversion mm/in

Tungsten carbide tipped

3V lithium battery

1 to 2 a (\approx 2000 h/a)

Automatic shut-down after 10 min. Display setting is maintained as long as power supply remains stable.

-10°C to 60°C

10°C to 40°C

80 %, noncondensing

Protection as per IEC 60529: IP40 (also valid with used RS data output) or IP54

CE

Plastic case

Measuring range 0 to 100: with SCS calibration certificate

Measuring range > 100 mm : with inspection report and declaration of conformity

Identification number

Display lock (except for model EASY)

RS232 interface, opto-coupled

0,5 mm

Max. 10 N

\leq 100 mm: \varnothing 6,5 mm
> 100 mm: \varnothing 8 mm

No	mm	mm	in	in		
06030010	0 ÷ 30	0 ÷ 30	0 ÷ 1.2	0 ÷ 1.2	IP40	-
06030020	0 ÷ 30	0 ÷ 30	0 ÷ 1.2	0 ÷ 1.2	IP54	-
06030021	25 ÷ 50	23 ÷ 53	1 ÷ 2	0.9 ÷ 2.1	IP54	-
06030022	50 ÷ 75	48 ÷ 78	2 ÷ 3	1.9 ÷ 3.1	IP54	-
06030023	75 ÷ 100	74 ÷ 104	3 ÷ 4	2.9 ÷ 4.1	IP54	-
06030030	0 ÷ 30	0 ÷ 30	0 ÷ 1.2	0 ÷ 1.2	IP54	RS232
06030031	25 ÷ 50	23 ÷ 53	1 ÷ 2	0.9 ÷ 2.1	IP54	RS232
06030032	50 ÷ 75	48 ÷ 78	2 ÷ 3	1.9 ÷ 3.1	IP54	RS232
06030033	75 ÷ 100	74 ÷ 104	3 ÷ 4	2.9 ÷ 4.1	IP54	RS232
06030071	100 ÷ 125	98 ÷ 127	4 ÷ 5	3.9 ÷ 5.01	IP54	RS232
06030072	125 ÷ 150	123 ÷ 152	5 ÷ 6	4.9 ÷ 6.01	IP54	RS232
06030073	150 ÷ 175	149 ÷ 178	6 ÷ 7	5.9 ÷ 7.01	IP54	RS232
06030074	175 ÷ 200	174 ÷ 203	7 ÷ 8	6.9 ÷ 8.01	IP54	RS232
06030075	200 ÷ 225	199 ÷ 229	8 ÷ 9	7.9 ÷ 9.01	IP54	RS232
06030076	225 ÷ 250	224 ÷ 254	9 ÷ 10	8.9 ÷ 10.01	IP54	RS232
06030077	250 ÷ 275	250 ÷ 279	10 ÷ 11	9.9 ÷ 11.01	IP54	RS232
06030078	275 ÷ 300	275 ÷ 304	11 ÷ 12	10.9 ÷ 12.01	IP54	RS232

OPTIONAL ACCESSORIES:

01961000	Lithium battery, 3V, CR2032
00160201	TESA micrometer stand with clamp aperture 16 mm
072110123	ETALON micrometer stand with clamp aperture 20 mm
04761062	Opto-USB cable, duplex, bidirectional communication

MICROMASTER IP54 SET

Set consisting of 3 Micromaster external micrometers covering 0 ÷ 75 mm measuring range.

No	=	
06030029	Set of 3 MICROMASTER IP54 with RS232 output	0 ÷ 75



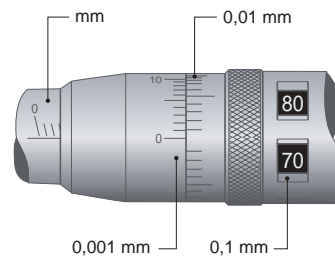
CONSISTING OF:

- 06030030 MICROMASTER RS IP54 digital micrometer, 0 ÷ 30 mm, 0,001 mm resolution, IP54 rating and RS232 output.
- 06030031 MICROMASTER RS IP54 digital micrometer, 25 ÷ 50 mm, 0,001 mm resolution, IP54 rating and RS232 output.
- 06030032 MICROMASTER RS IP54 digital micrometer, 50 ÷ 75 mm, 0,001 mm resolution, IP54 rating and RS232 output.
- 02119021 Etalon setting standard, 50 mm



TESAMASTER High Precision Micrometers with Digital Counter Reading to 0,1 mm

Analogue indication of full millimetres, hundredths and fractions of hundredths. Accurate, parallax-free reading on the vernier down to 0,001 mm.



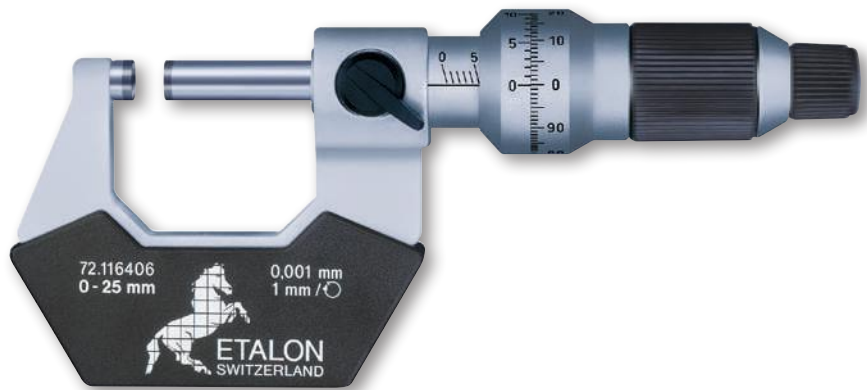
- DIN 863 T1
NFE 11-095
- Scale
division: 0,1 mm
or 0.005 in
- Tungsten carbide
- Plastic case
- Measuring range
0 to 100 mm
with inspection
report and declara-
tion of conformity
- Measuring range
> 100 mm with
a declaration of
conformity
- Identification
number
- 0,5 mm
- Max. 10 N
- ≤ 100 mm: Ø 6,5 mm
> 100 mm: Ø 8 mm
- Vernier reading
to 0,001 mm
or 0.0001 in

No	mm	µm	µm
00310001	0 ÷ 25	2	1
00310002	25 ÷ 50	2	1,5
00310003	50 ÷ 75	3	1,5
00310004	75 ÷ 100	3	1,5
00310005	100 ÷ 125	4	2
00310006	125 ÷ 150	4	2,5
00310007	150 ÷ 175	5	3
00310008	175 ÷ 200	5	3
00310009	200 ÷ 225	6	3,5
00310010	225 ÷ 250	6	3,5

- DIN 863 T1
NFE 11-095
- Tungsten carbide tipped
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- 1 mm
- Max. 10 N
- Ø 6,5 mm
- Parallax-free vernier reading to 0,001 mm

ETALON MICRORAPID 226 with 1 mm Revolution

High precision micrometers – Fast, accurate reading – No reading error of the millimetre fractions – Barrel with scale to 1 mm – Thimble with 100 graduations and vernier reading to 0,001 mm.

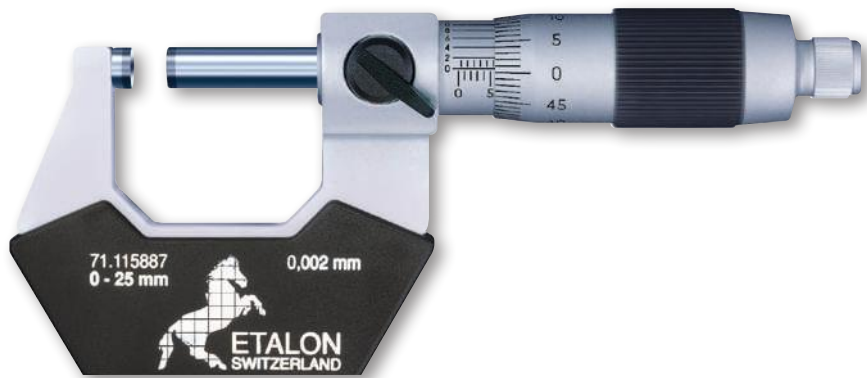


No				
	mm	µm		µm
072116406	0 ÷ 25	2		1
072116407	25 ÷ 50	2		1,5
072116408	50 ÷ 75	3		1,5
072116409	75 ÷ 100	3		1,5

- DIN 863 T1
NFE 11-095
- Tungsten carbide tipped
- Plastic case
- Measuring range 0 to 100 mm with inspection report and declaration of conformity
- Measuring range > 100 mm with a declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- ≤ 100 mm: Ø 6,5 mm,
> 100 ≤ 200 mm: Ø 8 mm
- 0 to 100 mm

ETALON 260 Standard Models with Analogue Indication

The knurled sleeve only needs to be reversed to render the friction drive built into the thimble inactive.



No					
	mm	mm	µm		µm
071115887	0 ÷ 25	0,002	2		2
071115888	25 ÷ 50	0,002	2		2
071115889	50 ÷ 75	0,002	3		3
071115890	75 ÷ 100	0,002	3		3
071115891	100 ÷ 125	0,01	4		3
071115892	125 ÷ 150	0,01	4		3
071115893	150 ÷ 175	0,01	5		4
071115894	175 ÷ 200	0,01	5		4



TESA ISOMASTER Standard Models with Analogue Indication

Slanted full millimetres on the barrel are set apart from the straight half millimetres to virtually eliminate reading errors.

The knurled sleeve needs only to be reversed to render the friction drive built into the thimble inactive.



No	mm	mm
00110101	0 ÷ 25	0,01
00110102	25 ÷ 50	0,01
00110103	50 ÷ 75	0,01
00110104	75 ÷ 100	0,01
00110105	100 ÷ 125	0,01
00110106	125 ÷ 150	0,01
00110107	150 ÷ 175	0,01
00110108	175 ÷ 200	0,01
00110109	200 ÷ 225	0,01
00110110	225 ÷ 250	0,01
00110111	250 ÷ 275	0,01
00110112	275 ÷ 300	0,01

- DIN 863 T1 NFE 11-095
- Tungsten carbide tipped
- Plastic case
- Measuring range 0 to 100 mm with inspection report and declaration of conformity
- Measuring range smaller than 100 mm with a declaration of conformity
- Identification number
- 0.5 mm
- Max. 10 N
- ≤ 100 mm: Ø 6,5 mm
> 100 ≤ 300 mm: Ø 8 mm

Set of 4 TESA ISOMASTER Micrometers

The models covering application range 0 to 100 mm provide the quality that you need at competitive prices.



No	=	mm
00110113	Set of 4 ISOMASTER micrometers	0 ÷ 100
CONSISTING OF:		
00110101	ISOMASTER AA external micrometer with vernier scale, 0 ÷ 25 mm and resolution to 0,01 mm	
00110102	ISOMASTER AA external micrometer with vernier scale, 25 ÷ 50 mm and resolution to 0,01 mm	
00110103	ISOMASTER AA external micrometer with vernier scale, 50 ÷ 75 mm and resolution to 0,01 mm	
00110104	ISOMASTER AA external micrometer with vernier scale, 75 ÷ 100 mm and resolution to 0,01 mm	

-
- Plastic case



N DIN 863 T1
NFE 11-095

Tungsten carbide tipped

Plastic case

Inspection report with a declaration of conformity

No Identification number

0,5 mm

Max. 10 N

Ø 6,5 mm

0,01 mm

ETALON Basic to 0,01 mm

Standard micrometer with measuring range from 0 to 100 mm



No	mm
00119046	0 ÷ 25
00119047	25 ÷ 50
00119048	50 ÷ 75
00119049	75 ÷ 100



N DIN 863 T1
NFE 11-095

Tungsten carbide tipped

Plastic case

Inspection report with a declaration of conformity

No Identification number

0,5 mm

Max. 10 N

Ø 6,5 mm

0,01 mm

Set of 4 ETALON Basic Micrometers 0,01 mm Reading

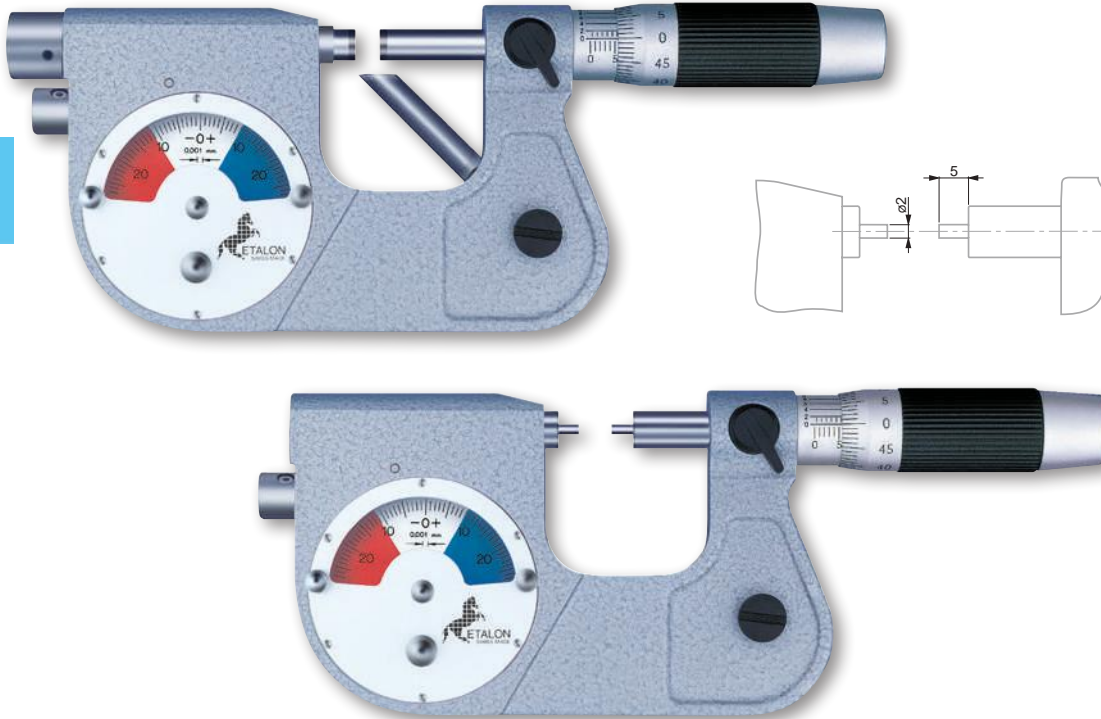


No		mm
00119050	Set of 4 ETALON micrometers	0 ÷ 100
CONSISTING OF:		
00119046	ETALON micrometer with measuring range 0 ÷ 25 mm	
00119047	ETALON micrometer with measuring range 25 ÷ 50 mm	
00119048	ETALON micrometer with measuring range 50 ÷ 75 mm	
00119049	ETALON micrometer with measuring range 75 ÷ 100 mm	



MICRO-ETALON 225 - Precision Micrometers with a Dial Indicator

Feature a mobile anvil along with a built-in dial indicator. Ideal for comparative measurements on small part series. The nominal dimension is set on the micrometer while deviations are read on the dial indicator. Retractable anvil by means of a push-button. Rotating dial for fine adjustment, also with adjustable tolerance markers.



- DIN 863 T3 (Style D13)
- Micrometer: max. perm. error of 2 µm. Dial indicator: 1 µm.
- Dial indicator: repeatability limit of 0.5 µm
- Tungsten carbide tipped
- Plastic case
- Declaration of conformity
- 0,5 mm
- Anvil: 4,5 to 5,5 N
- 6,5 mm dia. Model with small measuring faces: 2 mm dia., 5 mm long
- Micrometer with vernier reading to 0,002 mm. Dial indicator: 0,001 mm.
- Dial indicator: ± 0,025 mm

	mm	
072108669	0 ÷ 25	Standard inserts
072108691	25 ÷ 50	Standard inserts
072108722	0 ÷ 20	Pointed inserts
OPTIONAL ACCESSORY:		
072110978	Protective cover for dial indicator	

Protective Cover for Micro-Etalon 225

Made in transparent plastic – Can be mounted on the bezel – Protects the indicator against dust particles and liquids – Prevents both tolerance markers from being accidentally displaced.



072110978	Protective cover for dial indicator



DIN 863 T3
(Style D14)
NFE 11-090

Meas. element:
max. perm. error
of 2 µm

Mobile anvil:
repeatability
limit of
0,5 µm.

Tungsten carbide
tipped

Adjustable part
support (except
model with small
measuring faces).

Plastic case

Declaration
of conformity

0,5 mm

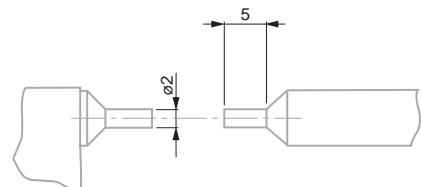
Anvil:
2 up to 8 N,
adjustable

6,5 mm or 2 mm dia.
and length of 5 mm
for models
with small
measuring faces.

Vernier reading
to 0,002 mm

ETALON MICROSEL 280

These micrometers have a mobile anvil along with an 8 mm diameter clamping bore for mounting a sensor with linear action such as a TESA GT 21/22 electronic probe. Specially designed for batch inspection of small precision made parts.



mm

072110816 0 ÷ 25 Standard inserts

072110853 0 ÷ 20 Pointed inserts

Electronic probe and micrometer stand are not part of the delivery scope and must be ordered separately.

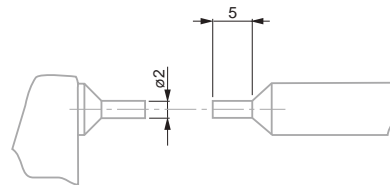


MICROMASTER Micrometers with Small Measuring Faces

For measuring grooves, feather grooves, splines and other difficult to reach locations – Small measuring faces specially made to check small precision workpieces.



No	mm	in
06030034	0 ÷ 30	0 ÷ 1.2
06030035	30 ÷ 60	1.2 ÷ 2.3
OPTIONAL ACCESSORY:		
01961000	Lithium battery 3V, CR2032	

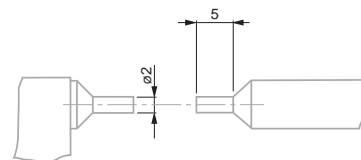


- TESA
- DIN 863 T3 (Style D3)
- 0,001 mm / 0.00005 in
- Conversion mm/in
- Fixed measuring faces: tungsten carbide.
- Degree of protection (IEC 60529): IP54 or IP40 with use of the digital output
- Plastic case
- SCS Measuring range 0 to 100: with a SCS calibration certificate.
- Identification number
- RS232 interface, opto-coupled.
- For additional technical data: see standard.
- Max. 10 N

TESAMASTER AD Micrometers with Small Measuring Faces



No	mm
00311301	0 ÷ 25

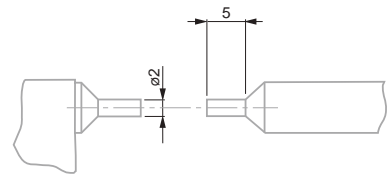


- TESA
- DIN 863 T3 (Style D3) NFE 11-090
- Scale division 0,1 mm
- Fixed measuring faces: tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- Max. 10 N
- Vernier reading to 0,001 mm

MICRORAPID Micrometers with Small Measuring Faces



072116410	0 ÷ 20

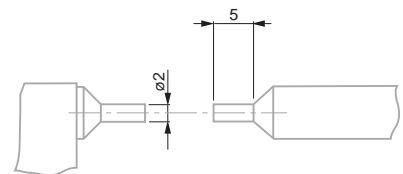


- DIN 863 T3 (Style D3) NFE 11-090
- Fixed measuring faces: tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- 1 mm
- Max. 10 N
- 0,001 mm. Parallax-free reading on vernier

ISOMASTER AD Micrometers with Small Measuring Faces



00210101	0 ÷ 25
00210102	25 ÷ 50



- DIN 863 T3 (Style D3) NFE 11-090
- Fixed measuring faces: tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- Max. 10 N
- 0,01 mm



MICROMASTER Micrometers with Two Spherical Measuring Faces

Rounded measuring faces on both anvil and spindle for measuring concave surfaces on components, e.g. ball-bearing guides or wall thickness.



No	mm	in
06030081	0 ÷ 25	0 ÷ 1
06030082	20 ÷ 50	0.8 ÷ 1.9
06030083	45 ÷ 75	1.8 ÷ 2.9
06030084	70 ÷ 100	2.8 ÷ 3.9

MICROMASTER Micrometers with One Spherical Measuring Face

For the measurement of wall thickness of tubing and other similar tasks.



No	mm	in
06030079	0 ÷ 30	0 ÷ 1.2
06030080	25 ÷ 50	1 ÷ 2

- DIN 863 T3 (Style D1)
- 0,001 mm / 0.00005 in
- Tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard.
- Max. 10 N
- Spherical: 3,5 mm radius.

- DIN 863 T3 (Style D1)
- 0,001 mm or 0.00005 in
- Anvil in tungsten carbide. Micrometric spindle in tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Other technical data see standard.
- Max. 10 N
- Anvil with a 3,5 mm spherical face (MICROMASTER) or 3,25 mm (ETALON). Spindle with a flat measuring face.

ETALON Micrometers with One Spherical Measuring Face



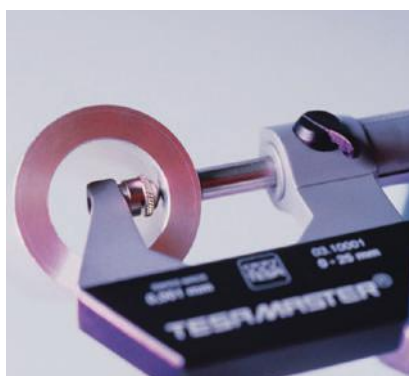
071115940	mm 0 ÷ 25

- DIN 863 T3 (Style D1)
- Anvil with TIC coating, Tungsten carbide spindle
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- Other technical data on MICROMASTER: see appropriate standard.
- Max. 10 N
- Anvil with 3,25 mm spherical measuring face. Spindle with a flat measuring face
- 0,002 mm



Spherical Element for External Micrometers

Holder with a ball tip to fit measuring faces \varnothing 6,5 mm – Used to measure tubing wall thickness or components with concave surfaces etc.



072103522	mm 5

-
- Steel ball tip, hardened and lapped. Dull-chrome brass retainer

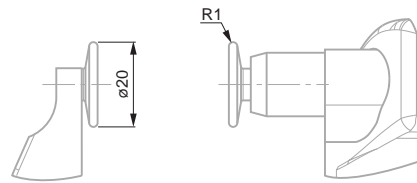


MICROMASTER Micrometers for Soft Materials

With two large, round-edge measuring faces – Measure the thickness of materials such as paper and plastic sheets, felt, cloth and other soft materials. Non-rotating measuring spindle – without spindle lock.



No		
06030085	0 ÷ 30	0 ÷ 1.2



- +
- DIN 863 T3 (Style D6)
- 0,001 mm / 0.00005 in
- Conversion mm/in
- Max. permissible error: 4 µm
- Hardened steel
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard.
- Max. 10 N
- Non-rotating, 20 mm diameter.
- Flatness tolerance: 3 µm
- Tolerance in Parallelism: 6 µm

ISOMASTER AF Micrometers for Soft Materials



No	
00210301	0 ÷ 25

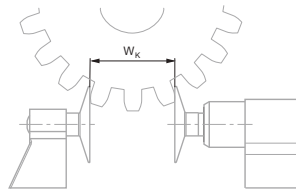
- +
- DIN 863 T3 (Style D6)
- Hardened steel
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- Max. 10 N
- Ø 15 mm
- 0,01 mm
- Flatness tolerance: 3 µm
- Tolerance in parallelism: 6 µm

- DIN 863 T3 (Style D7)
- 0,001 mm / 0.00005 in
- Conversion mm/in
- Hardened steel
- Suitable from module 0,5 onwards
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard.
- Max. 10 N
- Non-rotating spindle
≤ 85 mm: 25 mm dia.
> 85 ≤ 115 mm: 30 mm dia.

MICROMASTER Micrometers for Gear Pitch Measurement

Flanges with ring-shaped measuring faces for root tangent lengths, W_k on gear pitches, distance between grooves and slots as well as other hard-to-reach locations.

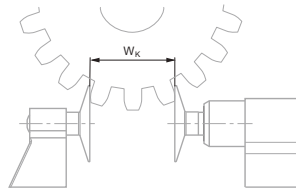
Non-rotating measuring spindle, without spindle lock.



No	mm	in
06030041	0 ÷ 30	0 ÷ 1.2
06030042	25 ÷ 55	1 ÷ 2.1
06030043	55 ÷ 85	2.1 ÷ 3.35
06030044	85 ÷ 115	3.35 ÷ 4.5

- DIN 863 T3 (Style D7) NFE 11-090
- Hardened steel
- Suitable from module 0,6
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- Max. 10 N
- ≤ 100 mm: 25 mm dia.
> 100 ≤ 150 mm: 32 mm dia.
- 0,01 mm

ISOMASTER AE Micrometers for Gear Tooth / Pitch Measurement



No	mm
00210201	0 ÷ 25
00210202	25 ÷ 50
00210203	50 ÷ 75
00210204	75 ÷ 100
00210205	100 ÷ 125
00210206	125 ÷ 150

Resolution		Accuracy		Flatness	Parallelism	Maximum flexure of the frame
mm	µm	µm	µm	µm	µm	µm
0 ÷ 30	10	4	2	2	5	2
25 ÷ 55	10	4	2	2	5	2
55 ÷ 85	11	5	2	2	5	3
85 ÷ 115	12	5	2	2	6	4



MICROMASTER with 7 Pairs of Interchangeable Measuring Inserts

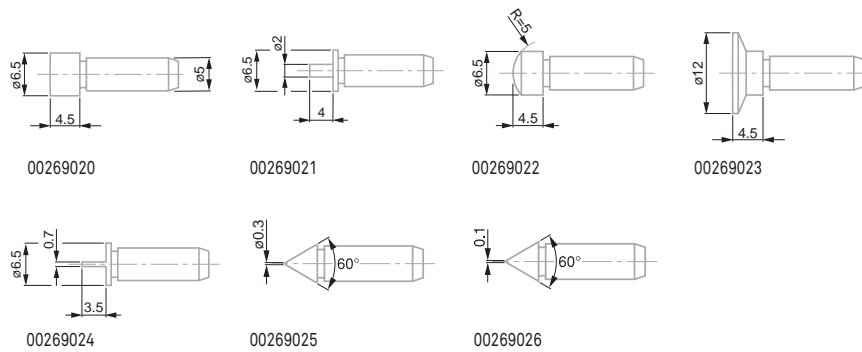
Non-rotating spindle, without spindle lock.



No	mm	in
06030045	0 ÷ 30	0 ÷ 1.2
CONSISTING OF:		
06030099	MICROMASTER single micrometer for use with interchangeable measuring inserts, 0-30 mm	
00269027	Full set of 7 pairs of inserts	

- 0,001 mm / 0.00005 in
- Conversion mm/in
- Micrometer element with a max. perm. error of 4 µm
- Hardened steel
- 7,5 mm diameter non-rotating spindle. With a fixing bore for a measuring insert. Adjustable attachment on the anvil for a measuring insert, with lock.
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard
- Max. 10 N

Full Set of Measuring Inserts for MICROMASTER with Interchangeable Inserts

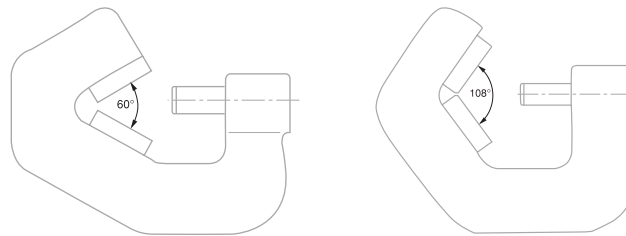


No	=
00269027	Full set of 7 pairs of inserts
COMPOSITION OF THE SETS:	
00269020	Pair of flat inserts
00269021	Pair of spline inserts
00269022	Pair of spherical inserts
00269023	Pair of disc inserts
00269024	Pair of blade inserts
00269025	Pair of point inserts
00269026	Pair of knife edge inserts

- DIN 863 T3 (Style D 10)
- 0,001 mm / 0.00005 in
- Conversion mm/in
- Tungsten carbide
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard.
- 0,75 mm for 3-flute test pieces or 0,559 mm for 5-flute test pieces.
- Max. 10 N
- Angle of the prism aperture: 60° for 3-flute test pieces or 108° for 5-flute test pieces.

MICROMASTER Micrometers with Prismatic Measuring Faces

Measure test pieces with an odd number of grooves such as milling cutters, taps, drills and spline shafts as well as polygons. Determine roundness errors on cylindrical surfaces. The angle of the prism aperture is designed for workpieces having 3 or 5 flutes.



No	mm		A
	mm	in	
06030087	1 ÷ 7	0.04 ÷ 0.27	3 flute test pieces (60°)
06030088	5 ÷ 20	0.20 ÷ 0.80	3 flute test pieces (60°)
06030089	20 ÷ 35	0.80 ÷ 1.38	3 flute test pieces (60°)
06030090	35 ÷ 50	1.38 ÷ 1.97	3 flute test pieces (60°)
06030091	50 ÷ 65	1.97 ÷ 2.56	3 flute test pieces (60°)
06030092	65 ÷ 80	2.56 ÷ 3.15	3 flute test pieces (60°)
06030093	1 ÷ 7	0.04 ÷ 0.27	5 flute test pieces (108°)
06030094	5 ÷ 25	0.20 ÷ 0.98	5 flute test pieces (108°)
06030095	25 ÷ 45	0.98 ÷ 1.77	5 flute test pieces (108°)
06030096	45 ÷ 65	1.77 ÷ 2.56	5 flute test pieces (108°)
06030097	65 ÷ 85	2.56 ÷ 3.35	5 flute test pieces (108°)

- Alloyed steel, hardened
- With a protective cap from the nominal size of 20 mm. Effective diameter engraved on the front face.
- Declaration of conformity
- Identification number

Cylindrical Setting Standards for Micrometers

No	μm		Ø
	μm	μm	
00440001	0,5	-	5
00440002	0,7	1	20
00440003	0,7	1	25
00440004	1	1	35
00440005	1,2	1,5	45
00440006	1,2	1,5	50
00440007	1,5	1,5	65



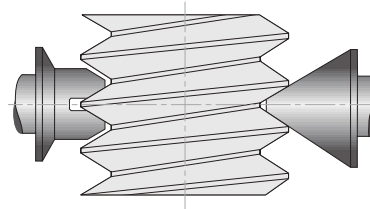
MICROMASTER AC Micrometers for Thread Measurement

Used for pitch diameter inspection. Anvil with adjustable holder for mounting a measuring insert with prismatic faces. Fine screw adjustment and locking device. The spindle has a fixing bore for a cone-shaped measuring insert.



No	mm	in
06030062	0 ÷ 25	0 ÷ 1
06030063	25 ÷ 50	1 ÷ 2
06030064	50 ÷ 75	2 ÷ 3
06030065	75 ÷ 100	3 ÷ 4
06030066	100 ÷ 125	4 ÷ 5
06030067	125 ÷ 150	5 ÷ 6

Note: Measuring inserts and setting standards must be ordered separately.



- DIN 863 T3 (Style D18)
- 0,001 mm / 0.00005 in
- Conversion mm/in
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- RS232
- Additional technical data: see appropriate standard
- Max. 10 N
- 30 mm measuring span

ISOMASTER AC Micrometers for Thread Measurement Models



No	mm
00210001	0 ÷ 25
00210002	25 ÷ 50
00210003	50 ÷ 75
00210004	75 ÷ 100

Measuring inserts and setting standards must be ordered separately.

- DIN 863 T3 (Style D 18) NFE 11-090
- Plastic case
- Declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- 0,01 mm



Hardened steel

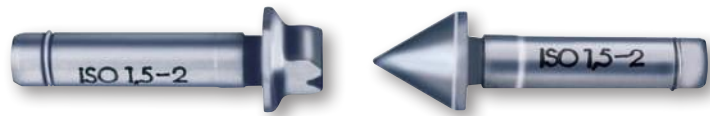


Supplied in sets or pairs

Fixing rod:
3,5 mm dia.,
15,5 mm long

Interchangeable Thread Inserts for TESA Micrometers Series AC

With measuring faces specially designed for checking pitch diameters.



For unified inch threads, UN, UNC, UNF... 60° flank angle



00250015 Set of inserts
64 ÷ 2.5 in

COMPOSITION OF THE SETS:

00250000 AC UN,UNC,UNF
64 ÷ 42 in

00250001 AC UN,UNC,UNF
42 ÷ 25 in

00250002 AC UN,UNC,UNF
25 ÷ 17 in

00250003 AC UN,UNC,UNF
17 ÷ 10 in

00250004 AC UN,UNC,UNF
10 ÷ 6.5 in

00250005 AC UN,UNC,UNF
6.5 ÷ 4 in

00250006 AC UN,UNC,UNF
4 ÷ 2.5 in

For Whitworth threads, 55° flank angle



00250115 Set of inserts, whitworth
60 ÷ 3 in

COMPOSITION OF THE SETS:

00250100 AC whitworth 60 ÷ 48 in

00250101 AC whitworth 48 ÷ 40 in

00250102 AC whitworth 40 ÷ 32 in

00250103 AC whitworth 32 ÷ 24 in

00250104 AC whitworth 24 ÷ 18 in

00250105 AC whitworth 18 ÷ 14 in

00250106 AC whitworth 14 ÷ 10 in

00250107 AC whitworth 10 ÷ 7 in

00250108 AC whitworth 7 ÷ 4.5 in

00250109 AC whitworth 4.5 ÷ 3 in

For ISO metric threads, flank angle 60°



00240015 Set of inserts
ISO 0.40 ÷ 6.00

COMPOSITION OF THE SETS:

00240000 ISO 0.4 ÷ 0.50

00240001 ISO 0.5 ÷ 0.60

00240002 ISO 0.6 ÷ 0.80

00240003 ISO 0.8 ÷ 1.00

00240004 ISO 1.0 ÷ .25

00240005 ISO 1.25 ÷ 1.50

00240006 ISO 1.5 ÷ 2.00

00240007 ISO 2.00 ÷ 2.50

00240008 ISO 2.5 ÷ 3.00

00240009 ISO 3.00 ÷ 4.00

00240010 ISO 4.00 ÷ 5.00

00240011 ISO 5.0 ÷ 6.00



Hardened steel

Insulating sleeve
marked
with actual sizeDeclaration
of conformityIdentification
number

Setting Standards for Screw Thread Micrometers - Metric, 60° or 55° flank angle



60° flank angle, metric



Flank angle mm

00240501	60°	25
00240502	60°	50
00240503	60°	75
00240504	60°	100
00240505	60°	125

60° flank angle, imperial



Flank angle in

00250501	60°	1
00250502	60°	2
00250503	60°	3
00250504	60°	4
00250505	60°	5

55° flank angle, metric



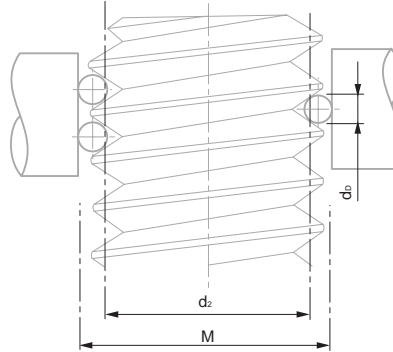
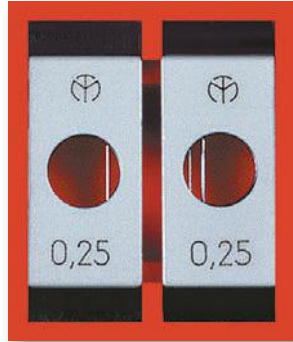
Flank angle mm

00240601	55°	25
00240602	55°	50
00240603	55°	75



XB Wires for Screw Threads

For measuring pitch diameter of threads using the three-wire method. Actual flank diameter d_2 can either be determined arithmetically or with the aid of the relevant tables based on the measured actual size M – Suitable for all standard micrometers with measuring faces of 6,5 mm diameter.



No	\varnothing Diameter of the wires dD in mm	 ISO metric threads Pitch in mm	 Whitworth threads Number of threads per in	 Unified inch-threads UN, UNC, UNF Number of threads per in
00240701	0,17	0,25 / 0,3	–	–
00240702	0,22	0,35	–	72
00240703	0,25	0,4	60	64
00240704	0,29	0,45 / 0,5	–	56
00240705	0,335	0,6	48 / 40	48 / 44
00240706	0,455	0,7 ÷ 0,8	–	32
00240707	0,53	0,9	32 / 28	28
00240708	0,62	1,0	26 / 24	24
00240709	0,725	1,25	22 ÷ 19	20
00240710	0,895	1,5	18 / 16	18 / 16
00240711	1,10	1,75	14	14 / 13
00240712	1,35	2,0	12 / 11	12 / 11
00240713	1,65	2,5	10 / 9	10 / 9
00240714	2,05	3,0 / 3,5	8 / 7	8 / 7
00240715	2,55	4,0 / 4,5	6	6
00240716	3,20	5,0 / 5,5	5 / 4,5	5 / 4,5

Set of 16 Pairs of XB Wires for Thread Measurement

No	\varnothing Diameter of the wires dD in mm
00240700	0,17 ÷ 3,20



Steel wires, hardened



Single pairs are supplied in a plastic box, full set in a wooden case



Declaration of conformity



Wires are mounted on holders: 2-wire holder rests on anvil while the single wire holder is used on spindle side



Wires in hardened steel



Single pairs supplied in a plastic case, full set in a wooden box.



Declaration of conformity



Wires mounted on holders: the 2 wire holder rests on the anvil, whilst the single wire holder is used on the spindle side.

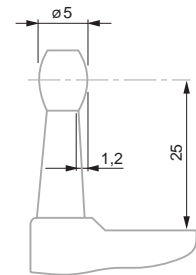
ETALON Basic for Tube Wall Thickness Measurement

Barrel-shaped anvil for measuring tube wall thickness and other curved workpieces.

- DIN 863 T3 (Style D12) NFE 11-090
- Hardened steel anvil. Tungsten carbide spindle
- Plastic case
- Inspection report with a declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- 5 mm Ø on anvil. 6,5 mm Ø on spindle
- 0,01 mm

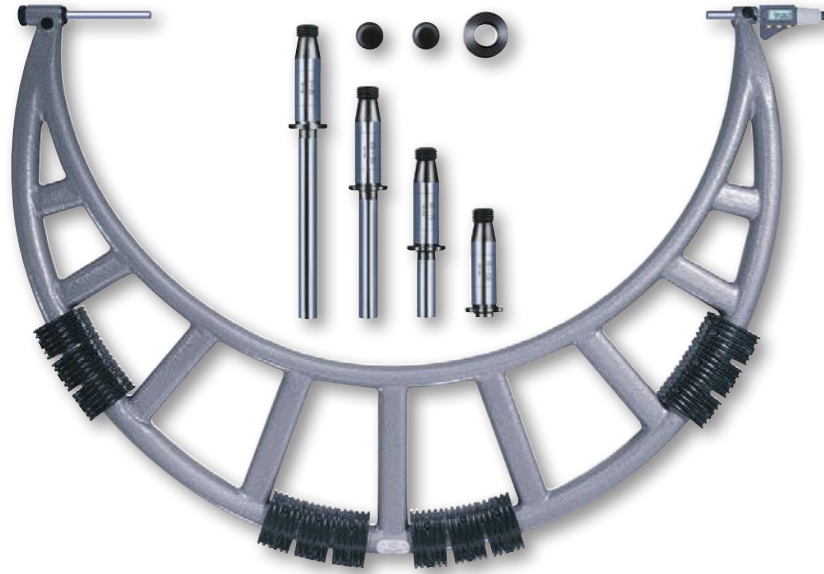


00219066	mm 0 ÷ 25



MICROMASTER with Interchangeable Anvils

All sets include 4 interchangeable anvils with increasing length in steps of 25 mm. The anvils are adjusted (and numbered) in sets, thus rendering the correction of the indication unnecessary whenever an anvil is exchanged.



No				
	mm	in	µm	µm
06030047	0 ÷ 100	0 ÷ 3.94	6	3
06030048	100 ÷ 200	3.94 ÷ 7.87	7	4,5
06030049	200 ÷ 300	7.87 ÷ 11.81	8	7
06030050	300 ÷ 400	11.81 ÷ 15.75	9	9
06030051	400 ÷ 500	15.75 ÷ 19.69	10	9

OPTIONAL ACCESSORIES:

- 00140301 Dial gauge element for ABY series micrometers
- 00140101 Interchangeable anvils AB1W

Measuring range up to 1500 mm also available upon request.



Dial Gauge Element for MICROMASTER and AB Micrometers

Can replace the interchangeable anvils on AB series micrometers. Makes finding the culmination point easier. Ensures a constant measuring force.

No	
00140301	Dial gauge element for ABY series micrometers

- 0,001 mm / 0,00005 in
- LCD, digit height: 7 mm
- Conversion mm/in
- Tungsten carbide tipped
- Wooden case
- Inspection report with declaration of conformity
- Identification number
- RS232
- Additional technical data: see standard
- 0,5 mm
- Max. 10 N
- Ø 8 mm
- 30 mm measuring span
- 0 ≤ 500 mm: malleable cast iron.
> 500 ≤ 1000 mm: steel tube with insulating grips. Maxium flexing of the frame under a measuring force of 10 N: see table
- Element body: Ø 11 mm, length 100 mm. Dial gauge 01410211: dial Ø 40 mm, two directional reading.
- With dial gauge and clamp
- Declaration of conformity
- Identification number
- Max. 10 N
- Ø 8 mm
- 0,01 mm
- ± 1,5 mm

- DIN 863 T3 (Style D16) NFE 11-090
- Tungsten carbide tipped
- Wooden case
- Declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- 8 mm diameter
- 0,01 mm
- 0 ≤ 500 mm: malleable cast iron; 500 ≤ 1000 mm: steel tube with insulating grips. Max. flexure of the frame under a measuring force of 10 N: see the table opposite

ISOMASTER AB with Interchangeable Anvils

Lightweight, but rugged anvil micrometers. Set No. 00140101 includes 4 interchangeable anvils with increasing length in steps of 25 mm.

Anvils are adjusted and numbered in pairs, thus rendering any correction of the indication unnecessary whenever an anvil is exchanged.



No			
	mm	μm	μm
00111901	0 ÷ 100	6	3
00111902	100 ÷ 200	7	4,5
00111903	200 ÷ 300	8	7
00111904	300 ÷ 400	9	9
00111905	400 ÷ 500	10	9

OPTIONAL ACCESSORIES:

00140101	Interchangeable anvils AB1W
00140301	Dial gauge element for ABY series micrometers

Measuring range up to 1500 mm also available upon request.

Interchangeable Anvils for ISOMASTER ABY Series

Set of 4 interchangeable anvils with increasing length in steps of 25 mm. The anvils are adjusted and numbered in pairs, thus eliminating the need for resetting the indication when exchanging either of them. Supplied as standard accessories with the AB series micrometers.

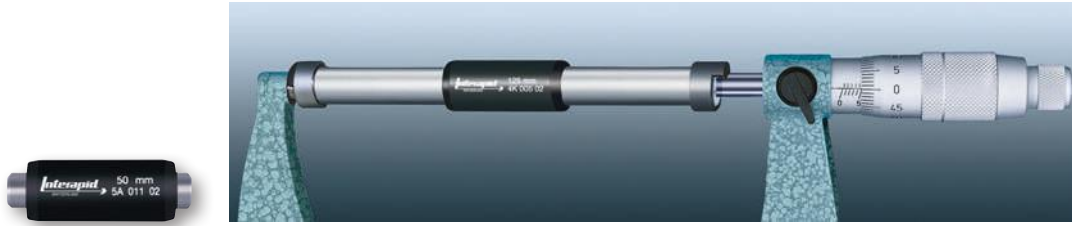


No	
00140101	Interchangeable anvils AB1W

- DIN 863 T3 (Style D16) NFE 11-090
- Tungsten carbide tipped
- Set includes 2 guard plates for the frame as well as 1 clamping nut
- Identification number
- 8 mm diameter



INTERAPID Setting Standards



No	mm
02140001	25
02140002	50
02140003	75
02140004	100
02140005	125
02140006	150
02140007	175
02140008	200
02140009	225
02140010	250

No	mm
02140011	275
02140012	300
02140013	325
02140014	350
02140015	375
02140016	400
02140017	425
02140018	450
02140019	475
02140020	500

Measuring range up to 1500 mm also available upon request.

ETALON Cylindrical Step Gauges

For adjustment of the display and calibration.



No	mm
072112020	5 ÷ 100
072112021	5 ÷ 150

Guide Collars for Setting Standards

Making the positioning of INTERAPID setting standards quick and easy.



No	mm	mm
02140103	100 ÷ 175	8
02140108	200 ÷ 1475	8

- Maximum permissible error over the length: $\pm (1 + L/100) \mu\text{m}$, L in mm
- Hardened steel
- Inspection report with actual measured length
- Declaration of conformity
- Identification number
- Cylindrical gauge block with plastic insulating grip and dull chrome shaft
- Two measuring faces, flat and rounded
- With lengths: $\leq 175 \text{ mm} = 10 \text{ mm}$, $\geq 200 \text{ mm} = 13 \text{ mm}$.

- Maximum permissible errors for nominal diameters: $\leq 80 \text{ mm} = 1,5 \mu\text{m}$, $\geq 90 \leq 120 \text{ mm} = 2,0 \mu\text{m}$, $\geq 130 \text{ mm} = 2,5 \mu\text{m}$
- Alloyed steel, hardened
- Declaration of conformity
- Mounted on a wooden base. Supplied with dust cover.
- Diameters in steps of 5 mm ($\leq 50 \text{ mm}$) or 10 mm ($> 50 \text{ mm}$).





Angle can be locked using a single bolt.



Lacquered cast iron base



Clamp aperture: 16 mm (TESA) or 20 mm (ETALON)

Micrometer Stands

For external micrometers up to 300 mm as well as many other hand-held tools.



No

=

00160201 TESA micrometer stand with clamp aperture 16 mm

072110123 ETALON micrometer stand with clamp aperture 20 mm



Length tolerance with reference to the nominal dimension: $\pm 100 \mu\text{m}$



Each set is supplied in a wooden case



Declaration of conformity



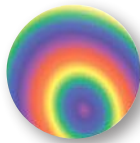
Flatness tolerances for optical parallels with lengths:
 $\leq 27,335 \text{ mm}$
 $= 0,15 \mu\text{m}$ $\geq 52,00 \div 77,335 \text{ mm} = 0,2 \mu\text{m}$



Tolerances in parallelism for optical parallels with lengths:
 $\leq 27,335 \text{ mm}: 0,4 \mu\text{m}$
 $\geq 52,00 \div 77,335 \text{ mm}: 0,5 \mu\text{m}$



31 mm



Optical Flats with Two Parallel Faces

Used for examining the flatness and parallelism of the measuring faces on external micrometers as well as other similar measuring instruments. The difference in length of the optical flats within a set matches a quarter or a third of the spindle pitch of 0,5 mm.



No

=



mm

02510000	Set interference glass 12 \div 12,375 mm	12,00 \div 12,375
02510001	Interference glass 12	12,00
02510002	Interference glass 12,125	12,125
02510003	Interference glass 12,25 mm	12,25
02510004	Interference glass 12,375 mm	12,375
02510100	Set interference glass 27 \div 27,335 mm	27,00 \div 27,335
02510101	Interference glass 27 mm	27,00
02510102	Interference glass 27,165 mm	27,165
02510103	Interference glass 27,335 mm	27,335
02510200	Set interference glass 52 - 52,3	52,00 \div 52,335
02510201	Interference glass 52 mm	52,00
02510202	Interference glass 52,165 mm	52,165
02510203	Interference glass 52,335 mm	52,335
02510300	Set interference glass 77 \div 77,335 mm	77,00 \div 77,335
02510301	Interference glass 77,00 mm	77,00
02510302	Interference glass 77,165 mm	77,165
02510303	Interference glass 77,335 mm	77,335



MICROMASTER Depth Micrometers

Non-rotating measuring rod. Sets with a step length of 30 mm.



No	mm	in	mm
06030069	0 ÷ 90	0 ÷ 3.5	50 x 15
06030070	0 ÷ 180	0 ÷ 7	100 x 15

Set of Depth Rods for Micromaster

Set of 6 depth rods.



No	mm
06060021	0 ÷ 180

ISOMASTER AQ Depth Micrometers

Measuring rods with a step length of 25 mm.



No	mm	mm
00211002	0 ÷ 75	50 x 15
00211003	0 ÷ 150	50 x 15
00211004	0 ÷ 75	100 x 15
00211005	0 ÷ 150	100 x 15

- DIN 863 T2 (Style T)
 - 0,001 mm / 0.00005 in
 - Conversion mm/in
 - Max. perm. error (meas. element): 3 µm
 - Measuring rods with hardened steel tips
 - Non-rotating spindle
 - Plastic case
 - Inspection report with a declaration of conformity
 - Identification number
 - RS232 data output
 - 0,5 mm
 - 3 mm diameter measuring rods
 - 30 mm
-
- DIN 863 T2 (Style T) NFE 11-097
 - Max. perm. error of the measuring element: 3 µm
 - Measuring rods with hardened steel ends
 - Plastic case
 - Declaration of conformity
 - Identification number
 - 0,5 mm
 - 3 mm diameter measuring rods. Measuring face on the base: see table
 - 0,01 mm

- +
- DIN 863 T2 (Style E)
- 0,001 mm / 0,00005 in
- Conversion mm/in
- Max. perm. error of 4 μm
- Tungsten carbide tipped
- Inspection report with a declaration of conformity
- RS232 interface, opto-coupled
- Additional technical data: see standard
- 0,5 mm
- Max. 10 N
- 6,5 mm dia.

MICROMETER HEADS

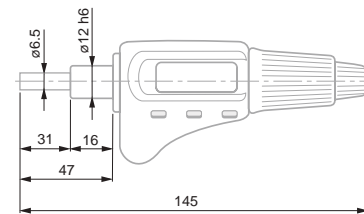
Micrometer heads used principally for the measurement of displacement on special fixtures such as roller tables, XY tables. Mounted using the cylindrical coupling shaft.

MICROMASTER Micrometer Heads

Without spindle lock



No		
	mm	
06030038	0 ÷ 30	12h6
06030039	30 ÷ 0	12h6
06030040	30 ÷ 0	12h6

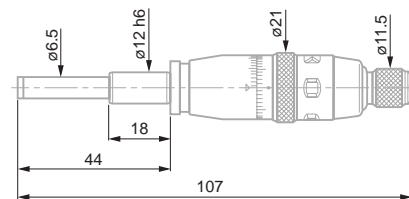


TESAMASTER AR Micrometer Heads

Without spindle lock.



No		
	mm	
00312301	0 ÷ 25	12h6

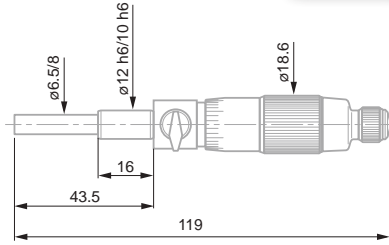


- +
- DIN 863 T2 (Style E)
- Value of the scale: 0,1 mm
- Max. perm. error of 2 μm
- Tungsten carbide tipped
- Declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- 6,5 mm dia
- Vernier reading to 0,001 mm



ETALON 266 Micrometer Heads

With spindle lock.

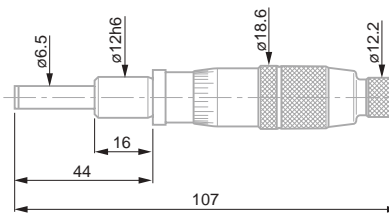


072115943	0 ÷ 25	Ø 8	12h6	•

- DIN 863 T2 (Style E) NFE 11-090
- Max. perm. error: 3 µm
- Tungsten carbide tipped
- Declaration of conformity
- Identification number
- 0,5 mm
- Vernier reading to 0,002 mm

ISOMASTER AR Micrometer Heads

Without spindle lock.



00211201	0 ÷ 25	12h6

- DIN 863 T2 (Style E) NFE 11-090
- Max. perm. error of 3 µm
- Tungsten carbide tipped
- Declaration of conformity
- Identification number
- 0,5 mm
- Max. 10 N
- 6,5 mm dia
- 0,01 mm



DIN 862

Stainless steel,
hardenedInspection report
with a declaration
of conformityTechnical data:
according to the
appropriate
standardTungsten carbide
tipped

TOOL SETS

Tool sets for the workshop, including one caliper and one micrometer.
Several digital and analogue models to choose from. Ideal tool sets for apprentices.

TESA SWISS TOOL SET



No

=

00510033 TESA SWISS TOOL SET 0-25 mm micrometer, 0-150 mm caliper

CONSISTING OF:

No

=



mm

00510041	Vernier caliper with measuring range of 150 mm and resolution of 0,02 mm	0 ÷ 150
00560013	Depth foot for calipers up to 150 mm	
00110101	ISOMASTER AA external micrometer with vernier scale, 0 ÷ 25 mm and resolution to 0,01 mm	0 ÷ 25
00560031	Case for set of instruments	



TESA DUO-SET 1



- ISO 13385-1
- Stainless steel, hardened
- Inspection report with a declaration of conformity
- Technical data: see appropriate standard
- Tungsten carbide tipped

No	=	
00530020	TESA DUO-SET 1	
CONSISTING OF:		
No	=	
		mm
00510008	CCMA-M dial caliper with measuring range of 150 mm, resolution to 0,02 mm and 2 mm travel per revolution.	0 ÷ 150
00560013	Depth foot for calipers up to 150 mm	
00110101	ISOMASTER AA external micrometer with vernier scale, 0 ÷ 25 mm and resolution to 0,01 mm	0 ÷ 25
00560031	Case for set of instruments	

TESA DUO-SET 2



- DIN 862
- Stainless steel, hardened
- Inspection report with a declaration of conformity
- Technical data: according to the appropriate standard
- Tungsten carbide tipped

No	=	
00530021	TESA DUO-SET 2	
CONSISTING OF:		
No	=	
		mm
00510008	CCMA-M dial caliper with measuring range of 150 mm, resolution to 0,02 mm and 2 mm travel per revolution.	0 ÷ 150
00560013	Depth foot for calipers up to 150 mm	
00310001	TESAMASTER external micrometer with measuring range 0 ÷ 25 mm and vernier scale reading to resolution 0,001 mm.	0 ÷ 25
00560031	Case for set of instruments	



DIN 862

Stainless steel,
hardenedInspection report
with a declaration
of conformityTechnical data:
in accordance with
appropriate standardTungsten
carbide tipped

TESA DUO-SET 8



No **=**

00531101 TESA DUO-SET 8

CONSISTING OF:

No **=**



mm

00530094 Standard TWIN-CAL, electronic caliper, with measuring range 150 mm, resolution of 0,01 mm and IP40 protection rating. Round depth rod. 0 ÷ 150

00560013 Depth foot for calipers up to 150 mm

00110101 ISOMASTER AA external micrometer with vernier scale, 0 ÷ 25 mm and resolution to 0,01 mm 0 ÷ 25

00560031 Case for set of instruments



DIN 862

Stainless steel,
hardenedInspection report
with a declaration
of conformityTechnical data:
according to the
appropriate
standardTungsten
carbide tipped

TESA DUO-SET 9



No **=**

00531102 TESA DUO-SET 9

CONSISTING OF:

No **=**



mm

00530094 Standard TWIN-Cal, electronic caliper, with measuring range 150 mm, 0 ÷ 150 mm resolution of 0,01 mm and IP40 protection rating. Round depth rod.

00560013 Depth foot for calipers up to 150 mm

00310001 TESAMASTER external micrometer with measuring range 0 ÷ 25 mm and vernier scale reading to resolution 0,001 mm. 0 ÷ 25

00560031 Case for set of instruments



TESA DUO-SET 14



- ISO 13385-1
- Stainless steel, hardened
- SCS calibration certificate
- Technical data: see appropriate standard
- Tungsten carbide tipped

No	=	
00531005		TESA DUO-SET 14
CONSISTING OF:		
No	=	
		mm
00530320		TWIN-Cal electronic caliper with measuring range 150 mm, resolution 0,01 mm, IP67 rating and round depth rod. 0 ÷ 150
00560013		Depth foot for calipers up to 150 mm
06030010		MICROMASTER EASY digital micrometer, 0 ÷ 30 mm, 0,001 mm resolution. 0 ÷ 30
00560090		Case for set of instruments

TESA DUO-SET 13



- ISO 13385-1
- Stainless steel, hardened.
- SCS calibration certificate
- Technical data: see appropriate standard
- Tungsten carbide tipped

No	=	
00531004		TESA DUO-SET 13
CONSISTING OF:		
No	=	
		mm
00530319		TWIN-Cal electronic caliper with measuring range 150 mm, resolution 0,01 mm, IP67 rating and square depth rod. 150
00560013		Depth foot for calipers up to 150 mm
06030020		MICROMASTER IP54 digital micrometer, 0 ÷ 30 mm, 0,001 mm resolution, IP54 rating. 0 ÷ 30
00560090		Case for set of instruments



N ISO 13385-1

SS Stainless steel, hardened

SCS SCS calibration certificate

⚠ Technical data: see appropriate standard

W Tungsten carbide tipped

TESA DUO-SET 15



No **=**

00531006 TESA DUO-SET 15

CONSISTING OF:

No **=**



mm

00530321 TWIN-Cal electronic caliper with measuring range 150 mm, resolution 0 ÷ 150 0,01 mm, IP67 rating, round depth rod and thumb wheel.

00560013 Depth foot for calipers up to 150 mm

06030030 MICROMASTER RS IP54 digital micrometer, 0 ÷ 30 mm, 0,001 mm resolution, IP54 rating and RS232 output.

00560090 Case for set of instruments



N DIN 862

SS Stainless steel, hardened

SCS SCS calibration certificate

⚠ Technical data: see appropriate standard

W Tungsten carbide tipped

TESA DUO-SET 16



No **=**

00531007 TESA DUO-SET 16

CONSISTING OF:

No **=**



mm

00530094 Standard TWIN-Cal, electronic caliper, with measuring range 150 mm, 150 resolution of 0,01 mm and IP40 protection rating. Round depth rod.

00560013 Depth foot for calipers up to 150 mm

06030010 MICROMASTER EASY digital micrometer, 0 ÷ 30 mm, 0,001 mm resolution.

00560090 Case for set of instruments

