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 mearing anvils for the measurement of gear teeth for example.

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 paralellism of the measuring faces, plus any errors due to the flexing of the frame.

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.

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.

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 (≈ 2000 h/a)

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

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

Measuring range 0 to 100: with SCS calibration certificate

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

Display lock (except for model EASY)

RS232 interface, opto-coupled

0,5 mm

Max. 10 N

≤ 100 mm: Ø 6,5 mm
> 100 mm: Ø 8 mm

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.

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 Micrometer external micrometers covering 0 ÷ 75 mm measuring range.

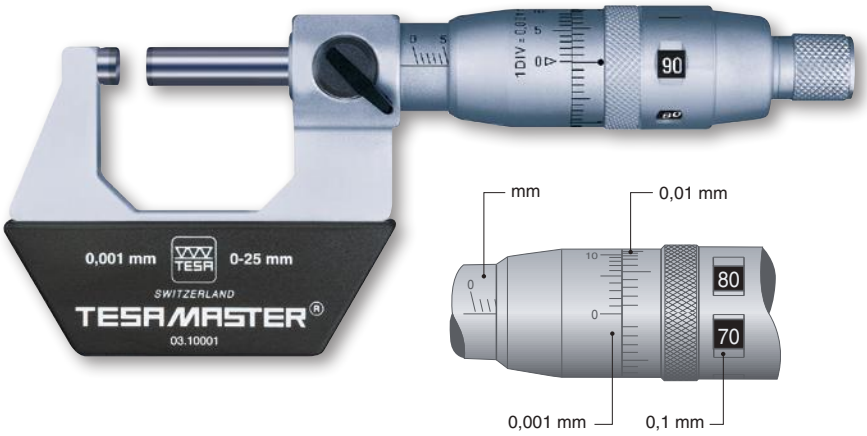
No		
06030029	Set of 3 MICROMASTER IP54 with RS232 output	0 ÷ 75

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.

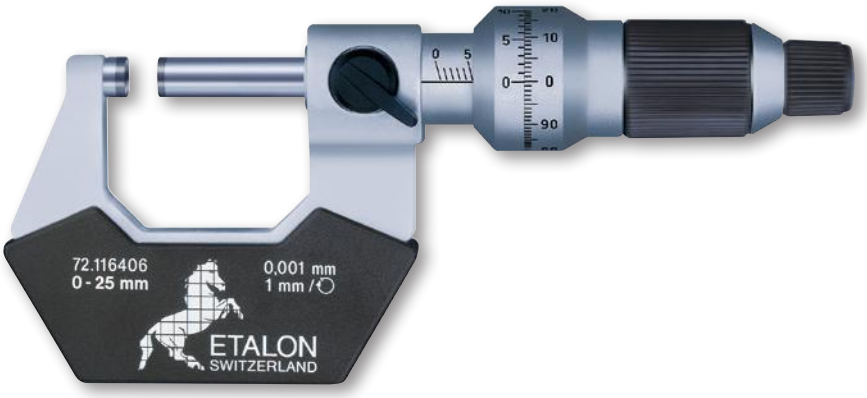


- DIN 863 T1 NF E 11-095
- Scale division: 0,1 mm or 0.005 in
- Tungsten carbide
- Measuring range 0 to 100 mm with inspection report and declaration of conformity
- Measuring range > 100 mm with a declaration of conformity
- 0,5 mm
- Max. 10 N
- ≤ 100 mm: Ø 6,5 mm > 100 mm: Ø 8 mm
- Vernier reading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

	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

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.



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

	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
NF E 11-095

Tungsten carbide tipped

Measuring range 0 to 100 mm with inspection report and declaration of conformity

Measuring range smaller than 100 mm with a declaration of conformity

0.5 mm

Max. 10 N

≤ 100 mm: Ø 6,5 mm
> 100 ≤ 300 mm: Ø 8 mm

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

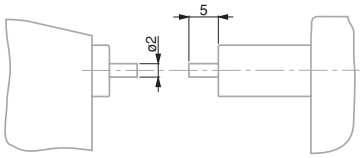
Set of 4 TESA ISOMASTER Micrometers

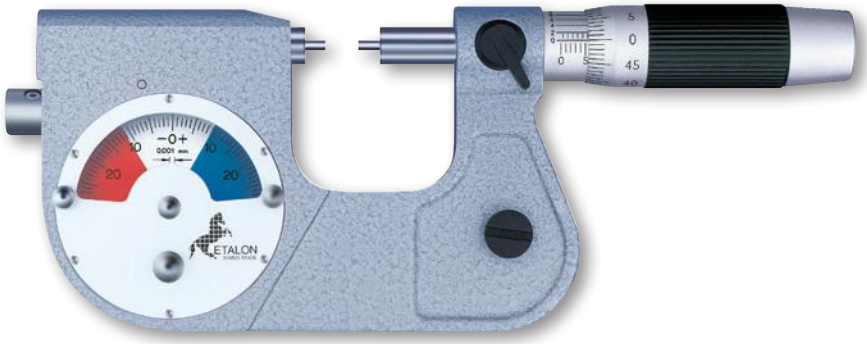
The models covering application range 0 to 100 mm provide the quality that you need at competitive prices.

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	

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

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

NO	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.

NO	
072110978	Protective cover for dial indicator

DIN 863 T3 (Style D14) NF E 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).

0,5 mm

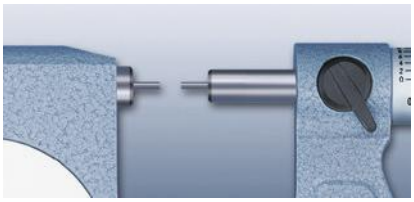
Anvil: 2 up to 8 N, adjustable

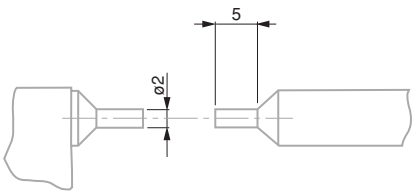
6,5 mm or 2 mm dia. and length of 5 mm for models with small measuring faces.

Vernier reading to 0,002 mm

ETALON MICROSPEL 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.





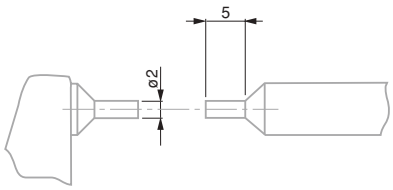
NO	mm	
072110816	0 ÷ 25	Standard inserts
072110853	0 ÷ 20	Pointed inserts

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

MICROMASTER Micrometer 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.

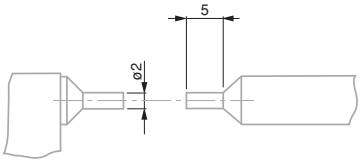
NO	mm	in
06030034	0 ÷ 30	0 ÷ 1.2
OPTIONAL ACCESSORY:		
01961000	Lithium battery 3V, CR2032	



- 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
- Measuring range 0 to 100: with a SCS calibration certificate.
- RS232 interface, opto-coupled.
- For additional technical data: see standard.
- Max. 10 N

TESAMASTER AD Micrometer with Small Measuring Faces

NO	mm
00311301	0 ÷ 25



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

DIN 863 T3 (Style D3) NF E 11-090

Fixed measuring faces: tungsten carbide

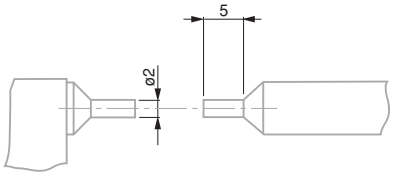
Inspection report with a declaration of conformity

Max. 10 N

0,01 mm

ISOMASTER AD Micrometer with Small Measuring Faces

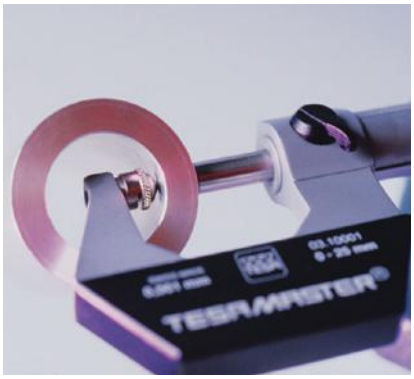
NO	mm
00210101	0 ÷ 25



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

Spherical Element for External Micrometers

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



NO	Ø mm
072103522	5

MICROMASTER Micrometer 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

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

MICROMASTER Micrometer 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

- DIN 863 T3 (Style D1)
- 0,001 mm or 0.00005 in
- Anvil in tungsten carbide. Micrometric spindle in tungsten carbide
- Inspection report with a declaration of conformity
- 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.

DIN 863 T3 (Style D1) NF E 11-090

Titanium carbide coated for model No. 00112106. Hardened steel for other models.

Inspection report with a declaration of conformity

0,5 mm

Max. 10 N

Radius of spherical faces: to 3,25 mm

0,01 mm

ISOMASTER AAS
Micrometer with Two Spherical Measuring Faces

Rounded measuring faces for checking concave surfaces such as ball-bearing guides and wall thickness.

NO	mm
00110901	0 ÷ 25

DIN 863 T3 (Style D 10)

0,001 mm / 0.00005 in

Conversion mm/in

Tungsten carbide

Inspection report with a declaration of conformity

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	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°)

ISOMASTER AS
Micrometers with Prismatic Measuring Faces

The micrometer ISOMASTER AS is used for measuring test pieces with an odd number of grooves such as milling cutters, taps, drills and spline shafts as well as poliygons. It can also determine roundness errors on cylindrical workpieces.

The aperture angle of the prism is designed for workpiees having 3 or 5 flutes or their multiples.

DIN 863 T3 (Style D 10) NF E 11-090

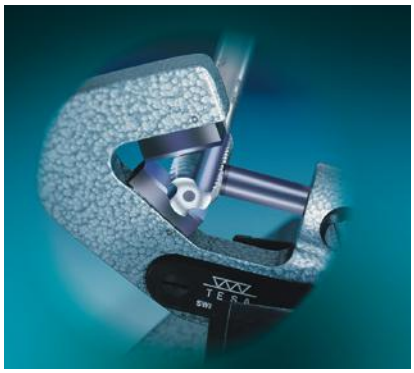
Tungsten carbide tipped

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.

0,01 mm



NO		
	mm	
00410001	1 ÷ 7	3 flute test pieces (60°)
00410002	5 ÷ 20	3 flute test pieces (60°)
00410003	20 ÷ 35	3 flute test pieces (60°)
00410004	35 ÷ 50	3 flute test pieces (60°)
00410005	50 ÷ 65	3 flute test pieces (60°)
00410102	5 ÷ 25	5 flute test pieces (108°)

Cylindrical Setting Standards for Micrometers

Alloyed steel, hardend

With a protective cap from the nominal size of 20 mm. Effective diameter engraved on the front face.

NO	//	⌀d	⌀
	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

DIN 863 T3 (Style D7)

0,001 mm / 0.00005 in

Conversion mm/in

Hardened steel

Suitable from module 0,5 onwards

Inspection report with a declaration of conformity

RS232

Additional technical data: see standard.

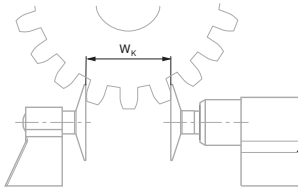
Max. 10 N

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, Wk 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) NF E 11-090

Hardened steel

Suitable from module 0,6

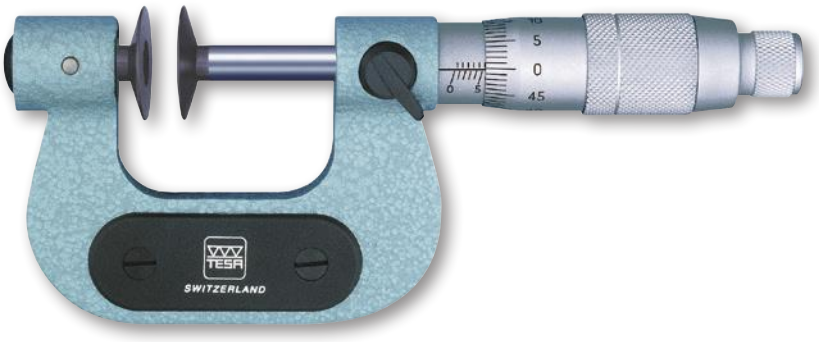
Inspection report with a declaration of conformity

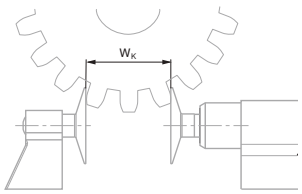
Max. 10 N

≤ 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

	Maximum permissible error disregarding a rim of 1 mm during inspection of the measuring faces and having partial contact with the measuring face.	Maximum permissible error with full contact of the measuring face (DIN863-T1)	Flatness	Parallelism	Maximum flexure of the frame
mm	µm	µm	µm	µm	µm
0 ÷ 30	10	4	2	5	2
25 ÷ 55	10	4	2	5	2
55 ÷ 85	11	5	2	5	3
85 ÷ 115	12	5	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.

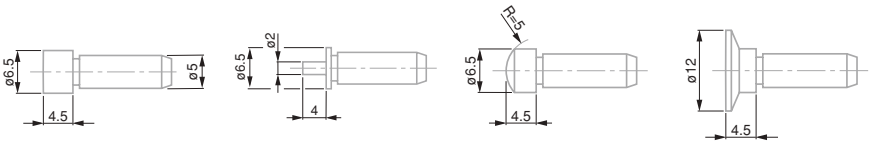
Inspection report with a declaration of conformity

RS232

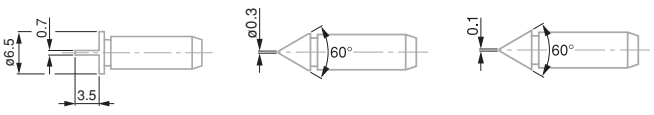
Additional technical data: see standard

Max. 10 N

Full Set of Measuring Inserts for MICROMASTER with Interchangeable Inserts



00269020 00269021 00269022 00269023



00269024 00269025 00269026

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 D18)

0,001 mm / 0.00005 in

Conversion mm/in

Inspection report with a declaration of conformity

RS232

Additional technical data: see appropriate standard

Max. 10 N

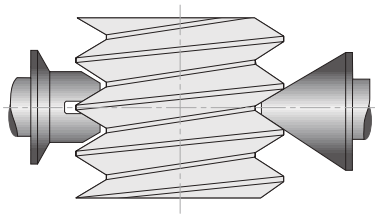
30 mm measuring span

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

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



DIN 863 T3 (Style D 18) NF E 11-090

0,5 mm

Max. 10 N

0,01 mm

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.

Interchangeable Thread Inserts for TESA Micrometers Series AC

With measuring faces specially designed for checking pitch diameters.

Hardened steel

Supplied in sets or pairs

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

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

NO	
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

NO	
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°

NO	
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

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

Hardened steel

Insulating sleeve marked with actual size

60° flank angle, metric

NO	Flank angle	mm
00240501	60°	25
00240502	60°	50
00240503	60°	75
00240504	60°	100
00240505	60°	125

60° flank angle, imperial

NO	Flank angle	in
00250501	60°	1
00250502	60°	2
00250503	60°	3
00250504	60°	4
00250505	60°	5

55° flank angle, metric

NO	Flank angle	mm
00240601	55°	25
00240602	55°	50
00240603	55°	75

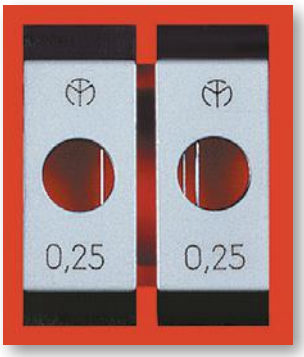
Steel wires, hardened

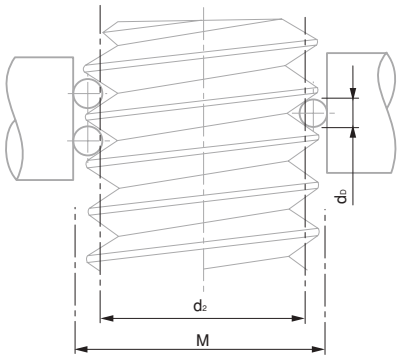
Single pairs are supplied in a plastic box, full set in a wooden case

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

XB Wires for Screw Threads

For measuring pitch diameter of threads using the three-wire method. Actual flank diameter d2 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	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

Wires in hardened steel

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

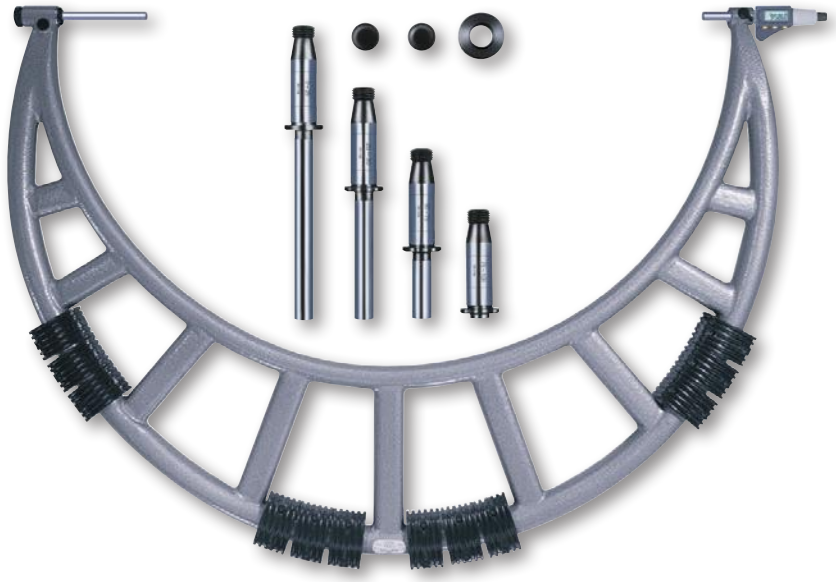
Wires mounted on holders: the 2 wire holder rests on the anvil, whilst the single wire holder is used on the spindle side.

Set of 16 Pairs of XB Wires for Thread Measurement

NO	Diameter of the wires dD in mm
00240700	0,17 ÷ 3,20

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			

DIN 863 T3 (Style D16)

0,001 mm / 0.00005 in

LCD, digit height: 7 mm

Conversion mm/in

Tungsten carbide tipped

Inspection report with declaration of conformity

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

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

Element body: Ø 11 mm, length 100 mm. Dial gauge 01410211: dial Ø 40 mm, two directional reading.

With dial gauge and clamp

Max. 10 N

Ø 8 mm

0,01 mm

± 1,5 mm

DIN 863 T3 (Style D16) NF E 11-090

Tungsten carbide tipped

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:			
00140301	Dial gauge element		

Measuring range up to 1500 mm also available upon request.

DIN 863 T3 (Style D16) NF E 11-090

Tungsten carbide tipped

Set includes 2 guard plates for the frame as well as 1 clamping nut

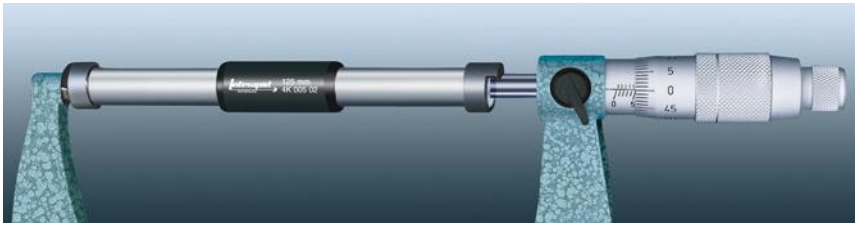
8 mm diameter

Interchangeable Anvils for ISOMASTER AB 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 AB

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.

- Maximum permissible error over the length: ± (1 + L/100) µm, L in mm
- Hardened steel
- Inspection report with actual measured length
- Cylindrical gauge block with plastic insulating grip and dull chrome shaft
- Two measuring faces, flat and rounded
- With lengths: ≤ 175 mm= 10 mm. ≥ 200 mm = 13 mm.

ETALON Cylindrical Step Gauges

For adjustement of the display and calibration.

NO	Ø mm
072112020	5 ÷ 100
072112021	5 ÷ 150

- Maximum permissible errors for nominal diameters: ≤ 80 mm = 1,5 µm ≥ 90 ≤ 120 mm = 2,0 µm ≥ 130 mm = 2,5 µm
- Alloyed steel, hardened
- Diameters in steps of 5 mm (≤ 50 mm) or 10 mm (> 50 mm).

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

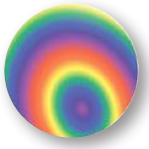
Micrometer Stands

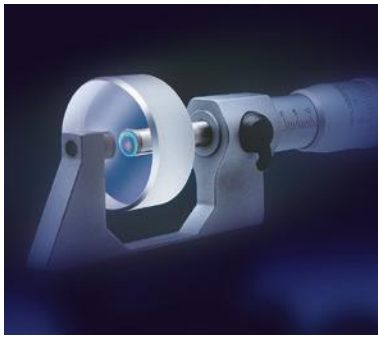
For external micrometers up to 300 mm as well as many other hand-held tools.

No	
00160201	TESA micrometer stand with clamp aperture 16 mm
072110123	ETALON micrometer stand with clamp aperture 20 mm

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 ÷ 12,375 mm	12,00 ÷ 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 ÷ 27,335 mm	27,00 ÷ 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 ÷ 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 ÷ 77,335 mm	77,00 ÷ 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

Length tolerance with reference to the nominal dimension: ± 100 µm

Each set is supplied in a wooden case

Flatness tolerances for optical parallels with lengths: ≤ 27,335 mm = 0,15 µm ≥ 52,00 ÷ 77,335 mm = 0,2 µm

Tolerances in parallelism for optical parallels with lengths: ≤ 27,335 mm: 0,4 µm ≥ 52,00 ÷ 77,335 mm: 0,5 µm

31 mm

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

- 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
- Inspection report with a declaration of conformity
- RS232 data output
- 0,5 mm
- 3 mm diameter measuring rods
- 30 mm

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) NF E 11-097
- Max. perm. error of the measuring element: 3 µm
- Measuring rods with hardened steel ends
- 0,5 mm
- 3 mm diameter measuring rods. Measuring face on the base: see table
- 0,01 mm

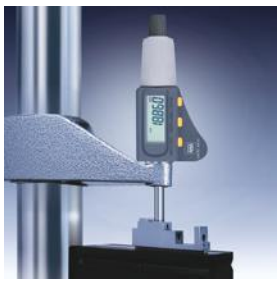
DIN 863 T2 (Style E)
0,001 mm / 0.00005 in
Conversion mm/in
Max. perm. error of 4 µm
Tungsten carbide tipped
Inspection report with a declaration of conformity
RS232 interface, opto-coupled
Additional technical data: see standard
0,5 mm
Max. 10 N
6,5 mm dia.

MICROMETER HEADS

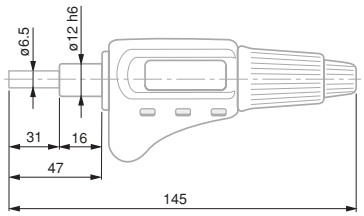
Micrometer heads used principally for the measurement of displacement on special fixtures such as roller tables, XY tables. Mounted using the cylindrical couping shaft.

MICROMASTER Micrometer Heads

Without spindle lock



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

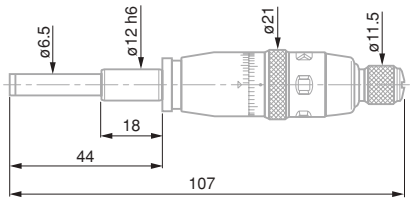


DIN 863 T2 (Style E)
Value of the scale: 0,1 mm
Max. perm. error of 2 µm
Tungsten carbide tipped
0,5 mm
Max. 10 N
6,5 mm dia
Vernier reading to 0,001 mm

TESAMASTER AR Micrometer Heads

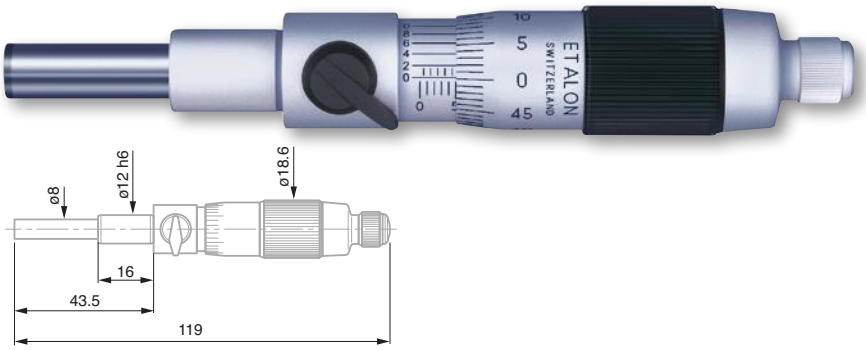
Without spindle lock.

No		
	mm	
00312301	0 ÷ 25	12h6



ETALON 266 Micrometer Heads

With spindle lock.

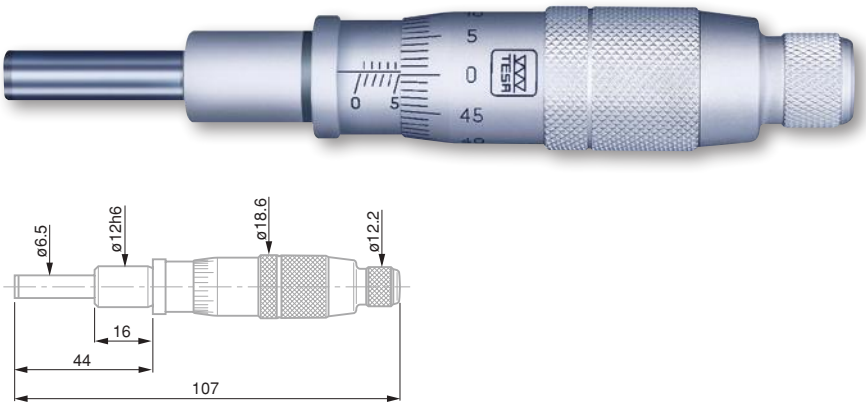


No	mm	D mm		Spindle lock
072115943	0 ÷ 25	Ø 8	12h6	●

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

ISOMASTER AR Micrometer Heads

Without spindle lock.



No	mm	
00211201	0 ÷ 25	12h6

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

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

TESA DUO-SET 1

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	

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

TESA DUO-SET 2

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	

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	

TESA DUO-SET 16

DIN 862
Stainless steel, hardened
SCS calibration certificate
Technical data: see appropriate standard
Tungsten carbide tipped

No		
00531007	TESA DUO-SET 16	
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.	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	