External Micrometers

Precision Measurement

Precision measurement requires the use of micrometers. The first measuring tool of this type was patented by the French inventor Jean Laurent Palmer in 1848 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 by 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 called to the Palmer's invention, which greatly interested them. After some improvements of the Palmer design, the product was manufactured on a large scale and marketed sucessfully by the two partners.
The story repeated in the past as TESA SA decided to manufacture external micrometers making them the first products produced by the company.
Yet no matter what you measure – internal or external dimensions – all TESA and ETALON micrometers are world-class products in design and quality.
With a very few exceptions (e.g. external micrometers for gear tooth measurements), our micrometers respect the Abbe principle, i.e. the comparator's one (also read in the General Information). Their spindle are ground on modern grinding machines and the profile of the screw is accurately restored with negligible pitch deviations. Such manufacturing conditions are the guarantee for very low measurement uncertainties.
The micrometers of both TESA and ETALON premium brands are robust as well as ergonomically and attractively designed.
Besides external micrometers in standard or special versions, we also offer micrometer heads, depth micrometers, full micrometer sets as well as a wide number of accessories plus all what you need for your calibrations. Each model provides either an analogue or a digital indication according to the execution. The models with electrical measuring system also include an RS 232 digital interface.

Measuring range/mm	Max. perm. errors*/µm	Number of interference fringes or rings	µm	10 N
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	

Max. permissible errors

In future, these errors are used instead of «deviation span» previously indicated in the various issues of our general catalogue. This change is made in order to conform with the new specifications of international standards. With respect to this, read also «What is known ...» in General Information.

** The max. perm. errors include the errors of the measuring element as well as the deviations in flatness and parallelism of the measuring faces and the errors due to the flexure of the frame.*

TESA MICROMASTER Electronic Micrometers with Digital Display

With new TESA measuring system «capa µ system», patented

- Measuring span of 30 mm
- Large easy-to-read digital display
- Models: – EASY with a single function key
  – IP54 with water spray protection as well as IP54 RS with added RS 232 interface

- ✓
- DIN 863 T1
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Tungsten carbide tipped
- ≤ 100 mm: 6,5 mm dia. > 100 mm: 8 mm dia.
- 0,5 mm
- Max. 10 N
- LCD, digit height: 7 mm
- Floating zero
- Display lock (except for model EASY)
- Interface: RS 232 opto-coupled
- 3 V 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
- 10 °C to 40 °C
- -10 °C to 60 °C
- 80%, with no condensation
- ✓
- Degree of protection (IEC 60529): IP40 (also valid with used RS output) or IP54
- Plastic case
- Identification number
- Measuring range 0 to 100: with SCS calibration certificate
- Measuring range > 100 mm: inspection report with a declaration of conformity

№	mm	mm	in	in		
MICROMASTER EASY						
06030010	0 ÷ 30	0 ÷ 30	*0 ÷ 1.2*	*0 ÷ 1.2*	IP40	–
MICROMASTER IP54						
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	–
MICROMASTER IP54 RS						
06030030	0 ÷ 30	0 ÷ 30	*0 ÷ 1.2*	*0 ÷ 1.2*	IP54	RS 232
06030031	25 ÷ 50	23 ÷ 53	*1 ÷ 2*	*0.9 ÷ 2.1*	IP54	RS 232
06030032	50 ÷ 75	48 ÷ 78	*2 ÷ 3*	*1.9 ÷ 3.1*	IP54	RS 232
06030033	75 ÷ 100	74 ÷ 104	*3 ÷ 4*	*2.9 ÷ 4.1*	IP54	RS 232
06030071	100 ÷ 125	98 ÷ 127	*4 ÷ 5*	*3.9 ÷ 5.01*	IP54	RS 232
06030072	125 ÷ 150	123 ÷ 152	*5 ÷ 6*	*4.9 ÷ 6.01*	IP54	RS 232
06030073	150 ÷ 175	149 ÷ 178	*6 ÷ 7*	*5.9 ÷ 7.01*	IP54	RS 232
06030074	175 ÷ 200	174 ÷ 203	*7 ÷ 8*	*6.9 ÷ 8.01*	IP54	RS 232
06030075	200 ÷ 225	199 ÷ 229	*8 ÷ 9*	*7.9 ÷ 9.01*	IP54	RS 232
06030076	225 ÷ 250	224 ÷ 254	*9 ÷ 10*	*8.9 ÷ 10.01*	IP54	RS 232
06030077	250 ÷ 275	250 ÷ 279	*10 ÷ 11*	*9.9 ÷ 11.01*	IP54	RS 232
06030078	275 ÷ 300	275 ÷ 304	*11 ÷ 12*	*10.9 ÷ 12.01*	IP54	RS 232

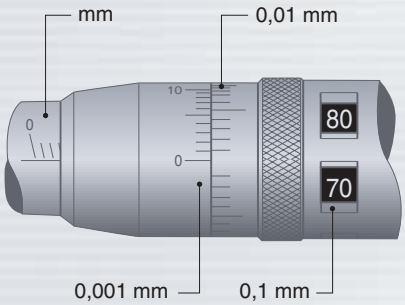
Optional Accessory

01961000	1 Lithium battery - 3 V, 190 mAh, type CR 2030
	For ordering information on connection cables etc., see section L

TESAMASTER Precision Micrometers with Digital Counter to 0,1 mm

Analogue indication of the full millimetres, hundredths and fractions of hundredths – Accurate, fast reading of the tenths of millimetres – Parallax-free reading of the thousandts of millimetres on vernier.

	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
00310011	250 ÷ 275	7	4
00310012	275 ÷ 300	7	4



	in	µm	µm
00320001	*0 ÷ 1*	2	1
00320002	*1 ÷ 2*	2	1,5
00320003	*2 ÷ 3*	3	1,5
00320004	*3 ÷ 4*	3	1,5

- ✓
- DIN 863 T1 NF E 11-095
- Vernier reading to 0,001 mm or 0.0001 in
- Scale division: 0,1 mm or 0.005 in
- Tungsten carbide tipped
- ≤ 100 mm: 6,5 mm dia. > 100 mm: 8 mm dia
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

ETALON MICRORAPID 226 with 1 mm Revolution

High precision micrometers – Fast, accurate reading – No reading error of the half millimetres – Barrel with 1 mm pitch – Thimble with 100 graduations – 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
- 0,001 mm, parallax-free reading on vernier
- Tungsten carbide tipped
- 6,5 mm dia.
- 1 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

✓
DIN 863 T1
NF E 11-095
Vernier reading to 0,001 mm, parallax-free
Tungsten carbide tipped
6,5 mm dia.
0,5 mm
Max. 10 N
Plastic case
Identification number
Inspection report with a declaration of conformity

ETALON Basic to 0,001 mm

High accuracy – Parallax-free reading on vernier.

	mm	µm	µm
00119051	0 ÷ 25	3	2
00119052	25 ÷ 50	3	2
00119053	50 ÷ 75	3	3
00119054	75 ÷ 100	3	3

ETALON 260 Standard Models with Analogue Indication

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

✓
DIN 863 T1
NF E 11-095
0 to 100 mm or 0 to 4 in with vernier reading
Tungsten carbide tipped
≤ 100 mm: 6,5 mm dia.
> 100 ≤ 300: 8 mm dia.
0,5 mm
Max. 10 N
Plastic case
Identification number
Inspection report with a declaration of conformity

	mm	mm	µm	µm
071115887	0 ÷ 25	0,002	2	1
071115888	25 ÷ 50	0,002	2	1,5
071115889	50 ÷ 75	0,002	3	1,5
071115890	75 ÷ 100	0,002	3	1,5
071115891	100 ÷ 125	0,01	4	2
071115892	125 ÷ 150	0,01	4	2,5
071115893	150 ÷ 175	0,01	5	3
071115894	175 ÷ 200	0,01	5	3
071115895	200 ÷ 225	0,01	6	3,5
071115896	225 ÷ 250	0,01	6	3,5
071115897	250 ÷ 275	0,01	7	4
071115898	275 ÷ 300	0,01	7	4

	in	*in*	µm	µm
071115899	*0 ÷ 1*	*0.00001*	2	1
071115900	*1 ÷ 2*	*0.00001*	2	1,5
071115901	*2 ÷ 3*	*0.00001*	3	1,5
071115902	*3 ÷ 4*	*0.00001*	3	1,5

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 be reversed to render the friction drive built into the thimble inactive.

	mm	mm		in	in
00110101	0 ÷ 25	0,01	***00120101***	*0 ÷ 1*	*0.0001*
00110102	25 ÷ 50	0,01	***00120102***	*1 ÷ 2*	*0.0001*
00110103	50 ÷ 75	0,01	***00120103***	*2 ÷ 3*	*0.0001*
00110104	75 ÷ 100	0,01	***00120104***	*3 ÷ 4*	*0.0001*
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 NF E 11-095
- Tungsten carbide tipped
- ≤ 100 mm: 6,5 mm dia. > 100 ≤ 300: 8 mm dia.
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Set of 4 TESA ISOMASTER

Same execution as above.

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

	mm
00110113	0 ÷ 100

- ✓
- Plastic case

ETALON Basic to 0,01 mm

	mm
00119046	0 ÷ 25
00119047	25 ÷ 50
00119048	50 ÷ 75
00119049	75 ÷ 100

- ✓
- DIN 863 T1 NF E 11-095
- 0,01 mm
- Tungsten carbide tipped
- 6,5 mm dia.
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Set of 4 ETALON Basic to 0,01 mm

	mm
00119050	0 ÷ 100

✓

DIN 863 T3 (Style D16)

0,001 mm 0.00005 in

Metric/inch conversion

30 mm measuring span

0 ≤ 500 mm: malleable cast iron; 500 ≤ 1500 mm: steel tube with insulating grips. Max. flexure of the frame under a measuring force of 10 N: see the table opposite

Tungsten carbide tipped

8 mm dia.

0,5 mm

Max. 10 N

LCD, digit height: 7 mm

RS 232

Other technical data: see page B-3

Wooden case

Identification number

Inspection report with a declaration of conformity

MICROMASTER

with interchangeable Anvils

Lightweight, but rugged anvil micrometers. One set (No. 00140101) consists of 4 interchangeable anvils in steps of 25 mm. Anvils are adjusted (and numbered) in sets, thus rendering unnecessay the correction of the indication each time an anvil is exchanged.

	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
06030052	500 ÷ 600	*19.69 ÷ 23.62*	11	9
06030053	600 ÷ 700	*23.62 ÷ 27.56*	12	10
06030054	700 ÷ 800	*27.56 ÷ 31.50*	13	12
06030055	800 ÷ 900	*31.50 ÷ 35.43*	14	12
06030056	900 ÷ 1000	*35.43 ÷ 39.37*	15	16
06030057	1000 ÷ 1100	*39.37 ÷ 43.31*	16	16
06030058	1100 ÷ 1200	*43.31 ÷ 47.24*	17	17
06030059	1200 ÷ 1300	*47.24 ÷ 51.20*	18	17
06030060	1300 ÷ 1400	*51.20 ÷ 55.12*	19	17
06030061	1400 ÷ 1500	*55.12 ÷ 59.06*	20	18

Dial Gauge Element for MICROMASTER

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

Supplied as standard accessory with the ABY series micrometers.

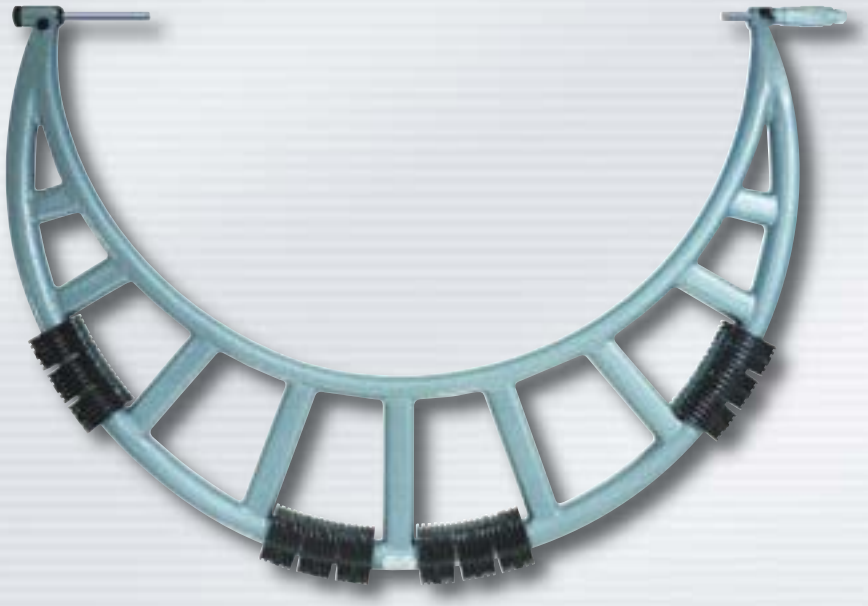
00140301

✓

See next page

ISOMASTER AB
with Interchangeable Anvils

Lightweight, but rugged anvil micrometers. One set (No. 00140101) consists of 4 interchangeable anvils in steps of 25 mm. Anvils are adjusted (and numbered) in sets, thus rendering unnecessary the correction of the indication each time an anvil is exchanged.



✓
DIN 863 T3 (Style D16) NF E 11-090
0,01 mm
0 ≤ 500 mm: malleable cast iron; 500 ≤ 1500 mm: steel tube with insulating grips. Max. flexure of the frame under a measuring force of 10 N: see the table opposite
Tungsten carbide tipped
8 mm dia.
0,5 mm
Max. 10 N
Wooden case
Identification number
Declaration of conformity

	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
00111906	500 ÷ 600	11	9
00111907	600 ÷ 700	12	10
00111908	700 ÷ 800	13	12
00111909	800 ÷ 900	14	12
00111910	900 ÷ 1000	15	16
00111911	1000 ÷ 1100	16	16
00111912	1100 ÷ 1200	17	17
00111913	1200 ÷ 1300	18	17
00111914	1300 ÷ 1400	19	17
00111915	1400 ÷ 1500	20	18

Dial Gauge Element for AB Series Micrometers

Can replace the interchangeable anvils on these micrometers. Make finding the culmination point easier. Ensures a constant measuring force.

Supplied as standard accessory with the ABY series micrometers.

00140301

✓
± 1,5 mm
0,01 mm
Tungsten carbide tipped
8 mm dia.
Max. 10 N
Meas. element: 11 mm dia., 100 mm long. Dial gauge No. 01410211: 40 mm dial diameter, two-way dial reading.
Identification number
With dial gauge and clamp
Declarartion of conformity

✓

DIN 863 T3 (Style D15) NF E 11-090

0,01 mm

0 ≤ 500 mm: malleable cast iron; > 500 ≤ 1500 mm: steel tube with insulating grips. Max. flexure of the frame under a measuring force of 10 N: see the table opposite

Tungsten carbide tipped

8 mm dia.

0,5 mm

Max. 10 N

Dial gauge: see on page B-8

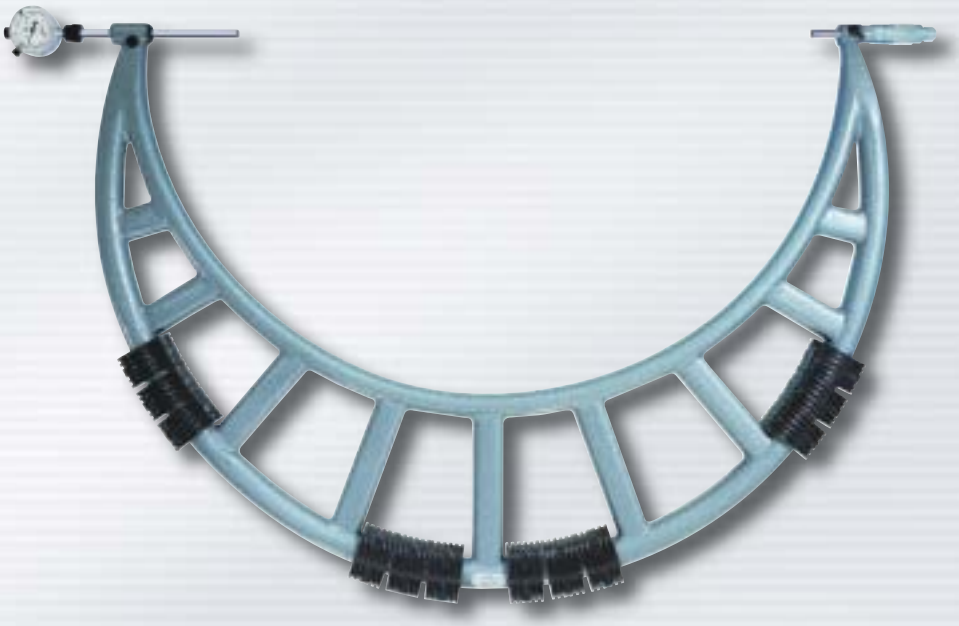
Wooden case

Identification number

Declaration of conformity

ABY Series ISOMASTER
with Adjustable Dial Gauge Element

Similar to the AB series micrometers, but equipped with the adjustable dial gauge element No. 00140301 that helps you to find the culmination point easier with a constant measuring force.



	mm	µm	µm
00112001	0 ÷ 100	6	3
00112002	100 ÷ 200	7	4,5
00112003	200 ÷ 300	8	7
00112004	300 ÷ 400	9	9
00112005	400 ÷ 500	10	9
00112006	500 ÷ 600	11	9
00112007	600 ÷ 700	12	10
00112008	700 ÷ 800	13	12
00112009	800 ÷ 900	14	12
00112010	900 ÷ 1000	15	16
00112011	1000 ÷ 1100	16	16
00112012	1100 ÷ 1200	17	17
00112013	1200 ÷ 1300	18	17
00112014	1300 ÷ 1400	19	17
00112015	1400 ÷ 1500	20	18

✓

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

Tungsten carbide tipped

8 mm dia.

Set includes 2 covers for the frame as well as 1 clamping nut

Identification number

Interchangeable Anvils for ABY Series ISOMASTER

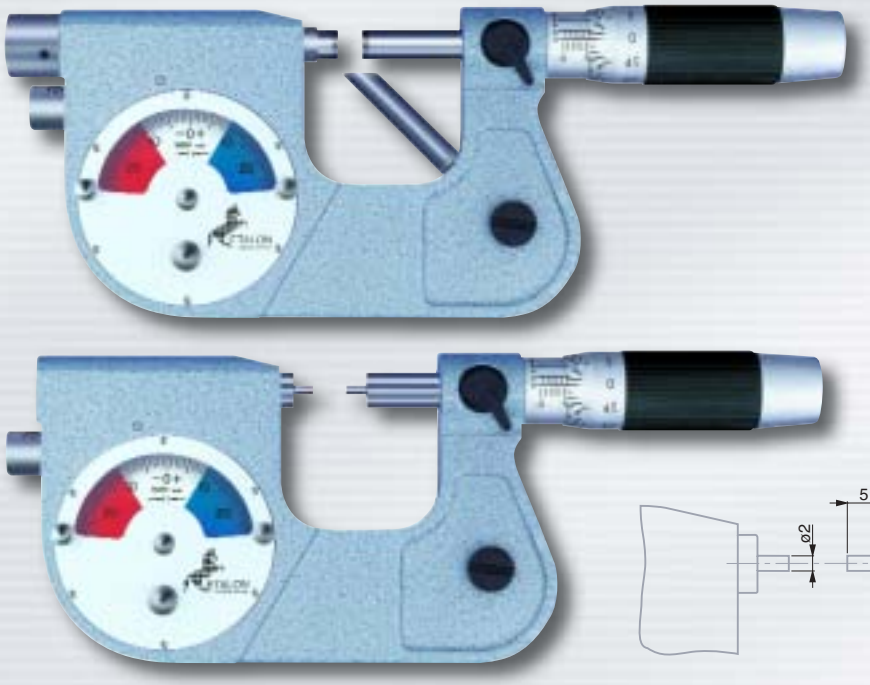
Set of 4 interchangeable anvils in steps of 25 mm. The anvils are adjusted and numbered in sets, thus eliminating the need for resetting the indication after their exchange.

Supplied as standard accessories with the AB series micrometers.

00140101

MICRO-ETALON 225
Micrometers with a Dial Indicator

Feature a mobile anvil and built-in dial indicator – Ideal for comparative measurements on small part series – Nominal dimension is set on the micrometer and 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)

Tungsten carbide tipped

6,5 mm dia. For model with small measuring faces: 2 mm dia., 5 mm long

0,5 mm

Anvil: 4,5 to 5,5 N

Micrometer with vernier reading to 0,002 mm or 0.0001 in. Dial indicator: 0,001 or 0,002 mm / 0.00005 or 0.0001 in

Dial indicator: ± 0,025 or 0,05 mm / ± 0.0005 or ± 0.002 in

Micrometer: max. perm. error of 2 µm Dial indicator: 1 µm

Dial indicator: repeatability limit of 0,5 µm

Plastic case

Declaration of conformity

Dial indicator 0,001 mm	mm	*Dial indicator 0.00005 in*	*in*
072108669	0 ÷ 25	***072109837***	*0 ÷ 1*
072108691	25 ÷ 50	***072109843***	*1 ÷ 2*
Model with small measuring faces			
072108722	0 ÷ 20	***072109857***	*0 ÷ 0.8*

Dial indicator 0,002 mm	mm	*Dial indicator 0.0001 in*	*in*
072108670	0 ÷ 25	***072109835***	*0 ÷ 1*
072108716	25 ÷ 50	***072109841***	*1 ÷ 2*

Protective Cover

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

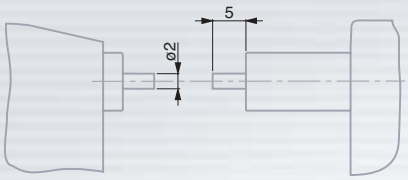
072110978

ETALON MICROSPEL 280

These micrometers have a mobile anvil and a 8 mm dia. fixing bore for mounting a sensor with linear action such as the TESA GT 21/22 electronic probe (also refer to section L).

Specially designed for batch inspection of small precision parts.

- ✓
- DIN 863 T3 (Style D14) NF E 11-090
- Vernier reading to 0,002 mm
- Tungsten carbide tipped
- 6,5 mm dia. Models with small measuring faces: 2 mm dia., 5 mm long
- 0,5 mm
- Anvil: 2 up to 8 N, adjustable
- Measuring element: max. perm. error of 2 µm
- Mobile anvil: repeatability limit of 0,5 µm
- Adjustable part support (except model with small measuring faces)
- Plastic case
- Declaration of conformity



	mm
072110816	0 ÷ 25
072110819	25 ÷ 50

Model with small measuring faces

072110853	0 ÷ 20

Important

Electronic probe and mirometer stand are not part of the delivery scope and must be ordered separtely.

Micrometers with Small Measuring Faces

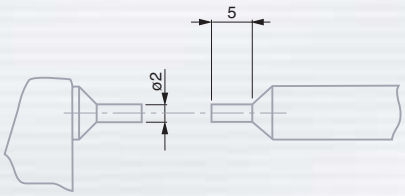
For measuring grooves, feather grooves, splines and other difficult to reach measuring points. Particularly suited for measuring small parts in precision work owing to the small measuring faces.

Models MICROMASTER

No.	mm	in
06030034	0 ÷ 30	*0 ÷ 1.2*
06030035	30 ÷ 60	*1.2 ÷ 2.3*
06030036	60 ÷ 90	*2.3 ÷ 3.5*
06030037	90 ÷ 120	*3.5 ÷ 4.7*

Optional Accessory

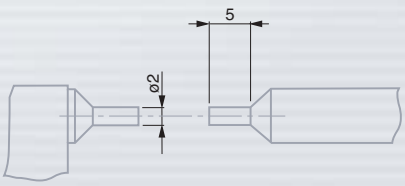
01961000	1 Lithium byttery - 3 V, 190 mAh, type CR 2032
	For information on cables etc., see section L



- ✓
- DIN 863 T3 (Style D3)
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Tungsten carbide measuring faces, fixed
- Max. 10 N
- RS 232: interface, opto-coupled
- Degree of protection (IEC 60529): IP54 or IP40 with use of the digital output
- For additional technical data: see page B-3
- Plastic case
- Identification number
- Measuring range 0 to 100: with SCS-calibration certificate
- Measuring range > 100 mm: inspection report with a declaration of conformity

Models ISOMASTER AD

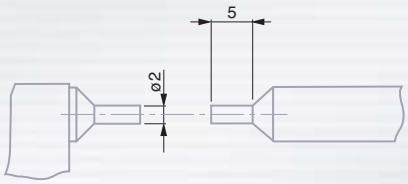
No.	mm	No.	in
00210101	0 ÷ 25	***00220101***	*0 ÷ 1*
00210102	25 ÷ 50	***00220102***	*1 ÷ 2*



- ✓
- DIN 863 T3 (Style D3) NF E 11-090
- 0,01 mm 0.0001 in
- Tungsten carbide measuring faces, fixed
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Models TESAMASTER AD

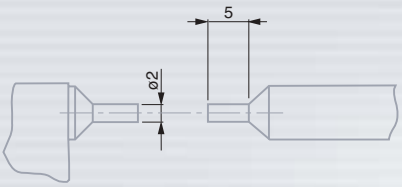
- ✓
- DIN 863 T3 (Style D3) NF E 11-090
- Vernier reading to 0,001 mm
- Scale division 0,1 mm
- Tungsten carbide measuring faces, fixed
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity



	mm
00311301	0 ÷ 25
00311302	25 ÷ 50

Model MICRORAPID

- ✓
- DIN 863 T3 (Style D3) NF E 11-090
- 0,001 mm. Parallax-free reading on vernier
- 100 divisions
- Tungsten carbide measuring faces, fixed
- 1 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity



	mm
072116410	0 ÷ 20

Micrometers with One Spherical Measuring Face

Measure wall thickness of tubing.

Models MICROMASTER

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

Model ETALON

No.	mm
071115940	0 ÷ 25

- ✓
- DIN 863 T3 (Style D1)
- MICROMASTER: 0,001 mm or 0.00005 in
- ETALON: 0,002 mm
- Anvils: tungsten carbide (MICROMASTER) or titanium coating (ETALON). Tungsten carbide measuring spindle
- Anvil with a 3,5 mm (MICROMASTER) or 3,25 mm (ETALON) spherical measuring face. Spindle with a flat measuring face
- Max. 10 N
- RS 232 on MICROMASTER
- Other technical data to MICROMASTER: see page B-3
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Micrometers with Two Spherical Measuring Faces

Rounded Measuring faces on anvil and spindle for measuring concave surfaces of workpieces, e.g. ball-bearing guides or walls of tubing.

Models MICROMASTER

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*

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

AAS Series ISOMASTER Micrometers

Rounded measuring faces for measuring concave surfaces such as ball-bearing guides and tubing walls.

✓

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

0,01 mm

Measuring faces rounded to 3,25 mm

Titanium carbide coated measuring faces for both models No. 00112106 and 00190003:
Hardened steel for other models

0,5 mm

Max. 10 N

Plastic case

Identification number

Inspection report with a declaration of conformity

	mm
00112106	0 ÷ 25 (TiC)
00190003	25 ÷ 50 (TiC)
00110901	0 ÷ 25
00110902	25 ÷ 50
00110903	50 ÷ 75
00110904	75 ÷ 100

Spherical Element for External Micrometers

Holder with a ball tip that fits on measuring faces having a 6,5 mm diameter – Serve to measure tubing wall thickness, workpieces with concave surfaces and the like.

✓

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

	Ball tip
072103522	5 mm
072103523	*0.200 in*

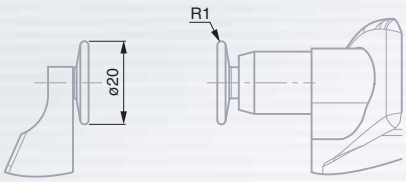
Micrometers for Soft Materials

With two large, round-edge measuring faces – Measure the thickness of materials such as paper and plastic sheets, felt, cloth and other soft materials.

Models MICROMASTER

Non-rotating measuring spindle – Without spindle lock.

	mm	in
06030085	0 ÷ 30	*0 ÷ 1.2*
06030086	25 ÷ 55	*1 ÷ 2.1*



- ✓
- DIN 863 T3 (Style D6)
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Steel measuring faces, hardened
- Non-rotating, 20 mm dia.
- Flatness tolerance: 3 µm
- Parallelism tolerance: 6 µm
- Max. perm. error: 4 µm
- Max. 10 N
- RS 232
- Other technical data: see page B-3
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Model ISOMASTER AF

	mm
00210301	0 ÷ 25

- ✓
- DIN 863 T3 (Style D6)
- 0,01 mm
- Steel measuring faces, hardened
- ∅ 15 mm
- Flatness tolerance: 3 µm
- Parallelism tolerance: 6 µm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

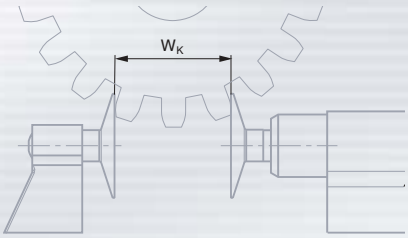
Micrometers for Gear Pitch Measurement

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.

✓
DIN 863 T3 (Style D3)
0,001 mm 0.00005 in
Metric/inch conversion
Steel measuring faces, hardened
Non-rotating spindle ≤ 90 mm: 25 mm dia. > 90 ≤ 120 mm: 30 mm dia.
Suitable from module 0,5
Max. 10 N
RS 232
Other technical data: see page B-3
Plastic case
Identification number
Inspection report with a declaration of conformity

Models MICROMASTER

Non-rotating measuring spindle – Without spindle lock.



	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*

Models ISOMASTER AE

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

	mm
00210201	0 ÷ 25
00210202	25 ÷ 50
00210203	50 ÷ 75
00210204	75 ÷ 100
00210205	100 ÷ 125
00210206	125 ÷ 150

Micrometers for Gear Tooth Measurement

	Max. perm. error* with partial contact of the measuring face µm	Max. perm. error with full contact of the measuring face (DIN 863-T1) µm	Flatness µm	Parallelism µm	Max. flexure of the frames 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

* Disregarding a rim of 1 mm as the measuring faces are being inspected.
For enhanced accuracy, the micrometer should be calibrated in the position of use.

MICROMASTER with 7 Pairs of Interchangeable Measuring Inserts

Non-rotating spindle – Without spindle lock.

	mm	in
06030045	0 ÷ 30	*0 ÷ 1.2*
06030046	25 ÷ 55	*1.0 ÷ 2.1*

- ✓
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Micrometer element with a max. perm. error of 3 µm
- 7,5 mm dia., non-rotating spindle. With a fixing bore for a measuring insert. Adjustable attachment on anvil for a measuring insert, with lock.
- Steel measuring faces, hardened
- Max. 10 N
- RS 232
- Other technical data on page B-3
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

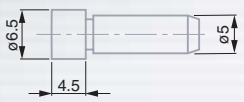
Components of the Full Micrometers

	mm	in
Single micrometers		
06030099	0 ÷ 30	*0 ÷ 1.2*
06030100	25 ÷ 55	*1.0 ÷ 2.1*
Full set of measuring inserts		
00269027		

Includes one pair of the following inserts:

		mm
00269020	flat	∅ 6,5 dia.
00269021	small, flat	∅ 2
00269022	spherical	R = 5
00269023	large, flat	∅ 12
00269024	narrow, flat	0,7
00269025	cone-shaped	∅ 0,3/60°
00269026	knife-edged	0,3/60°

Specially designed measuring faces also available upon request.



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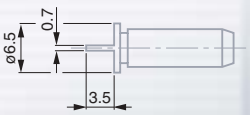

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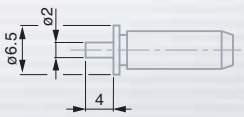

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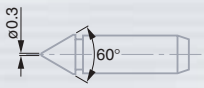

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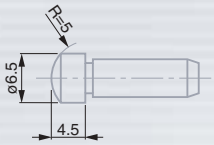

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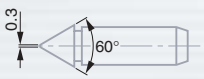

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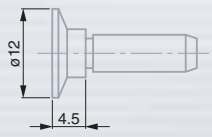


00269023

✓

0,01 mm

0,5 mm

Micrometer element with a max. perm. error of 3 µm

8,0 mm dia., non-rotating spindle.
With a fixing bore for a measuring insert.
Adjustable attachment on anvil for a measuring insert with lock.

Without spindle lock

Max. 10 N

Plastic case

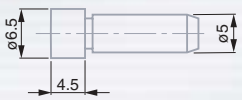
Identification number

Inspection report with a declaration of conformity

ETALON Basic with 7 Pairs of Interchangeable Measuring Inserts

	mm
00219056	0 ÷ 25
00219058	25 ÷ 50
00219060	50 ÷ 75
00219062	75 ÷ 100

Components of the Full Micrometers



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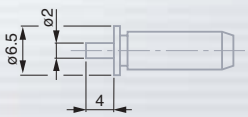

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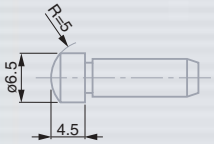
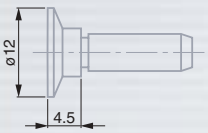


00269022

	mm
Single micrometers	
00219057	0 ÷ 25
00219059	25 ÷ 50
00219061	50 ÷ 75
00219063	75 ÷ 100
Full set of measuring inserts	
00269027	

Includes one pair of the following inserts

		mm	µm
00269020	flat	∅ 6,5	0,6
00269021	small, flat	∅ 2	0,6
00269022	spherical	R = 5	
00269023	large, flat	∅ 12	1,2
00269024	narrow, flat	0,7	
00269025	cone-shaped	∅ 0,3 / 60°	
00269026	knife-edged	0,3 / 60°	



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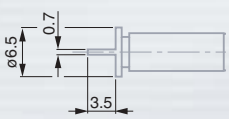

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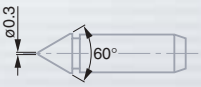

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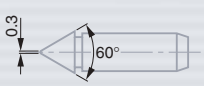


00269026

AT Series ISOMASTER Micrometers with Large Measuring Face on Anvil

Micrometers with a flat, rectangular measuring face that serves for inspecting the width of milling cutters with staggered teeth.

	mm
00211301	0 ÷ 25
00211302	25 ÷ 50

- ✓
- DIN 863 T3 (style D11)
- 0,01 mm
- Titanium carbide measuring face on anvil. Measuring spindle in tungsten carbide
- Anvil with a 50 x 9 mm flat face for measuring range 0 to 25 mm or 60 x 10 mm from 25 up to 50 mm. Spindle with a 6,5 mm dia. measuring face
- Anvil with a flatness tolerance of 2 µm
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

AN Series ISOMASTER with Small Frame

Measures wire thickness and ball diameters up to 10 mm. Small frame with 2 resting surfaces for wires.

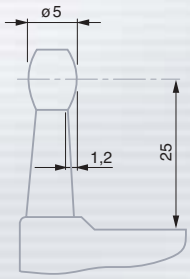
	mm
00210901	0 ÷ 10

- ✓
- DIN 863 T3 (Style D2) NF E 11-090
- 0,01 mm
- Tungsten carbide tipped
- 6,5 mm dia.
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

ETALON Basic
for Tube Wall Thickness Measurement

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

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

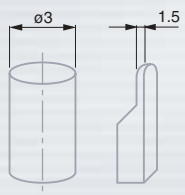


	mm
00219066	0 ÷ 25

ETALON Basic
with Two Interchangeable Anvils

Universal micrometers – Anvils have either a flat or a cylindrical measuring face.

- ✓
- Vernier reading to 0,002 mm
- Hardened steel anvils. Tungsten carbide spindle
- Anvils: see drawing. Spindle: 6,5 mm dia.
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Inspection report with a declaration of conformity



	mm
00219067	0 ÷ 25
00219068	25 ÷ 50

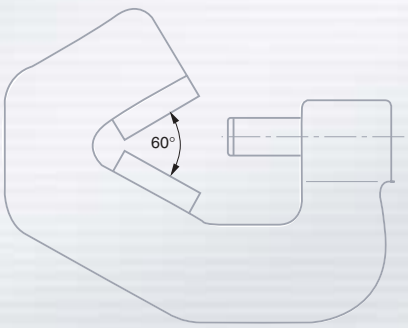
Micrometers with Prismatic Measuring Faces

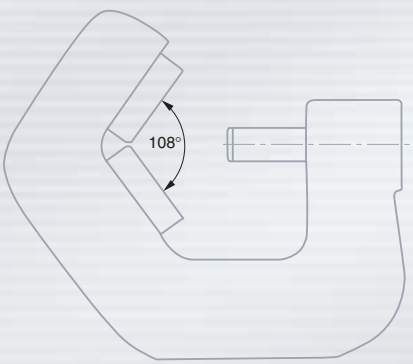
Measure test pieces with an uneven number of grooves such as milling cutters, taps, drills and splined shafts as well as odd polygons. Determine roundness errors on cylindrical surfaces. Angle of the prism aperture is designed for workpieces having a number of 3 or 5 flutes.

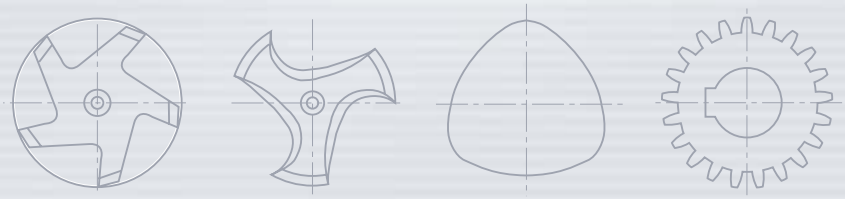
Models MICROMASTER

- ✓
- DIN 863 T3 (Style D 10)
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Tungsten carbide tipped
- Angle of the prism aperture: 60° for 3-flute test pieces or 108° for 5-flute test pieces
- 0,75 mm for 3-flute test pieces or 0,559 mm for 5-flute test pieces
- Max. 10 N
- RS 232
- Other technical data on page B-3
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

	mm	in
3-flute test pieces (60°)		
06030087	1 ÷ 7	*0.04 ÷ 0.27*
06030088	5 ÷ 20	*0.20 ÷ 0.80*
06030089	20 ÷ 35	*0.80 ÷ 1.38*
06030090	35 ÷ 50	*1.38 ÷ 1.97*
06030091	50 ÷ 65	*1.97 ÷ 2.56*
06030092	65 ÷ 80	*2.56 ÷ 3.15*
5-flute test pieces (108°)		
06030093	1 ÷ 7	*0.04 ÷ 0.27*
06030094	5 ÷ 25	*0.20 ÷ 0.98*
06030095	25 ÷ 45	*0.98 ÷ 1.77*
06030096	45 ÷ 65	*1.77 ÷ 2.56*
06030097	65 ÷ 85	*2.56 ÷ 3.35*
06030098	85 ÷ 105	*3.35 ÷ 4.13*







Models ISOMASTER AS

✓

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

0,01 mm

Tungsten carbide tipped

Angle of the prism aperture: 60° for 3-flute test pieces or 108° for 5-flute test pieces

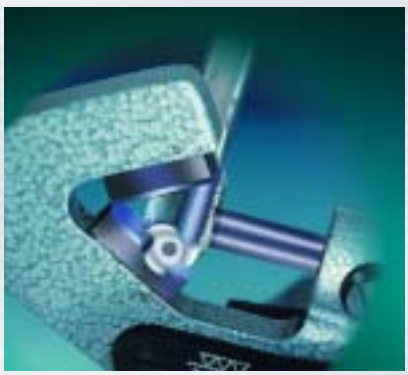
0,75 mm for 3-flute test pieces or 0,559 mm for 5-flute test pieces

Max. 10 N

Plastic case

Identification number

Declaration of conformity



	mm
3-flute test pieces (60°)	
00410001	1 ÷ 7
00410002	5 ÷ 20
00410003	20 ÷ 35
00410004	35 ÷ 50
00410005	50 ÷ 65
00410006	65 ÷ 80
5-flute test pieces (108°)	
00410101	1 ÷ 7
00410102	5 ÷ 25
00410103	25 ÷ 45
00410104	45 ÷ 65
00410105	65 ÷ 85
00410106	85 ÷ 105

Cylindrical Setting Standards

✓

Hardened steel

Fitted with plastic guard plates from nominal dimension of 20 mm.
Actual size engraved on the top face

Identification number

Declaration of conformity

	mm	µm	µm
0044001	5	0,5	–
0044002	20	0,7	1
0044003	25	0,7	1
0044004	35	1	1
0044005	45	1,2	1,5
0044006	50	1,2	1,5
0044007	65	1,5	1,5
0044008	85	2	2

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 – Spindle has a fixing bore for a cone-shaped measuring insert.

- ✓
- DIN 863 T3 (Style D18)
- 0,001 mm 0.00005 in
- Metric/inch conversion
- 30 mm measuring span
- Max. 10 N
- RS 232
- Other technical data on page B-3
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

Models MICROMASTER AC

	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*

Important

The inserts and setting standards must be ordered separately.

Models ISOMASTER AC

- ✓
- DIN 863 T3 (Style D 18) NF E 11-090
- 0,01 mm 0.001 in
- 0,5 mm
- Max. 10 N
- Plastic case
- Identification number
- Declaration of conformity

	mm		in
00210001	0 ÷ 25	***00220001***	*0 ÷ 1*
00210002	25 ÷ 50	***00220002***	*1 ÷ 2*
00210003	50 ÷ 75	***00220003***	*2 ÷ 3*
00210004	75 ÷ 100	***00220004***	*3 ÷ 4*
00210005	100 ÷ 125	***00220005***	*4 ÷ 5*
00210006	125 ÷ 150	***00220006***	*5 ÷ 6*

Important

The inserts and setting standards must be ordered separately.

✓
Hardened steel
Fixing rod a 3,5 mm dia., 15,5 mm long
Supplied in sets or pairs

Interchangeable Thread Inserts for TESA AC Series Micrometers

With measuring faces specially designed for checking pitch diameters.

	Pitch in mm		Threads per in		Threads per in
ISO metric threads 60° flank angle		*Whitworth threads 55° flank angle*		*Unified inch-treads UN, UNC, UN ... 60° flank angle*	
00240000	0,4 ÷ 0,5	***00250100***	*60 ÷ 48*	***00250000***	*64 ÷ 42*
00240001	0,5 ÷ 0,6	***00250101***	*48 ÷ 40*	***00250001***	*42 ÷ 25*
00240002	0,6 ÷ 0,8	***00250102***	*40 ÷ 32*	***00250002***	*25 ÷ 17*
00240003	0,8 ÷ 1,0	***00250103***	*32 ÷ 24*	***00250003***	*17 ÷ 10*
00240004	1,0 ÷ 1,25	***00250104***	*24 ÷ 18*	***00250004***	*10 ÷ 6.5*
00240005	1,25 ÷ 1,5	***00250105***	*18 ÷ 14*	***00250005***	*6.5 ÷ 4*
00240006	1,5 ÷ 2,0	***00250106***	*14 ÷ 10*	***00250006***	*4 ÷ 2.5*
00240007	2,0 ÷ 2,5	***00250107***	*10 ÷ 7*		
00240008	2,5 ÷ 3,0	***00250108***	*7 ÷ 4.5*		
00240009	3,0 ÷ 4,0	***00250109***	*4.5 ÷ 3*		
00240010	4,0 ÷ 5,0				
00240011	5,0 ÷ 6,0				
Set of 12 pairs		*Set of 10 pairs*		*Set of 7 pairs*	
00240015	0,4 ÷ 6,0	***00250115***	*60 ÷ 3*	***00250015***	*64 ÷ 2.5*

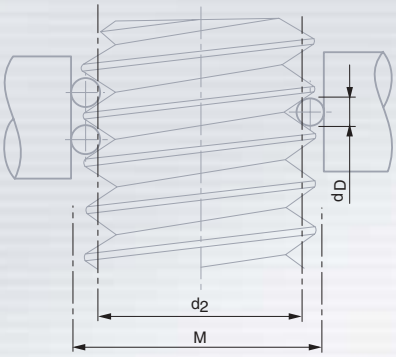
✓
Hardened steel
Insulating sleeve marked with actual size
Identification number
Declaration of conformity

Setting Standards for Screw Thread Micrometers

	mm		in
60° flank angle			
00240501	25	***00250501***	*1*
00240502	50	***00250502***	*2*
00240503	75	***00250503***	*3*
00240504	100	***00250504***	*4*
00240505	125	***00250505***	*5*
55° flank angle			
00240601	25	***00250601***	*1*
00240602	50	***00250602***	*2*
00240603	75	***00250603***	*3*
00240604	100	***00250604***	*4*
00240605	125	***00250605***	*5*

XB Wires for Screw Threads

For measuring pitch diameter of threads using the three-wire method. The 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 a measuring insert having a 6,5 mm diameter.



✓

Steel wires, hardened

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

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

Declaration of conformity

No.	Wires diameter	ISO metric threads	Whitworth threads	Unified inch-threads UN, UNC, UNF ...
	d_D mm	Pitch in mm	Number of threads per in	Number of threads per in
00240701	0,17	0,25 and 0,3	–	–
00240702	0,22	0,35	–	*72*
00240703	0,25	0,4	*60*	*64*
00240704	0,29	0,45 and 0,5	–	*56*
00240705	0,335	0,6	*48 and 40*	*48 and 44*
00240706	0,455	0,7 to 0,8	–	*32*
00240707	0,53	0,9	*32 and 28*	*28*
00240708	0,62	1,0	*26 and 24*	*24*
00240709	0,725	1,25	*22 to 19*	*20*
00240710	0,895	1,5	*18 and 16*	*18 and 16*
00240711	1,10	1,75	*14*	*14 and 13*
00240712	1,35	2,0	*12 and 11*	*12 and 11*
00240713	1,65	2,5	*10 and 9*	*10 and 9*
00240714	2,05	3,0 and 3,5	*8 and 7*	*8 and 7*
00240715	2,55	4,0 and 4,5	*6*	*6*
00240716	3,20	5,0 and 5,5	*5 and 4.5*	*5 and 4.5*
Set of 16 pairs				
00240700	0,17 ÷ 3,20			

Micrometer Stands

For micrometers up to 300 mm as well as measuring instruments.

No.
TESA
00160201
ETALON
072110123

✓

Clamp aperture of 16 m (TESA) or 20 mm (ETALON)

Lacquered cast iron base

Tilting locking device.
Uses one single bolt only

Setting Standards

✓

Steel measuring faces, hardened

INTERAPID have one flat end face and 1 rounded face, lapped.
ETALON Basic:
≤ 275 mm: with a flat parallel face, lapped
≥ 300 mm: 1 flat and 1 rounded faces, lapped

Cylindrical-gauge block with a plastic insulating grip.
INTERAPID with dull-chrome shaft

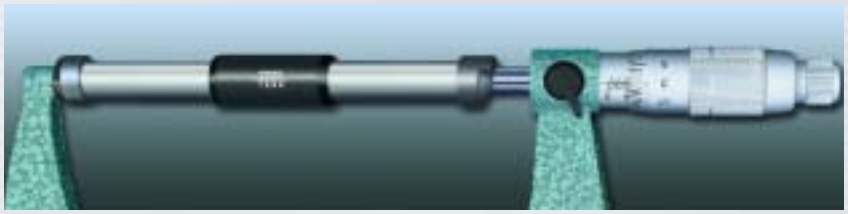
INTERAPID with lengths
≤ 175 mm: 10 mm
≥ 200 mm: 13 mm
ETALON Basic:
≤ 75 mm long: 7 mm
≥ 100 mm long: 8 mm

Max. perm. error (ETALON Basic):
≤ 75 mm: 2 µm
100 and 125 mm: 2,5 µm
150 and 175 mm: 3 µm
≥ 200 ≤ 275 mm: 3,5 µm
≥ 300 ≤ 375 mm: 4 µm
≥ 400 ≤ 475 mm: 5 µm
500 mm: 6 µm
INTERAPID:
Tolerance over the length ± (1 + L/100) µm, L in mm

Identification number

INTERAPID: Inspection report with actual measured length

Declaration of conformity



		mm		mm		in		in
INTERAPID	*ETALON Basic*		*INTERAPID*		*INTERAPID*		*INTERAPID*	
02140001	**02119020**	25	**02140026**	650	***02150001***	*1*	***02150026***	*26*
02140002	**02119021**	50	**02140027**	675	***02150002***	*2*	***02150027***	*27*
02140003	**02119022**	75	**02140028**	700	***02150003***	*3*	***02150028***	*28*
02140004	**02119023**	100	**02140029**	725	***02150004***	*4*	***02150029***	*29*
02140005	**02119024**	125	**02140030**	750	***02150005***	*5*	***02150030***	*30*
02140006	**02119025**	150	**02140031**	775	***02150006***	*6*	***02150031***	*31*
02140007	**02119026**	175	**02140032**	800	***02150007***	*7*	***02150032***	*32*
02140008	**02119027**	200	**02140033**	825	***02150008***	*8*	***02150033***	*33*
02140009	**02119028**	225	**02140034**	850	***02150009***	*9*	***02150034***	*34*
02140010	**02119029**	250	**02140035**	875	***02150010***	*10*	***02150035***	*35*
02140011	**02119030**	275	**02140036**	900	***02150011***	*11*	***02150036***	*36*
02140012	**02119031**	300	**02140037**	925	***02150012***	*12*	***02150037***	*37*
02140013	**02119032**	325	**02140038**	950	***02150013***	*13*	***02150038***	*38*
02140014	**02119033**	350	**02140039**	975	***02150014***	*14*	***02150039***	*39*
02140015	**02119034**	375	**02140040**	1000	***02150015***	*15*	***02150040***	*40*
02140016	**02119035**	400	**02140041**	1025	***02150016***	*16*	***02150041***	*41*
02140017	**02119036**	425	**02140043**	1075	***02150017***	*17*	***02150043***	*43*
02140018	**02119037**	450	**02140045**	1125	***02150018***	*18*	***02150045***	*45*
02140019	**02119038**	475	**02140047**	1175	***02150019***	*19*	***02150047***	*47*
02140020	**02119039**	500	**02140049**	1225	***02150020***	*20*	***02150049***	*49*
02140021		525	**02140051**	1275	***02150021***	*21*	***02150051***	*51*
02140022		550	**02140053**	1325	***02150022***	*22*	***02150053***	*53*
02140023		575	**02140055**	1375	***02150023***	*23*	***02150055***	*55*
02140024		600	**02140057**	1425	***02150024***	*24*	***02150057***	*57*
02140025		625	**02140059**	1475	***02150025***	*25*	***02150059***	*59*

Guide Collars

Make the positioning of INTERAPID setting standards fast and simple.

	mm	mm
02140103	100 ÷ 175	8
02140108	200 ÷ 1475	8

ETALON Cylindrical Step Master Gauges

For display setting and calibration.

	mm
072112020	5 ÷ 100
072112021	5 ÷ 150

✓

Hardened alloy steel

Diameters in step of 5 mm ≤ 50 mm
10 mm > 50 mm

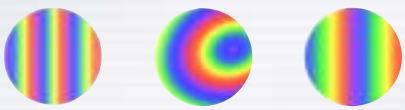
Max. perm. errors for nominal diameters:
≤ 80 mm: 1,5 µm
≥ 90 ≤ 120 mm: 2,0 µm
≥ 130 mm: 2,5 µm

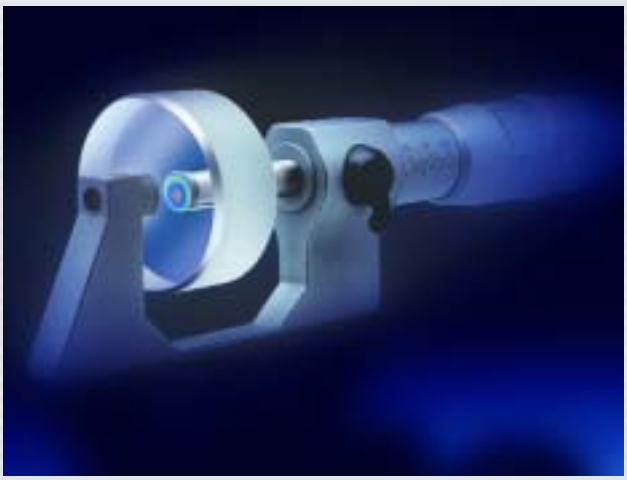
Mounted on a wood base. Supplied with dust cover

Declaration of conformity

Plan Parallel Optical Flats

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 corresponds to a quarter or a third of the spindle pitch of 0,5 mm.





	mm
02510001	12,00
02510002	12,125
02510003	12,25
02510004	12,375
02510000	12,00 ÷ 12,375
02510101	27,00
02510102	27,165
02510103	27,335
02510100	27,00 ÷ 27,335
02510201	52,00
02510202	52,165
02510203	52,335
02510200	52,00 ÷ 52,335
02510301	77,00
02510302	77,165
02510303	77,335
02510300	77,00 ÷ 77,335

✓

31 mm

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

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

Parallelism tolerances for optical flats with lengths:
≤ 27,335 mm: 0,4 µm
≥ 52,00 > 77,335 mm: 0,5 µm

Each set is supplied in a wooden case

Declaration of conformity

Sets of TESA Mikechex Gauge Blocks, Metric

Designated to calibrate and set the indication of external micrometers.

Steel
Gauge blocks

Tungsten carbide and ceramic gauge blocks

ISO 3650.
Set compositions:
Mikechex M10: DIN 863 T1
Mikechex M8, M10 and M11: BS 870

Special alloyed steel, stable and resistant to wear.
Stable tungsten carbide, highly resistant to wear.
Ceramic made from stabilised zirconia, extremely resistant to wear and scratches

Steel:(11,5 ± 1,0) x 10^{-6} K^{-1}
Tungsten carbide: (4,23 ± 0,1) x 10^{-6} K^{-1} .
Ceramic: (9,7 ± 0,8) x 10^{-6} K^{-1}

Limit deviations t_e on page I-5

Tolerances t_v on page I-5

See page I-2

Optical flats on page I-12

Supplied in sets or individually

Wooden case

Identification number

Steel gauge blocks of any grade:
SCS calibration certificate

Carbide and ceramic gauge blocks of any grade: UKAS calibration certificate

Steel	Carbide	Ceramic		Set composition							
				mm							
8 Piece Set – Mikechex M8											
0651516038	**0651526036**	**0651536037**	K	3,1	6,5	9,7	12,5	15,8	19,0	21,9	25,0
0651515038	**0651525038**	**0651535038**	0								
0651511038	**0651521038**	**0651531038**	1								
0651512039	**0651522038**	**0651532038**	2								
8 Piece Set – Mikechex M8 with Optical Flat											
	0651525042		0	3,1	6,5	9,7	12,5	15,8	19,0	21,9	25,0
	0651521042		1	50 mm diameter optical flat*							
	0651522042		2								
10 Piece Set – Mikechex M10											
0651516037	**0651526035**	**0651536036**	K	2,5	5,1	7,7	10,3	12,9	15,0	17,6	20,2
0651515037	**0651525037**	**0651535037**	0	22,8	25,0						
0651511037	**0651521037**	**0651531037**	1								
0651512038	**0651522037**	**0651532037**	2								
10 Piece Set – Mikechex M10 with Optical Flat											
	0651525041		0	2,5	5,1	7,7	10,3	12,9	15,0	17,6	20,2
	0651521041		1	22,8	25,0						
	0651522041		2	50 mm diameter optical flat*							
11 Piece Set – Mikechex M11											
0651515036	**0651525036**	**0651535036**	0	3,1	6,5	9,7	12,5	15,8	19,0	21,9	25,0
0651511036	**0651521036**	**0651531036**	1	50	75	100					
0651512037	**0651522036**	**0651532036**	2								
11 Piece Set – Mikechex M11 with Optical Flat											
	0651525040		0	3,1	6,5	9,7	12,5	15,8	19,0	21,9	25,0
	0651521040		1	50	75	100					
	0651522040		2	50 mm diameter optical flat*							

* Max. flatness error: 0,125 µm

Sets of TESA Mikechex Gauge Blocks, Inch

Designated to calibrate and set the indication of external micrometers.

✓

BS 4311 Part 1
BS 870 for all set compositions

Steel sort: tungsten carbide providing stability as well as high resistance to wear.

Ceramic sort: extremely resistant zirconia

Tugnsten carbide: (4,23 ± 0,1) x 10^{-6} K^{-1}
Ceramic: (9,7 ± 0,8) x 10^{-6} K^{-1}

See BS 4311 Part 1

Supplied as single gauge blocks or in sets

Wooden case

Identification number

UKAS calibration certificate

Carbide	Ceramic		Set composition						
			in						
8 Piece Set – Mikechex E8									
0652526023	**0652536014**	K	*0.130*	*0.250*	*0.385*	*0.500*	*0.615*	*0.750*	
0652525023	**0652535014**	0	*0.870*	*1.000*					
0652521023	**0652531015**	1							
0652522023	**0652532015**	2							
10 Piece Set – Mikechex E10									
0652526022	**0652536013**	K	*0.105*	*0.210*	*0.315*	*0.420*	*0.500*	*0.605*	
0652525022	**0652535013**	0	*0.710*	*0.815*	*0.920*	*1.000*			
0652521022	**0652531014**	1							
0652522022	**0652532014**	2							
11 Piece Set – Mikechex E11									
0652521021	**0652531013**	1	*0.130*	*0.250*	*0.385*	*0.500*	*0.615*	*0.750*	
0652522021	**0652532013**	2	*0.870*	*1.000*	*2.000*	*3.000*	*4.000*		

Heat Insulating Grips for Micrometers

Protect the frame from hand warmth.

	mm
00140401	up to 200
00140402	200 ÷ 500
00160101	500 ÷ 700
00160102	700 ÷ 1000
00160103	1000 ÷ 1500

✓

Models No. 00140401 or 00140402 in anodised aluminum, black colour.
No. 00160101 up to 00160103 in moulded plastic, black colour.

Micrometer Heads

Components commonly used for checking the various displacements on measuring fixtures, coordinate tables, microscopes, machines as well as other special appliances. Mounted on the cylindrical clamping shaft.

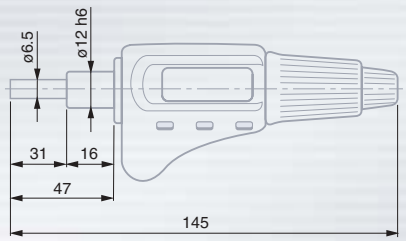
Models MICROMASTER

Without spindle lock.

- ✓
- DIN 863 T2 (Style E)
- 0,001 mm 0.00005 in
- Metric/inch conversion
- Tungsten carbide tipped
- 6,5 mm dia.
- 0,5 mm
- Max. perm. error of 3 µm
- Max. 10 N
- Other technical data on page B-3
- Opto-coupled RS 232 interface
- Identification number
- Inspection report with a declaration of conformity

06030038/39

06030040

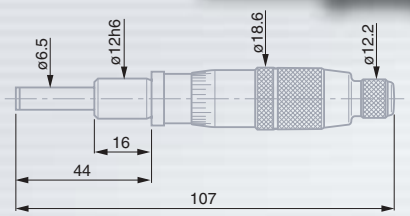


№	mm	mm
06030038	0 ÷ 30	12h6
06030039	30 ÷ 0	12h6
06030040	30 ÷ 0	12h6

Model ISOMASTER AR

Without spindle lock.

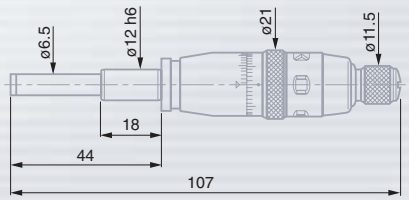
- ✓
- DIN 863 T2 (Style E) NF E 11-090
- 0,01 mm 0.0001 in
- Tungsten carbide tipped
- 6,5 mm dia.
- 0,5 mm
- Max. perm. error of 3 µm
- Max. 10 N
- Identification number
- Declaration of conformity



№	mm	mm	№	*in*	mm
00211201	0 ÷ 25	12h6	***00221201***	*0 ÷ 1*	12h6

Model TESAMASTER AR

Without spindle lock.

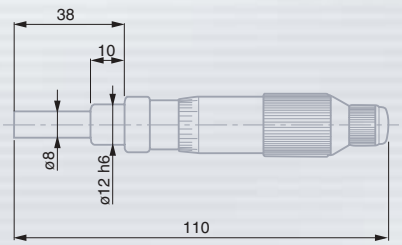


	mm	mm		*in*	mm
00312301	0 ÷ 25	12h6	**00322301**	*0 ÷ 1*	12h6

- ✓
- DIN 863 T2 (style E)
- Vernier reading to 0,001 mm or 0.0001 in
- Scale division to 0,1 mm or 0.005 in
- Tungsten carbide tipped
- 6,5 mm dia
- 0,5 mm
- Max. perm. error of 2 µm
- Max. 10 N
- Identification number
- Declaration of conformity

Model ETALON Basic

Without spindle lock – Non-rotating spindle.

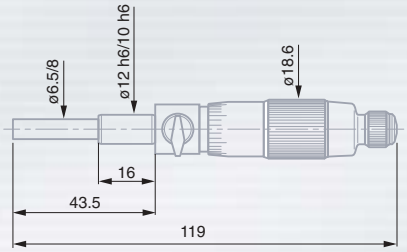


	mm	mm	mm
00219064	0 ÷ 25	0,01	12h6
00219065	0 ÷ 25	0,002	12h6

- ✓
- DIN 863 T2 (Style E)
- No. 00219065 with vernier
- Tungsten carbide tipped
- 6,5 mm dia
- 0,5 mm
- Max. perm. error of 3 µm
- Max. 10 N
- Identification number
- Declaration of conformity

ETALON 266 Micrometer Heads

With spindle lock.



	mm	**D** mm	mm	Spindle lock
072115942	0 ÷ 25	6,5	12h6	without
072115943	0 ÷ 25	8	12h6	with
072116258	0 ÷ 25	6,5	10h6	with

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

Depth Micrometers

With interchangeable measuring rods provided in sets. These depth rods areadjusted in increments of 30 or 25 mm, thus eliminating the need for correcting the display when rods are exchanged.

Models MICROMASTER

Non-rotating measuring rod. Sets in increments of 30 mm.

	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
- Metric/inch conversion
- Non-rotating spindle
- Measuring rods with hardened steel ends
- 3 mm dia. measuring rods
- 30 mm
- RS 232 output
- 0,5 mm
- Max. perm. error (meas. element): 3 µm
- Plastic case
- Identification number
- Inspection report with a declaration of conformity

AQ Series ISOMASTER Micrometers

Measuring rods in increments of 25 mm or 1 in.

	mm	mm		in	mm
00211002	0 ÷ 75	50 x 15	***00221002***	*0 ÷ 3*	50 x 15
00211003	0 ÷ 150	50 x 15	***00221003***	*0 ÷ 6*	50 x 15
00211004	0 ÷ 75	100 x 15	***00221004***	*0 ÷ 3*	100 x 15
00211005	0 ÷ 150	100 x 15	***00221005***	*0 ÷ 6*	100 x 15

✓

DIN 863 T2 (Style T) NF E 11-097

0,01 mm 0.0001 in

Measuring rods with hardened steel ends

3 mm dia. measuring rods. Measuring face on the base: see table

0,5 mm

Max. perm. error of the measuring element: 3 µm

Plastic case

Identification number

Declaration of conformity

Instruments' Sets

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-9

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-7

Additional data

Inspection report with a declaration of conformity

ETALON Basic Set

00519089 **ETALON Basic Set**

Consisting of:

		mm	mm
00519084	1 ETALON Basic vernier caliper	0 ÷ 150	0,05
00119046	1 ETALON Basic external micrometer	0 ÷ 25	0,01
00560031	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-9

Depth foot

Stainless steel, hardened

75 x 6 mm measuring faces

Micrometer

DIN 863 T1 NF E-11095

Tungsten carbide tipped

Technical data on page B-6

Additional data

Inspection report with a declaration of conformity

TESA Swiss Set

00510033 **TESA Swiss Set**

Consisting of:

		mm	mm
00510041	1 TESA SWISSCAL 2 vernier caliper	0 ÷ 150	0,02
00560013	1 Depth measuring foot		
00110101	1 TESA ISOMASTER external micrometer	0 ÷ 25	0,01
00560031	1 Suited plastic case		

TESA Duo-Set 1

00530020 **TESA Duo-Set 1**

Consisting of:

		mm	mm
00510008	1 TESA CCMA-M dial caliper	0 ÷ 150	0,02
00560013	1 Depth measuring foot		
00110101	1 TESA ISOMASTER external micrometer	0 ÷ 25	0,01
00560031	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-6

Depth foot

Stainless steel, hardened

75 x 6 mm measuring face

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-6

Additional data

Inspection report with a declaration of conformity

TESA Duo-Set 2

00530021 **TESA Duo-Set 2**

Consisting of:

		mm	mm
00510008	1 TESA CCMA-M dial caliper	0 ÷ 150	0,02
00560013	1 Depth measuring foot		
00310001	1 TESAMASTER external micrometer	0 ÷ 25	0,001
00560031	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-6

Depth foot

Stainless steel, hardened

75 x 6 mm measuring faces

Micrometer

DIN 863 T1 NF E-11095

Tungsten carbide tipped

Technical data on page B-4

Additional data

Inspection report with a declaration of conformity

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-3

Depth foot

Stainless steel, hardened

75 x 6 mm measuring face

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-6

Additional data

Inspection report with a declaration of conformity

TESA Duo-Set 8

00531101 **TESA Duo-Set 8**

Consisting of:

		mm	mm
00530080	1 TESA DIGIT-CAL capa µ system caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
00110101	1 TESA ISOMASTER external micrometer	0 ÷ 25	0,01
00560031	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-3

Depth foot

Stainless steel, hardened

75 x 6 mm measuring face

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-4

Additional data

Inspection report with a declaration of conformity

TESA Duo-Set 9

00531102 **TESA Duo-Set 9**

Consisiting of:

		mm	mm
00530080	1 TESA DIGIT-CAL capa µ system caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
00310001	1 TESAMASTER external micrometer	0 ÷ 25	0,001
00560031	1 Suited plastic case		

TESA Duo-Set 11

00531002 **TESA Duo-Set 11**

Consisting of:

		mm	mm
00530080	1 TESA DIGIT-CAL capa µ system caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
06030010	1 TESA MICROMASTER EASY external micrometer	0 ÷ 30	0,001
00560090	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-3

Inspection report with a declaration of conformity

Depth foot

Stainless steel, hardened

75 x 6 mm measuring face

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-3

SCS calibration certificate

TESA Duo-Set 12

00531003 **TESA Duo-Set 12**

Consisting of de:

		mm	mm	
00530081	1 TESA DIGIT-CAL capa µ system caliper	0 ÷ 150	0,01	RS 232
00560013	1 Depth measuring foot			
06030030	1 TESA MICROMASTER IP54 RS external micrometer	0 ÷ 30	0,001	RS 232
00560090	1 Suited plastic case			

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data on page A-3

Inspection report with a declaration of conformity

Depth foot

Stainless steel, hardened

75 x 6 mm measuring face

Micrometer

DIN 863 T1 NF E 11-095

Tungsten carbide tipped

Technical data on page B-3

SCS calibration certificate

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data: page A-3

Inspection report with a declaration of conformity

Depth foot

Stainless steel, hardened

Measuring face: 75 x 6 mm

Micrometer

DIN 863 T1, NF E 11-095

Tungsten carbide tipped

Technical data: page B-3

SCS calibration certificate

TESA Duo-Set 13

00531004 **TESA Duo-Set 13**

Consisting of:

		mm	mm
00530200	1 TESA CAL IP65 electronic caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
06030020	1 TESA MICROMASTER IP54 external micrometer	0 ÷ 30	0,001
00560090	1 Suited plastic case		

✓

Caliper

DIN 862

Stainless steel, hardened

Technical data: page A-3

Inspection report with a declaration of conformity

Depth foot

Stainless steel, hardened

Measuring face: 75 x 6 mm

Micrometer

DIN 863 T1, NF E 11-095

Tungsten carbide tipped

Technical data: page B-3

SCS calibration certificate

TESA Duo-Set 14

00531005 **TESA Duo-Set 14**

Consisting of:

		mm	mm
00530200	1 TESA CAL IP65 electronic caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
06030010	1 TESA MICROMASTER EASY external micrometer	0 ÷ 30	0,001
00560090	1 Suited plastic case		

TESA Duo-Set 15

00531006	**TESA Duo-Set 15**		
Consisting of:			
		mm	mm
00530211	1 TESA CAL IP65 RS electronic caliper	0 ÷ 150	0,01
00560013	1 Depth measuring foot		
06030030	1 MICROMASTER IP54 RS external micrometer	0 ÷ 30	0,001
00560090	1 Suited plastic case		

✓

Caliper

- DIN 862
- Stainless steel, hardened
- Technical data: page A-3
- Inspection report with a declaration of conformity

Depth foot

- Stainless steel, hardened
- Measuring face: 75 x 6 mm

Micrometer

- DIN 863 T1, NF E 11-095
- Tungsten carbide tipped
- Technical data: page B-3
- SCS calibration certificate