

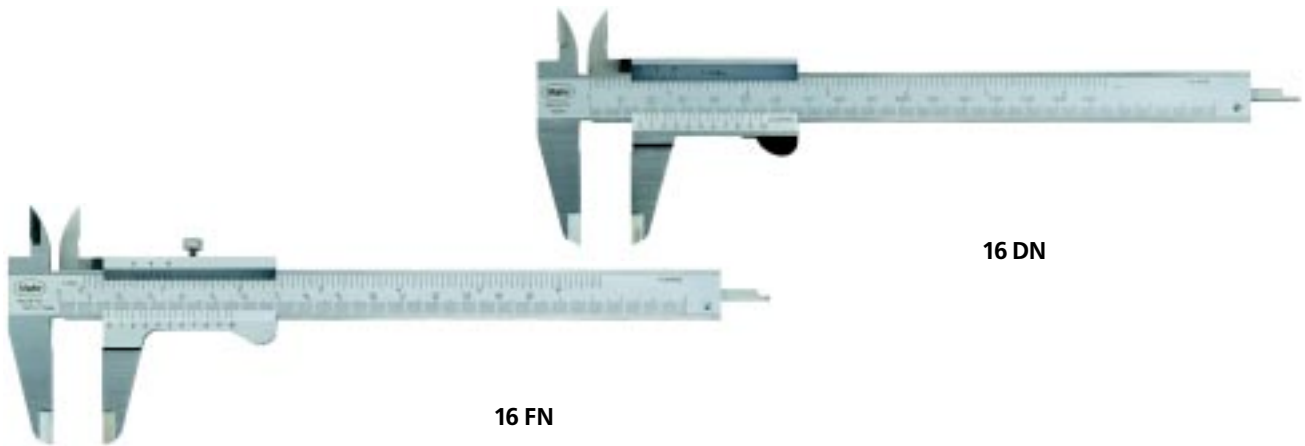
Calipers

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Vernier Calipers 16 N, 16 FN, 16 DN with scale reading

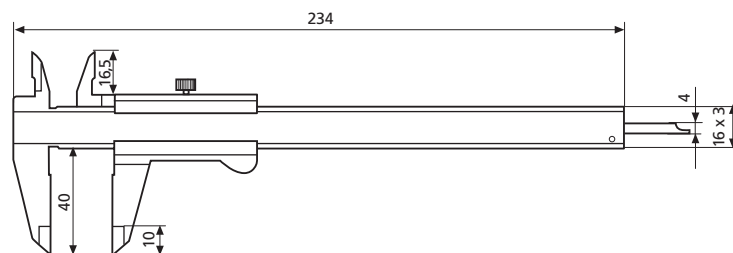


Features

- Vernier and main scale with satin-chrome finish for glare-free reading
- Slide and beam made of hardened stainless steel
- Raised sliding surfaces for protection of the scale
- Measuring blades for inside measurement
- Step measuring function
- Depth bar
- Locking screw resp. thumb clamp
- Standard accessories: Plastic case and thread schedule

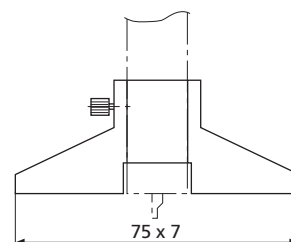
Technical Data

	Measuring range mm (inch)	Readings mm / inch	Error limit (DIN 862) mm	Order no.	Remarks
16 N	150 (6")	0,05 / $\frac{1}{128}"$	0,05	4100500	Locking screw below
16 FN	150 (6")	0,05 / $\frac{1}{128}"$	0,05	4100400	Locking screw top
16 DN	150 (6")	0,05 / $\frac{1}{128}"$	0,05	4100600	Thumb clamp



Accessories

	Order no.
Depth Measuring Bridge 16 Em	4102020
Leather case	4100302



Vernier Caliper 16 U with circular scale

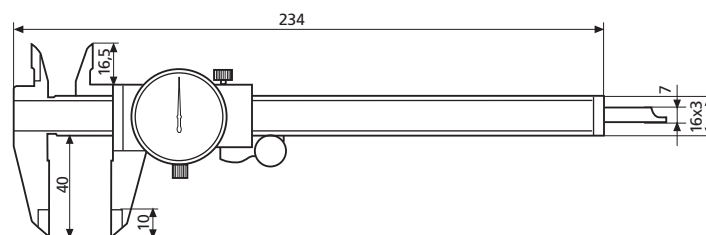


Features

- Large dial face with high contrast
- Zero setting through swivelling dial and locking screw
- Measuring blades for inside measurement
- Standard accessory: Plastic case
- Satin-chrome finished line scale
- Covered rack
- Step measuring function
- Shockproof movement
- Slide and beam made of hardened stainless steel
- Locking screw
- Depth bar

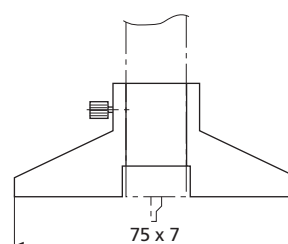
Technical Data

	Measuring range	Readings	Diameter of circular scale	Error Limit (DIN 862)	Order no.
16 U	150 mm 6"	0,02 mm .001"	34 mm 1.3"	0,03 mm .0012"	4107000 4107900



Accessories

	Order no.
Depth Measuring Bridge 16 Em	4102020



Digital Calipers 16 ES and 16 ES/TiN

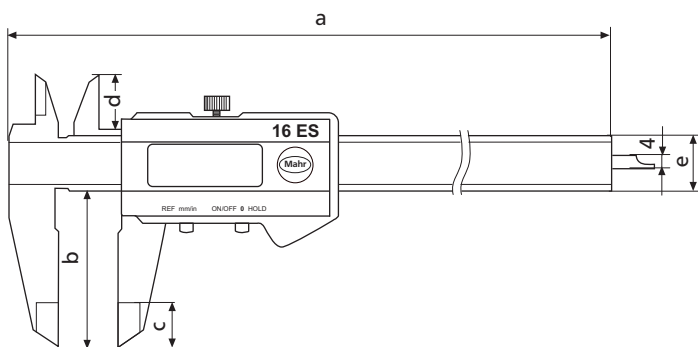


Features

- Functions :
ON/OFF
RESET (zero setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output: OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Slide and beam made of hardened stainless steel
- Measuring blades for inside measurement
- Step measuring function
- Depth bar
- Locking screw
- Standard accessory: Plastic case and battery

Technical Data

	Measuring range mm (inch)	Resolution mm / inch	Error limit (DIN 862) mm (inch)	Order no.	Remarks
16 ES	150 (6")	0,01 / .0005"	0,03 (.0015")	4102500	Titanium-nitride (TiN) coating
16 ES/TiN	150 (6")	0,01 / .0005"	0,03 (.0015")	4102525	
16 ES	200 (8")	0,01 / .0005"	0,03 (.0015")	4102501	

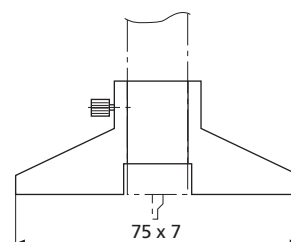


Dimensions mm		a	b	c	d	e
16 ES	150 mm	233	40	10	16	16 x 3
	200 mm	283	40	10	16	16 x 3

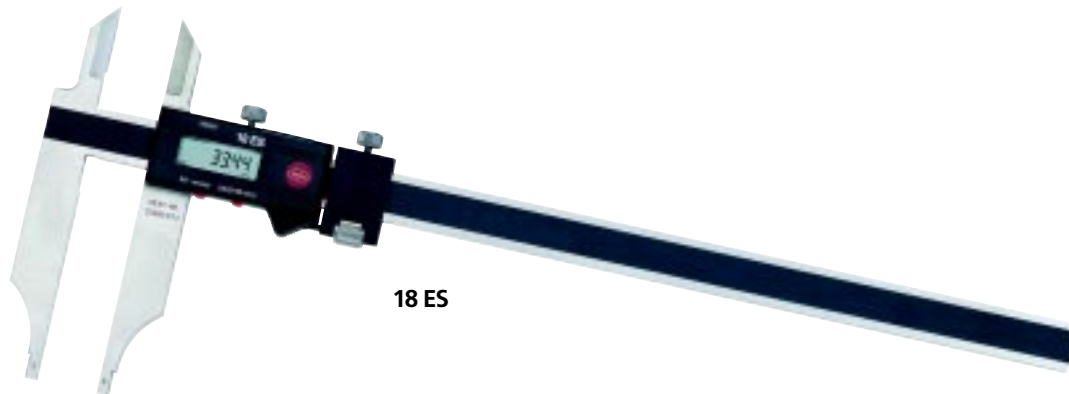
Accessories

		Order no.
Leather case for caliper 150 mm		4102002
Depth Measuring Bridge	16 Em	4102020
Battery 3V, type CR 2032		4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	16 ESv	4102510

Accessories for data processing see chapter 9



Digital Caliper 18 ES

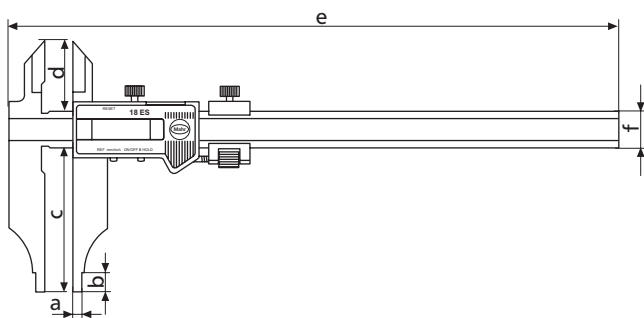


Features

- Functions:
ON/OFF
RESET (zero setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output: OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Slide and beam made of hardened stainless steel
- Sharp edge jaws for outside dimensions
- Round measuring faces for measurement of inside diameter
- Locking screw
- Fine adjustment
- Standard accessory: Battery

Technical Data

Measuring range	Resolution	Error limit (DIN 862)	Order no.	Remarks
mm (inch)	mm / inch	mm (inch)		
300 (12")	0,01 / .0005"	0,03 (.0015")	4112600	incl. case
500 (20")	0,01 / .0005"	0,03 (.0015")	4112601	
1000 (40")	0,01 / .0005"	0,04 (.002")	4112602	



Dimensions		a	b	c	d	e	f
mm							
18 ES	300 mm	5	10	90	40	410	20 x 5
	500 mm	10	19	125	60	675	25 x 6
	1000 mm	10	19	125	65	1200	30 x 7

Accessories

	Order no.
Battery 3V, Typ CR 2032	4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	4102510
16 ESv	4103042
Wooden case, measuring range 500 mm	4103043
Wooden case, measuring range 1000 mm	

Accessories for data processing see chapter 9

Digital Universal Caliper 25 ES Varimeter



Illustration with accessories

Application

- For measurement of
 - Outside and inside dimensions
 - Registers
 - Narrow collars
 - External and internal tapers
 - Dovetails
 - Grooves
- Distances between hole-centers
- External and internal threads (see chapter 7)
- External and internal serrations (see chapter 8)
- For scribing of workpieces

Features

- Functions:
 - ON/OFF
 - RESET (zero setting)
 - mm/inch
 - HOLD (storage of measuring values)
 - DATA (data transmission)
 - PRESET (set buttons can be used to enter any numerical value)
 - TOL (tolerance display)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output: OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Interchangeable measuring arms
- Due to the patented mounting of all measuring components on upper or lower longitudinal edge of arm holders, digital display is always readable from the users side
- Arms are reversible for extending measuring range
- Both arm holders can be moved on beam, thus well-balanced distribution of weight on small dimensions
- Slide and beam made of hardened stainless steel
- Standard accessory: Battery

Technical Data

Measuring range*			Resolution	Error limit (DIN 862)	Weight	Order no.	Order no. wooden case
outside	inside						
mm (inch)	mm (inch)		mm/inch	mm (inch)	g		
0-300 (0-12")	25-325 (1-13")		0,01 / .0005"	0,03 (.0015")	770	4118700	4118750
0-300 (0-12")	25-325 (1-13")		0,01 / .0005"	0,03 (.0015")	750	4118701**	4118750
0-600 (0-24")	25-625 (1-25")		0,01 / .0005"	0,03 (.0015")	1050	4118702	4118751
0-1000 (0-40")	25-1025 (1-41")		0,01 / .0005"	0,04 (.002")	1470	4118703	4118752

* related to accessories; 75 mm (3") extension of measuring range by reversible measuring arms 844 Te / Tx

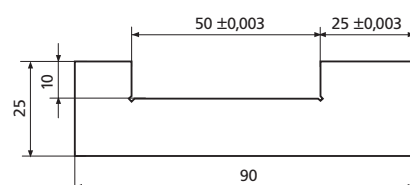
** without fine adjustment

Accessories

	Order no.	
Checking Gauge, hardened steel, to be screwed in wooden case	25 Eel	4118520
Battery 3V, Typ CR 2032		4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	16 ESv	4102510

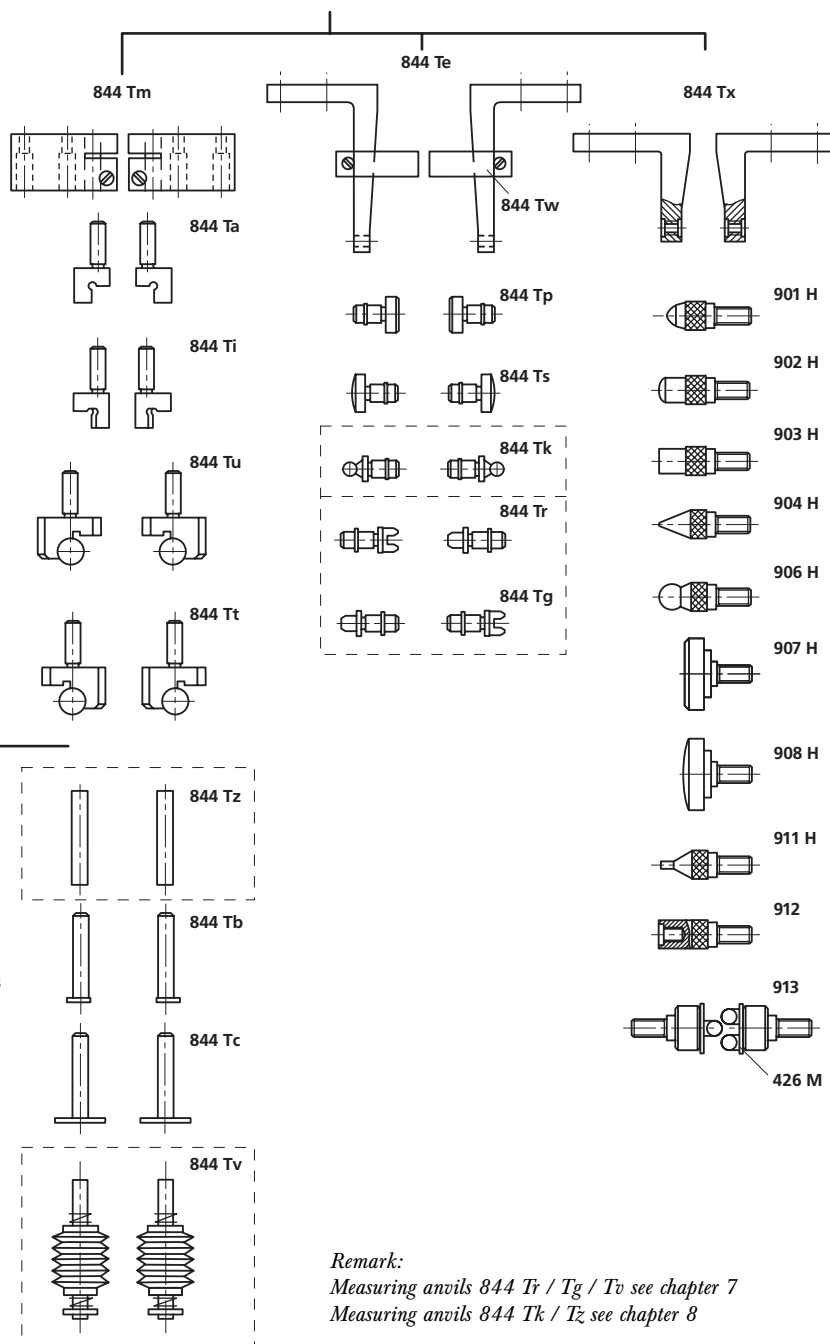
Accessories for data processing see chapter 9

25 Eel



Mahr

Dimensions		
mm		a
25 ES	300 mm	475
	600 mm	775
	1000 mm	1175



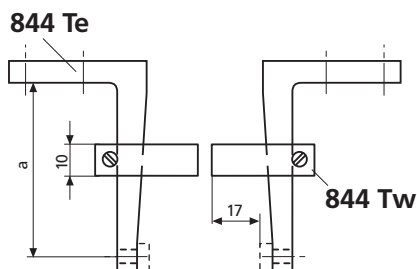
Remark:
Measuring anvils 844 Tr / Tg / Tv see chapter 7
Measuring anvils 844 Tk / Tz see chapter 8

Measuring Arms, Stops and Mounting Attachments for Digital Universal Caliper 25 ES

Measuring Arms 844 Te

- For outside and inside measurements
- With bore dia. 3,5 mm for accommodation of Interchangeable Anvils 844 Ts, 844 Tp, 844 Tk, 844 Tr and 844 Tg
- Reversible on arm holders for extending measuring range

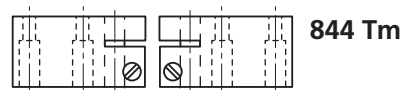
Throat depth a mm	25	50
Order no.	4500020	4500021



Mounting Attachments 844 Tm

- Accommodates Interchangeable Anvils 844 Ta, 844 Ti, 844 Tu, 844 Tt, 844 Tb, 844 Tc, 844 Tr as well as Cylindrical Measuring Pins 844 Tz
- Faces may be used as stops
- Reversible on arm holders for extending measuring range

Order no. **4500030**



Stops 844 Tw

- Limit measuring depth. To be mounted on Measuring Arms 844 Te. Reversible for inside and outside measurements.

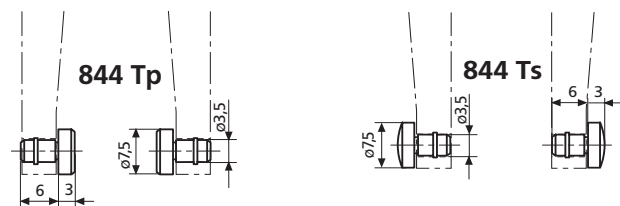
Order no. **4500109**

Anvils for outside and inside measurements with Digital Universal Caliper 25 ES

Anvils for Measuring Arms 844 Te

- Hardened steel
- With cylindrical shank and retainer ring which ensures positive locking, yet allows free rotation inside the bore of Arms 844 Te

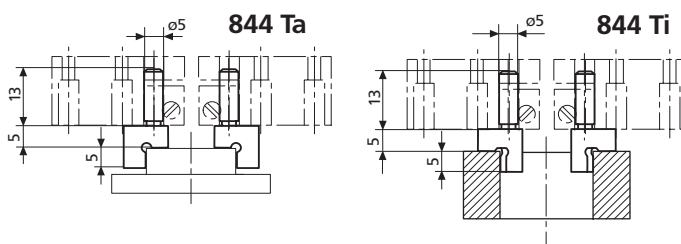
Cat. no.	Order no.
844 Tp Flat, for outside diameters, distances and widths	4500040
844 Ts Spherical, for inside diameters	4500045



Shoulder anvils for Mounting Attachments 844 Tm

- Made of hardened steel
- For measuring narrow collars, registers and similar features
- With cylindrical shank fitting into bore of Interchangeable Arms 844 Tm

Cat. no.	Order no.
844 Ta Flat, for outside diameters	4500050
844 Ti Semi-cylindrical, for inside diameters	4500055



Scribing with Digital Universal Caliper 25 ES

Scriber Point 25 Es

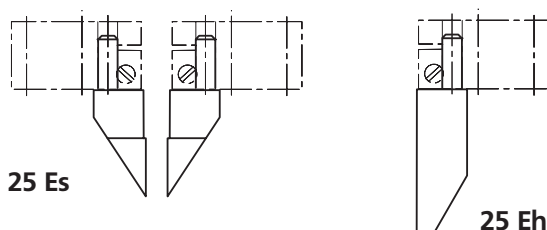
- For straight lines and circles
- Made of hardened steel

Order no. **4118530**

Counter Holder 25 Eh

- For scribing straight lines in connection with 25 Es; for example along edges
- Made of hardened steel

Order no. **4118535**

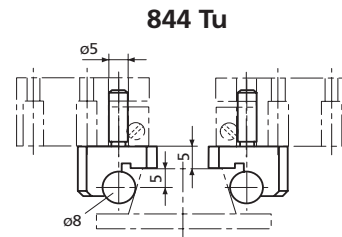


Anvils for tapers and distances for Digital Universal Caliper 25 ES

Roller Anvils 844 Tu* for measuring arms

- For measuring diameter of outside tapers and dovetail guides
- Roller made of hardened steel

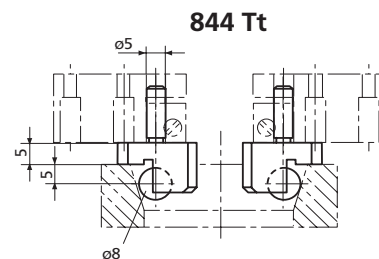
Cat. No.		Order no.
844 Tu*	Roller dia. 8 mm	4500047
	Roller length 14 mm	
	Distance of roller to taper face 5 mm $\pm$ 3 μ m	



Ball Anvils 844 Tt* for inside tapers

- For measuring diameter on inside tapers at 5 mm from taper face
- Ball made of hardened steel

Cat. no.		Order no.
844 Tt*	Ball dia. 8 mm	4500046
	Distance of ball to taper face 5 mm $\pm$ 3 μ m	



* For inside and outside surfaces that are parallel to each other, combination sets consisting of one Roller Anvil 844 Tu and one Ball Anvil 844 Tt are recommended.

Anvils for recesses for Digital Universal Caliper 25 ES

Measuring Units with Measuring Blades for Mounting Attachments 844 Tm

- For measuring registers and recesses on inside and outside diameters. Each unit consists of a pin type holder and a mounted measuring blade. The holder is length adjustable in Mounting Attachment 844 Tm and serves for setting the measuring depth
- The face of the Mounting Attachment 844 Tm serves as stop.

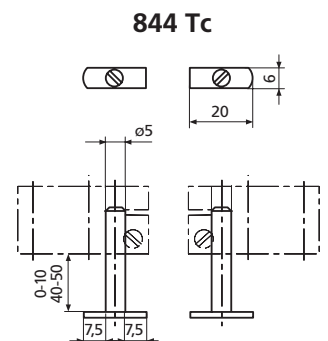
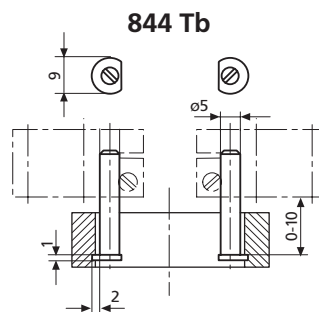
844 Tb

- With round measuring blades
- Recommended for recesses up to 2 mm depth

844 Tc

- With long measuring blades
- Recommended for recesses up to 7,5 mm depth

Catalog no.	Blades length mm	$\emptyset$ mm	Regulating ranges mm	Order no.
844 Tb	–	9	0 – 10	4500015
844 Tc	20	–	0 – 10	4500114
	20	–	40 – 50	4500115

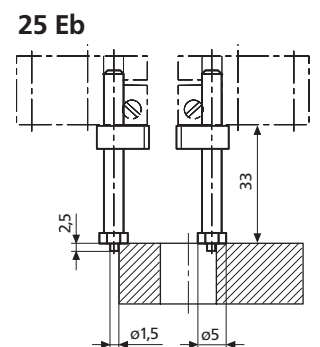


Anvils for distances for Digital Universal Caliper 25 ES

Measuring Inserts 25 Eb

- For distances between hole centers and between hole centers and edges
- Carbide tipped
- Longest distance between hole centers corresponds with half the measuring range

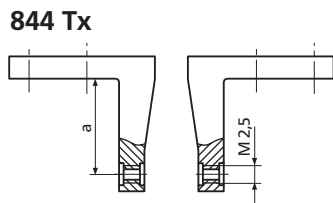
Order no. **4118525**



Measuring Arms 844 Tx and corresponding anvils for Digital Universal Caliper 25 ES

Measuring Arms 844 Tx

- With thread size M 2,5 for screwing in interchangeable contact points
- For outside and inside dimensions on specially shaped workpieces

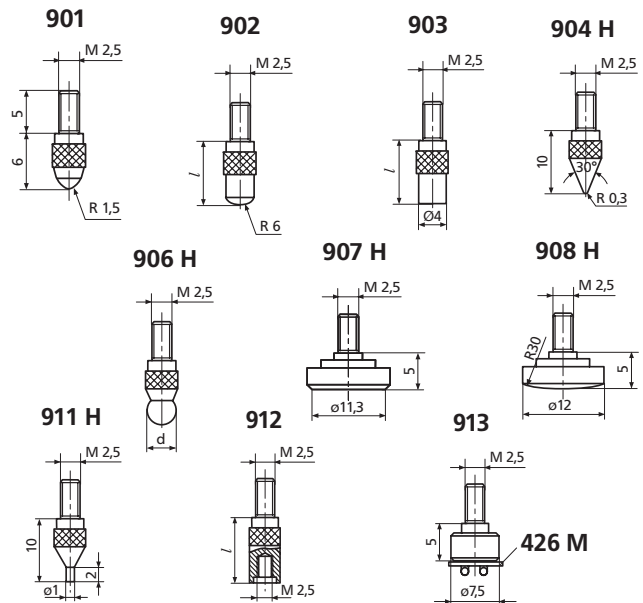


Throat depth a mm	25	50
Order no.	4500080	4500081

Standard Contact Points 901

Ball dia. 3 mm

Cat. no.		Order no.
901	Steel ball	4360001
901 H	Carbide ball	4360002
901 R	Ruby ball	4360003



Ball Contact Points 906 H

With carbide ball, accuracy ball dia. 0/- 6 µm

Spherical Contact Points 902

Flat Contact Points 903

	902 steel	902 H carbide tipped contact face	903 steel	903 H carbide tipped
length l mm	Order no.	Order no.	Order no.	Order no.
4	4360007	—	4360070	—
6	4360009	—	4360071	4360101
8	4360010	4360040	4360072	4360102
10	4360011	4360041	4360073	4360103
12	4360012	4360042	4360074	4360104
15	4360013	4360043	4360075	4360105
20	4360014	4360044	4360076	4360106
25	4360015	4360045	4360077	4360107
30	4360016	4360046	4360300	4360110
35	4360017	4360047	4360078	4360108
40	4360019	4360049	4360310	4360111
45	4360026	4360050	4360303	—
50	4360018	4360048	4360079	4360109
55	4360031			
65	4360035			
75	4360020			
85	4360036			
95	4360029			

Ball dia. d mm	Order no.	Ball dia. d mm	Order no.
1	4360150	5,5	4360161
1,25	4360151	6	4360162
1,5	4360152	6,35 (1/4")	4360163
1,75	4360153	6,5	4360164
2	4360154	7	4360165
2,5	4360155	7,5	4360166
3	4360156	8	4360167
3,5	4360157	8,5	4360168
4	4360158	9	4360169
4,5	4360159	10	4360170
5	4360160		

Special Contact Points

		Order no.
Conical Contact Point, carbide tipped	904 H	4360131
Flat Contact Plates*, steel, A = 1 cm ²	907	4360200
carbide tipped, dia. 7 mm	907 H	4360201
Spherical Contact Plates, steel	908	4360210
carbide tipped	908 H	4360211
Pin-Type Contact Point, carbide-tipped, dia. 1 mm, flat	911 H	4360240
Flat Contact Point, for mounting Pin Gauge Holder 426 M for three wire thread measuring method	913	4360400

* Please note: when using flat-faced anvil, anvil on opposite side must be radiused.

Measuring Spindle Extensions 912

Length l mm	Order no.	Length l mm	Order no.
10	4360250	35	4360254
15	4360251	50	4360255
20	4360252	75	4360256
25	4360253	100	4360257

Digital Height Gauge 27 ES

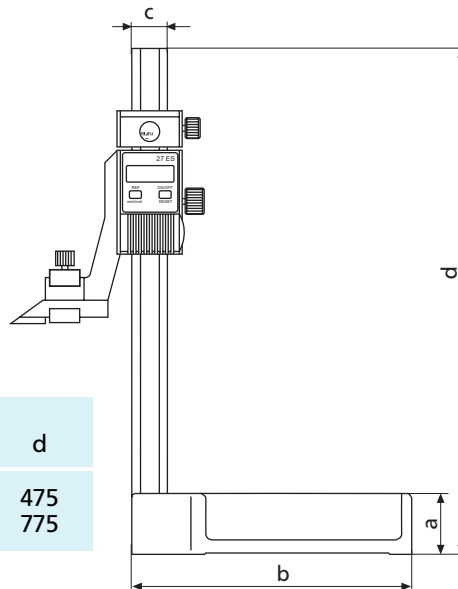


Features

Application

- Scribing and marking of workpieces
- Measurement of heights and distances

- Functions:
ON/OFF
RESET (zero setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
PRESET (set buttons can be used to enter any numerical value)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output:
OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Heavy-duty base, easy to handle
- Hardened and lapped contact surface to produce smooth and even movement
- Slide and beam made of hardened stainless steel
- Fine adjustment
- Locking screw
- Interchangeable scriber point, carbide-tipped
- Standard accessories:
Scriber point and battery



Dimensions		a	b	c	d
mm					
27 ES	300 mm	41	190 x 130	24 x 12	475
	600 mm	41	190 x 130	24 x 12	775

Technical Data

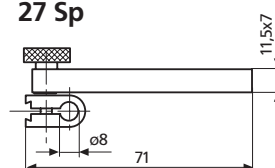
Measuring range mm (inch)	Resolution mm/inch	Error limit (DIN 862) mm (inch)	Weight kg	Order no.	Order no. wooden case	Remarks
300 (12")	0,01 / .0005"	0,03 (.0015")	6,7	4123700	4123530	incl. scriber point 27 ESh
600 (24")	0,01 / .0005"	0,03 (.0015")	7,6	4123701	4123531	incl. scriber point 27 ESh

Accessories

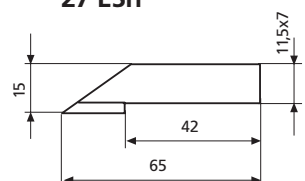
	Order no.
Scriber Point, carbide-tipped	27 ESh 4123710
Holder for test indicators	27 Sp 4123041
Battery 3V, type CR 2032	4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	16 ESv 4102510

Accessories for data processing see chapter 9

27 Sp



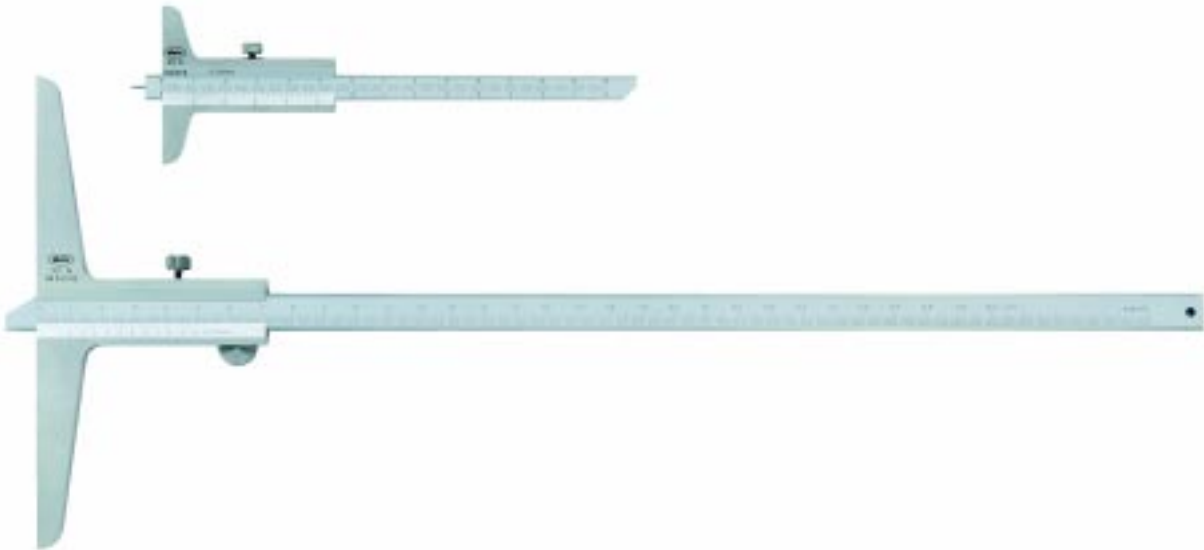
27 ESh



Depth Gauge 30 N

Features

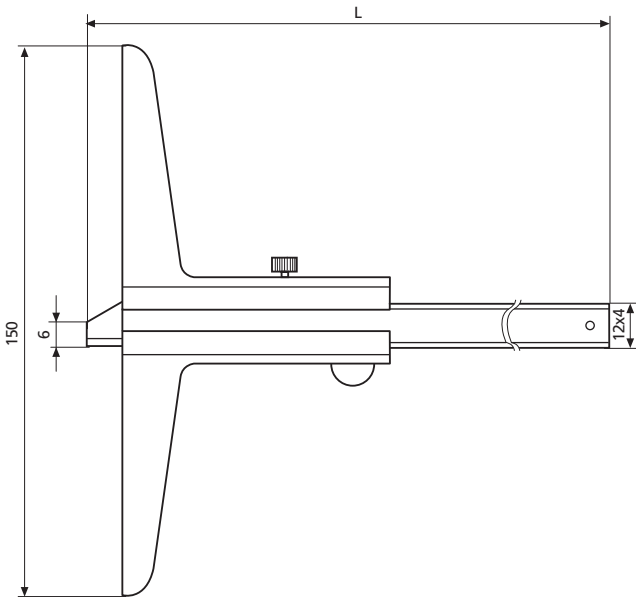
- Vernier and main scale with satin-chrome finish for glare-free reading
- Standard accessory: Plastic case (Measuring range 100 mm and 300 mm)



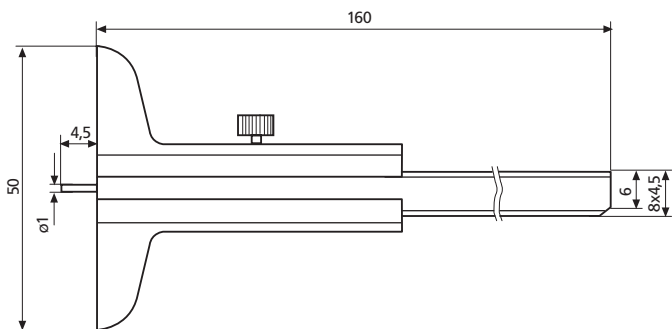
Technical Data

Measuring range mm	Vernier scale mm	Error limit (DIN 862) mm	Order no.	Remarks
100	0,05	0,05	4127200	with hardened measuring pin and measuring face (change of beam)
300	0,05	0,05	4127201	
500	0,05	0,07	4127202	

30 N (300/500 mm)



30 N (100 mm)



Dimensions mm		L
30 N	300 mm	382
	500 mm	582

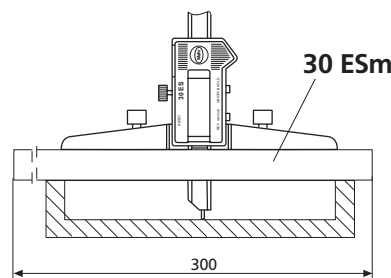
Digital Depth Gauge 30 ES



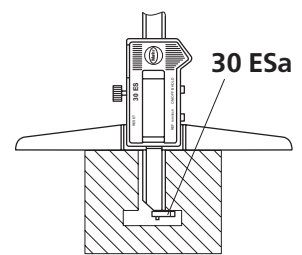
Features

- Functions:
ON/OFF
RESET (zero setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output :
OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Slide, beam and cross beam made of hardened stainless steel
- Locking screw
- Interchangeable measuring pin, hardened
- Standard accessories:
Battery and case (only measuring range 300 mm)

Depth measurement



Distance measurement



Technical Data

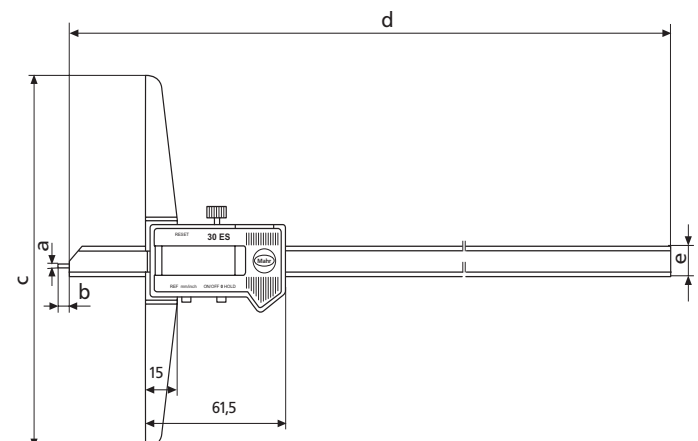
Measuring range mm (inch)	Resolution mm/inch	Error limit (DIN 862) mm (inch)	Order no.
300 (12")	0,01 / .0005"	0,03 (.0015")	4125600
500 (20")	0,01 / .0005"	0,03 (.0015")	4125601

Dimensions

mm	a	b	c	d	e
30 ES 300 mm	ø 1,5	5	150 x 8,5	370	12 x 4
500 mm	ø 1,5	5	150 x 8,5	570	12 x 4

Accessories

		Order no.
Anvil for Distance Measurement for fixing to measuring pin	30 ESa	4125611
Long Cross Beam movable over 150 mm	30 ESm	4125610
Battery 3V, type CR 2032		4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	16 ESv	4102510
Wooden case for measuring range 500 m		4103042



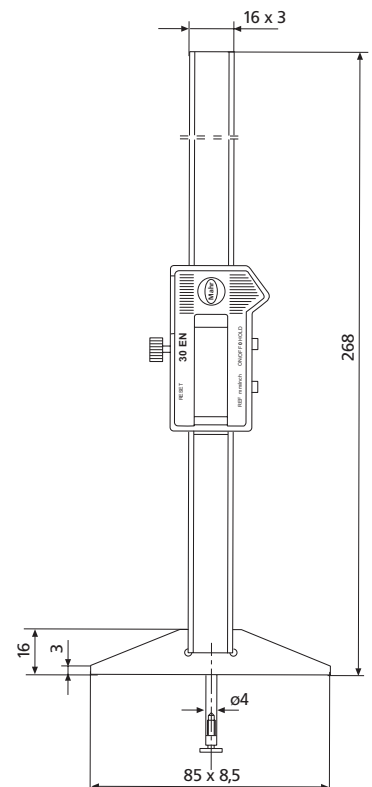
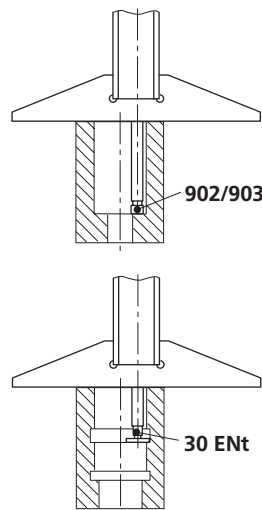
Accessories for data processing see chapter 9

Digital Depth Gauge 30 EN



Features

- Functions:
ON/OFF
RESET (zero Setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
PRESET (set buttons can be used to enter any numerical value)
TOL (tolerance display)
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output:
OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Slide, beam and cross beam made of hardened stainless steel
- Locking screw
- Interchangeable anvil (M 2,5)
- Standard accessories:
Anvils (30 ENt 1 mm, 903 4 mm, 902 4 mm), battery and case



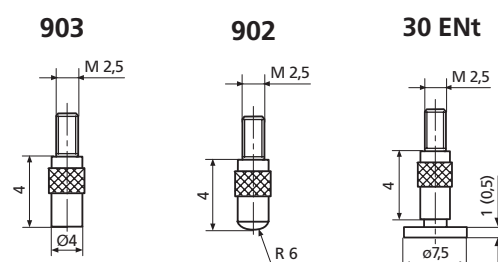
Technical Data

Measuring range mm (inch)	Resolution mm/inch	Error limit (DIN 862) mm (inch)	Order no.	Remarks
100 (4")	0,01 / .0005"	0,02 (.0008")	4126300	incl. Anvils 30 ENt, 902, 903

Accessories

		Order no.
Flat Contact Point	903	4360070
Spherical Contact Point	902	4360007
Disc-Type Anvil 1 mm, hardened	30 ENt	4882022
Disc-Type Anvil 0,5 mm, hardened	30 ENt	4126310
Battery 3V, type CR 2032		4102520
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	16 ESv	4102510

Accessories for data processing see chapter 9



Digital Linear Machine Scales 31 ES/32 ES



31 ES



32 ES

Application

- Measurement of travels at machines (for example upright drilling machines, milling machines)

Features

- Functions:
ON/OFF
RESET (zero setting)
mm/inch
HOLD (storage of measuring value)
DATA (data transmission)
- PRESET (set buttons can be used to enter any numerical value) for instruments with a resolution of 0,001 mm
- Capacitive measuring system, life of battery approx. 2 years
- Max. measuring speed 1,5 m/s (60"/s)
- Data output:
OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Slide and beam made of hardened stainless steel
- Standard accessory:
Battery

Technical Data

	Measuring range mm (inch)	Resolution mm / inch	Span of error mm (inch)	Order no.
31 ES Horizontal display	100 (4")	0,01 / .0005"	0,02 (.0008")	4102600
	150 (6")	0,01 / .0005"	0,03 (.0015")	4102601
	200 (8")	0,01 / .0005"	0,03 (.0015")	4102602
	100 (4")	0,001 / .00005"	0,012 (.0005")	4102610
	150 (6")	0,001 / .00005"	0,015 (.0006")	4102611
	200 (8")	0,001 / .00005"	0,018 (.0007")	4102612
	300 (12")	0,001 / .00005"	0,025 (.001")	4102613
32 ES Vertical display	100 (4")	0,01 / .0005"	0,02 (.0008")	4102620
	150 (6")	0,01 / .0005"	0,03 (.0015")	4102621
	200 (8")	0,01 / .0005"	0,03 (.0015")	4102622
	125 (5")	0,001 / .00005"	0,012 (.0005")	4102630
	175 (7")	0,001 / .00005"	0,015 (.0006")	4102631
	225 (9")	0,001 / .00005"	0,018 (.0007")	4102632
	325 (13")	0,001 / .00005"	0,025 (.001")	4102633

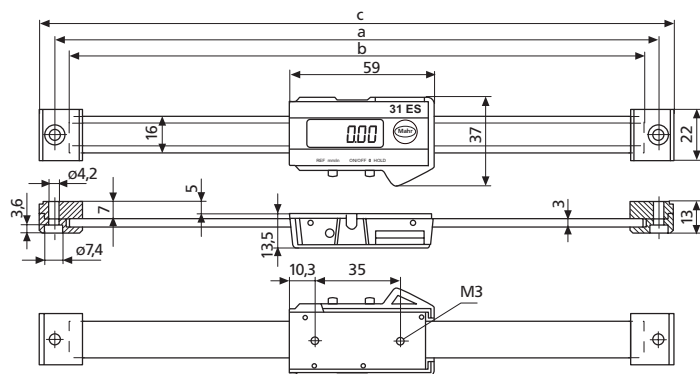
Accessories

	Order no.
Drive-Type Device for instruments with resolution 0,001mm	
Battery 3V, type CR 2032	31 ES 4102660
Data Connecting Cable RS232C (2 m), SUB-D-jack 9-pin	4102520
	16 ES 4102510

Accessories for data processing see chapter 9

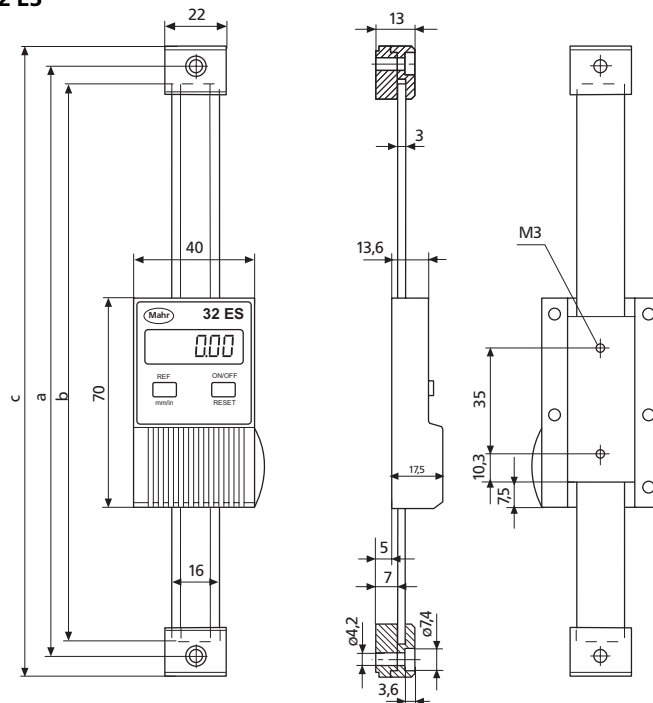
Digital Linear Machine Scales 31 ES/32 ES with resolution 0,01 mm

31 ES



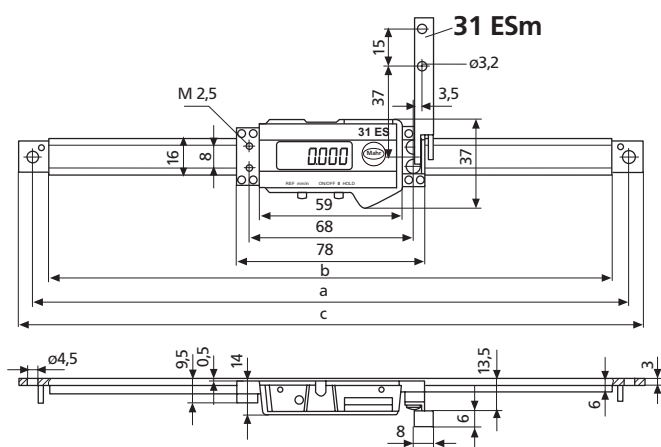
Dimensions (mm)		a	b	c
31/32 ES	100 mm	197	185	209
	150 mm	247	235	259
	200 mm	298	286	310

32 ES



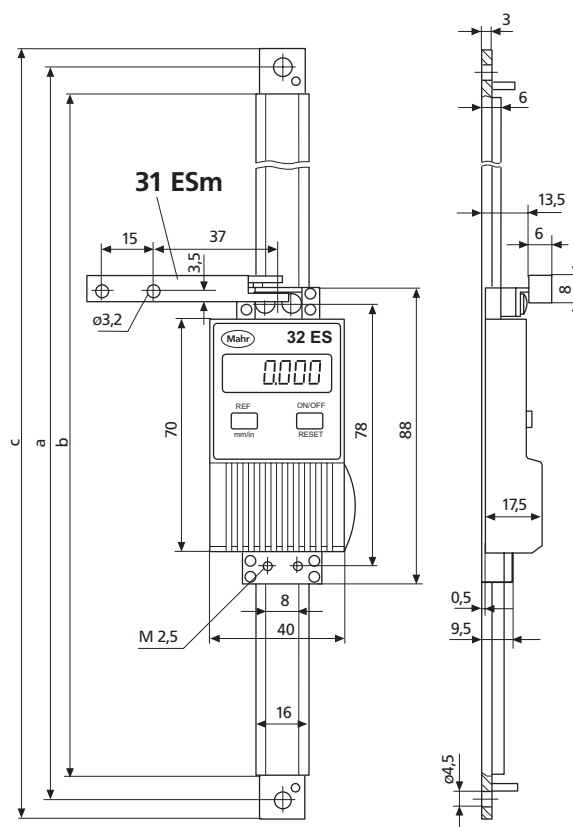
Digital Linear Machine Scales 31 ES/32 ES with resolution 0,001 mm

31 ES



Dimensions (mm)		a	b	c
31 ES	100 mm	197	183	209
	150 mm	247	233	259
	200 mm	298	284	310
	300 mm	397	383	409
32 ES	125 mm	232	219	245
	175 mm	282	269	295
	225 mm	332	319	345
	325 mm	432	419	445

32 ES





Micrometers 40 SH / SC

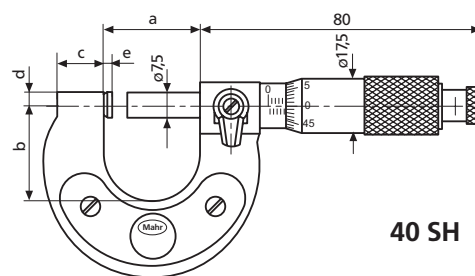


Features

- Chromium-plated steel frame
- Maximum stability (for measuring ranges 0-100 mm one piece frame and spindle guide)
- Spindle and anvil made of stainless steel, carbide-tipped or ceramic measuring faces (40 SC)
- Measuring spindle hardened throughout and ground
- Scales with satin-chrome finish
- Heat insulators
- Ratchet stop with integrated coupler
- Locking device
- Standard accessory: Case (measuring range 0-100 mm)

Technical Data

	Measuring range	Readings	Span of error (DIN 863)	Spindle thread pitch	Order no.
40 SH	0-25 mm	0,01 mm	4 µm	0,5 mm	4131000
	25-50 mm	0,01 mm	4 µm	0,5 mm	4131001
	50-75 mm	0,01 mm	5 µm	0,5 mm	4131002
	75-100 mm	0,01 mm	5 µm	0,5 mm	4131003
	100-125 mm	0,01 mm	6 µm	0,5 mm	4131004
	125-150 mm	0,01 mm	6 µm	0,5 mm	4131005
	150-175 mm	0,01 mm	7 µm	0,5 mm	4131006
	175-200 mm	0,01 mm	7 µm	0,5 mm	4131007
	0-1"	.0001"	.00016"	.025"	4131900
	1-2"	.0001"	.00016"	.025"	4131901
40 SC	2-3"	.0001"	.0002"	.025"	4131902
	3-4"	.0001"	.0002"	.025"	4131903
	0-25 mm	0,01 mm	4 µm	0,5 mm	4131200
	25-50 mm	0,01 mm	4 µm	0,5 mm	4131201



40 SH

Dimensions mm

	a	b	c	d	e
0 - 25 mm / 0-1"	31	28	13	3,25	3
25 - 50 mm / 1-2"	56	40	13	3,25	3
50 - 75 mm / 2-3"	81	53	13	3,25	3
75 - 100 mm / 3-4"	106	65	13	3,25	3
100 - 125 mm	130	75,5	15	4	3,5
125 - 150 mm	155	88	15	4	3,5
150 - 175 mm	180	100,5	15	4	3,5
175 - 200 mm	205	113	15	4	3,5

Micrometer Sets 40 SSH

Range of application	Order no.	Remarks
0-100 mm (4 micrometers)	4133001	incl. wooden case, setting standards 25 mm and 75 mm
100-200 mm (4 micrometers)	4133005	incl. wooden case, setting standards 125 mm and 175 mm
0-4" (4 micrometers)	4133010	incl. wooden case and setting standards 1" and 3"

Accessories

Stand, setting standards, wooden cases, etc. see page 1-24



Precision Micrometer 40 SD with extra-large thimble



Features

- Can be read without error, because of 1 mm measuring span per rotation of thimble
- Chromium-plated steel frame
- Maximum stability (one piece frame and spindle guide)
- Spindle and anvil made of stainless steel, carbide-tipped
- Measuring spindle hardened throughout and ground
- Scales with satin-chrome finish
- Heat insulators
- Ratchet stop with integrated coupler
- Locking device
- Standard accessory: Case

Technical Data

Measuring range	Readings	Span of error $f_{\max}$ (DIN 863) μm	Spindle thread pitch mm	Order no.
mm	mm			
0 - 25	0,01	4	1	4135000
25 - 50	0,01	4	1	4135001
50 - 75	0,01	5	1	4135002
75 - 100	0,01	5	1	4135003

Dimensions

same as 40 SH, but thimble dia. 25 mm

Precision Micrometer 40 SB with reduced measuring faces

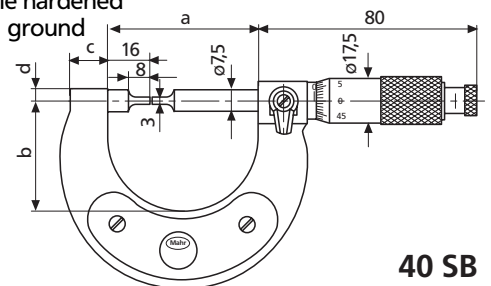


Technical Data

Measuring range	Readings	Span of error $f_{\max}$ (DIN 863) μm	Spindle thread pitch mm	Order no.
mm	mm			
0 - 25	0,01	4	0,5	4140000
25 - 50	0,01	4	0,5	4140001
50 - 75	0,01	5	0,5	4140002
75 - 100	0,01	5	0,5	4140003

Features

- Measuring faces reduced for measuring recesses and grooves
- Extended anvil
- Chromium-plated steel frame
- Maximum stability (for measuring ranges 0 - 75 mm one piece frame and spindle guide)
- Measuring spindle hardened throughout and ground
- Scales with satin-chrome finish
- Heat insulators
- Ratchet stop with integrated coupler
- Locking device
- Standard accessory: Case



40 SB

Dimensions

mm	a	b	c	d
0 - 25 mm	56	40	13	3,25
25 - 50 mm	81	53	13	3,25
50 - 75 mm	106	65	13	3,25
75 - 100 mm	130	75,5	15	4

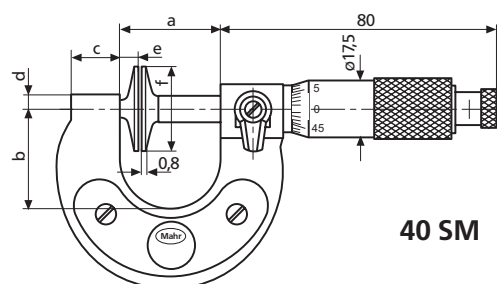
Accessories

Stand, setting standards, etc. see page 1-24

Precision Micrometer 40 SM with disc-type anvils

Features

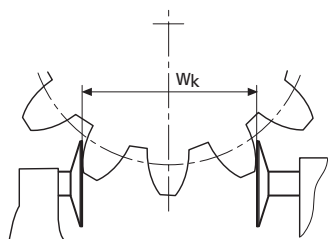
- Chromium-plated steel frame
- Maximum stability (for measuring ranges 0-95 mm one piece frame and spindle-guide)
- Measuring spindle hardened throughout and ground
- Disc-type anvils hardened and lapped
- Scales with satin-chrome finish
- Heat insulators
- Ratchet stop with integrated coupler
- Locking device
- Standard accessory: Case (measuring ranges 0-95 mm)



40 SM

Application

- For measurements of
- Tooth spans W_k as of module 0,8 as indirect determination of tooth thickness on spur gears with straight and helical teeth (see DIN 3960)
 - Shoulders on shafts
 - Undercut dimensions
 - Registers
 - Soft materials such as rubber, cardboard, felt, etc.



Dimensions

mm	a	b	c	d	e	f
0 - 20 mm	31	28	13	3,25	4,5	25
20 - 45 mm	56	40	13	3,25	4,5	25
45 - 70 mm	81	53	13	3,25	4,5	25
70 - 95 mm	106	65	13	3,25	4,5	25
95 - 120 mm	130	75,5	15	4	4,5	30
120 - 145 mm	155	88	15	4	4,5	30
145 - 170 mm	180	100,5	15	4	4,5	30
170 - 195 mm	205	113	15	4	4,5	30

Technical Data

Measuring range	Readings	Span of error	Spindle thread	Measuring faces		Order no.
mm	mm	f_{max} (DIN 863) μm	pitch mm	flatness μm	parallelism μm	
0 - 20	0,01	4	0,5	$\leq 0,6$	≤ 4	4145000
20 - 45	0,01	4	0,5	$\leq 0,6$	≤ 4	4145001
45 - 70	0,01	5	0,5	$\leq 0,6$	≤ 4	4145002
70 - 95	0,01	5	0,5	$\leq 0,6$	≤ 4	4145003
95 - 120	0,01	6	0,5	$\leq 0,6$	≤ 5	4145004
120 - 145	0,01	6	0,5	$\leq 0,6$	≤ 5	4145005
145 - 170	0,01	7	0,5	$\leq 0,6$	≤ 5	4145006
170 - 195	0,01	7	0,5	$\leq 0,6$	≤ 5	4145007

Accessories

Stand, setting standards, wooden cases, etc. see page 1-24

Micrometer with Dial Comparator 40 F / FC Millimar



Application

- For rapid measurements of diameters of cylindrical parts (shafts, bolts and shanks)
- Measurements of thickness and length
- Recommended for standard precision parts

Features

- Steel frame chromium-plated with heat insulators
- Maximum stability (one piece frame and spindle guide)
- Retraction of the movable anvil and carbide-tipped measuring faces ensure maximum wear resistance
- Ceramic measuring faces (40 FC), thus high wear resistance
- Measuring spindle made of stainless steel, hardened throughout and ground, lockable
- Scales with satin-chrome finish
- Constant measuring force
- Dial Comparator integrated into frame
- Adjustable tolerance marks
- Standard accessory: Wooden case

Technical Data

Readings	Micrometer Span of error f_{me}	Spindle thread pitch	Dial Comparator Span of error f_e (DIN 879)	Meas. range	Readings
0,01 mm .0001"	$\leq 2 \mu m$ $\leq .00008"$	0,5 mm .025"	$1 \mu m$.00005"	$\pm 65 \mu m$ $\pm .0025"$	$1 \mu m$.00005"

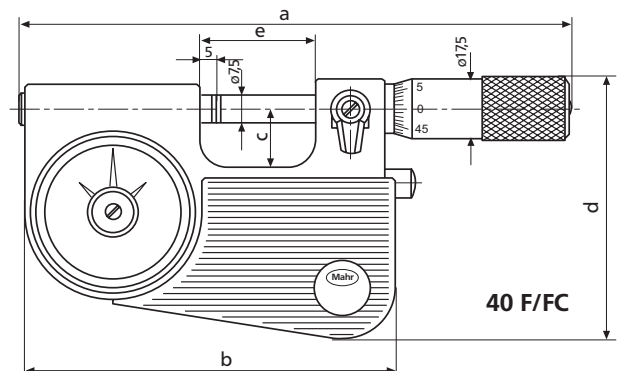
	Measuring range	Retraction	Measuring faces flatness	Measuring faces parallelism	Measuring force	Order no.	Remarks
40 F	0-25 mm	1 mm	$\leq 0,2 \mu m$	$\leq 1 \mu m$	9 N	4150000	
	25-50 mm	1 mm	$\leq 0,2 \mu m$	$\leq 1 \mu m$	9 N	4150001	
	0-1"	.04"	$\leq .00001"$	$\leq .00005"$	9 N	4150900	
	1-2"	.04"	$\leq .00001"$	$\leq .00005"$	9 N	4150901	
40 FC	0-25 mm	1 mm	$\leq 0,2 \mu m$	$\leq 1 \mu m$	9 N	4150200	Ceramic measuring faces
	25-50 mm	1 mm	$\leq 0,2 \mu m$	$\leq 1 \mu m$	9 N	4150201	

Dimensions (mm)	a*	b	c	d	e
40 F/FC 0-25 mm (0-1")	149	100	16	71	32
25-50 mm (1-2")	174	125	30	85	56

* in zero position

Accessories

Stand, setting standards, etc. see page 1-24



Micrometer with Dial Comparator 40 T



Application

- For rapid measurements of diameters of cylindrical parts (shafts, bolts and shanks)
- Measurements of thickness and length
- Recommended for standard precision parts

Features

- Rugged steel frame, heat-insulated, chromium-plated (up to measuring range 100-150 mm)
- Maximum stability (one piece frame and spindle guide for measuring ranges 0-100 mm)
- Retraction of the movable anvil and carbide-tipped measuring faces ensure maximum wear resistance
- Measuring spindle made of stainless steel, hardened throughout and ground, lockable
- Scales with satin-chrome finish
- Constant measuring force
- Heat insulators
- Standard accessories: Dial Comparator 1003, wooden case

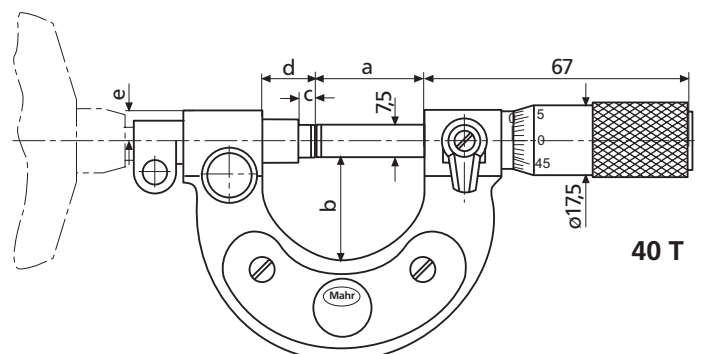
Technical Data

Micrometer screw			Dial Comparator 1003*		
Readings	Span of error f_{me}	Spindle thread pitch	Span of error f_e (DIN 879)	Meas. range	Readings
0,01 mm	$\leq 2 \mu m$	0,5 mm	1 μm	$\pm 50 \mu m$	1 μm

Measuring range	Retraction	Measuring faces flatness	Measuring faces parallelism	Measuring force	Order no.
0 - 25 mm	1,2 mm	$\leq 0,2 \mu m$	$\leq 2 \mu m$	6,5 N	4154000
25 - 50 mm	1,2 mm	$\leq 0,2 \mu m$	$\leq 2 \mu m$	6,5 N	4154001
50 - 100 mm	1,2 mm	$\leq 0,2 \mu m$	$\leq 2 \mu m$	6,5 N	4154002
100 - 150 mm	1,2 mm	$\leq 0,2 \mu m$	$\leq 2 \mu m$	7,5 N	4154003
150 - 200 mm	1,2 mm	$\leq 0,2 \mu m$	$\leq 2 \mu m$	7,5 N	4154004

Dimensions mm	a**	b	c	d**	e
0 - 25 mm	27	28	4	11	8
25 - 50 mm	52	40	4	11	8
50 - 100 mm	76	65	5,5	30	8
100 - 150 mm	127	87	5,5	30	8
150 - 200 mm	177	112	5,5	30	8

*Different indicating instruments on request ** in zero position



40 T

Accessories

Stand, setting standards, etc. see page 1-24

Mahr

A mechanical testing machine, likely a universal tester, featuring a black base, a white frame, and a yellow dial with a black needle. The machine is designed for material testing and is shown in a three-quarter view.

- For rapid measurements of diameters of cylindrical parts (shafts, bolts and shanks)
- Measurements of thickness and length
- Recommended for standard precision parts

- Rugged steel frame, can be swivelled up to 45° in relation to the heavy-duty base
- Retraction of the movable anvil and carbide-tipped measuring faces ensure maximum wear resistance
- Height-adjustable stop
- Constant measuring force
- Measuring spindle made of stainless steel, hardened throughout and ground, fixable
- Scales with satin-chrome finish
- Standard accessories:
Dial Comparator 1003/
1003 Z

Measuring range	Retraction	Measuring faces flatness	Measuring faces parallelism	Measuring force	Order no.	Order no. wooden case
0-50 mm	1,2 mm	≤0,2 μm	≤2 μm	6,5 N	4154030	4154035
0-2"	.045"	≤ .00001"	≤ .00008"	6,5 N	4154930	4154035

Micrometer screw			Dial Comparator 1003/1003Z*		
Readings	Span of error f_{me}	Spindle thread pitch	Span of error f_e (DIN 879)	Meas. range	Readings
0,01 mm .00025"	$\leq 2 \mu m$ $\leq .00008"$	0,5 mm .025"	$1 \mu m$.00005"	$\pm 50 \mu m$ $\pm .002"$	$1 \mu m$.00005"

Comparator 1003/1003Z*
Meas. Readings range

$\pm 50 \mu\text{m}$ $1 \mu\text{m}$
 $\pm .002''$ $.00005''$

40 TS

1-23

Accessories for Precision Micrometers



41 H

Stand 41 H

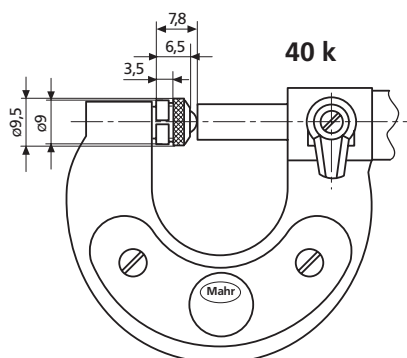
- For mounting micrometers
- Allows operator to use both hands to operate micrometer and insert workpiece
- Rugged, heavy-duty base, hammer dimple enamel
- Clamping jaws swivellable, rubber lining to protect the micrometers
- Clamping of jaws and link with one screw

Dimensions (D x W x H)

130 x 100 x 90 mm

Order no.

4158000



40 k

Ball Tip Slip-On Anvil 40 k

- For measuring pipe wall thicknesses
- Slips over anvil or measuring spindle with dia. 7,5 mm
- Carbide ball, ball dia. $5 \pm 0,002$ mm

Order no.

4130099



43 N

Setting Standards 43 N

- For checking of basic setting of micrometers
- Heat insulators
- Manufacturing tolerance js 2
- Each 1 flat and 1 spherical measuring face

Length mm	Order no.
25	4159300
50	4159301
75	4159302
100	4159303

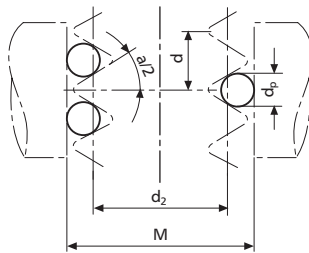
Length mm	Order no.
125	4159304
150	4159305
175	4159306
200	4159307

Length inch	Order no.
1"	4159930
2"	4159931
3"	4159932
4"	4159933

Accessories for Precision Micrometers



426 M



Thread Pin Gauges 426 M in holders

- For determining pitch diameter of external threads according to three-wire method
- For slipping over spindle and anvil
- Pin gauges hardened and lapped

Pin gauge dia.	Manufacturing tolerance	Mounting hole
0,17 - 5,05 mm	0,5 μ m	$\varnothing$ 7,5 mm*

* $\varnothing$ 6,35/6,5/8 mm on request

Order no. and further details see page 10-7

Inch-type on request



Ceramic Gauge Block Set 419 C/1

for testing of micrometers

- Testing of span of error $f_{\max}$ of micrometers according to DIN 863
- Testing of flatness and parallelism of measuring faces with optical parallel
- Standard accessories: Traceable Mahr calibration certificate and wooden case

accuracy acc. to DIN 861	Gauge Blocks		Optical parallel		Order no.
	quantity	nominal sizes	$\varnothing$ mm	thickness mm	
1	10	2,5 / 5,1 / 7,7 / 10,3 / 12,9 / 15,0 / 17,6 / 20,2 / 22,8 / 25	30	12	4800090

Wooden Cases for Precision Micrometers

For measuring ranges over 100 mm the following wooden cases are available:

	40 SH	40 SM	Order no.
Measuring ranges mm	100-125	95-120	4130064
	125-150	120-145	4130065
	150-175	145-170	4130066
	175-200	170-195	4130067

Inside Micrometer 44 F



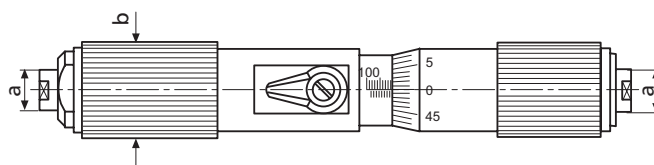
Features

- Rigid, lightweight tubular design
- Measuring spindle hardened throughout and ground
- Measuring faces spherically lapped, one measuring face adjustable
- Scales with satin-chrome finish
- As of 100-125 mm measuring range, heat insulators and locking device
- Standard accessory: Case

Technical Data

Measuring range	Readings	Span of error $f_{\max}$ (DIN 863)	Spindle thread pitch	Order no.
mm	mm	μm	mm	
30 - 40	0,01	4	0,5	4163000
40 - 50	0,01	4	0,5	4163001
50 - 70	0,01	5	0,5	4163002
70 - 100	0,01	5	0,5	4163003
100 - 125	0,01	6	0,5	4163004
125 - 150	0,01	6	0,5	4163005
150 - 175	0,01	7	0,5	4163006
175 - 200	0,01	7	0,5	4163007

Dimensions		a	b
mm			
Measuring ranges	30 - 70 mm	7	12,5
	70 - 100 mm	7	13,5
	100 - 200 mm	8	20

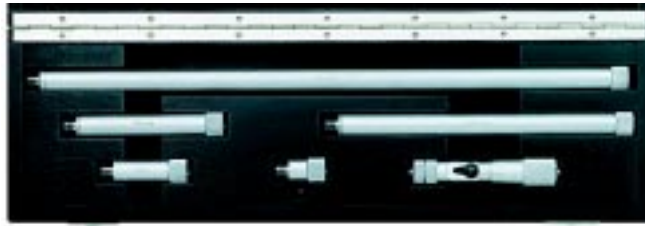


Accessories

	Page
Ring Gauges 355 E	10-2
for checking basic setting	
Special wear-resistant steel	
Hardened and lapped	
Dimensions DIN 2250 C	
Manufacturing tolerance DIN 2250	
Uncertainty of engraved actual deviation 1/2 IT1	



Inside Micrometer 44 C for extra-large diameters up to 2500 mm



Features Measuring Head 44 Cm

- Rigid, lightweight tubular design
 - Measuring spindle hardened throughout and ground
 - Locking lever
 - Scales with satin-chrome finish
 - Carbide-tipped spherical measuring faces
 - High accuracy
- $$\leq 4 \mu\text{m} + 10 \times 10^{-6} \times l$$
- (l = length of combinations in mm)

Features Extensions 44 Cv

- Cylindrical gauge rods spring-mounted in protective sleeves
- Carbide-tipped spherical contact surfaces

Technical Data

Cat. no.	Meas. range	Measuring Head		Extensions		Order no.	Remarks
	mm	Readings	Spindle thread pitch	Quantity	Length in mm		
		mm	mm				
Measuring head 44 Cms1	100-150	0,01	0,5	1	25	4168020	incl. case
and extensions 44 Cms2	100-300	0,01	0,5	3	25 / 50 / 100	4168021	incl. case
in sets 44 Cms3	100-500	0,01	0,5	4	25 / 50 / 100 / 200	4168022	incl. case
44 Cms4	100-900*	0,01	0,5	5	25 / 50 / 100 / 200 / 400	4168023	incl. case
Measuring head 44 Cm	100-125	0,01	0,5	-		4168001	
Single extensions 44 Cv				1	25	4167030	
				1	50	4167031	
				1	100	4167032	
				1	200	4167033	
				1	400	4167034	
				1	800	4167035	
Extension sets for 44 Cm 44 Cvs1				4	25 / 50 / 100 / 200	4168011	incl. case
44 Cvs2				5	25 / 50 / 100 / 200 / 400	4168012	incl. case

*up to 2500 mm with 2 extensions 44 Cv 800 mm

Accessories

Dimensions mm	a	b
44 Cv	25 50 100 200 400 800	15 15 15 15 15 22

	Order no.
Case for Measuring Head 44 Cm and Extension Set Cvs1 or Cvs2	4168015
Wooden case for 2 extensions 44Cv 800 mm	4168016
	Page
Ring Gauge 355 E for checking basic setting of Measuring Head 44 Cm Wear-resistant steel, hardened and lapped Dimensions DIN 2250 C Manufacturing tolerance DIN 2250 Uncertainty of engraved actual deviation 1/2 IT1	10-2

Self-Centering Inside Micrometer 44 Y Inimar



Application

Measurements of

- through holes
- blind holes
- registers

Features

- Scales with satin-chrome finish
- Carbide-tipped anvils
- Measuring spindle hardened throughout and ground
- As of 25 mm, exchangeable anvils permitting 2 measuring ranges per head
- As of 50 mm, aluminium measuring head to minimize weight
- Standard accessories:
Wooden case, ring gauges with traceable Mahr calibration certificate

Technical Data

Measuring range mm	Readings mm	Spindle thread pitch mm	Span of error $f_{\max}$ μm	Ring gauges $\varnothing$ mm	Order no.
6 - 8	0,005	0,5	3	8	4182100
8 - 10	0,005	0,5	3	8	4182101
10 - 12,5	0,005	0,5	3	12,5	4182102
12,5 - 16	0,005	0,5	3	16	4182103
16 - 20	0,005	0,5	3	20	4182104
20 - 25	0,005	0,5	3	20	4182105
25 - 35	0,005	0,5	3	30	4182106
35 - 50	0,005	0,5	3	42,5	4182107
50 - 75	0,005	0,5	4	62,5	4182108
75 - 100	0,005	0,5	4	87,5	4182109
100 - 125	0,005	0,5	5	112,5	4182110
125 - 150	0,005	0,5	5	137,5	4182111
150 - 175	0,005	0,5	5	162,5	4182112
175 - 200	0,005	0,5	6	187,5	4182113
200 - 225	0,005	0,5	6	212,5	4182114
225 - 250	0,005	0,5	6	237,5	4182115
250 - 275	0,005	0,5	6	262,5	4182116
275 - 300	0,005	0,5	6	287,5	4182117

Self-Centering Inside Micrometers in Sets 44 YS

Measuring range mm	Number of micrometers	Ring gauges $\varnothing$ mm	Order no.
6 - 12,5	3	8 / 12,5	4182050
12,5 - 20	2	16	4182051
20 - 50	3	20 / 30 / 42,5	4182052
50 - 100	2	62,5 / 87,5	4182053

- Standard accessories:
Wooden case, ring gauges with traceable Mahr calibration certificate

Accessories

Extensions,
measuring heads,
ring gauges see page 1-30



Self-Centering Digital Inside Micrometer 44 YE



Technical Data

Measuring range		Readings	Span of error	Ring gauges	Order no.
mm	(inch)	mm / inch	µm (inch)	ø mm	
6-8	(.24-.31")	0,001 / .00005"	≤4 (.00015")	8	4182800
8-10	(.31-.39")	0,001 / .00005"	≤4 (.00015")	8	4182801
10-12,5	(.39-.49")	0,001 / .00005"	≤4 (.00015")	12,5	4182802
12,5-16	(.49-.63")	0,001 / .00005"	≤4 (.00015")	16	4182803
16-20	(.63-.79")	0,001 / .00005"	≤4 (.00015")	20	4182804
20-25	(.79-1")	0,001 / .00005"	≤5 (.0002")	20	4182805
25-35	(1-1.38")	0,001 / .00005"	≤5 (.0002")	30	4182806
35-50	(1.38-2")	0,001 / .00005"	≤5 (.0002")	42,5	4182807
50-75	(2-3")	0,001 / .00005"	≤5 (.0002")	62,5	4182808
75-100	(3-4")	0,001 / .00005"	≤5 (.0002")	87,5	4182809
100-125	(4-5")	0,001 / .00005"	≤6 (.00025)	112,5	4182810
125-150	(5-6")	0,001 / .00005"	≤6 (.00025)	137,5	4182811
150-175	(6-7")	0,001 / .00005"	≤6 (.00025)	162,5	4182812
175-200	(7-8")	0,001 / .00005"	≤6 (.00025)	187,5	4182813
200-225	(8-9")	0,001 / .00005"	≤7 (.0003")	212,5	4182814
225-250	(9-10")	0,001 / .00005"	≤7 (.0003")	237,5	4182815
250-275	(10-11")	0,001 / .00005"	≤7 (.0003")	262,5	4182816
275-300	(11- 12")	0,001 / .00005"	≤7 (.0003")	287,5	4182817

Application

Measurements of

- through holes
- blind holes
- registers

Features

- Instrument consists of Micrometer Screw 44 YEg and Measuring Head 44 Yk
- Functions:
 - ON/OFF
 - RESET (zero setting)
 - mm/inch
 - HOLD (storage of measuring value)
 - DATA (data transmission)
 - PRESET (set buttons can be used to enter any numerical value)
 - TOL (tolerance display)
- Data output:
 - OPTO RS232C via data connecting cable
- High contrast 6 mm liquid crystal display
- Interchangeable measuring heads
- Carbide-tipped anvils
- As of 25 mm, exchangeable anvils permitting 2 measuring ranges per head
- As of 50 mm, aluminium measuring head to minimize weight
- Standard accessories:
 - Wooden case, ring gauges with traceable Mahr calibration certificate

Self-Centering Digital Inside Micrometers in Sets 44 YES

Measuring range		No. of measuring heads	Ring gauges	Order no.
mm	(inch)		ø mm	
6 - 12,5	(.24 -.49")	3	8 / 12,5	4182850
12,5- 20	(.49 -.79")	2	16	4182851
20 - 50	(.79 -2")	3	20 / 30 / 42,5	4182852
50 - 100	(2 -4")	2	62,5 / 87,5	4182853

- Standard accessories:
 - Wooden case, ring gauges with traceable Mahr calibration certificate

Accessories

Extensions, measuring heads, ring gauges see page 1-30

Accessories for Self-Centering Inside Micrometers

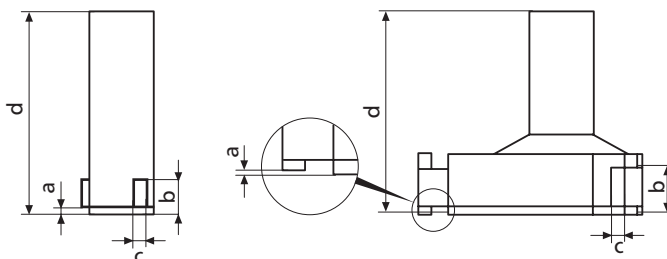
Measuring Head 44 Yk

- Interchangeable measuring heads
- Carbide-tipped anvils
- As of 25 mm, exchangeable anvils permitting 2 measuring ranges per head
- As of 50 mm, aluminium measuring head to minimize weight

Measuring range mm (inch)	Order no.
6 - 8 (.24 - .31")	4182030
8 - 10 (.31 - .39")	4182031
10 - 12,5 (.39 - .49")	4182032
12,5 - 16 (.49 - .63")	4182033
16 - 20 (.63 - .79")	4182034
20 - 25 (.79 - 1")	4182035
25 - 35 (1 - 1.38")	4182036
35 - 50 (1.38 - 2")	4182037
50 - 75 (2 - 3")	4182038
75 - 100 (3 - 4")	4182039
100 - 125 (4 - 5")	4182040
125 - 150 (5 - 6")	4182041
150 - 175 (6 - 7")	4182042
175 - 200 (7 - 8")	4182043
200 - 225 (8 - 9")	4182044
225 - 250 (9 - 10")	4182045
250 - 275 (10 - 11")	4182046
275 - 300 (11 - 12")	4182047

Measuring range 6 - 12,5 mm

Measuring range 12,5 - 200 mm



Measuring ranges mm	a	b	c	d
6 - 8	1,65	2,7	2	60
8 - 10	1,65	2,9	2,5	60
10 - 12,5	2,0	3,9	2,5	62
12,5 - 16	0,7	6,7	3,5	63
16 - 20	0,7	8,7	4,5	63
20 - 25	0,8	11,9	4,5	67
25 - 35	0,8	12,3	4,5	67
35 - 50	0,8	13,3	4,5	67
50 - 100	0,8	17,8	4,5	81
100 - 125	0,15	23,8	7	81
125 - 150	0,15	23,8	7	106
150 - 200	0,15	23,8	7	119
200 - 300	0,15	21,2	7	117,5

Measuring Head 44 Yw for internal threads

The following types are available on request:

- Metric thread
- Withworth-thread
- UST-thread
- Design
 - 4- 9 mm: Two-point-measurement
 - 10- 200 mm: Three-point-measurement

Adapter for two-point-thread measurement Order no. 4487851

Special measuring heads

For measurements of recesses or special measuring tasks on request

Ring Gauges 44 e

- With traceable Mahr calibration certificate
- Up to 25 mm dia., one ring gauge can be used for any two consecutive inside micrometer sizes
- As of 25 mm dia., one ring gauge for each measuring range

Dia. mm	Order no.	Dia. mm	Order no.
8	4182300	62,5	4182306
12,5	4182301	87,5	4182307
16	4182302	112,5	4182308
20	4182303	137,5	4182309
30	4182304	162,5	4182310
42,5	4182305	187,5	4182311

Micrometer Screw 44 YEg

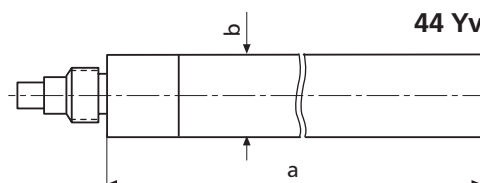
Threaded for mounting interchangeable Measuring Heads 44 Yk and 44 Yw

Measuring range mm (inch)	Order no.
6 - 12,5 (.39 - .49")	4182830
12,5 - 20 (.49 - .79")	4182831
20 - 50 (.79 - 2")	4182832
50 - 100 (2 - 4")	4182833
100 - 200 (4 - 8")	4182834
200 - 300 (8 - 12")	4182835

Extensions 44 Yv

For measurement of extra-long holes. Spring-loaded transfer rod mounted in steel sleeve with satin-chrome finish.

Measuring range mm (inch)	Length a mm	Dia. b mm	Order no.
6 - 10 (.24 - .39")	63	5,8	4182090
10 - 12,5 (.39 - .49")	100	9,25	4182091
12,5 - 20 (.49 - .79")	100	12,2	4182092
20 - 50 (.79 - 2")	150	18,8	4182093
50 - 300 (2 - 12")	150	24,5	4182094



Depth Micrometer 45 T



Application

- Depths measurements
- Measurement of groove spacings and groove widths with Disc Anvil 45 Tm

Technical Data

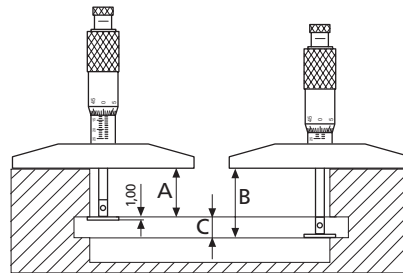
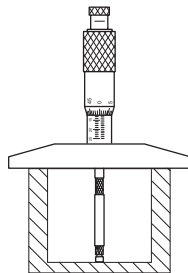
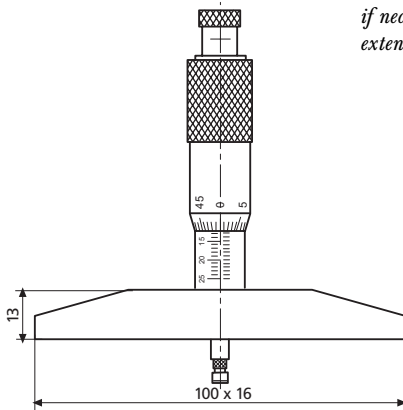
- Measuring spindle hardened throughout and ground
- Hardened, chromium-plated cross beam, lapped contact surface
- Hardened anvil
- When interchangeable extensions are inserted, calibrating of the instrument is not necessary
- Scales with satin-chrome finish
- Standard accessories: Extensions 25 mm and 50 mm, case

Technical Data

Total meas. range mm	Range of micrometer screw mm	Readings mm	Spindle thread pitch mm	Span of error with standard anvil μm	Extensions mm	Length tolerance of extensions μm	Order no.
0-100	25	0,01	0,5	$\leq 5 \mu\text{m}$	25/50	$\pm 1,5 \mu\text{m}$	4180000

Standard depth measurements

with standard anvil and if necessary with extensions



Measurements of groove spacings and groove widths

With Disc Anvil 45 Tm if necessary with extensions

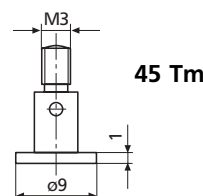
Dimension A: take reading directly from thimble

Dimension B: reading + 1,00 mm (thickness of disc)

Dimension C: dimension B minus dimension A

Accessories

Order no.		
Disc Anvil 45 Tm for groove spacings and groove widths		
		4180011
Extensions 45 Tv		
Length L	length tolerance	
25 mm	$\pm 1,5 \mu\text{m}$	4180001
50 mm	$\pm 1,5 \mu\text{m}$	4180002
100 mm	$\pm 1,5 \mu\text{m}$	4180003



Micrometer Heads 46



Features

- Measuring spindle made of stainless steel, hardened throughout and ground
- Scales with satin-chrome finish

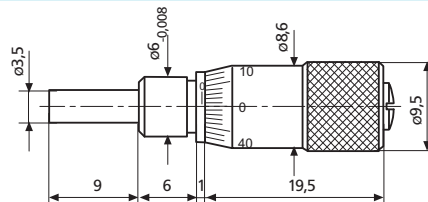
Technical Data

	Measuring range	Readings	Span of error (DIN 863)	Spindle thread pitch	Spindle dia.	Order no.
	mm	mm	μm	mm	mm	
46	0 - 6,5	0,01	3	0,5	3,5	4183021
	0 - 13	0,01	3	0,5	5	4183025
	0 - 25	0,01	3	0,5	6,35	4183030
	0 - 25*	0,01	3	0,5	6,35	4183024
46 H	0 - 25**	0,01	3	0,5	7,5	4184000

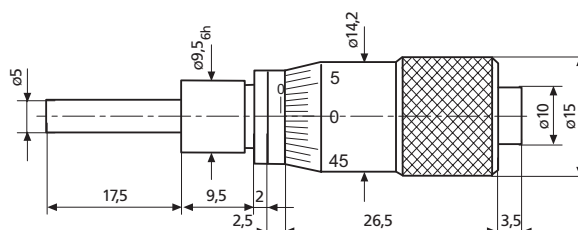
* with adjusting nut

** with ratchet, carbide-tipped

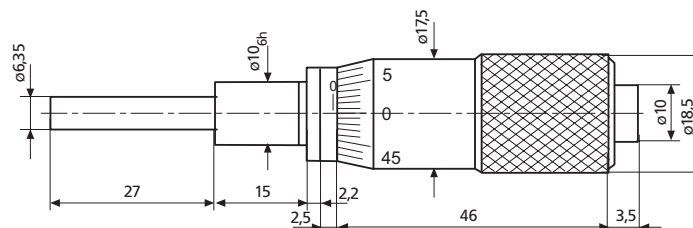
further measuring ranges on request



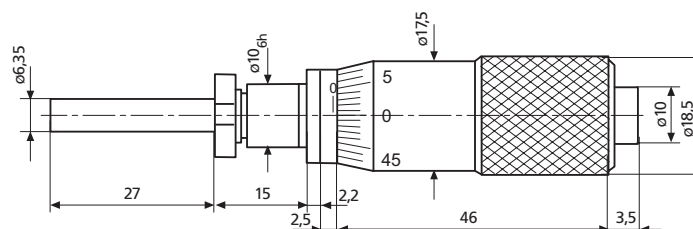
Measuring range 0-6,5 mm



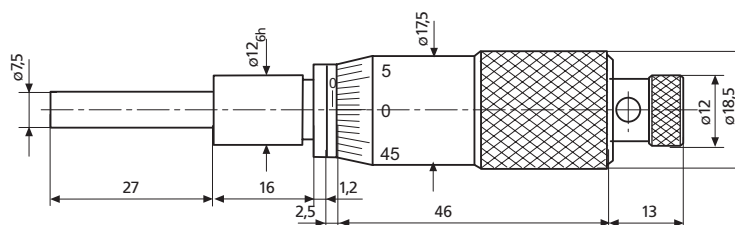
Measuring range 0-13 mm



Measuring range 0-25 mm



Measuring range 0-25 mm with adjusting nut



Measuring range 0-25 mm carbide-tipped