

## DOES EVERYTHING ROTATE AROUND PRECISION? NO PROBLEM WITH MICROMAR.



Micrometers fall alongside calipers with regards to the most frequently used hand measuring instruments. With their precision ground spindle, carbide tipped measuring faces and robust frame construction the modern micrometer from the Micromar series ensures maximum precision and a long working life. Our mechanical micrometers are extremely reliable and easy to read due to the scales having a satin chrome finish, thus ensuring accuracy and user comfort. Our digital micrometers unite the highly renowned mechanical precision from Mahr with most modern electronics. These digital micrometers offer simple operation with an error free reading, as well as problem-free data of the determined parameters to an external evaluation instrument. Micromar 40 EWR, the newest generation of waterproof digital micrometers, ensures that even in the most difficult workshop conditions precise and reliable results are obtained. A speciality of Mahr is the micrometer with a dial comparator, with its built-in dial comparator, stationary anvil and constant measuring force they are particularly well suited for rapid measurements and highly precise serial measurements.

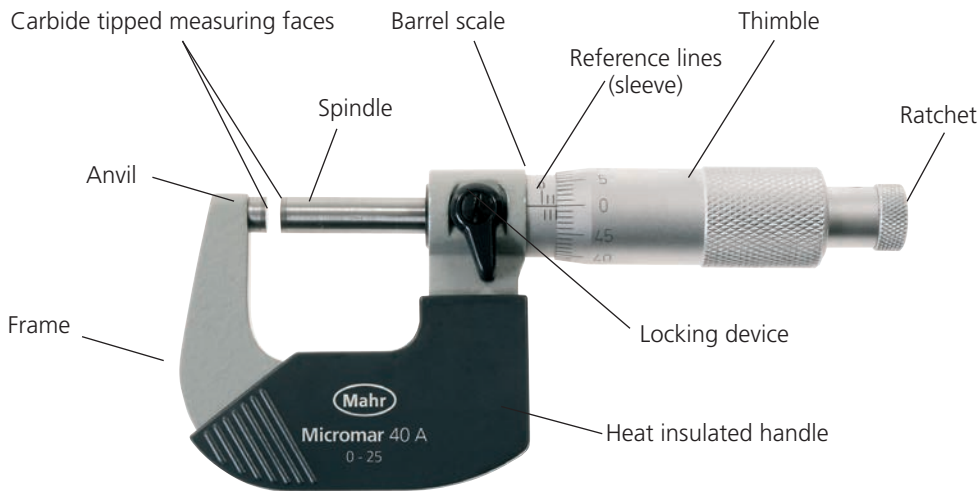
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# Micromar. Micrometer

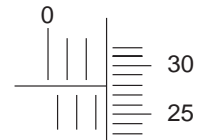
## OVERVIEW

### Micromar - Design Features



#### Reading example:

Micrometer with 0,01 mm-divisions



Sleeve	2,5
Thimble	0,28
<hr/>	
Measuring result	2,78 mm

### Micromar - Types of Micrometers

**Mahr** - Micrometers are available with the following means of indication:

a) Digital Micrometer with digital display



b) Mechanical Micrometer with scale and dial



c) Mechanical Micrometer with scale



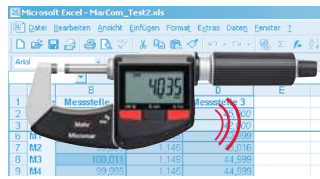
### Error limits *G* according to DIN 863-1

Measuring range mm	Error limit <i>G</i> µm	Measuring force N
0 - 25	4	5 - 10
25 - 50	4	5 - 10
50 - 75	5	5 - 10
75 - 100	5	5 - 10
100 - 125	6	5 - 10
125 - 150	6	5 - 10
150 - 175	7	5 - 10
175 - 200	7	5 - 10
200 - 225	8	5 - 10
225 - 250	8	5 - 10
250 - 275	9	5 - 10
275 - 300	9	5 - 10
300 - 325	10	5 - 10
325 - 350	10	5 - 10
350 - 375	11	5 - 10
375 - 400	11	5 - 10
400 - 425	12	5 - 10
425 - 450	12	5 - 10
450 - 475	13	5 - 10
475 - 500	13	5 - 10

# Micromar. Digital Micrometer Micromar 40 EWri

## Micrometers with Integrated Wireless

With the digital waterproof Micrometer **Micromar** 40 EWri, precise and reliable results are obtained even in the most difficult conditions.



Integrated wireless offers you much more free workzone. Whether at the measuring workplace, for inspections inside or on the machine, in the case of large workpieces, you get fully autonomous measuring without limits by a cable.

The high-contrast display with 10 mm high digits enables accurate, fatigue free reading of the measurement results.



### The Reference-Lock-Function

prevents operating error caused by accidental usage of the operating buttons.

Stainless steel, hardened spindle

Sturdy hard lacquered steel frame



### Absolute-Function:

Micrometer can be set in any position to 0.000 mm / .0000" without the reference to the Preset value being lost

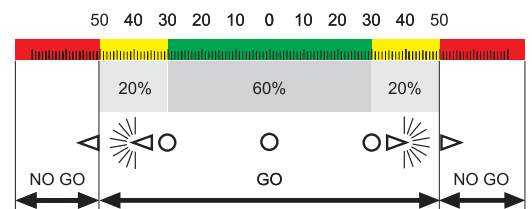
The **ergonomically formed** and **thermally insulated handle** as well as the integrated ratchet in the thimble ensures both trouble free handling and accurate measurement results.



Protection class **IP65** in accordance to IEC 60529, the water proof measuring system **FPS** (Fluid Protected measuring System) with a sealed housing.



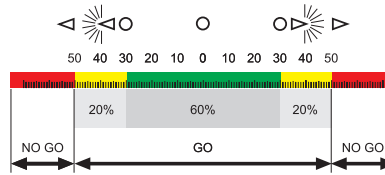
### Tolerance function with warning limits:



### Hold:

Freezes the measured value after the measurement. Practical function for measuring tasks, where the display is not visible, i.e. measurements in the machine.

# Micromar 40 EWRI. Digital Micrometer



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (Data transmission)
- HOLD (storage of measured values)

- High contrast analog display
- Spindle is hardened throughout and ground, stainless
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated

- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)

- **Digit height:** 10 mm

- **Data interface:** Integrated wireless

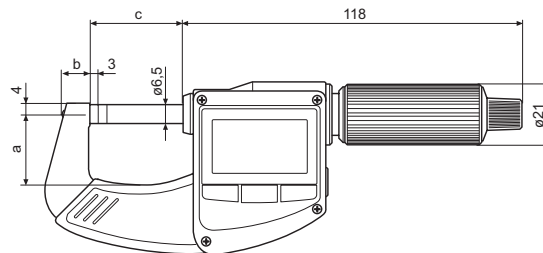
- **IP protection category:** IP 65

- **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

## Technical Data

Order no.	Product type	Measuring range	Resolution	Error limit	Spindle thread pitch	Measuring force
		mm	mm/inch	$\mu\text{m}$	mm	N
4157100	40 EWRI	0–25	0,001 / .00005"	2	0,5	5–10
4157101	40 EWRI	25–50	0,001 / .00005"	2	0,5	5–10
4157102	40 EWRI	50–75	0,001 / .00005"	3	0,5	5–10
4157103	40 EWRI	75–100	0,001 / .00005"	3	0,5	5–10

Order no.	a	b	c
	mm	mm	mm
4157100	24	9,5	32
4157101	36	11	57
4157102	45	13	82
4157103	57	13	107



## Accessories

Order no.	Product name	Product type
4102220	Receiver	i-Stick
4102520	Battery 3 V, CR 2032	
4158000	Stand, for holding outside micrometers	41 H



i-Stick



41 H



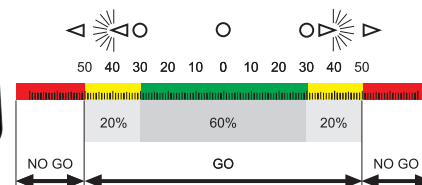
# Micromar 40 EWRI. Digital micrometer set



REFERENCE

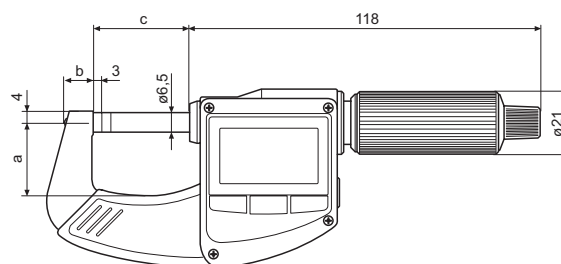
## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (Data transmission)
- HOLD (storage of measured values)
- High contrast analog display
- Spindle is hardened throughout and ground, stainless
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 10 mm
- **Data interface:** Integrated wireless
- **IP protection category:** IP 65
- **Scope of delivery:** Instruction manual, Battery, Setting values, Case



## Technical Data

Order no.	Product type	Measuring range	Resolution	Spindle thread pitch	Measuring force	Number of Micrometers
4157115	40 EWRI	0 – 100	0,001 / .00005"	0,5	5 – 10	4



## Accessories

Order no.	Product name	Product type
4102220	Receiver	i-Stick
4102520	Battery 3 V, CR 2032	
4158000	Stand, for holding outside micrometers	41 H

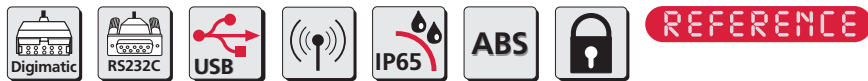


i-Stick



41 H

# Digital Micrometer Micromar 40 EWR



## Functions:

- Functions:
- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- mm/inch
- PRESET (for entering a numerical value)
- LOCK function (key lock)
- DATA (Data transmission via connection cable)
- High contrast analog display
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated

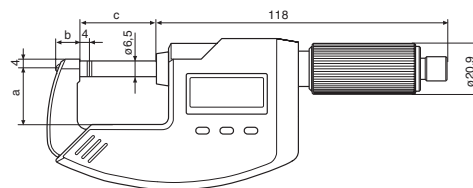
• **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)

- **Digit height:** 8.5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 65
- **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

## Technical Data

Order no.	Product type	Measuring range		Resolution	Error limit	Spindle thread pitch	Measuring force	Standard
		mm	inch					
4151705	40 EWR	0 – 25	0 – 1"	0.001 / .00005"	2	0.635	5 – 10	Factory standard
4151706	40 EWR	25 – 50	1 – 2"	0.001 / .00005"	2	0.635	5 – 10	Factory standard
4151707	40 EWR	50 – 75	2 – 3"	0.001 / .00005"	3	0.635	5 – 10	Factory standard
4151708	40 EWR	75 – 100	3 – 4"	0.001 / .00005"	3	0.635	5 – 10	Factory standard
4151740	40 EWR	100 – 125	4 – 5"	0.001 / .00005"	6	0.635	5 – 10	DIN 863-1
4151741	40 EWR	125 – 150	5 – 6"	0.001 / .00005"	6	0.635	5 – 10	DIN 863-1
4151742	40 EWR	150 – 175	6 – 7"	0.001 / .00005"	7	0.635	5 – 10	DIN 863-1
4151743	40 EWR	175 – 200	7 – 8"	0.001 / .00005"	7	0.635	5 – 10	DIN 863-1

Order no.	a	b	c
	mm	mm	mm
4151705	23	9.5	31.5
4151706	32	11.5	57
4151707	44	13.5	82
4151708	57	15.5	107
4151740	73	17	132.5
4151741	85	17	157.5
4151742	97	17	182.5
4151743	110	17	207.5



## Accessories

Order no.	Product name	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	16 EXu Data connection cable USB (2 m)	16 EXu
4102410	Data connection cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4158000	Stand, for holding outside micrometers	41 H



# Micromar 40 EWR. Digital Micrometer

## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- mm/inch
- PRESET (for entering a numerical value)
- LOCK function (key lock)
- HOLD (storage of measured values)
- High contrast analog display
- Spindle is hardened throughout and ground, stainless
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated
- **Digit height:** 10 mm
- **IP protection category:** IP 65
- **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

REFERENCE



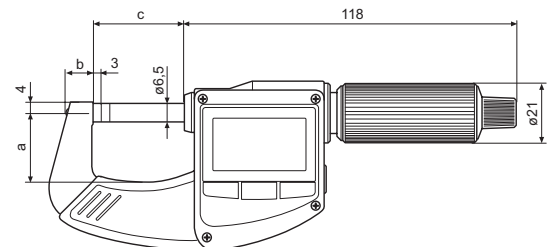
ABS



## Technical Data

Order no.	Product type	Measuring range	Resolution	Error limit	Spindle thread pitch	Measuring force	Standard
		mm	mm/inch	µm	mm	N	
4157011	40 EWR	0 – 25	0,001 / .00005"	2	0,5	5 – 10	Factory standard
4157012	40 EWR	25 – 50	0,001 / .00005"	2	0,5	5 – 10	Factory standard
4157013	40 EWR	50 – 75	0,001 / .00005"	3	0,5	5 – 10	Factory standard
4157014	40 EWR	75 – 100	0,001 / .00005"	3	0,5	5 – 10	Factory standard

Order no.	a	b	c
	mm	mm	mm
4157011	24	9,5	32
4157012	36	11	57
4157013	45	13	82
4157014	57	13	107





# Digital Micrometer Set Micromar 40 EWR



REFERENCE



## Technical Data

Order no.	Product type	Measuring range		Resolution	Spindle thread pitch	Measuring force	Standard	Number of Micrometers
		mm	inch					
4151709	40 EWR	0 – 100	0 – 4"	0,001 / .00005"	0,635	5 – 10 N	Factory standard	4

## Functions:

- AUTO-ON / OFF
- RESET (set display to zero)
- ABS (display can be set to zero without losing the reference to the Preset value)
- mm/inch
- Lock/Unlock
- PRESET (for entering a numerical value)
- DATA (Data transmission via connection cable)
- High contrast analog display
- Spindle is hardened throughout and ground, stainless
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Height of digits:** 8,5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery, life span ca. 2 years
- **IP protection category:** IP 65
- **Scope of delivery:** Instruction manual, Battery, Setting values, Case

## Accessories

Order no.	Product description	Product type
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102357	Data Connection Cable USB (2 m)	16 EXu
4102231	Transmitter for e-Stick	16 EWe
4102230	Receiver	e-Stick
4158000	Stand, for holding outside micrometers	41 H



# Digital Micrometer Micromar 40 ER



REFERENCE



## Functions:

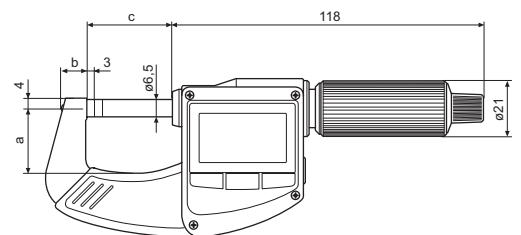
- RESET (set display to zero)
- mm/inch
- HOLD (storage of measured values)
- LOCK function (key lock)
- High contrast analog display
- Spindle is hardened throughout and ground, stainless
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated
- **Digit height:** 10 mm
- **IP protection category:** IP 40
- **Scope of delivery:** Instruction manual, Battery, Case



## Technical Data

Order no.	Product type	Measuring range	Resolution	Error limit	Spindle thread pitch	Measuring force	Standard
		mm	mm/inch	µm	mm	N	
4157010	40 ER	0 – 25	0,001 / .00005"	2	0,5	5 – 10	Factory standard

Order no.	a	b	c
	mm	mm	mm
4157010	24	9,5	32



## Accessories

Order no.	Product name	Product type
4102520	Battery 3 V, CR 2032	
4158000	Stand, for holding outside micrometers	41 H



41 H

# Digital Micrometer Micromar 40 EWS



REFERENCE



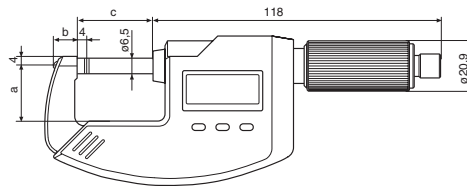
## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- mm/inch
- PRESET (for entering a numerical value)
- DATA (Data transmission via connection cable)
- LOCK function (key lock)
- Sliding spindle
- High contrast analog display
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Lacquered steel frame, heat insulated
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232C interface)
- **Digit height:** 8.5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **IP protection category:** IP 52
- **Scope of delivery:** Battery, Instruction manual, Case

## Technical Data

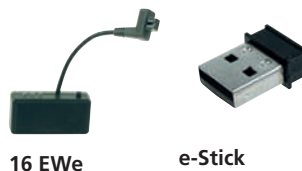
Order no.	Product type	Measuring range		Resolution	Error limit	Spindle thread pitch	Measuring force	Standard
		mm	inch					
4151724	40 EWS	0 – 25	0 – 1"	0,001 / .00005"	4	0,635	5 – 10	DIN 863-1

Order no.	a	b	c
4151724	23	9,5	31,5



## Accessories

Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4158000	Stand, for holding outside micrometers	41 H



41 H

# Digital Micrometer Micromar 40 EWW



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- mm/inch
- PRESET (for entering a numerical value)
- DATA (Data transmission via connection cable)
- LOCK function (key lock)

- High contrast analog display
- Sliding spindle
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Rapid drive
- Ratchet is integrated in the thimble
- Chrome plated steel frame, heat insulated
- With mounting shank for anvils dia. = 3,5mm
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)

- **Digit height:** 8.5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 52

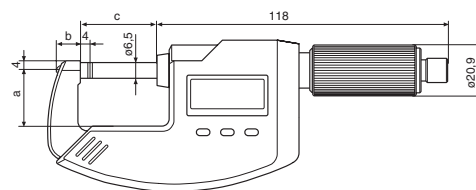
- **Scope of delivery:** Instruction manual, Battery, Case, Anvils 40 Efk, 40 Efl, Anvils 40 Eak, 40 Eal, Anvils 40 Erk, Anvils 40 Epk, Anvils 40 Esk, Anvils 40 Etk, 40 Etl, 4151722 without measuring anvils



## Technical Data

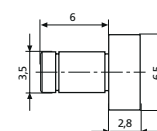
Order no.	Product type	Measuring range mm	Measuring range inch	Resolution mm/inch	Error limit μm	Spindle thread pitch mm	Measuring force N	Standard	Incl. accessories
4151723	40 EWW	0-25	0-1"	0,001 / .00005"	4	0,635	5-10	DIN 863-3	•
4151722	40 EWW	0-25	0-1"	0,001 / .00005"	4	0,635	5-10	DIN 863-3	

Order no.	a	b	c
	mm	mm	mm
4151723	23	9,5	31,5
4151722	23	9,5	31,5

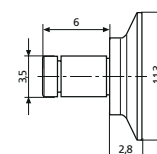


## Accessories

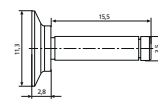
Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4151761	Anvil (6,5 mm)	40 Efl
4151762	Anvil (11,3 mm)	40 Etl
4151767	Anvil (2,3 x 2 mm)	40 Eal
4151771	Anvil (6,5 mm)	40 Efk
4151772	Anvil (11,3 mm)	40 Etk
4151773	Anvil (60°)	40 Epk
4151774	Anvil (6,5 mm)	40 Erk
4151775	Anvil (7 x 0,75 mm)	40 Esk
4151777	Anvil (2,3 x 2 mm)	40 Eak
4158000	Stand, for holding outside micrometers	41 H



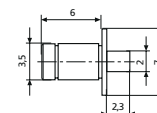
40 Efk



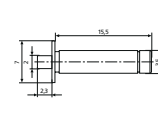
40 Etk



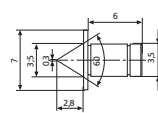
40 Etl



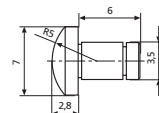
40 Eak



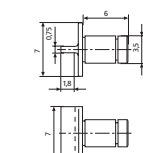
40 Eal



40 Epk



40 Erk



40 Esk



16 EWe



e-Stick



41 H

## Micrometer Micromar 40 A

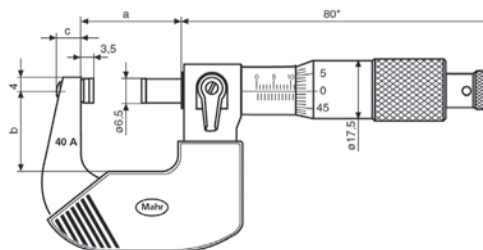


- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Setting standard (from measuring range 25–50 mm), Instruction manual, Case

### Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard
		mm	mm	μm	mm	
4134000	40 A	0–25	0,01	4	0,5	DIN 863-1
4134001	40 A	25–50	0,01	4	0,5	DIN 863-1
4134002	40 A	50–75	0,01	5	0,5	DIN 863-1
4134003	40 A	75–100	0,01	5	0,5	DIN 863-1
4134004	40 A	100–125	0,01	6	0,5	DIN 863-1
4134005	40 A	125–150	0,01	6	0,5	DIN 863-1
4134006	40 A	150–175	0,01	7	0,5	DIN 863-1
4134007	40 A	175–200	0,01	7	0,5	DIN 863-1

Order no.	a	b	c
	mm	mm	mm
4134000	31	25,5	7
4134001	56	34,5	12
4134002	81	47,5	12
4134003	106	58,5	13
4134004	131	71,5	13
4134005	156	83,5	13
4134006	182	95,5	13
4134007	207	108,5	13



### Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H



# Micrometer Micromar 40 SA

- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting values 25 mm / 75 mm, Case



## Technical Data

Order no.	Product type	Measuring range	Readings	Spindle thread pitch	Standard	Number of Micrometers
		mm	mm	mm		
4134050	40 SA	0 – 100	0,01	0,5	DIN 863-1	4
4134051	40 SA	100 – 200	0,01	0,5	DIN 863-1	4

## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

# Micrometer Micromar 40 A

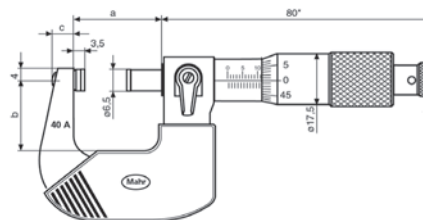


- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 1–2"), Case

## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Micrometer pitch (imperial)	Standard
		inch	inch	inch	inch	
4134900	40 A	0 – 1"	.0001"	.00016"	.025"	Factory standard
4134901	40 A	1 – 2"	.0001"	.00016"	.025"	Factory standard
4134902	40 A	2 – 3"	.0001"	.0002"	.025"	Factory standard
4134903	40 A	3 – 4"	.0001"	.0002"	.025"	Factory standard
4134904	40 A	4 – 5"	.0001"	.00024"	.025"	Factory standard
4134905	40 A	5 – 6"	.0001"	.00024"	.025"	Factory standard
4134906	40 A	6 – 7"	.0001"	.00028"	.025"	Factory standard
4134907	40 A	7 – 8"	.0001"	.00028"	.025"	Factory standard

Order no.	a	b	c
	mm	mm	mm
4134900	31	25,5	7
4134901	56	34,5	12
4134902	81	47,5	12
4134903	106	58,5	13
4134904	131	71,5	13
4134905	156	83,5	13
4134906	182	95,5	13
4134907	207	108,5	13



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

# Micrometer Micromar 40 AS

- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting values 1" / 3", Case



## Technical Data

Order no.	Product type	Measuring range	Readings	Micrometer pitch (imperial)	Standard
		inch	inch	inch	
4134960	40 AS	0 – 4"	.0001"	.025"	Factory standard
4134961	40 AS	4 – 8"	.0001"	.025"	Factory standard

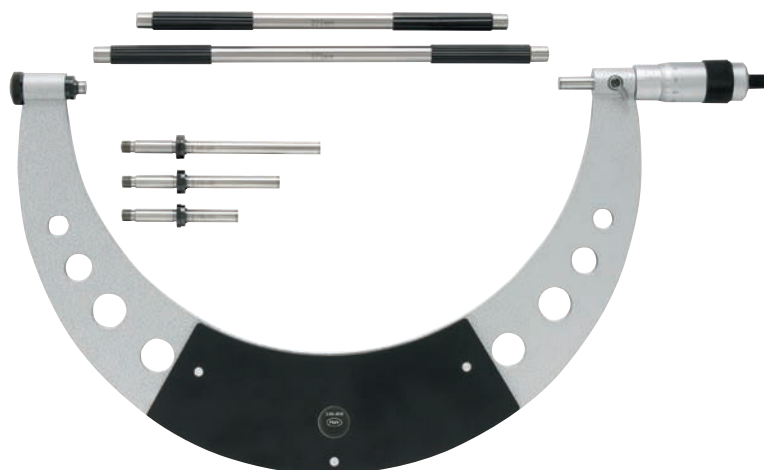
## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

## Micrometer Micromar 40 W

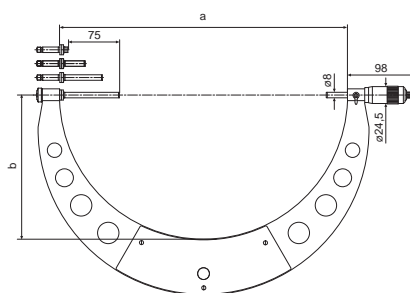


- Operating and display units antiglare with satin chrome finish
- Spindle and anvil made of hardened steel, carbide tipped
- Hard lacquered steel frame, from 400 mm the frame is made from a steel tube to reduce weight
- Heat insulators
- Ratchet is integrated in the thimble
- Locking device
- 4 interchangeable anvils, adjustable
- **Scope of delivery:** Instruction manual, Setting values, Case

### Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Parallelism	Flatness	Spindle thread pitch	Standard
		mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	mm	
4137500	40 W	0 – 100	0,01	5	3	0,6	1	Factory standard
4137501	40 W	100 – 200	0,01	7	4	0,6	1	Factory standard
4137502	40 W	200 – 300	0,01	9	5	0,6	1	Factory standard
4137503	40 W	300 – 400	0,01	11	6	0,6	1	Factory standard
4137504	40 W	400 – 500	0,01	13	7	0,6	1	Factory standard
4137505	40 W	500 – 600	0,01	21	8	0,6	1	Factory standard
4137506	40 W	600 – 700	0,01	23	8	0,6	1	Factory standard
4137507	40 W	700 – 800	0,01	26	9	0,6	1	Factory standard
4137508	40 W	800 – 900	0,01	28	11	0,6	1	Factory standard
4137509	40 W	900 – 1000	0,01	30	11	0,6	1	Factory standard

Order no.	a	b
	mm	mm
4137500	117,5	59
4137501	217,5	109
4137502	317,5	159
4137503	417,5	209
4137504	517,5	259
4137505	617,5	309
4137506	717,5	360
4137507	817,5	410
4137508	917,5	460
4137509	1017,5	510



# Micrometer with integrated Dial Comparator Micromar 40 F / 40 FC

- Operating and display units antiglare with satin chrome finish
- Dial Comparator is integrated in frame
- Adjustable tolerance markers
- Chrome plated steel frame, heat insulated
- Retraction of the movable anvil ensures maximum wear resistance
- Spindle and anvil are carbide tipped
- Stainless spindle is hardened throughout and ground
- Locking device
- Constant measuring force
- **Scope of delivery:** Instruction manual, Case



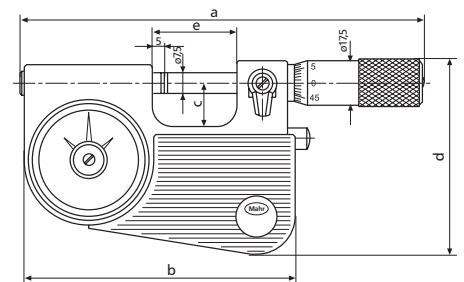
## Application:

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

## Technical Data

Order no.		4150000	4150001	4150200	4150201
Product type		40 F		40 FC	
Measuring range	mm	0 -25	25 -50	0 -25	25 -50
Measuring surface		Carbide		Ceramic	
Readings	mm			0,01	
Error limit	µm			2	
Parallelism	µm			1	
Flatness	µm			0,2	
Spindle thread pitch	mm			0,5	
Measuring force	N			9	
Standard		Factory standard			
Measuring range, dial comparator (measuring screw)	µm			± 65	
Readings	µm			1	
Error limit $G_e$	µm			1	

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4150000	149	100	16	71	32
4150001	174	125	30	85	56
4150200	149	100	16	71	32
4150201	174	125	30	85	56



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H
4159400	Setting gage (25 mm)	43 A



41 H



43 A



# Micrometer with integrated Dial Comparator Micromar



## Application:

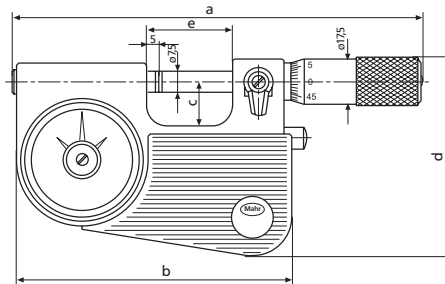
- For rapid measurements of diameters of cylindrical parts (shafts, bolts and shanks)
- Measurement of thickness and length
- Recommended for standard precision parts

- Operating and display units antiglare with satin chrome finish
- Dial Comparator is integrated in frame
- Adjustable tolerance markers
- Chrome plated steel frame, heat insulated
- Retraction of the movable anvil ensures maximum wear resistance
- Spindle and anvil are carbide tipped
- Stainless spindle is hardened throughout and ground
- Locking device
- Constant measuring force
- **Scope of delivery:** Instruction manual, Case

## Technical Data

Order no.		4150900	4150901
Measuring range	inch	0 – 1"	1 – 2"
Readings	inch		.0001"
Error limit	inch		.00008"
Parallelism deviation	inch		.00008"
Flatness deviation	inch		.00001"
Micrometer pitch (imperial)	inch		.025"
Measuring force	N		9
Standard		Factory standard	
Dial comparator measuring range (measuring screw)	inch	± .0025"	
Dial comparator scale graduation value	inch	.00005"	
Dial comparator error limit Ge	inch	.00005"	

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4150900	149	100	16	71	32
4150901	174	125	30	85	56



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H
4159940	Setting gage (1 inch)	43 A



41 H

# Micrometer with integrated Dial Comparator Micromar 40 T

DIN  
863-3

- Operating and display units antiglare with satin chrome finish
- Retraction of the movable anvil ensures maximum wear resistance
- Constant measuring force
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Locking device
- **Scope of delivery:** Instruction manual, Case



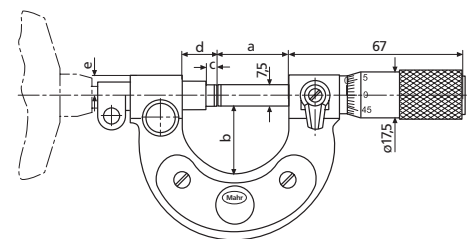
## Application:

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

## Technical Data

Order no.		4154000	4154001	4154002	4154003	4154004
Product type				40 T		
Measuring range	mm	0 – 25	25 – 50	50 – 100	100 – 150	150 – 200
Readings	mm			0,01		
Error limit	µm			2		
Parallelism	µm			2		
Flatness	µm			0,2		
Spindle thread pitch	mm			0,5		
Measuring force	N		6,5		7,5	
Standard				DIN 863-3		
Indicating instrument (scope of delivery)				Millimes 1003		
Measuring range, dial comparator (measuring screw)	µm			± 50		
Readings	µm			1		
Error limit $G_e$	µm			1		

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4154000	27	28	4	11	8
4154001	52	40	4	11	8
4154002	76	65	5,5	30	8
4154003	127	87	5,5	30	8
4154004	177	112	5,5	30	8



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H
4159400	Setting gage (25 mm)	43 A
4159401	Setting gage (50 mm)	43 A
4159402	Setting gage (75 mm)	43 A
4159403	Setting gage (100 mm)	43 A
4159404	Setting gage (125 mm)	43 A
4159405	Setting gage (150 mm)	43 A
4159406	Setting gage (175 mm)	43 A



41 H



43 A

# Precision Bench Micrometer Micromar 40 TS

DIN 863-3



## Application:

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

- Operating and display units antiglare with satin chrome finish
- Rugged steel frame, can be inclined up to 45° from the sturdy base
- Retraction of the movable anvil ensures maximum wear resistance
- Height adjustable stop
- Constant measuring force
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Locking device
- **Scope of delivery:** Instruction manual

## Technical Data

Order no.	4154030		4154031
Product type			40 TS
Measuring range	mm		0–50
Error limit	µm		2
Parallelism	µm		2
Flatness	µm		0,2
Spindle thread pitch	mm		0,5
Measuring force	N		6,5
Standard		DIN 863–3	
Indicating instrument (scope of delivery)		Millimess 1003	without
Measuring range, dial comparator (measuring screw)	µm	± 50	±
Readings	µm	1	
Error limit G <sub>e</sub>	µm	1	

## Accessories

Order no.	Product description	Product type
4154035	Wooden case	
4159400	Setting gage (25 mm)	43 A
4335000	Millimess 0,5 µm, ± 25 µm	1002
4334000	Millimess 1 µm, ± 50 µm	1003
4334001	Millimess 2 µm, ± 130 µm	1003 XL
4346000	Inductive dial comparator, ± 0,9 µm	2000
4346100	Inductive dial comparator, ± 0,9 µm	2001



43 A



1002



1003



2000



2001

# Precision Bench Micrometer Micromar 40 TS

- Operating and display units antiglare with satin chrome finish
- Rugged steel frame, can be inclined up to 45° from the sturdy base
- Retraction of the movable anvil ensures maximum wear resistance
- Height adjustable stop
- Constant measuring force
- Stainless spindle is hardened throughout and ground
- Spindle and anvil are carbide tipped
- Locking device
- **Scope of delivery:** Dial comparator 1003 Z, Instruction manual

## Application:

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



## Technical Data

Order no.	4154930		4154931
Product type			40 TS
Measuring range	inch		0 – 2"
Graduation value	inch		.00025"
Error limit	inch		.00008"
Parallelism deviation	inch		.00008"
Flatness deviation	inch		.00001"
Micrometer pitch	inch		.025"
Measuring force	N		6.5
Indicating instrument (included in delivery)		Millimess 1003 Z	without readout
Dial comparator measuring range	inch	± .0025"	
Dial comparator scale graduation value	inch	.00005"	
Error limit G <sub>e</sub>	inch	.00005"	

## Accessories

Order no.	Product description	Product type
4154035	Wooden case	
4159940	Setting gage (1 inch)	43 A
4335900	Millimess .00002", ± .0010"	1002 Z
4334900	Millimess .00005", ± .0020"	1003 Z
4333900	Millimess .0001", ± .0050"	1004 Z
4346000	Inductive dial comparator, ± 0,9 µm	2000
4346900	Inductive dial comparator, ± 0,9 µm	2000
4346901	Inductive dial comparator, ± 0,9 µm	2000
4346100	Inductive dial comparator, ± 0,9 µm	2001
4346910	Inductive dial comparator, ± 0,9 µm	2001
4346911	Inductive dial comparator, ± 0,9 µm	2001



1003 Z



1004 Z

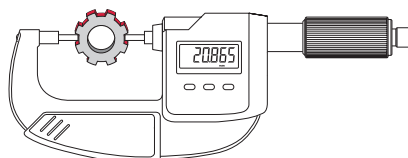


2000



2001

# Digital Micrometer Micromar 40 EWR-B



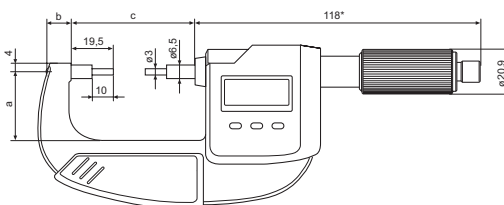
## Application:

For measuring recesses and grooves

## Technical Data

Order no.	Product type	Measuring range		Resolution	Spindle thread	Measuring force	Standard
		mm	inch				
4151750	40 EWR-B	0 – 25	0 – 1"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151751	40 EWR-B	25 – 50	1 – 2"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151752	40 EWR-B	50 – 75	2 – 3"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151753	40 EWR-B	75 – 100	3 – 4"	0,001 / .00005"	0,635	5 – 10	DIN 863-3

Order no.	a	b	c
	mm	mm	mm
4151750	32	11,5	57
4151751	44	13,5	82
4151752	57	15,5	107
4151753	73	13	132,5



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (data transmission)
- HOLD (storage of measured values)

- Reduced measuring surfaces Ø 3 mm

- High contrast analog display

- Stainless spindle is hardened throughout and ground

- Spindle and anvil are carbide tipped

- Rapid drive

- Ratchet is integrated in the thimble

- Lacquered steel frame, heat insulated

- **Digit height:** 8.5 mm

- **Data interface:** USB, Digimatic, Opto RS232C

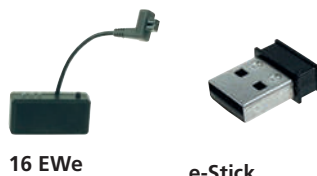
- **Energy supply:** Battery life approx. 2 years

- **IP protection category:** IP 65

- **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

## Accessories

Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4158000	Stand, for holding outside micrometers	41 H



16 EWe

e-Stick



41 H



# Micrometer Micromar 40 AB

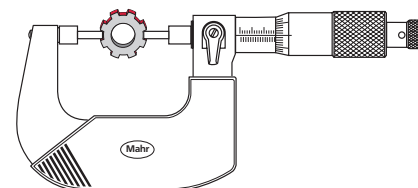
- Reduced measuring surfaces  $\varnothing$  3 mm
- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 25–50 mm), Case



DIN 863-3

## Application:

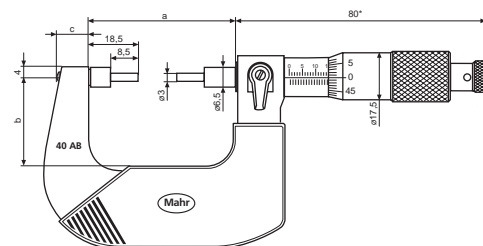
For measuring recesses and grooves



## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread	Measuring force	Standard
		mm	mm	$\mu\text{m}$	mm	N	
4134100	40 AB	0 – 25	0,01	4	0,5	5 – 10	DIN 863–3
4134101	40 AB	25 – 50	0,01	4	0,5	5 – 10	DIN 863–3
4134102	40 AB	50 – 75	0,01	5	0,5	5 – 10	DIN 863–3
4134103	40 AB	75 – 100	0,01	5	0,5	5 – 10	DIN 863–3

Order no.	a	b	c
	mm	mm	mm
4134100	56	34,5	12
4134101	81	47,5	12
4134102	106	58,5	13
4134103	131	71,5	13



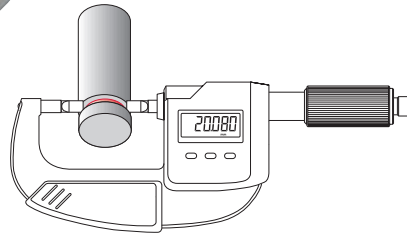
## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

# Digital Micrometer Micromar 40 EWR-S



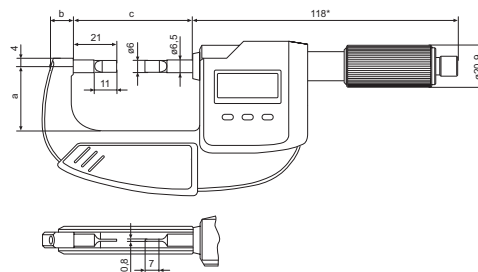
## Application:

For measuring recesses, grooves, etc.

## Technical Data

Order no.	Product type	Measuring range		Resolution	Spindle thread pitch	Measuring force	Standard
		mm	inch				
4151810	40 EWR-S	0 – 25	0 – 1"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151811	40 EWR-S	25 – 50	1 – 2"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151812	40 EWR-S	50 – 75	2 – 3"	0,001 / .00005"	0,635	5 – 10	DIN 863-3
4151813	40 EWR-S	75 – 100	3 – 4"	0,001 / .00005"	0,635	5 – 10	DIN 863-3

Order no.	a	b	c
	mm	mm	mm
4151810	32	11,5	57
4151811	44	13,5	82
4151812	57	15,5	107
4151813	73	13	132,5



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (data transmission)
- HOLD (storage of measured values)
- With blade-type measuring surfaces
- Sliding spindle
- High contrast analog display
- Stainless spindle is hardened throughout and ground
- Rapid drive
- Lacquered steel frame, heat insulated
- **Digit height:** 8.5 mm
- **Data interface:** USB, Digimatic, Opto RS232C
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 54
- **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

## Accessories

Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWD
4158000	Stand, for holding outside micrometers	41 H



16 EWe



e-Stick



41 H

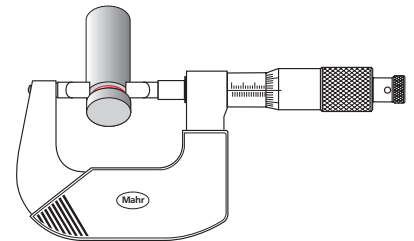
# Micrometer Micromar 40 AS

- With blade-type measuring surfaces
- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- Sliding spindle
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 25–50 mm), Case



## Application:

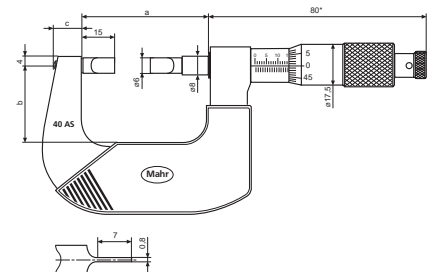
For measuring recesses, grooves, etc.



## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Measuring force	Standard
		mm	mm	$\mu\text{m}$	mm	N	
4134200	40 AS	0 – 25	0,01	4	0,5	5 – 10	Factory standard
4134201	40 AS	25 – 50	0,01	4	0,5	5 – 10	Factory standard
4134202	40 AS	50 – 75	0,01	5	0,5	5 – 10	Factory standard
4134203	40 AS	75 – 100	0,01	5	0,5	5 – 10	Factory standard

Order no.	a	b	c
	mm	mm	mm
4134200	56	34,5	12
4134201	81	47,5	12
4134202	106	58,5	13
4134203	131	71,5	13



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



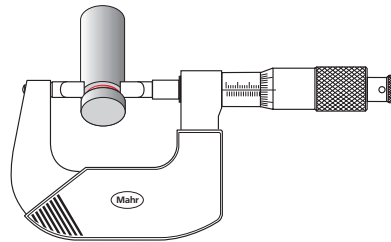
41 H

# Micrometer Micromar 40 AS



## Application:

For measuring recesses, grooves, etc.

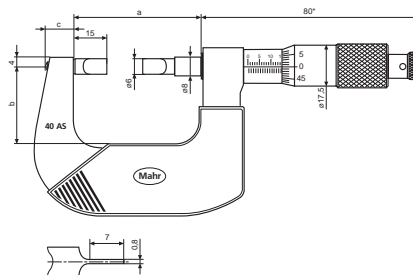


- With blade-type measuring surfaces
- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- Sliding spindle
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 1–2"), Case

## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Micrometer pitch (imperial)	Measuring force	Standard
		inch	inch	inch	inch	N	
4134930	40 AS	0 – 1"	.0001"	.00016"	.025"	5 – 10	Factory standard
4134931	40 AS	1 – 2"	.0001"	.00016"	.025"	5 – 10	Factory standard
4134932	40 AS	2 – 3"	.0001"	.0002"	.025"	5 – 10	Factory standard
4134933	40 AS	3 – 4"	.0001"	.0002"	.025"	5 – 10	Factory standard

Order no.	a	b	c
	mm	mm	mm
4134930	56	34,5	12
4134931	81	47,5	12
4134932	106	58,5	13
4134933	131	71,5	13



## Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

# Digital Micrometer Micromar 40 EWR-R

REFERENCE



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (data transmission)
- HOLD (storage of measured values)



- Measuring surfaces: spherical anvil, planar spindle
- High contrast analog display
- Stainless spindle is hardened throughout and ground
- Rapid drive
- Lacquered steel frame, heat insulated

• **Digit height:** 8.5 mm

• **Data interface:** USB, Digimatic, Opto RS232C

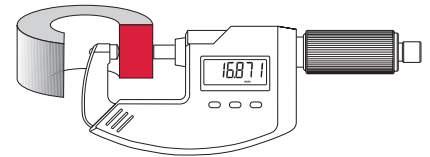
• **Energy supply:** Battery life approx. 2 years

• **IP protection category:** IP 65

• **Scope of delivery:** Instruction manual, Battery, Setting standard (from measuring range 25–50 mm), Case

## Application:

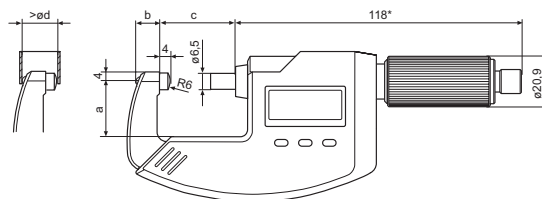
For measuring the thickness of pipe walls



## Technical Data

Order no.	Product type	Measuring range	Measuring range	Resolution	Spindle thread	Measuring force	Standard
		mm	inch	mm/inch	mm	N	
4151820	40 EWR-R	0 – 25	0 – 1"	0,001 / .00005"	0,635	5 – 10	DIN 863–3
4151821	40 EWR-R	25 – 50	1 – 2"	0,001 / .00005"	0,635	5 – 10	DIN 863–3

Order no.	a	b	c	d
	mm	mm	mm	mm
4151820	23	9,5	31,5	14
4151821	32	11,5	57	16



## Accessories

Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4158000	Stand, for holding outside micrometers	41 H



16 EWe



e-Stick



41 H



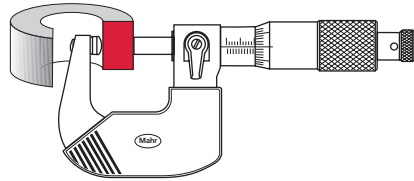
# Micrometer Micromar 40 AR

DIN 863-3



### Application:

For measuring the thickness of pipe walls

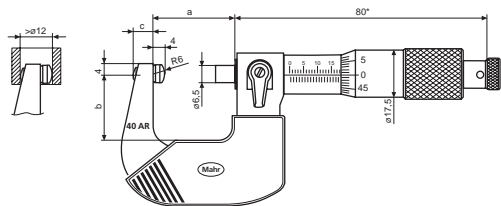


- Measuring surfaces: spherical anvil, planar spindle
- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 25–50 mm), Case

### Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread	Measuring force	Standard
		mm	mm	µm	mm	N	
4134250	40 AR	0 – 25	0,01	4	0,5	5 – 10	DIN 863-3
4134251	40 AR	25 – 50	0,01	4	0,5	5 – 10	DIN 863-3

Order no.	a	b	c
	mm	mm	mm
4134250	31	25,5	7
4134251	56	34,5	12



### Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

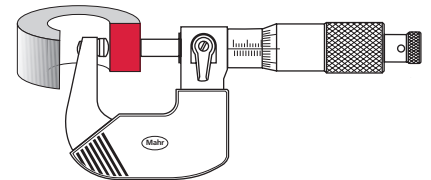
# Micrometer Micromar 40 AR

- Measuring surfaces: spherical anvil, planar spindle
- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Setting standard (from measuring range 1–2”), Case



## Application:

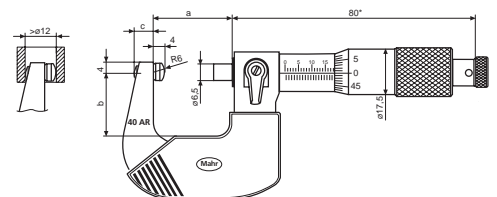
For measuring the thickness of pipe walls



## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Micrometer pitch (imperial)	Measuring force	Standard
		inch	inch	inch	inch	N	
4134940	40 AR	0 – 1”	.0001”	.00016”	.025”	5 – 10	Factory standard
4134941	40 AR	1 – 2”	.0001”	.00016”	.025”	5 – 10	Factory standard

Order no.	a	b	c
	mm	mm	mm
4134940	31	25,5	7
4134941	56	34,5	12



## Accessories

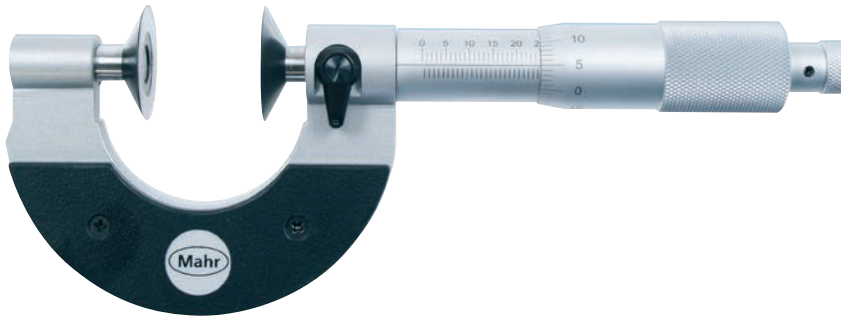
Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

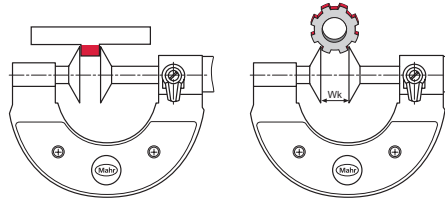
# Micrometer Micromar 40 SM

DIN 863-3



### 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
  - Shoulders on shafts
  - Undercut dimensions
  - Registers
  - Soft materials such as rubber, cardboard, felt etc.

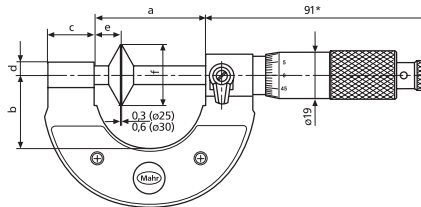


- Operating and display units antiglare with satin chrome finish
- Maximum stability
- Stainless spindle is hardened throughout and ground
- Disc-type anvils are hardened and lapped
- Chrome plated steel frame, heat insulated
- Rapid drive with integrated ratchet
- Locking device
- **Scope of delivery:** Instruction manual, Case

### Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Parallelism	Flatness	Spindle thread pitch	Measuring force	Standard
		mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	mm	N	
4134600	40 SM	0 – 25	0,01	4	4	0,6	0,5	5 – 10	DIN 863-3
4134601	40 SM	25 – 50	0,01	4	4	0,6	0,5	5 – 10	DIN 863-3
4134602	40 SM	50 – 75	0,01	5	4	0,6	0,5	5 – 10	DIN 863-3
4134603	40 SM	75 – 100	0,01	5	4	0,6	0,5	5 – 10	DIN 863-3
4134604	40 SM	100 – 125	0,01	6	5	0,6	0,5	5 – 10	DIN 863-3
4134605	40 SM	125 – 150	0,01	6	5	0,6	0,5	5 – 10	DIN 863-3
4134606	40 SM	150 – 175	0,01	7	5	0,6	0,5	5 – 10	DIN 863-3
4134607	40 SM	175 – 200	0,01	7	5	0,6	0,5	5 – 10	DIN 863-3

Order no.	a	b	c	d	e	f
	mm	mm	mm	mm	mm	mm
4134600	45	30,5	18,1	6	11	25
4134601	70	35	18,1	6	11	25
4134602	95	48	18,1	6	11	25
4134603	120	59,5	18,1	6	11	25
4134604	145	71	18,1	6	11	30
4134605	170	83	18,1	6	11	30
4134606	195	96	18,1	6	11	30
4134607	220	108	18,1	6	11	30



### Accessories

Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H



41 H

# Thread Micrometer Micromar 40 Z

DIN  
863-3

- Scales have a satin-chrome finish
- Rugged steel frame, heat insulated
- Spindle is hardened throughout, ground and is also provided with a locking device
- Adjustable anvil
- Spindle and anvil both have a mounting bore to accommodate interchangeable anvils
- Flat end surface of the anvil shank rests on a hardened steel ball which is at the bottom of the mounting bore
- **Scope of delivery:** Case



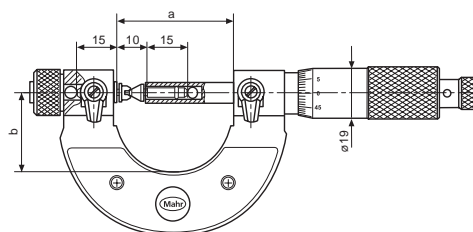
## Application:

For measuring pitch and outside diameters of external threads

## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread	Measuring force	Standard
		mm	mm	$\mu\text{m}$	mm	N	
4170030	40 Z	0 – 25	0,01	4	0,5	5 – 10	DIN 863-3
4170031	40 Z	25 – 50	0,01	4	0,5	5 – 10	DIN 863-3
4170032	40 Z	50 – 75	0,01	5	0,5	5 – 10	DIN 863-3
4170033	40 Z	75 – 100	0,01	5	0,5	5 – 10	DIN 863-3
4170034	40 Z	100 – 125	0,01	6	0,5	5 – 10	DIN 863-3
4170035	40 Z	125 – 150	0,01	6	0,5	5 – 10	DIN 863-3
4170036	40 Z	150 – 175	0,01	7	0,5	5 – 10	DIN 863-3
4170037	40 Z	175 – 200	0,01	7	0,5	5 – 10	DIN 863-3

Order no.	a	b
	mm	mm
4170030	45	30,5
4170031	70	35
4170032	95	48
4170033	120	59,5
4170034	145	71
4170035	170	83
4170036	195	96
4170037	220	108



## Accessories

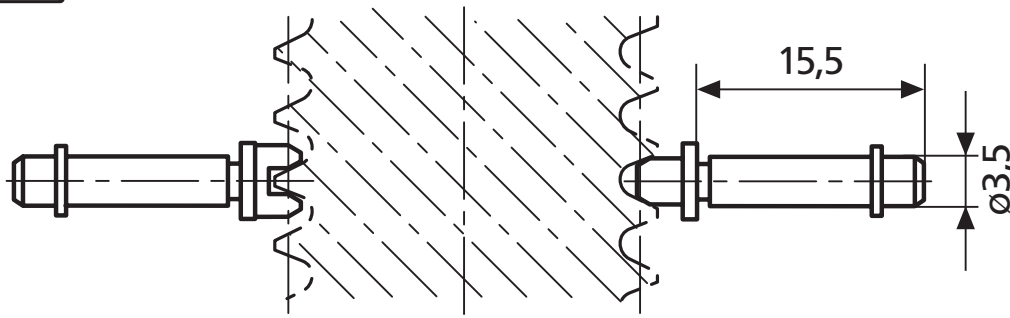
Order no.	Product description	Product type
4158000	Stand, for holding outside micrometers	41 H
4173210	Anvil flat, hardened steel	40 Za
4175000	Setting gage (25 mm) metric / UST 60°	43 Z
4175001	Setting gage (50 mm) metric / UST 60°	43 Z
4175002	Setting gage (75 mm) metric / UST 60°	43 Z
4175003	Setting gage (100 mm) metric / UST 60°	43 Z
4175004	Setting gage (125 mm) metric / UST 60°	43 Z
4175005	Setting gage (150 mm) metric / UST 60°	43 Z
4175006	Setting gage (175 mm) metric / UST 60°	43 Z
4175100	Setting gage (25 mm) Whitworth 55°	43 Z
4175101	Setting gage (50 mm) Whitworth 55°	43 Z
4175102	Setting gage (75 mm) Whitworth 55°	43 Z
4175103	Setting gage (100 mm) Whitworth 55°	43 Z
4175104	Setting gage (125 mm) Whitworth 55°	43 Z
4175105	Setting gage (150 mm) Whitworth 55°	43 Z
4175106	Setting gage (175 mm) Whitworth 55°	43 Z
4511190	Anvil flat, carbide tipped	40 Za



41 H

# Micromar Thread anvils

DIN 863-3



- Wear-resistant special steel, hardened. With cylindrical mounting shank and retainer ring for rotatable mounting in the bore of the measuring spindle and anvil.
- Pair comprises V-anvil and cone.
- With a pitch of 0.2 – 0.45 mm, the V-anvil bridges 3 turns. It should therefore be set with 715 E thread adjustment pins, otherwise with 43 Z setting standards.

## Accessories

Thread pitch in mm	Taper Order no.	V-anvil Order no.
<b>Pitch diameter, external thread</b>		
<b>Metric 60°</b>		
0,2	4173407	4173007
0,25	4173408	4173008
0,3	4173409	4173009
0,35	4173410	4173010
0,4	4173411	4173011
0,45	4173412	4173012
0,5 – 0,7	4173400	4173000
0,7 – 1	4173401	4173001
1,25 – 2	4173402	4173002
2 – 3,5	4173403	4173003
3,5 – 5	4173404	4173004
5 – 7	4173405	4173005
7 – 9	4173406	4173006
<b>Trapezoid 30°</b>		
1	4173650	4173250
1,5	4173651	4173251
2	4173652	4173252
3	4173653	4173253
4	4173654	4173254
5	4173655	4173255
6	4173656	4173256
7	4173657	4173257
8	4173658	4173258
9	4173659	4173259
10	4173660	4173260
12	4173661	4173261
14	4173662	4173262
16	4173663	4173263
18	4173664	4173264
20	4173665	4173265

Thread pitch in TPI	Taper Order no.	V-anvil Order no.
<b>Pitch diameter, external thread</b>		
<b>UST 60°</b>		
60 – 48	4173513	4173113
48 – 40	4173514	4173114
40 – 32	4173515	4173115
32 – 24	4173516	4173116
24 – 18	4173517	4173117
18 – 14	4173518	4173118
14 – 10	4173519	4173119
10 – 7	4173520	4173120
7 – 4,5	4173521	4173121
4,5 – 3	4173522	4173122
<b>Whitworth 55°</b>		
40 – 32	4173443	4173043
32 – 24	4173444	4173044
24 – 18	4173445	4173045
18 – 14	4173446	4173046
14 – 10	4173447	4173047
10 – 7	4173448	4173048
7 – 4,5	4173449	4173049
4,5 – 3	4173450	4173050
3 – 2,5	4179409	4179408

# Digital Micrometer Micromar 40 EWR-K

REFERENCE



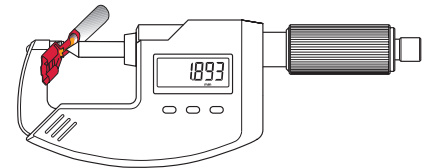
## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to ORIGIN)
- mm/inch
- ORIGIN (for entering a numerical value)
- LOCK function (key lock)
- TOL (Tolerance and warning limits)
- DATA (data transmission)
- HOLD (storage of measured values)



## Application:

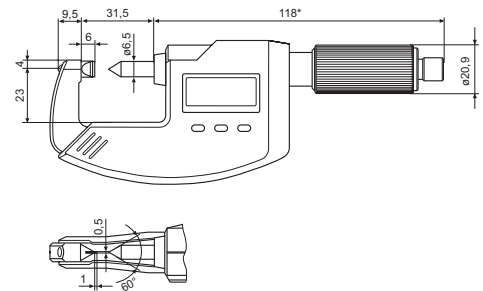
For measuring crimp heights



- Measuring surfaces: Anvil with narrow web, pointed spindle
- High contrast analog display
- Stainless spindle is hardened throughout and ground
- Rapid drive
- Lacquered steel frame, heat insulated
- **Digit height:** 8.5 mm
- **Data interface:** USB, Digimatic, Opto RS232C
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 65
- **Scope of delivery:** Battery, Instruction manual, Case

## Technical Data

Order no.	Product type	Measuring range mm	Measuring range inch	Resolution mm/inch	Spindle thread pitch mm	Measuring force N	Standard
4151830	40 EWR-K	0 – 25	0 – 1"	0,001 / .00005"	0,635	5 – 10	Factory standard



## Accessories

Order no.	Product description	Product type
4102230	Receiver	e-Stick
4102231	Transmitter for e-Stick	16 EWe
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4158000	Stand, for holding outside micrometers	41 H



16 EWe



e-Stick



41 H



## Micrometer Micromar 40 AW



- Operating and display units antiglare with satin chrome finish
- Hard lacquered steel frame
- Spindle and anvil made of hardened steel, carbide tipped
- Heat insulators
- Rapid drive with integrated ratchet
- Locking device
- Sliding spindle

### Features 40 AW:

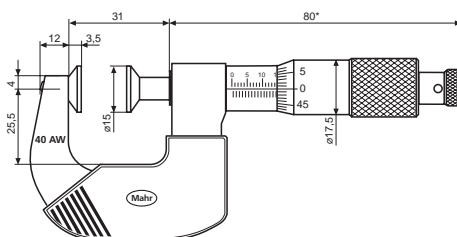
- **Scope of delivery:** Instruction manual, Setting standard, Case

### Application:

For measuring soft materials such as felt, rubber, cardboard, etc.

### Technical Data

Order no.		4134300	4134950
Product type		40 AW	
Measuring range	mm	0 - 25	
Measuring range	inch		0 - 1"
Readings	mm	0,01	
Readings	inch		.0001"
Error limit	µm	8	
Error limit inches	inch		.0003"
Parallelism	µm	5	
Flatness	µm	2	
Micrometer pitch (imperial)	inch		.025"
Spindle thread pitch	mm	0,5	
Measuring force	N	5 - 10	
Standard		Factory Standard	



### Accessories

Order no.	For measuring instrument	Product description	Product type
4158000	40 AW, 40 AW	Stand, for holding outside micrometers	41 H

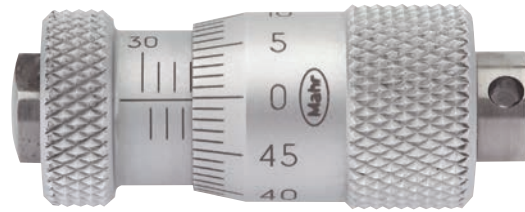


41 H

# Inside Micrometer Micromar 44 F

DIN  
863-4

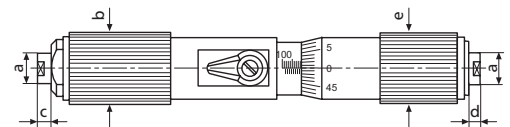
- Operating and display units antiglare with satin chrome finish
- Rigid, lightweight tubular construction
- Stainless spindle is hardened throughout and ground
- Measuring faces spherically lapped, one measuring face adjustable
- From measuring range 100–125 mm with heat insulators and a locking device
- **Scope of delivery:** Case



## Technical Data

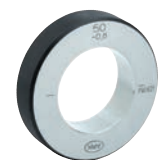
Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard
		mm	mm	µm	mm	
4163000	44 F	30 – 40	0,01	4	0,5	DIN 863-4
4163001	44 F	40 – 50	0,01	4	0,5	DIN 863-4
4163002	44 F	50 – 70	0,01	5	0,5	DIN 863-4
4163003	44 F	70 – 100	0,01	5	0,5	DIN 863-4
4163004	44 F	100 – 125	0,01	6	0,5	DIN 863-4
4163005	44 F	125 – 150	0,01	6	0,5	DIN 863-4
4163006	44 F	150 – 175	0,01	7	0,5	DIN 863-4
4163007	44 F	175 – 200	0,01	7	0,5	DIN 863-4

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4163000	7	12,5	2	4	12,6
4163001	7	12,5	2,5	4,5	12,6
4163002	7	13,5	2,5	4,5	13,6
4163003	7	13,5	4,5	4,5	14
4163004	8	20	4,5	4,5	20
4163005	8	20	8	8	20
4163006	8	20	8	8	20
4163007	8	20	8	8	20



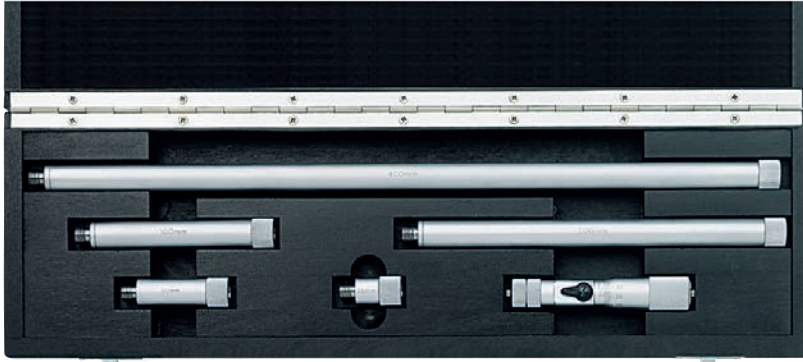
## Accessories

Order no.	Product description	Product type
4710050	Adjustment ring DIN 2250 C (30 mm)	355 E
4710060	Adjustment ring DIN 2250 C (40 mm)	355 E
4710070	Adjustment ring DIN 2250 C (50 mm)	355 E
4710090	Adjustment ring DIN 2250 C (70 mm)	355 E
4710120	Adjustment ring DIN 2250 C (100 mm)	355 E
4710121	Adjustment ring DIN 2250 C (125 mm)	355 E
4710122	Adjustment ring DIN 2250 C (175 mm)	355 E



355 E

# Measuring head Micromar 44 Cm / 44 Cms 1 / 44 Cms 2 / 44 Cms 3 / 44 Cms 4



- Operating and display units antiglare with satin chrome finish
- Rigid, lightweight tubular construction
- Stainless spindle is hardened throughout and ground
- Locking device
- Carbide tipped spherical measuring faces
- Interchangeable extensions 44 Cv with cylindrical gage rods that are spring-mounted in protective sleeves; for the extension of the measuring range
- Protection sleeves have a satin chrome finish
- **Scope of delivery:** Measuring Head 44 Cm, from measuring range 100–150 mm with extensions 44 Cv, Case

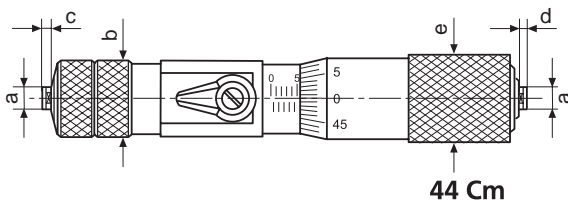
## Application:

For measuring large inside diameters

## Technical Data

Order no.	Product type	Measuring range	Readings	Extensions 44 Cv	Error limit	Spindle thread pitch	Standard
		mm	mm		$\mu\text{m}$	mm	
4168001	44 Cm	100–125	0,01		$4+(l/100)\mu\text{m}$ l= length of the combination in mm	0,5	Factory standard
4168020	44 Cms 1	100–150	0,01	25 mm	$4+(l/100)\mu\text{m}$ l= length of the combination in mm	0,5	Factory standard
4168021	44 Cms 2	100–300	0,01	25 mm 50 / 100 mm	$4+(l/100)\mu\text{m}$ l= length of the combination in mm	0,5	Factory standard
4168022	44 Cms 3	100–500	0,01	25 / 50 mm 100 / 200 mm	$4+(l/100)\mu\text{m}$ l= length of the combination in mm	0,5	Factory standard
4168023	44 Cms 4	100–900	0,01	25 / 50 mm 100 / 200 mm 400 mm	$4+(l/100)\mu\text{m}$ l= length of the combination in mm	0,5	Factory standard

Order no.	a	b	c	d	e
	mm	mm	mm	mm	mm
4168001	5	16	2	2	18



## Accessories

Order no.	Product description	Product type
4167030	Individual Extension (25 mm)	44 Cv
4167031	Individual Extension (50 mm)	44 Cv
4167032	Individual Extension (100 mm)	44 Cv
4167033	Individual Extension (200 mm)	44 Cv
4167034	Individual Extension (400 mm)	44 Cv
4167035	Individual Extension (800 mm)	44 Cv

# Inside Micrometer with reduced measuring faces Micromar 44 CB

- Operating and display units antiglare with satin chrome finish
- Rigid, lightweight tubular construction
- Stainless spindle is hardened throughout and ground
- Locking device
- Carbide tipped spherical measuring faces
- Interchangeable extensions 44 Cv with cylindrical gage rods that are spring-mounted in protective sleeves; for the extension of the measuring range
- Protection sleeves have a satin chrome finish
- **Scope of delivery:** Measuring head 44 CBm, End piece 44 CBv, Case



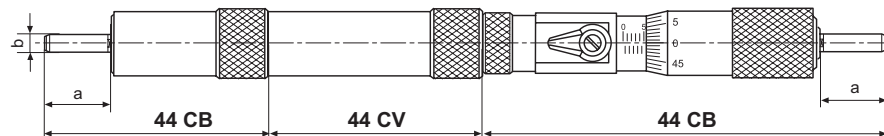
### Application:

For measuring grooves on large diameters

### Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard
		mm	mm	$\mu\text{m}$	mm	
4167922	44 CB	150 – 175	0,01	$4 + (l/100)\mu\text{m}$ l = length of the combination in mm	0,5	Factory standard
4167906	44 CB	175 – 200	0,01	$4 + (l/100)\mu\text{m}$ l = length of the combination in mm	0,5	Factory standard
4167912	44 CB	250 – 275	0,01	$4 + (l/100)\mu\text{m}$ l = length of the combination in mm	0,5	Factory standard
4167921	44 CB	275 – 300	0,01	$4 + (l/100)\mu\text{m}$ l = length of the combination in mm	0,5	Factory standard

Order no.	a	b
	mm	mm
4167922	10	5
4167906	20	5
4167912	40	5
4167921	50	5



### Accessories

Order no.	Product description	Product type
4167030	Individual Extension (25 mm)	44 Cv
4167031	Individual Extension (50 mm)	44 Cv
4167032	Individual Extension (100 mm)	44 Cv
4167033	Individual Extension (200 mm)	44 Cv
4167034	Individual Extension (400 mm)	44 Cv
4167035	Individual Extension (800 mm)	44 Cv
4168160	Case for 44 Cms	

# Inside Micrometer Micromar 44 CZ



## Application:

Ideal for measuring internal threads with large diameters

- Operating and display units antiglare with satin chrome finish
- Measuring head and End piece with mounting bore for interchangeable anvils
- Rigid, lightweight tubular construction
- Stainless spindle is hardened throughout and ground
- Locking device
- Interchangeable extensions 44 Cv with cylindrical gage rods that are spring-mounted in protective sleeves; for the extension of the measuring range
- Protection sleeves have a satin chrome finish
- **Scope of delivery:** Measuring head 44 CZm, End Piece 44 CZe, Case

## Technical Data

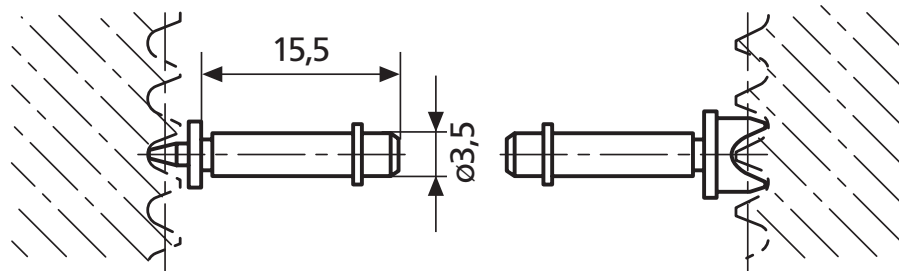
Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard
4168030	44 CZ	mm 200 –225	mm 0,01	$\mu\text{m}$ $4+(l/100)\mu\text{m}$ l= length of the combination in mm	mm 0,5	Factory standard

## Accessories

Order no.	Product description	Product type
4167030	Individual Extension (25 mm)	44 Cv
4167031	Individual Extension (50 mm)	44 Cv
4167032	Individual Extension (100 mm)	44 Cv
4167033	Individual Extension (200 mm)	44 Cv
4167034	Individual Extension (400 mm)	44 Cv
4167035	Individual Extension (800 mm)	44 Cv
4168160	Case for 44 Cms	

## Micromar Thread anvils

- Special wear-resistant hardened steel
- Cylindrical holding shaft and circlip for rotatable mounting in the bore of the measuring spindle



### Accessories

Thread pitch in mm	Taper Order no.	V-Anvil Order no.
<b>Pitch diameter, internal thread</b>		
<b>Metric 60°</b>		
0,5 -0,7	4173400	4179400
0,7 -1	4173401	4179401
1,25 -2	4173402	4179402
2 -3,5	4173403	4179403
3,5 -5	4173404	4179404
5 -7	4173405	4179405
7 -9	4173406	4179406
<b>Trapezoid 30°</b>		
1	4173650	4179950
1,5	4173651	4179951
2	4173652	4179952
3	4173653	4179953
4	4173654	4179954
5	4173655	4179955
6	4173656	4179956
7	4173657	4179957
8	4173658	4179958
9	4173659	4179959
10	4173660	4179960
12	4173661	4179961
14	4173662	4179962
16	4173663	4179963
18	4173664	4179964
20	4173665	4179965

Thread pitch in TPI	Taper Order no.	V-anvil Order no.
<b>Pitch diameter, internal thread</b>		
<b>UST 60°</b>		
40 -32	4173515	4179115
32 -24	4173516	4179116
24 -18	4173517	4179117
18 -14	4173518	4179118
14 -10	4173519	4179119
10 -7	4173520	4179120
7 -4,5	4173521	4179121
4,5 -3	4173522	4179122
<b>Whitworth 55 °</b>		
40 -32	4173443	4179043
32 -24	4173444	4179044
24 -18	4173445	4179045
18 -14	4173446	4179046
14 -10	4173447	4179047
10 -7	4173448	4179048
7 -4,5	4173449	4179049
4,5 -3	4173450	4179050
3 -2,5	4179409	4179407



# Self-Centering Inside Micrometer Micromar 44 A

DIN  
863-4



## Application:

For measuring:

- through holes
- blind holes
- centering shoulders

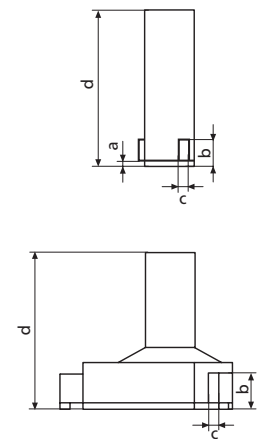
## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard	Measuring depth	Measuring depth with extension
		mm	mm	µm	mm		mm	mm
4190310	44 A	6 – 8	0,001	4	0,5	DIN 863-4	58	133
4190311	44 A	8 – 10	0,001	4	0,5	DIN 863-4	58	133
4190312	44 A	10 – 12	0,001	4	0,5	DIN 863-4	58	133
4190313	44 A	12 – 16	0,001	4	0,5	DIN 863-4	64	139
4190314	44 A	16 – 20	0,001	4	0,5	DIN 863-4	64	139
4190315	44 A	20 – 25	0,005	4	0,5	DIN 863-4	68	218
4190316	44 A	25 – 30	0,005	4	0,5	DIN 863-4	68	218
4190317	44 A	30 – 40	0,005	4	0,5	DIN 863-4	76	226
4190319	44 A	40 – 50	0,005	4	0,5	DIN 863-4	76	226
4190320	44 A	50 – 60	0,005	5	0,5	DIN 863-4	79	229
4190321	44 A	60 – 70	0,005	5	0,5	DIN 863-4	79	229
4190012	44 A	70 – 85	0,005	5	0,5	DIN 863-4	97	247
4190013	44 A	85 – 100	0,005	5	0,5	DIN 863-4	97	247
4190014	44 A	100 – 125	0,005	6	0,5	DIN 863-4	132	282
4190015	44 A	125 – 150	0,005	6	0,5	DIN 863-4	132	282
4190016	44 A	150 – 175	0,005	7	0,5	DIN 863-4	132	282
4190017	44 A	175 – 200	0,005	7	0,5	DIN 863-4	132	282

- Operating and display units antiglare with satin chrome finish
- Stainless spindle is hardened throughout and ground
- Rapid drive with integrated ratchet
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight
- **Scope of delivery:** Instruction manual, Allen key, Key for replacing measuring heads (from 30 mm), Case

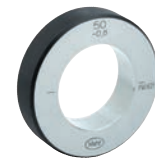
# Self-Centering Inside Micrometer Micromar 44 A

Order no.	a	b	c	d
	mm	mm	mm	mm
4190310	1,5	4	1,5	58
4190311	1,8	4,3	1,5	58
4190312	1,8	4,3	1,5	58
4190313		6,5	4	64
4190314		6,5	4	64
4190315		9	4	68
4190316		9	4	68
4190317		15	5	76
4190319		15	5	76
4190320		18	5	79
4190321		18	5	79
4190012		23	7	97
4190013		23	7	97
4190014		27	7	132
4190015		27	7	132
4190016		27	7	132
4190017		27	7	132

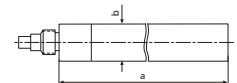


## Accessories

Order no.	Product description	Product type
4710026	Adjustment ring DIN 2250 C (8 mm)	355 E
4710030	Adjustment ring DIN 2250 C (10 mm)	355 E
4710032	Adjustment ring DIN 2250 C (12 mm)	355 E
4710036	Adjustment ring DIN 2250 C (16 mm)	355 E
4710040	Adjustment ring DIN 2250 C (20 mm)	355 E
4710045	Adjustment ring DIN 2250 C (25 mm)	355 E
4710050	Adjustment ring DIN 2250 C (30 mm)	355 E
4710060	Adjustment ring DIN 2250 C (40 mm)	355 E
4710070	Adjustment ring DIN 2250 C (50 mm)	355 E
4710080	Adjustment ring DIN 2250 C (60 mm)	355 E
4710105	Adjustment ring DIN 2250 C (85 mm)	355 E
4710121	Adjustment ring DIN 2250 C (125 mm)	355 E
4710122	Adjustment ring DIN 2250 C (175 mm)	355 E
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av



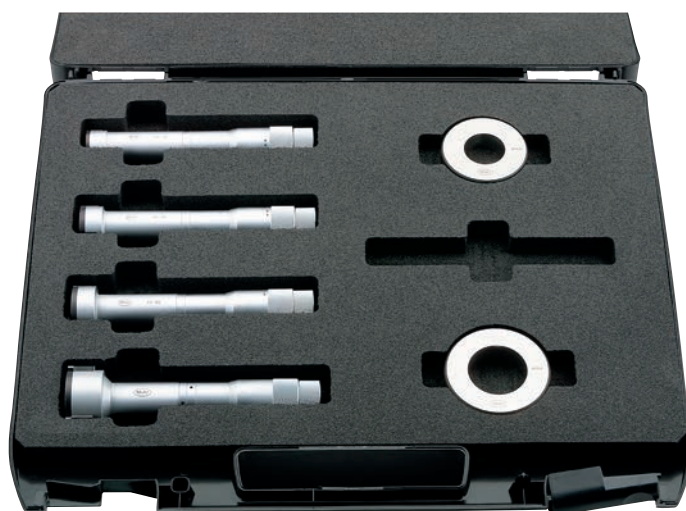
355 E



44 Av

# Self-Centering Inside Micrometer Set Micromar 44 AS

DIN  
863-4



## Application:

For measuring:

- through holes
- blind holes
- centering shoulders

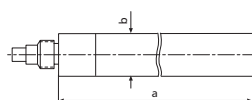
- Operating and display units antiglare with satin chrome finish
- Stainless spindle is hardened throughout and ground
- Rapid drive with integrated ratchet
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight
- **Scope of delivery:** Instruction manual, Setting rings, Key for replacing measuring heads (from 30 mm), Allen key, Case

## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Standard	Number of Micrometers	Setting rings
		mm	mm	µm			
4190350	44 AS	6 – 12	0,001	4	DIN 863–4	3	8 mm, 10 mm
4190351	44 AS	12 – 20	0,001	4	DIN 863–4	2	16 mm
4190352	44 AS	20 – 50	0,005	4	DIN 863–4	4	25 mm, 40 mm
4190353	44 AS	50 – 100	0,005	5	DIN 863–4	4	60 mm, 85 mm

## Accessories

Order no.	Product description	Product type
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av



44 Av

# Digital Self-Centering Inside Micrometer Micromar 44 EWR

REFERENCE



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- mm/inch
- PRESET (for entering a numerical value)
- DATA (Data transmission via connection cable)
- LOCK function (key lock)



- Threaded connection for changing the measuring head
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight

## Application:

- For measuring:
- through holes
  - blind holes
  - centering shoulders

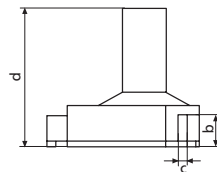
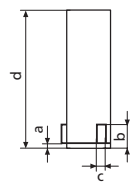
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8.5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 52
- **Scope of delivery:** Basic Units 44 EWg, Measuring head 44 Ak, Instruction manual, Battery, Case

## Technical Data

Order no.	Product type	Measuring range		Resolution	Error limit	Standard	Measuring depth	
		mm	inch				mm	mm with extension
4191120	44 EWR	6 – 8	.25 – .3125"	0,001 / .00005"	4	DIN 863–4	58	133
4191121	44 EWR	8 – 10	.3125 – .4"	0,001 / .00005"	4	DIN 863–4	58	133
4191122	44 EWR	10 – 12	.4 – .4725"	0,001 / .00005"	4	DIN 863–4	58	133
4191123	44 EWR	12 – 16	.4725 – .625"	0,001 / .00005"	4	DIN 863–4	64	139
4191124	44 EWR	16 – 20	.625 – .775"	0,001 / .00005"	4	DIN 863–4	64	139
4191125	44 EWR	20 – 25	.775 – 1"	0,001 / .00005"	4	DIN 863–4	68	218
4191126	44 EWR	25 – 30	1 – 1.2"	0,001 / .00005"	4	DIN 863–4	68	218
4191127	44 EWR	30 – 40	1.2 – 1.6"	0,001 / .00005"	4	DIN 863–4	76	226
4191129	44 EWR	40 – 50	1.6 – 2"	0,001 / .00005"	4	DIN 863–4	76	226
4191130	44 EWR	50 – 60	2 – 2.35"	0,001 / .00005"	5	DIN 863–4	79	229
4191131	44 EWR	60 – 70	2.35 – 2.75"	0,001 / .00005"	5	DIN 863–4	79	229
4191032	44 EWR	70 – 85	2.75 – 3.35"	0,001 / .00005"	5	DIN 863–4	97	247
4191033	44 EWR	85 – 100	3.35 – 4"	0,001 / .00005"	5	DIN 863–4	97	247
4191034	44 EWR	100 – 125	4 – 4.9"	0,001 / .00005"	6	DIN 863–4	132	282
4191035	44 EWR	125 – 150	4.9 – 5.9"	0,001 / .00005"	6	DIN 863–4	132	282
4191036	44 EWR	150 – 175	5.9 – 6.9"	0,001 / .00005"	7	DIN 863–4	132	282
4191037	44 EWR	175 – 200	6.9 – 7.9"	0,001 / .00005"	7	DIN 863–4	132	282

# Digital Self-Centering Inside Micrometer Micromar 44 EWR

Order no.	a	b	c	d
	mm	mm	mm	mm
4191120	1,5	4	1,5	58
4191121	1,8	4,3	1,5	58
4191122	1,8	4,3	1,5	58
4191123		6,5	4	64
4191124		6,5	4	64
4191125		9	4	68
4191126		9	4	68
4191127		15	5	76
4191129		15	5	76
4191130		18	5	79
4191131		18	5	79
4191032		23	7	97
4191033		23	7	97
4191034		27	7	132
4191035		27	7	132
4191036		27	7	132
4191037		27	7	132



## Accessories

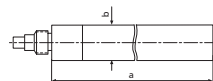
Order no.	Product description	Product type
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4102231	Transmitter for e-Stick	16 EWe
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102357	Data Connection Cable USB (2 m)	16 EXu
4710026	Adjustment ring DIN 2250 C (8 mm)	355 E
4710030	Adjustment ring DIN 2250 C (10 mm)	355 E
4710032	Adjustment ring DIN 2250 C (12 mm)	355 E
4710036	Adjustment ring DIN 2250 C (16 mm)	355 E
4710040	Adjustment ring DIN 2250 C (20 mm)	355 E
4710045	Adjustment ring DIN 2250 C (25 mm)	355 E
4710050	Adjustment ring DIN 2250 C (30 mm)	355 E
4710060	Adjustment ring DIN 2250 C (40 mm)	355 E
4710070	Adjustment ring DIN 2250 C (50 mm)	355 E
4710080	Adjustment ring DIN 2250 C (60 mm)	355 E
4710105	Adjustment ring DIN 2250 C (85 mm)	355 E
4710121	Adjustment ring DIN 2250 C (125 mm)	355 E
4710122	Adjustment ring DIN 2250 C (175 mm)	355 E
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av
4102230	Receiver	e-Stick



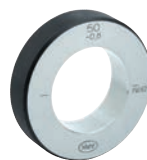
16 EWe



e-Stick



44 Av



355 E

# Digital Self-Centering Inside Micrometer Sets Micromar 44 EWR

REFERENCE



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- PRESET (for entering a numerical value)
- mm/inch
- LOCK function (key lock)
- DATA (Data transmission via connection cable)

- Threaded connection for changing the measuring head
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight

• **Software:** MarCom Professional free download:

[www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)

• **Digit height:** 8.5 mm

• **Data interface:** Digimatic, Opto RS232C, USB

• **Energy supply:** Battery life approx. 2 years

• **IP protection category:** IP 52

• **Scope of delivery:** Basic Units 44 EWg, Measuring heads 44 Ak, Setting rings, Battery, Instruction manual, Case

## Application:

- Through holes
- Blind holes
- Centering shoulders



## Technical Data

Order no.	Product type	Measuring range		Resolution	Error limit	Standard	Number of measuring heads 44 Ak	Setting rings
		mm	inch					
4191160	44 EWR	6 – 12	.25 – .4725"	0,001 / .00005"	4	DIN 863–4	3	8 mm, 10 mm
4191161	44 EWR	12 – 20	.4725 – .775"	0,001 / .00005"	4	DIN 863–4	2	16 mm
4191162	44 EWR	20 – 50	.775 – 2"	0,001 / .00005"	4	DIN 863–4	4	25 mm, 40 mm
4191163	44 EWR	50 – 100	2 – 4"	0,001 / .00005"	5	DIN 863–4	4	60 mm, 85 mm

## Accessories

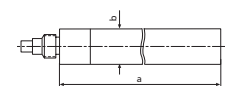
Order no.	Product description	Product type
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102231	Transmitter for e-Stick	16 EWe
4102230	Receiver	e-Stick
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av



16 EWe



e-Stick



44 Av



# Self-Centering Inside Measuring Pistol Micromar 844 A



## Application:

For measuring:

- through holes
- blind holes
- centering shoulders

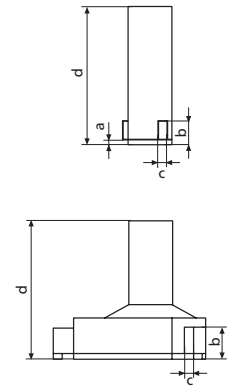
- Threaded connection for changing the measuring head
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight
- **Scope of delivery:** excludes indicator, Basic Units 844 Ag, Measuring head 44 Ak, Instruction manual, Case

## Technical Data

Order no.	Product type	Measuring range		Error limit	Standard	Measuring depth	
		mm	inch			mm	mm
4487700	844 A	6 – 8	.25 – .3125"	3	Factory standard	58	133
4487701	844 A	8 – 10	.3125 – .4"	3	Factory standard	58	133
4487702	844 A	10 – 12	.4 – .4725"	3	Factory standard	58	133
4487703	844 A	12 – 16	.4725 – .625"	3	Factory standard	64	139
4487704	844 A	16 – 20	.625 – .775"	3	Factory standard	64	139
4487705	844 A	20 – 25	.775 – 1"	3	Factory standard	68	218
4487706	844 A	25 – 30	1 – 1.2"	3	Factory standard	68	218
4487707	844 A	30 – 40	1.2 – 1.6"	3	Factory standard	76	226
4487709	844 A	40 – 50	1.6 – 2"	3	Factory standard	76	226
4487710	844 A	50 – 60	2 – 2.35"	4	Factory standard	79	229
4487711	844 A	60 – 70	2.35 – 2.75"	4	Factory standard	79	229
4487612	844 A	70 – 85	2.75 – 3.35"	4	Factory standard	97	247
4487613	844 A	85 – 100	3.35 – 4"	4	Factory standard	97	247
4487614	844 A	100 – 125	4 – 4.9"	5	Factory standard	132	282
4487615	844 A	125 – 150	4.9 – 5.9"	5	Factory standard	132	282
4487616	844 A	150 – 175	5.9 – 6.9"	6	Factory standard	132	282
4487617	844 A	175 – 200	6.9 – 7.9"	6	Factory standard	132	282

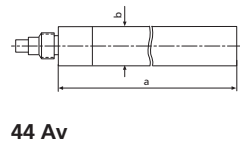
# Self-Centering Inside Measuring Pistol Micromar 844 A

Order no.	a	b	c	d
	mm	mm	mm	mm
4487700	1,5	4	1,5	58
4487701	1,8	4,3	1,5	58
4487702	1,8	4,3	1,5	58
4487703		6,5	4	64
4487704		6,5	4	64
4487705		9	4	68
4487706		9	4	68
4487707		15	5	76
4487709		15	5	76
4487710		18	5	79
4487711		18	5	79
4487612		23	7	97
4487613		23	7	97
4487614		27	7	132
4487615		27	7	132
4487616		27	7	132
4487617		27	7	132



## Accessories

Order no.	Product description	Product type
4337621	Digital Indicator, 0,0005 mm, 25 mm	1086 R
4337625	Digital Indicator, 0,0005 mm, 25 mm	1086 Ri
4102915	Digimatic data cable (2 m)	16 EWd
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102357	Data Connection Cable USB (2 m)	16 EXu
4710026	Adjustment ring DIN 2250 C (8 mm)	355 E
4710030	Adjustment ring DIN 2250 C (10 mm)	355 E
4710036	Adjustment ring DIN 2250 C (16 mm)	355 E
4710040	Adjustment ring DIN 2250 C (20 mm)	355 E
4710050	Adjustment ring DIN 2250 C (30 mm)	355 E
4710060	Adjustment ring DIN 2250 C (40 mm)	355 E
4710080	Adjustment ring DIN 2250 C (60 mm)	355 E
4710105	Adjustment ring DIN 2250 C (85 mm)	355 E
4710121	Adjustment ring DIN 2250 C (125 mm)	355 E
4710122	Adjustment ring DIN 2250 C (175 mm)	355 E
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av
4102220	Receiver	i-Stick



44 Av



355 E

i-Stick

# Self-Centering Measuring Pistol Micromar 844 AS



## Application:

For measuring:

- through holes
- blind holes
- centering shoulders

- Threaded connection for changing the measuring head
- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight
- **Scope of delivery:** Instruction manual, Setting rings, Key for replacing measuring heads (from 30 mm), Case

## Technical Data

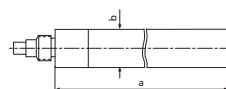
Order no.	Product type	Measuring range		Resolution	Standard	Number of measuring heads 44 Ak	Indicating instrument (scope of delivery)	Setting rings
		mm	inch					
4487750	844 AS	6 – 12	.25 – .4725"		Factory standard	3	without	8 mm, 10 mm
4487751	844 AS	12 – 20	.4725 – .775"		Factory standard	2	without	16 mm
4487752	844 AS	20 – 50	.775 – 2"		Factory standard	4	without	25 mm, 40 mm
4487753	844 AS	50 – 100	2 – 4"		Factory standard	4	without	60 mm, 85 mm
4487760	844 AS	6 – 12	.25 – .4725"	0,0005 / .00002"	Factory standard	3	MarCator 1086 R	8 mm, 10 mm
4487761	844 AS	12 – 20	.4725 – .775"	0,0005 / .00002"	Factory standard	2	MarCator 1086 R	16 mm
4487762	844 AS	20 – 50	.775 – 2"	0,0005 / .00002"	Factory standard	4	MarCator 1086 R	25 mm, 40 mm
4487763	844 AS	50 – 100	2 – 4"	0,0005 / .00002"	Factory standard	4	MarCator 1086 R	60 mm, 85 mm

## Accessories

Order no.	Product description	Product type
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102915	Digimatic data cable (2 m)	16 EWd
4102231	Transmitter for e-Stick	16 EWe
4102230	Receiver	e-Stick
4190090	Extensions 75 mm, (6 – 12 mm)	44 Av
4190091	Extensions 75 mm, (12 – 20 mm)	44 Av
4190092	Extensions 150 mm, (20 – 30 mm)	44 Av
4190093	Extensions 150 mm, (30 – 200 mm)	44 Av



16 EWe e-Stick



44 Av

# Basic Unit Micromar 44 EWg



## Functions:

- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- PRESET (for entering a numerical value)
- mm/inch
- LOCK function (key lock)
- DATA (Data transmission via connection cable)

Threaded connection for changing the measuring head



- **Software:** MarCom Professional free download:

[www.mahr.com/marcom](http://www.mahr.com/marcom)  
(only for Mahr data cables and wireless systems with USB and RS232C interface)

- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 52
- **Scope of delivery:** Instruction manual, Battery, Case

## Technical Data

Order no.	Product type	Measuring range		Resolution
		mm	inch	
4190106	44 EWg	6 – 20	.25 – .775"	0,001 / .00005"
4190107	44 EWg	20 – 100	.775 – 4.0"	0,001 / .00005"
4190108	44 EWg	100 – 200	4.0 – 7.9"	0,001 / .00005"

## Accessories

Order no.	Product description	Product type
4102520	Battery 3 V, CR 2032	
4102357	Data Connection Cable USB (2 m)	16 EXu
4102915	Digimatic data cable (2 m)	16 EWd
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4190330	Measuring head, 6 – 8 mm	44 Ak
4190331	Measuring head, 8 – 10 mm	44 Ak
4190332	Measuring head, 10 – 12 mm	44 Ak
4190333	Measuring head, 12 – 16 mm	44 Ak
4190334	Measuring head, 16 – 20 mm	44 Ak
4190335	Measuring head, 20 – 25 mm	44 Ak
4190336	Measuring head, 25 – 30 mm	44 Ak
4190337	Measuring head, 30 – 40 mm	44 Ak
4190339	Measuring head, 40 – 50 mm	44 Ak
4190340	Measuring head, 50 – 60 mm	44 Ak
4190341	Measuring head, 60 – 70 mm	44 Ak
4190042	Measuring head, 70 – 85 mm	44 Ak
4190043	Measuring head, 85 – 100 mm	44 Ak
4190044	Measuring head, 100 – 125 mm	44 Ak
4190045	Measuring head, 125 – 150 mm	44 Ak
4190046	Measuring head, 150 – 175 mm	44 Ak
4190047	Measuring head, 175 – 200 mm	44 Ak

## Basic Instrument Measuring Pistol Micromar 844 Ag



- Threaded connection for changing the measuring head
- Any indicating instrument with an 8 mm mounting shank can be used
- **Scope of delivery:** Model 6–100 mm: includes adapter for 6–20 mm, Instruction manual, Case

### Technical Data

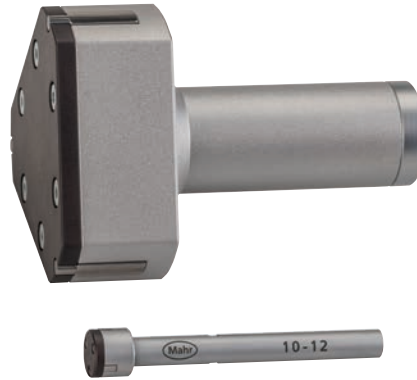
Order no.	Product type	Measuring range	
		mm	Measuring range inch
4487635	844 Ag	6 –100	.25 –4.0"
4487633	844 Ag	20 –100	.775 –4.0"
4487634	844 Ag	100 –200	4.0 –7.9"

### Accessories

Order no.	Product name	Product type
4190330	Measuring head, 6 –8 mm	44 Ak
4190331	Measuring head, 8 –10 mm	44 Ak
4190332	Measuring head, 10 –12 mm	44 Ak
4190333	Measuring head, 12 –16 mm	44 Ak
4190334	Measuring head, 16 –20 mm	44 Ak
4190335	Measuring head, 20 –25 mm	44 Ak
4190336	Measuring head, 25 –30 mm	44 Ak
4190337	Measuring head, 30 –40 mm	44 Ak
4190339	Measuring head, 40 –50 mm	44 Ak
4190340	Measuring head, 50 –60 mm	44 Ak
4190341	Measuring head, 60 –70 mm	44 Ak
4190042	Measuring head, 70 –85 mm	44 Ak
4190043	Measuring head, 85 –100 mm	44 Ak
4487410	Adapter for 844 Ag 6–20 mm	844 Aga
4190044	Measuring head, 100 –125 mm	44 Ak
4190045	Measuring head, 125 –150 mm	44 Ak
4190046	Measuring head, 150 –175 mm	44 Ak
4190047	Measuring head, 175 –200 mm	44 Ak

## Measuring head Micromar 44 Ak

- Self-centering measuring head consists of 3 laterally positioned anvils, each are offset at intervals of 120°
- Anvils from 12 mm are carbide tipped
- From 12 mm the anvils can be used to measure the bottom of a bore
- From 40 mm all measuring heads are made from aluminium to reduce weight

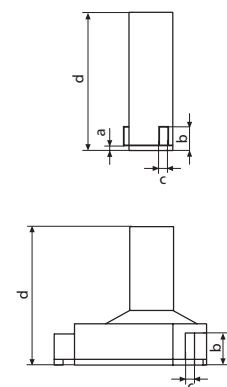


### Technical Data

Order no.	Product type	Measuring range	
		mm	inch
4190330	44 Ak	6 – 8	.25 – .3125"
4190331	44 Ak	8 – 10	.3125 – .4"
4190332	44 Ak	10 – 12	.4 – .4725"
4190333	44 Ak	12 – 16	.4725 – .625"
4190334	44 Ak	16 – 20	.625 – .775"
4190335	44 Ak	20 – 25	.775 – 1"
4190336	44 Ak	25 – 30	1 – 1.2"
4190337	44 Ak	30 – 40	1.2 – 1.6"
4190339	44 Ak	40 – 50	1.6 – 2"
4190340	44 Ak	50 – 60	2 – 2.35"
4190341	44 Ak	60 – 70	2.35 – 2.75"
4190042	44 Ak	70 – 85	2.75 – 3.35"
4190043	44 Ak	85 – 100	3.35 – 4"
4190044	44 Ak	100 – 125	4 – 4.9"
4190045	44 Ak	125 – 150	4.9 – 5.9"
4190046	44 Ak	150 – 175	5.9 – 6.9"
4190047	44 Ak	175 – 200	6.9 – 7.9"

### Accessories

Order no.	a	b	c	d
	mm	mm	mm	mm
4190330	1,5	4	1,5	58
4190331	1,8	4,3	1,5	58
4190332	1,8	4,3	1,5	58
4190333		6,5	4	64
4190334		6,5	4	64
4190335		9	4	68
4190336		9	4	68
4190337		15	5	76
4190339		15	5	76
4190340		18	5	79
4190341		18	5	79
4190042		23	7	97
4190043		23	7	97
4190044		27	7	132
4190045		27	7	132
4190046		27	7	132
4190047		27	7	132





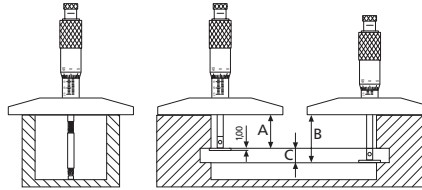
# Depth Micrometer Micromar 45 T



- Operating and display units antiglare with satin chrome finish
- Stainless spindle is hardened throughout and ground
- Rapid drive with integrated ratchet
- **Scope of delivery:** Extensions 25 mm and 50 mm, Case

## Application:

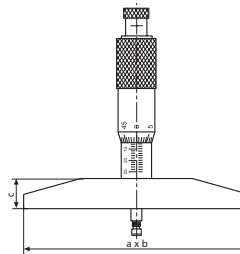
- Depth measurement
- Measuring the space between grooves and groove widths (in conjunction with a disc anvil 45 Tm)



## Technical Data

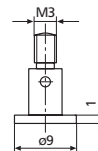
Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard
4180000	45 T	mm 0 – 100	mm 0,01	µm 5	mm 0,5	Factory standard

Order no.	a	b	c
4180000	mm 100	mm 16	mm 13



## Accessories

Order no.	Product description	Product type
4180001	Extension (25 mm)	45 Tv
4180002	Extension (50 mm)	45 Tv
4180003	Extension (100 mm)	45 T
4180011	Disc anvil (9 x 1 mm)	45 Tm



45 Tm

# Digital Micrometer Head Micromar 46 EWR

REFERENCE



## Functions:

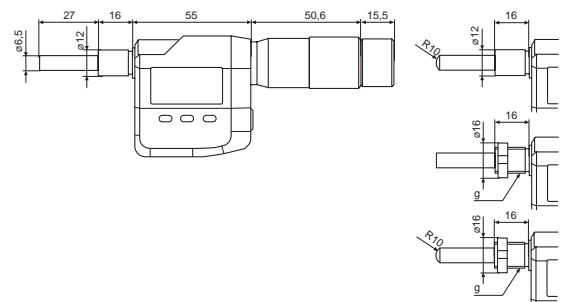
- RESET (set display to zero)
- ABS (display can be set to zero without losing reference to preset)
- PRESET (for entering a numerical value)
- LOCK function (key lock)
- mm/inch
- Reversal of counting direction
- DATA (Data transmission via connection cable)
- High contrast analog display
- Rapid drive with integrated ratchet
- Immediate measurements due to the Reference System
- **Software:** MarCom Professional free download: [www.mahr.com/marcom](http://www.mahr.com/marcom) (only for Mahr data cables and wireless systems with USB and RS232 interface)
- **Digit height:** 8.5 mm
- **Data interface:** Digimatic, Opto RS232C, USB
- **Energy supply:** Battery life approx. 2 years
- **IP protection category:** IP 52
- **Scope of delivery:** End cap (in case the rapid drive is not required), Instruction manual, Battery, Case



## Technical Data

Order no.	Product type	Measuring range	Measuring range	Resolution	Error limit	Spindle thread pitch	Standard	Model	Contact surface	Locking nut
		mm	inch	mm/inch	µm	mm				
4184305	46 EWR	0–25	0–1"	0,001 / .00005"	4	0,635	Factory standard		flat	
4184306	46 EWR	0–25	0–1"	0,001 / .00005"	4	0,635	Factory standard		spherical	
4184307	46 EWR	0–25	0–1"	0,001 / .00005"	4	0,635	Factory standard		flat	•
4184308	46 EWR	0–25	0–1"	0,001 / .00005"	4	0,635	Factory standard		spherical	•

Order no.	g	Measurement surface radius	Mounting shaft
		mm	mm
4184305			12
4184306		10	12
4184307	M12x1		
4184308	M12x1	10	

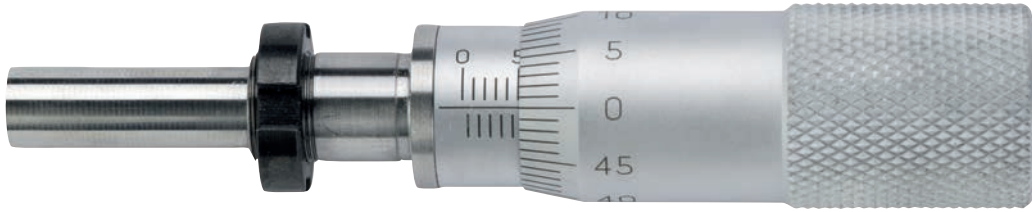


## Accessories

Order no.	Product description	Product type
4102357	Data Connection Cable USB (2 m)	16 EXu
4102410	Data Connection Cable RS232C (2 m)	16 EXr
4102520	Battery 3 V, CR 2032	
4102915	Digimatic data cable (2 m)	16 EWd

# Micrometer Head Micromar 46

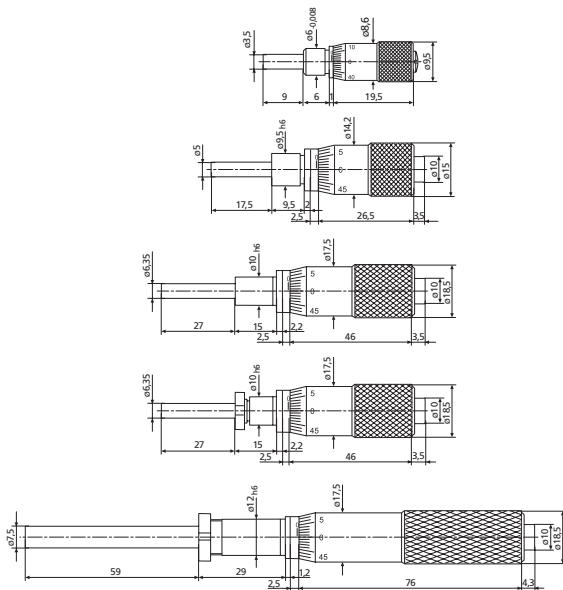
- Operating and display units antiglare with satin chrome finish
- Stainless spindle is hardened throughout and ground



## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard	Model Contact surface	Locking nut
		mm	mm	µm	mm			
4183021	46	0–6,5	0,01	3	0,5	DIN 863–2	flat	
4183025	46	0–13	0,01	3	0,5	DIN 863–2	flat	
4183030	46	0–25	0,01	3	0,5	DIN 863–2	flat	
4183024	46	0–25	0,01	3	0,5	DIN 863–2	flat	•
4183023	46	0–50	0,01	5	0,5	Factory standard	flat	•

Order no.	Mounting shaft
	mm
4183021	6
4183025	9,5
4183030	10
4183024	10
4183023	12



# Micrometer Head Micromar 46 H

- Operating and display units antiglare with satin chrome finish
- Stainless spindle is hardened throughout and ground
- Rapid drive with integrated ratchet
- Carbide tipped measuring faces



## Technical Data

Order no.	Product type	Measuring range	Readings	Error limit	Spindle thread pitch	Standard	Model Contact surface
4184000	46 H	mm 0 – 25	mm 0,01	µm 3	mm 0,5	DIN 863–2	flat

Order no.	Mounting shaft
4184000	mm 12

