

DIMENSIONAL METROLOGY | HAND MEASURING INSTRUMENTS



Ohne Umwege zu präzisen Messergebnissen:
Das neue Höhenmessgerät **Digimar 816 CL**

|
- 0 +

Mahr

EXACTLY

Digimar 816 CL

▶ | The new Height Measuring Instrument **Digimar 816 CL**

You want to obtain highly accurate measurement results without any complicated procedures? With the Digimar 816 CL you have the perfect partner for simple and accurate measurements both in the workshop or on the production line, just as you expect from Mahr! ◀

User-friendly



The operating and display unit with back-lit display

Clearly displayed measured values

- High contrast back-lit graphic display
- The actual measuring function is clearly shown in the display
- Retrace the measuring procedure in the list of measured values

Self-explanatory operator guidance

- Well-appointed functions keys, the function keys are clearly defined with a function symbol
- All standard functions can be directly executed by pressing just one key
- Further functions can be selected via the menu

Precise measuring results on the production line



Probe contact due to the motorized measuring carriage eliminates user error and increases accuracy

Robust design

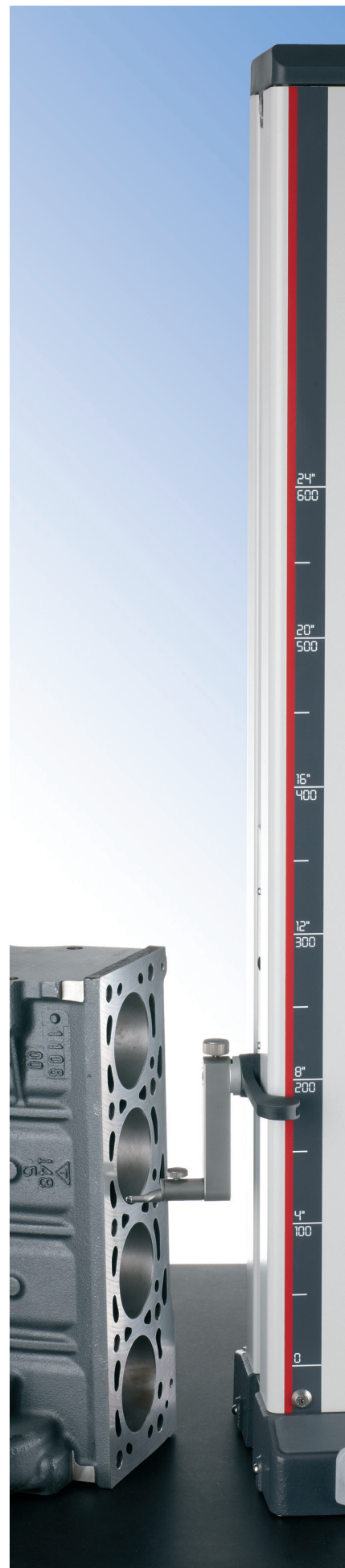
- Robust guide column and measuring carriage
- The measuring system with the double reader head system is not only extremely accurate, but also insensitive to the contamination of dirt

Measuring results independent of the user

- The motorized measuring carriage minimizes the influence caused by the operator and simplifies the measuring procedures

Reliable results even outside of the inspection room

- Temperature compensation with an integrated temperature sensor takes into consideration the coefficient of thermal expansion of the work piece



Versatile

The Height Measuring Instrument Digimar 816 CL offers numerous practical measuring and evaluation functions

- **Convenient standard measuring function**, for example:



- **Contacting a surface from above**



- **Contacting a surface from below**

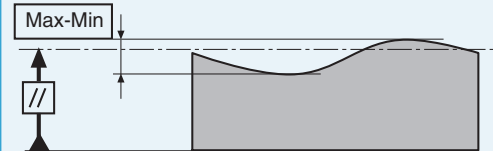


- **Measuring a groove** (center and width)

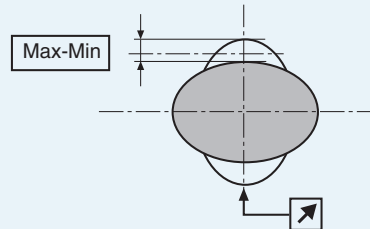


- **Measuring a bore** (center and diameter)

- **Useful additional functions**, for example: dynamic measuring functions to determine the both parallel and roundness deviation



- Parallel deviation



- Parallel deviation

- **Extensive options to evaluation**



Transmit data to a PC via USB, RS232C or wireless for example into MS Excel via the MarCom-Software



Print measured values or list of measurements in conjunction with the MSP2 Statistics Printer

The measuring program – essential for serial parts
















- Repetitive measuring procedures can easily be automated
- Simply create a measuring program with the Teach-In-mode
- Complex procedures can be started by just pressing one key



Height Measuring Instrument Digimar 816 CL

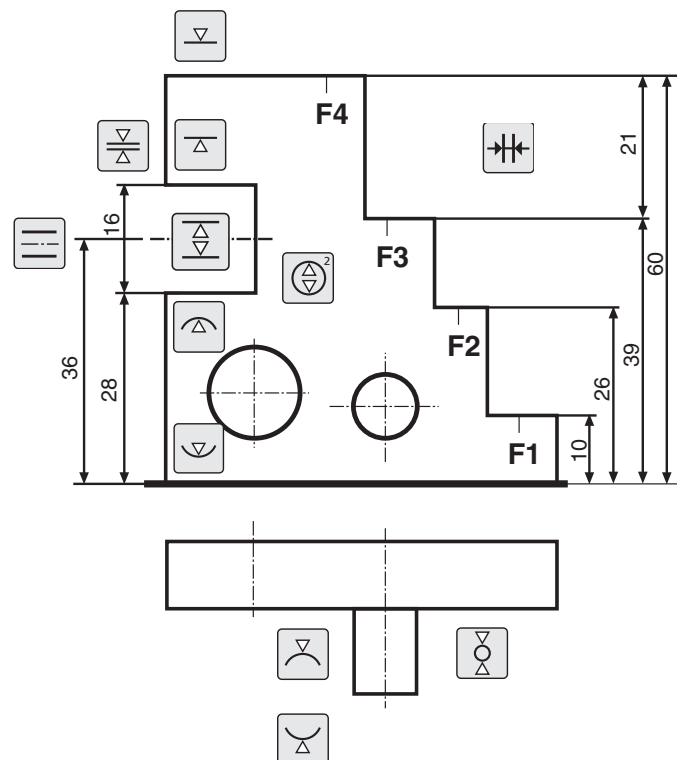
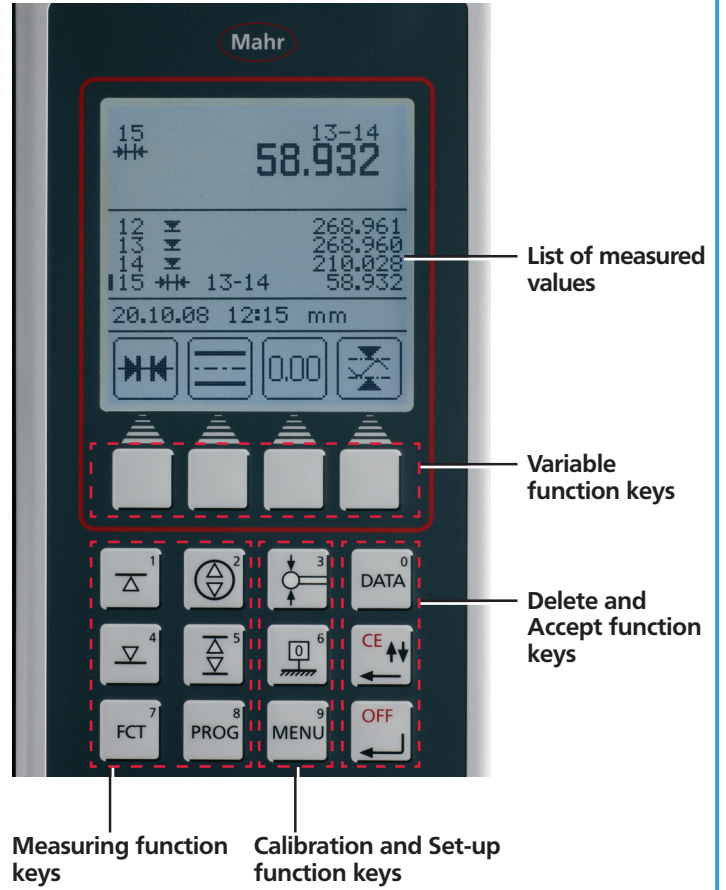
Measuring with the function keys

Convenient standard measuring functions with a semi automatic run

-  • Contacting a surface from above
-  • Contacting a surface from below
-  • Measuring a groove (center and width)
-  • Measuring a ledge (center and width)
-  • Measuring a bore (center and diameter)
-  • Contacting a bore from below
-  • Contacting a bore from above
-  • Measuring a shaft (center and diameter)
-  • Contacting a shaft from above
-  • Contacting a shaft from below
-  • Determining the center of a bore (with a taper probe)
-  • MAX-MIN function
-  • Relative zero point

Calculation functions

-  • Calculate the distance between 2 measured values
-  • Calculate the symmetry between 2 measured values



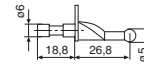
Height Measuring Instrument Digimar 816 CL

Accessories

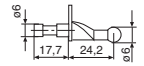
Spherical probes

Catalog no.	Ball dia. D mm	Shaft length mm	Mount dia. mm	Order no.
K5/51	5	26,8	6	4429158
K6/51	6	24,2	6	4429254*
K4/30	4	31	8	7023813
K6/40	6	41	8	7023816
K10/60	10	62	8	7023810
K10/100	10	103	8	7023615

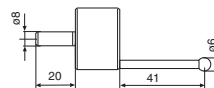
K 5/51



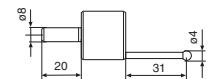
K 6/51



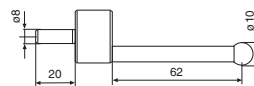
K 6/40



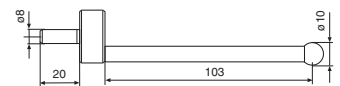
K 4/30



K 10/60



K 10/100

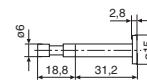


* supplied with standard accessories

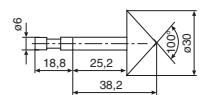
Special probes

Catalog no.	Description	Mount dia. mm	Order no..
S15/31,2	Disc probe	6	4429226
Z10/31,2	Cylindrical probe	6	4429227
Z10/60	Cylindrical probe	8	7023819
MKe 30	Taper probe	6	4429228
TMT 120	Depth probe incl. carrier		4429221
TMT 120 S	2 depth probes incl. carrier		4429421
KM 2	Probe M2 incl. styli 800 ts dia. 2 mm	6	4429256
800 a6	Mounting shaft 800 a6 for Martest	6	4301865

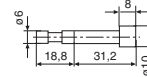
S 15/31,2



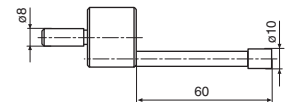
MKe 30



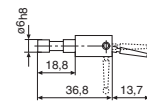
Z 10/31,2



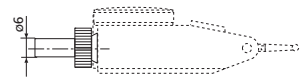
Z 10/60



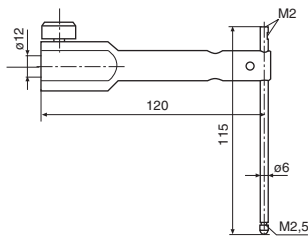
KM 2



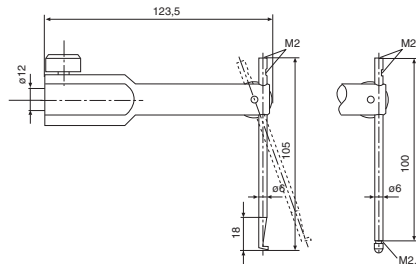
800 a6



TMT 120



TMT 120 S



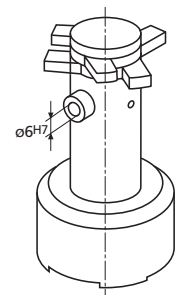
Setting blocks

Catalog no.	Description	Order no.
817 eb	Setting block	4429168*
EB I	Setting block for taper probe, with calibration certificate	7023827

817 eb



EB I



* supplied with standard accessories

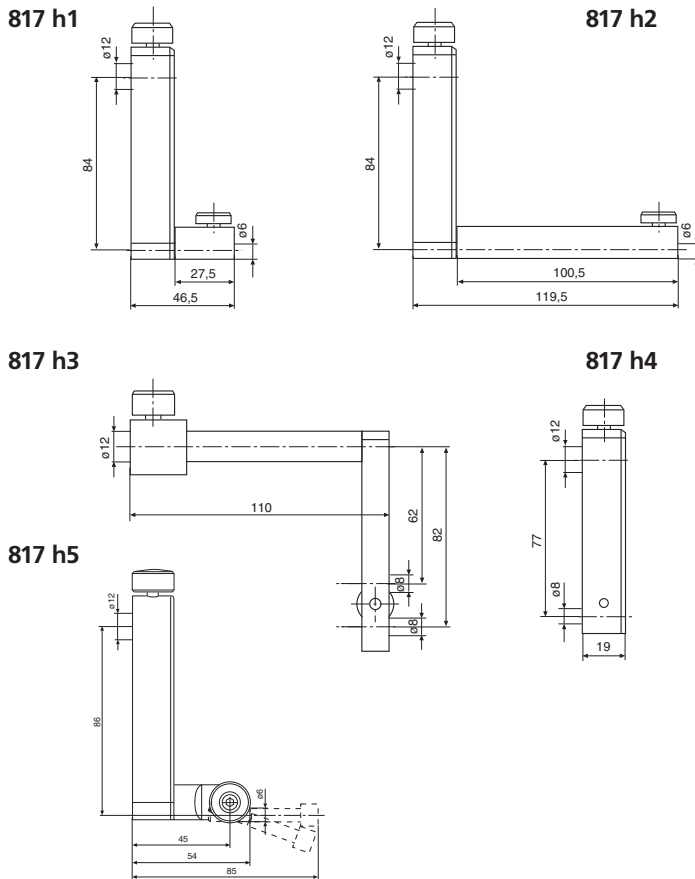
Height Measuring Instrument Digimar 816 CL

Accessories

Carrier for probes and transducers

Catalog no.	Description	Shaft length mm	Mount dia. mm	Order no.
817 h1	Carrier for a probe	27,5	6	4429154*
817 h2	Carrier for a probe	100	6	4429219
817 h3	Carrier for a Digital indicator		8	4429206
817 h4	Carrier for a probe		8	4429220
817 h5	Probe carrier with a joint		8	4429454

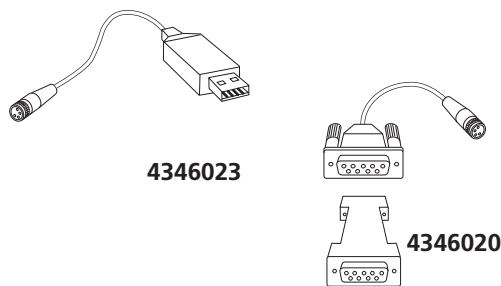
* supplied with standard accessories



Data Connection Cable

	Order no.
Data Connection Cable incl. MarCom Standard, USB (2 m)	2000 usb 4346023
Data Connection Cable Opto RS232C (2 m), with SUB-D jack 9-pin	2000 r 4346020

Accessories for Data Processing see Catalog, Chapter 11



Printer

Statistics Printer MSP 2

- Can be used in conjunction with an RS232C interface
- Two-line display for a simple dialog mode
- Three types of print protocols: statistics, statistics with a histogram and sample charts
- List of measured values can be printed from the memory at any time
- Any individual value can be selected and deleted as required
- Alternative power sources include: mains adapter (100 - 240 V, batteries or NIMH-accumulator, type AA
- Languages can be selected, German, English and French
- Supplied with:
Mains adapter, paper rolls



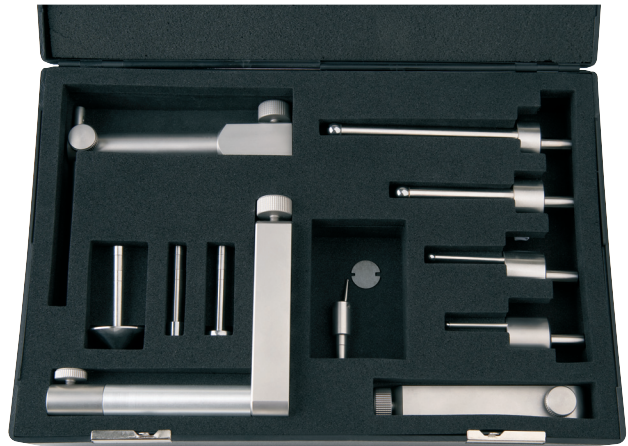
Order no.
MSP2 Statistics printer 4102040

Height Measuring Instrument Digimar 816 CL

Probe accessory sets

Probe set 817 ts1 consists of: 4429019

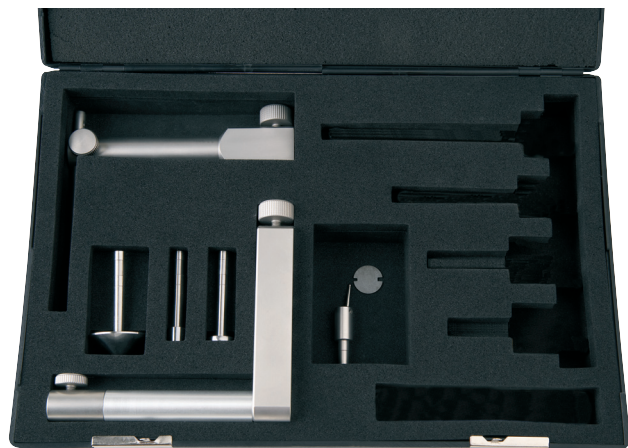
	Carrying case	4429020
817 h2	Carrier for probes	4429219
S15/31,2	Disc probe	4429226
Z10/31,2	Cylindrical probe	4429227
MKe 30	Taper probe	4429228
TMT 120	Depth probe incl. carrier	4429221
KM 2	Probe for MarTest styli M2	4429256
817 h4	Carrier for probes	4429220
K4/30	Spherical probe	7023813
K6/40	Spherical probe	7023816
K10/60	Spherical probe	7023810
K10/100	Spherical probe	7023615



817 ts1

Probe set 817 ts2 consists of: 4429018

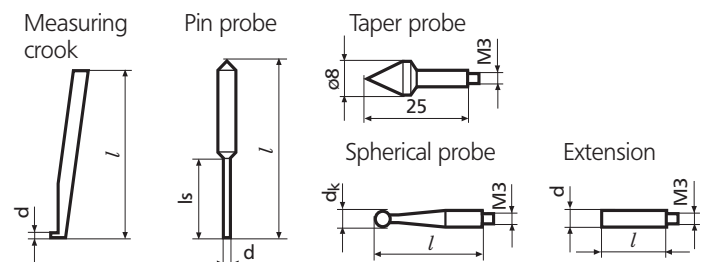
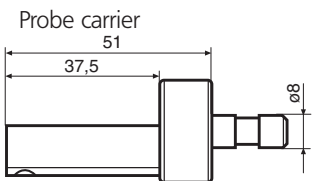
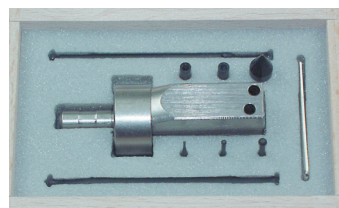
	Carrying case	4429020
817 h2	Carrier for probes	4429219
S15/31,2	Disc probe	4429226
Z10/31,2	Cylindrical probe	4429227
MKe 30	Taper probe	4429228
TMT 120	Depth probe incl. carrier	4429221
KM 2	Probe for MarTest styli M2	4429256



817 ts2

Universal probe set CXt2 consists of: 7034000

Case			3015925
Probe carrier			3015917
	Dimension	Shaft length	
Measuring crook	d = 0,5 mm	l = 78 mm	3015918
Probe pin /tip:	ød = 1,2 mm	l = 75 mm	3015919
		l _s = 15,5 mm	
Taper probe	dia. d = 0–7,5 mm		3015920
Spherical probe	TC dia. dk = 3 mm	l = 24 mm	3022000
Spherical probe	TC dia. dk = 2 mm	l = 24 mm	3022001
Spherical probe	TC dia. dk = 1 mm	l = 24 mm	3022002
Extension M3 – M3	d = 4 mm	l = 20 mm	3015921
Extension M3 – M2,5	d = 4 mm	l = 20 mm	3015888



Height Measuring Instrument Digimar 816 CL

Features

Measuring system

- Excellent accuracy and reliability due to the optical incremental measurement system with the double reader head
- Dynamic probing system enabling high repeatability
- Air bearings system for light and smooth movement
- Precise measuring head on stainless steel guideways
- Motorized measuring carriage simplifies measurement runs
- Probe constant remains after the instrument is switched off
- Integrated rechargeable battery with a long operating time for mains independent measurement

Operating and display unit

- Large and clearly defined function keys
- Easy to read background lit graphic LCD-Display
- Operator guidance with self-explanatory icons / pictograms
- Possible to set additional zero points on a work piece
- Memory can store up to 99 measured values
- MarConnect data output, select either:
 - USB
 - OPTO RS232C
- Supplied with:
Height Measuring Instrument incl. operating and display unit, carrier 817h1, probe K6/51, setting block 817 eb, operating instructions, mains power adapter



Technical Data

Measuring range	mm/inch	350 / 14"	600 / 24"
Range of application	mm/inch	540 / 21.26"	770 / 30.31"
Resolution	mm (inch)	0.01 / 0.001 (0.001" / 0.0001")	
Measuring error*	μm	(2.8+L/300), L in mm	
Repeatability	μm	2 (plane) 3 (bore)	
Perpendicularity error (mech.)	μm	frontal ≤ 15	frontal ≤ 20
Operating time of rechargeable battery	h	up to 14	
Measuring force	N	1.0 \pm 0.2	
Permissible relative air humidity	%	65 (non condensed)	
Working temperature	$^{\circ}\text{C} / ^{\circ}\text{F}$	20 \pm 1 / 68 \pm 33.8	
Operating temperature	$^{\circ}\text{C} / ^{\circ}\text{F}$	10 ... 40 / 50 ... 104	
3-point air cushion, height	μm	ca. 9	
Measuring system		incremental scale with optical reading	
Total height	mm/inch	741 / 29.17"	985 / 38.78"
Base area (L x W)	mm/inch	240 x 250 / 9.45" x 9.84"	
Weight	kg / lbs	25 / 55.15	30 / 66.14
Order no.		4429030	4429031

* Surface base plate according to DIN 876/0 with standard accessories. Accessories, see the main catalog, page 2-13

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