

Digimar 817 CLM Quick Height

▶ | The new Height Measuring Instrument **Digimar 817 CLM** with the innovative Quick Mode. Highly accurate rapid measurements, a wide range of measuring and evaluation possibilities and excellent operator comfort.

The best solution for all measuring tasks



Fast measurement by Hand
Easy to operate due to the "Quick Mode", an innovative solution from Mahr (patent pending)



Ill. 1. Move the measuring carriage by hand in the direction of the object to be measured.



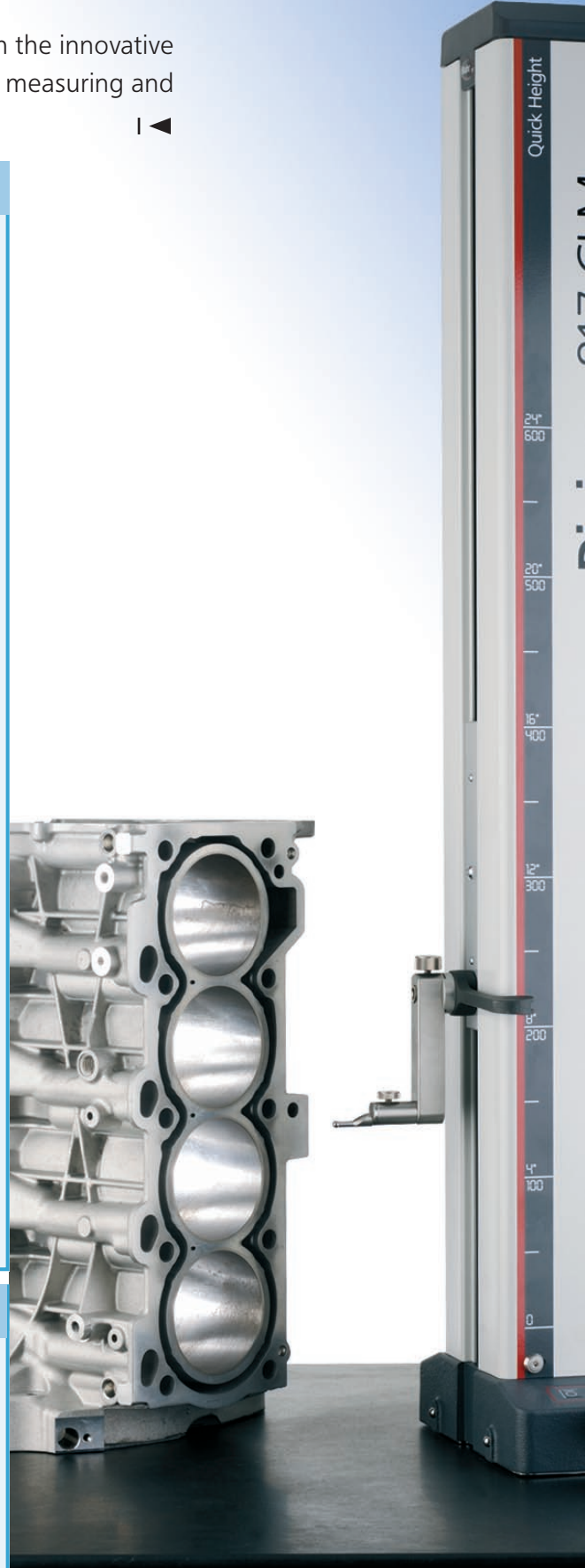
Ill. 2. The motor starts, the measurement procedure will automatically be performed.

Comfort to operate all measurement functions with the function keys due to the clearly defined symbols.



Highest accuracy and reliability

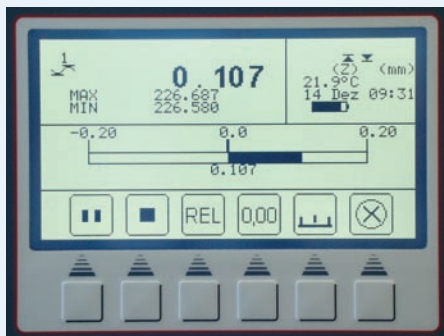
- Extremely accurate incremental measuring system with double reader head system, insensitive to the contamination of dirt
- Robust guide column, made from stainless steel
- Measuring head in precision ball bearings guide
- Temperature compensation with an integrated temperature sensor



Digimar 817/CLM



Ergonomic operating and display unit



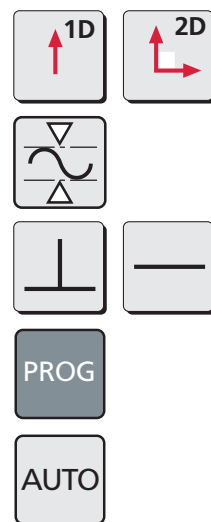
- Large, back-lit display
- Self-explanatory guided operation with icons



- The display unit can be positioned freely with the swivel arm

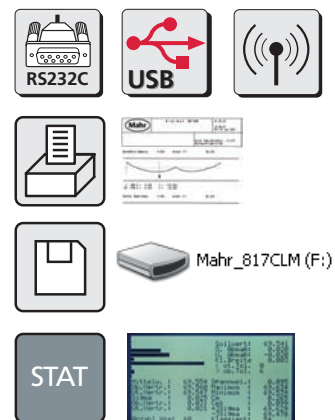
Universal measurement possibilities

- Wide range of measurement functions in 1D or 2D (optional)
- Dynamic measurement functions with the analog display
- Automatic perpendicularity and straightness measurements (in conjunction with accessories)
- Automated measuring procedures (measurement programs)
- Auto function for chain measurements and distance measurements



Extensive evaluation possibilities

- Transmit data to a PC via RS232 or USB (with an adapter) for example into MS Excel via the MarCom-Software
- Print measured values, statistics, etc. via a USB printer
- Save measured values in the integrated USB memory (will be recognized by a PC as an interchangeable disc drive)
- Broad range of statistical evaluations are available (optional)



Height Measuring Instrument Digimar 817 CLM



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 span for mains independent measurement
- Temperature compensation with an integrated temperature sensor

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
- Operator prompts and menus are available in several different languages
- Possible to set additional zero points on a work piece
- RS232 and / or USB data output for further data processing
- Save measured data on the integrated USB memory
- USB interface to connect a compatible USB printer
- Additional measuring instruments with OptoRS232-interface can be connected
- Secure the future due to software update potential
- Automatic Stand-by mode / background lit display can be switched off after defined length of time to save power
- Selectable Auto-off function, without loss of measured values
- Supplied with:
Height Measuring Instrument incl. operating and display unit, carrier 817h1, probe K6/51, setting block 817eb, operating instructions, mains power adapter, USB cable

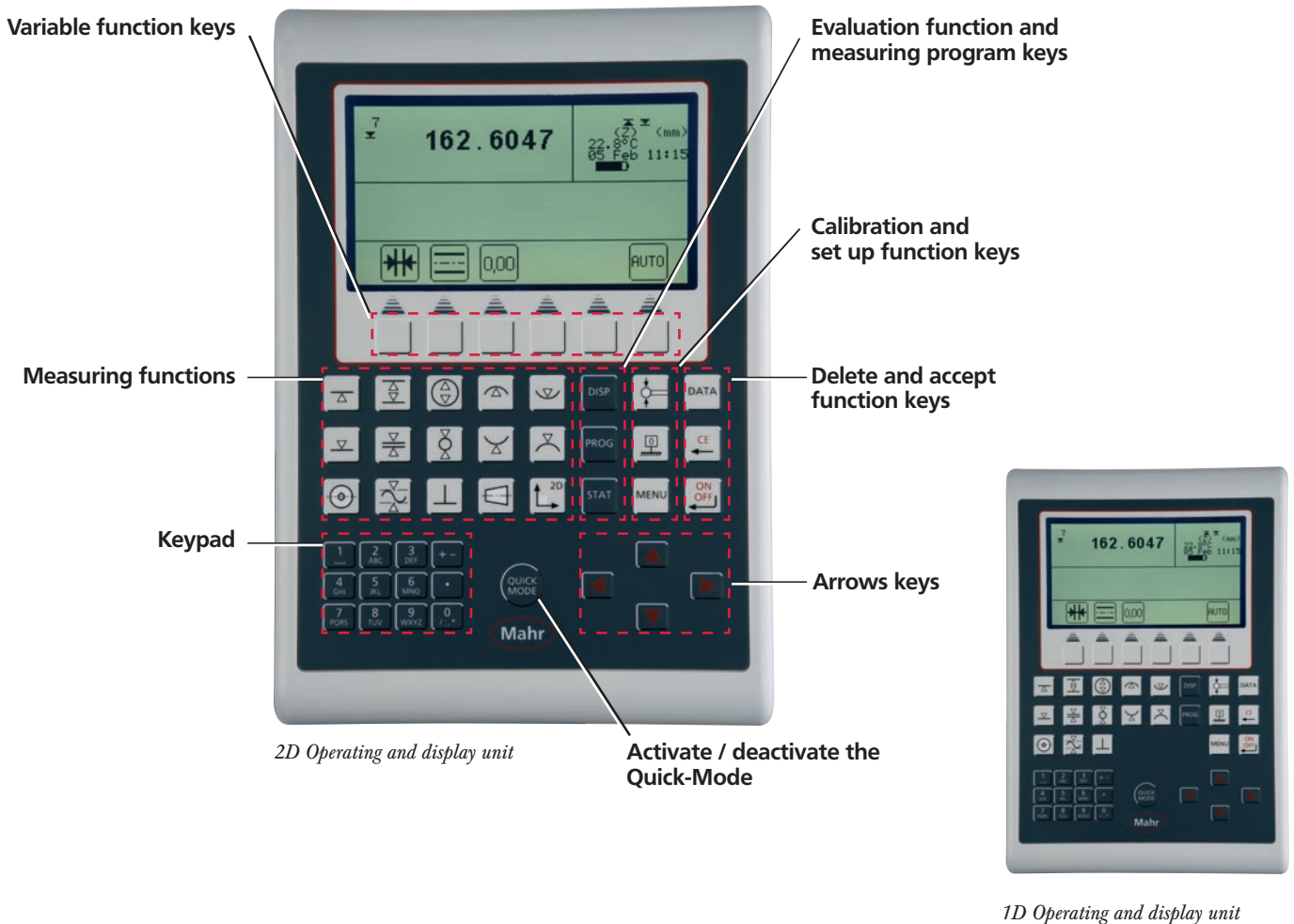
Technical Data












| | | | | |
|--|-------------------|---|---------------------|----------------------|
| Measuring range | mm / <i>inch</i> | 350 / 14" | 600 / 24" | 1000 / 40" |
| Range of application | mm / <i>inch</i> | 520 / 20.47" | 770 / 30.31" | 1170 / 46.06" |
| Resolution | mm <i>inch</i> | 0.01 / 0.005 / 0.001 / 0.0005 / 0.0001 0.001" / 0.0005" / 0.0001" / 0.00005" / 0.00001" | | |
| Measuring error* | µm | (1.8+L/600). L in mm | | |
| Repeatability | µm | 0.5 (plane) 1 (bore) | | |
| Perpendicularity error (elect. adjusted) | µm | frontal ≤5 | frontal ≤6 | frontal ≤10 |
| Operating time of rechargeable battery | h | up to 16 | | |
| Measuring force | N | 1.0 ±0.2 | | |
| Permissible relative air humidity | % | 65 (non condensed) | | |
| Working temperature | °C / °F | 20 ±1 / 68 ±33.8 | | |
| Operating temperature | °C / °F | 10 ... 40 / 50 ... 104 | | |
| 3-point air cushion, height | µm | ca. 9 | | |
| Measuring system | | incremental scale with optical reading | | |
| Total height | mm / <i>inch</i> | 741 / 29.17" | 985 / 38.78" | 1392 / 54.80" |
| Base area (L x W) | mm / <i>inch</i> | 240 x 250 / 9.45" x 9.84" | | |
| Weight | kg / lbs | 25 / 55.15 | 30 / 66.14 | 35 / 77.16 |
| Order no. 1D | | 4429000 | 4429001 | 4429002 |
| Order no. 2D / Stat | | 4429010 | 4429011 | 4429012 |

* Surface base plate according to DIN 876/0 with standard accessories

Height Measuring Instrument Digimar 817 CLM

Operating and display unit

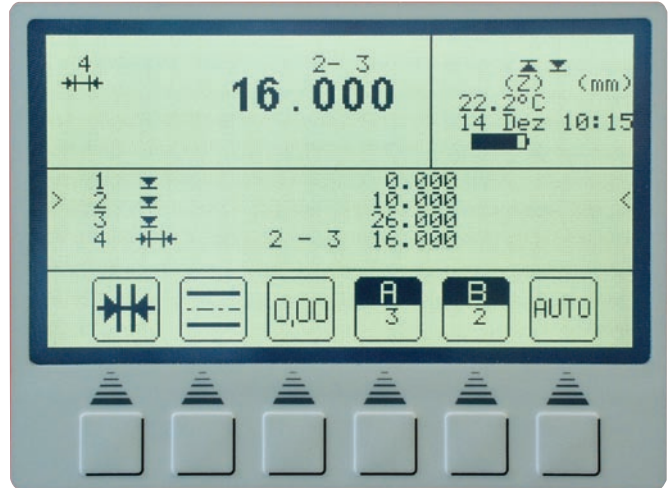


| Operating and display unit | 1D | 2D / Stat |
|---|--|-----------|
| Measurement | | |
| One dimensional (1D) |  ● | ● |
| Two dimensional (2D) |  ● | ● |
| Measuring programs (automatic run) |  40 | 40 |
| Perpendicularity / straightness measurement |  ● | ● |
| Flatness / parallel deviation (Max, Min) |  ● | ● |
| Roundness / run-out deviation (Max-Min) |  ● | ● |
| Evaluation | | |
| - Statistics |  ● | ● |
| - Transmit measured values to a PC via RS232 |  ● | ● |
| - Print measured values and diagrams on a USB printer |  ● | ● |
| - Print out statistical evaluation |  ● | ● |
| - Save measured values on the integrated USB memory |  ● | ● |

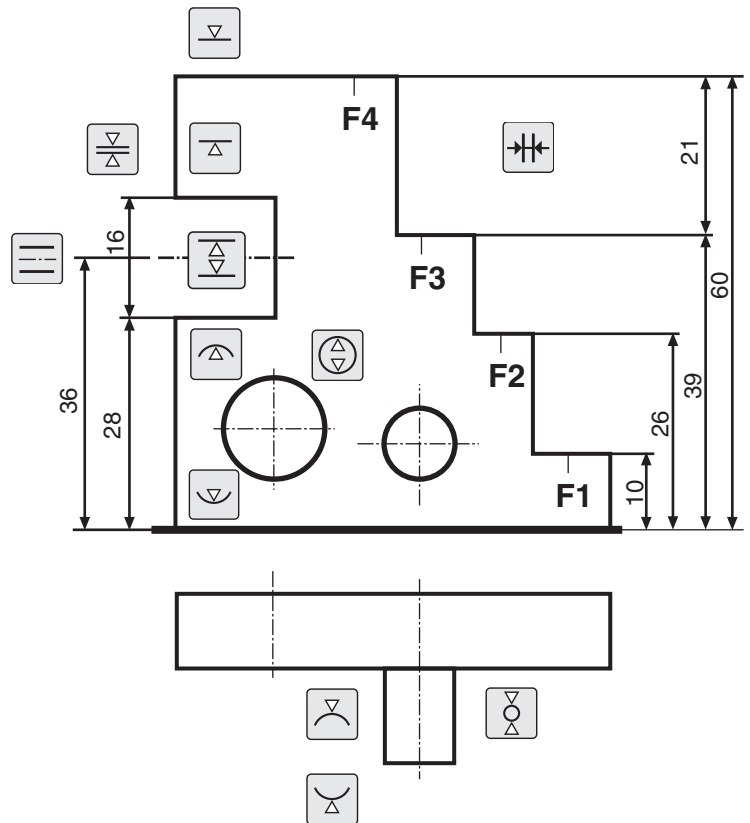
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Measuring with the function keys

Comfortable 1D 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



Calculation functions

- Calculate the distance between 2 measured values
- Calculate the symmetry between 2 measured values
- Chain measurements and distance measurements F1 to F4
- Automatically set the zero point

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Measuring with Quick Mode

Ideal for fast and simple measurement



1. Move the measuring carriage by hand in the direction of the object to be measured.



2. The motor starts, the measurement procedure will automatically be performed.

Measurement using the keypad (speed keys) on the base



Ideal in conjunction with the air bearings for large work pieces.

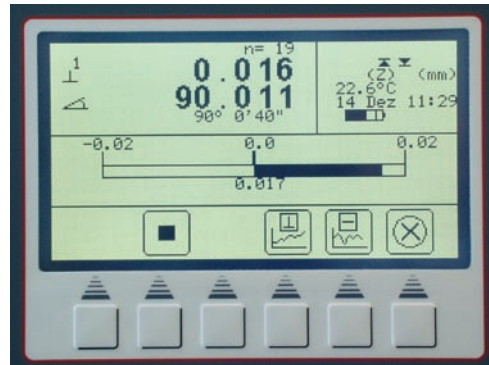
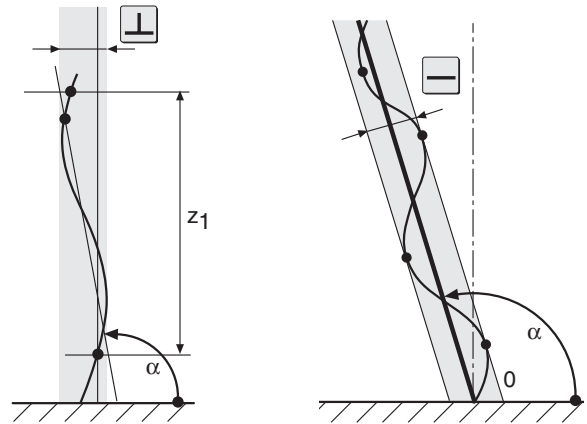
By using the keys that are integrated into the base; the operator can comfortably move the measuring carriage into the desired position and start a measurement. This eases measurement particularly when measuring large workpieces as these do not have to be moved into position. The operator can keep both hands on the measuring instrument (one hand on the key for the air bearing and other on the high-speed keys) and measure the workpiece in one run.



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Perpendicularity and Straightness Measurements

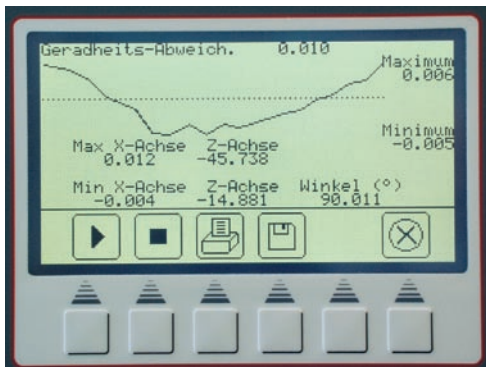
Only one measurement required to determine perpendicularity and straightness deviation.



- Display shows the deviation of an angle (in degrees) and the deviation in mm (metric)
- The bar graph display shows the actual value, thus improving visualization

Comprehensive evaluation possibilities

- Display on the screen



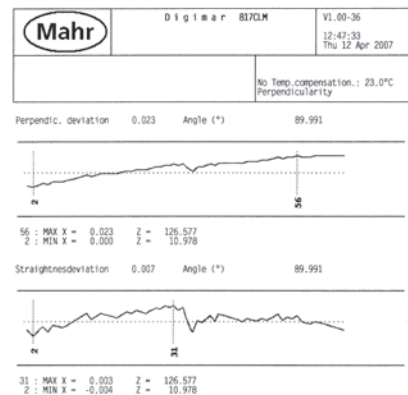
- Save the data in the USB memory



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- Print data via a USB printer

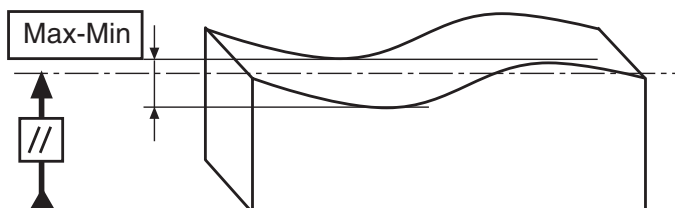


Height Measuring Instrument Digimar 817 CLM

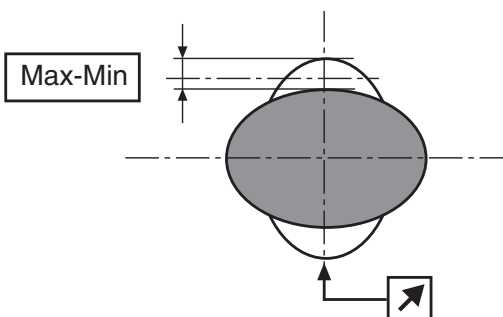


Dynamic measuring functions

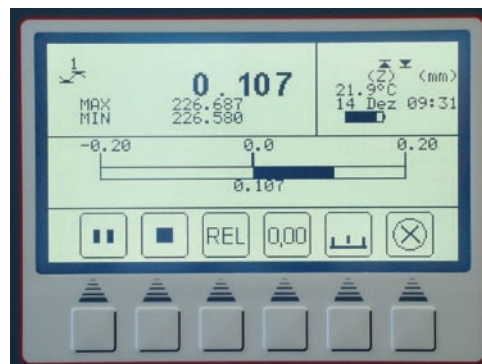
Only one measurement required to determine Maximum, Minimum and Maximum-Minimum.



- Parallel deviation



- Roundness deviation



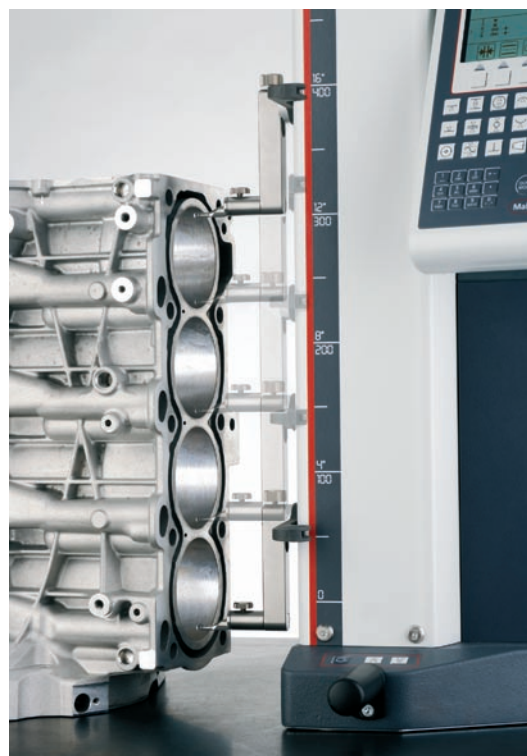
- MAX, MIN and MAX-MIN are displayed simultaneously
- The bar graph display shows the actual value, thus improving visualization

PROG

Measuring program for repetitive measurements / serial components

Use the Teach-in mode to quickly devise a measuring program. Simply measure a work piece once; save this measurement and the measuring program is already created. The motorized carriage will travel automatically to the measuring position, the measuring function will start automatically. This greatly reduces the inspection time for a mini series consisting of only a few test pieces.

- Measuring programs in 1D and 2D
- Create measuring programs with the Teach-In-mode
- Simple programming and storage of up to 40 measuring programs, further measuring programs can be stored on a PC
- Tolerance monitoring during a measuring program
- Create production and inspection schedules
- Connection of additional hand measuring instruments with an Opto-RS232-interface is also available



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2D Measure in the 2D mode*

The most important 2D measurement functions can be conducted by pressing just one key.



- Determine an index circle



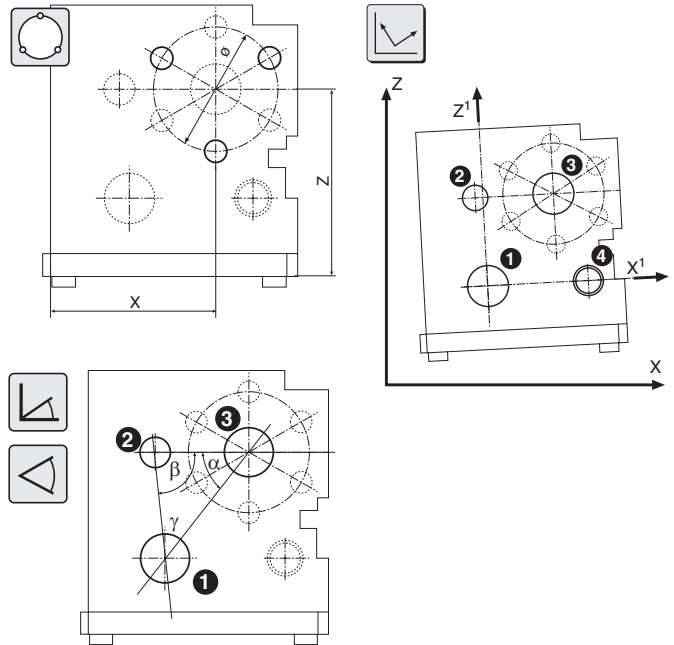
- Determine the distance and angle 2 elements



- Determine the distance and angle 3 elements



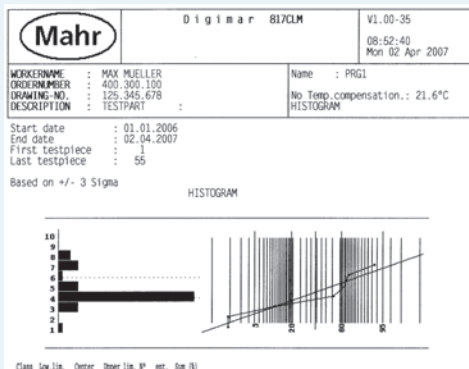
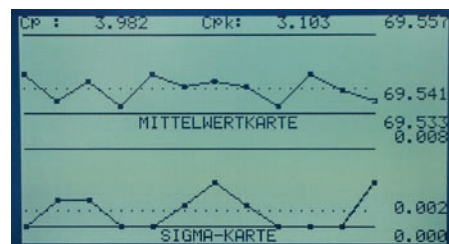
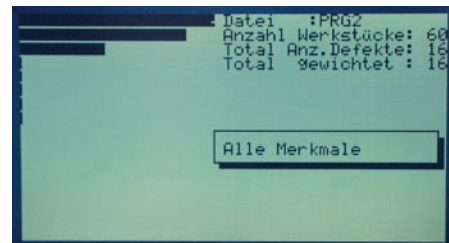
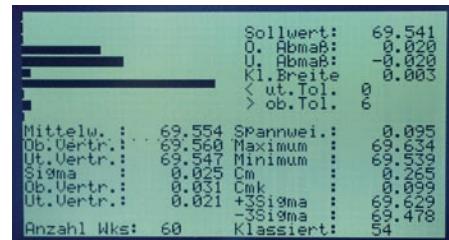
- Coordinate transformation



STAT Statistical Evaluation*

The operating unit has extensive and selective possibilities for statistical evaluation.

- Statistical evaluation of individual features
- Histograms
- Process control charts
- Pareto diagrams
- Creation of production and inspection schedules
- Evaluation based on stored measurement data
- Histograms, process control charts and Pareto diagrams can be directly printed on a USB printer



* Only available with instruments that have a 2D / Stat. operating / display unit

Height Measuring Instrument Digimar 817 CLM

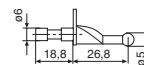
Accessories

Spherical probes

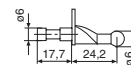
| Catalog no. | Ball dia. D mm | Shaft length mm | Mount dia. mm | Order no. |
|-------------|----------------|-----------------|---------------|-----------|
| K5/51 | 5 | 26.8 | 6 | 4429158 |
| K6/51 | 6 | 24.2 | 6 | 4429254* |
| K4/30 | 4 | 31 | 8 | 7023813 |
| K6/40 | 6 | 41 | 8 | 7023816 |
| K10/60 | 10 | 62 | 8 | 7023810 |
| K10/100 | 10 | 103 | 8 | 7023615 |

* supplied with standard accessories

K 5/51



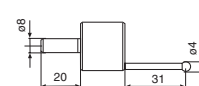
K 6/51



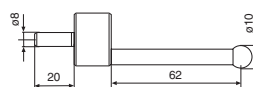
K 6/40



K 4/30



K 10/60



K 10/100



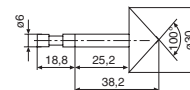
Special probes

| 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 | | |
| TMT 120 S | 2 depth probes incl. carrier | | 4429421 |
| KM 2 | Probe M2 incl. styli 800 ts dia. 2 mm | 6 | 4429256 |

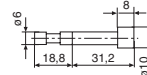
S 15/31,2



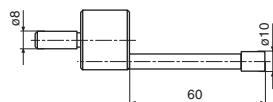
MKe 30



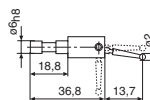
Z 10/31,2



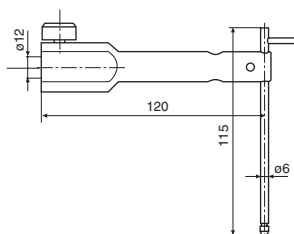
Z 10/60



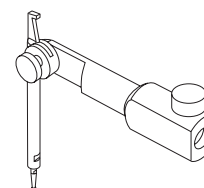
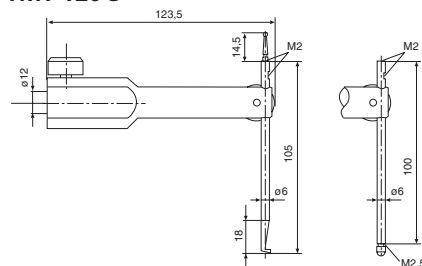
KM 2



TMT 120



TMT 120 S



Setting blocks

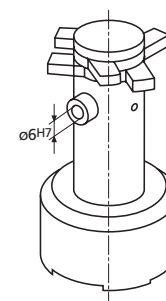
| Catalog no. | Description | Order no. |
|-------------|---|-----------|
| 817 eb | Setting block | 4429168* |
| EB I | Setting block for taper probe, with calibration certificate | 7023827 |

* supplied with standard accessories

817 eb



EB I



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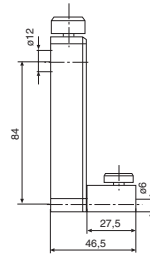
Accessories

Carrier for probes and transducers

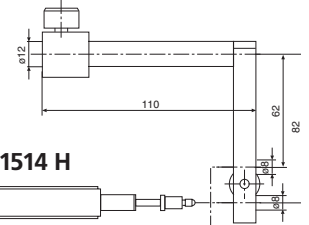
| Catalog no. | Description | Shaft length mm | Mount dia. mm | Order no. |
|-------------|--|-----------------|---------------|-----------|
| 817 h1 | Carrier for probes | 27.5 | 6 | 4429154* |
| 817 h2 | Carrier for probes | 100 | 6 | 4429219 |
| 817 h3 | Carrier for Digital indicator / Incremental probes | | 8 | 4429206 |
| 817 h4 | Carrier for probes | | 8 | 4429220 |

* supplied with standard accessories

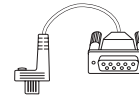
817 h1



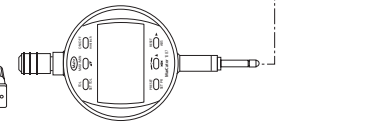
817 h3



P1514 H



16 EXr

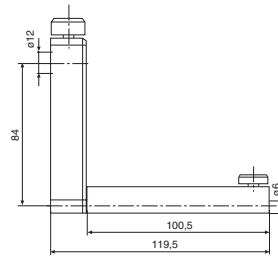


1086

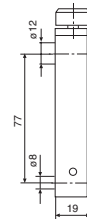
Transducers for measuring perpendicularity

| Catalog no. | | Order no. |
|-------------|---|-----------|
| P1514 H | Incremental probe, 12 mm incl. cable | 4426810 |
| 1086 | Digital indicator, 12.5 mm Resolution 0.001 / .00005" | 4337020 |
| 16 EXr | Data cable for digital indicator 1086 | 4102410 |

817 h2



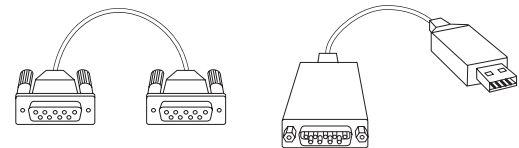
817 h4



Data connection cable

| | Order no. |
|---|-----------|
| Data cable 817 CLM to MSP 2 / PC | 7024634 |
| Adapter cable RS232-USB for Digimar 817 | 4102333 |

Accessories for Data Processing see Chapter 11



Printer

HP-Deskjet 5940

- Standard connectivity: USB - compatible with USB 2.0 specifications, PictBridge
- Compatible operating systems: Microsoft® Windows® 98 SE, Me, 2000, XP (Home and Professional)
- Standard printer languages HP PCL 3



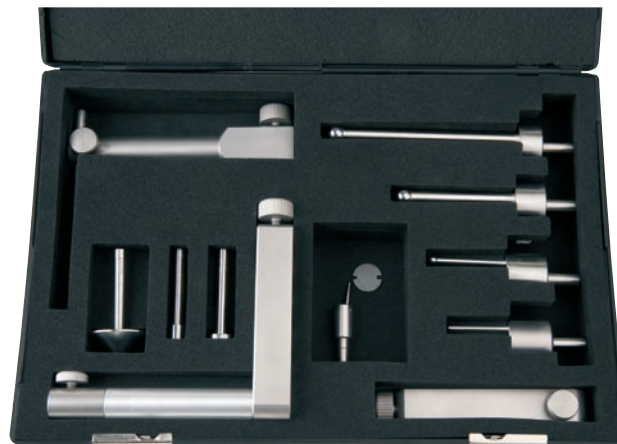
| Order no. |
|--------------------------------|
| HP 5940 Deskjet, Photo printer |
| 4429015 |

Height Measuring Instrument Digimar 817 CLM

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 | Spherical probe to measure recesses incl. carrier | 4429221 |
| KM 2 | Probe M2 incl. 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**

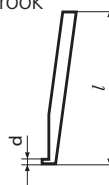
| | | |
|-----------------|--|----------------|
| | Carrying case | 4429020 |
| 817 h2 | Carrier for probes | 4429219 |
| S15/31,2 | Disc probe | 4429226 |
| Z10/31,2 | Cylindrical probe | 4429227 |
| MKe 30 | Taper probe | 4429228 |
| TMT 120 | Spherical probe to measure recesses incl. carrier | 4429221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

Universal probe set CXt2 consists of: **7034000**

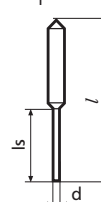
| | | | |
|---------------------|-------------------------|---------------------------|----------------|
| Case | | | 3015925 |
| Probe carrier | | | 3015917 |
| Measuring crook | Dimension d = 0.5 mm | Shaft length l = 78 mm | 3015918 |
| Probe pin /tip: | dia. d = 1.2 mm | l = 75 mm | 3015919 |
| | | ls = 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 |



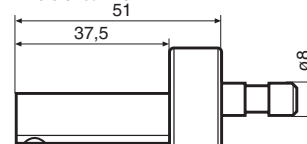
Measuring crook



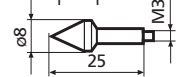
Pin probe



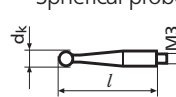
Probe carrier



Taper probe



Spherical probe



Extension

