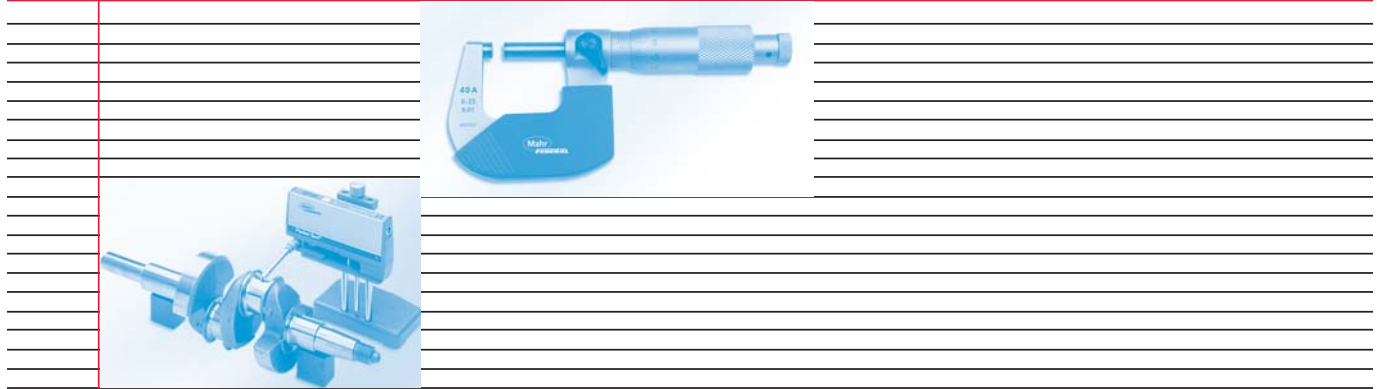




PRECISION GAGES | BEST SELLERS GUIDE



|
- 0 +

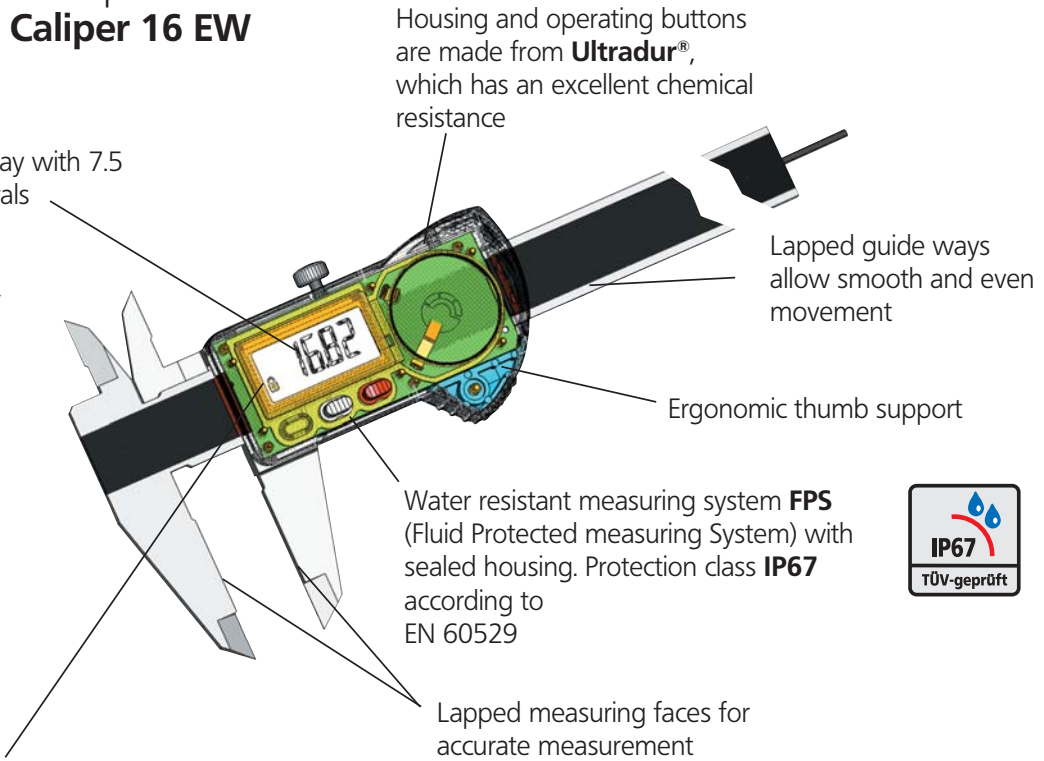
Mahr

EXACTLY

MarCal. Calipers Digital Caliper 16 EW

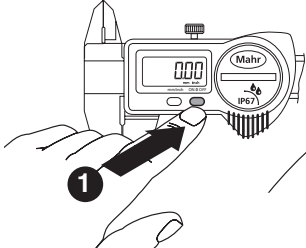
Large Display with 7.5 mm numerals

NEW

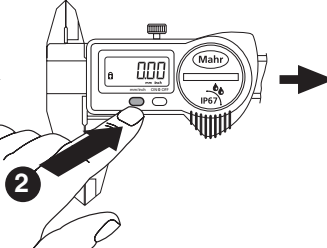


Reference-Lock-Function

1. First, set to Zero



2. Lock-Function is activated



Advantages of the Reference-Lock-Function

- Zero position is secured
- Operating error is prevented
- Caliper is always ready for measurement



NEW: 8 and 12 inch versions are now available

	Measuring range		Resolution inch/mm	Error limit G mm	Depth rod	Order no.
	inch	mm				
16 EW	6"	150	.0005" / 0,01	0,03	Round	4102900
16 EW	6"	150	.0005" / 0,01	0,03	Round	4102901*
16 EW	8"	200	.0005" / 0,01	0,03	Flat	4102902
16 EW	12"	300	.0005" / 0,01	0,04	—	4102906

*Friction wheel

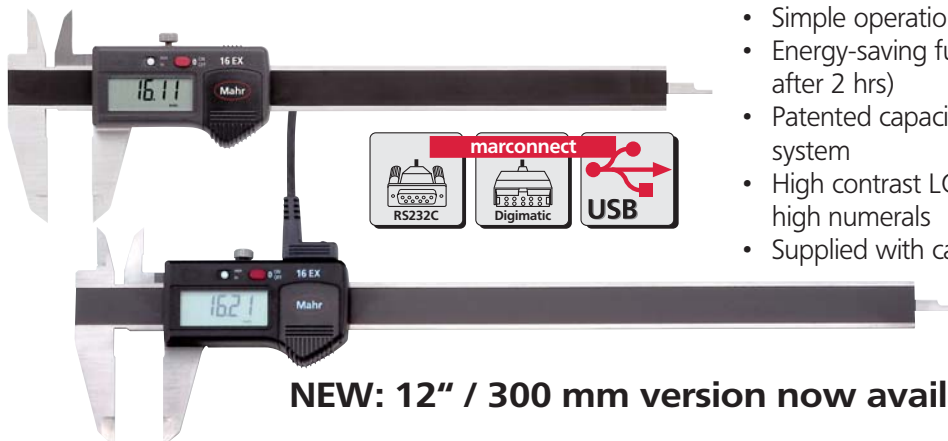
MarCal. Calipers Digital Depth Gage 30 EW



- Inductive waterproof measuring system FPS (Fluid Protected Measuring System) with Reference Lock Function.
- Dirt wipers integrated in the slide.
- Life of the battery approx. 2 years
- Max measuring speed 60"/sec (1.5m/sec).
- High contrast Liquid Crystal Display, 7.5mm high numerals.
- Lapped guide ways
- Slide, beam and cross beam made of hardened stainless steel.
- Locking screw.

	Measuring range Inch / mm	Resolution inch / mm	Error limit G mm	Order no.
30 EW	6" / 150	.0005" / 0,01	0,03	4126600
30 EW	12" / 300	.0005" / 0,01	0,04	4126601
30 EW	20" / 500	.0005" / 0,01	0,05	4126602

MarCal. Calipers Digital Caliper 16 EX



- Simple operation
- Energy-saving function (Auto-off after 2 hrs)
- Patented capacitive measuring system
- High contrast LCD with 7.5 mm high numerals
- Supplied with case and battery

	Measuring range inch / mm	Resolution inch / mm	Error limit G mm	Depth rod	Order no.
Without Data output					
16 EX	6" / 150	.0005" / 0,01	0,03	round	4102401
16 EX	6" / 150	.0005" / 0,01	0,03	flat	4102404
With Data output					
16 EX	6" / 150	.0005" / 0,01	0,03	round	4102400
16 EX	6" / 150	.0005" / 0,01	0,03	flat	4102403
16 EX	8" / 200	.0005" / 0,01	0,03	flat	4102402
16 EX	12" / 300	.0005" / 0,01	0,04	—	4102360

For interface cables see page 4

Dial Caliper 16U Black Face.

Features

Large dial face with high contrast graduations

- Satin-chrome finished line scale.
- Shockproof movement.
- Zero setting through rotating dial and locking screw.
- Covered rack.
- Slide and beam made of hardened stainless steel.
- Measuring blades for inside measurement.
- Step Measuring Function.
- Locking Screw. Depth Bar.
- Supplied with storage case.



	Measuring range	Readings	Error limit Inch/mm	Order no.
16 U	6in	0.001"	0.0012"	4107900
	150mm	0,01mm	0,03mm	4107005
	150mm	0,02mm	0,03mm	4107107

MarCal. Calipers Universal Caliper 16 EXV in Set

- Applicable as standard caliper (four measuring possibilities), with standard accessories to measure recesses, grooves, threads, bores.
- Each of the measuring anvils for inside/outside measurements, depth measuring bridge, setting gauge, device for constant measuring force application.



- **Functions:** ON/OFF, RESET (zero setting), DATA (data transmission), PRESET (for entering any numerical value) inch/mm.
- Patented capacitive measuring system with an energy-saving function, life of battery approx. 2 years.
- Dirt wiper in slides
- Marconnect data output optional Opto RS232C or Digimatic
- High contrast .30" liquid crystal display
- Slide and beam made of hardened stainless steel
- Supplied with case and standard accessories

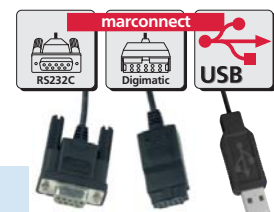
	Measuring* range inch / mm	Resolution inch / mm	Error limit G mm	Order No.
16 EXV	8" / 200	.0005" / 0,01	0,03	4118800

*accessories with alternative measuring range

MarConnect. Interfaces Data Connection Cable 16 EXr and 16 EXd

- For connection with 16 EX, 16 EXC, 16 EXV, 18 EX, 30 EX, 30 EXN, 1075, 1080

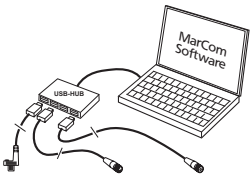
Accessories	Order no.
Data Connection Cable Opto RS232C (3.28ft / 2m)	16 EXr 4102410
Data Connection Cable Digimatic (3.28ft / 2m)	16 EXd 4102411
Data Connection Cable USB	16 EXV 4102357



Marconnect. USB Ready

Simplifies both data transmission to a PC and enables quick and universal assembly of a multiple measuring station.

- Typical applications: incoming inspection, production, quality assurance, out-going inspection.



- Measured values can be saved and transferred to a PC.
- 3 types of print protocols: statistic evaluation, statistic evaluation with histogram, individual measurement.
- Interface to PC is possible.
- Standard accessories: Mains supply plug and paper rolls.
- Supplied with power

Measured values max. Characters per line	999
Paper width LxWxH	24 2.28 in (58 mm) 8.46 x 4.56 x 3.35 in (215 x 116 x 85 mm)
Accumulator powered	> 7000 Printed lines
Data logger accu. powered app.	24 Hours.
Protection class	IP 40
Total weight incl. accumulator	21.16oz. / 600g
Order no.	4102040

MarConnect. Data Processing MSP 2 Statistics Printer with built in Data logger

supply and printer paper.



Optional transport bag available on request

Micromar. Micrometer Digital Micrometer 40 EW



NEW



- **Functions:**
 - 0 (Zero setting the display for Relative measurement)
 - ABS (Switching from Relative to Absolute measurement)
 - mm/inch
 - PR (Reference Setting)
- Capacitive measuring system, life of battery approx. 2 years
- High contrast Liquid Crystal Display with .30" high digits
- Satin chrome steel frame, heat insulated
- Measuring spindle and anvil are carbide tipped
- Measuring spindle is hardened throughout and ground
- Ratchet integrated in the thimble.

	Measuring range inches/mm	Resolution inches / mm	IP	Error limit G μm	Order no.
40 EW	0-1" / 25mm	.00005" / 0,001	IP65	4	4151700
40 EXL	0-1" / 25mm	.00005" / 0,001	IP40	4	4151600

Series 49P O. D. Caliper Gages

- The most widely used gages for checking medium tolerance dimensions on patterns, castings, forgings, dies, sheet metal.
- Generous clearance on jaws reaches over non measured part protrusions for easy access to areas where thickness must meet critical dimensional specs.
- Retraction lever is conveniently located for one hand operation.
- .02mm or .1mm/.01in, .001 or 1/64in grads available.
- Continuous reading dials with revolution counters normally provided.
- Cylindrical radius steel contact tips normally furnished.



Series 49P

Specifications

Capacity*	Gaging Depth	Graduation	Order no.
2.0in 0-50mm	4in 100mm	.001in .02mm	49P-17 (Inch) 49P-17M (Metric)

*Ordinarily this gage is used as a comparator. The actual measuring range of the instrument is 38mm/1.50in. If the gage is used for direct linear measurement, chordal errors may need to be corrected. Contact technical assistance for details.

Series 40 A Series Micrometers

- Exceptional quality at an attractive price.
- Heat insulated.
- Chromium plated frame.
- Storage case included.



40 A

Measuring Range	Readings	Accuracy	Spindle Thread Pitch	Order no.
0-1in	.0001in	.00016in	.025in	4134900
1-2in	.0001in	.00016in	.025in	4134901
2-3in	.0001in	.00020in	.025in	4134902
3-4in	.0001in	.00020in	.025in	4134903
4-5in	.0001in	.00024in	.025in	4134904
5-6in	.0001in	.00024in	.025in	4134905
6-7in	.0001in	.00028in	.025in	4134906
7-8in	.0001in	.00028in	.025in	4134907
0-25mm	0.01mm	4μm	0.5mm	4134000
25-50mm	0.01mm	4μm	0.5mm	4134001
50-75mm	0.01mm	5μm	0.5mm	4134002
75-100mm	0.01mm	5μm	0.5mm	4134003
100-125mm	0.01mm	6μm	0.5mm	4134004
125-150mm	0.01mm	6μm	0.5mm	4134005
150-175mm	0.01mm	7μm	0.5mm	4134006
175-200mm	0.01mm	7μm	0.5mm	4134007

40 AB Series with reduced measuring faces
For measuring recesses, splines, slots, keyways, etc.



Specifications

Measuring Range	Readings	Accuracy	Spindle Thread Pitch	Order no.
0-1in	.0001in	.00016in	.025in	4134920
1-2in	.0001in	.00016in	.025in	4134921
2-3in	.0001in	.00020in	.025in	4134922
3-4in	.0001in	.00020in	.025in	4134923
0-25mm	0.01mm	4μm	0.5mm	4134100
25-50mm	0.01mm	4μm	0.5mm	4134101
50-75mm	0.01mm	5μm	0.5mm	4134102
75-100mm	0.01mm	5μm	0.5mm	4134103

40 AS Series with sliding spindle and measuring blades
For measuring narrow recesses, grooves, etc.



0-1in	.0001in	.00016in	.025in	4134930
1-2in	.0001in	.00016in	.025in	4134931
2-3in	.0001in	.00020in	.025in	4134932
3-4in	.0001in	.00020in	.025in	4134933
0-25mm	0.01mm	4μm	0.5mm	4134200
25-50mm	0.01mm	4μm	0.5mm	4134201
50-75mm	0.01mm	5μm	0.5mm	4134202
75-100mm	0.01mm	5μm	0.5mm	4134203

40 AR Series with spherical anvil
For measuring pipe wall thicknesses, curved surfaces, etc.



0-1in	.0001in	.00016in	.025in	4134940
1-2in	.0001in	.00016in	.025in	4134941
0-25mm	0.01mm	4μm	0.5mm	4134250
25-50mm	0.01mm	4μm	0.5mm	4134251

40 AW Series with sliding spindle and disk type anvils
for measuring soft materials such as felt, rubber, plastics, etc.



0-1in	.0001in	.0003in	.025in	4134950
0-25mm	0.01mm	8μm	0.5mm	4134300

MarTest. Test Indicators

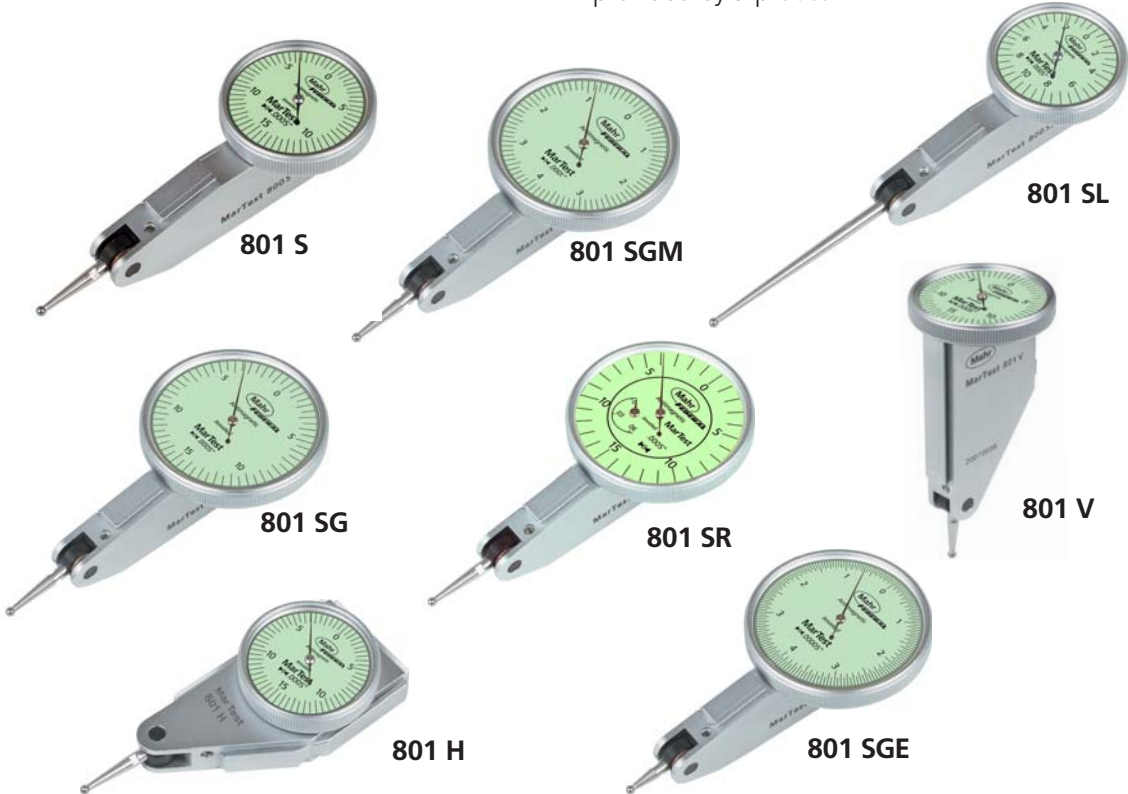
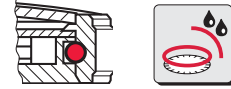
Test Indicators 800

The new generation of Test Indicators with coolant proof bezel and crystal

Mechanism

- Shockproof
- Anti magnetic
- Movement bearings are jewelled with 8 precious stones
- Automatic matching to sensing direction, thus ensuring error-free reading

- Dial face is sealed with an O-Ring
- Satin-chrome finished housing
- Double lever supported in ball bearings, overload protection provided by slip clutch
- Contact point with Tungsten Carbide ball



	Measuring Range (inches)	Readings Grads	Dial dia. (Inches)	Swivel range of stylii	Accuracy f_e	Order no.
801 S	± 0.015	0.0005"	1.1in	.54in	0.0004"	4305950
801 SG	± 0.015	0.0005"	1.5in	.54in	0.0004"	4307950
801 SGM	± 0.004	0.0001"	1.5in	.54in	0.00012"	4308970
801 SGE	± 0.004	0.00005"	1.5in	.54in	0.00012"	4308985
801 SL	± 0.010	0.0005"	1.1in	1.59in	0.0004"	4306950
801 H	± 0.015	0.0005"	1.1in	.54in	0.0004"	4303950
801 SR	± 0.030	0.0005"	1.5in	.54in	0.0004"	4307960
801 V	± 0.015	0.0005"	1.1in	.54in	0.0004"	4302950

Clamp and holding bar sold separately

Dial Indicators

You get more value with Mahr Federal dial indicators...

- One piece case for strength and durability.
- Nickel Plated case interior and movement plates mean no flaking to interfere with performance.
- Hardened gears and stainless steel racks provide lasting protection against indicator failure due to shock and wear.
- Skeletonized, hobbled gears for more sensitive response, superior indicator accuracy with minimal hysteresis error.
- Special steel alloy, hand affords no-shift precise reading.
- Controlled rack and pinion mesh eliminates slope for precise response and reading.
- Smooth adjusting bezels for easy setup.
- Positive pressure pull back spring - less maintenance.
- Compliance with ANSI/AGD specifications.
- Following is only a small representation of the hundred of indicators available from Mahr Federal.

Specifications

Miniature Model, ANSI Group 0 (Mahr Federal Series A-Inch)

Where available space prohibits the use of a larger dial indicator.

Measuring range	Graduation value	Dial style	Range per Revolution	Accuracy	Order no.
.100in	.001in	0-20-0	.040in	±.001in	A6Q



ANSI/AGD Group 1 (Mahr Federal Series B-Inch/O-Metric)

Best suited for multiple unit fixtures or smaller gages.

Measuring range	Grad. value	Dial style	Range per revolution	Accuracy	Order No. Without Rev Counter	With Rev Counter
.025in	.0001in	0-5-0	.010in	±.0001in	12I	12I-RC
.050in	.0005in	0-10-0	.020in	±.0005in	B3Q	B3Q-RC
.250in	.001in	0-50-0	.100in	±.001in	B8I	B8I-RC
2.5mm	0.01mm	0-50-0	1.00mm	±.010in	O6I	O6I-RC



ANSI/AGD Group 2 (Mahr Federal Series C-Inch/P-Metric)

Most widely used for all dial indicator applications.

.025in	.0001in	0-5-0	.010in	±.0001in	2015781	2014761
.075in	.0005in	0-15-0	.030in	±.0005in	2015786	2014811
.125in	.0005in	0-25-0	.050in	±.0005in	2015790	2014814
.250in	.001in	0-50-0	.100in	±.001in	2015792	2011049
0.500mm	0.002mm	0-10-0	0.200mm	±0.002mm	P1I	P1I-RC
2.500mm	0.010mm	0-50-0	1.000mm	±0.010mm	2015794	2014818
5.000mm	0.020mm	0-100-0	2.000mm	±0.020mm	2015795	2014819



Millimess. Dial Comparators Inductive Dial Comparator Millimess 2100 with backlit color changing display



NEW



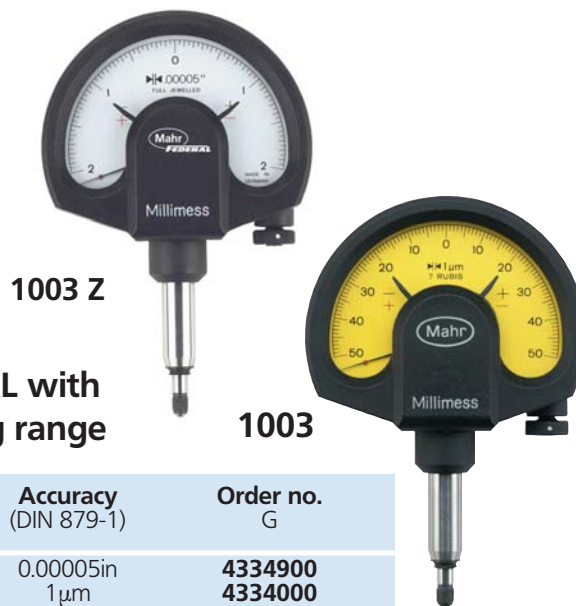
- Functions: ON/OFF
RESET (zero setting of digital and analog display)
- 0 - (zero setting of analog display)
PRESET (for entering a numerical value)
mm/inch switching
Reversal of counting direction
RANGE (switching of meas. range and readings)
ABS (reference to elect. zero point)
MAX-MIN memory ideal for searching the reversal point
MAX-MIN, e.g. for checking concentricity and flatness
TOL (entering tolerance release)
LOCK: operating functions can be blocked via PC-Software.
- Linearized inductive absolute measuring system.
- Power supply via mains adapter.
- marconnect data output: optional Opto RS232C or Digimatic.
- Dial Comparator can be operated by remote control via interface (Opto RS232C).
- Control output compatible to dial comparators with limit contacts.
- Function and display section can be rotated through 280°.
- Measuring force springs can be exchanged.
- Lower stop adjustable.
- Protection class IP 54 according to EN 60529.
- Operating temperature 41° - 104°F/ 5° - 40°C.
- High contrast backlit Liquid Crystal Display with 0.25"/6.5 mm high digits.
- Analog display with 4 mm pointer length for better visual perception when checking concentricity or flatness; plus reversal point search when measuring bores.
- Standard accessories: Mains adapter, rubber bellows and spanner for preliminary stroke setting.

Measuring range switchable inch / mm	Resolution switchable inch / mm	Display range of analog display inch / mm	Span of error* within		Order no.
			±0,8mm	±1,4mm	
±.04 / 1,0 ±.055 / 1,4 ±.055 / 1,4 ±.055 / 1,4	.00002" / 0,0005 .00005" / 0,001 .0002" / 0,005 .0005" / 0,01	±.0006" / 0,015 ±.0015" / 0,030 ±.0060" / 0,150 ±.0150" / 0,300	1µm	2µm	4346201

* + 1 resolution

Millimess. Dial Comparators Millimess 1003 and 1003 Z

- Shockproof movement
- Measuring spindle mounted in high precision ball guide assures high measurement accuracy and minimal hysteresis
- Lockable fine adjustment
- Easy to read scale



Millimess 1003 XL with larger measuring range

	Range	Resolution	Accuracy (DIN 879-1)	Order no. G
1003 Z	± 0.0020in	0.00005in	0.00005in	4334900
1003	± 50µm	1µm	1µm	4334000
1003 XL	±130µm	24µm	2µm	4334001

Digital Indicator Gages

μMaxμm Indicators



- Full feature indicator at a value price.
- High resolution for comparative measurement.
- Perfect for replacement of existing comparative gaging.
- All the features of the μMaxμm XL.

Range	Resolution	Stem Diameter/ Length	Accuracy	Back	Order Model
±.040in/1mm	50μin/.001mm	.375in/.46in	.0004in/.01mm	Flat	EDI-10102
±.040in/1mm	20μin/.0005mm	.375in/.46in	.0004in/.01mm	Flat	EDI-20102

μMaxμm XL Indicators



- Longer measuring ranges / Never loses zero even when powered down.
- Preset capabilities for direct dimension readout.
- Unilateral tolerances.
- Two-format data output compatible with most data collection devices
- Versions available for deadweight applications with compressible materials.

Range	Stem Diameter/ Length	Accuracy	Back	Order Model
.5in / 12.7mm	.375in/.63in	.0002in/.005mm	Flat	XLI-10000
1in / 25mm	.375in/.63in	.0002in/.005mm	Flat	XLI-20000
.5in / 12.7mm	8mm/16mm	.0002in/.005mm	Flat	XLI-30000
1in / 25mm	8mm/16mm	.0002in/.005mm	Flat	XLI-40000

Maracator 1086, Resolution .0005"/0.001mm



- Functions:
- ON/OFF
 - RESET (Setting the display to zero)
 - mm/inch
 - Reversal of the counting direction

- PRESET (Allows the entry of any value using set buttons)
- TOL (Enter tolerance limit values)
- ABS (Display can be set to zero, without losing the



- reference to the Preset value
- <0> (Tolerance GO / NO GO display mode)
- DATA (when connected with a
- data connection cable)
- Factor (adjustable)
- High contrast LCD with 11 mm high digits

Meas. range inch / mm	Resolution inch (mm)	Span of error inch (mm)	Order no.
5"/12.5	.00005" (0.001)	.0002" (0.005)	4337020
1"/25	.00005" (0.001)	.0002" (0.005)	4337021
2"/50	.00005" (0.001)	.00032" (0.008)	4337022
4"/100	.00005" (0.001)	.00036" (0.009)	4337023

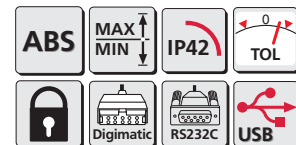
Maracator 1087, with analog display



- Same as above Including:
- MAX/MIN memory, ideal

- for searching the reversal point
- TIR (MAX-MIN) ideal for

- testing concentricity and flatness



Meas. range inch/mm	Resolution inch (mm)	Span of error inch (mm)	Order no.
.5"/12.5	.00005" (0.001)	.0002" (0.005)	4337060
1"/25	.00005" (0.001)	.0002" (0.005)	4337061

Maxum® III Digital Indicators, Remote Indicating and Digital Transducers

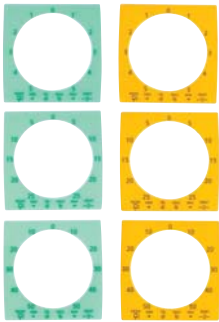


Features

- Features both digital display for accuracy and readability and unique "fan" analog display for trend and change.

- User configurable in inch/metric units, normal/reverse sensing, resolution, analog scale, and tolerance setup & display.
- Both integral and remote readout versions available.
- Data output – 3 formats – Maxum, serial, digimatic.
- Dynamic Capabilities: min, max, TIR, hold, reset.
- Digital sensing allows indicating unit to identify digital transducer type by range.
- Digital transducers equipped with durable cable and spring strain relief design and includes right angle option clip.
- Digital Transducer available in Canister or Pencil style.
- Special options available, such as –setup mode or calibration lockout, remote external power, 4:5 ratio, 1.5, 2.0 or 3.0 inch stem lengths, and more...
- Easy to select, order and operate!
- IP54 protection.

Technical Data



Overlays for specific configurations are included

Maxum® III Digital Indicator	Short Range	Long Range
Digital Standard Range	±0.040" / ±1.00mm	±0.100" / ±1.99mm
Digital Reduced Range	±0.0199" / ±0.199mm	None
Digital Resolution: (switchable)	0.0005" / 0.005mm 0.0001" / 0.001mm 0.00005" / 0.001mm 0.00002" / 0.0005mm	0.0005" / 0.005mm 0.0001" / 0.001mm
Analog Range:	5 or 25 or 50	25 or 50
Analog Resolution: (switchable)	0.001" / 0.01mm 0.0005" / 0.005mm 0.0001" / 0.001mm	0.001" / 0.01mm 0.0005" / 0.005mm
Accuracy:		
Standard Range	0.5 % of Total Range	0.35% of Total Range
Reduced Range	0.25 % of Total Range	N/A
Repeatability:	± One Least Digit	± One Least Digit

Stem Length	Stem dia.	Data Output	Short Range	Long Range
0.670" / 17mm	0.375"	No Output	2033101	2033102*
1.50" / 38mm	0.375"		2033103	2033104
0.670" / 17mm	8.0 mm		2033105	2033106*
1.50" / 38mm	8.0 mm		2033107	2033108
0.670" / 17mm	0.375"	Digital Output - 6 pin (D, E1)	2033111	2033112*
1.50" / 38mm	0.375"		2033113	2033114
0.670" / 17mm	8.0 mm		2033115	2033116*
1.50" / 38mm	8.0 mm		2033117	2033118
0.670" / 17mm	0.375"	Digital Output with Hold/Reset -10pin (E2)	2033121	2033122*
1.50" / 38mm	0.375"		2033123	2033124
0.670" / 17mm	8.0 mm		2033125	2033126*
1.50" / 38mm	8.0 mm		2033127	2033128



Maxum® III Remote Indicating Unit

	Order no.
No Digital Output Port	2033001
Digital Output - 6pin (D, E1)	2033011
Digital Output with Hold & Reset -10pin (E2)	2033021

Maxum® III Digital Transducer*

Transducer Type	Stem Length	Stem Diameter	Short Range	Long Range
Canister	0.670"/ 17mm	0.375"	2033091	2033092*
Canister	1.50"/38mm	0.375"	2033093	2033094
Canister	0.670"/ 17mm	8.0 mm	2033095	2033096*
Canister	1.50"/38mm	8.0 mm	2033097	2033098
Pencil	Body Diameter = 0.375"		2033099	-

* Long Range indicator stem length is 0.870"/22mm

Indicator Gages

Precision Bench Micrometer 40 TSZ

40 TSZ



- Easy and precise checking of small, high tolerance parts.
- Furnished with high resolution Millimess dial comparator.
- Use as a direct measurement device for highest accuracy.
- Carbide-tipped anvils for long life.

Specifications

Measuring Range	Graduation Value	Retraction	Measuring Face		Measuring Force (N)	Order no.
			Flatness	Parallelism		
0-2in 0-50mm	.00005in 1 μ m	.045in 1.2mm	\leq .00001in \leq 0.2 μ m	\leq .00008in \leq 2 μ m	6.5 6.5	4154930 4154030

40 F Inch Micrometer

40 F



- Easy and precise diameter measurement of shafts, bolts, shanks and other cylindrical parts.
- Quickly measures length and thickness.
- Built-in dial comparator reads to 1 μ m/.00005in.
- Adjustable tolerance markers.
- Carbide-tip measuring faces assure long life.
- Positive spindle locking lever.

Measuring Range	Thimble Readings	Accuracy	Order no.
0-1in	.0001in	.00008in	4150900
1-2in	.0001in	.00008in	4150901
0-25mm	0.01mm	2 μ m	4150000
25-50mm	0.01mm	2 μ m	4150001

Indicating Snap Gage 840 F

For measuring shafts, bolts, spindles, and other cylindrical parts for thickness and length.

- Constant measuring force reduces user error.
- Easily adjustable measuring range.
- Direct indication of measuring results.
- Forged steel frame, carbide-tipped measuring faces.
- Order indicator separately. See page 10.

840 F



Measuring Range	Measuring Force (N) (mm)	Measuring Face Flatness μ m	Measuring Face Parallelism μ m	Order no.
0-1"/0-25mm	7.5	\leq 0.2	\leq 1	4450000
1-2.36"/25-60mm	7.5	\leq 0.2	\leq 2	4450001
2-4"/50-100mm	7.5	\leq 0.2	\leq 2	4450002
4-6"/100-150mm	7.5	\leq 0.2	\leq 2	4450003
6-8"/150-200mm	7.5	\leq 0.2	\leq 2	4450004

Indicator Gages

EDI-300P-2



Shown with optional BA-26 Base

- Patented "Channel Lock" design assures precisely parallel anvil surfaces throughout the full 1in/25mm range of adjustment.
- Fully adjustable with position locking at any point within the range.
- 0.020in/0.50mm in range of Sensitive Contact.
- Snap Gages available over a wide range of sizes, styles and readout configurations.
- Large .61in/15.5mm square tungsten carbide anvils provide long-lasting working surfaces. Indicator can be rotated to read from front or rear of the gage.
- Optional lift-lever model for manual retraction of the upper anvil.

Specifications

Plain Anvils (anvils included in price - choose from list below)

Range	Order		
	With Max μ m* Capacity	With μ Max μ m*	With .0001" Dial Indicator
0-1in/0-25mm 1-2in/25-50mm	EMD-300P-1 EMD-300P-2	EDI-300P-1 EDI-300P-2	300P-1 300P-2

BA-26 Base sold separately

* Other indicators supplied upon request

36B-10



Series 36B I.D./O.D. Gages

- Adjustable retraction of sensitive contact allows measurement of grooves and races. Retraction normally set at 6mm/0.25in, is adjustable to 10mm/0.400in.
- Frictionless reed-spring (pantograph) motion transfer for repeatability.
- Gaging pressure is adjustable from 0-8.0lb - 0-35N.
- Two styles available: 2-Point "T" Plate or 3-point "V" Plate.
- Two Sizes available.
- Base can be positioned on any angle from horizontal to vertical.
- Variety of readout devices available.
- Supplied with JW-9 Jaws (3-Jaw set, steel, .031" - .750"/.79mm-19mm adjustment height)
- Special jaws upon request

Inch Models

36B-9



Order Style	Capacity			With Max μ m* Indicator
	I.D. inches	O.D. inches	With Dial Indicator	
"T" Plate "V" Plate	.75" - 5.50" .812" - 5"	.25" - 5" .312" - 4.625"	36B-10 36B-9	EMD-36B-10 EMD-36B-9D

To specify Digital Output, add a "D" to model numbers of EMD-36B Gages.

"V" Plate Models available only with Output

Series 1280P. Adjustable Bore Gages

- Rugged construction for long life and low maintenance. Stainless steel gaging head, one piece centralizing yoke with replaceable tungsten carbide balls.
- Heavy duty housing protects indicator.
- Flow-through design makes Series 1280P Bore Gages swish clean, no disassembly required.
- Outstanding stability: holds mastered value.
- Furnished with either dial indicator or Maxµm Digital Electronic Indicator.
- Digital Bore Gages with output are provided with Maxµm III Indicators. The Dynamic Memory of the Maxµm III greatly simplifies operation and assures repeatable readings with a single sweep of the diameter being measured.
- Output available for Statistical Quality Control requirements.
- Supplied with T.C. contacts and case.



Specifications

With Dial Indicator	With Digital Output	Capacity Inches / mm	Gaging Depth Inches / mm	End of Head To Contact
1280P-1T1 1280P-2T2	1282P-1T1 1282P-2T2	.50-1 / 12-25 1-2 / 25-50	3 / 75 6 / 152	.11" / 2.77mm .17" / 4.37mm

MaraMeter. Indicating Measuring Instruments for Inside Dimensions Self-Centering Dial Bore Gage 844 N in Set

- Measuring the diameter, roundness and conical form of a bore as well as the distances of plane-parallel surfaces
- Measuring head consists of a carbide-tipped moving anvil and an interchangeable stationary anvil which has a hardened steel ball; alternatively a carbide ball is available
- Transmission lever system transfers movement of the movable anvil to indicating instrument
- The broad centering bridge ensures automatic centering in the bore
- Insensitive to temperature due to both the shank and transfer rod



- being made from heat resistant **Invar steel**
- Highly resistant to wear and tear due to the carbide-tipped moving anvil
- Constant measuring force due to built-in spring thus eliminating user influence
- Universally applicable and extremely versatile as every instrument spans a broad measuring range, within this range it is quick and easy to adjust to any size
- Standard accessories: wooden case, shown with optional Millimess 1003

	Measuring range in	mm	for measuring depth up to in/mm	Order no.
844 N	0.70"-1.96"	18-50	7.87"/ 200	4474000
844 N	1.37"-3.93"	35-100	9.84"/ 250	4474001
844 N	3.93"-9.84"	100-250	13.77"/ 350	4474002

Self Centering Measuring Pistol



(Indicator not included)

Application

- Measurements of
- through holes
 - blind Holes
 - counter bores

Features

- Pistol consists of basic instrument 844 Ag and meas. head 44 Ak.
- Meas. pistol permits fast bridging of the total measuring range, therefore ideal for high speed.
- Threaded connection for interchanging the measuring heads.
- Self centering measuring head with three anvils on the side, placed at 120° intervals.
- From 12.5mm carbide-tipped anvils.
- As of 12.5mm anvils for measuring to the bottom of a bore.
- As of 40mm, aluminum measuring head to minimize weight.
- Standard accessories: Case

Measuring range		Limits of error*	Order no.**
in	mm		
.25 - .3125	6 - 8	.00015/3	4487600
.3125 - 4	8 - 10	.00015/3	4487601
.4 - .5	10 - 12.5	.00015/3	4487602
.5 - .625	12.5 - 16	.00015/3	4487603
.625 - .775	16 - 20	.00015/3	4487604
.775 - 1	20 - 25	.00015/3	4487605
1.0 - 1.2	25 - 30	.00015/3	4487606
1.2 - 1.4	30 - 35	.00015/3	4487607
1.4 - 1.6	35 - 40	.00015/3	4487608
1.6 - 2	40 - 50	.00015/3	4487609
2 - 2.35	50 - 60	.00016/4	4487610
2.35 - 2.75	60 - 70	.00016/4	4487611
2.75 - 3.35	70 - 85	.00016/4	4487612
3.35 - 4	85 - 100	.00016/4	4487613
4 - 4.9	100 - 125	.0002/5	4487614
4.9 - 5.9	125 - 150	.0002/5	4487615
5.9 - 6.9	150 - 175	.00025/6	4487616
6.9 - 7.9	175 - 200	.00025/6	4487617

Self Centering Measuring Pistol 844 AS Set

Measuring Range		No. of meas. heads	Ring gages	Order** no. Ø mm
in	mm			
.25 - .5	6 - 12.5	3	8 / 10	4487650
.5 - 1	12.5 - 25	3	16 / 20	4487651
1 - 2	25 - 50	4	30 / 40	4487652
2 - 4	50 - 100	4	60 / 85	4487653

- Standard Accessories: Case and ring gages, meas. pistol, multiple heads, and a traceable DIN calibration certificate.

Indicating Instrument

Any dial indicator featuring an 8mm mounting shank may be used. Recommendations:

Indicating Instruments	Readings µm/in	Order no.
Marcator 1086	1/.00005	4337021
Marcator 1087	1/.00005	4337061
µMaxumXL-40000	1/.00005	XLI-40000

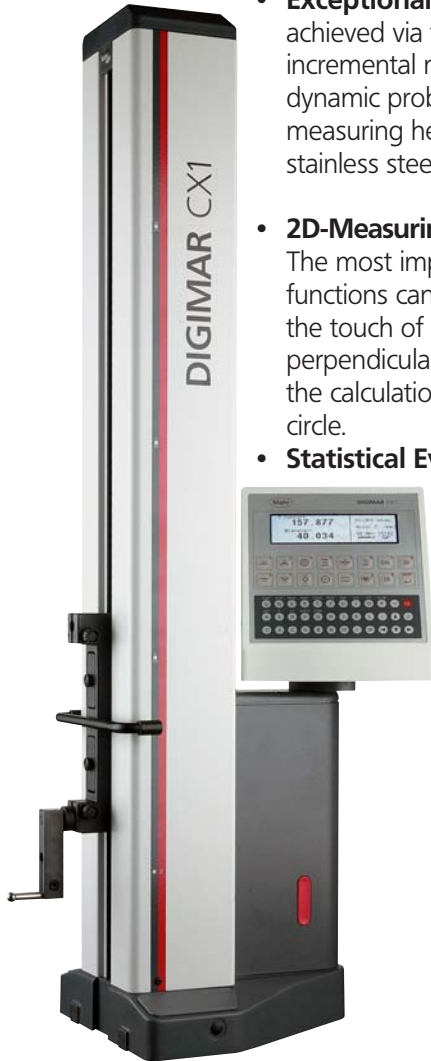
* Indicator not taken into consideration.

** Without indicator.

Digimar. Height Measuring Instruments

Height Measuring Instrument Digimar CX1

You have high expectations regarding accuracy and do you value extensive measuring and evaluation possibilities? The Digimar CX1 is easy to use, with numerous functions and setting possibilities, which meets customer requirements.



- Exceptional Accuracy**
 achieved via the optical-incremental measuring system, dynamic probe and a precise measuring head which travels on stainless steel guides.
- 2D-Measuring Functions**
 The most important 2D measuring functions can be executed with the touch of a single key, e.g.: perpendicularity measurements, the calculation of an angle or pitch circle.
- Statistical Evaluation** Numerous

and specific evaluation in the form of histograms, control charts and Pareto charts are possible.

- 40 Measuring programs**
 You can quickly create customized measuring programs with the "easy-to-use" learn program, which simplifies and reduces inspection times.



*The Microcomputer Digimar DX1
 The Control and Evaluation
 Instrument:
 Your key to all measuring tasks*

Measuring range	24 inch / 600mm
Application range	To 36.8" / to 935mm
Resolution in Inches	.001" / .0005" / .0001" / .00005" / .00001"
Resolution in mm	0.01mm / 0.005mm / 0.001mm / 0.0005mm / 0.0002mm
Measuring error* formula (2+(L/600)µm)	Max. .00012" / 0.003mm
Repeatability*	.00002" / 0.0005mm (plane) .00004" / .001mm (bore)
Perpendicularity error	≤ .0003" / ≤ 0.008mm
Operating time between charges	up to 15 hours
Measuring force	3.6oz. ± .70oz. / 1,0 ± 0,2N
Total height	38.8" / 985mm
Base area (L x W)	9.5" x 9.8" / 240x250mm
Weight	64 lb / 29 kg
Order no.	5320001

* Base plate GK 0 with Probe K10/50

Digimar. Height Measuring Instruments

Height Measuring Instrument Digimar CX2

NEW

Obtain your measurement results without complicated procedures; simple, fast and accurate! The Digital Height Measuring Instrument Digimar CX2 is your perfect partner for use in workshop and inspection areas.

- Easy to Operate**
 via the clearly styled control panel. All the most important measuring functions can be executed with the touch of a single key.
- Motorised Measuring Head**
 simplifies the measuring task and minimises the influence of the operator. Thus the measuring results are precise, reproduceable and reliable!
- Measuring Programs**
 Easily created measuring programs enable the quick and reliable measurement of serial production components.



Clear and easy to understand. CX2 operating panel



Measuring range	14" / 350mm	24" / 600mm	40" / 1000mm
Application range	To 26.9" / To 685mm	To 36.8" / To 935mm	To 52.5" / To 1135mm
Resolution	.0001" / .00005" / 0,01mm / 0,001mm		
Measuring error* formula (5+(L/300)µm)	.00024" / 0,0062mm	.00027" / 0,007mm	.00033" / 0,0083mm
Repeatability*	≤ .00008" / ≤ 0,002mm (plane) ≤ .00012" / ≤ 0,003mm (bore)		
Perpendicularity error	≤ .00035" / ≤ 0,009mm	≤ .0006" / ≤ 0,015mm	≤ .001" / ≤ 0,025mm
Operating time between charges	up to 100 hours	up to 100 hours	Up to 15 hours
Measuring force	3.6oz. ± 1.1oz. / 1,0 ± 0,3N		
Total height	29.2" / 741mm	38.7" / 985mm	54.8" / 1392mm
Base area (L x W)	9.5" x 9.8" / 240mm x 250mm		
Weight	30.8 lb / 14 kg	35.3 lb / 16 kg	57.3 lb / 26 kg
Order no.	5320104	5320102	5320103

* Base plate GK 0 with Probe K10/50

Millimar. Electrical Length Measuring Instruments Inductive Measuring Probes P2004

- High quality MU-Metal of the probe housing ensures perfect shielding against magnetic and electric fields.
- Axial or radial cable output, adjustable through flexible cap.
- High precision ball guides



Technical data

Probe Type	P2001	P2004	P2004 A	A P2004 B
Measuring Range	±0.020in / ±0.5mm	±0.079in / ±2.0mm		
Cable Length	8ft / 2.5m		8ft / 2.5m	
Order no.				
Comapatability - Mahr (Red)	5323040	5323010	5323020	5323030
Comapatability - Tesa (Yellow)	5323041	5323011	5323021	5323031
Comapatability - Marposs (Blue)	5323043	5323013	5323023	5323033
Comapatability - Federal (White)	5323044	5323014	5323024	5323034
Prices available on request				

Millimar. Electrical Length Measuring Instruments Inductive lever-type Test Indicator 1318

- Fast and reliable determination of permissible dimensional deviations even on difficult accessible measurement locations
- Tungsten carbide-tipped stylus can move sideways and has a swivel range of 180°
- 2 slip clutches prevent overloading in both directions
- Mounting shank can be attached to rear and top side
- Cable length 5ft/1.5m



Model EHE-2056

Adjustable Nose Mount (EAT-1010), tamper-proof mounted. Permits wide choice of positions and approximately 3.8mm/.150in fine adjustment for quick setup with support close to gaging contact.



Features

- Reversing spring allows measurement in either direction.
- Clutch-mounted contact swivel through 280° arc for easy positioning.
- Linearity - 0.1% over full range of ±0.250mm/±0.10in.
- Gaging pressure less than 4g/.14oz in either direction, with a change of less than 0.1 gram per 25µm/.001in of contact travel. Special gaging pressures available. Contact Mahr Federal Technical Assistance.
- Repeatability better than 0.1µm/4µin.
- Compatibility - Federal

Probe	1318
Measuring range	1,3 mm
Upper stop ¹⁾	+ 1,6 mm
Lower stop ¹⁾	- 0,37 mm
Repeatability	0,03 µm
Measuring force	0,25 N
Spindle lift	-
Contact point	carbide ball dia. 2 mm
Free stylus length	21 mm
Swivel range of stylus	180°
Mounting shank	8h6 mm
Protection class acc. to EN 60529	IP 50
Cable outlet	on side
Compatibility	Mahr
Order no.	5313180

¹⁾ with reference to electrical zero

Millimar. Electrical Length Measuring Instruments

Compact Length Measuring Instrument Millimar C 1208, C1216 and Column Gage Millimar S 1840

- For measurement with inductive probes (e. g. Mahr P2004)
- Two inputs for inductive probes (compatible with probes from either Mahr, Tesa)
- Dynamic measurements: Max, Min, Max-Min, Max+Min, Mean value.
- Programmable via enclosed MS-Window configuration software through RS232 interface or built-in keypad
- Display range ± 10 to $\pm 10000 \mu\text{m}$

Millimar C 1208

- Favorites: with the SELECT button the most frequently required settings can be directly called up
- LCD display with quasi analogue indicator background lit LCD Display and two-line digital display
- 5 three-color status lamps for warning and tolerance limits
- Up to 2 characteristics can be displayed at the same time.

Features S 1840

- Easy to read 3 color analog display
- Bright, large digital readout
- Air versions available



C 1208



C 1216

Millimar C1216

Features are identical to Millimar C1208, in addition:

- Analog output
- Programmable analog output voltage (max. $\pm 5\text{V}$)
- Additional resolution from $0.01 \mu\text{m}$ with a measuring range from $\pm 200 \mu\text{m}$



S 1840



	Type	Description	Order no.
C 1208 M	Mahr	for 2 Inductive Probes	5312080
C 1208 F	Federal	for 2 Inductive Probes	5312082
C1216 M	Mahr	for 2 Inductive Probes	5312160
C1216 F	Federal	for 2 Inductive Probes	5312162
S 1840 M	Mahr	for 2 Inductive Probes	5330001*
S 1840 F	Federal	for 2 Inductive Probes	5330107*

* Excludes Base plate

Accessories	Order no.
Base plate, for up to 3 columns	5330901

MarSurf. Surface Texture Metrology

PocketSurf

- Solidly built with a durable cast aluminium housing
- 4 switchable probe positions - axial, 90°, 180° or 270°
- 4 switch-selectable parameters: Ra, Rmax/Ry, Rz acc. to DIN, ISO, ASME-B46.1
- Single length parameters adjustable to 1, 3 or 5, Cutoff 0.03"
- Independent power supply for up to 2500 measurements due to a 9 volt alkaline battery
- Integrated data output for connection to SPC-applications
- Extensive, optional accessories available to broaden application possibilities.

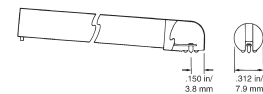


- Dimensions: 5.5 x 3" x 1" / 140mm x 76 mm x 25 mm
- Weight: 14.02oz. /435g
- Measuring ranges:
 - R_a 1 μm to 250 μm / 0.03 μm to 6.35 μm
 - R_y 8 μm to 999 μm / 0.2 μm to 25.3 μm
 - R_z 8 μm to 999 μm / 0.2 μm to 25.3 μm
 - R_z^{max} 8 μm to 999 μm / 0.2 μm to 25.3 μm
- Resolution 1 μm / 0.01 μm

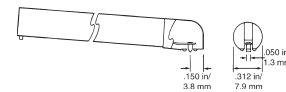
Order no.	Probe tip	Specimen
EMD-1500-311*	90°, 10 μm /.0004"	PMD-90101

* Set consists of a Plastic case, Pocket Surf, Probe EGH-1019, Specimen, 9 Volt consumer-type battery and Operating instructions

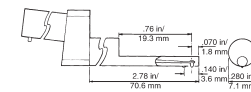
Accessories	Order no.
Height stand	EAS-2496
General Purpose Probe	EGH-1019
Transverse chisel probe	EGH-1020-W1
Small bore probe	EGH-1021



EGH-1019



EGH-1020-W1



EGH-1021

NOTE: Small Bore and Groove Bottom Probes can only be used in 180° position with the Pocket Surf unit supported in a height stand or other fixture

**Yellow dot at connector end signifies .0002"/5 μm radius.*



EAS-2496



EAS-2496

Height stand in the vertical position

Pocket Surf® PS1 For surface roughness measurement

With increasing manufacturing and machine quality, the quality of technical products' surface finishes is becoming ever more important. The Pocket Surf PS1 lives up to its claim of "absolute mobility" in all manner of ways, providing:

- Over 500 measurements without having to recharge the instrument
- An-all-in one solution that is no larger than a digital camera
- Small and lightweight (400g /).88 lbs)
- Instrument flexibility
- The standard range of functions is sufficient for this all-purpose smart little instrument to perform your measuring tasks
- Can be used horizontally, vertically, upside down or in any other position required by the component
- 24 parameters
- Error-free operation thanks to an integrated roughness standard
- Automatic cutoff selection (patented) so that even non-specialists are ensured correct measuring results
- Simple operation



Perthometer M1-Set

Delivered in a rugged carrying case, complete with:

- Drive unit PFM for tracing lengths up to 17,5 mm
- Single-skid pick-up NHT 6-100 for use on plane surface and bores with diameters greater than 6 mm and max. 17 mm in depth
- Accessories: hand-held support, height adjuster, front vee-block, and others
- Automatic selection of standard filters and tracing lengths
- Dynamic pick-up calibration with automatic adjustment of compensation values

Absolute Mobility



The Pocket Surf PS1 comes in a complete set. Thanks to the carrying case, you always have your surface roughness measuring instrument with you as you pass through the production floor.

- The Set contains:
 - Pocket Surf PS1 base unit
 - Drive unit
 - 1 Standard pick-up 5um (200uin) stylus
 - Built-in battery
 - Roughness standard integrated into casing
 - Height adjustment accessory
 - Pick-up protection
 - Charger / mains adapter
 - Operating instructions
 - Carrying case with shoulder strap and belt loop
 - USB Cable
 - Mahr Calibration Certificate

Order No. 6910214

MarSurf. Surface Texture Metrology Perthometer M1-Set

- Computation of all common roughness parameters as per DIN EN ISO 4287
- Integrated high-resolution thermal printer
- Low measuring force of approx. 0,7 mN
- Distinct, user-specific LCD
- Selectable sampling lengths and short cutoff
- Gaussian profile filter as per DIN EN 4288 and band-pass filter as per DIN EN ISO 3274
- Selectable units $\mu\text{m}/\mu\text{inch}$
- Selectable 14 languages
- RS 232 interface

Order no. 6910134

Dimensionair® Air Gages

Air gaging is the inspection tool that allows you to measure many jobs faster, more conveniently and more accurately than by other gaging methods. In measurement of hole conditions air gaging is unsurpassed for speed and accuracy while in checking dimensional characteristics air offers sufficient magnification and reliability to measure tolerances well beyond the scope of mechanical gages.

- Tooling for holes, tapers, squareness, straightness and other geometric relationships
- Analog and Digital, Bench or portable systems
- Single or Dual mastering capabilities
- Fast, accurate, easy to use and stable measurement systems
- Adaptors are available for use of other manufacturers tooling



Dimentron Fixed Plug Gaging

The Dimentron Plug gaging is the hole gaging system that offers the ultimate in portability for the shop floor inspection of hole diameters. Because of the differential nature of the two contact measuring system the plug can be used to explore the dimension for variances due to out of round, barrel or bell mouth conditions.

- Designed for high production ID gaging
- High Chrome content steel bodies are ground precisely for the specified size measurement
- Plug tooling is interchangeable for quick changeover
- Open design is easy to clean and maintain
- Easy lead helps with part entry even on the tightest tolerances
- Used with Dial or Digital Indicators, bench amplifiers or computer gaging systems



