GAUGES FOR THE AEROSPACE INDUSTRY

MARPOSS

STANDARD RETOOLABLE GAUGES

	ID Measuring	Countersink Depth Measuring
ID Measuring		
Wired with integral cycle button		
Wireless		

All retoolable by replacing the nosepiece

All retoolable by replacing the either conical or spherical plunger tip

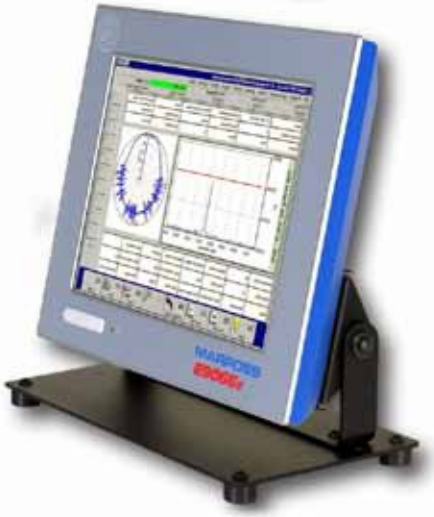
DISPLAY ELECTRONICS FOR FASTENER HOLE GAUGES

All four units suitable for either wired or wireless gauges

Nemo
5.7” Screen

Merlin
8.4” Screen

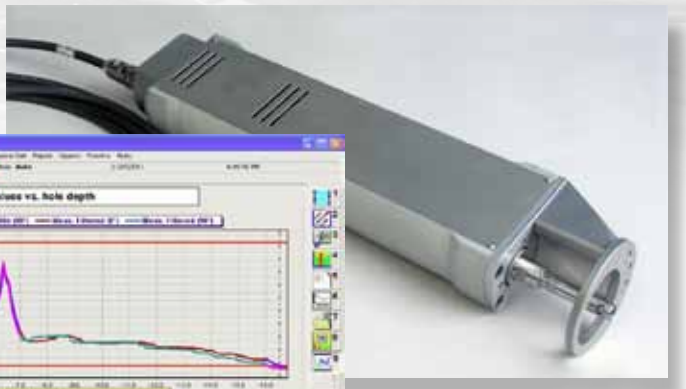
Merlin plus
12” Screen

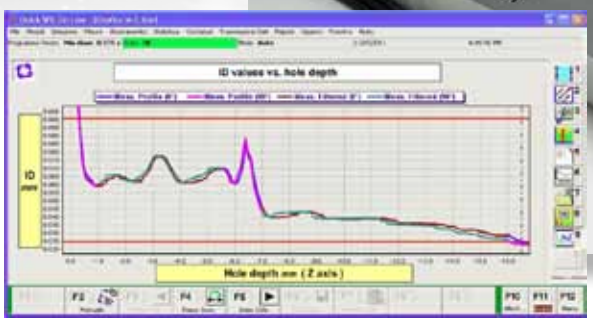


E9066
15”/17 Screen

SPECIAL GAUGES AVAILABLE ON REQUEST

ID scanning (auto cycle)





ID GAUGE TECHNICAL SPECIFICATIONS

MECHANICAL BORE GAGE

The M1 Star™ MBG (Mechanical Bore Gauge) is the ideal manual instrument for precision measuring of inside diameter, ovality and cylindricity. It can be totally retooled or repaired by simply replacing the nosepiece and contacts.
A mechanical positioning system automatically ensures alignment between the nosepiece and the contacts.
The Mechanical Bore Gauge is accurate, robust, reliable and easy to use.
Maintenance free construction requires only periodic cleaning of the precision mechanism.
A wide range of modular components makes it possible to configure the bore gauge to meet all your measuring needs.

MAIN FEATURES

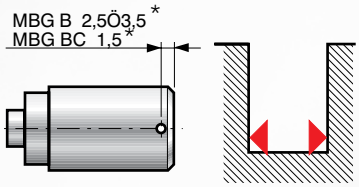
- Measurable diameters: 3 to 300 mm (0.12”-11.81”). Special versions available for bigger diameters.
- With an extensive range of accessories, it is possible to measure at depths of more than 500 mm and measure bores that are perpendicular to the axis of insertion.
- The durable measuring transmission system is capable of more than 10.000.000 measuring cycles.
- Metrological performances guaranteed for all measurable diameters.
- The mechanical transmission measuring system can be interfaced with any pencil probe, dial or digital indicator.
- The linear designed mechanical transmission system has an extensive range of accuracy and only one master is needed for zero setting.
- Compatible with the bore gauge accessories of the main competitors.
- Competitive price.
- Fast delivery times.

TECHNICAL SPECIFICATIONS

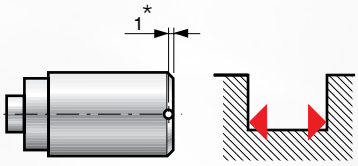
DESCRIPTION	WORKING RANGE								
STANDARD MEASURING RANGE FOR TYPE B AND T (mm)	Ø 3 - 4,5	Ø 4,5 - 5,5	Ø 5,5 - 26			Ø 26 - 300			
	0,055	0,070	0,120			0,150			
EXTENDED MEASURING RANGE FOR TYPE B AND T (mm) (*)	Ø 3 - 4,5	Ø 4,5 - 5,5	Ø 5,5 - 7,5	Ø 7,5 - 15	Ø 15 - 26	Ø 26 - 38	Ø 38 - 100	Ø 100 - 150	Ø 150 - 300
	-	-	-	0,120 - 0,170	0,120 - 0,200	0,150 - 0,200	0,150 - 0,400	0,150 - 0,350	0,150 - 0,300
STANDARD MEASURING RANGE FOR TYPE SB AND BC (mm)	Ø 3 - 4,5	Ø 4,5 - 5,5	Ø 5,5 - 26			Ø 26 - 60	Ø 60 - 150		Ø 150 - 300
	0,055	0,070	0,120			0,150	0,120		0,080
REPEATABILITY (2,77 σ) (μm)	≤ 1								

(1) BY UNSCREWING THE CONTACTS FASTENED TO THE MEASURING ARMSET BY MEANS OF A SCREW WITH HELI-COIL, THE MEASURING RANGES CAN BE EXTENDED UP TO THE VALUES INDICATED IN THE TABLE.

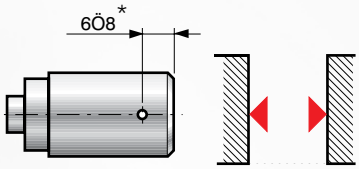
M1 STAR - Standard Versions



MBG-B/BC Plug Heads
For blind bores.



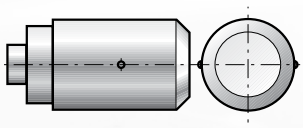
MBG-SB Plug Heads
For superblind bores.



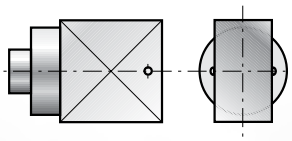
MBG-T Plug Heads
For through bores.

M1 STAR - Dedicated Solutions (Examples)

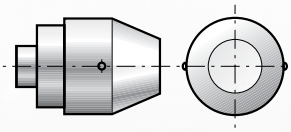
Dedicated Solutions complete the standard product line, and provide solutions for measuring conditions outside the capabilities of Standard Bore Gauges. A wide range of special measuring solutions are available, for your applications, with our series of dedicated plug-heads (on request). Please enclose a workpiece drawing with your enquiry.



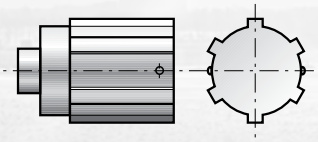
WITH LONG NOSEPIECE
Guides the plug head when measuring discontinuous/interrupted deep bores.
Example: cylinder block.



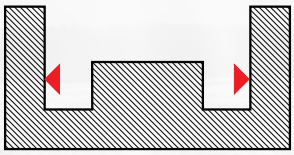
FOR PARALLEL WALLED BORES
To be used for gap measurements.
Example: keyways or splines



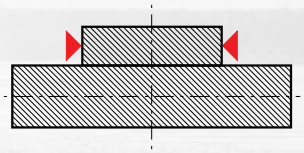
WITH PILOT CONE
For CNC automatic applications the cone helps the entry of the nosepiece into the workpiece, reducing the possibility of accidental damages.



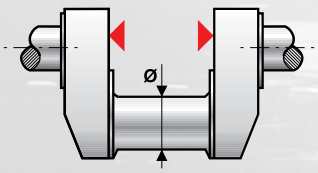
WITH CARBIDE BAR INSERTS
The carbide bars will increase the life of the gauge, reducing the wear on the nosepiece and preventing jamming caused by the presence of metal cinders swarf or debris.



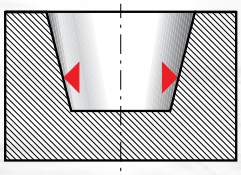
BORES WITH CENTRAL HUB
For the measuring of internal diameters where there is a central hub projection.
Example: automatic transmission components.



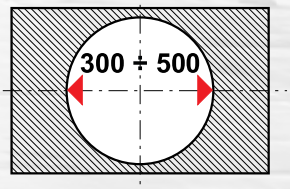
OUTSIDE DIAMETER
For the measuring of the ending section of flywheel shafts, or the short outside diameters often found on transmission & pump components and end caps on electric motors etc.



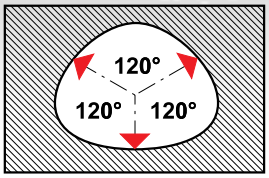
"V"-SHAPED PLUG HEAD
Designed for the measurement of straight sided gaps in crankshafts or similar components.



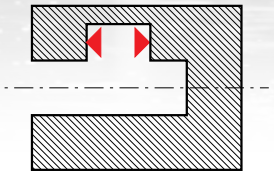
CONE SHAPED PLUG HEAD
For tapered bores.
Example: front or rear knuckles.



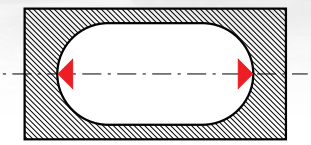
MACRO-LITE
Particularly light and easy to be used for diameters up to 500 mm.
Example: large pipes, oil & gas industries.



3 POINTS MEASURING
For shape and roundness checking.
Example: tri-lobed or irregular shaped bores.



RIGHT ANGLE PLUG HEAD
For measuring bores with perpendicular axis to the direction of gage insertion, or for limited space applications.
Example: differential carrier.



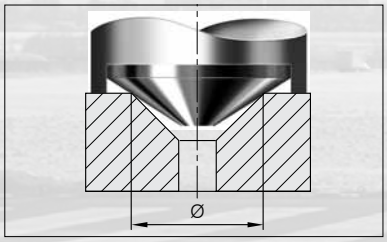
OVAL-SHAPED PLUG HEAD
Designed for measuring oval bores or inter-connecting bores.
Example: lobe pump designs in fuel and oil pumps.

RIVET AND FASTENERS GAUGES (CSK)

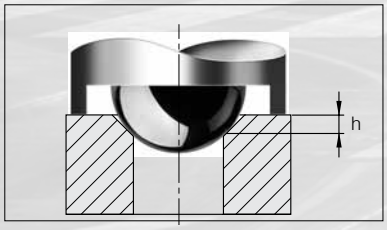
Based on the extensive experience in the Aerospace industry, TESTAR has developed its line of hand gauges to measure Rivet & Fastener Bore Characteristics. Size, depth and angle can be measured. The line includes both Countersink Diameter Gauge and a Countersink Depth Gauge. These two gauges will measure the countersink maximum diameter and the depth of the countersink and when using Marposs Electronics, display the angle of the countersink prior to the rivet being applied.

PRINCIPLE

The countersink gauge with a conical plunger will measure the maximum diameter (the breakout diameter) of the countersink bore by locating on the surface edge.



The countersink depth gauge with spherical plunger will measure the depth of the taper (bottom of the countersink).

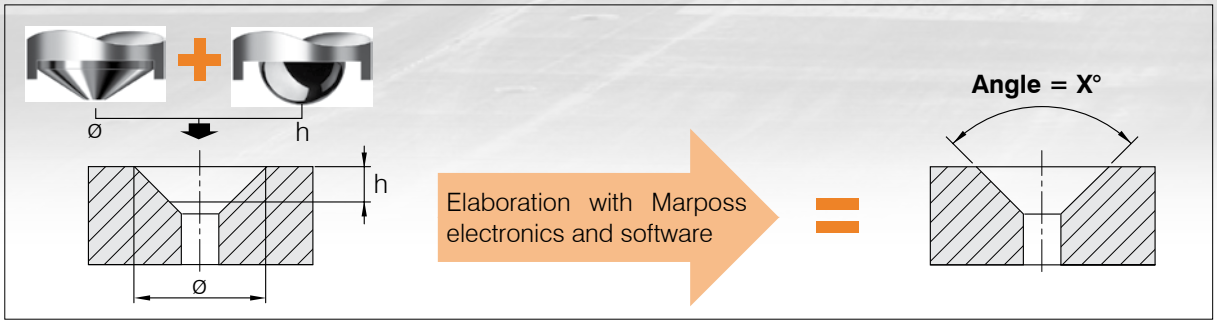


TECHNICAL DATA

A series of plungers and depth stops are available in order to guarantee:
- Measurement of standard rivets designs for Aero Structures.
- Simple, fast retooling

The Countersink Gauges are available in the following versions:
- With programmable standard Quick Digit for cable or Wireless transmission,
- with cable
- wireless

From these two measurements it is possible to obtain the angle of the countersink.



Countersink Diameter Gauge

TECHNICAL CHARACTERISTICS

Description	Value	Note
Application range	0,16"-1" / 4-25,4mm	Maximum Diameter of the tapered bore
Repeatability	≤1 μm	2,77 σ on master
Thermal Drift	≤0.25 μm/°C	

KIT FOR THE MEASURE OF THE BREAKOUT DIAMETER

Measuring kits are available. They're composed of:
- Countersink Diameter Gauge with conical plunger (Please refer to the following table);
- Special depth stop;
- Setting master;
- Quick Digit for cable or Wireless transmission;
- Case.

The Quick Digit for cable or Quick Digit for wireless transmission is zero set at the factory and ready to use. Master's and Quick Digit's certificates are included.

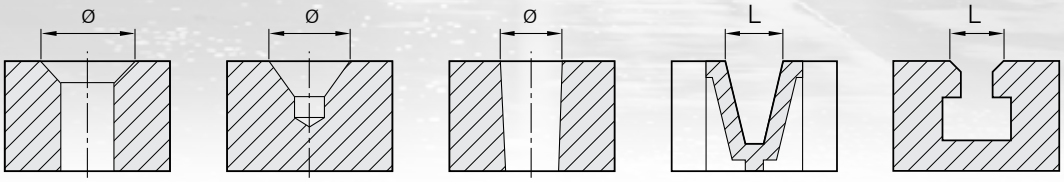
Countersink Taper	Measurable CSK Ø Range	Plunger Taper	Order Code Kit With Quick Digit for cable transmission	Order Code Kit With Quick Digit for wireless transmission
100°	0,16" ÷ 1"	104°	PSACD00900	PSACD01000
100°	0,16" ÷ 0,36"	104°	PSACD00901	PSACD01001
100°	0,36" ÷ 0,56"	104°	PSACD00902	PSACD01002
100°	0,56" ÷ 0,76"	104°	PSACD00903	PSACD01003
100°	0,76" ÷ 1"	104°	PSACD00904	PSACD01004

Dedicated Solutions

Similar kits are available on request:
- Countersink Diameter Gage with customised taper
- Countersink Depth Gage, with spherical plunger of a specific diameter
- Mini Iwave handle

They are suitable for various applications in different sectors.

Application examples:



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