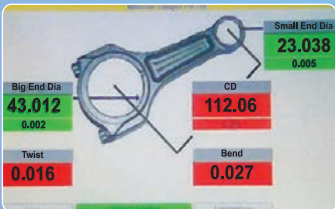


From Contact Gauging to Air Electronic Gauging



MGPL GAUGES WORK FOR AGES



ABOUT US

MGPL Made a modest beginning by making Plain Limit gauges in steel & was the first one to introduce CARBIDE Limit gauges in INDIA. MGPL has been serving the customers since last 35 years.

MGPL is ISO 9001 Certified, NABL Certified company.

MGPL regularly exports gauges to many countries few them are Japan, Germany, Italy, South Africa etc.

Keeping an eye on future & responding to the needs of industry for greater precision, greater speed & labour saving solutions with precision measuring technology, MGPL has successfully entered Air Gauging, Air Electronic Gauging, Auto Gauging, Multi Gauging.

MGPL has grown to become a leading manufacturer producing from Hand held CARBIDE Gauging to Higher End gauging like AUTO Gauging, Electronic Gauging etc.

MGPL owes its growth and success to the strong support of its customers & colleagues.

MGPL is committed to offer cost effective yet reliable Solutions in measurement of

- a) Inside Diameter.
- b) Outside Diameter.
- c) Length.
- d) Width.
- e) Other Parameters like : Concentricity, Run Out, Flatness, Perpendicularity etc.

We look forward to your continued support & guidance.

WHY CARBIDE ? BE WISE CARBIDE WISE

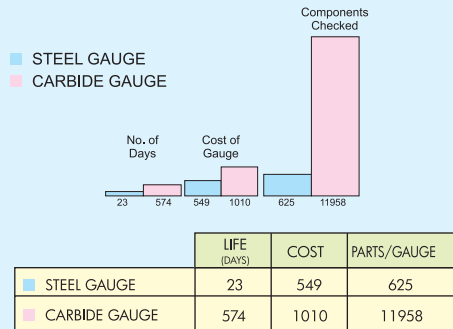
Steel steals !

Steel business is still business ! We say this because steel gauges covertly steal your profits. One tends to think of them as the cheapest alternative as their cost of purchase is lowest. However, the aspect of their age is never taken into consideration and unknowingly, the profit margin is slashed down.

Carbide Heals !

Carbide business is wide business ! The reason behind this confident exclamation is the longer life of a Carbide Gauge. It has been proven, that "Carbide Gauges live 20 times longer than th Steel Gauges". This comparison shows that Carbide Gauges are extremely economical (to be precise, 11 times) than Steel Gauges.

STEEL VS CARBIDE GAUGE



Stunning Observation

Gauge cost per component with steel gauge was 0.87 Ps.

Gauge cost per component with MGPL Carbide Gauge was 0.08 Ps.

CARBIDE AIR GAUGES CARBIDE AIR PLUG GAUGE

- Can be supplied for Through Bore/ Blind Bore applications.
- Adjustable depth collars can be provided for checking at specific depth.
Range : 5mm to 100mm Chrome Plated Steel
Range : 10mm to 50mm in carbide
- Please specify the unit for which Air Plug Gauge is required.

CARBIDE AIR RING GAUGE

- Offered with Jet at Center or at Corner for stepped shaft.
Range : 5mm to 100mm Chrome Plated Steel.
Range : 10mm to 50mm in carbide.
- Please specify the unit for which Air Ring Gauge is required.

AIR SNAP GAUGE

- Offered with Jet at Center or at Corner.
Range : 10mm to 100mm with V resting in Carbide.
- Carbide Air Snap Gauge with Jet fixed in Carbide Tip.
- Please specify the unit for which Air Snap Gauge is required.



CARBIDE PLUG GAUGE

- Carbide Plug Gauges are normally supplied with GO in Carbide & NOGO in stabilised steel.
 - Both can be supplied in carbide as per requirement.
 - MGPL gauges have excellent wall thickness to give desired results.
 - **Range :**

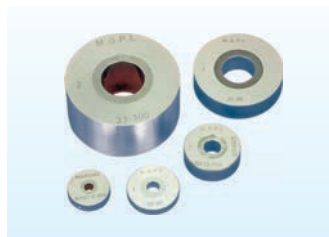
0.5 to 8 mm	Reversible type design
8 to 40 mm	Taper shank design
40 to 60 mm	Trilock design
60 to 400 mm	Plate type Plug Gauge
 - Extra length up to 100 mm can be supplied as per requirement.
- Following designs can be supplied as per requirement.



- Extra Length Plug Gauge. ● Air Groove on Plug Gauge. ● Paddle Type Plug Gauge.

CARBIDE RING GAUGE

- MGPL Carbide Ring Gauges are normally supplied GO in Carbide & NOGO in steel.
- GO & NOGO both can be supplied if required in Carbide.
- Setting Rings are manufactured in Carbide.
- Extra length Ring Gauges can be supplied.
- Manufacturing Range : 4 to 83 mm.



CARBIDE SNAP GAUGE

- Gauges as per customer design can be supplied.
- Supplied normally in single ended design.
- Manufacturing Range : 3 to 300 mm.

Following designs can be supplied as per requirement.

- Blade Type Snap Gauge. ● Groove Type Gauge.
- Template Type Snap Gauge. ● Double Ended.



CARBIDE WIDTH GAUGE

- MGPL has designed Carbide Width Gauges in reversible type design to suit a) Piston Industries, b) Pumps & Motors Industries. c) Automobile & Crankshaft manufacturers.
- Special gauges like Woodruff Width Gauges & Crankpin Width Gauges in Carbide are most suitable to crankshaft manufacturers.
- Setting Masters in ± 1 micron can be supplied.



NOTE: GO & NOGO Size Manufactured As Per IS 3455 (1971) Unless Specified

MEASURING PINS

- MGPL supplies Carbide Measuring Pins in Two grades. ● Normally having $L = 50$ mm.
- Grade I : Manufacturing Tol = ± 0.001 mm. ● Pins with close tolerance of $\pm 0.5 \mu\text{m}$ can also be supplied.
- Grade II : Manufacturing Tol = ± 0.002 mm. ● Range 0.5mm to 20mm.

DIAL SNAP GAUGES

- Available in 6 ranges in steps of 25 mm, up to 150 mm.
Parallelism $\leq 3 \mu\text{m}$ for 0-25, 25-50 mm
Parallelism $\leq 4 \mu\text{m}$ for 50-75, 75-100 mm
Parallelism $\leq 5 \mu\text{m}$ for 100-125, 125-150 mm
 - Follows Abbe's principle.
 - Most useful for fast repetitive checks.
 - Can be supplied with round 8 mm measuring anvil.
 - Any indicating instrument with 8 mm shank diameter can be used.
 - Measuring faces chamfered for ease of insertion.
 - Measuring anvil Carbide tipped.
- Bigger sizes also offered on request.**



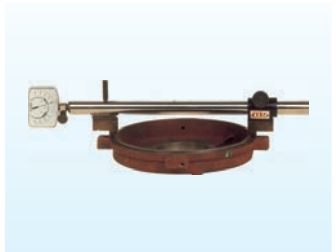
MULTIGAUGE

Checks both internal and external dimensions.

Applications :

- Step diameters Inside & Outside.
- Center to center distance.
- Over pin/ball measurement for bigger size gears both for internal & external.
- Groove diameter measurement internal & external.

Most useful in Pumps, Motors, Automobile Industries for Flywheels, Bearing Cap, Gears, Brake Drums, Rear Axle etc.



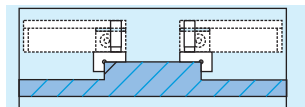
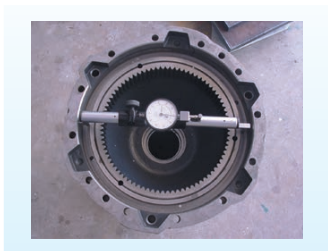
Models :

MG 200 : 30 to 200mm internal & external.

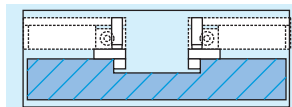
MG 400 : 100 to 400mm internal & external.

MG 600 : 300 to 600mm internal & external

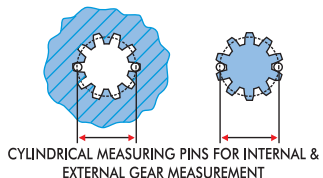
Bigger Sizes also offered on request.



Shoulder Anvils Flat Outside Spigot Diameter



Semi-Cylindrical Anvils For Inside Register Diameters



OBD/IBD UNIT

- MGPL supplies OBD unit with standard Carbide ball anvils.
- Can be used with digital display unit or dial.
Range : 10mm - 50mm
Range : 50mm - 100mm
Range : 100mm - 150mm



COMPARATOR STAND

- Any Dial of 8 mm shank dia can be used.
- Base Steel or CARBIDE Plain / SERRATED.
- Flatness of base = 0.001 mm

TECHNICAL SPECIFICATION

MODEL NO.	RANGE	BASE
MG CS - 150	0 -150mm with fine adjustment	50mm
MG CS - 200	0 - 200mm with fine adjustment	70mm
MG CS - 250	0 - 250mm with fine adjustment	90 x 90mm



Model No. - MG CS - 150



Model No. - MG CS - 200



Model No. - MG CS - 250

AIR ELECTRONIC UNIT

(MODEL V1)

- 1 probe input.
- Can be used for Air/Electronic Gauging.
- This units includes all Salient features as mentioned below.



AIR ELECTRONIC UNIT

(Model:V2D)

- Shows 2 reading when used with 2 converters.
- Can also be used with only electronic gauging application.
- Saves space & improves checking efficiency.
- This units includes all Salient features as mentioned below.



AIR ELECTRONIC UNIT

(Model-V4)

- Up to 4 readings can be displayed .
- Can be used with Air Electronic or Pure electronic applications.
- Option: with Memory storage .
- Dynamic measurement & various probe combinations possible.
- This units includes all Salient features as mentioned below.



AIR ELECTRONIC UNIT

(Model : Tri Colour Column)

- Microprocessor Based.
- Tri Colour LEDs showing accept/reject / rework status on column.
- Unique Scaling Factor.
- RS 232 O/P.
- Wireless data transfer possible.
- Least Count: $5\text{ }\mu\text{m}$, $1\text{ }\mu\text{m}$, $0.5\text{ }\mu\text{m}$, $0.1\text{ }\mu\text{m}$.



SALIENT FEATURES

- Microprocessor Based.
- Unique Scaling Factor.
- RS 232 O/P .
- Wireless data transfer possible.
- Least Count: $5\text{ }\mu\text{m}$, $1\text{ }\mu\text{m}$, $0.5\text{ }\mu\text{m}$, $0.1\text{ }\mu\text{m}$.
- Display of Absolute value or Deviation.
- 3 LEDs for showing status Accept , Reject , Rework.
- Dynamic Measurement (Max, Min, Diff (TIR) mode) available.
- Buzzer for Rejected Job.
- External Relay.
- Provision for foot switch.

MGPL ADVANCED DIGITAL DISPLAY UNIT MODEL : V8 (OCTAGAUGE)



Bargraph Display



DRO Display



Dial Type Display

SALIENT FEATURES :

- 7.2" colour TFT display.
- 8 LVDT input channels.
- Soft alpha numeric keys .
- Easy to use .
- 5 Programmes for 5 different applications can be saved & recalled when required.
- User selectable Display formats : Dial, Bargraph, DRO .
- User defined equation generator.
- Possibility of using two or more results to compute new result.
- 1 GB memory - implies you can store lacs of readings.
- Data Storage with Date-N-Time stamp in file format.
- Data storage in " *.csv " format - implies you can directly download the data in MS Excel without any other interface software.
- USB Host.
- Ethernet port.
- RS232 / RS485 - possibility of connecting multiple units over bus to single PC.
- 8 opto isolated digital inputs to connect the sensors like proximity switch, Reed switch, Safety curtain.
- 8 opto isolated digital outputs to operate the pneumatic cylinders, solenoids etc. (No PLC or PC required for basic automation).
- Foot-switch / hand switch port.
- Embedded system. No Windows...hence immune to Virus attack.

WIRELESS SETUP

The wireless transceivers work on Zig-Bee protocol. The modules operate on 2.4 GHz ISM frequency which is license free band in India. The modules are plug-n-play. They are available in two types basically: RS232 (3 wire)/ USB. Just connect the slave module to VERSATILE DISPLAY UNIT and master to the PC through RS232 port / USB and power up.

The modules are pre-programmed as per the user needs :

- One-to-one communication (Standard available)
- Many-to-one communication (Custom made)

In multi-point communication unique ID's are generated. Data is internally encrypted to avoid cross talk and data loss.

The normal standard range which we have demonstrated successfully is of up to 100 mtrs. out-of-line of sight in indoor conditions. (However bigger lengths requirements can also be met)



MD SERIES AIR GAUGE UNIT

- Manufactured in India under license from TOSOK, Japan.
- Proven track record as being used in various countries over 50 years.
- Durable.
- Excellent Stability.
- Easy to set.
- Quick response time.
- Magnification can be adjusted over a wide range.
- Less Maintenance.
- High accuracy & Linearity.
- Almost all type of Air gauge can be set.
- Range $\pm 0.025\text{mm}$, L.C= 0.001mm
- Range $\pm 0.050\text{mm}$, L.C= 0.002mm



AIR GAUGE UNIT

- MGPL Air Gauge Unit is Null balance pressure system Unit. High Pressure
- System-faster response & self cleaning of Gauging area.
- Two setting knob for fine setting .
- Two setting masters ensure correct linear setting.
- Air Pressure Required $\geq 50\text{ Psi}/3.5\text{kg}/\text{cm}^2$
- Accuracy $\pm 2\%$ FSD.
- Range $\pm 0.020\text{mm}$, L.C= $0.5\mu\text{m}$
- Range $\pm 0.040\text{mm}$, L.C.= $1.0\mu\text{m}$



AIR GAUGING

FOR CONNECTING ROD :

TWIST, BEND, CD & DIAMETER CHECKING :

- Air gauging fixture to check twist, bend.
- Center distance checked on Dial.
- 8 jet Air plugs (2 Nos.) used.
- Master can be supplied as per requirement.



FOR CRANKSHAFTS :

CD CHECKING FIXTURE

- MGPL supplies air gauging fixture to check center distance of the 2 wheeler Crankshaft.
- Inside diameter can also be measured in the same fixture.
- Solution offered to mark the grade also.



FOR HALF BEARING :

- Bearing thickness checking fixture.
- For checking radial thickness of shell bearing used in crankshafts.
- Supplied with carbide mandrel for long life.
- Supplied with or without front support.
- Open jet design which minimizes damage possibility on measuring area.
- Range : Normal 38 - 190 mm adjustable.
- Accuracy in radial measurement < 0.001 mm.
- To suit existing air Gauge unit / our standard air Gauge unit.



ELECTRONIC GAUGING

Run out Gauging



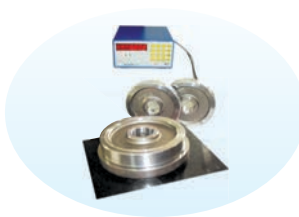
Flatness Gauging



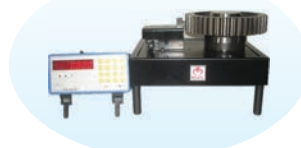
Concentricity Gauging



Perpendicularity Gauging



PCD Runout



Please forward us the component drg. Highlighting the parameter to be measured to design suitable solution

Keeping An Eye On Future & Responding To The Needs Of Industry For Greater Precision, Greater Speed & Labour Saving Solutions With Precision Measuring Technology, MGPL Has Successfully Entered Air Gauging, Air Electronic Gauging, Auto Gauging, Multi Gauging.

MGPL Executed Many Projects For Multi Parameters Checking Of Variety Of Components. MGPL Developed One Of The Most Advanced Interface Units Which Can Be Used With Specifically Designed Relay Outputs For Marking Or Separating Bad Parts.

SHAFT MULTIGAUGING (Horizontal Model)

Proven design suitable for all kinds of shafts.

Flexible fixture to check diameters & runouts.

Offered in Horizontal as well as Vertical design.



SHAFT MULTIGAUGING (Vertical Model)

MGPL Designed In Between Center gauging fixture is useful to use with large Variety of shafts.

e.g. Cam Shafts, Transmission Shafts, Input, Output Shafts etc.
parameter to check:

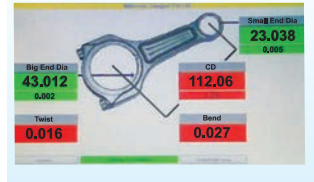
- Diameter.
- Lengths.
- Concentricity.
- Runouts.



CONNECTING ROD MEASUREMENT

To check:

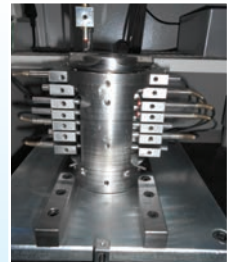
- Small End Diameter.
- Big End Diameter.
- Twist.
- Bend.
- Center Distance.



CRANKSHAFT MULTIGAUGING (2 Wheelers)

TO CHECK :

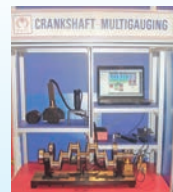
- Outside Diameters (2/3 places).
- Taper .
- Run Out.
- Inside Dia.
- CD.



CRANKSHAFT MULTIGAUGING (4 Wheelers)

MGPL supplies total solution measuring following parameters of crankshafts.

- Pin diameter & Ovality (Convexity if required).
- Journal Diameter and Ovality (Convexity if required).
- Flange End & Gear End Diameter. ● THROW (Center Distance).
- Flange end, Gear End.
- Run outs w.r.t. 2 Journals PIN Width Woodruff Width.



ENGINE VALVE MULTIGAUGING

Stem Dia measurement at 3 places.

- Stem Diameter.
- Groove Diameter.
- Total Length.
- Gauge Plane Length.



CRANKPIN MULTIGAUGING

- Checking Diameters.
- Grading.
- Grade marking.



DIFFERENTIAL CASE MEASUREMENT

- Outside Diameter.
- Inside Diameter.
- Lengths.
- Run out.



CYLINDER BLOCK MEASUREMENT

- Inside bore measurement at 2-3 heights.
- Grading.
- Grade Marking.



BRAKE DRUM/ BRAKE DISC MULTIGAUGING

- Big ID.
- Run out.
- Circularity.
- Thickness.
- DTV.



BORE MEASUREMENT MULTIGAUGING FOR CONTROL VALVE MANIFOLD / CRANKCASE

- Multiple bore can be Checked.



BEARING CAP MULTIGAUGING

- ID
- Distance
- Flatness
- Parallelism.
- Perpendicularity.



CYLINDER HEAD GAUGING

This Gauging is Offered in India by MGPL along with M/S Rodolf Nieberding Germany.

SOLUTIONS TO CHECK

- Leakage
- Angle
- Roundness
- Depth
- Straightness
- Concentricity of the guide bore w. r. t. valve seat



CAMSHAFT MULTIGAUGING

- Diameter
- Runout
- Lengths.
- Concentricity



TURBO CHARGER PARTS / CENTER HOUSING / HOUSING TURBINE / BACK PLATE Etc. MEASUREMENT

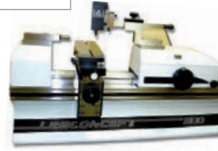
- Inside Diameters.
- Outside Diameters.
- Lengths.
- Widths.
- Flatness.
- Angle.



Please forward us the component drawing highlighting the parameters to be measured.

MGPL SETUP SHOP & LAB

OUR LAB



SUB Zero



LASER MARKING MACHING



OUR TEAM

QUALITY POLICY

We all at Mikronix Gauges Pvt. Ltd. are committed to achieve customer satisfaction by making continuous improvement in

- 1) Quality
- 2) Delivery
- 3) Service.

G. D. Hanchanal

(Chairman & Managing Director)

OUR WORKSHOP



MGPL Gauges, Work For Ages



Unit-1



Unit-2



Unit-3



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