

ONE POINT SOURCE FOR GAUGING SOLUTIONS



AIR GAUGING

DIAL AIR GAUGE UNIT -



FEATURES :

- Useful for fast inspection of components in mass & batch production.
- Ideal for very small & accurate diameters.
- Quick response to measurement.
- Accurate reading of size, taper & ovality at a time.
- Works on Null Balance Principle.
- Longer life due to non contact measurement.
- High pressure air gauge.
- Self cleaning of component.
- Input pressure 4 - 10 kg/cm².
- Easy setting.
- Two setting masters ensures correct linear calibration.
- Measuring Range • Least Count

± 0.040 mm	0.001 mm
± 0.020 mm	0.0005 mm
- Repeatability of measurement within ± 1 Division.
- In built Filter Regulator Unit ensures moisture & oil free air supply.
- Differential Air Gauge - on request.

AIR ELECTRONIC COLUMN -



FEATURES :

- Single channel / four channel tri colour air electronic column gauge.
- Tri colour bar graph with markers.
- Tri colour display indicates component status.
- RED- REJECT | GREEN- OK | YELLOW- REWORK.
- 3 colour LED for status indicator HI / OK / LOW.
- 6 digit LED display for readings.
- LCD display for easy user interface and user friendly program settings.
- Least count of 0.1μ / 0.5 μ / 1 μ (μ → micron)
- Selectable range of ±10 μ / ±30 μ / ±100 μ.
- Metric and inch measurements.
- Absolute and relative readings.
- Mode: Max / Min / TIR.
- Auto sense of component feature.
- RS232 output port for PC interface to transmit data. (SPC).
- User friendly software for MASTER CALIBRATION.
- Auto calibration. Single and double mastering facility.
- 10 programs can be stored against any serial number and any one program can be recalled by selecting the serial number.
- Optional relay output.
- Optional foot switch.
- Optional wireless network interface .

AIR GAUGING

SINGLE / FOUR CHANNEL ELECTRIC COLUMN -



FEATURES :

- Single channel / four channel tri colour electronic column gauge.
- Tri colour bar graph with markers.
- Tri colour display indicates component status.
- RED- REJECT | GREEN- OK | YELLOW- REWORK.
- 3 colour LED for status indicator HI / OK / LOW.
- 6 digit LED display for readings.
- LCD display for easy user interface and user friendly program settings.
- Least count of 0.1μ / 0.5μ / 1μ ($\mu \rightarrow$ micron)
- Selectable range of $\pm 10\mu$ / $\pm 30\mu$ / $\pm 100\mu$.
- Metric and inch measurements.
- Absolute and relative readings.
- Mode: Max / Min / TIR.
- Auto sense of component feature.
- RS232 output port for PC interface to transmit data. (SPC).
- User friendly software for MASTER CALIBRATION.
- Auto calibration. Single and double mastering facility.
- 10 programs can be stored against any serial number and any one program can be recalled by selecting the serial number.
- Optional relay output.
- Optional foot switch.
- Optional wireless network interface.

TWO / THREE / FOUR CHANNEL ELECTRONIC DRO DISPLAY UNIT -



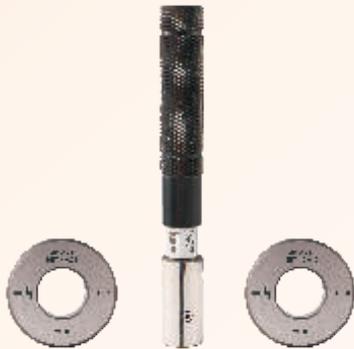
FEATURES :

- 20 characters x 2 or 4 rows big font LCD display with yellow back light.
- Common as well as individual 3 LED indications for each result.
- 2 / 3 / 4 LVDT probe interface.
- Number of LVDT probe selectable 1 / 2 / 3 / 4.
- 5 user programmable fixture programs. (User selectable 4 digit fixture name).
- Single / double master calibration facility.
- Mastering :
 - o All at a time.
 - o Single at a time.
 - o Combination at a time.
- Programmable formula / factor. (A, B, A+B, A-B, C, D, C+D, C-D etc.).
- Static / dynamic mode – current / Min / Max / TIR / Avg.
- Absolute / relative readings.
- Metric / inch measurements.
- Auto sense mode.
- Individual as well as combined results.
- Least count of 0.1μ / 0.5μ / 1μ .
- ID / OD selectable.
- LCD display for easy user interface / program setting.
- RS232 output port for PC interface to transmit data. (SPC)
- User friendly software for Master calibration.
- Optional Relay Output.
- Optional foot switch interface.
- Optional wireless network interface.



AIR GAUGING

AIR PLUG GAUGE WITH SETTING RINGS



FEATURES :

- Useful for internal bore measurement
- The flow of air through gauging surface helps in self cleaning.
- Two jetted air plug for measuring size, taper & ovality.
- Three jetted air plug for measuring average size & lobing effect.
- Hard chrome plated for longer life.
- Available Range : 5 mm to 200 mm.
- Suitable for through or Blind bore measurement.
- Two setting rings required with air plug.
- Special air plug for multiple diameters can be provided.

AIR RING GAUGE WITH SETTING PLUGS



FEATURES :

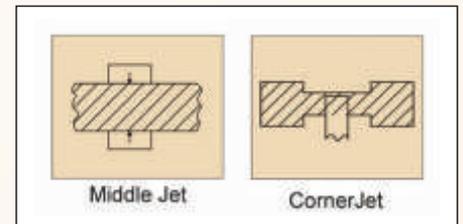
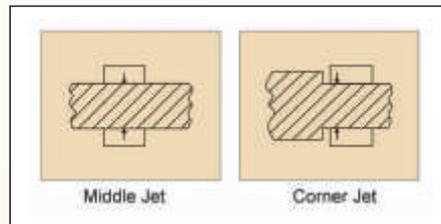
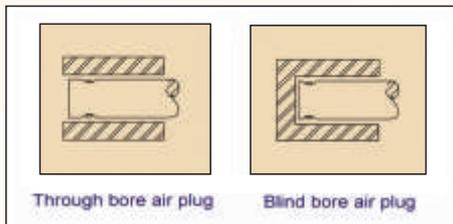
- Useful for external diameter measurement.
- Consists of hardened cylindrical steel body precisely ground & lapped to maintain the clearance in the work piece.
- The flow of air through gauging surface helps in self cleaning.
- Two jetted air ring for measuring size, taper & ovality.
- Three jetted air ring for measuring average size & lobing effect.
- Available Range : 10 mm to 100 mm.
- Through or shoulder shaft design.
- Two setting plugs required with air ring.
- Special air ring for multiple diameters can be provided.

AIR SNAP GAUGE WITH SETTING MASTERS



FEATURES :

- Useful for shaft diameter measurement.
- Consists of hardened rectangular steel body precisely ground & lapped to maintain the clearance in the work piece.
- The flow of air over gauging surface helps in self cleaning.
- Diameters can be checked on machine.
- Two jetted air snap for measuring size, taper & ovality.
- Carbide resting pads on V surface.
- Available Range : 25 mm to 100 mm.
- Through or shoulder shaft design.
- Two setting masters required.
- Special six jetted air snap for checking crowning effect on crank shaft diameter can be provided.

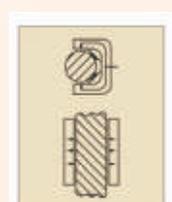
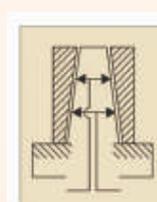
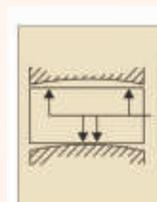
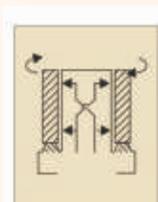


TAPER AIR GAUGE -



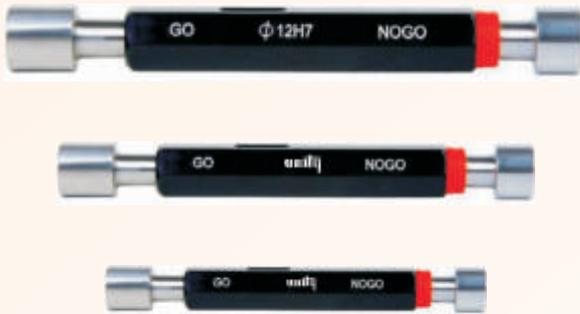
FEATURES :

- Long air plug for deep bore checking
- Single jetted for runout / concentricity checking.
- Square air plug for groove/ slot checking.
- Straightness air plug/ air ring for blowing effects checking.
- Taper air plug/ air ring for taper bore / shaft & angle checking.
- Multipoint air plug/ air ring/ air snap for multi diameter checking.



LIMIT GAUGES

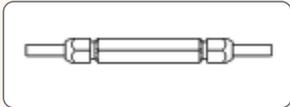
PLAIN PLUG GAUGE -



FEATURES :

- Supplied with go and no-go member together.
- Metric and inch dimensions.
- Customized / special gauges as per drawing can be provided.
- Material : Steel Carbide
- IS:3455 for standard manufacturing.
- Hardness: 60±2 HRC.
- Sub zero treated gauges.
- Class H7 gauges available in stock.

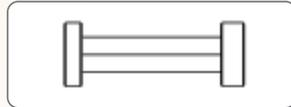
TYPE	DESIGN	RANGE
A	REVERSIBLE TYPE	Ø0.5 - Ø 6 MM
B	TAPER LOCK	Ø 6 - Ø 40 MM
C	TRILOCK DOUBLE ENDED	Ø 40 - Ø 65 MM
D	TRILOCK SINGLE ENDED	Ø 65 - Ø 100 MM
E	PLATE TYRE	Ø 100 - Ø 400 MM



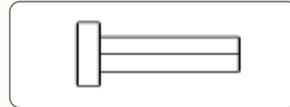
A



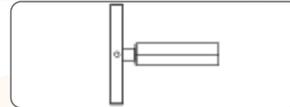
B



C



D



E

MASTER SETTING RING / GO OR NO-GO RING GAUGE -



FEATURES :

- Used for zero setting of inside micrometer, three point internal micrometer and bore gauges.
- Material : steel carbide
- Metric and inch dimensions.
- Hardness: 60±2 HRC.
- Sub zero treated.
- IS: 3455 for Go No-Go ring gauges.
- Customized / special rings as per drawing can be provided.
- Standard round sizes setting masters available in stock.

RANGE	DEVIATION *
1 - 100 mm	± 0.002 mm
100 - 200 mm	± 0.003 mm
200 - 300 mm	± 0.005 mm

*Deviation: difference between the ordered size and the size marked on the setting ring when supplied.
e.g. Ordered size is 20.130mm, the size marked on the setting ring when supplied may be Ø20.132.

FIXED SNAP GAUGE -



FEATURES :

- Used for checking outer diameters, flange widths, groove diameters.
- Material : steel carbide
- Metric and inch dimensions.
- Hardness: 60±2 HRC.
- Sub zero treated.
- IS: 3455 for Go No-Go snap gauges.
- Customized / special snap gauges as per drawing can be provided.
- Range : 1 mm to 275 mm
- Double ended snap gauges available

LIMIT GAUGES

ADJUSTABLE SNAP GAUGE -



FEATURES :

- Used as Go / No-Go single ended snap gauge.
- Moveable anvils facilitate to accommodate size variations.
- Reduces the inventory of fixed snap gauges.
- Cost saving.
- Anvils are hardened to 60 ± 2 HRC.
- Sub zero treated.
- Range available from 0 – 300 mm in type 'C'
- Flatness of anvils 1.5μ
- Parallelism between anvils: 0-32 mm : 3μ / 32-89 mm : 4μ / 89-300 mm : 5μ

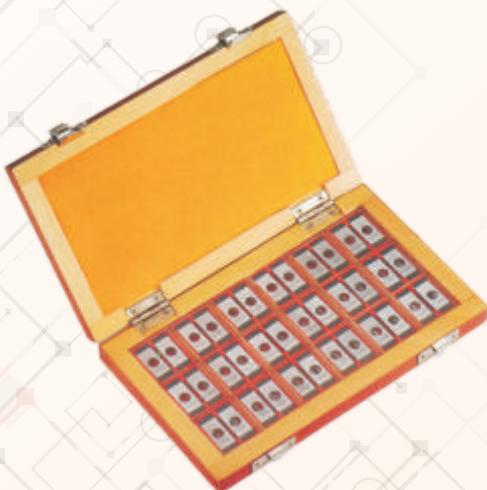
MEASURING PIN GAUGES -



FEATURES :

- Used for checking holes, centre distance between holes, as cylindrical masters for checking gear PCD, to check the slot width etc.
- Range: $\varnothing 0.5$ mm to $\varnothing 20$ mm.
- Metric and inch dimensions.
- Hardness: 60 ± 2 HRC
- Material: steel carbide
- Grade 1 ± 0.001 mm.
- Available in steps of 0.010mm, 0.020mm, 0.050mm.
- Pins with knob / without knob available
- Pin length : upto $\varnothing 3$ mm - 40 mm length
above $\varnothing 3$ mm - 50 mm

THREE WIRE THREAD MEASURING SET -



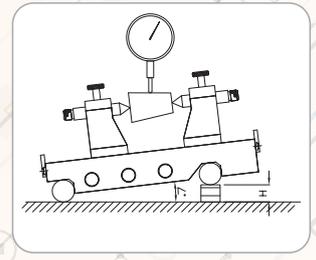
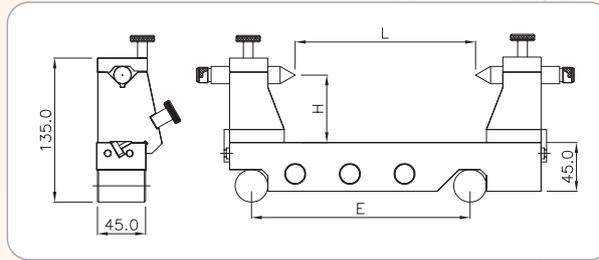
FEATURES :

- Used for measurement of pitch diameter of thread gauges using micrometer.
- Wires are hardened and ground.
- Hardened to 60 ± 2 HRC.
- Sub zero treated.
- Suitable for micrometer with spindle diameter of $\varnothing 6.35$, $\varnothing 6.50$, $\varnothing 8.00$ mm.
- Available in single set or complete set of 18 wires.
- A full set for $\varnothing 0.25 - \varnothing 5$ mm pitch thread consisting of 18 wires.
- Looses set per pitch available (3 pins).

Range	Sizes	Accuracy diametrical tolerance
0.25 - 5.0 mm Pitch threads (1 unit = 3 wires)	0.170, 0.195, 0.220, 0.250, 0.290, 0.335, 0.390, 0.455, 0.530, 0.620, 0.725, 0.895, 1.100, 1.350, 1.650, 2.050, 2.550, 3.200.	$\pm 0.5 \mu$

INSTRUMENTS

SINE CENTER -

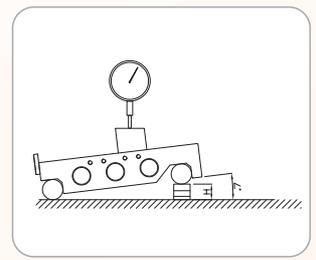
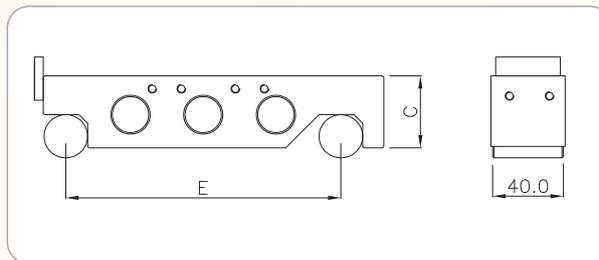


FEATURES :

- Check taper or runout of taper bars
- Sinebar accuracy ($\alpha=30$) : ± 5 seconds

Roller distance (E)	Center height (H)	Accuracy of α at 30°
200 mm	65 mm	± 5 seconds
300 mm	65 mm	± 8 seconds

SINE BAR -

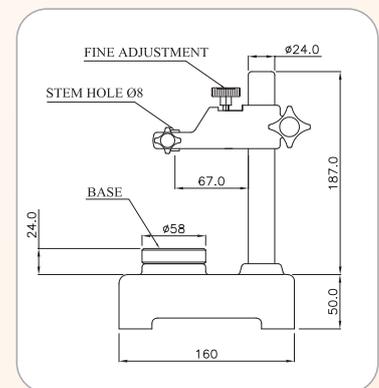
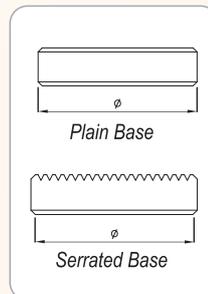


FEATURES :

- Check taper component
- Sinebar accuracy ($\alpha=30$) : ± 5 seconds

Roller distance (E)	Table size (A x B)	C	Accuracy of α at 30°
100 mm	130 X 30 mm	40 mm	± 5 seconds
200 mm	230 X 30 mm	40 mm	± 5 seconds
300 mm	345 X 40 mm	50 mm	± 8 seconds

DIAL GAUGE STAND -



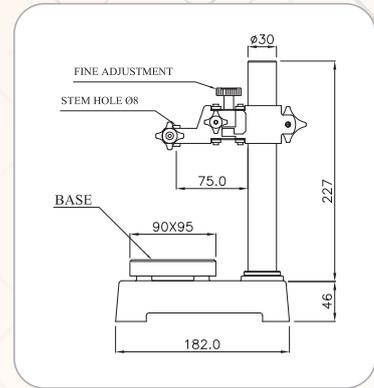
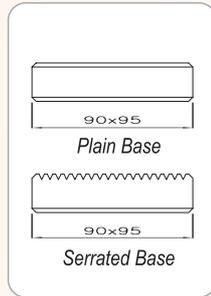
FEATURES :

- Vertical travel of holder : 100mm
- Fine adjustment range : 2mm
- Available in plain base and serrated base

Application holding stem	Base
$\varnothing 8$ mm	serrated / plain base, flatness 1.5 μ m hardness HRC60+2

INSTRUMENTS

DIAL INDICATOR STAND CS 2 -

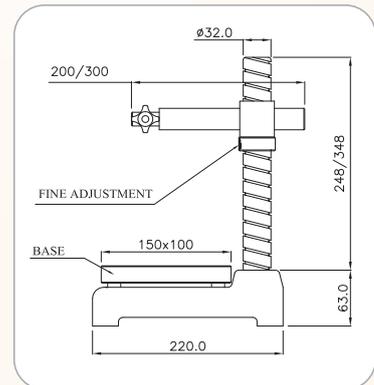
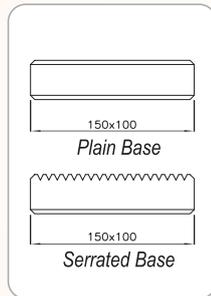


FEATURES :

- ▄ Vertical travel of holder : 150mm
- ▄ Fine adjustment range : 2mm
- ▄ Available in plain base and serrated base

Application holding stem	Base
Ø8 mm	serrated / plain base, flatness 1.5 µm hardness HRC60+2

DIAL INDICATOR STAND CS 3 -



FEATURES :

- ▄ Vertical travel of holder : 200mm and 300mm
- ▄ Fine adjustment range : entire stroke
- ▄ Available in plain base and serrated base

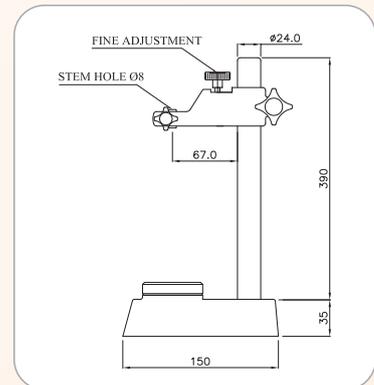
Model	Vertical Travel	Fine Adjustment	Working Stroke	Flatness
CS _{3A}	200	Entire travel	200	3 µm
CS _{3B}	300	Entire travel	300	3 µm

TRANSFER STAND -



FEATURES :

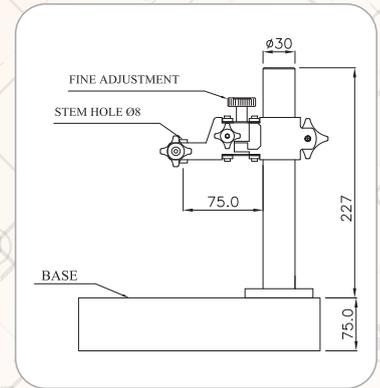
- ▄ Vertical travel of holder : 335 mm
- ▄ Fine adjustment range : 2 mm



Application holding stem	Base
Ø8 mm	Plain base, flatness 1.5 µm hardness HRC60+2

INSTRUMENTS

DIAL INDICATOR STAND GCS 2 -

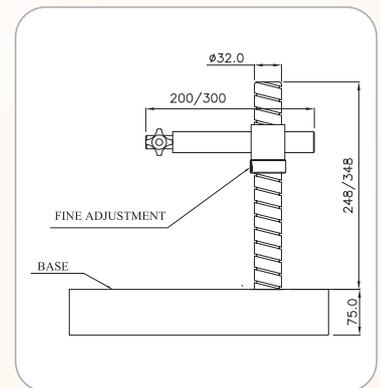


FEATURES :

- Vertical travel of holder : 150 mm
- Fine adjustment range : 2 mm
- Base size : 150 x 200

Application holding stem	Base
Ø8 mm	Flatness 2.5 µm

DIAL INDICATOR STAND GCS 3 -

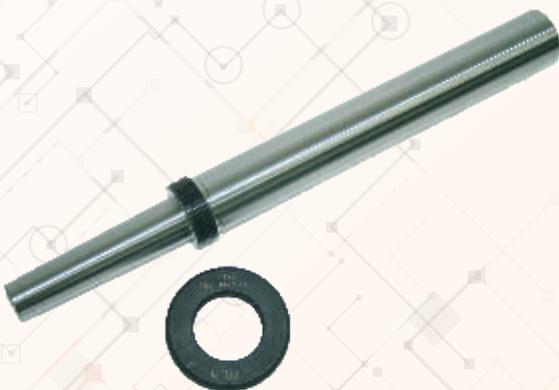


FEATURES :

- Vertical travel of holder : 250mm
- Fine adjustment range : Entire Stroke
- Supplies with dust cover

Model	Vertical Travel	Fine Adjustment	Working Stroke	Flatness	Base Size
GCS _{3A2}	200	Entire travel	200	4 µm	200 x 200
GCS _{3B2}	300	Entire travel	300	4 µm	200 x 200
GCS _{A3}	200	Entire travel	200	4 µm	300 x 300
GCS _{B3}	300	Entire travel	300	4 µm	300 x 300

TAPER TEST MANDREL -



- Test mandrel is mainly used for machine tool acceptance
- Test mandrel is made generally as per IS - 2063 - 2003
- Made from good quality alloy steel, heat treated and sub zero processed for maximum stability and wear resistance
- Test mandrel provided in more taper and ISO taper Special mandrel on request

SIZES AVAILABLE -	MT-1 x 200 L	MT-4 x 300 L	ISO - 30
	MT-2 x 200 L	MT-5 x 300 L	ISO - 40
	MT-3 x 300 L	MT-6 x 300 L	ISO - 45
			ISO - 50

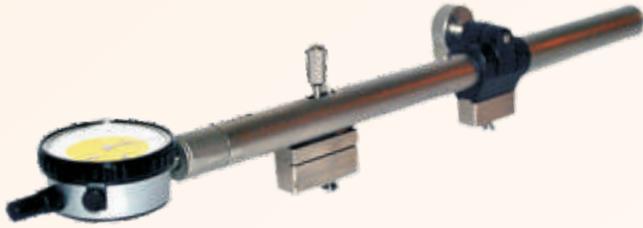
NOTE : Parallel test mandrel available. Enquire for sizes.

INSTRUMENTS

SHALLOW BORE GAUGE -

FEATURES :

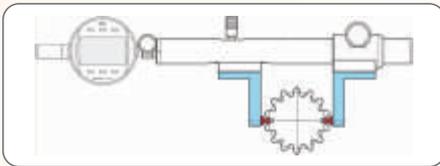
- Both internal and external dimensions can be measured in one unit.
- Constant measuring force eliminates feel of an operator.
- High sensitivity and accuracy.
- Any dial indicating instrument with 8 mm mounting shank can be used in combination with shallow gauge.
- Various applications are possible by changing the anvils, which replaces number of instruments.



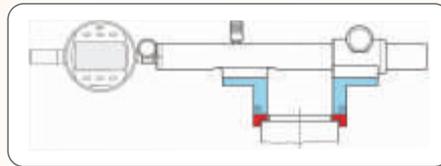
SR. NO.	RANGE MM	
	O. D.	I. D.
1	030-250	050-250
2	200-400	200-400
3	400-600	400-600
4	600-800	600-800
5	800-1000	800-1000

NOTE : Above 1000 mm on special request.

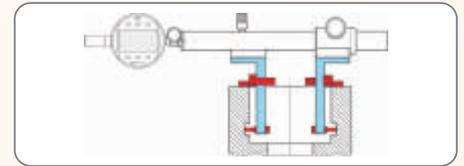
MOP MEASUREMENT



SHOULDER MEASUREMENT



GROOVE MEASUREMENT



DIAL SNAP GAUGE -

FEATURES :

- Anvil spindle easily adjustable.
- Maximum wear resistance measuring faces are carbide tipped.
- Constant measuring force as a result of built in spring which eliminates user influence.
- Measuring spindle & anvil spindle made of hardened graded steel.
- Ranges available 0 - 25, 25 - 50, 50 - 75 mm, up to 150 mm available.
- Rugged aluminum frame with heat insulators.

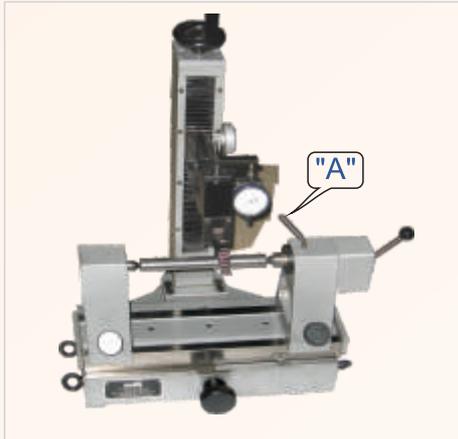


SR. NO.	RANGE MM	MODEL
1	00 - 25	M 25
2	25 - 50	M 50
3	50 - 75	M 75
4	75 - 100	M 100
5	100 - 125	M 125
6	125 - 150	M 150

GEAR MEASUREMENT

Measurement of True Pitch Diameter of Splines, Spur and Helical Gears with use of Carbide Ball.
Suitable for even or odd number teeth of gears. Available in mechanical & electronic models.

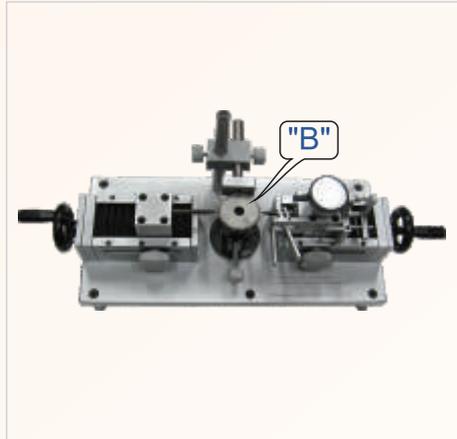
GEAR PCD RUNOUT CHECKING CENTRE



FEATURES :

- Centre Height: 155 mm.
- Table Length: 440 mm.
- Table Movement in X axis: ± 100 mm.
- Column Height: 440 mm.
- Dial Movement up & down: 250 mm.
- Capacity: Gear PCD 0–300 mm.
- Repeatability: ± 0.002 mm.

GEAR DOB (DIAMETER OVER BALL) CHECKING INSTRUMENT



FEATURES :

- Capacity: Gear Dia. 15 TO 200 mm.
- Repeatability: ± 0.002 mm.
- Instrument is used for diameter over ball of spur and helical gears.

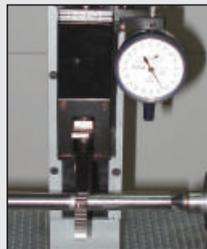
DIGITAL GEAR DOB (DIAMETER OVER BALL) CHECKING INSTRUMENT WITH DIGITAL DISPLAY



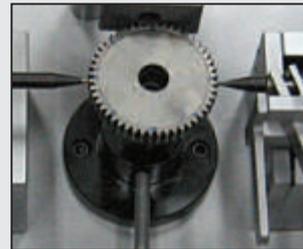
FEATURES :

- Capacity: Gear Dia. 15 TO 200 mm.
- Repeatability: ± 0.002 mm.
- Resolution of Display: 0.1μ , 0.5μ , 1μ & 5μ .
- RS-232 Output for transferring the data to PC for SPC analysis & data storage.

"A" - Enlarged View



"B" - Enlarged View



GEAR PCD & FACE RUNOUT CHECKING INSTRUMENT



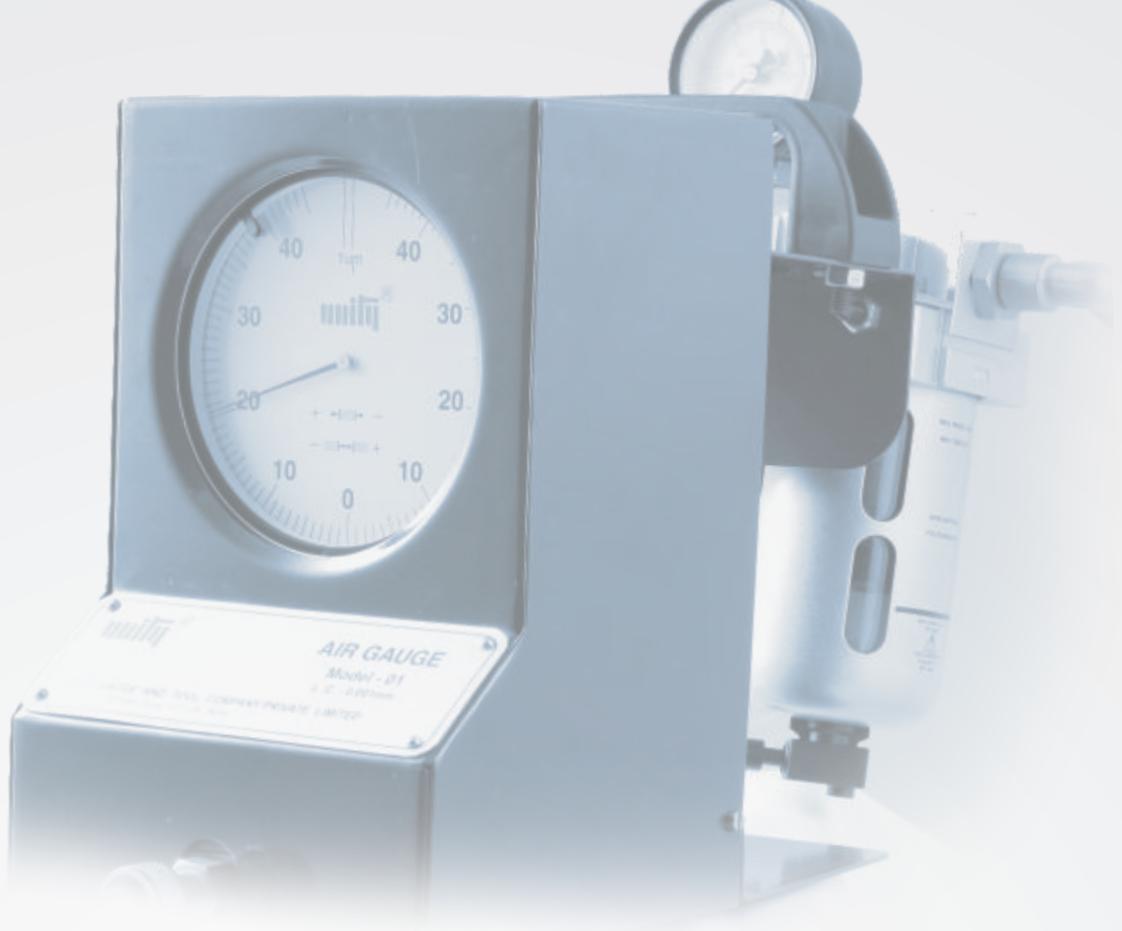
- Capacity: Gear Dia. 15 TO 200 mm.
- Repeatability: ± 0.002 mm.

DIGITAL GEAR PCD CHECKING INSTRUMENT WITH INBUILT SPC PRINTER



FEATURES :

- Capacity: Gear Dia. 15 TO 200 mm.
- Repeatability: ± 0.002 mm.
- Resolution of Display: 0.1μ , 0.5μ , 1μ & 5μ .
- RS-232 Output for transferring data to PC for SPC analysis & data storage.
- With LVDT probe, display unit & SPC printer for data analysis & printing.



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