AIR & AIR-ELECTRONIC GAUGES

Air Gauge

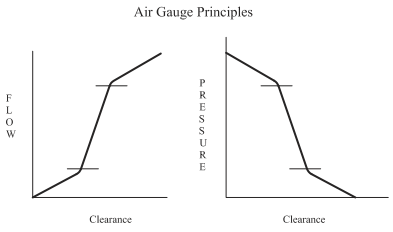
Air Gauging is a non-contact means of precise comparative measurement which offers users the advantages of improved workflow, increased productivity and decreased downtime.

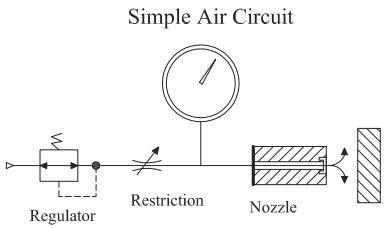
WHY AIR GAUGING?

- Air Gauging is the best proven method of gauging a bore of good surface finish with high accuracy. The only system that gives 0.001mm accuracy and reliability in the harsh shop floor environment
- It is non-contact i.e the gauging element is a column of air – hence minimum wear
- It is a clearance type of gauging – large clearance between the body and the part. Ideal for rapid checking
- One of the main advantages is its ease of use. Even unskilled operators can use this method of gauging
- Non-contact characteristic makes it possible to check highly finished and soft surfaces
- Has self cleaning effect on the part
- Dimensional relationships such as taper, squareness, straightness , CD, match gauging –that cannot be checked by fixed limit gauging and costly by other means , are easily measured with air gauging
- Very high magnifications can be achieved
- To achieve reproducibility

WORKING PRINCIPLE

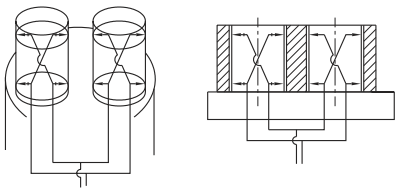
- Air gauging relies on the laws of physics which state that flow and pressure are proportionate to clearance and are inversely proportional to each other
- The regulated air flows through the restriction-needle valve, orifice and then through the nozzle
- When the nozzle is open to the atmosphere, there is maximum flow through it and there is a minimum of pressure called 'back-pressure' between the restriction and the nozzle
- As an obstruction is brought increasingly close to the front of the nozzle, air flow from the nozzle diminishes and back-pressure builds
- When the nozzle is completely obstructed, air flow is zero, and back-pressure reaches the pressure of the regulated air supply. In this example, air flow moved from maximum to minimum, while back-pressure moved in opposite direction i.e. minimum to maximum.
- These values each can be plotted against the nozzle's clearance from obstruction. Except for the extremes of both back-pressure and flow, the curves are straight-line, representing the linear proportions which establishes the basis of all air gauging
- Thus measured decreases in flow provide an accurate co-relation of the distance of the nozzles in the air gauge tool to the obstruction (surface of the work piece being measured). Similarly, increase in back-pressure indicates less distance between the tooling nozzle and workpiece

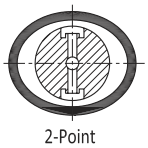


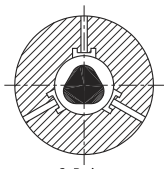


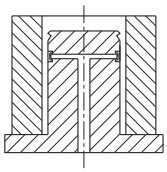
AIR GAUGING APPLICATIONS

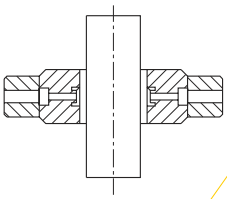
Following applications are possible with air gauges

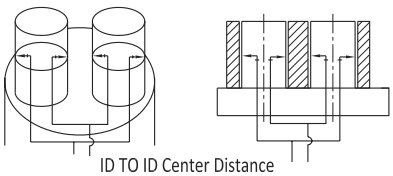

Bend & Twist or Parallelism of two bores


2-Point
Out-of-Round

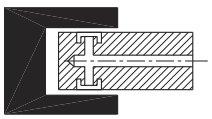

3-Point
Out-of-Round (Lobing)

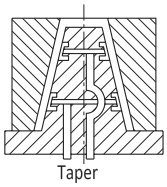

Inside Diameter

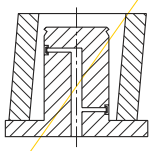

Outside Diameter

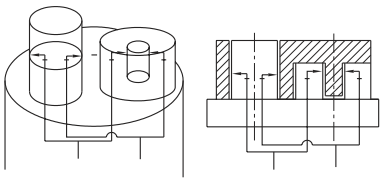

ID TO ID Center Distance

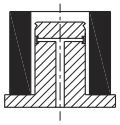

Averaging

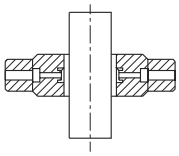

Groove Width

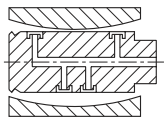

Taper


Squareness


ID TO OD Center Distance




Matching


Straightness

Air Gauge Unit

UNIVERSAL

UNIVERSAL GAUGE

FEATURES

- Every gauge carries a calibration certificate giving actual values
- Accommodates all jet diameters of Air Plug Gauges, Air Ring Gauges & Air Calipers
- Facilitates quick & easy setting through Mag & Zero knobs
- Supplied with a fixed adaptor which fits all types of connectors
- Foldable feet for better Readability
- High pressure system: high speed of response and self cleaning of gauging area ensures accurate reading of size, taper and ovality at a time
- Non-contact Gauging: long life due to minimal frictional wear
- Two Setting Masters: ensures correct magnification of reading at all times
- System pressure check gauge: provides a constant check on the system pressure i.e. 3 bars (45 psi) regulated by a high precision regulator built into the unit
- Minimum line pressure required 4.5 bars (67 psi)
- Air consumption 46 LPM

Reading	Range	Graduation
0.0005 mm	± 0.020 mm	20-0-20
0.001 mm	± 0.040 mm	40-0-40
0.00005"	± 0.002"	2-0-2
0.002 mm	± 0.080 mm	80-0-80

MODULE - 3

MODULE-3

FEATURES

- Accommodates 1.6mm jet diameters of Air Plug Gauges, Air Ring Gauges & Air Calipers.
- Works on differential principle.
- Suitable to High Clearance applications.
- Inclined and bigger dial face for better readability.
- System pressure check gauge: provides a constant check on the system pressure i.e. 3-4 bars (45-60 psi) regulated by a high precision regulator built into the unit.
- Minimum line pressure requited 5-6 bars (75-90 psi).
- Air consumption 25 LPM.

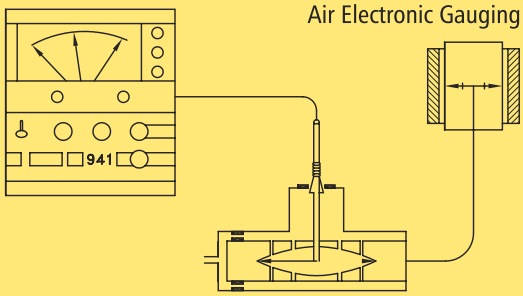
Reading	Range	Graduation
0.0005 mm	± 0.020 mm	20-0-20
0.001 mm	± 0.040 mm	40-0-40

AIR ELECTRONIC CONVERTER MODULE (AECM)

AECM

FEATURES

- Combined advantages of non-contact air sensing and high precision electronics
- RS232 data output available for further processing like machine control through relay output or for SPC
- Can be supplied with analogue, column or digital readout units
- For diameter 6 mm and above AECM1 is to be used
- For diameter below 6 mm AECM2 is to be used



MICROPROCESSOR BASED DIGITAL GAUGE (AEP)

AEP 1

AEP 2

FEATURES

- Seven segment, 6 character, 3 colour LED display, ½ inch tall
- Air-Electronic input from BAKER Air Plug and Ring Gauges (APG & ARG)
- Display resolution: 1μm, 0.1μm, 0.1 thou. inch, 0.01 thou inch
- Measurement display in Absolute or Comparative form
- Auto calibration with two setting masters
- Keyboard entered Upper & Lower tolerance limits (UTL & LTL), applicable to the values displayed
- Static or dynamic (max, min, average & TIR) measurements
- Non-volatile storage of all menu entered values
- Available variants AEP 1, AEP 2, AEP 3, AEP 4, AEP 6
- Combined advantages of non-contact air sensing and high precision electronics.
- RS232 data output available for further processing like machine control through relay output or for SPC.
- Accuracy 0.001 mm

MICROPROCESSOR BASED COLUMN GAUGE (2045NAEP)

2045NAEP / 2045NAEPH

2045NAEP 2/3/4

2045NAEPD

2045NAEP :- Single channel Air-Electronic column gauge using Piezo transducer Measuring Range ± 0.040μm.

2045NAEPH :- Single channel Air-Electronic column gauge using Piezo transducer Measuring Range ± 0.080μm.

Scale	Reading	Measuring Range
+/- 0.03 mm	0.0001/ 0.001 mm	+/- 0.030 mm
+/- 0.1 mm	0.001 mm	+/- 0.040 mm
+/- 0.1 mm	0.001 mm	+/- 0.080 mm

FEATURES

- Air-electronic units are a combination of two highly reliable systems to give combined advantages of non-contact, self-cleaning, and high precision electronics.
- Accommodates all BAKER jet diameters of Air Plug Gauges, Air Ring Gauges & Calipers.
- Improved linearity.
- Piezo transducer; non-moving parts, long life.
- Fast response.
- Easy to calibrate.
- Simplified menu
- Slim design makes it convenient for multigauging, as they can be banked within a small space.
- Supplied with quick connecting adaptors to suit all BAKER Air Plug Gauges, Air Ring Gauges & Calipers.
- With Calibration certificate.

2045NAEP4 :- Auto sensing, four channel Air-Electronic column gauge using Piezo transducers.

2045NAEPD :- Two input Air-Electronic column gauge using Differential Piezo transducer

Scale	Reading	Measuring Range
+/- 0.03 mm	0.0001/ 0.001 mm	+/- 0.030 mm
+/- 0.1 mm	0.001 mm	+/- 0.040 mm

FEATURES

- Air-electronic units are a combination of two highly reliable systems to give combined advantages of non-contact, self-cleaning, and high precision electronics.
- Accommodates all BAKER jet diameters of Air Plug Gauges, Air Ring Gauges & Air Calipers.
- Improved linearity.
- Piezo transducer; non-moving parts, long life.
- Fast response.
- Easy to calibrate.
- Simplified menu
- Slim design makes it convenient for multigauging, as they can be banked within a small space.
- Supplied with quick connecting adaptors to suit all BAKER Air Plug Gauges, Air Ring Gauges & Calipers.
- With Calibration certificate.
- 2045NAEPD works on a differential principle.

Air Electronic Gauge

GAUGING SYSTEMS WITH STATISTICAL PROCESS CONTROL

SPC 3000 P4/P8

SPC 3000 (PNEUMATIC)

BAKER SPC 3000 is built to cater to the gauging requirements on any industrial shop floor. Besides the main activity of dimensional measurement, it is also capable of Statistical Process Control (SPC). It has the capability to digitalise your gauging system output via Ethernet, Wi-Fi, USB (for flash drive, external keyboard, scanner) etc. in line with Industry 4.0 requirements.

The BAKER SPC 3000 is available in 2 configurations

PNEUMATIC GAUGE
SPC 3000 P4 (4 PNEUMATIC INPUTS)
SPC 3000 P8 (8 PNEUMATIC INPUTS)

FEATURES

- 7 Inch Graphic colour LCD Display
- Resolution- 0.0001mm / 0.001mm
- Available with 4 / 8 Air Electronic Piezo inputs
- SPC Calculations
- Internal memory
- Internal memory storage : 8 GB
- Ethernet output
- RS232 data output
- Air saver control
- View to store measurements
- Status of stored measurements
- Connectivity to USB flash drive
- Connectivity to External keyboard
- Barcode scanner output (Optional)

Air Electronic Gauge

TECHNICAL SPECIFICATION SPC 3000 (PNEUMATIC)

SPECIFICATION	SPC3000 P4	SPC3000 P8
7 inch Graphic LCD Display	√	√
Analogue + Digital Display	6 (Max)	6 (Max)
Digital + Bar graph Column Display	8 (Max)	8 (Max)
Pneumatic inputs	4	8
Probe inputs	–	–
No. of Results	8 (Max)	8 (Max)
Static measurements	√	√
Combination of inputs for Results	8 (Max)	8 (Max)
Dynamic measurements	√	√
Inch / Metric selection	√	√
Display Resolution : 0.0001mm/0.001mm; 0.00001/0.0001 in.	√	√
Double Mastering	√	√
Maximum Permissible Error (MPE)	±30μm : 0.5μm	±30μm : 0.5μm
	±30μm to ±40μm : 1μm	±30μm to ±40μm : 1μm
Single Mastering	√	√
RS232 Data output	√	√
Ethernet Data output	√	√
Internal Memory storage	8GB	8GB
USB flash drive connectivity	√	√
Barcode reader input	Optional	Optional
Logic output; OK/Not OK, Hi/OK/Lo	√	√
Auto Air cut-off	Optional	Optional
External key board connectivity	√	√

TAPER ANGLE MEASURING SYSTEM (SPC 3000PTA)

FEATURES

- Derives Taper or Included angle from known values of two diameters
- Unit of displayed angle : “Degree”, “Minutes” & “Seconds”
- Resolution : 1 second
- Extrapolates values of unmeasured diameters
- Shows tolerance status of measured or extrapolated values
- Display can show three diameters, angle in Ø or 2Ø, gauge plane height and gauge plane diameter
- Available as Probe or Air Electronic Piezo inputs

Air Plug Gauge

RANGE: 1.5 - 250 mm

FEATURES

- Quick and easy checking of bore
- Standard 2 jets for checking size, taper, ovality
- 3 jets at 120 degree for average size & tri-lobed effect (for diameter 6 mm & above)
- With extensions to check deeper bores
- Can be supplied to check through or blind bores
- Can be supplied with multiple jets
- Hard chrome plated for extended life
- For specific depth or land width checking, adjustable depth collars can be provided
- Dia above 250 mm on request

SPECIAL APPLICATIONS

BRACKET MOUNTED AIR PLUG
- Air plugs can be bracket mounted for independent and easy checking of small components

RIGHT ANGLE ATTACHMENT
- Right angle attachment can be provided for checking of bores in restricted areas

EXTENSIONS
- Extensions in lengths of 25 mm/50 mm/100 mm/200 mm can be provided for deeper bores as required

AIR PLUG WITH CARBIDE SLEEVE
- Air plug with carbide sleeve for better life

MULTILEVEL AIR PLUG GAUGE
- Air plugs can be made with jets at multi-level to check the component at different level to check taper

AIR PLUG WITH DEPTH COLLAR
- Air plugs can be provided with depth collar for measurement of diameter at a fixed distance from face

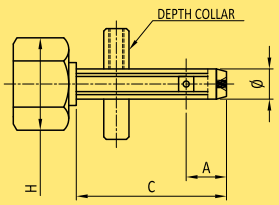
BENCH MOUNTED AIR PLUG GAUGE
- Air plugs can be bench mounted for easy checking of components

FLAT AIR PLUG GAUGE
- Special flat air plug can be used for checking groove width i.e. the grooves of piston

Air Plug Gauge

DATA SHEET

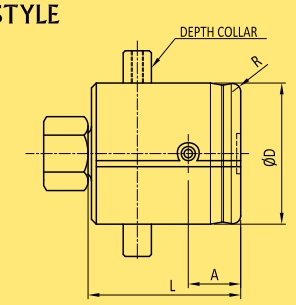
'S' STYLE



ø D mm	A THROUGH	A BLIND	C	F**	G*	H	MIN RANGE
1.5-3.0 #	4.00	-	16.0	2.50	-	7.0	±0.005
2.0-3.0 #	4.00	-	20.0	2.50	-	7.0	
3.0-4.0	6.50	3.0	24.0	2.50	4.0	18.5	
4.0-6.0	9.00	3.0	31.0	2.50	4.0	18.5	

- Ø1.5 to Ø3.0 mm air plugs are not supplied with extensions and are supplied in hand held design only with pvc tubing.
- for deeper holes, use extensions which increase "C" by 25 & 50 mm (above ø 3 mm only).
- Ø1.5 to 6 mm air plug gauges are supplied on PFL module -2A and clear line ±0.025 mm unit.
- # - not supplied in blind bore design.

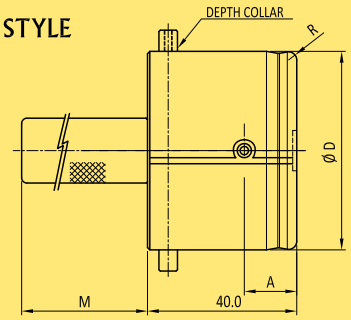
'M' STYLE



ø D mm	A THROUGH	A BLIND	L THROUGH	L BLIND	F** MOD1A/CL	G* MOD1A/CL	MIN RANGE
6.0-13.0	13.0	4.0/3.0	37	29	4.5/3.5	6.0/5.5	±0.005
13.0-20.0	15.0	4.5	40	40			
20.0-35.0							
35.0-60.0							

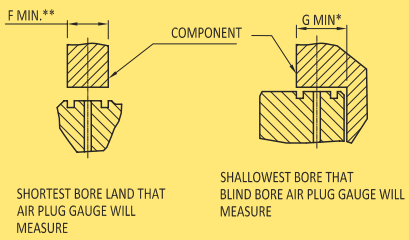
- For deeper holes, use extensions which increase by 50, 100, 200, and 300 mm.
- Quick entry pilot (QEP) is provided for air plug gauges above ø13 mm as standard (others on request).
- As a special case, air plug gauges can be supplied on module 2A unit up to ø50 mm only to suit super blind or for less land. maximum range for this will be ±0.020 mm only. (others on request)

'L' STYLE



ø D mm	A THROUGH	A BLIND	F** MOD1A/CL	G* MOD1A/CL	M	MIN RANGE
60.0-100.0	15.0	4.5	4.5/3.5	6.0/5.5	100.00	±0.005
100.0-150.0#					150.00	±0.010
150.0-200.0#					200.00	±0.015

- Supplied hand held as standard.
- For deeper holes, extension "M" can be incresed.
- # Not supplied for use on ±0.025 mm clear line unit and mod 2A.
- Above 200 mm and up to 25 mm on request.



General notes

- Air plug gauge for 0.0005 mm least count are given up to Ø 50 mm only
- Each air plug gauge requires two setting rings to set the air plug on the read out unit. The difference between the high and low setting rings supplied covers the component tolerance or the minimum range mentioned in the above table whichever is maximum
- Depth collar is supplied against order for positioning air plug gauge jets to fixed depth
- The minimum bore land "F" and "G" mentioned, is excluding chamfer distance and fillet radius
- For special blind bore air plugs (super blind - G less than mentioned in the above chart) or any other special requirement (3 jet or multiple jet design to check lobing/avergae), please send the comp onent drawing and ask for a quote

Abbreviations

- MOD 1A = PFL Air Gauge Unit Module 1A
- MOD 2A = PFL Air Gauge Unit Module 2A
- CL = ClearLine air gauge unit

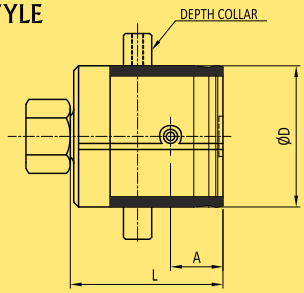
Important rule in air gauging

Lesser the clearance, higher the accuracy and vice versa

Carbide Air Plug Gauge

RANGE: 12-100 mm

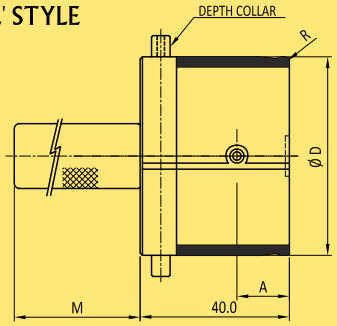
'M' STYLE



ø D mm	A THROUGH	A BLIND	L THROUGH	L BLIND	F** MOD1A/CL	G* MOD1A/CL	MIN RANGE
12.0-13.0	13.0	5.0	37	29	4.5/3.5	6.0/5.5	±0.005
13.0-20.0	15.0	5.0	40	40			
20.0-35.0							
35.0-60.0							

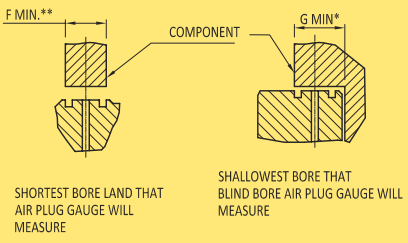
- For deeper holes, use extensions which increase by 50, 100, 200, and 300 mm.
- Quick entry pilot (QEP) is provided for air plug gauges above ø13 mm as standard (others on request).
- As a special case, air plug gauges can be supplied on module 2A unit up to ø50 mm only to suit super blind or for less land. maximum range for this will be ±0.020 mm only. (others on request)

'L' STYLE



ø D mm	A THROUGH	A BLIND	F** MOD1A/CL	G* MOD1A/CL	M	MIN RANGE
60.0-100.0	15.0	5.0	4.5/3.5	6.0/5.5	100.00	±0.005

- Supplied hand held as standard.
- For deeper holes, extension "M" can be incresed.
- # Not supplied for use on ±0.025 mm clear line unit and mod 2A.
- Above 200 mm and up to 25 mm on request.



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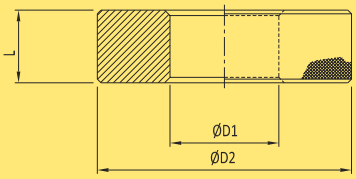
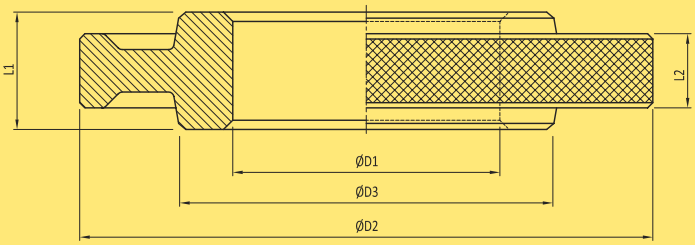
Lesser the clearance, higher the accuracy and vice versa

Setting Rings for Air Plug Gauge

RANGE: 1.5-315 mm



DIA. 1.5 mm - 100 mm



DIA. 100 mm - 315 mm

øD1		øD2	L
ABOVE	UPTO & INC.		
1.5	2.5	22	6
2.5	5.0	22	10
5.0	10.0	32	12
10.0	15.0	38	14
15.0	20.0	45	16
20.0	25.0	53	18
25.0	32.0	63	20
32.0	40.0	71	24
40.0	50.0	85	32
50.0	60.0	100	32
60.0	70.0	112	32
70.0	80.0	125	32
80.0	90.0	140	32
90.0	100.0	160	32

øD1		øD2	øD3	THICKNESS	
ABOVE	UPTO & INC.			L1	L2
100.0	110.0	170	132	36	14
110.0	120.0	180	140	36	16
120.0	130.0	190	150	36	16
130.0	140.0	200	160	36	18
140.0	150.0	212	170	36	18
150.0	160.0	224	180	36	20
160.0	170.0	236	190	40	20
170.0	180.0	250	200	40	20
180.0	190.0	265	212	40	22
190.0	200.0	280	224	45	22
200.0	212.0	300	236	45	22
212.0	224.0	315	250	45	25
224.0	236.0	335	265	50	25
236.0	250.0	355	280	50	28
250.0	265.0	375	300	50	28
265.0	280.0	400	315	56	28
280.0	300.0	425	335	56	32
300.0	315.0	450	355	56	32

FEATURES

- Used for setting of pneumatic linear measuring instruments
- Made from oil hardening non shrinking gauge steel, hardened and tempered to 60-62 HRC
- Subzero treated at -80°C for long term dimensional stability
- Actual dimensions duly etched
- Calibrated at 20°C under Standards Room conditions against National/International traceable standards
- Certificate of calibration is provided along with each master traceable to National/International standards. Certificate under NABL (as per ISO 17025) as per request
- Manufactured as per DIN2250-1 Type B

Air Ring Gauge

RANGE: 2-120 mm

FEATURES

- Two Jet Air Ring gauge to check outside diameter, taper & ovality
- Three jet Air Ring gauge for detecting tri-lobed effect for diameter above 6 mm only
- Can be supplied with multiple jets
- Dia above 120 mm on request

SPECIAL APPLICATIONS

AIR RING GAUGE WITH BENCH MOUNTING

- Air ring gauge can be supplied with bench mounting for ease of gauging

AIR RING GAUGE WITH PEDESTAL MOUNTING

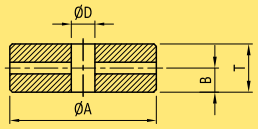
- Air ring gauge can be supplied with pedestal mounting for ease of gauging

AIR RING GAUGE FOR GUDGEON PIN

Air Ring Gauge & Setting Plug

AIR RING GAUGE DATA SHEET

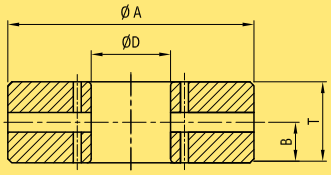
Central



ø D mm	A	T	B	E	F	MIN RANGE
2.0 - 3.0	30.0	6.0	3.0	6.6	2.5	±0.005
3.0 - 6.0	30.0	6.0	3.0	6.6	2.5	±0.005

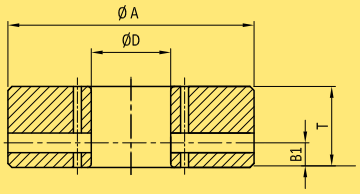
- Supplied hand held as standard
- Supplied on MOD 2A / ClearLine only
- Supplied with 2 jets as standard
- Not supplied in offset design

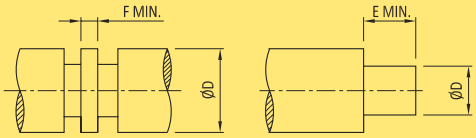
Central



ø D mm	A	T	B	B1	E (OFFSET) MOD 1A/ CL	F (CENTRAL) MOD 1A/ CL	MIN RANGE
6.0-12.0	48.0	20.0	10.2	4.5	6.5/5.5	4.5/3.5	±0.005
12.0-20.0	56.0						
20.0-30.0	70.0						
30.0-40.0	77.0						
40.0-60.0	102.0						
60.0-70.0	112.0						
70.0-80.0	122.0						
80.0-90.0	13.0						
90.0-100.0	142.0						
100.0-110.0	152.0						
110.0-120.0	162.0						

Offset





- Supplied unit mounted as standard
- As a special case, air ring can be supplied on MOD-2A up to dia. 50 mm only, to suit super blind and less land

General notes

- Air ring gauge for 0.0005 mm least count are given up to Ø 50 mm only
- Each air ring gauge requires two setting masters to set the air ring on the read-out unit. The difference between the high and low setting masters supplied covers the component tolerance or the minimum range mentioned in the above table, whichever is maximum
- The minimum gauging land "E" and "F" mentioned above, is excluding chamfer distance and fillet radius
- For special blind shafts (super blind- 'E' less than mentioned in the above chart) or any other special requirement (3 Jet design to check lobing), please send the component drawing and ask for a quote

Abbreviations

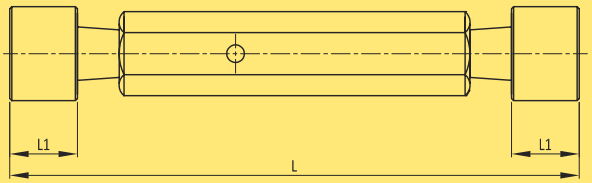
- MOD 1A = PFL Air Gauge Unit Module 1A
- MOD 2A = PFL Air Gauge Unit Module 2A
- CL = ClearLine air gauge unit

Important rule in air gauging

Lesser the clearance, higher the accuracy and vice versa.

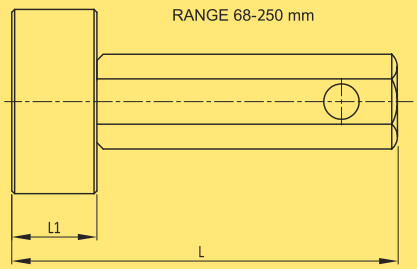
SETTING PLUGS DATA SHEET

RANGE 3-68 mm



DIA RANGE	L	L1	TAPER & OVALITY
3.0-6.0	75.0	8.0	0.0005
6.0-10.0	110.0	20.0	0.0005
10.0-14.0	119.0		0.0005
14.0-18.0	130.0		0.0005
18.0-24.0	144.0		0.0005
24.0-30.0	128.0		0.0008
30.0-40.0	160.0		0.0008
40.0-65.0	160.0		0.0008
65.0-68.0	160.0		0.0010

RANGE 68-250 mm



DIA RANGE	L	L1	TAPER & OVALITY
68.0-80.0	175.0	25.0	0.0008
80.0-120.0			0.0010
120.0-180.0			0.0012
180.0-200.0			0.0014

Note: For diameter below 3 mm, pin type & collet design are applicable.

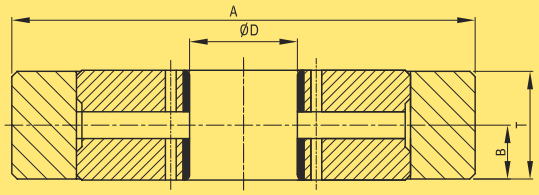
Carbide Air Ring Gauge

RANGE: 8 mm to 100 mm

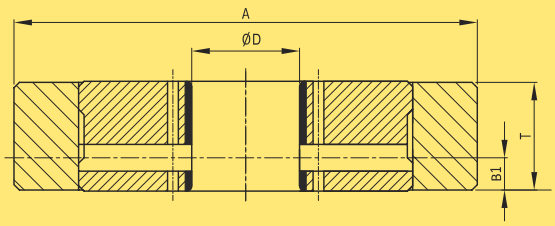
FEATURES

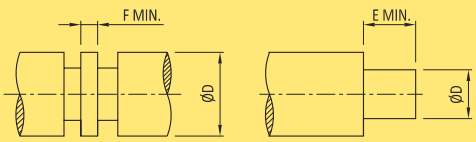
- Can be supplied with tungsten carbide sleeve on request for checking hardened job
- Two Jet Air Ring gauge to check outside diameter, taper & ovality
- Three jet Air Ring gauge for detecting tri-lobed effect for diameter above 8 mm only
- Can be supplied with multiple jets
- Dia below 8 mm & above 80 mm on request

Central



Offset





ø D mm	A	T	B	B1	E (OFFSET) MOD 1A/ CL	F (CENTRAL) MOD 1A/ CL	MIN RANGE
8.0-20.0	62.0	20.0	10.0	4.5	6.5/5.5	4.5/3.5	±0.005
20.0-30.0	72.0						
30.0-40.0	86.0						
40.0-51.0	120.0						
51.0-67.0	120.0						
67.0-100.0	154.0						

- Supplied unit mounted as standard
- As a special case, air ring can be supplied on MOD-2A up to dia. 50 mm only, to suit super blind and less land

General notes

- Air ring gauge for 0.0005 mm least count are given up to Ø 50 mm only
- Each air ring gauge requires two setting masters to set the air ring on the read-out unit. The difference between the high and low setting masters supplied covers the component tolerance or the minimum range mentioned in the above table, whichever is maximum
- The minimum gauging land "E" and "F" mentioned above, is excluding chamfer distance and fillet radius
- For special blind shafts (super blind- 'E' less than mentioned in the above chart) or any other special requirement (3 Jet design to check lobing), please send the component drawing and ask for a quote

Abbreviations

- MOD 1A = PFL Air Gauge Unit Module 1A
- MOD 2A = PFL Air Gauge Unit Module 2A
- CL = ClearLine air gauge unit

Important rule in air gauging

Lesser the clearance, higher the accuracy and vice versa.

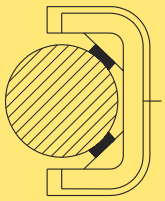
Air Caliper

RANGE: 6 - 225 mm

FEATURES

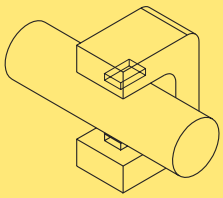
- Air calipers are ideal for measuring diameters of jobs held between the centers on machine or interrupted shafts like crankshafts
- "V" support for perfect centering and stability
- ''V" support with tungsten carbide pads for diameter above 16 mm
- Ideal for collared diameters i.e. crankshaft pin and journal
- Multi-jet air calipers available for multi-point measurement i.e. to check crowning of crank pins and journal diameters
- Can be supplied bench mounted for checking small diameters or against specific needs

OPEN JET AIR CALIPER GAUGE



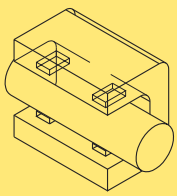
e.g : GENERAL PURPOSE USE

HAND CALIPER GAUGE



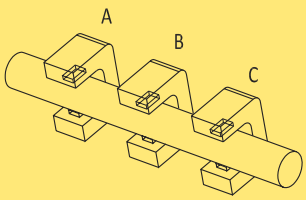
e.g : CHECKING COMPONENT BETWEEN CENTER ON M/C

MULTI-POINT HAND CALIPER GAUGE



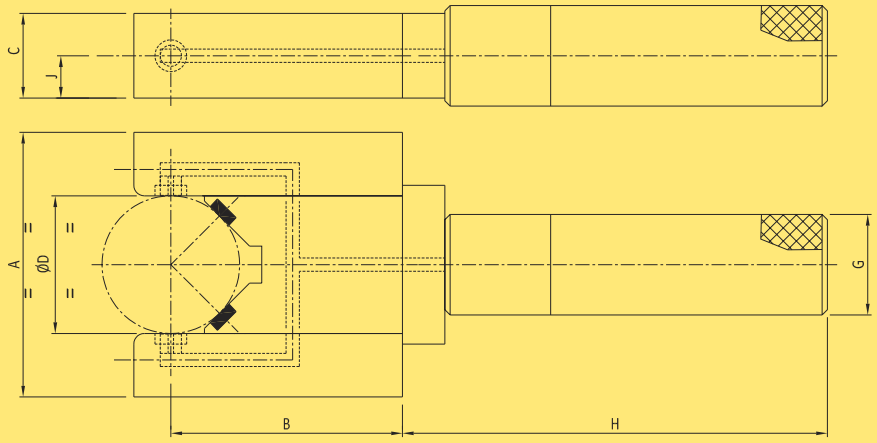
e.g : MEASUREMENT OF CRANKSHAFT PIN & JOURNAL

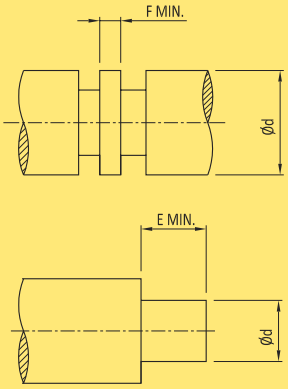
FIXTURE MOUNTED CALIPER GAUGE
FOR INTERRUPTED DIAMETER



e.g : CAMSHAFT MEASUREMENT

AIR CALIPER DATA SHEET





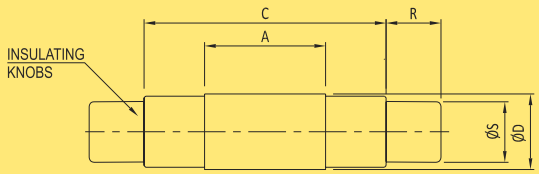
ø D mm	A	B	C	J		H	ø G	E (OFFSET) MOD 1A/ CL	F (CENTRAL) MOD 1A/ CL	MIN RANGE
				CENTRAL	OFFSET					
6.0-16.0	D+34	54	12	6.0	4.0	100	18.0	6.5/5.5	4.5/3.5	±0.005
16.0-26.0	D+24	54	12	6.0						
26.0-50.0	D+24	60	16	8.0						
50.0-75.0	D+28	75	18	9.0						
75.0-100.0	D+32	80	20	10.0						
#100.0-125.0	D+32	100	20	10.0		150	25.5			
#125.0-150.0	D+40	105	20	10.0						
#150.0-225.0	D+40	155	20	10.0						

- Air calipers are supplied hand held as standard
- # not supplied for use on ± 0.025 mm ClearLine unit

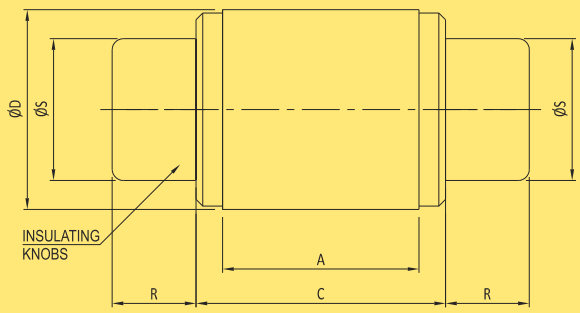
General notes

- Air calipers for 0.0005 mm least count are given up to Ø 50 mm only
- Each air caliper requires two setting masters to set the air caliper on the read-out unit. The difference between the high and low setting masters supplied, covers the component tolerance or the minimum range mentioned in the above table, whichever is maximum
- The minimum gauging land "E" and "F" mentioned above is excluding chamfer distance and fillet radius
- For special blind shafts (super blind- 'E' less than mentioned in the above chart) or any other special requirement (multi jet design air caliper), please send the component drawing and ask for a quote

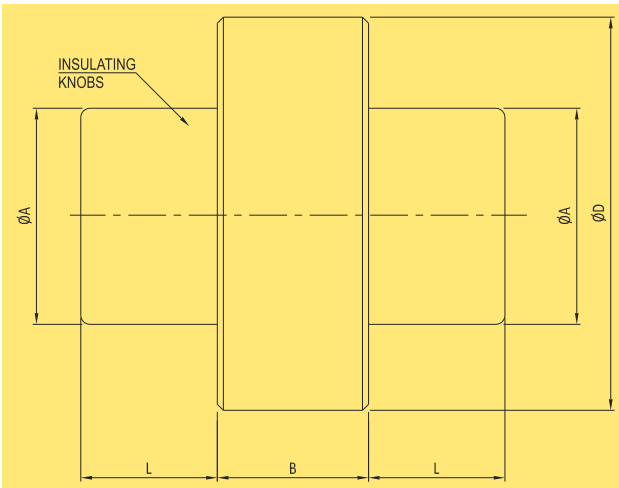
SETTING DISC DATA SHEET



ØD		A	C	R	S
ABOVE	UPTO & INCLUDING				
2.4	3.81	9.52	17.46	11.1	2.4
3.81	5.84	11.11	19.05	11.1	3.2
5.84	9.27	12.7	20.64	11.1	5.6



ØD		A	C	R	S
ABOVE	UPTO & INCLUDING				
9.27	12.95	14.29	22.22	12.7	8.7
12.95	20.96	15.88	23.81	12.7	12.7
20.96	28.83	17.46	25.4	15.9	19
28.83	38.35	20.64	28.58	15.9	25.4



ØD		B	ØA	L
ABOVE	UPTO & INCLUDING			
38.35	51.05	22.2	31.8	15.8
51.05	63.75	22.2	31.8	15.8
63.75	76.45	25.4	38.1	39.8
76.45	89.15	25.4	38.1	39.8
89.15	101.85	25.4	38.1	39.8
101.85	114.55	25.4	38.1	39.8
114.55	127.25	25.4	38.1	39.8
127.25	139.95	25.4	38.1	39.8
139.95	152.65	25.4	38.1	39.8
152.65	165.35	25.4	38.1	39.8
165.35	178.05	25.4	38.1	39.8
178.05	190.75	25.4	38.1	39.8
190.75	225.00	25.4	38.1	39.8