

BHAGWATI HARDWARE & MILL STORE

Add: Office No. 4769, 1st FLOOR, OLD POST OFFICE BUILDING, HAUZ QAZI, DELHI – 110006

PH: 011-45025958, 66405958, 9350076343, 9212012856

EMAIL: sandeep@bhagwatimail.com

Web Site : www.bhagwathardwaredelhi.in | www.ndtinstrument.in | www.measuringtools.in



Giving New Dimensions to Accuracy



PRODUCT CATALOGUE

2022

Length & Angle Standards | Calibration Equipments
Air Gauges & Display Units | Limit Gauges | Calibration Services

Our Brand Promise



KCP is 'serving accuracy' since generations, keeping you ahead of tolerance.

We want you to gauge with confidence. KCP's minute world is too big for error. We live in the details, always alert to give you peace of mind.

Above expectation is a norm for us! Expect more from us...

About Our Company

KCP is a globally renowned brand Serving Accuracy for generations.

We have a range of reference precision instruments like- Gauge blocks, ULM, Air Gauges, Limit Gauges and Calibration Equipment etc.

We also house a well-equipped accredited Calibration lab that gives us an edge.

KCP is known for its Manufacturing Excellence and simplifying complex gauging solutions.

KCP has addressed concerns of gauge manufacturing industry, mainly lead time and competitiveness, by adapting industry 4.0, process automation and LEAN manufacturing practices.

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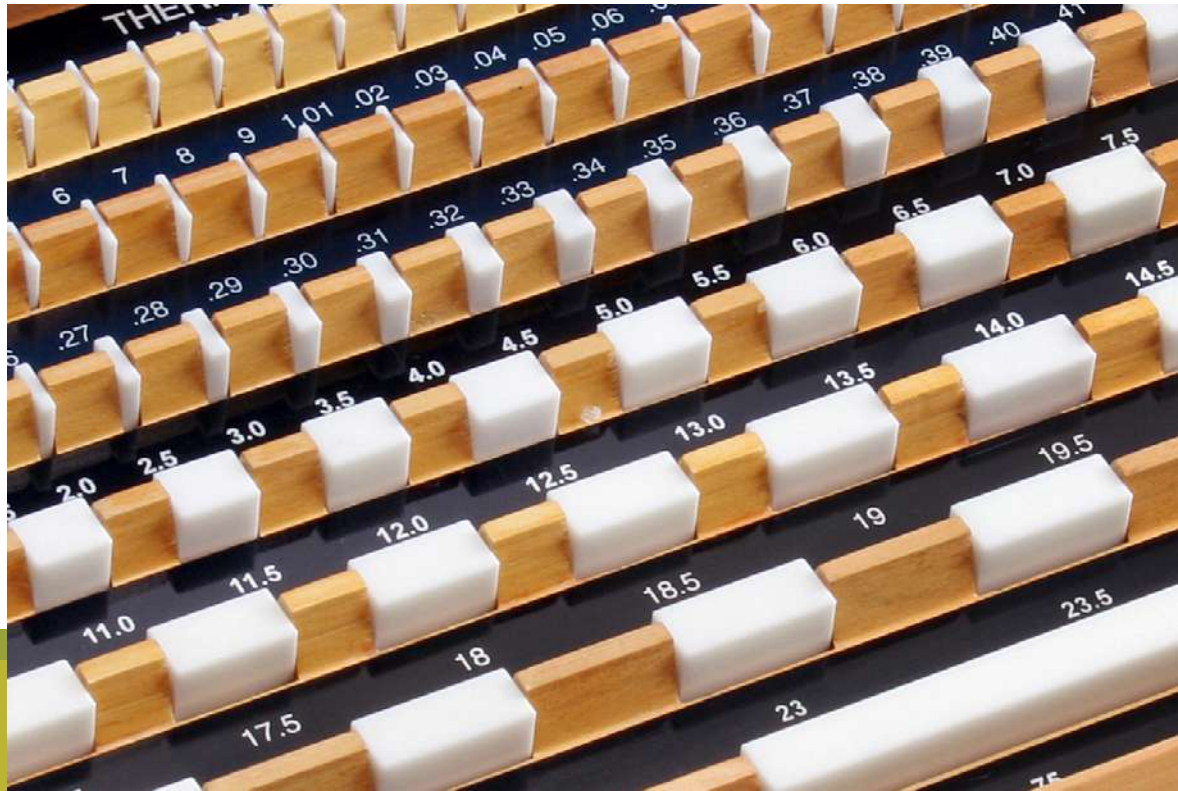
Length & Angle

Standards

- Gauge Blocks
- Long Series Gauge Blocks
- Length Bars
- Gauge Block Accessories
- Angle Gauges

Gauge Blocks

KCP offers the most highly accurate gauge blocks in the world market complying with all international standards in all accuracy grades and all three materials recommended mainly Steel, Tungsten Carbide and Ceramic



0.2mm to 100mm - (in set/individual)



Custom sizes 0.3mm to 100mm



Metric (1mm / 2mm Base)
& Imperial



Covers all Grades i.e. Grade 'K',
Grade '0', Grade '1' & Grade '2'



Steel | Carbide | Ceramic



Metric: ISO 3650/ DIN 861,
Imperial: BS 4311



NABL

Certificate No: CC-2323

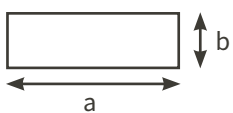
KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

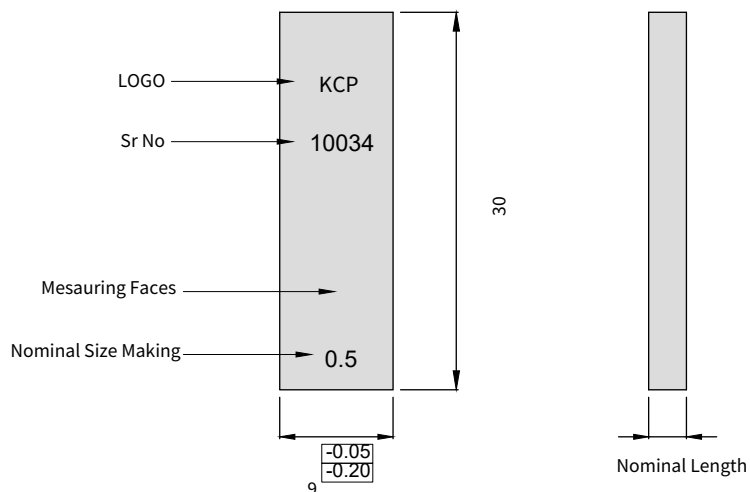
- Highly accurate, very low deviation from flatness, surface finish & nominal length
- High resistance to wear & dimensionally stable
- Superior wringing quality
- Each gauge block is marked with size & serial number



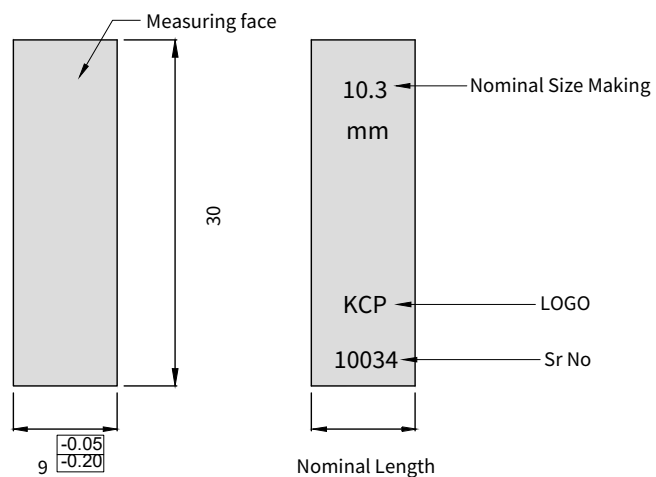
Standard Dimension of Gauge Block upto 100mm

Cross Section	Nominal Length 'ln'	'a'		'b'	
		Nominal	Limit Deviation	Nominal	Limit Deviation
	$0.5 \leq l_n \leq 10$	30	0	9	-0.05
	$10 < l_n \leq 1000$	35	-0.3		-0.20

Nominal Length
0.5 to 10mm ►



Nominal Length
10.3 to 100mm ►



Standard Gauge Block Sets (Metric) as per ISO 3650 - 1 mm base gauge block

Standard Set	Step 'mm'	Range/Size 'mm'	Qty (pcs.)	Total qty (pcs.)
M 122/1	-	1.0005	01	122
	0.001	1.001 - 1.009	09	
	0.01	1.01 - 1.49	49	
	0.1	1.6 - 1.9	04	
	0.5	0.5 - 24.5	49	
	10	30 - 100	08	
	-	25,75	02	
M 112/1	-	1.0005	01	112
	0.001	1.001 - 1.009	09	
	0.01	1.01 - 1.49	49	
	0.5	0.5 - 24.5	49	
	25	25 - 100	04	
M 103/1	-	1.005	01	103
	0.01	1.01 - 1.49	49	
	0.5	0.5 - 24.5	49	
	25	25 - 100	04	
M 88/1	-	1.0005	01	88
	0.001	1.001 - 1.009	09	
	0.01	1.01 - 1.49	49	
	0.5	0.5 - 9.5	19	
	10	10 - 100	10	
M 47/1	-	1.005	01	47
	0.01	1.01 - 1.09	09	
	0.1	1.1 - 1.9	09	
	1	1 - 24	24	
	25	25 - 100	04	
M 46/1	0.001	1.001 - 1.009	09	46
	0.01	1.01 - 1.09	09	
	0.1	1.1 - 1.9	09	
	1	1 - 9	09	
	10	10 - 100	10	
M 32/1	-	1.005	01	32
	0.01	1.01 - 1.09	09	
	0.1	1.1 - 1.9	09	
	1	1 - 9	09	
	10	10 - 30	03	
	-	60	01	
M 18/1	0.001	0.991 - 0.999	09	18
	0.001	1.001 - 1.009	09	
M 9/1	0.001	1.001 - 1.009	09	09
M 9	0.001	0.991 - 0.999	09	09
M 2/1 (Wear Protector)	-	1.00	02	02
M 2/2 (Wear Protector)	-	2.00	02	02
M 10 (Wear Protector)	-	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25	10	10
M 13 (Wear Protector)	-	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, 50, 75, 100	13	13

Standard Gauge Block Sets (Imperial) as per BS 4311

Standard Set	Step 'inch'	Range/Size 'inch'	Qty (pcs.)	Total qty (pcs.)
E 81	0.0001	0.1001-0.1009	09	81
	0.001	0.101 - 0.149	49	
	0.5	0.05 - 0.95	19	
	1	1 - 4	04	
E 49	0.0001	0.1001 - 0.1009	09	49
	0.001	0.101 - 0.109	09	
	0.01	0.01 - 0.19	19	
	0.1	0.2 - 0.9	08	
	1	1 - 4	04	
E 41	0.0001	0.1001 - 0.1009	09	41
	0.001	0.101 - 0.119	19	
	-	0.05	01	
	0.1	0.20 - 0.90	08	
	1	1 - 4	04	
E 35	-	0.10005	01	35
	0.0001	0.1001 - 0.1009	09	
	0.001	0.101 - 0.109	09	
	0.01	0.11 - 0.19	09	
	0.1	0.1 - 0.3	03	
	-	0.5,1,2 & 4	04	
E 9	0.0001	0.1001 - 0.1009	09	09
E 2 (Wear Protector)	-	0.1	02	02

Specifications as per IS 2984 (2003) and ISO 3650 (1998)

Nominal length l_n	Calibration Grade K		Grade 0		Grade 1		Grade 2	
mm	limit deviation of length $\pm t_e$ μm	tolerance for the variation in length t_v μm	limit deviation of length $\pm t_e$ μm	tolerance for the variation in length t_v μm	limit deviation of length $\pm t_e$ μm	tolerance for the variation in length t_v μm	limit deviation of length $\pm t_e$ μm	tolerance for the variation in length t_v μm
$0.5 \leq l_n \leq 10$	0.2	0.05	0.12	0.1	0.2	0.16	0.45	0.3
$10 < l_n \leq 25$	0.3	0.05	0.14	0.1	0.3	0.16	0.6	0.3
$25 < l_n \leq 50$	0.4	0.06	0.2	0.1	0.4	0.18	0.8	0.3
$50 < l_n \leq 75$	0.5	0.06	0.25	0.12	0.5	0.18	1	0.35
$75 < l_n \leq 100$	0.6	0.07	0.3	0.12	0.6	0.2	1.2	0.35
$100 < l_n \leq 150$	0.8	0.08	0.4	0.14	0.8	0.2	1.6	0.4
$150 < l_n \leq 200$	1	0.09	0.5	0.16	1	0.25	2	0.4
$200 < l_n \leq 250$	1.2	0.1	0.6	0.16	1.2	0.25	2.4	0.45
$250 < l_n \leq 300$	1.4	0.1	0.7	0.18	1.4	0.25	2.8	0.5
$300 < l_n \leq 400$	1.8	0.12	0.9	0.2	1.8	0.3	3.6	0.5
$400 < l_n \leq 500$	2.2	0.14	1.1	0.25	2.2	0.35	4.4	0.6
$500 < l_n \leq 600$	2.6	0.16	1.3	0.25	2.6	0.4	5	0.7
$600 < l_n \leq 700$	3	0.18	1.5	0.3	3	0.45	6	0.7
$700 < l_n \leq 800$	3.4	0.2	1.7	0.3	3.4	0.5	6.5	0.8
$800 < l_n \leq 900$	3.8	0.2	1.9	0.35	3.8	0.5	7.5	0.9
$900 < l_n \leq 1000$	4.2	0.25	2	0.4	4.2	0.6	8	1

Specifications as per BS4311, Part1 : 1993

Nominal length l_n	Calibration Grade K		Grade 0		Grade 1		Grade 2	
inch	limit deviation of length $\pm t_e$ μinch	tolerance for the variation in length t_v μinch	limit deviation of length $\pm t_e$ μinch	tolerance for the variation in length t_v μinch	limit deviation of length $\pm t_e$ μinch	tolerance for the variation in length t_v μinch	limit deviation of length $\pm t_e$ μinch	tolerance for the variation in length t_v μinch
$l_n \leq 0.4$	5	2	5	4	10	6	20	12
$0.4 < l_n \leq 1$	6	2	6	4	12	6	25	12
$1 < l_n \leq 2$	8	3	8	4	15	7	30	12
$2 < l_n \leq 3$	10	3	10	5	20	7	40	14
$3 < l_n \leq 4$	12	3	12	5	25	8	50	14
$4 < l_n \leq 6$	31	3	15	5	31	8	63	16
$6 < l_n \leq 8$	40	3	20	6	40	10	79	16
$8 < l_n \leq 10$	47	4	23	6	47	10	95	18
$10 < l_n \leq 12$	55	4	28	7	55	10	110	20
$12 < l_n \leq 16$	70	5	35	8	70	12	140	20
$16 < l_n \leq 20$	87	5	43	10	87	14	174	24

Selection of Material

KCP makes gauge blocks in Steel, Tungsten Carbide & Ceramic material. The selection of material of gauge blocks should be based on the area of usage.

Steel



Steel gauge blocks are widely used since most of the manufacturing components are made from steel which nullifies the measurement difference due to same thermal coefficient of expansion. Steel is ideal for regular use when used with proper care & regular maintenance.

Features of KCP Steel Gauge Block

- Special alloy steel, properly heat treated & hardened to 800HV giving it greater wear resistance.
- Dimensionally stable for long term use.
- Excellent surface finish with superior wringing quality.
- Coefficient of thermal expansion: $(11.5 \pm 1) 10^{-6} \text{K}^{-1}$
- Sets are housed in a quality wooden case to dry environment and be protected against avoid moisture and corrosion.

Carbide



They are highly resistant to wear and thus ideal where the gauge blocks are used heavily. The study confirms that the Tungsten Carbide gauge blocks are of 10 times greater wear resistant than that of steel and thus extremely economical.

Features of KCP Tungsten Carbide Gauge Block

- They are hardened to 1400HV, producing greater wear resistance.
- Dimensionally stable for very long use.
- Excellent surface finish with superior wringing quality.
- Coefficient of thermal expansion: $(4.7 \pm 1) 10^{-6} \text{K}^{-1}$

Ceramic



Ceramic gauge blocks are extremely resistant to wear and scratches. As a result, any minor damage to the wringability of their measuring face is unlikely. Corrosion resistant, these gage blocks are resistant to sweaty hands, and normal wear and tear.

Features of KCP Ceramic Gauge Block

- They are manufactured from an exceptionally pure grade of zirconia ceramic.
- They are hardened to 1400HV producing greater wear resistance.
- Non magnetic, non corrosive, dimensionally stable for long term use.
- Excellent surface finish with superior wringing quality.
- Highly resistant to knocks and drops
- Coefficient of thermal expansion: $(9.5 \pm 1) 10^{-6} \text{K}^{-1}$

Selection of Grades

KCP product gamut covers gauge blocks of all grades. Grades are selected as per the area of its use. KCP offers all grades available in standards.

- Grade 'K'** These gauge blocks are "Reference Standards" & used as masters for calibration of gauge locks in calibration lab.
- Grade '0'** These gauge blocks are "Lab Standards" & used for calibration of gauges & measuring instruments.
- Grade '1'** These gauge blocks are "Working Standards" used in inspection room for day to day verification & calibration of gauges/measuring instruments.
- Grade '2'** These gauge blocks are "Working Standards" used in production shop for inspection/setting purpose

Grade '00' These gauge blocks are "Reference Standards" & used as master for calibration of gauge blocks in calibration lab. These gauge blocks are no longer recommended in ISO 3650 standard & replaced with Grade 'K' gauge block. However, Grade 00 gauge blocks are available on request.

Maintenance of Gauge Blocks

In order to increase the life of each gauge block under use, it is recommended to follow the below procedure :

- Each gauge block should be cleaned with soft lint free fabric.
- Ensure burr/dent free surface table when the gauge block is used for setting purpose.
- Avoid usage of damaged/scratched gauge blocks, which can spoil the accuracy of other gauge blocks.
- Damaged gauge blocks need to be replaced/repared before it's use.
- Always protect gauge block immediately after it's use by applying thin layer of anti rust solution.
- Always follow correct wringing procedure to enhance the life of gauge block.

Long Series Gauge Blocks

Manufactured from a special grade of alloy steel for stability, wear resistance and superior surface finish



Unique Features

- High resistance to wear & dimensionally stable
- Superior wringing quality
- Highly accurate, very low deviation from flatness, surface finish & nominal length



Product Information

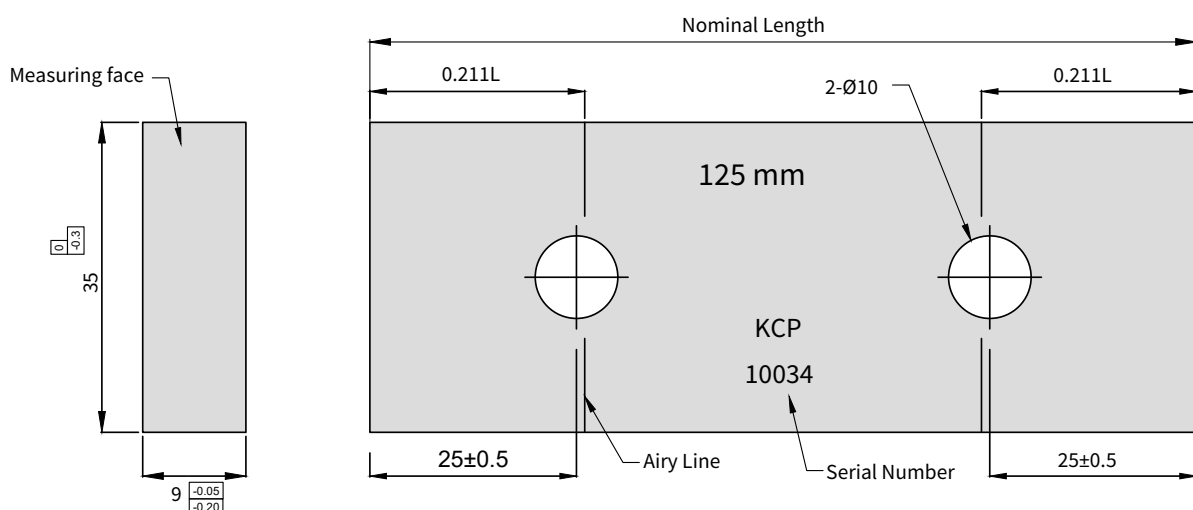
- Gauge Blocks are available in standard as well as customized sizes.
- Along with standard sets, individual gauge block is also available.
- Holes are provided at both ends of gauge blocks for combinations with the help of gauge block clamp.

Standard Gauge Block Sets (Metric) as per ISO 3650

Standard Set	Size in mm	Qty (Pcs.)
M8	125, 150, 175, 200, 250, 300, 400, 500	08
M5	600, 700, 800, 900, 1000	05

Standard Gauge Block Sets (Imperial) as per BS 4311

Standard Set	Size in mm	Qty (Pcs.)
E8	5", 6", 7", 8", 10", 12", 16", 20"	08
E5	24", 28", 32", 36", 40"	05



Length Bars

Manufactured from a special grade of alloy steel for stability, wear resistance and superior surface finish. Also, available in 12mm diameter which can be used as Micrometer setting standards



25mm to 1000mm
(in set/individual)



Custom sizes upto 1000mm



Metric & Imperial



Reference, Calibration,
Inspection & Workshop Grade



Steel



Metric: IS 7014/BS 5317
Imperial: BS 1790



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Certificate No: CC-2323

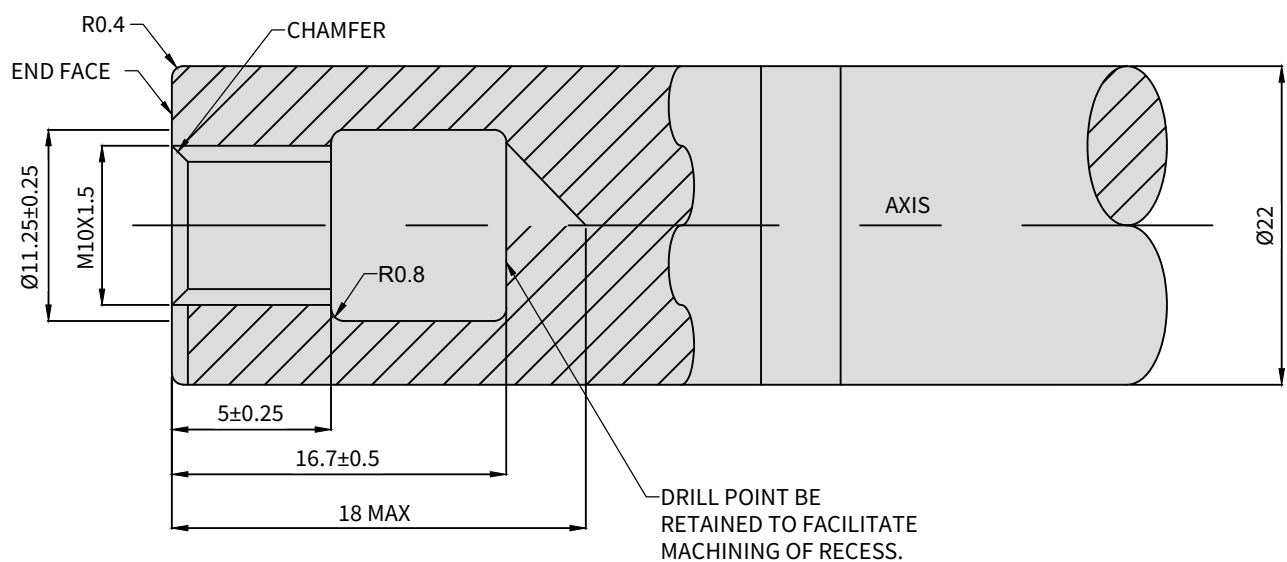
KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Special Alloy Steel, properly heat treated & hardened to 800HV
- Greater wear resistance
- Dimensionally stable for long term use
- Coefficient of thermal expansion: $(11.5 \pm 1) \times 10^{-6} \text{K}^{-1}$



Standard Dimension of Gauge Block from 125 to 100mm



Selection of Grades

Grades are selected as per the area of its use. KCP offers all grades available in standards.

Reference Grade: These are most accurate length bars, manufactured with plain ends (without threaded hole) and are used to establish standards.

Calibration Grade: They are used to calibrate inspection blocks and very high precision gauging.

Inspection Grade: These are manufactured with Internal threaded ends for combination purpose. These are used for Inspection/setting purpose.

Work shop Grade: These gauge blocks are used as shop standards for precision measurement.

Standard Length Bar Sets (Metric) as per IS 7014(1973)

Standard Set	Size in mm	Qty (Pcs.)
M4	25, 50, 75, 100	04
M8	125, 150, 175, 200, 250, 300, 400, 500	08
M5	600, 700, 800, 900, 1000	05

Specifications as per IS 7014 (1973)

Nominal length ln	Reference Grade R	Calibration Grade C	Nominal length ln	Inspection Grade I	Workshop Grade W
mm	tolerance on Length at 20°C $\pm \mu\text{m}$	tolerance on Length at 20°C $\pm \mu\text{m}$	mm	tolerance on Length at 20°C μm	tolerance on Length at 20°C μm
$ln \leq 25$	0.08	0.15	$ln \leq 25$	0.18/-0.18	+0.3/-0.3
$25 < ln \leq 50$	0.10	0.25	$25 < ln \leq 50$	0.35/-0.18	+0.5/-0.3
$50 < ln \leq 75$	0.15	0.40	$50 < ln \leq 75$	+0.5/-0.2	+0.8/-0.4
$75 < ln \leq 100$	0.20	0.50	$75 < ln \leq 100$	+0.7/-0.3	+1.0/-0.5
$100 < ln \leq 125$	0.25	0.65	$100 < ln \leq 125$	+0.9/-0.4	+1.3/-0.7
$125 < ln \leq 150$	0.30	0.75	$125 < ln \leq 150$	+1.0/-0.4	+1.5/-0.8
$150 < ln \leq 175$	0.35	0.90	$150 < ln \leq 175$	+1.2/-0.5	+1.8/-0.9
$175 < ln \leq 200$	0.40	1.00	$175 < ln \leq 200$	+1.4/-0.6	+2.0/-1.0
$200 < ln \leq 225$	0.45	1.10	$200 < ln \leq 375$	+2.6/-1.1	+4.0/-2.0
$225 < ln \leq 250$	0.50	1.20	$375 < ln \leq 400$	+2.8/-1.2	+4.0/-2.0
$250 < ln \leq 275$	0.55	1.40	$400 < ln \leq 575$	+4.0/-1.7	+6.0/-3.0
$275 < ln \leq 300$	0.60	1.50	$575 < ln \leq 600$	+4.2/-1.8	+6.0/-3.0
$300 < ln \leq 400$	0.80	2.00	$600 < ln \leq 775$	+5.4/-2.3	+8.0/-4.0
$400 < ln \leq 500$	1.00	2.50	$775 < ln \leq 800$	+5.6/-2.4	+8.0/-4.0
$500 < ln \leq 600$	1.20	3.00	$800 < ln \leq 1000$	+7.0/-3.0	+10.0/-5.0
$600 < ln \leq 700$	1.40	3.50			
$700 < ln \leq 800$	1.60	4.00			
$800 < ln \leq 900$	1.80	4.50			
$900 < ln \leq 1000$	2.00	5.00			

Standard Length Bar Sets (Imperial) as per BS 1790

Standard Set	Size in mm	Qty (Pcs.)
E4	1", 2", 3", 4"	04
E8	5", 6", 7", 8", 10", 12", 16", 20"	08
E5	24", 28", 32", 36", 40"	05

Specifications as per IS 7014 (1973)

Nominal length ln	Reference Grade R	Calibration Grade C	Inspection Grade I	Workshop Grade W
inch	tolerance on Length at 20°C ± μ inch	tolerance on Length at 20°C ± μ inch	tolerance on Length at 20°C μ inch	tolerance on Length at 20°C μ inch
ln ≤ 1	3	5	+7/-7	+10/-10
1 < ln ≤ 2	4	10	+14/-7	+20/-10
2 < ln ≤ 3	6	15	+20/-10	+30/-20
3 < ln ≤ 4	8	20	+30/-10	+40/-20
4 < ln ≤ 5	10	25	+35/-15	+50/-30
5 < ln ≤ 6	12	30	+40/-20	+60/-30
6 < ln ≤ 7	14	35	+50/-20	+70/-40
7 < ln ≤ 8	16	40	+55/-25	+80/-40
8 < ln ≤ 9	18	45	+55/-25	+80/-40
9 < ln ≤ 10	20	50	+55/-25	+80/-40
10 < ln ≤ 12	25	60	+55/-25	+80/-40
12 < ln ≤ 15	30	75	+105/-45	+150/-80
15 < ln ≤ 18	35	90	+105/-45	+150/-80
18 < ln ≤ 23	45	120	+160/-70	+230/-120
23 < ln ≤ 30	60	150	+160/-70	+230/-120
30 < ln ≤ 31	60	160	+220/-90	+310/-160
31 < ln ≤ 40	80	200	+280/-120	+400/-200

Gauge Block Accessories

To expand the variety of rectangular gauge block applications, we offer the Gauge Block Accessories Set. By assembling the gauge blocks in the set, your gauge blocks are easily and quickly changed into a precision measuring system.



300 mm/12"



Customisation available



Metric & Imperial



IS : 4440



Steel | Carbide



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- All wearable parts are made of carbide
- Enables quick and easy assembly of equipments or gauges
- Saves repetitive expenditure on gauges



Product Information

These accessories are designed to extend the applications of Gauge Blocks in production & inspection.

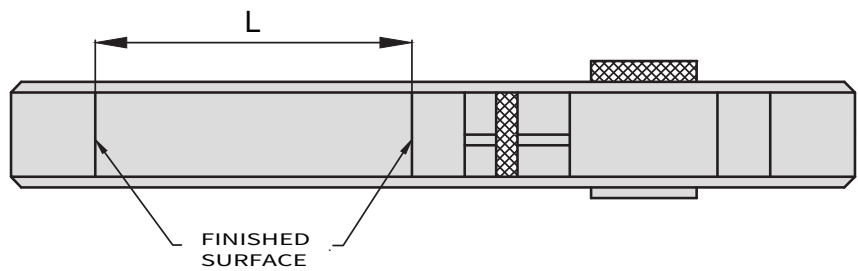
Ideal for -

- Setting of internal & external measurement of gauges.
- Setting of Bore Gauges
- Height Marking
- Accurate Graduation

Standard Set Of Accessories

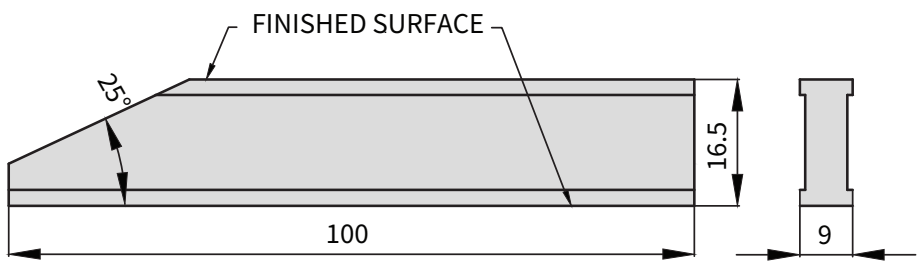
Description	7 Pcs. Set	16 Pcs. Set
Base (Steel)	01	01
Tungsten Carbide Scribe	01	01
Tungsten Carbide Tipped Centre Point	-	01
Tungsten Carbide Large Measuring Jaw	02	02
Tungsten Carbide Parallel Measuring Jaw	-	01
Tungsten Carbide 2.5 mm Radius Jaw	-	02
Tungsten Carbide 5 mm Radius Jaw	-	02
Tungsten Carbide 6 mm Radius Jaw	-	02
Holder (Steel) 0-50 mm	01	01
Holder (Steel) 50-100 mm	01	01
Holder (Steel) 100-200 mm	01	01
Holder (Steel) 200-300 mm	-	01

Gauge Block Holder ▼

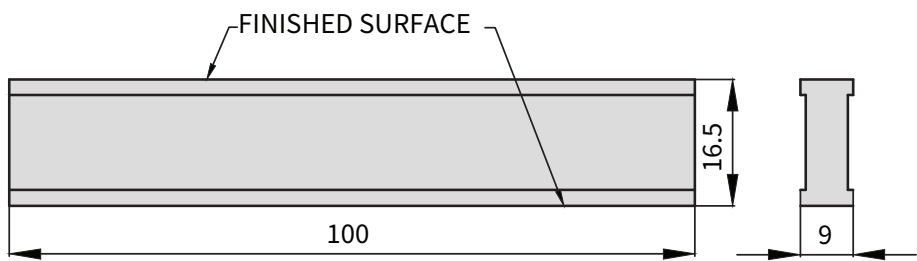


Range	L
100-200	200
200-300	300

Large Measuring Jaw ▼

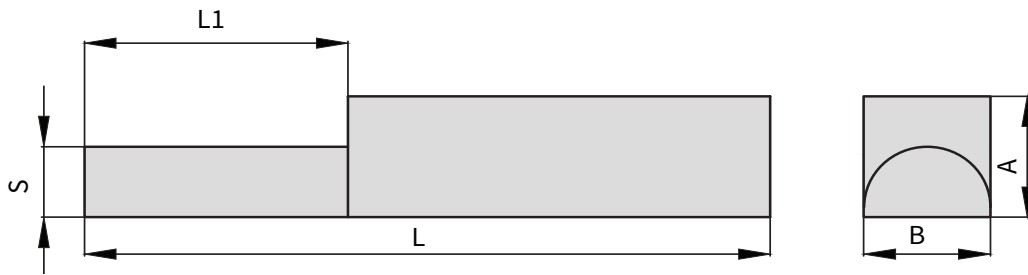


Plain Measuring Jaw ▼

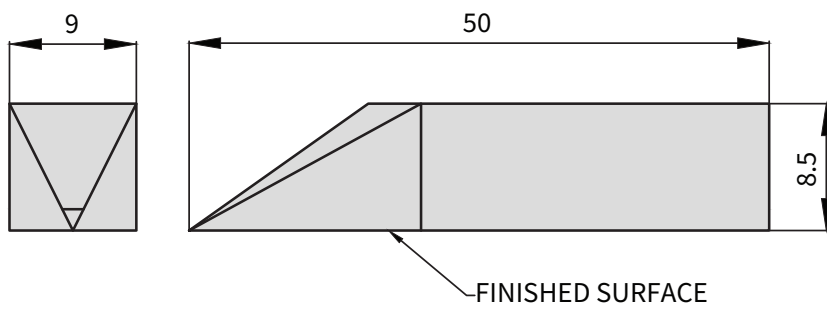


Size 'S'	A (mm)	B (mm)	L1 (mm)	L (mm)
2.5	7.5	9	5	40
5.0	7.5	9	15	50
6.0	7.5	9	20	55

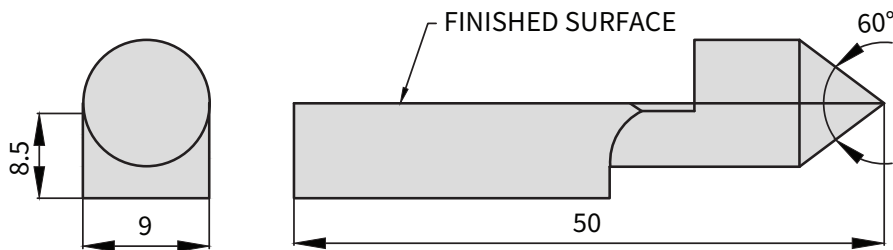
Half Round Jaw ▼



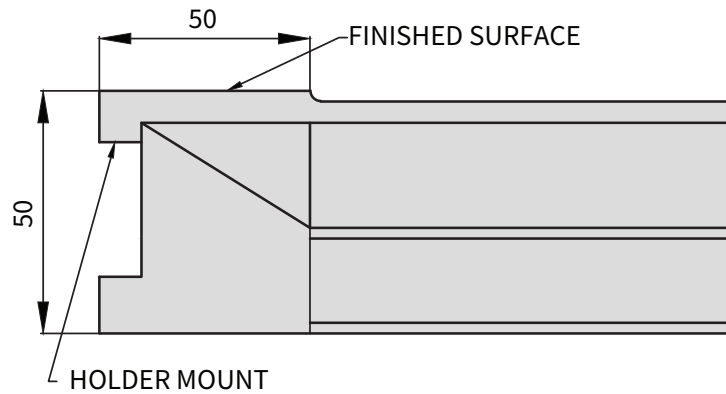
Scriber ▼



Centre point ▼



Base ▼



Angle Gauges

Angle Gauge Blocks are used for inspection and calibration of angles, tapers, indexing plates, rotary scale/table, dividing head, clinometers etc



Standard



Custom angle available



Steel | Carbide



IS 6231



NABL
Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Highly accurate, very low deviation from flatness, surface finish & nominal angle
- Greater wear resistance
- Dimensionally stable for long term use

Product Information

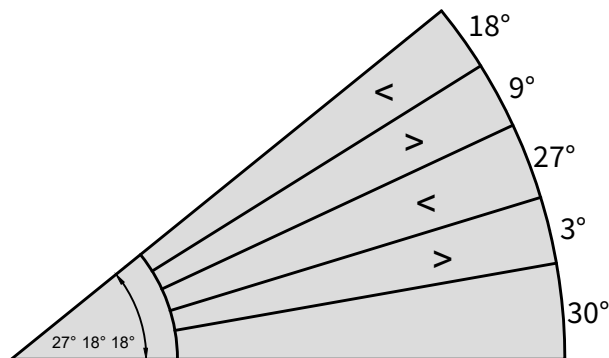
- Offered in Standard and Non Standard angles.
- Special angles as per requirement are also provided.
- Available in set as well as individual angles.



Standard Sets and Sizes

Standard Set	Sizes	Accuracy	
Set A (13 pieces)	1, 3, 9, 27 & 41 degrees	1 no. each	+/- 2 seconds of arc
	1, 3, 9 & 27 minutes	1 no. each	
	6, 18 & 30 seconds	1 no. each	
	Precision Square Block	1 no.	
Set B (15 pieces)	1, 3, 5, 15, 30 & 45 degrees	1 no. each	+/- 2 seconds of arc
	1, 3, 5, 20 & 30 minutes	1 no. each	
	6, 12 & 30 seconds	1 no. each	
	Precision Square Block	1 no.	

Angle Combination Building



Combination building for 27° 18' 18"

Angles to be selected

30° 3° 27° 9° 18°

$27^\circ = 30^\circ - 3^\circ$

$18^\circ = 27^\circ - 9^\circ$

$18^\circ = 18^\circ$

Nominal Angle = $(30^\circ - 3^\circ) + (27^\circ - 9^\circ) + 18^\circ$
 $= 27^\circ 18' 18''$

Calibration Equipment

- Gauge Blocks Comparator
- Universal Length Measuring Machine
- Caliper Checker
- Internal Micro Checker
- Depth Micro Checker
- Comparator Stand

ULM

Universal Length Measuring Machine ULM is useful for measurement of various types of limit gauges, thread gauges, spline gauges, measuring instruments & standards etc.

KCP's ULM is one of the highly accurate and versatile measuring equipment designed, developed and manufactured in KCP's world class manufacturing facility to achieve excellence with zero tolerance manufacturing concept supported with user friendly software for quick & reliable measurements.



300mm, 600mm & 1000mm



Metric & Imperial



Granite | Cast Iron



NABL

Certificate No: CC-2323

Calibration Certificate will provide under NABL as per ISO/IEC 17025 by laser interferometric method for X axis & Calibration Certificate will provide traceable to NABL by laser interferometric

KCP ULM Features

Robust & long lasting



Robust, stable & unique long lasting design manufactured with engineering excellence

Complies Abbe's comparator principle



Complies Abbe's comparator principle, ensures highly precise & accurate measurement.

Constant measuring force



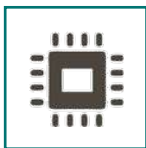
Constant measuring force over the measuring head with entire measuring range.

Five axis movements



High precision rigid work table with five axis movements enables quick & correct positioning.

High quality electronic encoder



High quality electronic encoder is used to ensure consistent accurate measurement.

Complete set of accessories



Complete set of accessories with versatile design, most suitable to meet wide range of measuring requirements.

Total gauge management software



Total gauge management software for Measurement, Evaluation & Reporting.

User friendly easy navigation system



User friendly easy navigation system that saves clicks and gives quick results.

Available Models

■ ULM 300 ■ ULM 600 ■ ULM 1000



ULM 600 with Cast Iron base

Machine Key Features:

- Universal length measuring machine with absolute high precision for high precision measurements.
- Slides with air bearings for precision rapid movements for measuring head and tail stocks.
- To minimize the effect of environment vibrations, an anti-vibration support is provided
- Deformation compensation automatically
- For X-axis, the machine has a high precision scale with an absolute range of 100 mm
- Temperature sensor with automatic correction capability
- The machine does not require lubrication in any part

Software Key Features:

- Software compatible with Windows 10 and higher
- The software is capable of capturing data online during calibration
- The ability to apply corrections to displayed and recorded readings in order to compensate for errors
- Linear and nonlinear encoders and scale corrections
- Software installation Pen drive is supplied with the machine

Various Measuring Applications & Attachments



Plunger Dial Indicator



Plain Ring Gauge



Gauge Block



Thread Ring Gauge



Plain Plug Gauge



Thread Plug Gauge

Plain Gauges

Plain Plug Gauge, Plain Ring Gauge, Width Gauge, Snap gauge, ID/OD Masters, Plain Taper, Ring/Plug gauge, Measuring Pin/wires

Thread/Spline Gauges

Thread Plug Gauge, Thread Ring Gauge, Taper Thread Ring/Plug, Spline Plug gauge, Spline Ring Gauge

Measuring Instrument

External/ Internal Micrometers, 3 point Micrometer, Stick Micrometer, Micrometer Head, Plunger Dial, Lever Dial, Bore Gauges, Probes

Standards

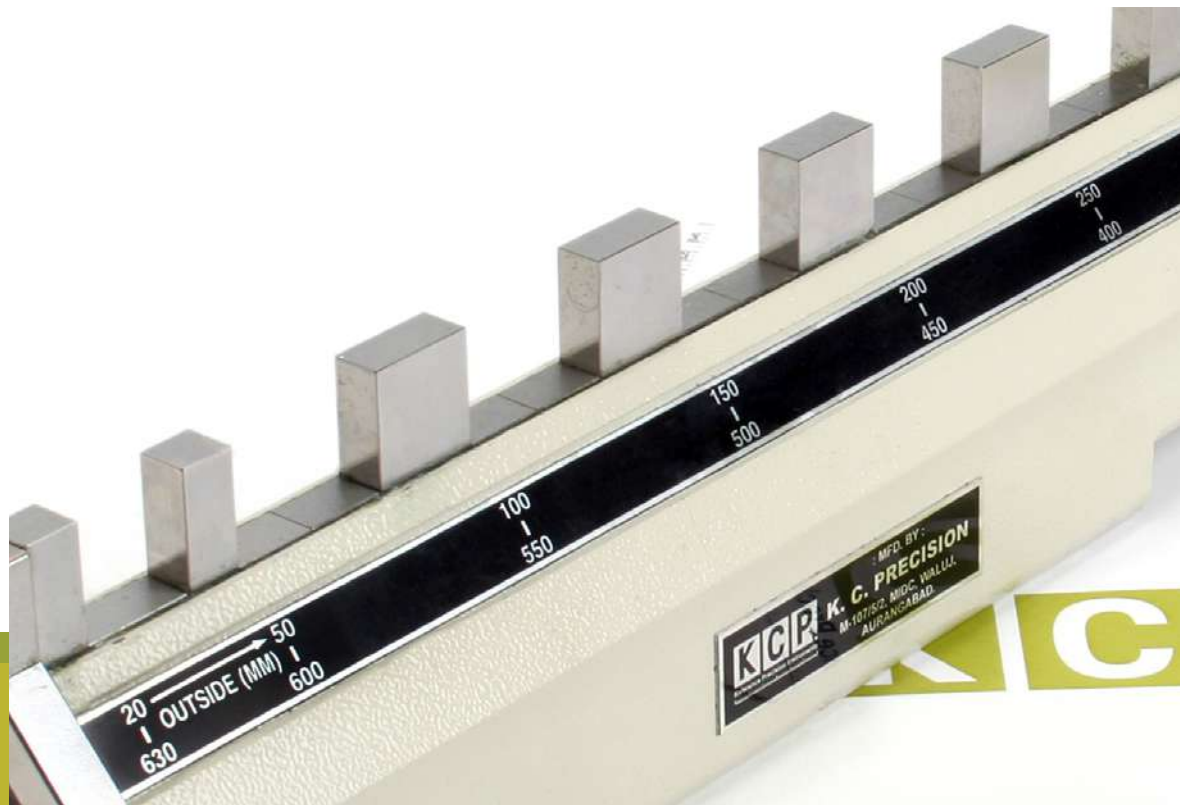
Rectangular Gauge Block, Length Bar, Setting Standard

KCP ULM MODELS

Technical Data	ULM 300		ULM 600		ULM 1000	
	ULM 300	ULM 300P	ULM 600	ULM 600P	ULM 1000	ULM 1000P
Base	Granite / Cast Iron		Granite / Cast Iron		Granite / Cast Iron	
Range:	0 - 100mm 100 - 300mm		0 - 100mm 100 - 600mm		0 - 100mm 100 - 1000mm	
• Direct Measurement						
• Differential Measurement						
Application Range:	330mm 1 - 300mm		630mm 1 - 600mm		1030mm 1 - 1000mm	
• External Measurement						
• Internal Measurement						
Resolution (switchable) - X axis	0.01µm, 0.1µm, 1µm		0.01µm, 0.1µm, 1µm		0.01µm, 0.1µm, 1µm	
Resolution Z axis	1µm		1µm		1µm	
Repeatability:	0.1µm 2.0µm		0.1µm 2.0µm		0.1µm 2.0µm	
• X-axis						
• Z-axis						
Display	Computer added screen display, TFT/LED, industrial computer with software		Computer added screen display, TFT/LED, industrial computer with software		Computer added screen display, TFT/LED, industrial computer with software	
Measuring Uncertainty (µm)	[0.25 + 0.5L x 10 ⁻³] µm where 'L' in mm	[0.25 + 0.2L x 10 ⁻³] µm where 'L' in mm	[0.25 + 0.5L x 10 ⁻³] µm where 'L' in mm	[0.25 + 0.2L x 10 ⁻³] µm where 'L' in mm	[0.25 + 0.5L x 10 ⁻³] µm where 'L' in mm	[0.25 + 0.2L x 10 ⁻³] µm where 'L' in mm
Measuring Force	0, 1.5N, 2.5N		0, 1.5N, 2.5N		0, 1.5N, 2.5N	
Work Table						
• Float	25mm		25mm		25mm	
• Y-axis	±25mm		±25mm		±25mm	
• Z-axis	100 mm		100 mm		100 mm	
• Tilt	±3°		±3°		±3°	
• Rotation	±4°		±4°		±4°	
• Size (Length X Width)	150 x 150 mm		150 x 150 mm		150 x 150 mm	
• Loading Capacity	20Kg		20Kg		20Kg	
Air Bearing						
A) Abbe's Device	----	Yes	----	Yes	----	Yes
B) Tail Stock	----	Yes	----	Yes	----	Yes
Environmental Requirement :						
• Temperature	15 °C - 35 °C		15 °C - 35 °C		15 °C - 35 °C	
• Humidity	30-80%		30-80%		30-80%	
Electrical Requirements:	220VAC, SOHZ		220VAC, SOHZ		220VAC, SOHZ	

Caliper Checker

Best suitable for calibration of Vernier Calipers and Vernier Height Gauges of all types (Mechanical / Dial / Digital) up to 1 meter.



upto 1000mm / 40"



Customisation available



Metric & Imperial



Steel | Carbide | Ceramic



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Quick and reliable calibration
- High-grade super finish
- Greater wear resistance



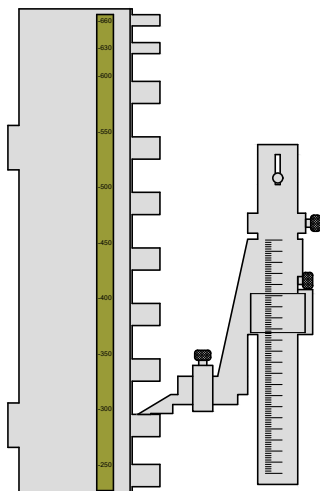
Product Information

- Comprises of permanently wrung Gauge blocks in a protective casting.
- Gauge Blocks are made of selected Alloy Steel, Tungsten Carbide and Ceramic.
- The Caliper Checker also stands perpendicular to a surface for height gauge calibration.

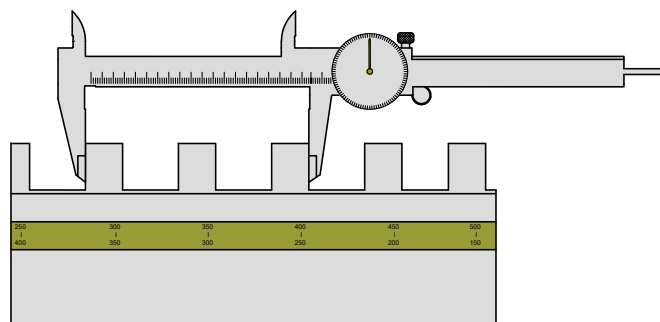
Technical Specifications

Range	External Measurement (mm)	Internal Measurement (mm)	Height Measurement (mm)	Accuracy (\pm) (mm)	Weight
300	360	300	360	0.003	6.5kg
600	660	600	660	0.005	11kg
1000	1060	1000	1060	0.007	18kg

Applications



For Vertical Calibration



For Horizontal Calibration

Internal Micro Checker

Ideal for calibration and zero setting of Internal Micrometers.



Upto 600 mm/ 24"



Metric & Imperial



Steel | Carbide | Ceramic



KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Quick and reliable calibration
- High-grade super finish
- Greater wear resistance



Product Information

- Gauge blocks are made of selected Alloy Steel and Tungsten Carbide.
- Gauge blocks are built-in the rigid frame to provide measuring in 25mm step in accordance with the travel range of micrometer head.
- An anvil of 25mm is supplied to provide a reference point for calibration at desired step within the measuring range of the Checker.

Technical Specifications

Range	Measuring Steps (mm)	Accuracy (\pm) (mm)	Weight
300	0, 25,...150 step 25	0.003	6kg
600	0, 25,...300 step 25	0.005	11kg

Depth Micro Checker

This Depth Micro checker is designed for efficient calibration and zero setting of Depth Micrometers



Upto 300mm/ 12"



Metric & Imperial



Steel | Carbide | Ceramic



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Quick and reliable calibration
- High-grade super finish
- Greater wear resistance

Product Information

- Comprises of permanently wrung Gauge Blocks in a protective casting.
- Gauge blocks are made of selected Alloy Steel and Tungsten Carbide.
- Gauge blocks are built-in the rigid frame to provide measuring in 25mm step in accordance with the travel range of micrometer head.
- An anvil of 25mm is supplied to provide a reference point for calibration at desired step within the measuring range of the Checker.



Technical Specifications

Range	Measuring Steps	Accuracy (\pm)	Weight
150	0,25,...150 step 25	0.003	5kg
300	0,25,...300 step 25	0.005	12kg

Micrometer Checker

Best suitable for quick and reliable calibration of External Micrometer.



0 - 25mm



Grade 0, Grade 1 & Grade 2



Metric & Imperial



IS 2984



Steel | Carbide | Ceramic



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Quick and reliable calibration
- High-grade super finish
- Greater wear resistance

Product Information

- Consist of Gauge Blocks fixed in precisely manufactured vertical stand.
- Gauge blocks are made of selected Alloy Steel, Tungsten Carbide & Ceramic.

Technical Specifications

Sets	Size	Weight
M-10	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8 & 25mm	6kg
M-8	3.1, 6.5, 9.7, 12.5, 15.8, 19, 21.9 & 25mm	5.5kg
E-8	0.13", 0.25", 0.5", 0.615", 0.75", 0.87" & 1"	5.5kg

Comparator Stand

KCP offers robust, highly stable and most precise comparator stand for the assembly of special-purpose, precision-measuring equipment. By mounting precision-measuring instruments onto the stands, all types of measurement including comparative measurement is possible.



0-150, 0-200, 0-300mm



Grade 0, Grade 1 & Grade 2



Measuring table in Carbide | Steel



NABL

Certificate No: CC-2323

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Unique Features

- Quick and reliable calibration
- Greater wear resistance

Product Information

- The Comparator Stands consist of a very stable, castiron base and an upright column with a mounting bracket that features fine adjustment.
- Standard Stands are furnished with steel hardened & lapped base with diameter 8mm dial gauge mounting arm.

Technical Specifications

Range	Mounting Hole	Work Table	Material
0-150mm with Fine adjustment	ø 8 mm, ø28 mm & ø30mm	ø60mm	Steel / Carbide
0-200mm with Micro Fine adjustment	ø8mm	60 x 60 x 6mm	Steel / Carbide
		80 x 80 x 16mm	Steel
0-300mm with Micro Fine adjustment	ø8mm	60 x 60 x 6mm	Steel / Carbide
		80 x 80 x 16mm	Steel

- Weight of Comparator Stand - 13kg
- All Work tables are available in Plain or Serrated texture.
- Spare Comparator Base made of Steel / Carbide in Plain / Serrated is also available in following sizes -
1) ø 60 x 6mm 2) ø 80 x 8mm 3) 60 x 60 x 6mm

KCP Air Gauges are indispensable tool for precision batch and mass production.

As tolerances have gotten tighter on the shop floor, air gauging is often the only way to make the check fast and easy for the operator. Air gauge system is a non-contact gauging system and has longer life due to minimal frictional wear.

Two setting masters ensure linearity online as well as magnification.

KCP offers a wide range of Air gauging with provision of 2, 3 & 4 jets configurations to air probes. It is thus best suitable for internal as well as external dimensions, average diameter, taper, ovality & face run-out.

Air gauges are also suitable for checking relative dimension such as flatness, parallelism, center distance, squareness & concentricity.

Air Gauges & Display Units

- Gauge Blocks Comparator
- Universal Length Measuring Machine
- Caliper Checker
- Internal Micro Checker
- Depth Micro Checker
- Comparator Stand

Air Plug Gauge

We offer Air Plug Gauges for quick and easy checking of bore size - Through bore, Blind bore, Stepped bore, taper & Ovality.



3mm to 150mm in steel
8mm to 60mm in carbide



Customisation available



Metric & Imperial



Steel | Carbide



Certificate No: CC-2323

NABL

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

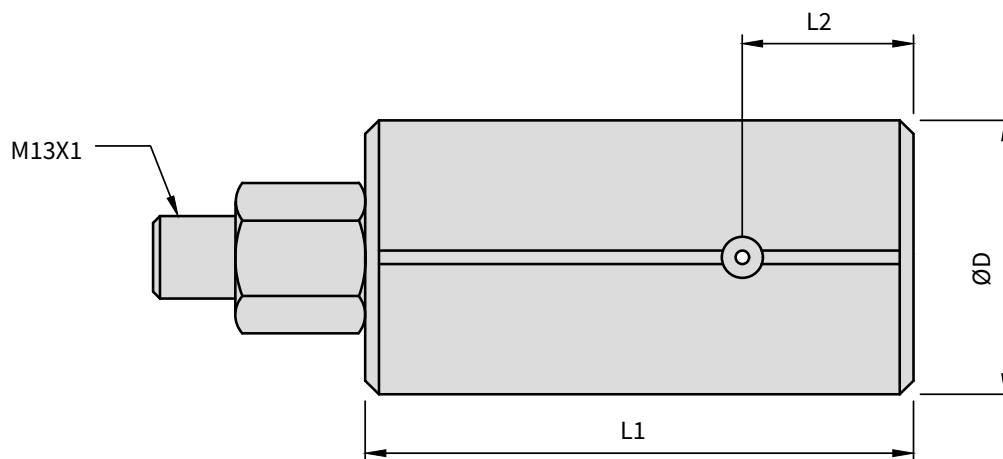
Unique Features

- Very high accuracy i.e. end of assumptions
- No subjectivity
- Repeatability
- Ease of operation
- Self cleaning ability
- Very fast response time

Product Information

- KCP Air Plug Gauges are provided with pair of Master Setting Ring (higher & lower).
- Adjustable depth collar can be provided for checking specific height.
- Offered with 2, 3 & 4 measuring jets as per requirement.
- Also offered to suit different makes, as per requirement.

Technical Specifications



Material	Range		L1		L2	
	From	To	Through hole	Blind hole	Through hole	Blind hole
Steel	Φ3	Φ8	30	30	9	4
	Φ8	Φ15	40	30	13	4
	Φ15	Φ150	40	30	13	5.5
Carbide	Φ8	Φ15	30	30	13	4
	Φ15	Φ60	30	30	13	5.5

* All figures in mm

Air Snap Gauge

Air snaps are designed for those difficult to reach or “between centers” diameter measurements. Often, air snaps gage a part while it is engaged in the machine tool. Also Snap gages are ideal for production settings where specific diametrical or thickness measurements must be repeated frequently with precision and accuracy.



10mm to 150mm



Customisation available



Metric & Imperial



Steel | Carbide



NABL

Certificate No: CC-2323

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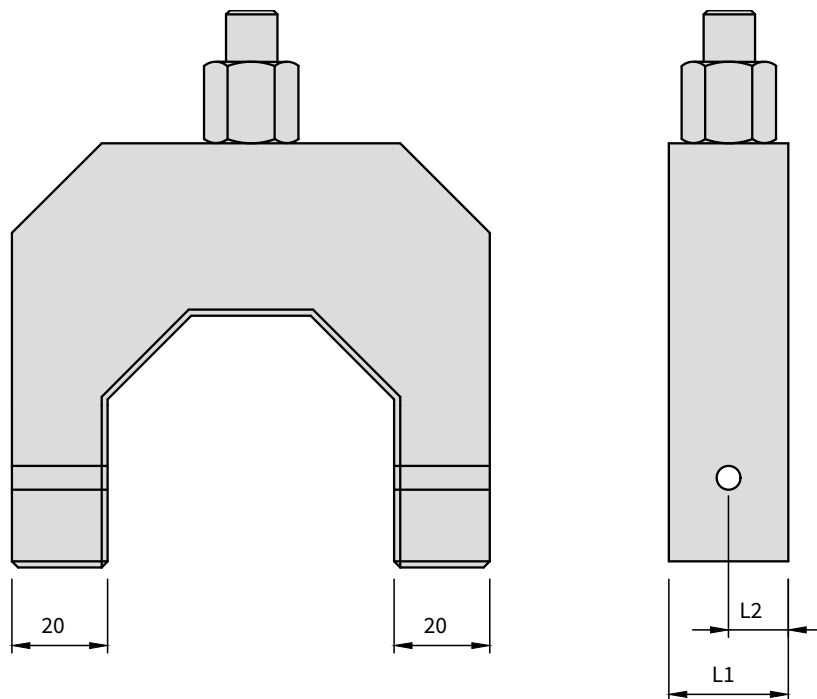
Unique Features

- Very high accuracy i.e. end of assumptions
- No subjectivity
- Repeatability
- Ease of operation
- Self cleaning ability
- Very fast response time

Product Information

- Range available from 10mm to 150mm with carbide resting pads.
- Provided with Master Setting Plug (higher & lower).
- Also offered to suit different makes, as per requirement.

Technical Specifications



Material	Range		L1		L2	
	From	To	Through hole	Blind hole	Through hole	Blind hole
Steel with Carbide rest	Φ10	Φ150	20	20	10	5.5

* All figures in mm

Air Ring Gauge

Our Air Ring Gauges are supplied in several styles for external measuring. Two and three jet rings are most common, used for checking outside diameters for sizes out of round conditions.



4 mm to 100 mm in steel
4 mm to 60 mm in carbide



Customisation available



Metric & Imperial



Steel | Carbide



NABL

Certificate No: CC-2323

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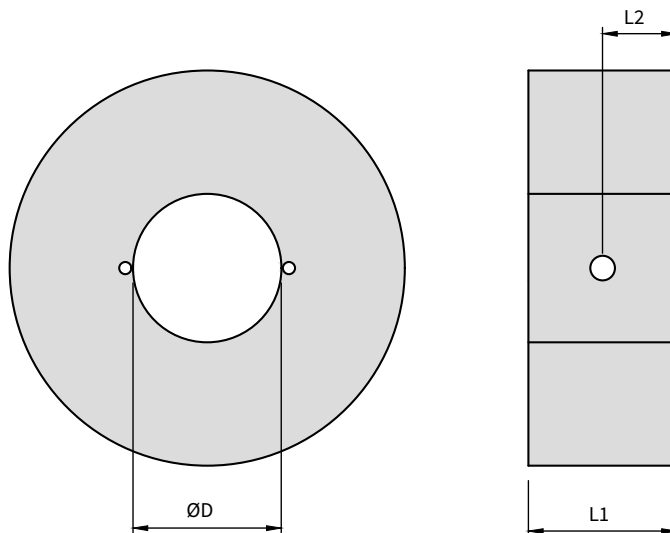
Unique Features

- Very high accuracy i.e. end of assumptions
- No subjectivity
- Repeatability
- Ease of operation
- Self cleaning ability
- Very fast response time

Product Information

- KCP Air Ring Gauges are provided with pair of Master Setting Plug (higher & lower).
- Offered with 2, 3 & 4 measuring jets as per requirement.
- Also offered to suit different makes, as per requirement.

Technical Specifications



Material	Range		L1		L2	
	From	To	Through hole	Blind hole	Through hole	Blind hole
Steel	Φ4	Φ35	20	20	10	5
	Φ35	Φ100	25	25	12.5	5
Carbide	Φ4	Φ8	20	20	10	4
	Φ8	Φ60	20	20	10	5

* All figures in mm

Air Gauging Display Units

Display units of our Air Gauging System are available in 4 types- Digital Unit, Analog Display Unit, Electronic Display Unit, Electronic Column Unit.

Digital Air Gauge Unit

We offer Two Types of Air Gauge Unit -

A) Single Channel Single Display ▶



◀ B) Double Channel double Display

Unique Features

- Piezo technology based sensor
- Piezo channel operates in full differential mode of operation this reduces errors caused due to temperature electrical noise etc
- Auto measurement on plug insertion
- Various expression modes available. Max-min, maximum, minimum, average, dynamic and static
- Selectable measurement mode Metric & Imperial
- There is a different color for the Accept, Reject, and Rework tolerance settings
- ID/OD Selection
- Internal storage of up to 25 measuring programs
- Buzzer sound when out of range
- Operates on 1.6mm jet size
- The part counter
- Password protection
- Display of absolute value or deviation
- Compact in size

Technical Specifications

- Resolution :- 0.001, 0.0005, 0.0001, 0.005 mm
- Power supply 230V.
- Scale range Metric -4 μ m, 40 μ m, 400 μ m, 4000 μ m.
- Imperial - 0.2, 2, 20, 200.(μ inch)
- RS232 interface for SPC analysis [SPCV3 software].
- 7 segment LED display

Analog Display Unit



Unique Features

- Works on null balance pressure system
- Operating pressure: 43 psi-60 psi (3-4 bar)
- Available in two resolution
 - i. L.C. 0.0005mm, Range: ± 0.02 mm
 - ii. L.C. 0.001mm, Range: ± 0.04 mm

Air Electronic Display Unit



Unique Features

- Single /Tri Colour Six Digit Display
- Absolute/Comparative Measurement
- Auto Calibration Facility
- Range/LC: $\pm 2000\mu\text{m}/1\mu\text{m}$, $\pm 200\mu\text{m}/0.5\mu\text{m}$, $\pm 200\mu\text{m}/0.10\mu\text{m}$
- Metric/Imperial measurement
- RS 232 Output
- Single/ Tri Colour LED indicating component tolerance status

Air Electronic Column Unit



Unique Features

- Single /Tri Colour Six Digit Display
- Absolute/Comparative Measurement
- Auto Calibration Facility
- Selectable range and least count
- Metric/Imperial measurement
- RS 232 Output
- Single/ Tri Colour LED indicating component tolerance status

Limit Gauges

Plain Plug Gauges

They are ideal for inspecting holes or slots (pass/fail). They are also used as Masters for setting Micrometers, Vernier Calipers etc.



1- 400mm diameter



Customisation available



Metric & Imperial



IS: 3455 (standard for manufacturing tolerance)



Steel | Carbide



NABL

Certificate No: CC-2323

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Unique Features

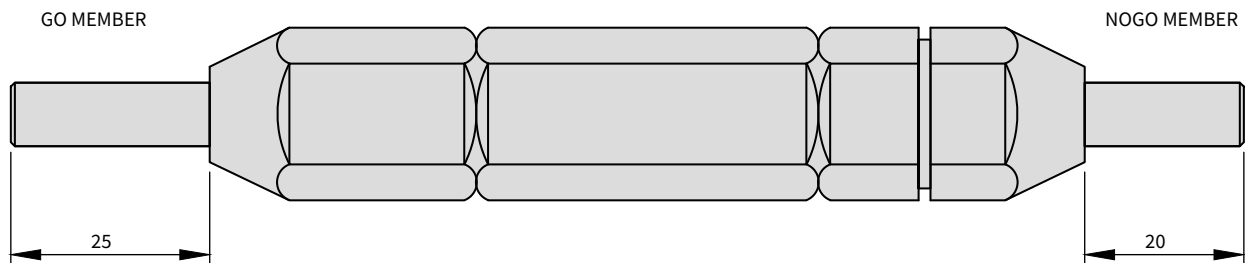
- High Durability
- High Tensile Strength



Product Information

- We offer a choice of choosing between GO and NO-GO both made in Tungsten Carbide/Steel and GO in Tungsten Carbide with NO-GO in Steel. The latter type is more popular owing to the cost advantage.
- We also manufacture Plain Plug Gauges to relevant I.S., B.S. and DIN standards based on customer requests from 1- 400mm diameter.
- We are also specialize in non-standard designs such as extra lengths, multiple diameters, air grooves, pilots, depth steps and relieved NO-GO ends.

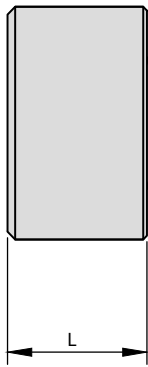
Technical Specifications



Type	Range
Reversible	Φ 0.5-8

* All figures in mm

GO MEMBER

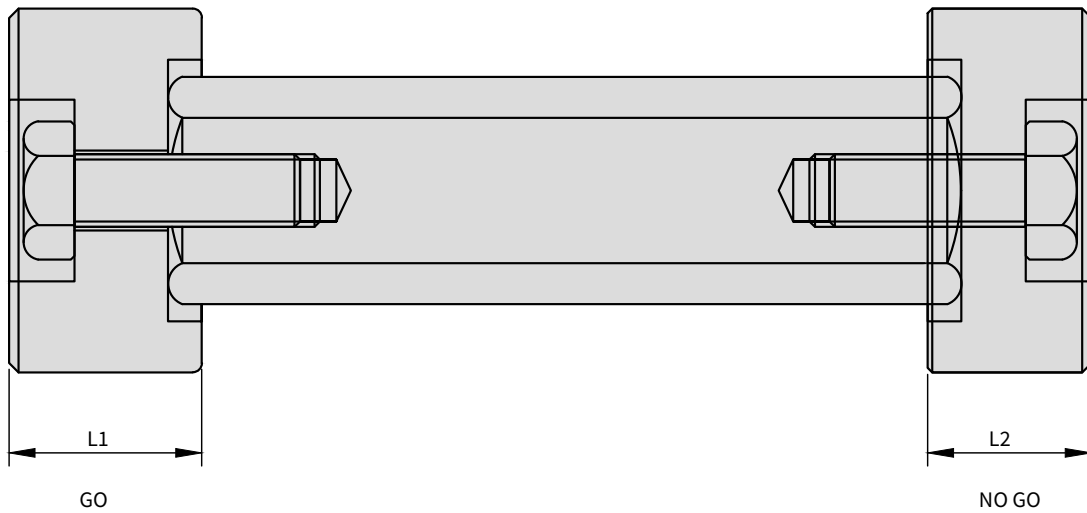


NOGO MEMBER



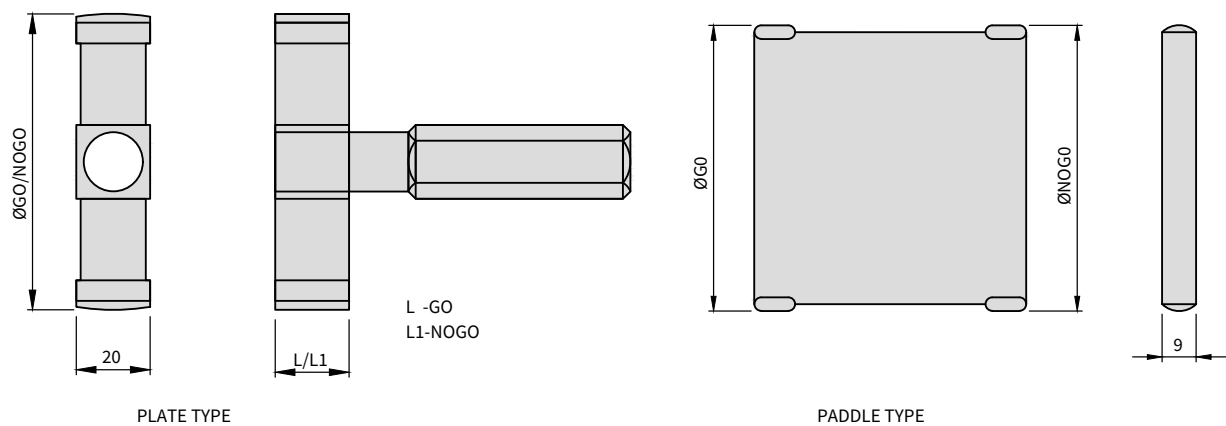
Type	Range	Φ8-10	Φ10-14	Φ14-18	Φ18-24	Φ24-30	Φ30-40
Taper Shank	L/L1 (Carbide)	10/10	10/10	15/10	15/15	15/15	15/15
	L/L1 (Steel)	10/10	12/10	14/10	16/15	18/15	20/15

* All figures in mm



Type	Range	L1	L2
Trilock	40-50	25	18
	50-65	30	18
	65-110	35	25
	110-120	40	25

* All figures in mm



Type	Range	Φ50-100	Φ100-200	Φ200-300	Φ300-400
Plate and paddle	L/L1 (Carbide & Steel)	10/10	10/10	15/10	15/10

* All figures in mm

Plain & Master Setting Ring Gauges

Ring Gauges are ideal for measuring outside diameter of work pieces. A ring gauge is also effective to check out of roundness on the higher side. A master setting ring is used as a standard to set bore gauges, which can then be used to determine deviation from the master size.



1- 300mm diameter



Customisation available



Metric & Imperial



IS: 3455 (standard for manufacturing tolerance)



Steel | Carbide



NABL

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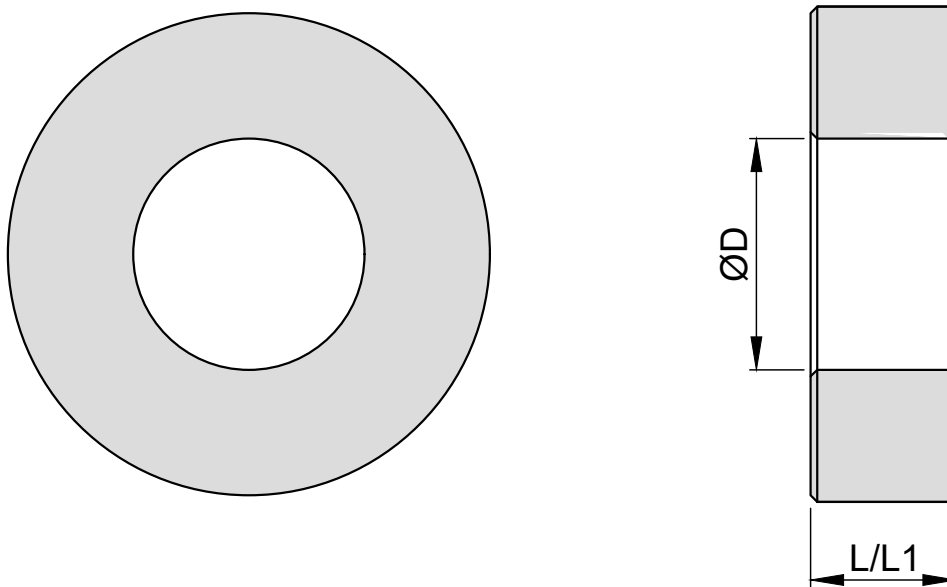
Unique Features

- High Durability
- High Tensile Strength

Product Information

- We offer a choice of choosing between GO and NO-GO both made in Tungsten Carbide/Steel and GO in Tungsten Carbide with NO-GO in Steel. The latter type is more popular owing to the cost advantage.
- We also manufacture Ring Gauges to relevant I.S., B.S. and DIN standards based on customer requests from 1- 300mm diameter.
- We are also specialize in non-standard designs such as extra lengths, multiple diameters, air grooves, pilots, depth steps and relieved NO-GO ends.

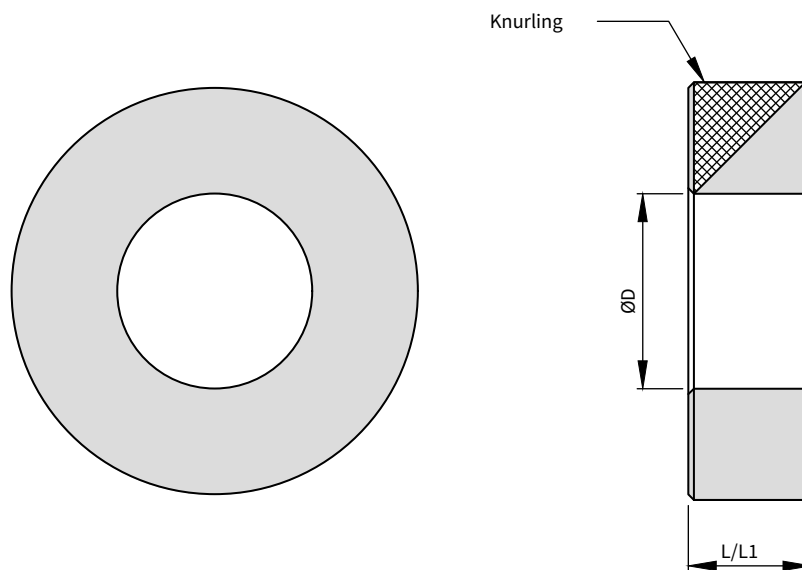
Technical Specifications



L: Length of Go/NoGo member L1: Length of Master setting ring

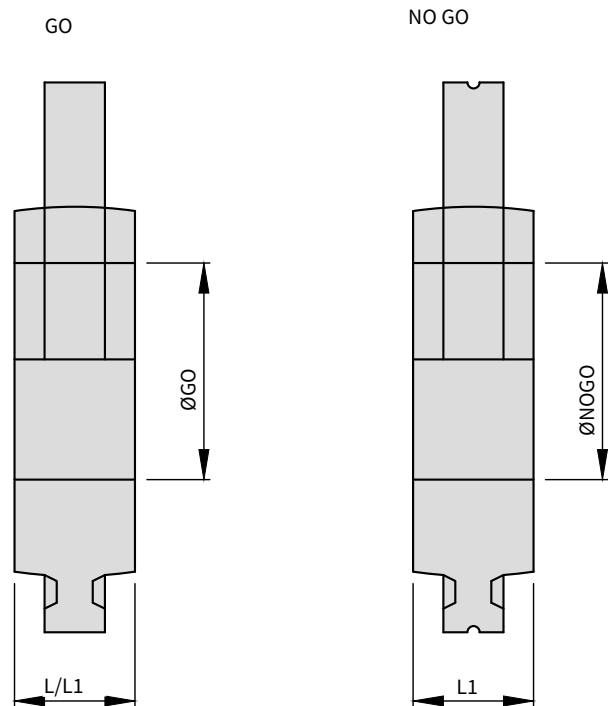
Material	Range	Φ 1 – 5	Φ 5-10	Φ 10- 25	Φ 25 – 60
Carbide	L/L1	5/10	10	15	20

* All figures in mm



L: Length of Go/NoGo member L1: Length of Master setting ring

Material	Range	Φ 1 – 5	Φ 5-10	Φ 10- 25	Φ 25 - 40	Φ 40 - 60	Φ 60 – 100
Steel	L/L1	5/10	10/15	15/20	20/25	20/30	25/30



L: Length of Go/NoGo member L1: Length of Master setting ring

Material	Range	Φ 100-160	Φ160-190	Φ190-224	Φ224-265	Φ265-300
Steel	L/L1	28/36	32/40	32/45	36/50	36/56

Snap Gauges

Our Snap Gauges are designed for quick inspection of outside diameter of work pieces.



1- 400mm



Customisation available



Metric & Imperial



IS: 3455 (standard for manufacturing tolerance)



Steel | Carbide



NABL
Certificate No: CC-2323

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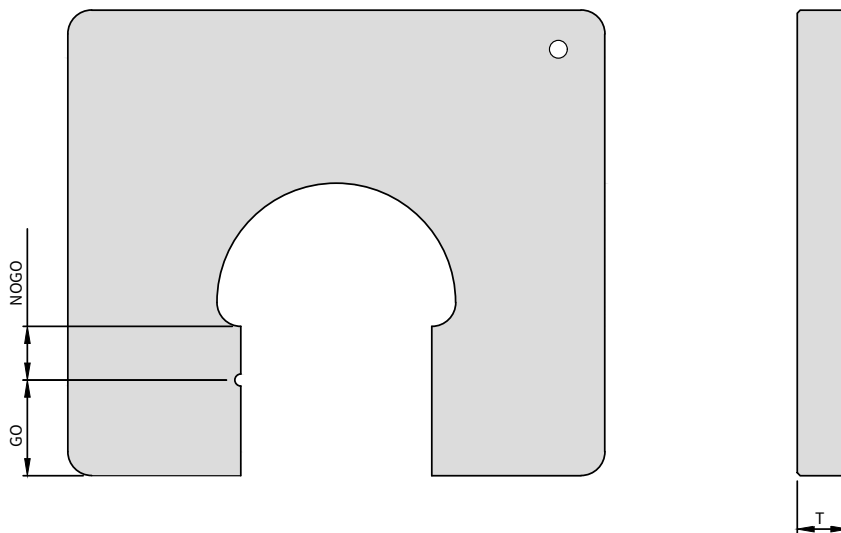
Unique Features

- High Durability
- High Tensile Strength

Product Information

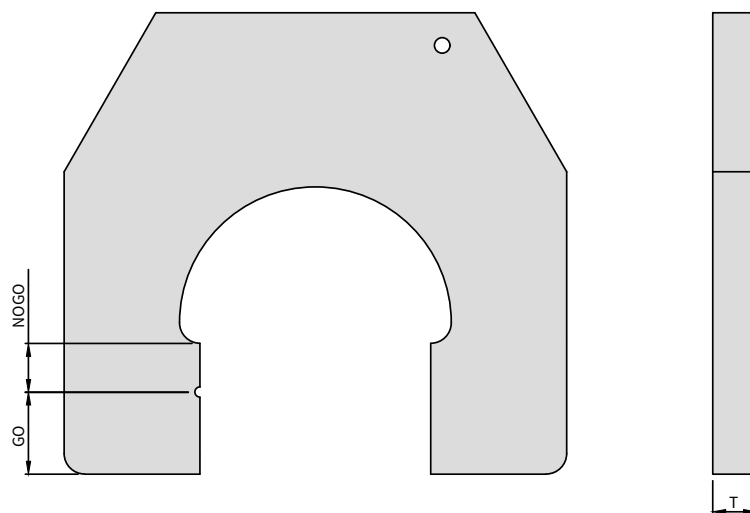
- We offer Snap gauges in Steel and Carbide. We also make gauges in Steel with measuring faces in Carbide.
- We also manufacture Snap Gauges to relevant I.S., B.S. and DIN standards based on customer requests from 1- 400mm diameter.
- Single ended and double ended types of snap gauges are available with proper marking of 'GO', NOGO & gauge identification.
- They are also designed as per customer specification for checking of length, thickness & groove diameters etc.

Technical Specifications



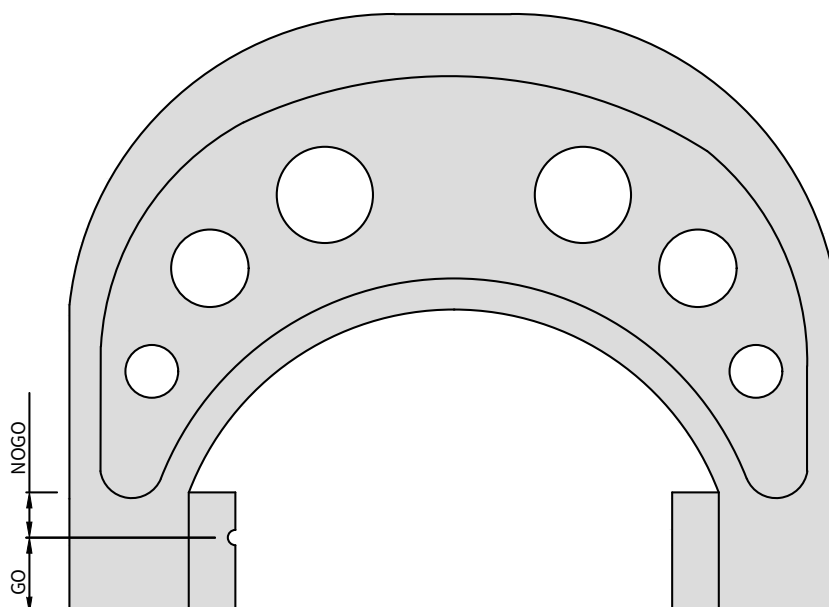
Type	Range	'GO' Length	'NO GO' Length	Thickness
Single Ended Snap Gauge Steel Blank (Carbide tipped / Steel)	10-16	12	7	6
	16-25	12	7	8.5
	25-32	12	7	8.5
	32-45	16	9	8.5

* All figures in mm



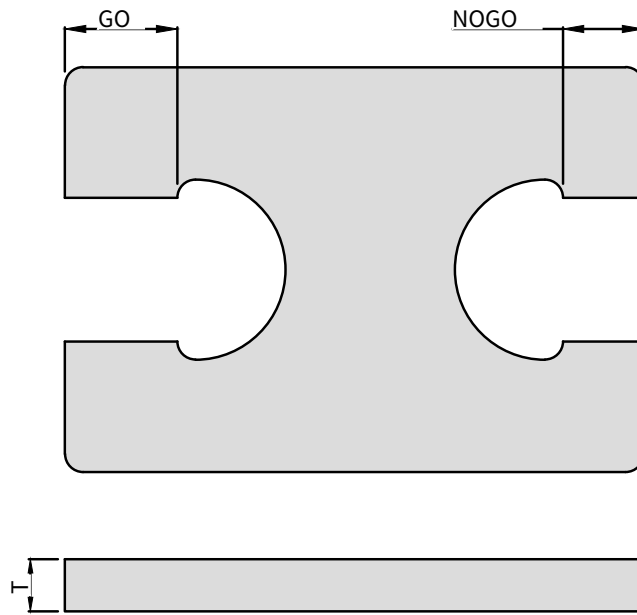
Type	Range	'GO' Length	'NO GO' Length	Thickness
Single Ended Snap Gauge Steel Blank (Carbide tipped / Steel)	45-60	16	9	8.5

* All figures in mm



Type	Range	'GO' Length	'NO GO' Length	Thickness
Single Ended Snap Gauge C.I. Blank (Carbide tipped /Steel)	60-150	15	10	10
	150-400	18	12	10

* All figures in mm



Type	Range	'GO' Length	'NO GO' Length	Thickness
Double Ended Snap Gauge Steel Blank (Carbide tipped / Steel)	1-10	8	5	6
	10-16	10	6	8.5
	16-25	12	8	8.5
	25-32	14	10	8.5
	32-40	16	12	8.5
	40-50	18	12	8.5
	50-65	20	13	8.5

* All figures in mm

Dial Snap Gauges

KCP manufactures these highly precise Dial Snap Gauges for quick comparative measurement of external diameter. They are proficient for inspection of continuous and batch production items.



up to 700mm



Customisation available



Metric



Grade 1



Carbide



IS : 14271



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

- Aluminium frame with plastic handle gives insulation and grip.
- Greater wear resistance.

Product Information

- Measuring faces are made of Tungsten Carbide for greater wear resistance.
- Any standard dial indicator with ø8mm holding shank can be fitted easily.

Width Gauges

KCP make width gauges are best suitable for checking groove width



0.5- 100mm



Customisation available



Metric



IS: 3455 (standard for manufacturing tolerance)



Steel | Carbide



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

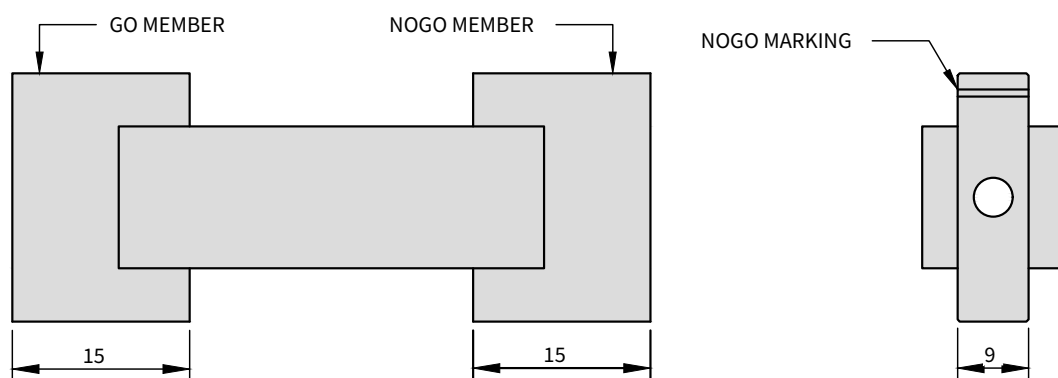
Unique Features

- Greater wear resistance
- High Tensile Strength

Product Information

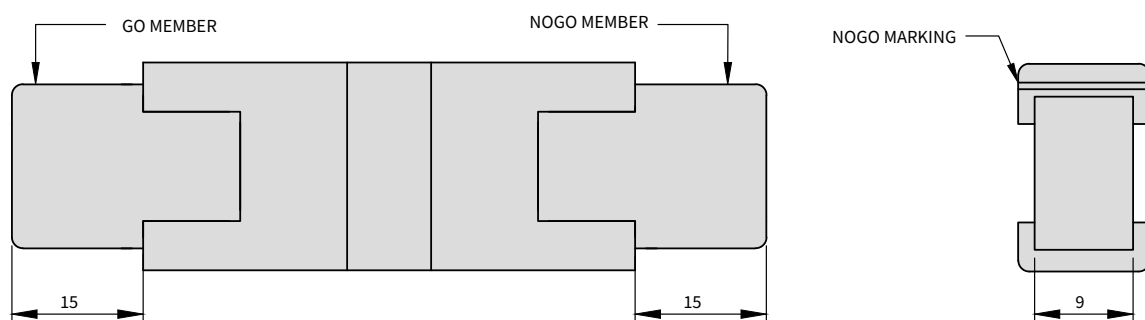
- We manufacture width gauges in reversible type design from 0.5 to 100mm.
- We provide 'GO' & 'NOGO' in Carbide / Steel.
- Custom Width Gauges with special design for woodruff & crank pin width checking are also catered.

Technical Specifications



Material	Range	L/L1
Carbide / Steel	0.5-10	15/15
	10.5-100	20/20

* All figures in mm



Material	Range	L/L1
Carbide / Steel	0.5-10	15/15
	10.5-100	20/20

* All figures in mm

Measuring Pins

The Precision Measuring Pins offered by us are widely used for checking of bores, center distances, groove dimensions, inspection of micrometers, gear measurements etc.



0.3 - 20mm



Customisation available



Metric



Grade 1 mkg. tol $\pm 0.001\text{mm}$
Grade 2 mkg. tol $\pm 0.002\text{mm}$



Steel | Carbide



IS : 11103



NABL

Certificate No: CC-2323

KCP Gauges are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard

Unique Features

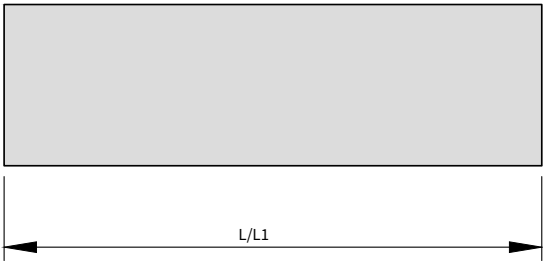
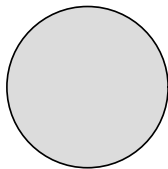
- Greater wear resistance
- Highly accurate



Product Information

- KCP manufactures measuring pins from 0.3 - 20mm range in steps 0.005 / 0.010 / 0.020 / 0.050 & 0.1mm.
- Loose pins are also supplied apart from sets.

Technical Specifications



Material	Range	Carbide (L)	Steel (L1)
Carbide / Steel	0.5 - 1.5	40	40
	1.51 - 20	40	50

* All figures in mm

Standard Available Sets

Range in mm	Steps in mm	Set of Pins 'no.'	Range in mm	Steps in mm	A Set Of Pins 'no.'
Step of 0.010 mm					
0.50 – 1.00	0.01	51	8.51 – 10.00	0.01	150
1.01 – 2.00	0.01	100	9.01 – 10.00	0.01	100
1.01 – 2.50	0.01	150	10.01 – 11.00	0.01	100
2.01 – 3.00	0.01	100	11.01 – 12.00	0.01	100
2.51 – 4.00	0.01	150	12.01 – 13.00	0.01	100
3.01 – 4.00	0.01	100	13.01 – 14.00	0.01	100
4.01 – 5.00	0.01	100	14.01 – 15.00	0.01	100
4.01 – 5.50	0.01	150	15.01 – 16.00	0.01	100
5.01 – 6.01	0.01	100	16.01 – 16.75	0.01	75
5.51 – 7.00	0.01	150	16.76 – 17.50	0.01	75
6.01 – 7.00	0.01	100	17.51 – 18.25	0.01	75
7.01 – 8.00	0.01	100	18.26 – 19.00	0.01	75
7.01 – 8.50	0.01	150	19.01 – 19.50	0.01	50
8.01 – 9.00	0.01	100	9.51 – 20.00	0.01	50
Step of 0.020 mm					
0.50 – 1.00	0.02	26	7.02 – 10.00	0.02	150
0.50 – 3.00	0.02	126	10.02 – 12.00	0.02	100
1.02 – 3.00	0.02	100	12.02 – 14.00	0.02	100
1.02 – 4.00	0.02	151	14.02 – 16.00	0.02	100
3.02 – 5.00	0.02	100	16.02 – 17.50	0.02	75
3.02 – 7.00	0.02	200	17.52 – 19.00	0.02	75
4.02 – 7.00	0.02	150	19.02 – 20.00	0.02	50
5.02 – 7.00	0.02	100	-	-	-
Step of 0.050 mm					
0.50 – 2.00	0.05	31	7.05 – 12.00	0.05	100
0.50 – 4.00	0.05	61	8.05 – 12.00	0.05	80
0.50 – 7.00	0.05	131	12.05 – 16.00	0.05	80
2.05 – 7.00	0.05	100	16.05 – 18.00	0.05	40
4.05 – 8.00	0.05	80	18.05 – 20.00	0.05	40
Step of 0.100 mm					
0.50 – 12.00	0.10	116	12.10 – 20.00	0.10	80

Calibration Services

NABL Accredited Calibration Lab

All our products are supplied with Calibration Certificate issued from its accredited calibration lab as per ISO 17025 standard.



NABL
Certificate No: CC-2323

We have a well equipped Lab accredited to ISO/IEC 17025 of 2005 by NABL.

Our high end equipments, skilled personnel and methodology enable us to cater your requirements to act in accordance with ISO 9000/QS 9000/TS 16949 etc.

We provide Calibration Services for -

- **Linear Measuring Instruments**
- **Thread Measuring Instruments**
- **Angular Measuring Instruments**
- **Limit Gauges & Special Gauges**

Our Distinct Features

- State- of- the-art calibration lab
- World-class expertise
- Fast turnaround
- Competitive price
- NABL accredited report supplied with calibrated product
- Continuous updations with latest technologies
- Optional pick-up and delivery for local customers
- Repair facility is also available

The In-house Advantage

Our advanced well equipped manufacturing unit along with our in-house NABL accredited lab gives us strength to fulfill the market's requirements not just of present but future as well.

BHAGWATI HARDWARE & MILL STORE

Add: Office No. 4769, 1st FLOOR, OLD POST OFFICE BUILDING, HAUZ QAZI, DELHI – 110006

PH: 011-45025958, 66405958, 9350076343, 9212012856

EMAIL: sandeep@bhagwatimail.com

Web Site : www.bhagwathardwaredelhi.in | www.ndtinstrument.in | www.measuringtools.in

Precision begins here...