



STEEL RING GAUGE



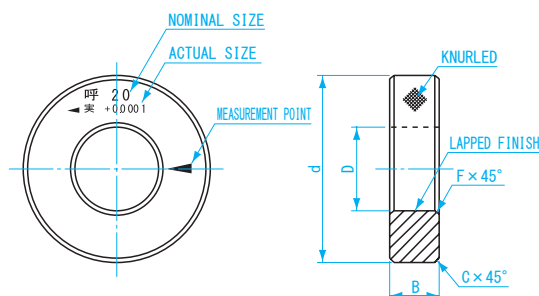
SUB-ZERO Treatment (Cryogenic hardened) for improved durability

Use Ring Gauge as master gauge for "0" adjustment of measuring tools such as bore gauge, inside micrometer, dial caliper, etc.



DIMENSIONS

Units : mm



Size List

※ Reference value

Size D (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside diameter C (mm)	Chamfering for inside diameter F (mm) ^{*)}	Remarks	Weight
1 to less than 2.5	22	4	0.4	0.3	Knurled	10g
2.5 to less than 5		5				10g
5 to less than 10	32	8	0.8	0.5		50g
10 to less than 15	38	10	1.2			80g
15 to less than 20	45	12		1.0		100g
20 to less than 25	53	14	200g			
25 to less than 32	63	16	1.5	300g		
32 to less than 40	71	18	2.0	400g		
40 to less than 50	85	20		600~700g		
50 to less than 60	100	24	1.5	0.9~1.1kg		
60 to less than 70	112			1.1~1.3kg		
70 to less than 80	125	30	2.4	1.4~1.6kg		
80 to less than 90	140			1.7~1.9kg		
90 to less than 100	160	35	2.0	2.3~2.6kg		
100 to less than 110	180			3.7~4.1kg		
110 to less than 120	190	38	2.0	4.7~5.1kg		
120 to less than 130	200			5.0~5.5kg		
130 to less than 140	210	38	40	5.7~6.3kg		
140 to less than 160	230	40		2.0		6.6~8.2kg
160 to less than 180	260		8.6~10kg			
180 to less than 200	280			9.4~11kg		

MATERIAL • Alloy tool steel

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Out of Roundness Cylindricity (μm)	Tolerance (μm)	Hardness (HV)
1 to less than 30	0.1 step	0.5	0.5	± 1.0	653 772
30 to less than 50		0.8	0.8	± 1.5	
50 to less than 60	0.5 step	1.0	1.0	± 2.0	
60 to less than 80		1.0	1.0	± 2.0	
80 to less than 100	5.0 step	2.0	2.0	± 5.0	
100 to less than 200		2.0	2.0	± 5.0	

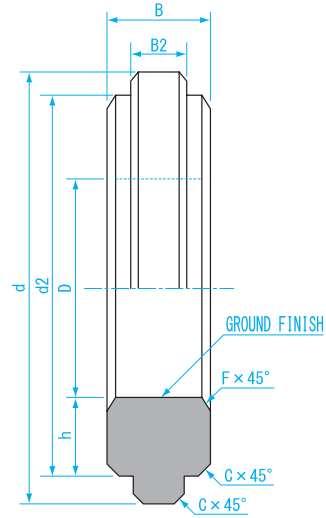
〈Stock available size〉

Size (mm)	Step (mm)	Stock available size (mm)
1 to less than 50	0.1 step	1.0•1.1•1.2•1.3•1.4•1.5•1.6•1.7•1.8•1.9•2.0•2.1•2.2•2.3•2.4•2.5•2.6•2.7.....50.0
50 to less than 100	0.5 step	50.5•51.0•51.5•52.0•52.5•53.0•53.5•54.0•54.5•55.0•55.5•56.0•56.5•57.0•57.5.....100.0
100 to less than 200	5.0 step	105.0•110.0•115.0•120.0•125.0•130.0•135.0•140.0•145.0•150.0•155.0•160.0•165.0.....200.0

SUB-ZERO TREATMENT (Cryogenic hardened) for improved durability

DIMENSIONS

Units : mm



MATERIALS • Alloy tool steel

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Out of Cylindricity (μm)	Tolerance (μm)	Hardness (HV)
200 to less 230	5.0 step	5.0	5.0	± 7.0	653 772
230 to less 300	10.0 step			± 8.0	
300 to less 400				± 9.0	
400 to less 500				± 10.0	
500 to less 520					

Size List

Size D (mm)	Outside Diameter (mm)		Thickness (mm)		h (mm)	Chamfering for outside diameter C (mm) *	Chamfering for inside diameter F (mm) *	Remarks	Weight (kg)
	d	d 2	B	B2					
200 to less than 230	310	250~270	45	25	20	2.0	2.5	NOT Knurled	9~10
230 to less than 260	340	280~300							11~14
260 to less than 290	370	310~330							11~13
290 to less than 320	400	340~360							12~14
320 to less than 360	440	380~410			14~16				
360 to less than 400	480	420~450	50	25	15~18				
400 to less than 450	540	460~500			19~24				
450 to less than 500	600	510~550			23~29				
500 to less than 520	660	560~600			27~33				

Order No.	Size (mm)
420500	205.0
421000	210.0
421500	215.0
422000	220.0
422500	225.0
423000	230.0
424000	240.0
425000	250.0
426000	260.0
427000	270.0
428000	280.0
429000	290.0

Order No.	Size (mm)
430000	300.0
431000	310.0
432000	320.0
433000	330.0
434000	340.0
435000	350.0
436000	360.0
437000	370.0
438000	380.0
439000	390.0
440000	400.0

BLOCK GAUGES

PIN GAUGES

PIN GAUGE ACCESSORIES

PIN VISE

GAUGES

RING GAUGES

PLUG GAUGES

LIMIT GAUGES

THICKNESS GAUGES

TAPER GAUGES

WELDING GAUGES

OTHER GAUGES



STEEL RING GAUGE SET



SUB-ZERO TREATMENT (Cryogenic hardened)



Set List

Set No.	Nominal Size	Pieces per set
RG-1	1.0 • 1.5 • 2.0 • 2.5 • 3.0 • 4.0 • 5.0 • 6.0 • 7.0 • 8.0 • 9.0 • 10.0	12
RG-2	11.0 • 12.0 • 13.0 • 14.0 • 15.0 • 16.0 • 17.0 • 18.0 • 19.0 • 20.0 • 22.0 • 24.0	12
RG-3	25.0 • 26.0 • 27.0 • 28.0 • 30.0 • 32.0 • 34.0 • 35.0 • 36.0 • 37.0 • 38.0 • 40.0	12
RG-4	42.0 • 44.0 • 45.0 • 46.0 • 47.0 • 48.0 • 50.0	7
RG-5	52.0 • 54.0 • 55.0 • 56.0 • 58.0 • 60.0 • 65.0	7
RG-6	68.0 • 70.0 • 75.0 • 80.0	4
RG-7	85.0 • 90.0 • 95.0 • 100.0	4

※ Refer page 156 for detailed specifications and tolerance

STEEL RING GAUGE with MAINTENANCE LINE



Maintenance line series ring gauge now available



Custom Designs
for Fast Delivery!

Please contact us
with request

MATERIAL • Alloy tool steel

FEATURES • Maintenance line on steel ring gauge allows easy checking for gauge wear-out.
• When line disappears, wear is more than 1μm
• Available for sizes : 15 ~ 50mm (1mm step)

BLOCK
GAUGESPIN
GAUGESPIN
GAUGE
ACCESSORIESPIN
VISE

GAUGES

RING
GAUGESPLUG
GAUGESLIMIT
GAUGESTHICKNESS
GAUGESTAPER
GAUGESWELDING
GAUGESOTHER
GAUGES

CARBIDE RING GAUGE

LAPPED FINISH



FEATURES

- Durable and long life
- The coefficient of thermal expansion is small ($1/2$ of steel, $5 \times 10^{-6} \text{K}^{-1}$), so better tolerates temperature changes
- Less likely to be damaged due to high hardness
- Economical- Frequent periodic calibration not required

MATERIAL

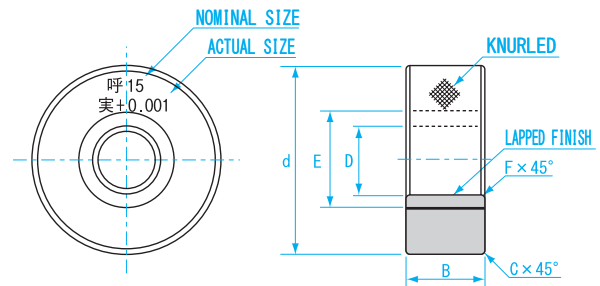
- Steel with carbide insert

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness/ Cylindricity (μm)	Tolerance (μm)	Hardness (HV)
1 to less than 30	—	0.5	± 1	1200
30 to less than 50	—	0.8	± 1.5	

DIMENSIONS

Units : mm



Size List

※ Reference value

Size D (mm)	Diameter of Carbide part E (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside Diameter C (mm) *	Chamfering for inside Diameter F (mm) *
1 to less than 2.5	8	22	4	0.4	0.3
2.5 to less than 5	11		5		
5 to less than 10	16	32	8	0.8	0.5
10 to less than 15	21	38	10	1.2	
15 to less than 20	28	45	12		
20 to less than 25	33	53	14		
25 to less than 32	40	63	16	1.5	1.0
32 to less than 40	50	71	18	2.0	
40 to less than 50	60	85	20		

CERAMIC RING GAUGE

LAPPED FINISH



FEATURES

- Ceramic material is less susceptible to abrasion and age deterioration than steel
- Free from rust and corrosion, and easy maintenance
- Non-magnetic body
- Does not deform with damage, resists scratches and forming burrs
- Size is laser marked

MATERIAL

- Ceramics

Material Data

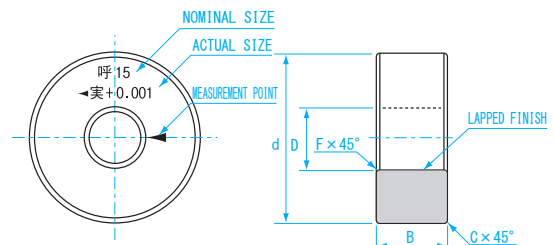
List	Material	Ceramic	
		Aluminum	Zircon
Gravity	—	3.8	5.6
Hardness	HV	1500	1100
Bending Strength	MPa	3.9	7~8
Young's modulus	GPa	360	205
Coefficient of thermal expansion	10^{-6}K^{-1}	8	8
Heat conductivity	W/m·K	29	3.4

SPECIFICATIONS

Size (mm)	Step (mm)	Out of Roundness (μm)	Tolerance (μm)
1 to less than 30	0.5 step	0.5	± 1
30 to less than 50		0.8	± 1.5

DIMENSIONS

Units : mm



Size List

※ Reference value

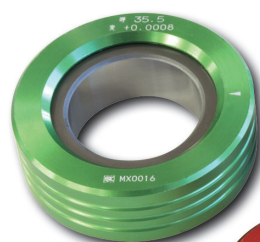
Size D (mm)	Outside Diameter d (mm)	Thickness B (mm)	Chamfering for outside diameter C (mm) ^②	Chamfering for inside diameter F (mm) ^③
3 to less than 10	32	8	0.8	0.5
10 to less than 15	38	10	1.2	
15 to less than 20	45	12		
20 to less than 25	53	14		
25 to less than 32	63	16	1.5	1.0
32 to less than 40	71	18	2.0	
40 to less than 50	85	20		



RING GAUGE (with protective cover)

No-Slip and Easy to Handle, will increase productivity

CARBIDE RING GAUGE (with Protective Cover)



STEEL RING GAUGE (with Protective Cover)



CERAMIC RING GAUGE (with Protective Cover)



FEATURES

- A ring gauge embedded in Aluminum Protective Cover.
- Covered gauge is easier to handle with dirty hands Less susceptible to thermal expansion when holding a gauge by hand.
- Protects from chipping when dropped

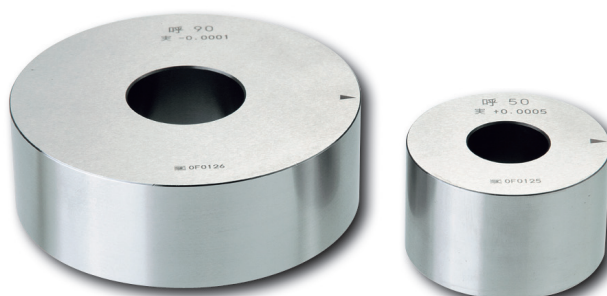
MATERIAL

- Protective Cover: Anodized Aluminum
- Gauge: Steel / Carbide / Ceramic

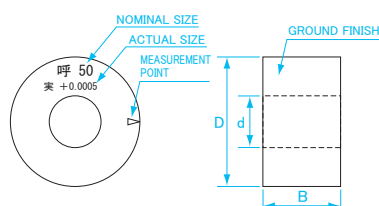
SPECIFICATIONS

Size (mm)	Step (mm)	Roundness•Cylindricity (μm)	Tolerance (μm)
1 to less than 2 (Steel & Carbide only)	1mm step	0.5	±1
2 to less than 30	1mm step	0.5	±1
30 to less than 50	1mm step	0.8	±1.5

STEEL RING GAUGE OD model

Available from $\phi 40$ -400mm. Simple calibration or 0 adjustment of outside measuring instrument

DIMENSIONS



SPECIFICATIONS

SizeD (mm)	Step (mm)	OD tolerance (μ m)	Out of Roundness (μ m)	Out of Cylindricity (μ m)	Thickness (mm)	Hole Diameter (mm)
40 to less than 50	10.0 step	±3	1.5	1.5	30	20
50 to less than 70		±5	2.5	2.5		30
70 to less than 100						40
100 to less than 150						50
150 to less than 200		±10	5	5		80
200 to less than 300						160
300 to less than 350						200
350 to less than 375						250
375 to less than 400						

USE

- For quick calibration of micrometer

MATERIAL

- Alloy tool steel

FEATURES

- Custom sizes are available up to $\phi 400$
- Size range: 40-400mm

SPECIFICATIONS

- Hardness: HV653-772

SPECIAL SHAPE- multiple-step gauge

- APPLICATIONS** • Quick calibration of Micrometers(0-25mm)
- MATERIAL** • Alloy tool steel
- FEATURES** • OD pitch: 5・10・15・20・25mm
Integrated type gauge



※Sample of special shape

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SPECIAL SHAPE- multiple-step gauge/ OD model

- APPLICATIONS** • Use for calibration or 0 adjustment
- MATERIAL** • Alloy tool steel
- FEATURES** • Size combination is arranged
on request



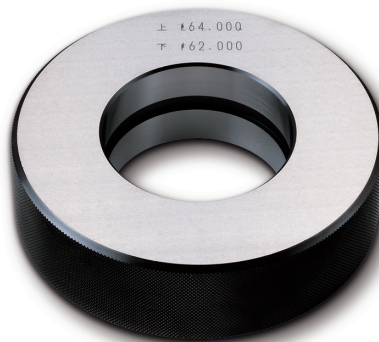
※Sample of custom design

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SPECIAL SHAPE- Step gauge/ Inner model

- APPLICATIONS** • 0 adjustment for dial bore gauge
- MATERIAL** • Alloy tool steel
- FEATURES** • Size combination is arranged
on request



※Sample of custom design

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SPECIAL SHAPE- Cut out

- APPLICATIONS** • Hold ring gauge in a jig and prevent
movement
- MATERIAL** • Alloy tool steel



※Sample of custom design

Custom Designs
for Fast Delivery

Please contact us
with request

BLOCK
GAUGES

PIN
GAUGES

PIN
GAUGE
ACCESSORIES

PIN
VISE

GAUGES

RING
GAUGES

PLUG
GAUGES

LIMIT
GAUGES

THICKNESS
GAUGES

TAPER
GAUGES

WELDING
GAUGES

OTHER
GAUGES