



CYLINDRICAL GAGES

Superior Accuracy to the Millionth of Inches. . .

CYLINDRICAL GAGES



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Are all cylindrical gages created equal?

At Edmunds Gages, we believe that answer is an emphatic “no.” Cylindrical gages, however, are too often viewed as commodity items that are purchased on price and delivery. We’d like you to consider the Edmunds difference in cylindrical gage manufacturing.

GOING TO THE DEPTHS OF MEASUREMENT – A BREIF LOOK BACK

Edmunds Gages was founded upon cylindrical gage measurement. We established a premier gage lab approved by the National Institute of Standards and Technology. Soon we began producing rings, plugs, and discs ourselves. These are used as “go/no-go” gages for cylindrical parts and as masters for calibrating other gages. Then we went deeper. We developed our own line of gage block and universal comparators to calibrate the masters. Next we went even further into the realm of measurement technology smaller than onemillionth of an inch. Our Sub-Millionths Metrology Laboratory is considered among the finest in the world. At the end of this catalog, you’ll find a listing of our current products and services.

THE EDMUNDS DIFFERENCE

The material. It better be good.

It is critical that cylindrical material be stable and hard. We only use superb quality tool steels such as O1 or Alloy Steels such as 8620 and heat treat our steel blanks to a minimum of 58RC. We also carefully inspect our incoming material to ensure adherence to the hardening specifications.

The stabilization process. Hot and cold by extremes.

Subsequent grinding operations can introduce heat and stress. Edmunds eliminates material fluctuations by putting blanks through a stabilization process, which involves cycling them through temperature extremes from -130° F. to +300° F.

Precision lapping. The personal touch.

“Lapping” is the finishing process that removes small amounts of material from the gage surface to bring it within its final tolerance limits. It is the final procedure in cylindrical gage manufacturing and of paramount importance. Our lappers can practically “feel” a millionth of an inch in our dedicated, temperature-controlled lapping room.

Inspection with NIST-traceable gages. In a cool lab.

Even though our gages are inspected for size and class plus cleaned several times, we think it’s important that we go through another inspection procedure in our separate metrology lab. There, environmental conditions are constantly held and recorded to a strict, cool 68° F. ($\pm 1/2^\circ$) and relative humidity between 30-50%. The masters used in the Edmunds Sub-millionths Metrology Lab are directly traceable to NIST.

100% sampling. All or nothing.

To ensure the utmost integrity of the cylindricals we supply to you, we scrutinize each and every one before shipping.

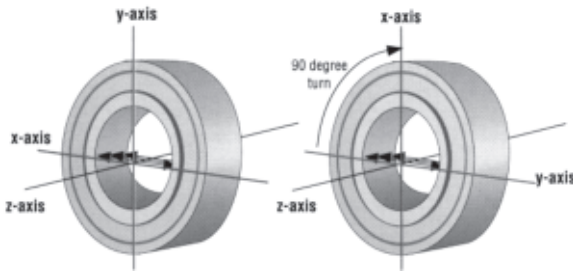
Certification of class and size. Get the whole story.

When specified, we can supply a Certification of Class or a Certification of Size. The size document provides actual size deviations from nominal for calibration points in two axes and three planes for each axis for a total of six readings. Edmunds also supplies a Statement of Uncertainty for the readings given and a Statement of Direct Traceability to NIST.

Wouldn’t you rather have cylindricals that are manufactured the Edmunds Gages way?

Calibration Standards

IT TAKES SIX CALIBRATION POINTS



Proper gage inspection requires calibrating the gage at six separate points to determine size and geometry. The first three points measured are at the top, middle, and bottom of the x axis (left). The gage is then rotated 90 deg. so that the y axis is horizontal and the top, middle, and bottom points of the y axis can be measured (right). Measurements for

XXX class masters are made at the middle third only. These comparative measurements will reveal any deviation, in millionths of an inch or hundredths of a micron, from the nominal and should be stated in a Certification of Calibration.

CERTIFICATE OF CALIBRATION

Calibration Performed By: Edmunds Gages
Spring Lane
Farmington Industrial Park
Farmington, CT 06032

Calibration Performed For: ACME CO.

Certificate Number: 31128-A
Serial Number: 0329519-2-1
P.O. Number: 12257
Performed By: Wayne Dornen
Procedure Used: EG #4002
Temperature/RH: 68°F / 43%

Size: 1.749500
Tolerance: 0.000040 Bi-Lateral
Tolerance Class: XX
Unit of Measure: English
Gage ID: MIN

Gage Type: Set Disc
Gage Description: Set Disc
Master Block Set: 4003
Calibration Date: February 24, 2005
Calibration Result: Passed
Comments: NEW SET GAGE

Seq.	Reference Item	Standard	Tol. +	Tol. -	As Found/As Left	Deviation	Result
1	X-Top	1.749500	0.000020	-0.000020	1.749511	0.000011	
2	X-Middle	1.749500	0.000020	-0.000020	1.749503	0.000003	
3	X-Bottom	1.749500	0.000020	-0.000020	1.749506	0.000006	
4	Y-Top	1.749500	0.000020	-0.000020	1.749512	0.000012	
5	Y-Middle	1.749500	0.000020	-0.000020	1.749502	0.000002	
6	Y-Bottom	1.749500	0.000020	-0.000020	1.749510	0.000010	
Measurement Averages					1.749508	0.000008	

Result: F = Out of Tolerance, BGV = Repeat of Value

Equipment Used To Calibrate Gage:

This Certificate of Calibration conforms to ISO/IEC 17025. Temperature and humidity conditions are monitored and held to levels as not to disturb the precision measurement results. The reference standards for this calibration is block set #134, NIST File #821026376-00. Measurements made conform to the tolerance specifications listed in ANSI B89.1.3 unless listed as otherwise. Measurement uncertainty is stated in Table 1 below and is NCHS/ASME compliant with respect to the tolerance. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor K=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. This report is neither a contract nor a contractual representation. Edmunds Gages responsibility shall in no event, nor in any case whatsoever, exceed the purchase price of this calibration. This report shall not be copied or reproduced except in full without the written approval from Edmunds Gages.

Inspected By: *Wayne Dornen*

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DIAMETER TOLERANCES FOR CLASSES AND SIZES

Tolerance Class Microinches (divide by 1,000,000=millionths of an inch)

Size Range Inches	XXX	XX	X	Y	Z	ZZ
0.010 to 0.825	10	20	40	70	100	200
0.825 to 1.510	15	30	60	90	120	240
1.510 to 2.510	20	40	80	120	160	320
2.510 to 4.510	25	50	100	150	200	400
4.510 to 6.510	33	65	130	190	250	500
6.510 to 9.010	40	80	160	240	320	640
9.010 to 12.000	50	100	200	300	400	800

Tolerance Class Micrometers (divide by 1,000= hundredths of a micron)

Size Range Millimeters	XXX	XX	X	Y	Z	ZZ
0.254 to 20.960	0.25	0.51	1.02	1.78	2.54	5.08
20.960 to 38.350	0.38	0.76	1.52	2.29	3.05	6.10
38.350 to 63.750	0.51	1.02	2.03	3.05	4.06	8.13
63.750 to 114.500	0.64	1.27	2.54	3.81	5.08	10.16
114.500 to 165.350	0.84	1.65	3.30	4.83	6.35	12.70
165.350 to 228.850	1.02	2.03	4.06	6.10	8.13	16.26
228.850 to 304.800	1.27	2.54	5.08	7.62	10.16	20.32

TOLERANCING

Unilateral – (Functional Application)

O.D. Gages.....	Minus (on MAX)	No Go
.....	Plus (on MIN)	Go
I.D. Gages.....	Minus (on MAX)	Go
.....	Plus (on MIN)	No Go

Bilateral – (To Calibrate Other Gages)

Split Tolerance	50% Plus to 50% Minus
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CERTIFICATE OF CALIBRATION

Calibration Performed By: Edmunds Gages
Spring Lane
Farmington Industrial Park
Farmington, CT 06032

Calibration Performed For: ACME CO.

Certificate Number: 31180-A
Serial Number: 0330069-1-1
P.O. Number:
Performed By: Wayne Dornen
Procedure Used: EG #4001
Temperature/RH: 68°F / 43%

Size: 0.051000
Tolerance: 0.000040 Minus Tolerance
Tolerance Class: X
Unit of Measure: English
Gage ID: 324594-1-1

Gage Type: Ring Gage
Gage Description: Ring Gage
Master Block Set: 4003
Calibration Date: February 28, 2005
Calibration Result: Passed
Comments: AS FOUND COND. FAIR

Seq.	Reference Item	Standard	Tol. +	Tol. -	As Found/As Left	Deviation	Result
1	X-Top	0.051000	0.000000	-0.000040	0.050999	-0.000001	
2	X-Middle	0.051000	0.000000	-0.000040	0.050988	-0.000012	
3	X-Bottom	0.051000	0.000000	-0.000040	0.050986	-0.000014	
4	Y-Top	0.051000	0.000000	-0.000040	0.050990	-0.000010	
5	Y-Middle	0.051000	0.000000	-0.000040	0.050989	-0.000011	
6	Y-Bottom	0.051000	0.000000	-0.000040	0.050988	-0.000012	
Measurement Averages					0.050988	-0.000012	

Result: F = Out of Tolerance, BGV = Repeat of Value

Equipment Used To Calibrate Gage:

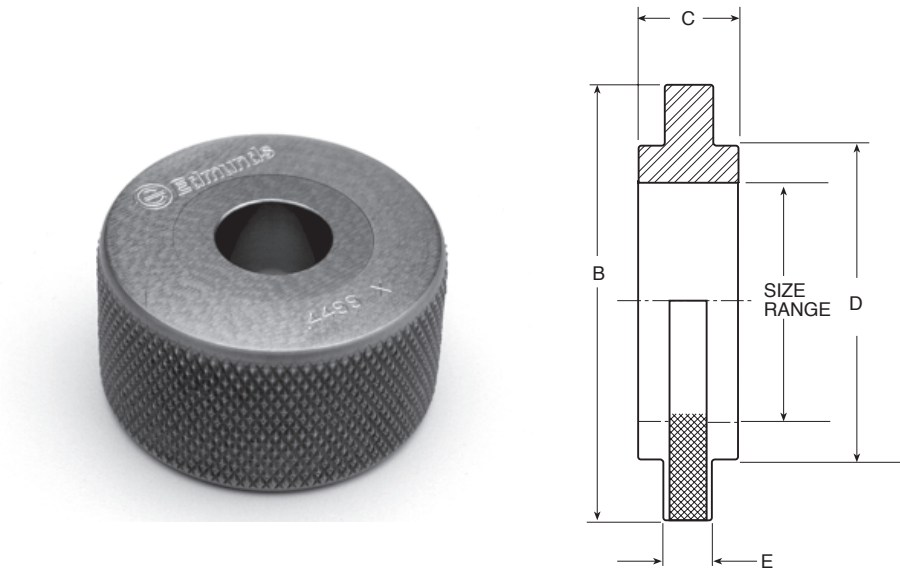
This Certificate of Calibration conforms to ISO/IEC 17025. Temperature and humidity conditions are monitored and held to levels as not to disturb the precision measurement results. The reference standards for this calibration is block set #134, NIST File #821026376-00. Measurements made conform to the tolerance specifications listed in ANSI B89.1.3 unless listed as otherwise. Measurement uncertainty is stated in Table 1 below and is NCHS/ASME compliant with respect to the tolerance. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor K=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. This report is neither a contract nor a contractual representation. Edmunds Gages responsibility shall in no event, nor in any case whatsoever, exceed the purchase price of this calibration. This report shall not be copied or reproduced except in full without the written approval from Edmunds Gages.

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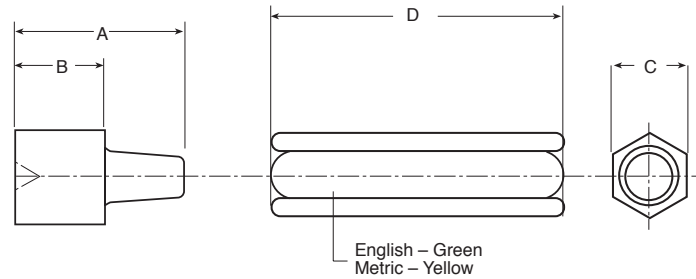
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Ring Gage Dimensions



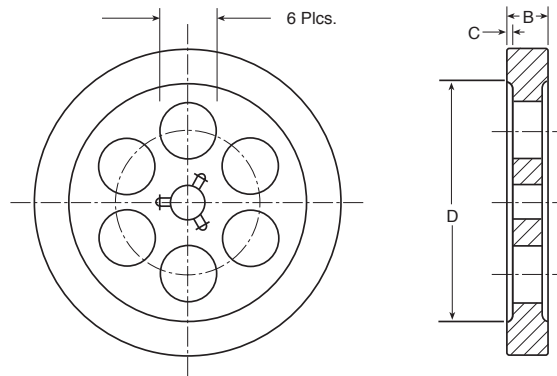
SIZE RANGE						
Inches	Millimeters	B (in.)	C (in.)	D (in.)	E (in.)	Weight (lbs.)
.040 to .150	1.016 to 3.810	.94	.25	—	—	.04
.150 to .230	3.810 to 5.842	.94	.38	—	—	.08
.230 to .365	5.842 to 9.271	1.12	.56	—	—	.15
.365 to .510	9.271 to 12.954	1.38	.75	—	—	.30
.510 to .825	12.954 to 20.955	1.75	.94	—	—	.60
.825 to 1.135	20.955 to 28.829	2.12	1.12	—	—	1.00
1.135 to 1.510	28.829 to 38.354	2.50	1.31	—	—	1.45
1.510 to 2.010	38.354 to 51.054	4.00	1.50	2.88	.50	4.50
2.010 to 2.510	51.054 to 63.754	4.50	1.50	3.38	.56	5.50
2.510 to 3.010	63.754 to 76.454	5.00	1.50	4.00	.62	6.25
3.010 to 3.510	76.454 to 89.154	5.50	1.50	4.50	.69	7.00
3.510 to 4.010	89.154 to 101.854	6.25	1.50	5.12	.75	9.00
4.010 to 4.760	101.854 to 120.904	7.25	1.50	5.88	.88	12.00
4.760 to 5.510	120.904 to 139.954	8.25	1.50	6.62	1.00	15.00
5.510 to 6.260	139.954 to 159.004	9.25	1.50	7.38	1.00	18.40
6.260 to 7.010	159.004 to 178.054	10.25	1.50	8.12	1.00	22.00
7.010 to 7.760	178.054 to 197.104	11.25	1.50	8.88	1.00	25.00
7.760 to 8.510	197.104 to 216.154	12.25	1.50	9.62	1.00	30.00
8.510 to 9.260	216.154 to 235.204	13.25	1.50	10.38	1.00	34.50
9.260 to 10.010	235.204 to 254.254	14.25	1.50	11.12	1.00	39.00
10.010 to 10.760	254.254 to 273.304	15.25	1.50	11.88	1.00	44.00
10.760 to 11.510	273.304 to 292.354	16.25	1.50	12.62	1.00	49.00
11.510 to 12.000	292.354 to 304.800	17.25	1.50	13.38	1.00	55.00

Taperlock Plug Gage Dimensions

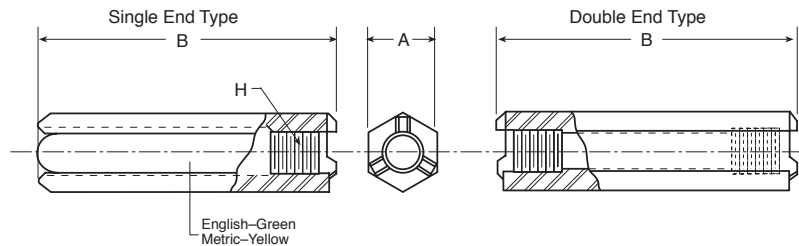


		GO MEMBER		NO GO MEMBER		HANDLE		HANDLE NO.
SIZE RANGE								
Inches	Millimeters	A (in.)	B (in.)	A (in.)	B (in.)	C (in.)	D (in.)	
.230 to .365	5.84 to 9.27	1.75	.75	1.31	.31	.37	2.75	1
.365 to .510	9.27 to 12.95	2.00	1.00	1.37	.37	.50	3.00	2
.510 to .825	12.95 to 20.96	2.25	1.25	1.50	.50	.68	3.25	3
.825 to 1.135	20.96 to 28.83	2.68	1.50	1.81	.62	.87	3.62	4
1.135 to 1.510	28.83 to 38.35	3.00	1.62	2.12	.75	1.00	4.00	5

Trilock Plug Gage Dimensions

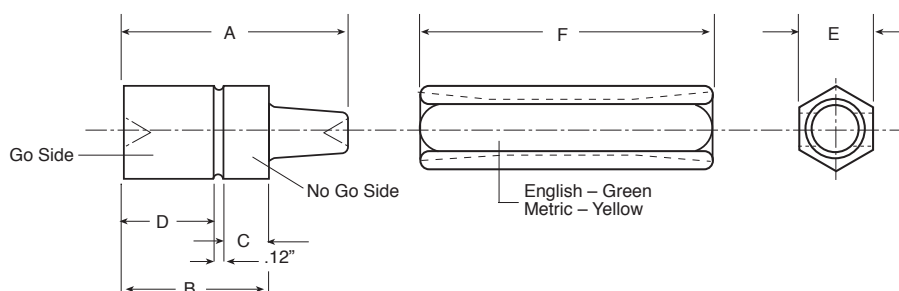


SIZE RANGE		GO MEMBER					NO GO MEMBER				
Inches	Millimeters	B (in.)	C (in.)	D (in.)	E (in.)	Weight (lbs.)	B (in.)	C (in.)	D (in.)	E (in.)	Weight (lbs.)
.760 to .947	19.30 to 24.05	1.25	.25	.39	—	.25	.75	.25	.39	—	.15
.947 to 1.135	24.05 to 28.83	1.37	.25	.39	—	.40	.75	.25	.39	—	.22
1.135 to 1.510	28.83 to 38.35	1.50	.37	.57	—	.75	.75	.25	.57	—	.38
1.510 to 2.010	38.35 to 51.05	1.87	.50	.78	—	1.67	.87	.31	.78	—	.78
2.010 to 2.510	51.05 to 63.75	2.00	.50	.78	—	2.78	.87	.31	.78	—	1.22
2.510 to 3.010	63.75 to 76.45	2.00	.62	1.87	—	4.00	1.00	.12	1.87	—	2.00
3.010 to 3.510	76.45 to 89.15	2.00	.62	2.25	—	5.44	1.00	.12	2.25	—	2.72
3.510 to 4.010	89.15 to 101.85	2.12	.68	2.62	—	7.55	1.00	.12	2.62	—	3.56
4.010 to 4.510	101.85 to 114.55	2.12	.68	3.00	—	9.56	1.00	.12	3.00	—	4.50
4.510 to 5.010	114.55 to 127.25	2.12	.68	3.43	—	11.80	1.00	.12	3.43	—	5.55
5.010 to 5.510	127.55 to 139.95	2.12	.68	3.87	—	14.28	1.00	.12	3.87	—	6.72
5.510 to 6.010	139.95 to 152.65	2.12	.68	4.31	1.00	17.00	1.00	.12	4.31	1.00	8.00
6.010 to 6.510	152.65 to 165.35	2.12	.68	4.75	1.12	19.95	1.00	.12	4.75	1.33	9.39
6.510 to 7.010	165.35 to 178.05	2.12	.68	5.25	1.25	23.13	1.00	.12	5.25	1.25	10.89
7.010 to 7.510	178.05 to 190.25	2.12	.68	5.75	1.37	26.55	1.00	.12	5.75	1.37	12.50
7.510 to 8.010	190.25 to 203.45	2.12	.68	6.25	1.50	30.00	1.00	.12	6.25	1.50	14.20

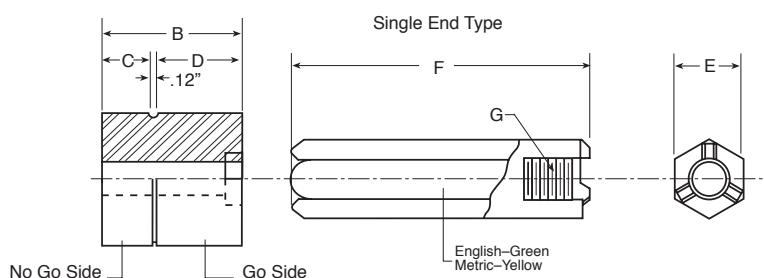


SIZE RANGE					Screw	Handle
Inches	Millimeters	A (in.)	B (in.)	H (in.)	#	No.
.760 to 0.947	19.30 to 24.05	.50	4.00	.250-20 UNC-2B	3	2.50
.947 to 1.135	24.05 to 28.83	.62	4.00	.250-20 UNC-2B	3	3.50
1.135 to 1.510	28.83 to 38.35	.81	4.00	.375-16 UNC-2B	4	4.50
1.510 to 2.010	38.35 to 51.05	1.00	4.50	.500-20 UNF-2B	1	5.50
2.010 to 2.510	51.05 to 63.75	1.12	5.00	.500-20 UNF-2B	1	6.00
2.510 to 8.010	63.75 to 203.45	1.25	6.00	.875-14 UNF-2B	2	7.00

Progressive Plug Gage Dimensions

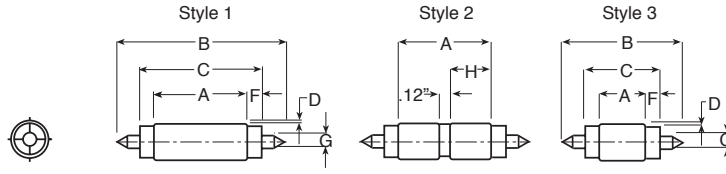


SIZE RANGE		MEMBER							HANDLE NO.
Inches	Millimeters	A (in.)	B (in.)	C (in.)	D (in.)	Weight (lbs.)	E (in.)	F (in.)	
.230 to .365	5.84 to 9.27	2.18	1.18	.31	.75	.06	.37	2.75	1
.365 to .510	9.27 to 12.95	2.50	1.50	.37	1.00	.14	.50	3.00	2
.510 to .825	12.95 to 20.96	2.87	1.87	.50	1.25	.44	.68	3.25	3
.825 to 1.135	20.96 to 28.83	3.31	2.12	.62	1.37	.95	.87	3.62	4
1.135 to 1.510	28.83 to 38.35	3.75	2.37	.75	1.50	1.87	1.00	4.00	5

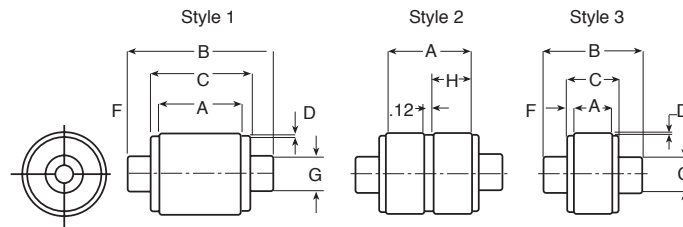


SIZE RANGE		MEMBER							HANDLE NO.
Inches	Millimeters	B (in.)	C (in.)	D (in.)	Weight (lbs.)	E (in.)	F (in.)	G (in.)	
1.510 to 2.010	38.35 to 51.05	1.87	.87	1.87	1.67	1.00	4.50	.500 - 20 UNEF	5.50
2.010 to 2.510	51.05 to 63.75	2.00	.87	2.00	2.78	1.12	5.00	.500 - 20 UNEF	6.00

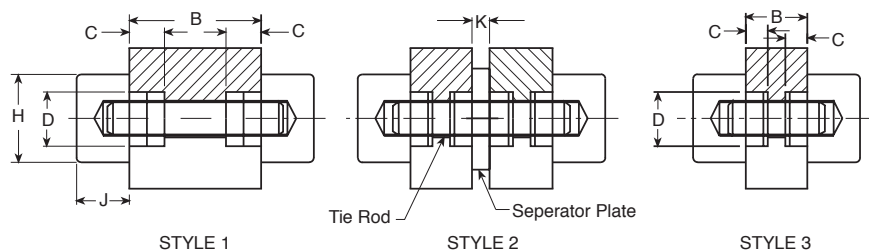
Master Set Discs – Dimensions



SIZE RANGE		STYLES 1 AND 2							STYLE 3						Grip No.
Inches	Millimeters	A(in.)	B(in.)	C(in.)	D(in.)	F(in.)	G(in.)	H(in.)	A(in.)	B(in.)	C(in.)	D(in.)	F(in.)	G(in.)	
.150 to .230	3.81 to 5.04	.87	1.68	1.18	.25	.15	.080	.37	.43	1.25	.75	.25	.15	.080	0
.230 to .365	5.84 to 9.27	1.00	1.81	1.31	.25	.15	.128	.43	.50	1.31	.81	.25	.15	.128	1

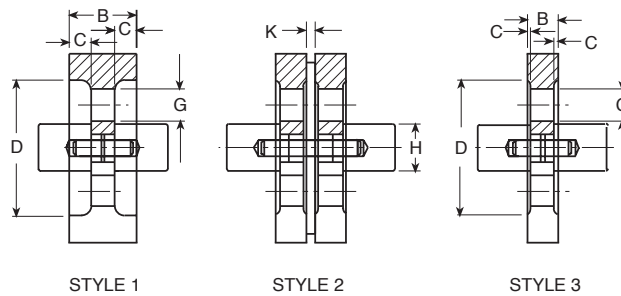


SIZE RANGE		STYLES 1 AND 2							STYLE 3						Grip No.
Inches	Millimeters	A(in.)	B(in.)	C(in.)	D(in.)	F(in.)	G(in.)	H(in.)	A(in.)	B(in.)	C(in.)	D(in.)	F(in.)	G(in.)	
.365 to .510	9.27 to 12.95	1.12	2.06	1.43	.010	.15	.188	.50	.56	1.50	.87	.010	.15	.188	2
.510 to .825	12.95 to 20.96	1.25	2.18	1.56	.010	.15	.250	.56	.62	1.56	.93	.010	.15	.250	3
.825 to 1.135	20.96 to 28.83	1.37	2.56	1.68	.010	.15	.500	.62	.68	1.87	1.00	.010	.15	.500	4
1.135 to 1.510	28.83 to 38.35	1.62	2.81	1.93	.010	.15	.625	.75	.81	2.00	1.12	.010	.15	.625	5

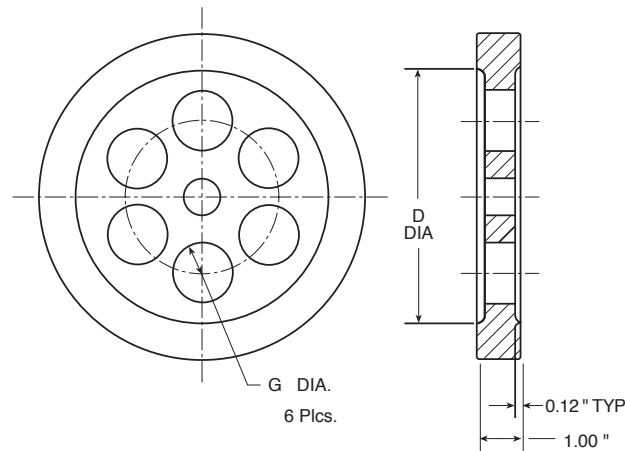


SIZE RANGE		STYLE 1						STYLE 2 AND 3								Grip No.
Inches	Millimeters	B(in.)	C(in.)	D(in.)	H(in.)	J(in.)	(lbs.)	B(in.)	C(in.)	D(in.)	H(in.)	J(in.)	K(in.)	#2 (lbs.)	#3 (lbs.)	
1.510 to 2.010	38.35 to 51.05	1.87	.50	.78	1.25	.75	1.67	.87	.31	.78	1.25	.75	.25	1.56	.78	6
2.010 to 2.510	51.05 to 63.75	2.00	.50	.78	1.25	.75	2.78	.87	.31	.78	1.25	.75	.25	2.45	1.55	6

Master Set Discs – Dimensions *Continued*



SIZE RANGE		STYLE 1							STYLE 2 AND 3									
Inches	Millimeters	B(in.)	C(in.)	D(in.)	G(in.)	H(in.)	J(in.)	lbs.	B(in.)	C(in.)	D(in.)	H(in.)	J(in.)	K(in.)	#2 (lbs.)	#3 (lbs.)	G(in.)	Grip No.
2.510 to 3.010	63.75 to 76.45	2.00	.62	1.87	—	1.50	1.69	3.0	1	.12	1.87	1.50	1.69	.25	5.0	2.0	—	7
3.010 to 3.510	76.45 to 89.15	2.00	.62	2.25	—	1.50	1.69	4.0	1	.12	2.25	1.50	1.69	.25	5.8	2.7	—	7
3.510 to 4.010	89.15 to 101.85	2.12	.68	2.62	—	1.50	1.69	5.5	1	.12	2.62	1.50	1.69	.25	7.5	3.6	—	7
4.010 to 4.510	101.85 to 114.55	2.12	.68	3.00	—	1.50	1.69	6.8	1	.12	3.00	1.50	1.69	.25	9.5	4.5	—	7
4.510 to 5.010	114.55 to 127.25	2.12	.68	3.43	—	1.50	1.69	7.5	1	.12	3.43	1.50	1.69	.25	11.5	5.6	—	7
5.010 to 5.510	127.25 to 139.95	2.12	.68	3.87	—	1.50	1.69	9.8	1	.12	3.87	1.50	1.69	.25	14.0	6.7	—	7
5.510 to 6.010	139.95 to 152.65	2.12	.68	4.31	1.00	1.50	1.69	11.5	1	.12	4.31	1.50	1.69	.25	16.5	8.0	1.00	7
6.010 to 6.510	152.65 to 165.35	2.12	.68	4.75	1.12	1.50	1.69	13.0	1	.12	4.75	1.50	1.69	.25	19.0	9.4	1.12	7
6.510 to 7.010	165.35 to 178.05	2.12	.68	5.25	1.25	1.50	1.69	14.5	1	.12	5.25	1.50	1.69	.25	21.0	10.9	1.25	7
7.010 to 7.510	178.05 to 190.75	2.12	.68	5.75	1.38	1.50	1.69	16.6	1	.12	5.75	1.50	1.69	.25	26.0	12.5	1.37	7
7.510 to 8.010	190.75 to 203.45	2.12	.68	6.25	1.50	1.50	1.69	18.5	1	.12	6.25	1.50	1.69	.25	29.0	14.2	1.50	7



SIZE RANGE		STYLE 3		
Inches	Millimeters	D (in.)	G (in.)	Weight (lbs.)
8.010 to 8.510	203.45 to 216.15	6.75	1.63	16.00
8.510 to 9.010	216.15 to 228.25	7.25	1.75	18.00
9.010 to 9.510	228.25 to 241.55	7.75	1.88	20.00
9.510 to 10.010	241.55 to 254.25	8.25	2.00	22.25
10.010 to 10.510	254.25 to 266.95	8.75	2.13	24.50
10.510 to 11.010	266.95 to 279.65	9.25	2.25	27.00
11.010 to 11.510	279.65 to 292.35	9.75	2.38	29.50
11.510 to 12.000	292.35 to 304.80	10.25	2.50	32.00

TEN QUESTIONS TO ASK WHEN BUYING RING GAGES

To determine whether the ring gages you are considering will best meet your requirements, you need to ask the right questions.

While the quality of cylindrical ring gages can vary depending on the manufacturer, customers often treat these gages as commodity items. As a result, the primary question that customers ask is, “what is your price and delivery?” In reality, that should be the last question asked. Here are several questions you should pose first, to ensure the gages you purchase truly meet your company’s requirements and industry standards.

What material is used to manufacture the ring gages? It is important that the ring gage material be stable and hard. Good quality tool steels such as “O-1” and alloy steels such as “8620” are appropriate choices. Steel blanks should be heat-treated to a minimum of 58 Rc.

Do you inspect incoming material for adherence to hardening specifications? The material is the foundation of ring gage quality, so the answer should be an emphatic “yes”.

After heat treating, do you stabilize the material? While heat-treating helps stabilize steel blanks, subsequent grinding operations can affect the material by introducing heat, which will induce stress. A quality conscious gage manufacturer will eliminate material fluctuations entirely by putting the blanks through a stabilization process, which involves cycling the ring gages through temperature extremes from -130 degrees F to +300 degrees F. Further, flange type ring gages should be stabilized again after grinding.

Are your gages precision lapped by hand? Lapping is the process in which minuscule amounts of material are removed to bring the ring to final size and within tolerance. It is the final process in ring gage manufacturing and extremely critical. It requires a highly skilled person who has learned to “feel” a millionth of an inch. No automatic lapping machine comes as close in accuracy or precision as a person who has mastered the art. Unskilled lapping can result in rings with excessive out-of-roundness or tapered conditions.

Do you inspect your gages in a temperature controlled Metrology laboratory? Although ring gages are inspected for size in a temperature controlled lapping room, it is important that final inspection occur in a separate, environmentally controlled Metrology laboratory. In addition, the master set of gages used in the laboratory should be traceable to the National Institute of Standards and Technology (NIST), Gaithersburg M.D.

What is the sampling of gages you inspect? To insure the utmost integrity, every ring gage should be inspected before it is shipped to a customer.

Will you certify my ring gages? This is becoming more important as the International Organization for Standardization (ISO), Geneva Switzerland and other quality improvement programs demand gage calibration and tracking documentation. Make sure your gage manufacturer has the documentation systems in place to certify, track, store and update gage information.

Do you certify both class and size? Both types of certifications detail the standards followed and included NIST traceable statements for the laboratory. A Certification of Class simply states that the ring gage has been inspected and found to be within the tolerance band of the class that is marked on the ring. A Certification of Sizes provides actual size deviations from nominal for calibration points in two axial and three planes, for a total of six readings.

Does the certification contain a “Statement of Uncertainty”? A proper prepared certification should also contain a statement of uncertainty for the readings given.

What is your price and delivery? Only at this point, when you have received answers to the previous nine questions, is it an appropriate time to ask this final question.



OTHER EDMUNDS GAGES PRODUCTS AND SERVICES

Air Gage Tooling Air gaging is one of the easiest and most accurate non-contact measurement methods. We make tooling for our own and other air gaging systems. We offer many tooling styles in standard and special designs, plus system accessories.

Electronic Bore Plugs Our durable, highly precise LVDT plugs are available in a choice of styles. They are ruggedly designed for demanding production use.

Accu-Touch™ The industry leader in easy-to-use, intuitive, touch screen gaging readouts. Capable of displaying 1 to 4 single element gages, or a combination of input for as many as (4) features. Fully compatible with all Edmunds LVDT or AM based gaging devices.

The Trendsetter™ II column has quickly interchangeable plug-in modules for a variety of gaging needs. The ten-inch scale has digital scale values and a choice of inch or metric ranges. It works with most every make of air tooling.

Gage Heads Compatible with all Edmunds electronics, our LVDTs are available in cartridge, lever, and reed float styles.

Computer Aided Gaging (CAG™)

Microprocessors Our CAG™ system offers a computer-based readout and SPC data gathering ability environments. This proven system can be applied to manual or automatic gages requiring up to 32 inputs. The ultimate CAG software provides closed-loop feedback when networked with CNC machine tools, providing continuous process control.

Gage Block Comparators We offer single-head and twin-head comparators, capacities up to 20", and resolution to .0000001". Unique functional features, such as "click stop" for rapid head positioning and auto zeroing save time.

Universal Comparator The standard of accuracy, our comparator is universal for comparative ID and OD, measurement with a resolution of .000001". Auto zeroing eliminates time-consuming setting of meters. The preferred instrument in most calibration labs.

Custom Design and Build Whether you need a single- or multi-dimensional fixture, a special hand-held gage or a completely automatic gaging system, Edmunds can furnish it. We have produced over 35,000 different designs from cylindrical gages to fully-automatic, computerized, post-process gaging systems.



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