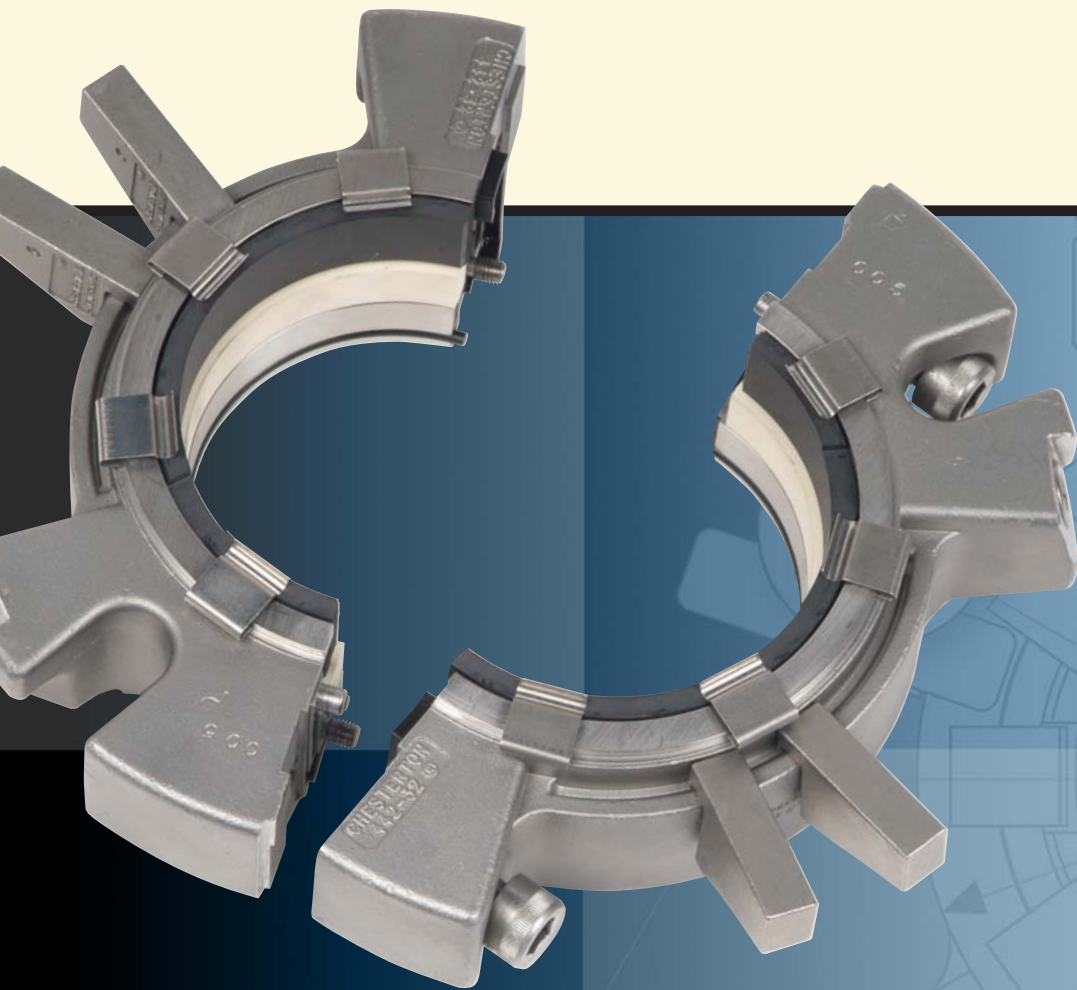


442TM

SPLIT MECHANICAL SEAL

HIGH PERFORMANCE—EASY TO INSTALL

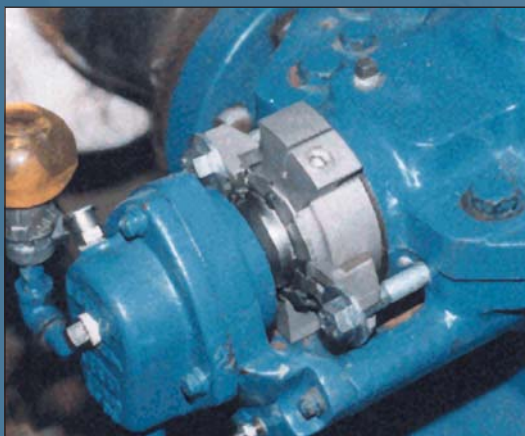


442

442™ SPLIT MECHANICAL SEAL PATENTED

The difference is performance

CHESTERTON'S innovative industrial split seals are performance driven to seal equipment while avoiding costly downtime. Features such as easy installation, simple field repair, and superior performance sealing, both positive pressure and vacuum, have made Chesterton split mechanical seals the largest installed base of industrial split seals in the world.



- Easy to install/simple field repair—no glued or bonded components
- Superior performance, high pressure, and vacuum sealing
- Broad range of sizes—designed to fit common rotating equipment

Chesterton is the world leader in split seal technology with the largest installed base globally

Chesterton split seals are installed in all types of equipment and deliver years of reliable service. Our split seals are installed on rotating equipment from 1-inch to 24-inch shaft diameters.

No need to disassemble your equipment

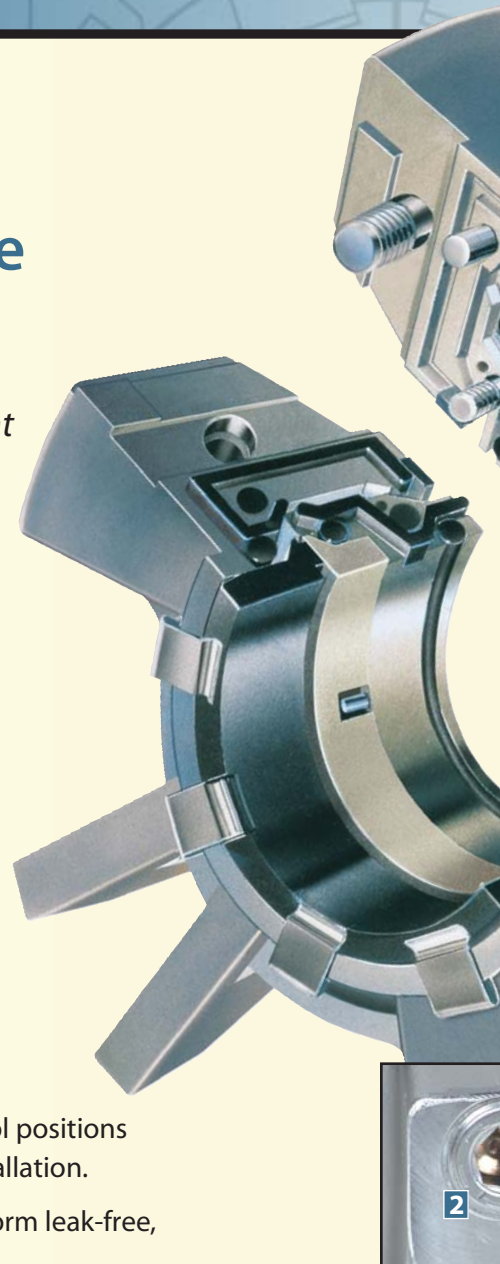
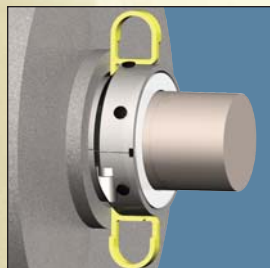
Chesterton's 442 Split Mechanical Seal offers reliable sealing with minimal downtime.

- No special lifting equipment
- No worn sleeve replacement
- No coupling realignment

Easy to install

- "P" shaped alignment tool positions the 442 seal for easy installation.
- Ball-and-socket o-rings form leak-free, locked units.

Installation video is available to demonstrate easy installation.





442 Split Seal Innovations

1 Patented Adjustable Gland™

Patented adjustable gland tabs fit your equipment bolt position. Easy adjustment avoids "special order" gland designs necessary with other split seals.

2 Integral Flush Ports

Dual flush ports, located 180° apart and combined with the adjustable gland, give maximum flexibility when venting or flushing for more reliable sealing.

3 Patented Captured Fasteners

Captured fasteners remain in the 442 seal housings when disassembled. Captured fasteners avoid loss or damage during installation.

4 Non-Clogging Springs

Non-clogging finger springs, positioned out of the sealed fluid, avoid clogging while allowing substantial axial shaft movement.

5 Balanced Seal Design

Hydraulically-balanced, computer-modeled seal face design generates less heat for more reliable sealing.

6 Patented Automatic Centering

Centering buttons align the rotating element inside the seal gland. Automatic centering delivers simplified installation.

7 Compact Gland Profile

The 442 seal's low profile gland fits more equipment without the need for modification or special adaptation.

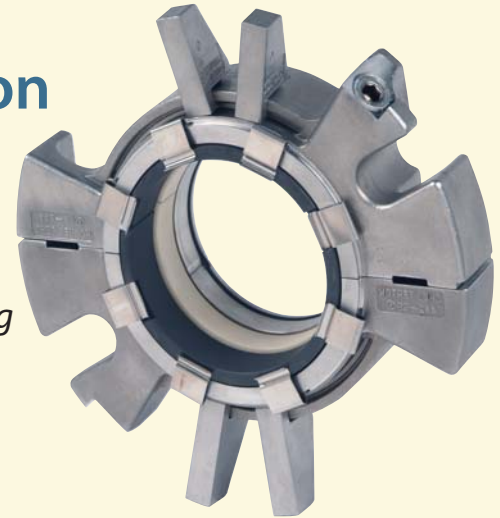
8 Captive Groove Design

The 442 seal's captive o-ring groove holds the split shaft o-ring in place, without adhesives, to simplify installation and field repair.

PERFORMANCE

Chesterton's patented innovation drives performance

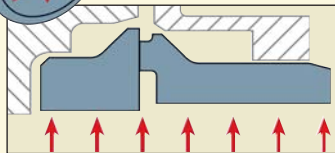
The 442's unique, patented adjustable gland, captured fasteners, and automatic centering deliver uncompromising performance, reliability, and ease of use.



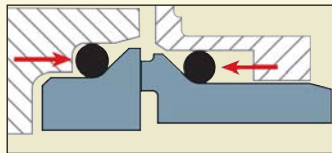
442 high pressure and vacuum sealing



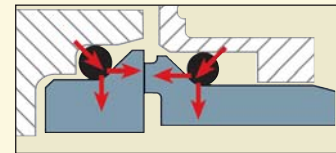
Patented ramped stationary design keeps seal faces together under pressure and vacuum conditions, ensuring reliable sealing during pressure transitions/shifts.



Atmospheric pressure acts on inside diameter to separate split seal faces.



Atmospheric pressure acts on o-rings, forcing them against ramped surface of seal faces.



Ramped surface causes radial and axial closing forces to keep splits together.

We raised the bar! The 442 Split Seal pressure capability has been increased to 450 Psig (30 bar g). This is over two times greater than most split seals, enabling the use of the 442 in a much larger application base.



Materials of Construction

Component	Standard Materials
Rotary Face	Ceramic Silicon Carbide
Stationary Face	Carbon Duplex Carbide™ Silicon Carbide
Elastomers	AFLAS™ Ethylene Propylene Fluorocarbon
Spring	Elgiloy™
Metal Parts	316 Stainless Steel

Operating Parameters

Pressure*	28" (710 mm) Hg to 450 Psig (30 bar g)
Temperature	To 250°F (120°C)
Speed	To 4000 fpm (20 m/s)
Size	1.250" (32 mm) to 7.750" (195 mm)

*Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations.

Consult Chesterton Engineering for applications exceeding published operating parameters and additional seal sizes.



GLOBAL SOLUTIONS, LOCAL SERVICE

Since 1884, Chesterton has been providing value driven solutions to meet industry's needs. Chesterton solutions have been implemented around the world with documented success and recognition. Increasing equipment reliability, optimizing energy consumption, and providing local technical support and service are what Chesterton offers industry worldwide.

- Servicing plants in over 100 countries
- Global manufacturing operations
- Over 500 Sales Offices and Service Centers worldwide
- Over 1200 trained local service specialists and technicians

Visit our website at
www.chesterton.com

ISO certifications available on www.chesterton.com/corporate/iso

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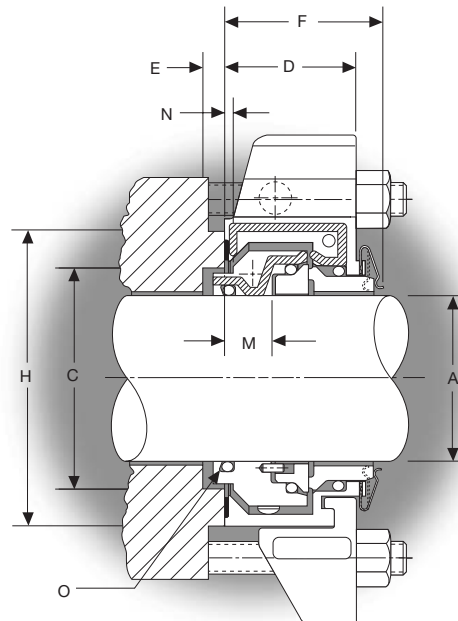
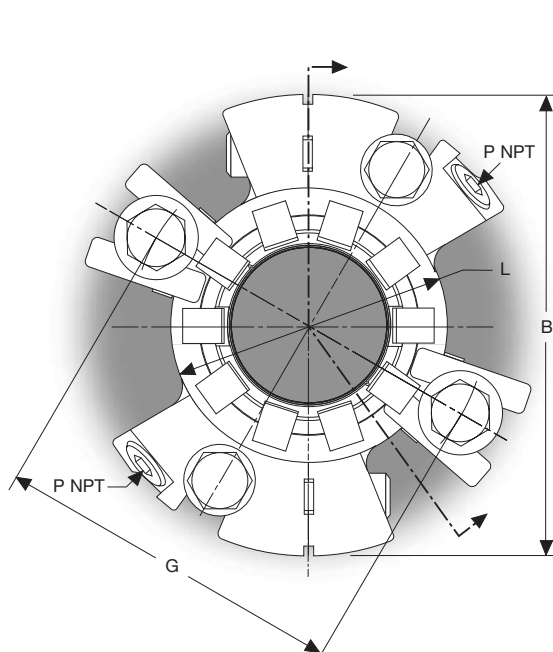
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FORM NO. 073385 PART A

PRINTED IN USA 6/06

442 Split Mechanical Seal



KEY

A – Shaft Size	F – Outboard Length Required	N – Installation Dimension
B – Maximum Gland Diameter	G – Minimum Bolt Circle by Bolt Size	O – Shaft O-ring Number
C – Min./Max. Stuffing Box Diameter	H – Minimum Stuffing Box Face O.D.	P – NPT Size
D – Gland Length	L – Gland Hub OD	
E – Minimum Stuffing Box Depth	M – Holder ID from Box	

442 SPLIT MECHANICAL SEAL OPERATING LIMITS

SIZE RANGE	HOLDER TYPE	SHAFT SPEED	FACE MATERIAL COMBINATION		
			CARBON/RSC Psig (Bar g)	RSC/RSC Psig (Bar g)	CARBON/CERAMIC Psig (Bar g)
Small Size -10 to -20 32 mm to 60 mm	STD Holder	1750	28" Hg to 300 (-1 to 21)	28" Hg to 300 (-1 to 21)	28" Hg to 300 (-1 to 21)
		3600	28" Hg to 300 (-1 to 21)	28" Hg to 175 (-1 to 12)	28" Hg to 100 (-1 to 7)
	HP Holder	1750	300 to 450 (21 to 31)	300 to 450 (21 to 31)	300 to 450 (21 to 31)
		3600	300 to 450 (21 to 31)	N/A	N/A
Large Size -21 to -38 65 mm to 120 mm	STD Holder	1750	28" Hg to 200* (-1 to 14)	28" Hg to 200* (-1 to 14)	28" Hg to 200* (-1 to 14)
	HP Holder	1750	200* to 250 (14 to 17)	200* to 250 (14 to 17)	200 (14)
Extra Large Size -39 to -62 125 mm to 195 mm	STD Holder	875	28" Hg to 150 (-1 to 10)	28" Hg to 150 (-1 to 10)	28" Hg to 150 (-1 to 10)
	HP Holder	875	150 to 200 (10 to 14)	150 to 200 (10 to 14)	150 to 200 (10 to 14)

* 200 Psig for even dash sizes and 150 Psig for odd shaft sizes

DIMENSIONAL DATA (INCH)

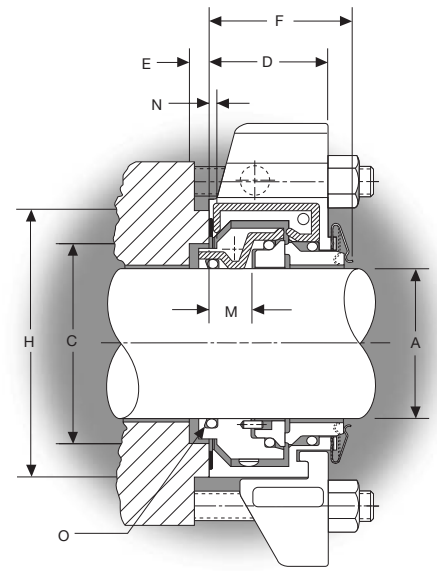
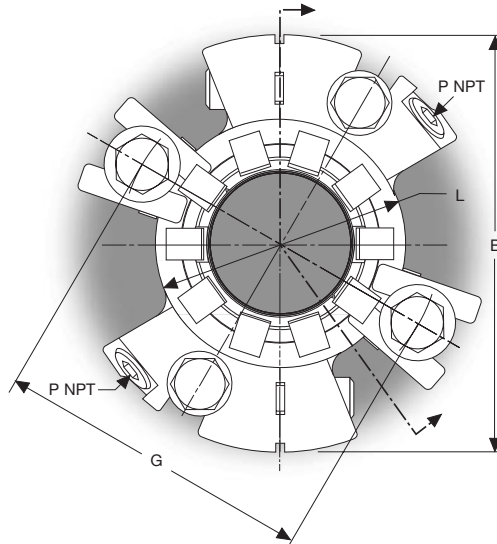
A SHAFT SIZE	B GLAND OD	C STUFFING BOX BORE		D GLAND LENGTH	E SB DEPTH	F OB LENGTH	G BOLT CIRCLE BY BOLT SIZE					H SB FACE OD	L GLAND HUB OD	O SHAFT O-RING NO.
	MAX	MIN	MAX		MIN		MIN					MIN	MAX	
							3/8"	1/2"	5/8"	3/4"	7/8"			
1.250	4.91	1.86	2.10	1.48	0.17	1.78	3.17	3.29	3.42	3.54	3.67	2.35	2.79	219
1.375	5.01	1.94	2.38	1.48	0.17	1.78	3.25	3.38	3.50	3.63	3.75	2.63	2.86	221
1.500	5.13	2.06	2.50	1.48	0.17	1.78	3.38	3.50	3.62	3.75	3.87	2.75	2.99	223
1.625	5.26	2.19	2.63	1.48	0.17	1.78	3.50	3.62	3.75	3.87	4.00	2.87	3.11	224
1.750	5.38	2.31	2.75	1.48	0.17	1.78	3.63	3.75	3.87	4.00	4.12	3.00	3.24	225
1.875	5.50	2.44	2.88	1.48	0.17	1.78	3.75	3.87	4.00	4.12	4.25	3.12	3.36	226
2.000	5.63	2.56	3.00	1.48	0.17	1.78	3.88	4.00	4.12	4.25	4.37	3.25	3.49	227
2.125	5.76	2.69	3.12	1.48	0.17	1.78	4.00	4.12	4.25	4.37	4.50	3.37	3.62	228
2.250	5.88	2.81	3.25	1.48	0.17	1.78	4.13	4.25	4.37	4.50	4.62	3.50	3.74	229
2.375	6.01	2.94	3.37	1.48	0.17	1.78	4.25	4.37	4.50	4.62	4.75	3.62	3.87	230
2.500	6.13	3.06	3.75	1.48	0.17	1.78	4.63	4.75	4.87	5.00	5.12	4.00	4.24	231
2.625	7.76	3.35	4.25	1.84	0.26	2.24	5.38	5.50	5.63	5.75	5.88	4.75	4.98	232
2.750	7.76	3.35	4.25	1.84	0.26	2.24	5.38	5.50	5.63	5.75	5.88	4.75	4.98	233
2.875	8.01	3.60	4.50	1.84	0.26	2.24	5.63	5.75	5.88	6.00	6.13	5.00	5.23	234
3.000	8.01	3.60	4.50	1.84	0.26	2.24	5.63	5.75	5.88	6.00	6.13	5.00	5.23	235
3.125	8.26	3.85	4.75	1.84	0.26	2.24	5.88	6.00	6.13	6.25	6.38	5.25	5.48	236
3.250	8.26	3.85	4.75	1.84	0.26	2.24	5.88	6.00	6.13	6.25	6.38	5.25	5.48	237
3.375	8.51	4.10	5.00	1.84	0.26	2.24	6.13	6.25	6.38	6.50	6.63	5.50	5.73	238
3.500	8.51	4.10	5.00	1.84	0.26	2.24	6.13	6.25	6.38	6.50	6.63	5.50	5.73	239
3.625	8.77	4.35	5.25	1.84	0.26	2.24	6.38	6.50	6.63	6.75	6.88	5.75	5.98	240
3.750	8.77	4.35	5.25	1.84	0.26	2.24	6.38	6.50	6.63	6.75	6.88	5.75	5.98	241
3.875	9.02	4.60	5.50	1.84	0.26	2.24	6.63	6.75	6.88	7.00	7.13	6.00	6.24	242
4.000	9.02	4.60	5.50	1.84	0.26	2.24	6.63	6.75	6.88	7.00	7.13	6.00	6.24	243
4.125	9.27	4.85	5.75	1.84	0.26	2.24	6.88	7.00	7.13	7.25	7.38	6.25	6.49	244
4.250	9.27	4.85	5.75	1.84	0.26	2.24	6.88	7.00	7.13	7.25	7.38	6.25	6.49	245
4.375	9.52	5.10	6.00	1.84	0.26	2.24	7.13	7.25	7.38	7.50	7.63	6.50	6.74	246
4.500	9.52	5.10	6.00	1.84	0.26	2.24	7.13	7.25	7.38	7.50	7.63	6.50	6.74	247
4.625	9.77	5.35	6.25	1.84	0.26	2.24	7.38	7.50	7.63	7.75	7.88	6.75	6.99	248
4.750	9.77	5.35	6.25	1.84	0.26	2.24	7.38	7.50	7.63	7.75	7.88	6.75	6.99	249
4.875	11.276	5.865	7.000	2.91	0.29	3.45			8.375	8.500	8.625	7.50	7.74	353
5.000	11.276	5.990	7.000	2.91	0.29	3.45			8.375	8.500	8.625	7.50	7.74	354
5.125	11.528	6.115	7.250	2.91	0.29	3.45			8.625	8.750	8.875	7.75	7.99	355
5.250	11.528	6.240	7.250	2.91	0.29	3.45			8.625	8.750	8.875	7.75	7.99	356
5.375	11.778	6.365	7.500	2.91	0.29	3.45			8.875	9.000	9.125	8.00	8.24	357
5.500	11.778	6.490	7.500	2.91	0.29	3.45			8.875	9.000	9.125	8.00	8.24	358
5.625	12.030	6.615	7.750	2.91	0.29	3.45			9.125	9.250	9.375	8.25	8.49	359
5.750	12.030	6.740	7.750	2.91	0.29	3.45			9.125	9.250	9.375	8.25	8.49	360
5.875	12.282	6.865	8.000	2.91	0.29	3.45			9.375	9.500	9.625	8.50	8.74	361
6.000	12.282	6.990	8.000	2.91	0.29	3.45			9.375	9.500	9.625	8.50	8.74	362
6.125	12.532	7.115	8.250	2.91	0.29	3.45			9.625	9.750	9.875	8.75	8.99	362
6.250	12.532	7.240	8.250	2.91	0.29	3.45			9.625	9.750	9.875	8.75	8.99	363
6.375	12.784	7.365	8.500	2.91	0.29	3.45			9.875	10.000	10.125	9.00	9.25	363
6.500	12.784	7.490	8.500	2.91	0.29	3.45			9.875	10.000	10.125	9.00	9.25	364
6.625	13.034	7.615	8.750	2.91	0.29	3.45			10.125	10.250	10.375	9.25	9.50	364
6.750	13.034	7.740	8.750	2.91	0.29	3.45			10.125	10.250	10.375	9.25	9.50	365
6.875	13.286	7.865	9.000	2.91	0.29	3.45			10.375	10.500	10.625	9.50	9.75	365
7.000	13.286	7.990	9.000	2.91	0.29	3.45			10.375	10.500	10.625	9.50	9.75	366
7.125	13.538	8.115	9.250	2.91	0.29	3.45			10.625	10.750	10.875	9.75	10.00	366
7.250	13.538	8.240	9.250	2.91	0.29	3.45			10.625	10.750	10.875	9.75	10.00	367
7.375	13.788	8.365	9.500	2.91	0.29	3.45			10.875	11.000	11.125	10.00	10.25	367
7.500	13.788	8.490	9.500	2.91	0.29	3.45			10.875	11.000	11.125	10.00	10.25	368
7.625	14.040	8.615	9.750	2.91	0.29	3.45			11.125	11.250	11.375	10.25	10.50	368
7.750	14.040	8.740	9.750	2.91	0.29	3.45			11.125	11.250	11.375	10.25	10.50	369

KEY (DRAWINGS)	M	N	P
SIZE	HOLDER ID FROM BOX	INSTALLATION DIM	NPT SIZE
up to 2.50" (38 mm)	0.53 (13,5)	0.094 (2,4)	1/4"
up to 4.75" (120 mm)	0.53 (13,5)	0.094 (2,4)	3/8"
up to 7.75" (195 mm)	1.03 (26,0)	0.188 (4,8)	1/2"

Other sizes available on request.
Contact Engineering.

KEY

- A – Shaft Size
- B – Maximum Gland Diameter
- C – Min./Max. Stuffing Box Diameter
- D – Gland Length
- E – Minimum Stuffing Box Depth
- F – Outboard Length Required
- G – Minimum Bolt Circle by Bolt Size
- H – Minimum Stuffing Box Face O.D.
- L – Gland Hub OD
- M – Holder ID from Box
- N – Installation Dimension
- O – Shaft O-ring Number
- P – NPT Size

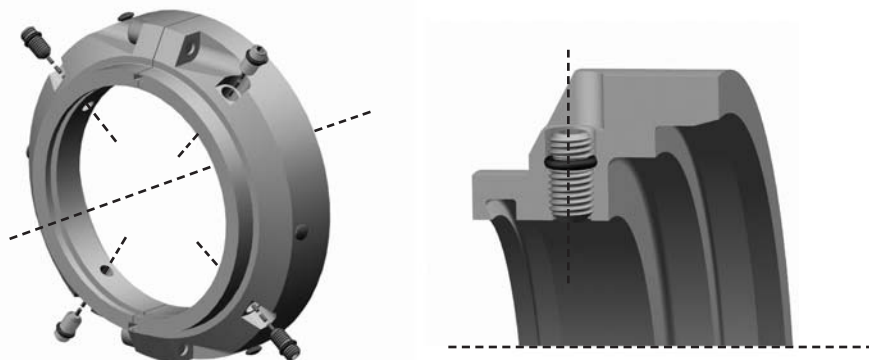


DIMENSIONAL DATA (METRIC)

A	B	C		D	E	F	G								H	L	O
SHAFT	GLAND	STUFFING BOX		GLAND	SB	OB	BOLT CIRCLE BY								SB	GLAND	SHAFT
SIZE	OD	BORE		LENGTH	DEPTH	LENGTH	BOLT SIZE								FACE	HUB	O-RING
	MAX	MIN	MAX		MIN		MIN								OD	OD	NO.
							8 mm	10 mm	12 mm	14 mm	16 mm	18 mm	20 mm	22 mm	MIN	MAX	
32,0	124,7	47,2	53,3	37,6	4,3	45,2	78,9	80,9	82,9	84,9	86,9				59,9	70,9	219
33,0	124,7	47,2	53,3	37,6	4,3	45,2	78,9	80,9	82,9	84,9	86,9				59,9	70,9	220
35,0	126,7	49,3	60,5	37,6	4,3	45,2	80,6	82,6	84,6	86,6	88,6				66,8	72,6	221
38,0	130,3	52,3	63,5	37,6	4,3	45,2	83,9	85,9	87,9	89,9	91,9				69,9	75,9	223
40,0	133,6	55,6	66,8	37,6	4,3	45,2	87,0	89,0	91,0	93,0	95,0				73,2	79,0	223
43,0	136,7	58,7	70,0	37,6	4,3	45,2	90,3	92,3	94,3	96,3	98,3				76,2	82,3	224
45,0	136,7	58,7	70,0	37,6	4,3	45,2	90,3	92,3	94,3	96,3	98,3				76,2	82,3	225
48,0	139,7	62,0	73,2	37,6	4,3	45,2	93,3	95,3	97,3	99,3	101,3				79,5	85,3	226
50,0	143,0	65,0	76,2	37,6	4,3	45,2	96,6	98,6	100,6	102,6	104,6				82,6	88,6	226
55,0	146,3	68,3	79,2	37,6	4,3	45,2	99,9	101,9	103,9	105,9	107,9				85,9	91,9	228
60,0	152,7	74,7	85,6	37,6	4,3	45,2	106,8	108,8	110,8	112,8	114,8				92,2	98,8	230
65,0	197,1	85,1	108,0	46,7	6,6	56,9			138,5	140,5	142,5	144,5	146,5		120,7	126,5	231
70,0	197,1	85,1	108,0	46,7	6,6	56,9			138,5	140,5	142,5	144,5	146,5		120,7	126,5	233
75,0	203,5	91,4	114,3	46,7	6,6	56,9			144,8	146,8	148,8	150,8	152,8		127,0	132,8	234
80,0	209,8	97,8	120,7	46,7	6,6	56,9			151,2	153,2	155,2	157,2	159,2		133,4	139,2	236
85,0	216,2	104,1	127,0	46,7	6,6	56,9			157,5	159,5	161,5	163,5	165,5		139,7	145,5	237
90,0	216,2	104,1	127,0	46,7	6,6	56,9			157,5	159,5	161,5	163,5	165,5		139,7	145,5	239
95,0	222,8	110,5	133,4	46,7	6,6	56,9			163,9	165,9	167,9	169,9	171,9		146,1	151,9	241
100,0	229,1	116,8	139,7	46,7	6,6	56,9			170,5	172,5	174,5	176,5	178,5		152,4	158,5	242
110,0	241,8	129,5	152,4	46,7	6,6	56,9			183,2	185,2	187,2	189,2	191,2		165,1	171,2	245
115,0	241,8	129,5	152,4	46,7	6,6	56,9			183,2	185,2	187,2	189,2	191,2		165,1	171,2	247
120,0	248,2	135,9	158,8	46,7	6,6	56,9			189,5	191,5	193,5	195,5	197,5		171,5	177,5	248
125,0	286,4	150,1	177,8	73,9	7,4	87,6						214,6	216,6	218,6	190,5	196,6	354
130,0	292,8	155,1	184,2	73,9	7,4	87,6						220,9	222,9	224,9	196,9	202,9	355
135,0	299,2	160,1	190,5	73,9	7,4	87,6						227,3	229,3	231,3	203,2	209,3	356
140,0	299,2	165,2	190,5	73,9	7,4	87,6						227,3	229,3	231,3	203,2	209,3	358
145,0	305,6	170,2	196,9	73,9	7,4	87,6						233,6	235,6	237,6	209,6	215,6	360
150,0	312,0	175,2	203,2	73,9	7,4	87,6						240,0	242,0	244,0	215,9	222,0	361
155,0	318,0	180,1	209,6	73,9	7,4	87,6						246,3	248,3	250,3	222,3	228,3	362
160,0	324,7	185,1	215,9	73,9	7,4	87,6						253,0	255,0	257,0	228,6	235,0	363
165,0	324,7	190,1	215,9	73,9	7,4	87,6						253,0	255,0	257,0	228,6	235,0	364
170,0	331,0	195,1	222,3	73,9	7,4	87,6						259,3	261,3	263,3	235,0	241,3	364
175,0	337,5	200,2	228,6	73,9	7,4	87,6						265,7	267,7	269,7	241,3	247,7	365
180,0	337,5	205,2	228,6	73,9	7,4	87,6						272,0	274,0	276,0	247,7	254,0	366
185,0	343,9	210,2	235,0	73,9	7,4	87,6						272,0	274,0	276,0	247,7	254,0	367
190,0	350,2	215,1	241,3	73,9	7,4	87,6						278,4	280,4	282,4	254,0	260,4	368
195,0	356,6	220,1	247,7	73,9	7,4	87,6						284,7	286,7	288,7	260,4	266,7	368

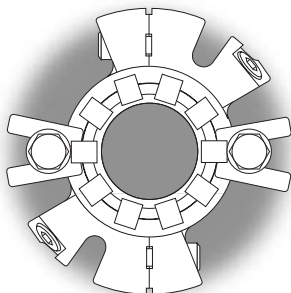
442 HIGH PRESSURE (OPTIONAL HOLDER DESIGN)

Utilizes setscrews to better secure the rotary holder to the shaft.

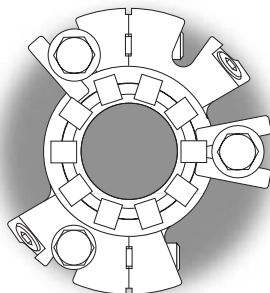


MOUNTING CONFIGURATIONS

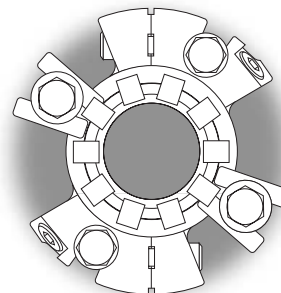
1.625" to 2.500" (40 mm to 60 mm)
2.625" to 4.750" (65 mm to 120 mm)



2 BOLTS

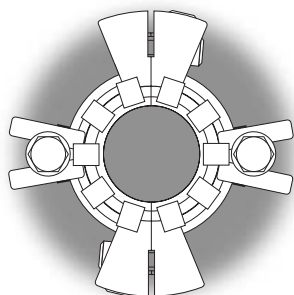


3 BOLTS

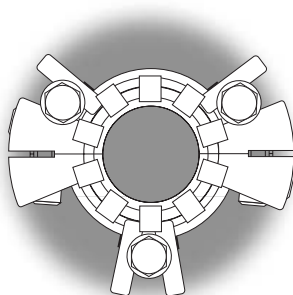


4 BOLTS

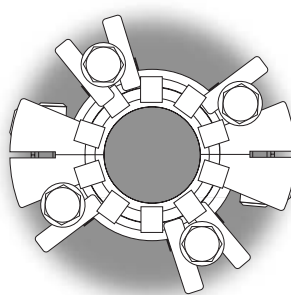
4.875" to 7.750" (125 mm to 195 mm) Extra Large
up to 1.500" (up to 38 mm) Small



2 BOLTS



3 BOLTS



4 BOLTS

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