

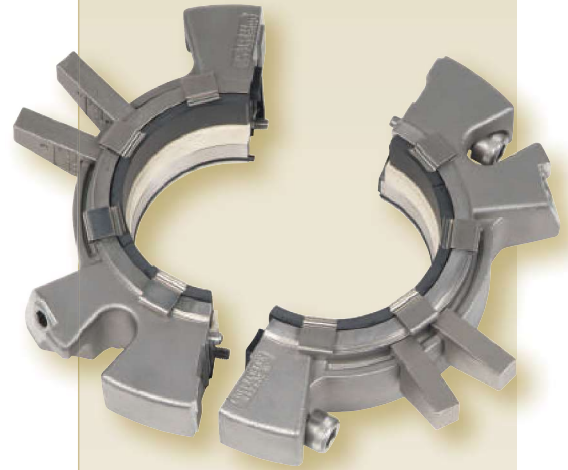
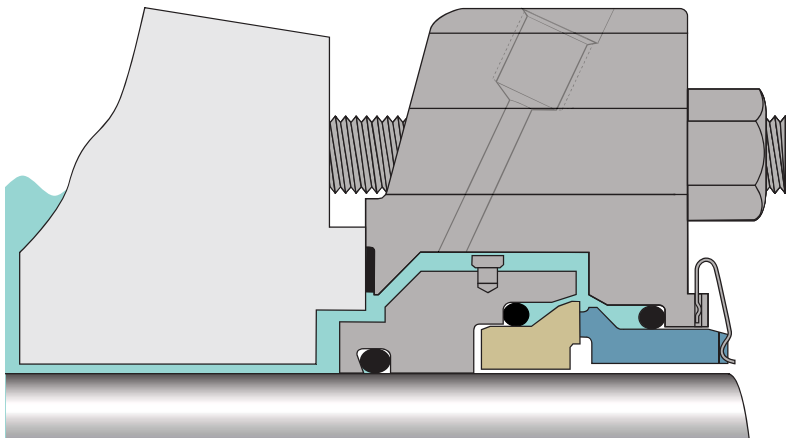
## SPLIT MECHANICAL SEALS

**442™****Split Mechanical Seal**

***Eliminates the need for equipment disassembly during seal installation and reduces maintenance costs***

The 442 split seal is ideal for equipment that is difficult and time-consuming to disassemble such as large pumps, vertical pumps, and horizontal split case pumps. This proven, compact design can be used in a wide variety of equipment and process fluids.

The high performance split technology allows the 442 to operate from vacuum to high pressures. Its compact design allows for easy installation and a fit advantage on most equipment. Split, low-cost repair kits reduce ongoing maintenance costs even further. Designed with the installer in mind, the ball-and-socket O-Rings provide a quick and easy seal without the use of adhesives. Captive screws cannot fall out, making installation straightforward and reliable.



- Easy and fast to install without equipment disassembly
- The proven design with superior performance
- Non-fretting to equipment
- Compact design

**Variants**

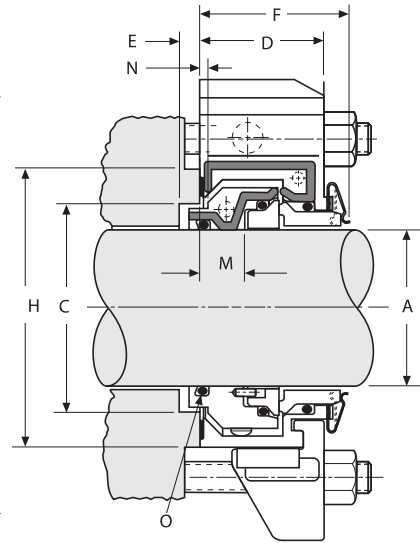
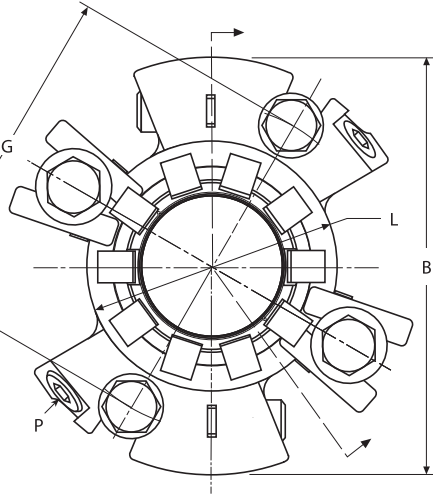
- 442PR
  - Pumping ring
- 442HP
  - High-pressure
- 442M
  - Motion (mixer)

Operating Conditions		Materials	
Size	20 mm – 990 mm (0.750" – 39.000")	Faces	CB, RSC, CR
Pressure	711 mm (28") Hg Vacuum – 30 bar g (450 psig)*	Elastomers	FKM, EPDM, FEPM
Temperature	120°C (250°F)	Metals	EN 1.4401 (316SS)
Speed	20 m/s (4000 fpm)	Springs	Elgiloy®

Standards and Approvals: ISO-3069-S, ASME B73.1, ASME B73.2, NSF61, ACS, ATEX

\*Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations. For operation outside the limits and additional materials consult Chesterton Mechanical Seal Engineering.

442™ Split Mechanical Seal – Metric



Mechanical Seal Dimensional Data

**Key**

- |                            |                          |  |                                    |                      |
|----------------------------|--------------------------|--|------------------------------------|----------------------|
| A – Shaft Size             | D – Gland Length         | G – Minimum Bolt Circle by Bolt Size           | L – Hub Gland                      | O – Shaft O-Ring     |
| B – Gland Outside Diameter | E – Seal Chamber Depth   | H – Minimum Seal Chamber Face Outside Diameter | M – Holder Bore from Box (Pg 71)   | P – NPT Size (Pg 71) |
| C – Seal Chamber Bore      | F – Outboard Seal Length |  | N – Installation Dimension (Pg 71) |                      |

A	B MAX	C MIN	C MAX	D	E MIN	F	G MIN							H MIN	L MAX	O	
							8 mm	10 mm	12 mm	14 mm	16 mm	18 mm	20 mm				22 mm
32	125.5	47.2	53.3	37.6	4.3	45.2	79.8	81.8	83.8	85.8	87.8	–	–	–	59.9	70.9	-219
33	125.5	47.2	53.3	37.6	4.3	45.2	79.8	81.8	83.8	85.8	87.8	–	–	–	59.9	70.9	-220
35	127.4	49.3	60.5	37.6	4.3	45.2	81.8	83.8	85.8	87.8	89.8	–	–	–	66.8	72.8	-221
38	130.5	52.3	63.5	37.6	4.3	45.2	85.0	87.0	89.0	91.0	93.0	–	–	–	69.9	76.0	-223
40	133.6	55.6	66.8	37.6	4.3	45.2	87.4	89.4	91.4	93.4	95.4	–	–	–	73.2	79.0	-223
43	136.8	58.7	70.0	37.6	4.3	45.2	90.5	92.5	94.5	96.5	98.5	–	–	–	76.2	82.0	-224
45	136.8	58.7	70.0	37.6	4.3	45.2	90.5	92.5	94.5	96.5	98.5	–	–	–	76.2	82.0	-225
48	140.0	62.0	73.2	37.6	4.3	45.2	97.7	95.7	97.7	99.7	101.7	–	–	–	79.5	85.2	-226
50	143.2	65.0	76.2	37.6	4.3	45.2	98.4	100.4	102.4	104.4	106.4	–	–	–	82.6	88.4	-226
55	146.3	68.3	79.2	37.6	4.3	45.2	101.6	103.6	105.6	107.6	109.6	–	–	–	85.9	91.5	-228
60	152.6	74.7	85.6	37.6	4.3	45.2	107.8	109.8	111.8	113.8	115.8	–	–	–	92.2	97.9	-230
65	197.5	85.1	108.0	46.7	6.6	56.9	–	–	140.6	142.6	144.6	–	–	–	120.7	126.9	-231
70	197.5	85.1	108.0	46.7	6.6	56.9	–	–	140.6	142.6	144.6	–	–	–	120.7	126.9	-233
75	203.8	91.4	114.3	46.7	6.6	56.9	–	–	146.2	148.2	150.2	–	–	–	127.0	133.2	-234
80	210.2	97.8	120.7	46.7	6.6	56.9	–	–	154.8	156.8	158.8	160.8	–	–	133.4	139.5	-236
85	216.5	104.1	127.0	46.7	6.6	56.9	–	–	158.9	160.9	162.9	164.9	166.9	–	139.7	145.9	-237
90	216.5	104.1	127.0	46.7	6.6	56.9	–	–	158.9	160.9	162.9	164.9	166.9	–	139.7	145.9	-239
95	222.9	110.5	133.4	46.7	6.6	56.9	–	–	165.3	167.3	169.3	171.3	173.3	–	146.1	152.3	-241
100	229.2	116.8	139.7	46.7	6.6	56.9	–	–	171.6	173.6	175.6	177.6	179.6	–	152.4	158.6	-242
110	241.9	129.5	152.4	46.7	6.6	56.9	–	–	184.3	186.3	188.3	190.3	192.3	–	165.1	171.3	-245
115	241.9	129.5	152.4	46.7	6.6	56.9	–	–	184.3	186.3	188.3	190.3	192.3	–	165.1	171.3	-247
120	248.3	135.9	158.8	46.7	6.6	56.9	–	–	190.6	192.6	194.6	196.6	198.6	–	171.5	177.7	-248
125	286.4	150.1	177.8	73.9	7.4	87.6	–	–	–	–	–	214.5	216.5	218.5	190.5	196.5	-354
130	292.8	155.1	184.2	73.9	7.4	87.6	–	–	–	–	–	220.9	222.9	224.9	196.9	202.9	-355
135	299.1	160.1	190.5	73.9	7.4	87.6	–	–	–	–	–	227.3	229.3	231.3	203.2	209.3	-356
140	299.1	165.2	190.5	73.9	7.4	87.6	–	–	–	–	–	227.3	229.3	231.3	203.2	209.3	-358
145	305.5	170.2	196.9	73.9	7.4	87.6	–	–	–	–	–	233.7	235.7	237.7	209.6	215.7	-360
150	311.8	175.2	203.2	73.9	7.4	87.6	–	–	–	–	–	240.1	242.1	244.1	215.9	222.1	-361
155	318.2	180.1	209.6	73.9	7.4	87.6	–	–	–	–	–	246.4	248.4	250.4	222.3	228.4	-362
160	324.5	185.1	215.9	73.9	7.4	87.6	–	–	–	–	–	252.8	254.8	256.8	228.6	234.8	-363
165	324.5	190.1	215.9	73.9	7.4	87.6	–	–	–	–	–	259.2	261.2	263.2	228.6	234.8	-364
170	330.9	195.1	222.3	73.9	7.4	87.6	–	–	–	–	–	259.2	261.2	263.2	235.0	241.2	-364
175	337.2	200.2	228.6	73.9	7.4	87.6	–	–	–	–	–	265.6	267.6	269.6	241.3	247.6	-365
180	337.2	205.2	228.6	73.9	7.4	87.6	–	–	–	–	–	272.0	274.0	276.0	247.7	254.0	-366
185	343.6	210.2	235.0	73.9	7.4	87.6	–	–	–	–	–	272.0	274.0	276.0	247.7	254.0	-367
190	349.9	215.1	241.3	73.9	7.4	87.6	–	–	–	–	–	278.4	280.4	282.4	254.0	260.4	-368
195	356.3	220.1	247.7	73.9	7.4	87.6	–	–	–	–	–	284.8	286.8	288.8	260.4	266.8	-368

# 442™ Split Mechanical Seal – Inch

Mechanical Seal Dimensional Data

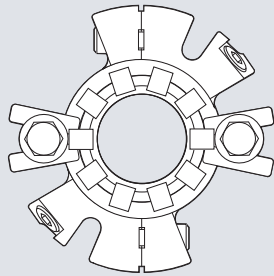
Key														
A – Shaft Size	B – Gland Outside Diameter	C – Seal Chamber Bore	D – Gland Length	E – Seal Chamber Depth	F – Outboard Seal Length	G – Minimum Bolt Circle by Bolt Size	H – Minimum Seal Chamber Face Outside Diameter	L – Hub Gland	M – Holder Bore from Box (Pg 71)	N – Installation Dimension (Pg 71)	O – Shaft O-Ring	P – NPT Size (Pg 71)		

A	B MAX	C MIN	C MAX	D	E MIN	F	3/8"	1/2"	G MIN 5/8"	3/4"	7/8"	H MIN	L MAX	O
1.250	4.94	1.86	2.10	1.48	0.17	1.78	3.20	3.33	3.45	–	–	2.35	2.79	-219
1.375	5.02	1.94	2.38	1.48	0.17	1.78	3.28	3.40	3.53	–	–	2.63	2.87	-221
1.500	5.14	2.06	2.50	1.48	0.17	1.78	3.40	3.53	3.65	–	–	2.75	2.99	-223
1.625	5.26	2.19	2.63	1.48	0.17	1.78	3.50	3.63	–	–	–	2.87	3.11	-224
1.750	5.39	2.31	2.75	1.48	0.17	1.78	3.63	3.75	–	–	–	3.00	3.23	-225
1.875	5.51	2.44	2.88	1.48	0.17	1.78	3.75	3.88	–	–	–	3.12	3.35	-226
2.000	5.64	2.56	3.00	1.48	0.17	1.78	3.94	4.06	–	–	–	3.25	3.48	-227
2.125	5.76	2.69	3.12	1.48	0.17	1.78	4.06	4.19	4.31	–	–	3.37	3.60	-228
2.250	5.88	2.81	3.25	1.48	0.17	1.78	4.19	4.31	4.44	–	–	3.50	3.73	-229
2.375	6.01	2.94	3.37	1.48	0.17	1.78	4.31	4.43	4.56	–	–	3.62	3.85	-230
2.500	6.13	3.06	3.75	1.48	0.17	1.78	4.57	4.70	4.82	–	–	4.00	4.23	-231
2.625	7.77	3.35	4.25	1.84	0.26	2.24	5.44	5.56	5.69	–	–	4.75	5.00	-232
2.750	7.77	3.35	4.25	1.84	0.26	2.24	5.44	5.56	5.69	–	–	4.75	5.00	-233
2.875	8.02	3.60	4.50	1.84	0.26	2.24	5.66	5.78	5.91	–	–	5.00	5.25	-234
3.000	8.02	3.60	4.50	1.84	0.26	2.24	5.66	5.78	5.91	–	–	5.00	5.25	-235
3.125	8.27	3.85	4.75	1.84	0.26	2.24	6.00	6.12	6.25	–	–	5.25	5.49	-236
3.250	8.27	3.85	4.75	1.84	0.26	2.24	6.00	6.12	6.25	–	–	5.25	5.49	-237
3.375	8.51	4.10	5.00	1.84	0.26	2.24	6.16	6.28	6.41	6.53	6.66	5.50	5.75	-238
3.500	8.51	4.10	5.00	1.84	0.26	2.24	6.16	6.28	6.41	6.53	6.66	5.50	5.75	-239
3.625	8.77	4.35	5.25	1.84	0.26	2.24	6.41	6.53	6.66	6.78	6.91	5.75	6.00	-240
3.750	8.77	4.35	5.25	1.84	0.26	2.24	6.41	6.53	6.66	6.78	6.91	5.75	6.00	-241
3.875	9.02	4.60	5.50	1.84	0.26	2.24	6.66	6.78	6.91	7.03	7.16	6.00	6.25	-242
4.000	9.02	4.60	5.50	1.84	0.26	2.24	6.66	6.78	6.91	7.03	7.16	6.00	6.25	-243
4.125	9.27	4.85	5.75	1.84	0.26	2.24	6.91	7.03	7.16	7.28	7.41	6.25	6.50	-244
4.250	9.27	4.85	5.75	1.84	0.26	2.24	6.91	7.03	7.16	7.28	7.41	6.25	6.50	-245
4.375	9.52	5.10	6.00	1.84	0.26	2.24	7.16	7.28	7.41	7.53	7.66	6.50	6.75	-246
4.500	9.52	5.10	6.00	1.84	0.26	2.24	7.16	7.28	7.41	7.53	7.66	6.50	6.75	-247
4.625	9.77	5.35	6.25	1.84	0.26	2.24	7.41	7.53	7.66	7.78	7.91	6.75	7.00	-248
4.750	9.77	5.35	6.25	1.84	0.26	2.24	7.41	7.53	7.66	7.78	7.91	6.75	7.00	-249
4.875	11.28	5.87	7.00	2.91	0.29	3.45	–	–	8.41	8.53	8.66	7.50	7.74	-353
5.000	11.28	5.99	7.00	2.91	0.29	3.45	–	–	8.41	8.53	8.66	7.50	7.74	-354
5.125	11.53	6.12	7.25	2.91	0.29	3.45	–	–	8.66	8.78	8.91	7.75	7.99	-355
5.250	11.53	6.24	7.25	2.91	0.29	3.45	–	–	8.66	8.78	8.91	7.75	7.99	-356
5.375	11.78	6.37	7.50	2.91	0.29	3.45	–	–	8.91	9.03	9.16	8.00	8.24	-357
5.500	11.78	6.49	7.50	2.91	0.29	3.45	–	–	8.91	9.03	9.16	8.00	8.24	-358
5.625	12.03	6.62	7.75	2.91	0.29	3.45	–	–	9.16	9.28	9.41	8.25	8.49	-359
5.750	12.03	6.74	7.75	2.91	0.29	3.45	–	–	9.16	9.28	9.41	8.25	8.49	-360
5.875	12.28	6.87	8.00	2.91	0.29	3.45	–	–	9.41	9.54	9.66	8.50	8.74	-361
6.000	12.28	6.99	8.00	2.91	0.29	3.45	–	–	9.41	9.54	9.66	8.50	8.74	-362
6.125	12.53	7.12	8.25	2.91	0.29	3.45	–	–	9.66	9.79	9.91	8.75	8.99	-362
6.250	12.53	7.24	8.25	2.91	0.29	3.45	–	–	9.66	9.79	9.91	8.75	8.99	-363
6.375	12.78	7.37	8.50	2.91	0.29	3.45	–	–	9.91	10.04	10.16	9.00	9.25	-363
6.500	12.78	7.49	8.50	2.91	0.29	3.45	–	–	9.91	10.04	10.16	9.00	9.25	-364
6.625	13.03	7.62	8.75	2.91	0.29	3.45	–	–	10.17	10.29	10.42	9.25	9.50	-364
6.750	13.03	7.74	8.75	2.91	0.29	3.45	–	–	10.17	10.29	10.42	9.25	9.50	-365
6.875	13.28	7.87	9.00	2.91	0.29	3.45	–	–	10.42	10.54	10.67	9.50	9.75	-365
7.000	13.28	7.99	9.00	2.91	0.29	3.45	–	–	10.42	10.54	10.67	9.50	9.75	-366
7.125	13.53	8.12	9.25	2.91	0.29	3.45	–	–	10.67	10.79	10.92	9.75	10.00	-366
7.250	13.53	8.24	9.25	2.91	0.29	3.45	–	–	10.67	10.79	10.92	9.75	10.00	-367
7.375	13.78	8.37	9.50	2.91	0.29	3.45	–	–	10.92	11.04	11.17	10.00	10.25	-367
7.500	13.78	8.49	9.50	2.91	0.29	3.45	–	–	10.92	11.04	11.17	10.00	10.25	-368
7.625	14.03	8.62	9.75	2.91	0.29	3.45	–	–	11.17	11.29	11.42	10.25	10.50	-368
7.750	14.03	8.74	9.75	2.91	0.29	3.45	–	–	11.17	11.29	11.42	10.25	10.50	-369

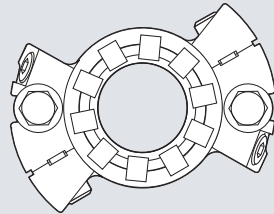
**442™ Split Mechanical Seal** – Metric and Inches – 32 mm – 195 mm (1.250" – 7.750")

**EQUIPMENT BOLT PATTERNS**

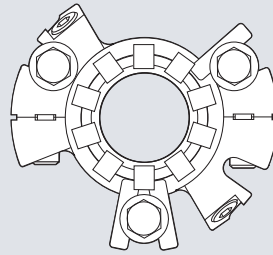
Shaft Sizes: 40 mm – 120 mm (1.625" – 4.750")



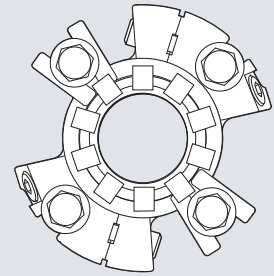
2 BOLTS



2 BOLTS

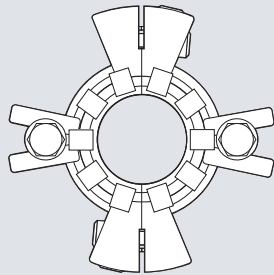


3 BOLTS

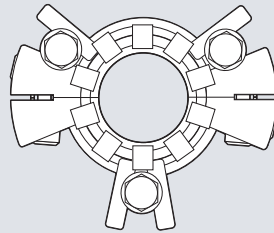


4 BOLTS

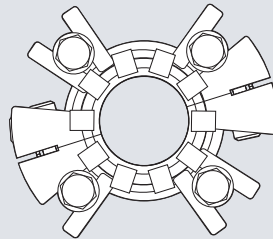
All Other Shaft Sizes



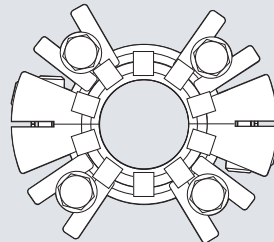
2 BOLTS



3 BOLTS



4 BOLTS



4 BOLTS

Key	SIZE	M	N	P (NPT)	SIZE	M	N	P (NPT)
	A – Shaft Size	32 mm – 38 mm	13.5	2.4	1/4"	1.250" – 1.500"	0.53	0.094
M – Holder ID from Box	40 mm – 120 mm	13.5	2.4	3/8"	1.625" – 4.750"	0.53	0.094	3/8"
N – Installation Diameter	125 mm – 195 mm	26.0	4.8	1/2"	4.875" – 7.750"	1.03	0.188	1/2"
P – NPYT Size								