



A-T Controls, Inc.

# POWER-SEAL

Manual and Automated  
High Performance Butterfly Valves

ANSI/ASME Class 150 and 300



Featuring **TRIAC**<sup>®</sup> Actuators and Accessories  
CONTROLS



Manual and Automated  
High Performance Butterfly Valves  
ANSI/ASME Class 150 and 300



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**Square Stem**

Stem design facilitates direct mounting of pneumatic and electric actuators or gear operators through 12".

**Live Loaded Packing**

Power-Seal HPBFVs come standard with Live Loaded packing. Three sets of Belleville washers are added to each gland stud to maintain a self-adjusting packing load.

**Application Specific Stem Packing**

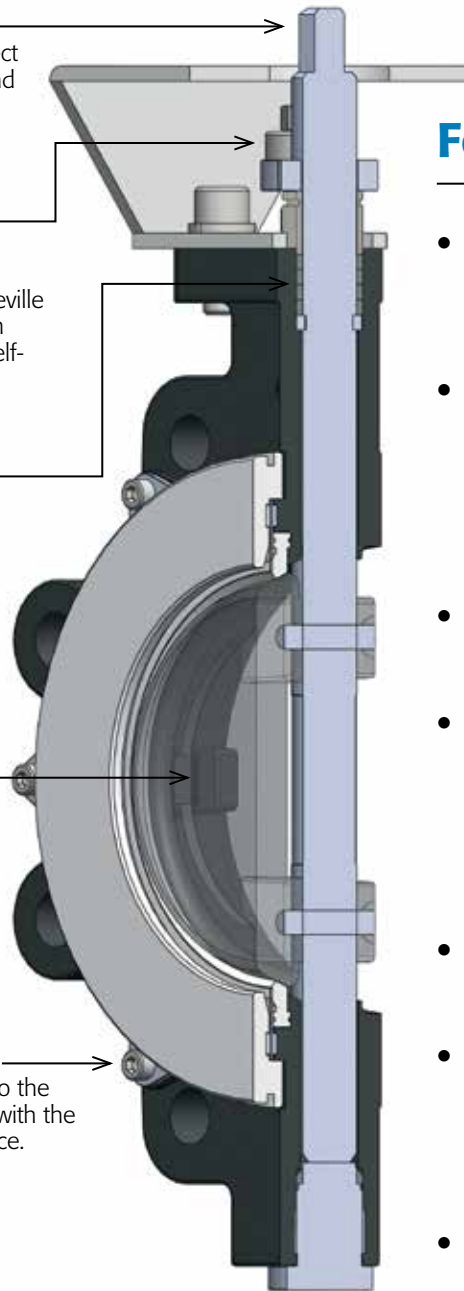
Standard packing is Graphite. Application specific options include: PTFE V-ring or PTFE Inverted packing.

**Internally Cast Travel Stop**

Travel Stop prevents over rotation of the disc in an effort to limit possible seat damage.

**Seat Retainer Design**

Seat retainer is designed so the fasteners do not interfere with the flange gasket sealing surface.

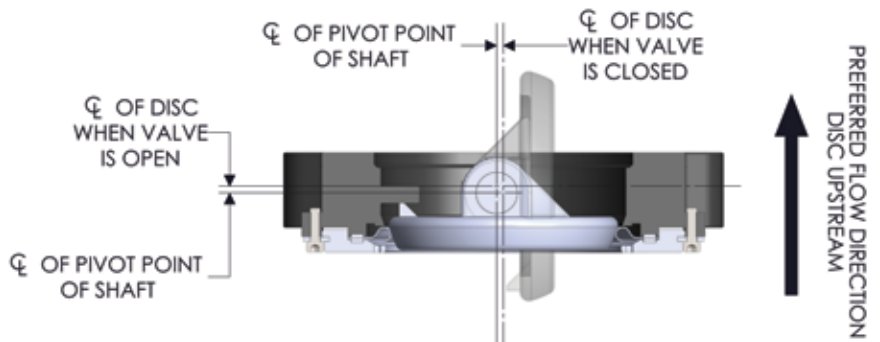


**Features and Benefits**

- Available inventory includes sizes 2"-24". Larger sizes (26"-48"+) are available upon request.
- Standard body materials are 316 SST or WCB. Application specific options include: Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Aluminum Bronze, LCB and others.
- ANSI/ASME Class 150 and 300 Lug and Wafer
- Standard seat materials are RTFE, RTFE/316L SST (Firesafe), and 316L SST (metal seat). Application specific seat materials include: 50/50 STFE, PTFE, PEEK, UHMWPE, TFM-1600 and Inconel 625.
- Standard Stem Material is 17-4 pH. Other options include 316 SST or XM-19.
- RTFE and Firesafe seat designs offer bubble-tight, bi-directional shutoff to full ANSI/ASME Class 150 and 300 standards. Metal seat design offers Class V shutoff.
- Blow out proof stem design

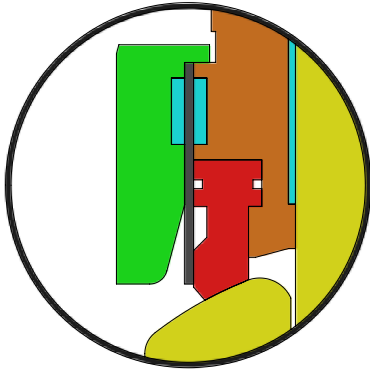
**Standards**

ANSI-B16.10	FCI 70-2
ANSI-B16.34	MSS SP-25
API-598	MSS SP-55
API-607	MSS SP-68
API-609	
ASME-B16.5	



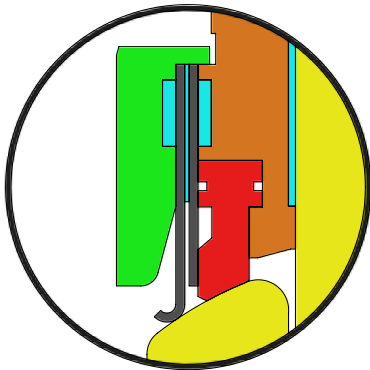
## **POWER-SEAL** High Performance Butterfly Valve seat designs:

- **PS Series** Soft Seat design
- **PF Series** RTFE/316L SST fire-safe seat design
- **PM/PH Series** Metal seat design for high temperature and specialized applications



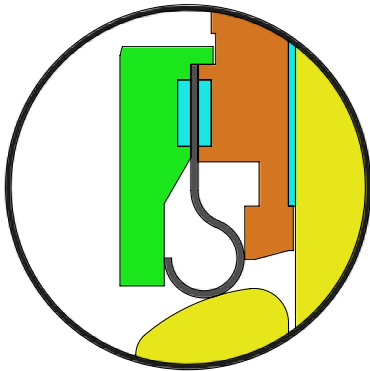
### **PS Series**

RTFE seat for bubble-tight shutoff of general purpose applications up to 450°F.\*



### **PF Series**

Primary RTFE seat for bubble-tight shutoff backed up by secondary 316L SST fire-safe seat. Secondary fire-safe seat provides Class V shutoff when primary RTFE seat is compromised in a fire event.\*

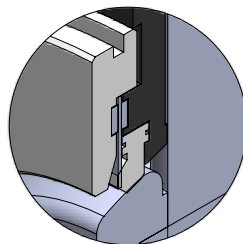


### **PM/PH Series**

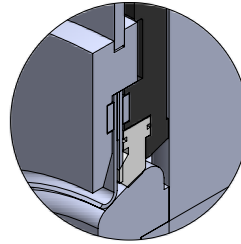
316L SST seat for Class V shutoff of high temperature applications to 660°F (1100°F with Inconel 625 seat and 316 SST with Stellite disc).\*

\*Refer to Pressure Temperature Chart (pg. 13)

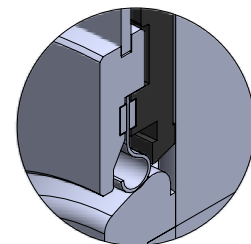
Standard  
RTFE Seat

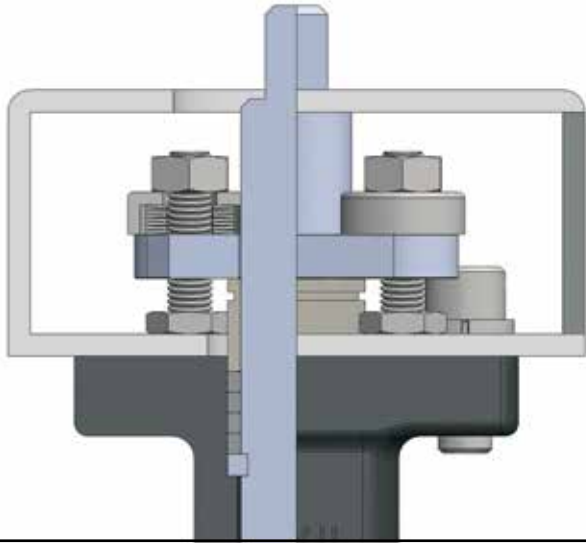


Firesafe - 316SST/RTFE  
(Rated to 450° F)

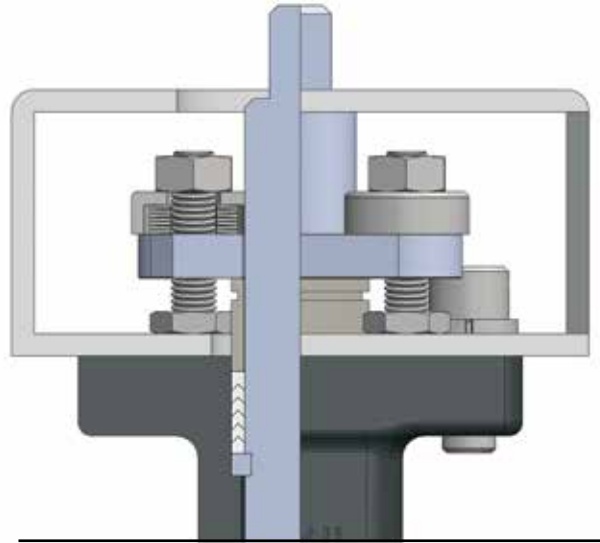


Metal - 316L SST Standard 660° F  
(Inconel 625 Optional 1100° F)

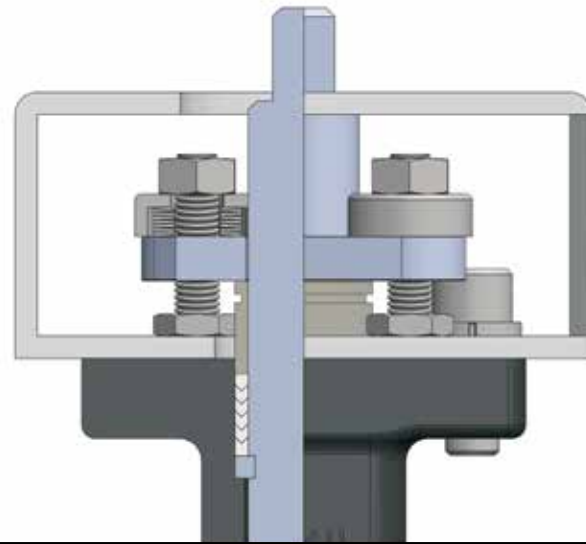


Stem Packing Options for **POWER-SEAL** High Performance Butterfly Valves**Graphite (G)**

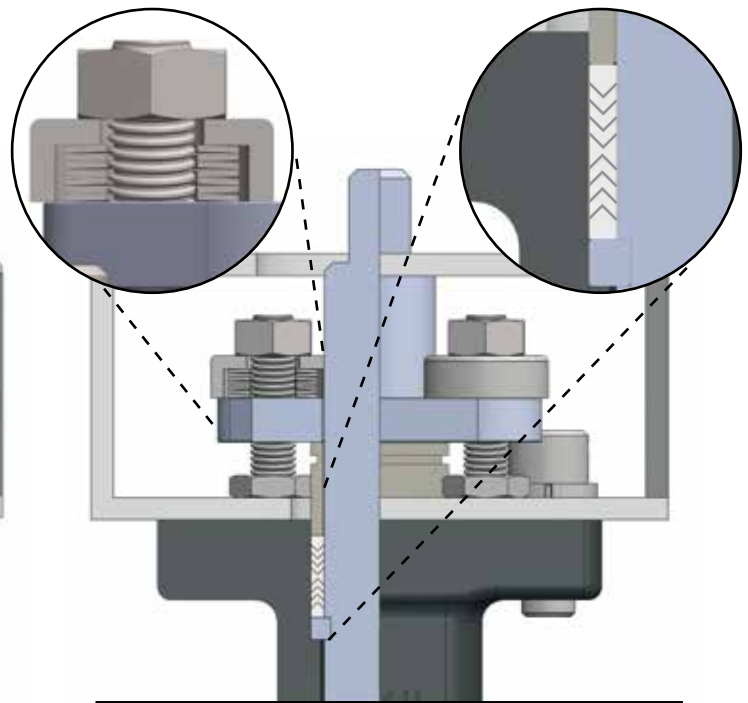
Power-Seal High Performance Butterfly valves come standard with Live Loaded Graphite packing to accommodate a wide range of applications.

**PTFE V-Ring (P)**

Live Loaded PTFE Chevron packing for standard applications that are not compatible with graphite.

**PTFE Inverted V-Ring (V)**

Live Loaded Inverted PTFE Chevron packing will facilitate vacuum service applications.

**PTFE Pressure & Vacuum V-Ring (D)**

Live Loaded PTFE Chevron packing comes together with Inverted PTFE Chevron packing to support applications of pressure and vacuum.

**Industry Leading High Performance Butterfly Valve Packing Design**

## Cv Values for **POWER-SEAL** High Performance Butterfly Valves

ANSI Class 150			
Size	Fully Open Cv	Size	Fully Open Cv
2"	105	14"	6,100
3"	210	16"	8,100
4"	440	18"	10,800
5"	731	20"	13,700
6"	900	24"	21,000
8"	1,900	30"	33,965
10"	3,100	36"	51,016
12"	4,700	42"	71,010
		48"	96,185

ANSI Class 300			
Size	Fully Open Cv	Size	Fully Open Cv
2"	97	14"	5,612
3"	211	16"	7,840
4"	412	18"	9,843
5"	728	20"	11,834
6"	1,054	24"	17,965
8"	1,987	30"	30,169
10"	3,184	36"	48,225
12"	4,633	42"	CF
		48"	CF

## Torque Charts for **POWER-SEAL** High Performance Butterfly Valves

### ANSI Class 150 (All torques in In-Lbs)

Valve Size	PS RTFE Seat		PF Firesafe RTFE/316L SST Seat		PM 316L SST Metal Seat	
	150 PSID	285 PSID	150 PSID	285 PSID	150 PSID	285 PSID
2"	135	160	160	190	170	205
2-1/2"	CF					
3"	360	408	435	490	470	535
4"	480	540	580	650	625	700
6"	970	1,350	1,175	1,630	1,270	1,750
8"	2,050	2,750	2,465	3,335	2,670	3,600
10"	3,150	4,320	3,800	5,200	4,100	5,650
12"	4,050	5,650	4,900	6,800	5,300	7,380
14"	6,300	8,700	7,625	10,500	8,260	11,350
16"	9,300	14,700	11,225	17,750	12,165	19,200
18"	13,000	18,500	15,500	22,800	17,230	24,725
20"	19,500	25,000	23,600	30,950	25,600	34,500
22"	CF					
24"	33,000	44,000	39,750	55,000	43,100	59,600
30" +	CF					

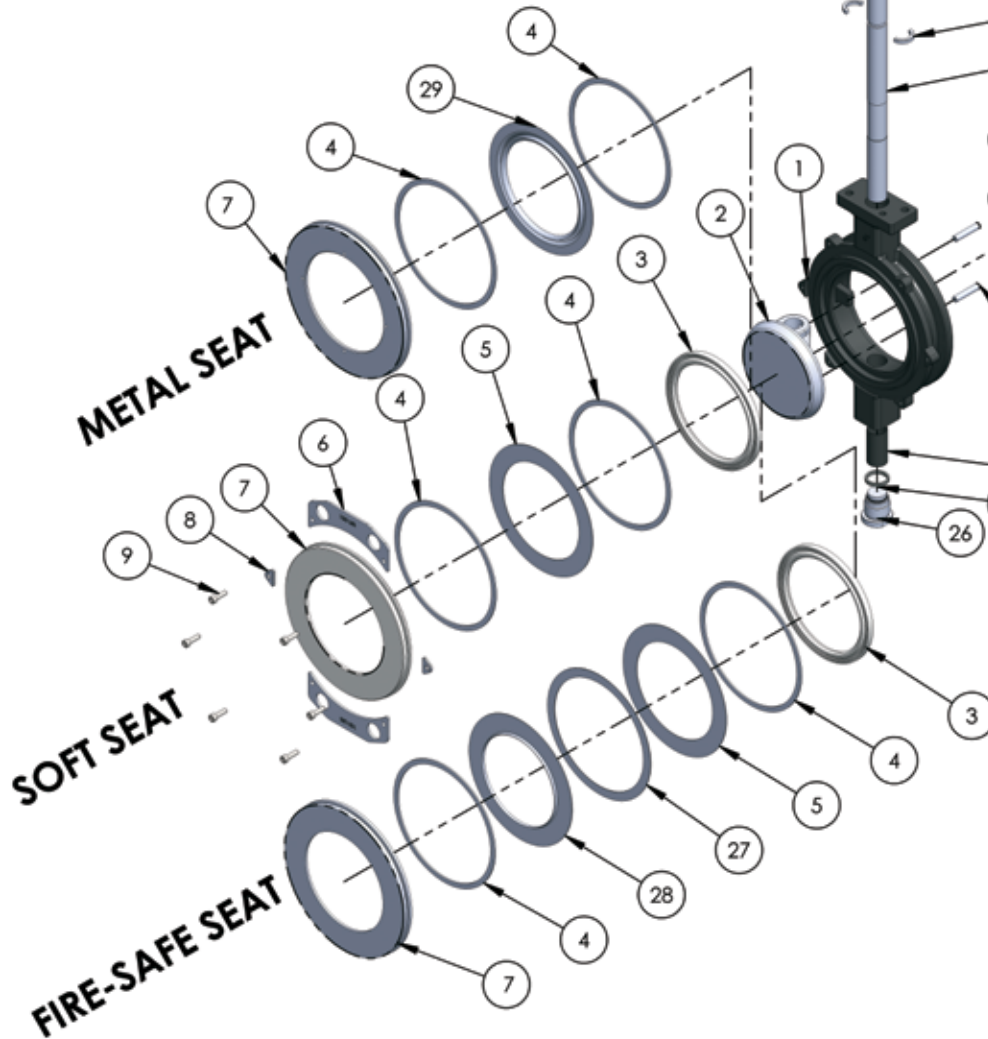
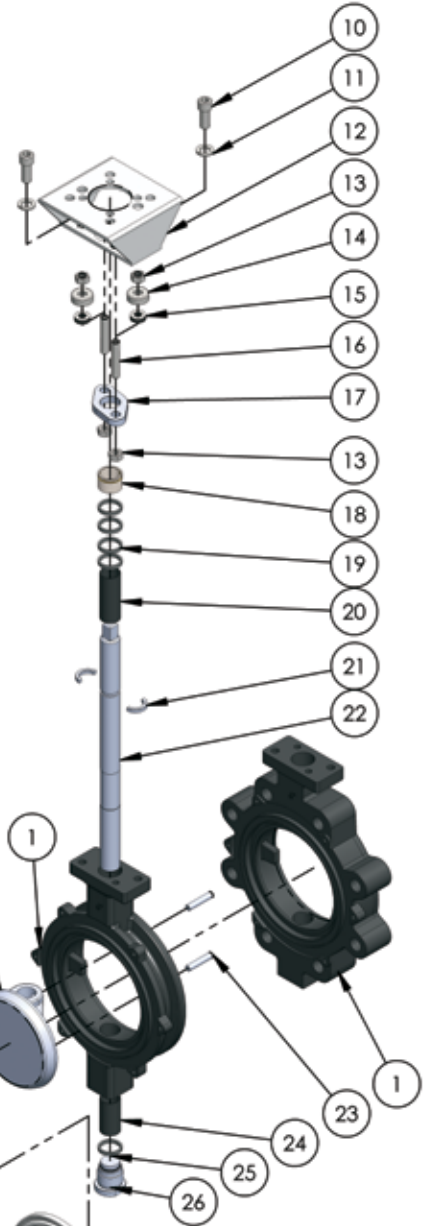
Includes 20% safety

### ANSI Class 300 (All torques in In-Lbs)

Valve Size	PS RTFE Seat				PF Firesafe RTFE/316L SST Seat				PM 316L SST Metal Seat			
	150 PSID	300 PSID	500 PSID	740 PSID	150 PSID	300 PSID	500 PSID	740 PSID	150 PSID	300 PSID	500 PSID	740 PSID
2"	135	170	220	300	160	195	275	370	170	210	300	385
2-1/2"	CF											
3"	360	425	630	720	435	520	770	890	470	560	820	950
4"	480	565	850	950	580	690	1,050	1,150	625	740	1,100	1,235
6"	970	1,390	1,800	2,050	1,175	1,700	2,200	2,500	1,270	1,830	2,350	2,665
8"	2,050	2,784	2,900	3,150	2,465	3,400	3,550	3,850	2,670	3,660	3,785	4,100
10"	3,150	4,550	5,200	5,900	3,800	5,560	6,350	7,200	4,100	5,990	6,750	7,675
12"	4,050	5,800	8,100	9,250	4,900	7,100	9,900	11,285	5,300	7,650	10,530	12,000
14"	6,300	9,025	15,800	19,500	7,625	11,050	19,275	23,800	8,260	11,900	20,540	23,350
16"	9,300	15,640	21,200	25,650	11,225	19,160	25,900	31,300	12,165	20,600	27,500	33,315
18"	13,000	19,600	27,650	32,125	15,500	24,000	33,700	39,190	17,230	25,800	36,000	41,765
20"	19,500	36,500	38,100	43,000	23,600	33,500	46,500	52,500	25,600	35,000	49,500	55,900
22"	CF											
24"	33,000	47,350	58,000	62,000	39,750	58,050	70,750	75,650	43,100	62,300	75,400	80,600
30" +	CF											

## Bill of Materials for **POWER-SEAL** High Performance Butterfly Valves

Item No.	Description	Material
1	BODY	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
2	DISC	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
3	SEAT	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
4	SEAT GASKET	PTFE (PS SERIES); GRAPHITE (PM/PF/PH SERIES)
5	SEAT RING	STAINLESS STEEL
6	CLAMP PLATE (WAFER ONLY)	STAINLESS STEEL
7	RETAINER RING	CARBON STEEL/STAINLESS STEEL
8	CLAMPS	STAINLESS STEEL
9	CLAMP BOLTS	STAINLESS STEEL
10	BRACKET BOLTS	CARBON STEEL
11	BRACKET WASHER	CARBON STEEL
12	BRACKET	CARBON STEEL
13	PACKING GLAND NUTS	STAINLESS STEEL
14	BELLEVILLE WASHER COVER	STAINLESS STEEL
15	BELLEVILLE WASHERS	CARBON STEEL
16	PACKING GLAND STUDS	STAINLESS STEEL
17	PACKING GLAND FLANGE	CARBON STEEL
18	GLAND	304 SST
19	SHAFT UPPER PACKING	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
20	UPPER BEARING	METALPLAST (SS316+RTFE)/CARBON
21	THRUST BEARING	410 SST
22	SHAFT (2" & 3" HAVE TWO PIECE SHAFT)	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
23	DISC PIN	STAINLESS STEEL
24	LOWER BEARING	METALPLAST (SS316+RTFE)/CARBON
25	SHAFT LOWER PACKING	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
26	BOTTOM COVER	STAINLESS STEEL
27	SECONDARY SEAT GASKET	GRAPHITE
28	SECONDARY SEAT	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)
29	METAL SEAT	*SEE STANDARD MATERIALS OF CONSTRUCTION (PAGE 8 AND 9)



## Standard Materials of Construction for **POWER-SEAL Class 150**

### Soft Seat Materials

Component	Carbon Steel Standard Material	Stainless Steel Standard Material	Options
<b>Body</b>	A216-WCB	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316	A351 Gr CF8M-316	Same as body; except CS (316 standard)
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19, 316 SST, K-Monel, Duplex 2205, Inconel 718
<b>Seat</b>	RTFE	RTFE	PTFE, 50/50 STFE, PEEK, UHMWPE, TFM-1600
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring (Pressure, Vacuum, Pressure & Vacuum)
<b>Bearing</b>	Composite	Composite	Bronze, Carbon Graphite

### Fire Safe Seat Materials

Component	Carbon Steel Standard Material	Stainless Steel Standard Material	Options
<b>Body</b>	A216-WCB	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316 / HCr	A351 Gr CF8M-316/ HCr	Same as body; except CS (316 standard)
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19, 316 SST, K-Monel, Duplex 2205, Inconel 718
<b>Seat</b>	RTFE	RTFE	PTFE, 50/50 STFE, PEEK, UHMWPE, TFM-1600
<b>Secondary Seat</b>	A240-316L	A240-316L	
<b>Packing</b>	Graphite	Graphite	
<b>Bearing</b>	Composite	Composite	Bronze, Carbon Graphite

### Metal Seat Materials (Carbon Steel)

Component	Carbon Steel Standard		Options
	Material (-20°F to 660°F)	Material (-20°F to 800°F)	
<b>Body</b>	A216-WCB	A216-WCB	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316/ HCr	A351 Gr CF8M-316/ Stellite	
<b>Shaft</b>	17-4 pH	17-4 pH	316 SST
<b>Seat</b>	A240-316L	Inconel 625	
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring to 450°F
<b>Bearing</b>	Carbon Graphite	Carbon Graphite	Bronze

### Metal Seat Materials (Stainless Steel)

Component	Stainless Steel Standard		Options
	Material (-100°F to 660°F)	Material (-100°F to 1100°F)	
<b>Body</b>	A351 Gr CF8M-316	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Aluminum Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316/ HCr	A351 Gr CF8M-316/ Stellite	
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19, 316 SST
<b>Seat</b>	A240-316L	Inconel 625	
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring to 450°F
<b>Bearing</b>	Carbon Graphite	Carbon Graphite	Bronze



Standard Materials of Construction for **POWER-SEAL Class 300****Soft Seat Materials**

Component	Carbon Steel Standard Material	Stainless Steel Standard Material	Options
<b>Body</b>	A216-WCB	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316	A351 Gr CF8M-316	Same as body; except CS (316 standard)
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19, K-Monel, Duplex 2205, Inconel 718
<b>Seat</b>	RTFE	RTFE	PTFE, 50/50 STFE, PEEK, UHMWPE, TFM-1600
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring (Pressure, Vacuum, Pressure & Vacuum)
<b>Bearing</b>	Composite	Composite	Bronze, Carbon Graphite

**Fire Safe Seat Materials**

Component	Carbon Steel Standard Material	Stainless Steel Standard Material	Options
<b>Body</b>	A216-WCB	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316 / HCr	A351 Gr CF8M-316/ HCr	Same as body; except CS (316 standard)
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19, K-Monel, Duplex 2205, Inconel 718
<b>Seat</b>	RTFE	RTFE	PTFE, 50/50 STFE, PEEK, UHMWPE, TFM-1600
<b>Secondary Seat</b>	A240-316L	A240-316L	
<b>Packing</b>	Graphite	Graphite	
<b>Bearing</b>	Composite	Composite	Bronze, Carbon Graphite

**Metal Seat Materials (Carbon Steel)**

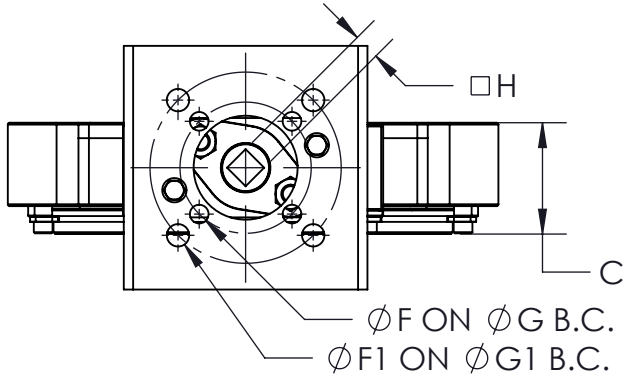
Component	Carbon Steel Standard		Options
	Material (-20°F to 660°F)	Material (-20°F to 800°F)	
<b>Body</b>	A216-WCB	A216-WCB	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316/ HCr	A351 Gr CF8M-316/ Stellite	
<b>Shaft</b>	17-4 pH	17-4 pH	XM-19
<b>Seat</b>	A240-316L	Inconel 625	
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring to 450°F
<b>Bearing</b>	Carbon Graphite	Carbon Graphite	Bronze

**Metal Seat Materials (Stainless Steel)**

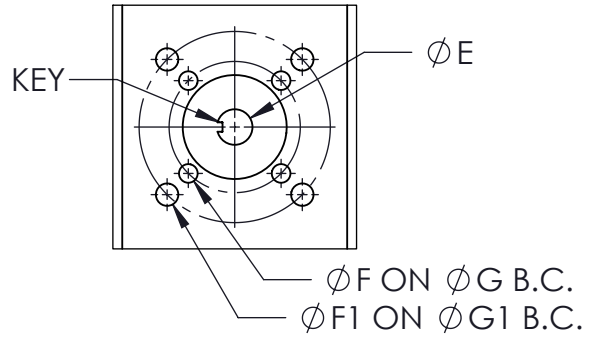
Component	Stainless Steel Standard		Options
	Material (-100°F to 660°F)	Material (-100°F to 1100°F)	
<b>Body</b>	A351 Gr CF8M-316	A351 Gr CF8M-316	Alloy 20, Monel, CD3MN, Hastelloy C-276, Inconel 625, Alum-Bronze, LCB, Other
<b>Disc</b>	A351 Gr CF8M-316/ HCr	A351 Gr CF8M-316/ Stellite	
<b>Shaft</b>	17-4 pH	XM-19	
<b>Seat</b>	A240-316L	Inconel 625	
<b>Packing</b>	Graphite	Graphite	PTFE V-Ring to 450°F
<b>Bearing</b>	Carbon Graphite	Carbon Graphite	Bronze

Dimensions for **POWER-SEAL Class 150**

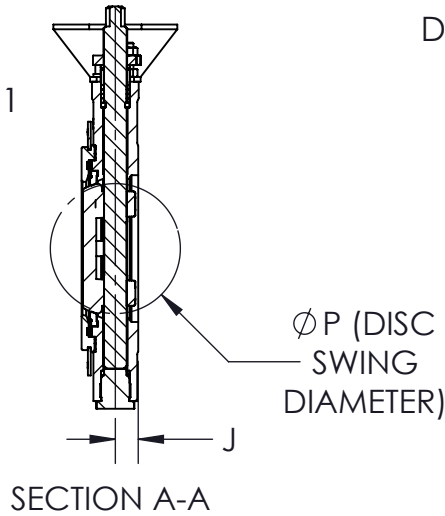
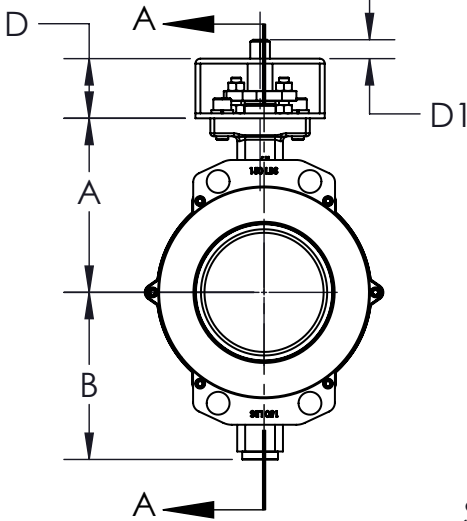
**MOUNTING FOR VALVES 2"-12"**



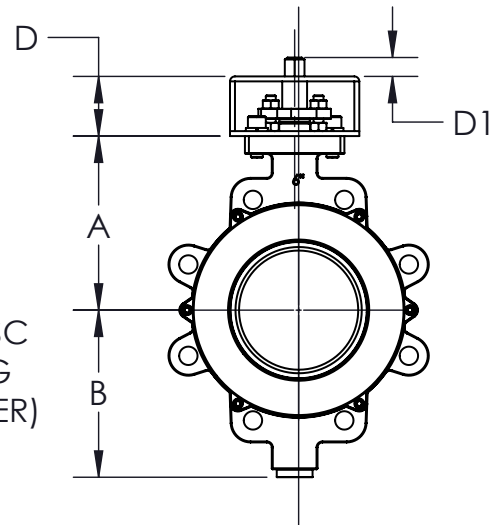
**MOUNTING FOR VALVES 14"-48"**



**WAFER STYLE BODY**



**LUG STYLE BODY**

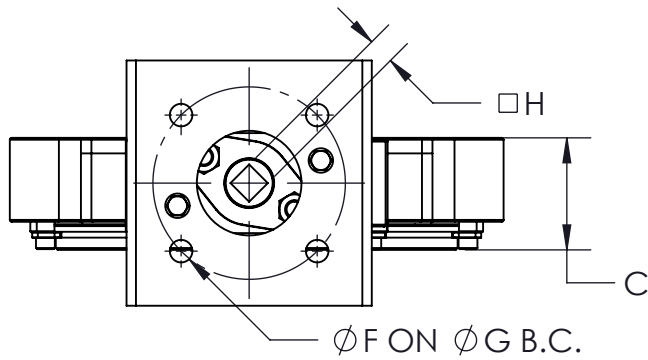


**ANSI/ASME Class 150**

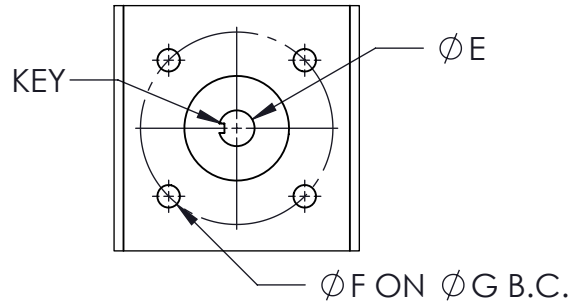
SIZE	A	B	C	D	D1	E	F	F1	G	G1	H	J	END CONNECTION	WAFER WEIGHT (Lbs)	LUG WEIGHT (Lbs)	P	KEY (mm)	ISO 5211
2"	4.33	3.94	1.77	2.36	0.71	NA	0.35	NA	2.756	NA	0.354	0.709	ANSI B 16.5 150 Class	9	12	2.14	NA	F07
3"	5.24	4.84	1.89	2.76	0.75	NA	0.35	NA	2.756	NA	0.433	0.81	ANSI B 16.5 150 Class	11	14	3.10	NA	F07
4"	5.71	5.31	2.13	2.76	0.83	NA	0.35	NA	2.756	NA	0.433	0.87	ANSI B 16.5 150 Class	18	26	3.66	NA	F07
5"	6.50	6.38	2.20	2.76	0.83	NA	0.35	NA	2.756	NA	0.433	0.91	ANSI B 16.5 150 Class	20	30	4.69	NA	F07
6"	6.89	6.61	2.24	2.76	0.83	NA	0.35	0.43	2.756	4.016	0.551	0.94	ANSI B 16.5 150 Class	32	37	5.37	NA	F07/F10
8"	7.87	7.68	2.52	2.76	1.02	NA	0.43	NA	4.016	NA	0.748	1.06	ANSI B 16.5 150 Class	45	49	7.34	NA	F10
10"	10.43	9.61	2.80	3.15	1.18	NA	0.43	0.51	4.016	4.921	0.748	1.10	ANSI B 16.5 150 Class	72	92	8.86	NA	F10/F12
12"	11.42	10.55	3.19	3.15	1.18	NA	0.51	NA	4.921	NA	0.866	1.22	ANSI B 16.5 150 Class	112	129	10.91	NA	F12
14"	12.20	11.57	3.62	3.54	2.17	1.181	0.51	NA	4.921	NA	NA	1.57	ANSI B 16.5 150 Class	135	183	12.35	8X7	F12
16"	14.57	14.02	4.02	3.94	2.56	1.575	0.51	0.71	4.921	5.512	NA	1.78	ANSI B 16.5 150 Class	182	250	14.50	12X8	F12/F14
18"	15.35	14.69	4.49	3.94	2.95	1.772	0.71	0.87	5.512	6.496	NA	1.97	ANSI B 16.5 150 Class	235	306	16.46	14X9	F14/F16
20"	15.94	16.06	5.00	3.94	2.95	1.772	0.71	0.87	5.512	6.496	NA	2.17	ANSI B 16.5 150 Class	325	420	18.36	14X9	F14/F16
24"	18.90	18.90	6.06	4.72	3.35	2.165	0.71	NA	8.071	NA	NA	2.52	ANSI B 16.5 150 Class	505	705	22.25	18X11	F20
26"	23.03	20.28	6.50	4.72	4.13	2.559	0.71	0.71	8.071	10.000	NA	2.87	ANSI B16.47-SERIES A	580	763	23.88	18X11	F20/F25
28"	21.46	20.63	6.50	5.12	4.13	2.559	0.71	NA	10.000	NA	NA	2.82	ANSI B16.47-SERIES A	865	1,060	26.00	18X11	F25
30"	24.02	21.65	7.48	5.12	4.13	2.559	0.71	NA	10.000	NA	NA	3.43	ANSI B16.47-SERIES A	930	1,135	28.00	18X11	F25
32"	25.04	22.64	7.48	5.51	5.12	3.543	0.71	0.87	10.000	11.732	NA	3.43	ANSI B16.47-SERIES A	995	1,215	30.00	25X14	F25/F30
36"	28.15	26.14	7.99	5.51	5.12	3.543	0.71	0.87	10.000	11.732	NA	3.90	ANSI B16.47-SERIES A	1,650	1,900	33.69	25X14	F25/F30
40"	29.13	29.25	8.50	5.91	5.12	3.543	0.87	1.26	11.732	14.016	NA	4.25	ANSI B16.47-SERIES A	2,360	2,580	37.72	25X14	F30/F35
44"	31.50	31.65	10.00	5.91	5.12	3.543	0.87	1.26	11.732	14.016	NA	4.72	ANSI B16.47-SERIES A	2,600	2,850	42.06	25X14	F30/F35
48"	35.04	34.29	10.00	5.91	5.91	4.331	1.26	1.50	14.016	15.984	NA	4.33	ANSI B16.47-SERIES A	2,830	3,100	45.25	32X18	F35/F40

Dimensions for **POWER-SEAL Class 300**

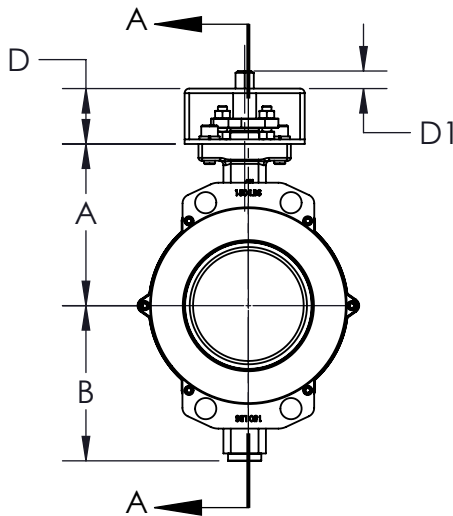
**MOUNTING FOR VALVES 2"-12"**



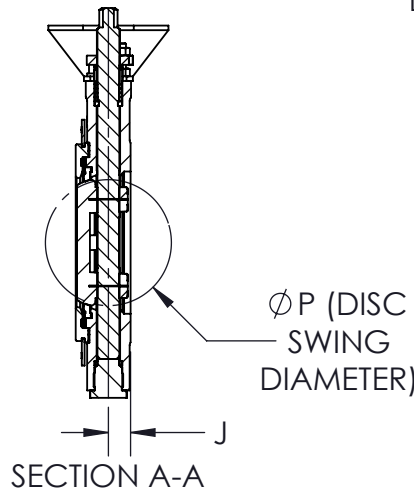
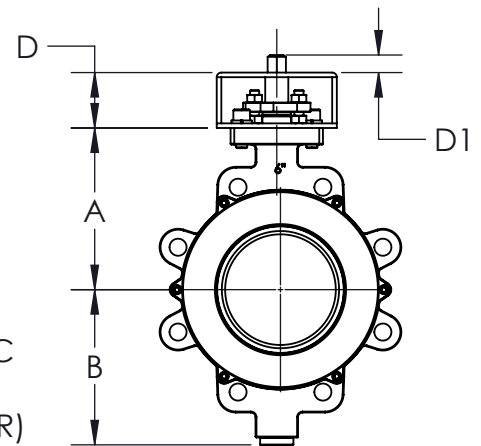
**MOUNTING FOR VALVES 14"-48"**



**WAFER STYLE BODY**



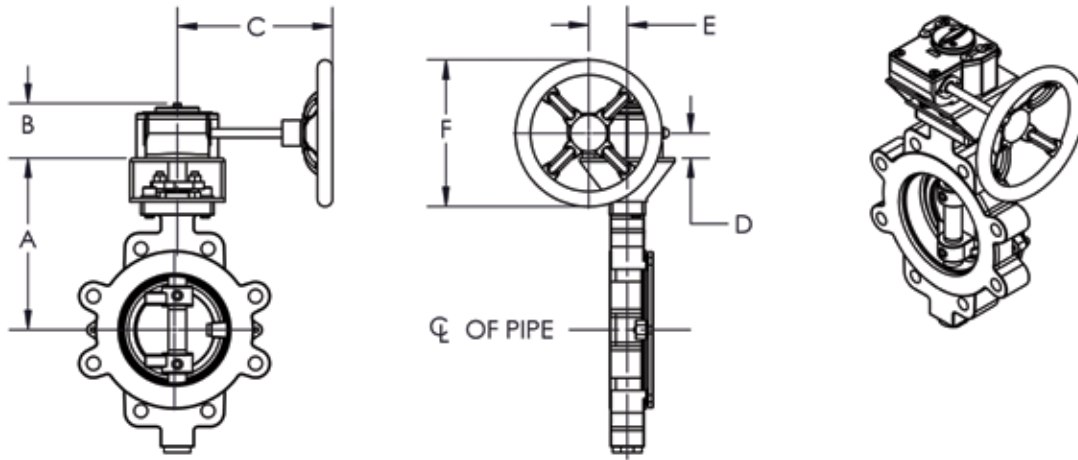
**LUG STYLE BODY**



**ANSI/ASME Class 300**

SIZE	A	B	C	D	D1	E	F	G	H	J	END CONNECTION	WAFER WEIGHT (Lbs)	LUG WEIGHT (Lbs)	P	KEY (mm)	ISO 5211
2"	4.33	3.94	1.77	2.36	0.71	NA	0.35	2.756	0.354	0.709	ANSI B 16.5 300 Class	9	12	2.14	NA	F07
3"	5.24	4.84	1.89	2.76	0.75	NA	0.35	2.756	0.433	0.81	ANSI B 16.5 300 Class	12	18	3.10	NA	F07
4"	5.71	5.31	2.13	2.76	0.83	NA	0.35	2.756	0.433	0.87	ANSI B 16.5 300 Class	18	25	3.66	NA	F07
5"	6.50	6.38	2.20	2.76	0.83	NA	0.35	2.756	0.433	0.91	ANSI B 16.5 300 Class	21	30	4.69	NA	F07
6"	6.89	6.61	2.32	2.76	0.83	NA	0.43	4.016	0.551	1.00	ANSI B 16.5 300 Class	32	50	5.37	NA	F10
8"	8.27	8.03	2.87	2.76	1.02	NA	0.43	4.016	0.748	1.42	ANSI B 16.5 300 Class	54	80	7.34	NA	F10
10"	10.43	9.61	3.27	3.15	1.18	NA	0.51	4.921	0.748	1.57	ANSI B 16.5 300 Class	90	120	8.86	NA	F12
12"	12.20	11.18	3.62	3.15	1.18	NA	0.51	4.921	0.866	1.65	ANSI B 16.5 300 Class	155	200	10.91	NA	F12
14"	13.39	12.76	4.61	3.54	2.17	1.18	0.51	4.921	NA	2.56	ANSI B 16.5 300 Class	290	325	12.35	8X7	F12
16"	14.57	14.02	5.24	3.94	2.56	1.57	0.71	5.512	NA	2.76	ANSI B 16.5 300 Class	340	405	14.50	12X8	F14
18"	15.94	15.55	5.87	3.94	2.95	1.77	0.87	6.496	NA	2.87	ANSI B 16.5 300 Class	400	520	16.46	14X9	F16
20"	17.52	16.65	6.26	3.94	2.95	1.77	0.87	6.496	NA	3.11	ANSI B 16.5 300 Class	515	740	18.36	14X9	F16
24"	20.04	20.08	7.13	4.72	3.35	2.17	0.71	8.071	NA	3.59	ANSI B 16.5 300 Class	735	1,025	22.25	18X11	F20
26"	23.03	21.46	6.50	4.72	4.13	2.56	0.71	10.000	NA	CF	ANSI B 16.47 SERIES A	CF	CF	23.88	18X11	F25
28"	23.23	22.44	6.50	5.12	4.13	2.56	0.71	10.000	NA	CF	ANSI B 16.47 SERIES A	CF	CF	26.00	18X11	F25
30"	25.79	24.02	7.48	5.12	4.13	2.56	0.71	10.000	NA	CF	ANSI B 16.47 SERIES A	CF	CF	28.00	18X11	F25
32"	26.57	25.20	7.48	5.51	5.12	3.54	0.87	11.732	NA	CF	ANSI B 16.47 SERIES A	CF	CF	30.00	25X14	F30
36"	28.15	26.14	7.99	5.51	5.12	3.54	0.87	11.732	NA	CF	ANSI B 16.47 SERIES A	CF	CF	33.69	25X14	F30
40"	29.13	30.43	8.50	5.91	5.12	3.54	1.26	14.016	NA	CF	ANSI B 16.47 SERIES A	CF	CF	37.72	25X14	F35
44"	31.69	31.65	10.00	5.91	5.12	3.54	1.26	14.016	NA	CF	ANSI B 16.47 SERIES A	CF	CF	42.06	25X14	F35
48"	35.04	34.29	10.00	5.91	5.91	4.33	1.40	15.984	NA	CF	ANSI B 16.47 SERIES A	CF	CF	45.25	32X18	F40

Dimensions for **POWER-SEAL** Manual Handles / Gear Operators

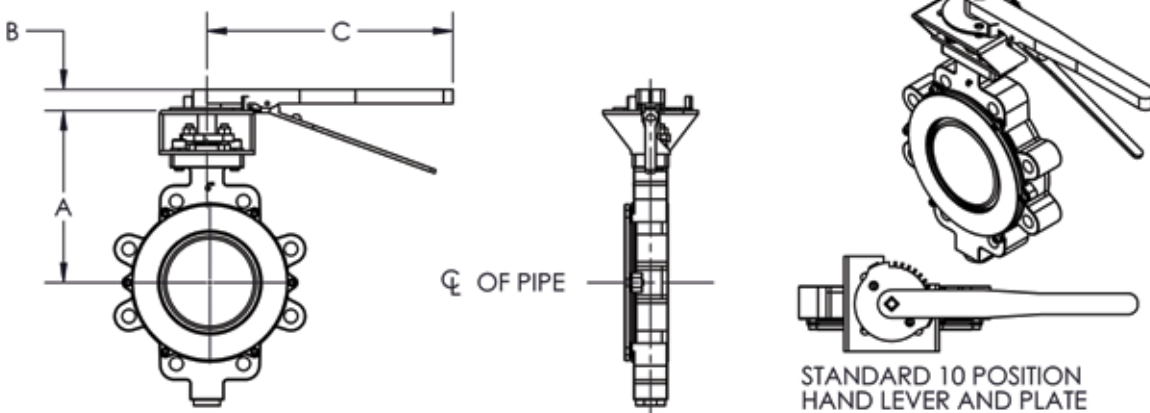


**CLASS 150**

SIZE	GEAR	A	B	C	D	E	HANDWHEEL DIAMETER (F)
2"	Q200-S	6.69	2.52	5.16	1.12	1.71	4
3"	Q200-S	7.99	2.52	5.16	1.12	1.71	4
4"	Q200-S	8.46	2.52	5.16	1.12	1.71	4
5"	Q400-S	9.25	2.94	7.12	1.34	2.07	4
6"	Q400-S	9.65	2.94	7.28	1.34	2.07	6
8"	Q800-S	10.63	3.56	10.24	1.67	2.71	12
10"	Q800-S	13.58	3.56	10.24	1.67	2.71	12
12"	Q800-S	14.57	3.56	11.71	1.67	2.71	16
14"	Q2000-S	15.75	3.94	12.64	1.97	3.8	16
16"	Q2000-S	18.5	3.94	13.39	1.97	3.8	20
18"	Q4000-S	19.29	5.04	16.07	2.15	5.41	20
20"	Q4000-S	19.88	5.04	17.61	2.15	5.41	27
24"	Q6500-S	23.23	5.04	16.58	2.15	5.41	16

**CLASS 300**

SIZE	GEAR	A	B	C	D	E	HANDWHEEL DIAMETER (F)
2"	Q200-S	6.69	2.52	5.16	1.12	1.71	4
3"	Q200-S	7.99	2.52	5.16	1.12	1.71	4
4"	Q200-S	8.46	2.52	5.16	1.12	1.71	4
5"	Q400-S	9.25	2.94	7.12	1.34	2.07	4
6"	Q400-S	9.65	2.94	7.28	1.34	2.07	6
8"	Q800-S	11.02	3.56	10.73	1.67	2.71	12
10"	Q800-S	13.58	3.56	11.71	1.67	2.71	16
12"	Q2000-S	15.35	3.94	12.64	1.97	3.8	16
14"	Q4000-S	16.93	5.04	16.07	2.15	5.41	20
16"	Q4000-S	18.5	5.04	17.61	2.15	5.41	27
18"	Q4000-S	19.88	5.04	17.61	2.15	5.41	27
20"	Q6500-S	21.46	5.04	16.58	2.15	5.41	16
24"	Q6500-S	24.76	5.04	17.33	2.15	5.41	20



STANDARD 10 POSITION HAND LEVER AND PLATE

**CLASS 150**

SIZE	A	B	C
2"	6.69	1.02	11
3"	7.99	1.02	17
4"	8.46	1.02	17
5"	9.25	1.02	17
6"	9.65	1.14	17
8"	10.63	1.14	22

**CLASS 300**

SIZE	A	B	C
2"	6.69	1.02	11
3"	7.99	1.02	17
4"	8.46	1.02	17
5"	9.25	1.02	17
6"	9.65	1.14	17
8"	11.02	1.14	22

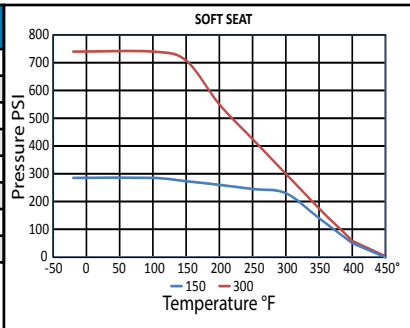
## Component Rating for **POWER-SEAL** High Performance Butterfly Valves

Description	Material	Temperature (°F)
Seat (Soft Seat)	PTFE	-50 to 360° F
	RTFE	-100 to 450° F
	50/50 STFE	-100 to 500° F
	PEEK	-20 to 500° F
	UHMWPE	-50 to 200° F
Seat (Firesafe)	RTFE/316L- HCr	-100 to 450° F
Seat (Metal)	Inconel 625	-100 to 1100° F
	316L SST	-100 to 660° F
Stem Packing	Graphite	-100 to 1100° F
	PTFE V-Ring	-100 to 450° F
Stem	316 SST	-100 to 1100° F
	K-Monel	-100 to 1100° F
	17-4 pH	-100 to 1100° F
	XM-19	-100 to 1100° F
Bearings	PTFE Composite	-50 to 400° F
	Bronze	-100 to 650° F
	Carbon Graphite	-100 to 1100° F
Disc Treatment	316L/HCr	-100 to 660° F
	Stellite 6	-100 to 1100° F

### Pressure Temperature Chart by Seats

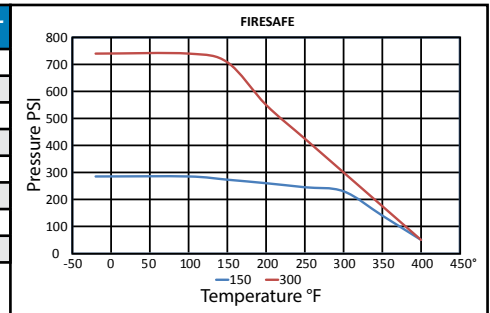
#### Soft Seat

TEMP °F	150 CL PSI	300 CL PSI
-20	285	740
100	285	740
150	273	708
200	260	550
250	245	425
300	230	300
350	140	175
400	50	50



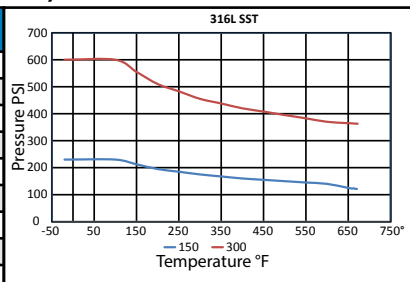
#### Firesafe

TEMP °F	150 CL PSI	300 CL PSI
-20	285	740
100	285	740
150	273	708
200	260	550
250	245	425
300	230	300
350	140	175
400	50	50



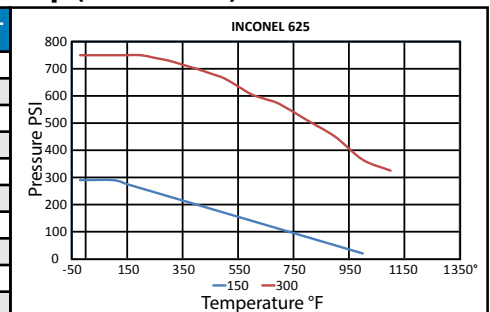
#### Metal Seat (316L SST)

TEMP °F	150 CL PSI	300 CL PSI
-20	230	600
100	230	600
150	212.5	555
200	195	510
250	185	483
300	175	455
350	167.5	438
400	160	420
450	155	408
500	150	395
550	145	383
600	140	370
660	125	365



#### Metal Seat High Temp (Inconel 625)

TEMP °F	150 CL PSI	300 CL PSI
-20	290	750
100	290	750
150	275	750
200	260	750
250	245	740
300	230	730
350	215	715
400	200	700
450	185	683
500	170	665
550	155	635
600	140	605
650	125	588
700	110	570
800	80	510
900	50	450
1000	20	365
1100		325



## Part Number Matrix for **POWER-SEAL** High Performance Butterfly Valves

1 Valve Series	
PS	Power-Seal Soft seat (450° F)
PF	Power-Seal Firesafe Seat (450° F)
PM	Power-Seal Metal seat (660° F)
PH	Power-Seal Metal Seat High Temp (1100° F)

2 Body Material			
blank	(No Designation)=	Stainless Steel (SST) Body	
C	Carbon Steel	5	LCB
A	Alloy 20	N	Inconel 625
M	Monel	B	Aluminum-Bronze
D	CD3MN Duplex SST	*	Other
W	Hastelloy C-276		

3 End Connection	
L1	Class 150 Lug
L3	Class 300 Lug
W1	Class 150 Wafer with Guide Holes
W3	Class 300 Wafer with Guide Holes

4 Valve Size			
0200	2"	1400	14"
0300	3"	1600	16"
0400	4"	1800	18"
0500	5"	2000	20"
0600	6"	2400	24"
0800	8"	3000	30"
1000	10"	3600	36"
1200	12"	4200	42"
		4800	48"

5 Seat Material			
P	PTFE	6	316L SST <i>(Standard on PM Series)</i>
R	RTFE <i>(Standard)</i>	7	Inconel 625 <i>(Standard on PH Series)</i>
S	50/50 STFE	F	RTFE/ 316L SST <i>(Standard on PF Series)</i>
Z	PEEK		
U	UHMWPE		

6 Disc Material/Style	
S	316 SST <i>(Standard on CS and SST body)</i>
X	Same as Body Material
7	316 SST/Stellite <i>(Standard on PH Series)</i>
6	316 SST/HCr <i>(Standard on PM &amp; PF Series)</i>

7 Stem Bearing	
R	PTFE Composite <i>(Standard on PS Series)</i>
C	Carbon Graphite <i>(Standard on PM/PH &amp; PF Series)</i>
B	Bronze
*	Other

8 Operator Designation	
X	Bare Stem
H	Standard 10 point Handle
G	Gear Operator

9 Stem	
A	17-4 pH Stem <i>(Standard)</i>
X	316 SST Stem
B	XM-19
*	Other

10 Packing (Live Loaded)	
G	Graphite <i>(Standard)</i>
P	PTFE V-Ring
V	PTFE Inverted V-Ring (Vacuum Service)
D	PTFE Pressure & Vacuum V-Ring

## How To Order **POWER-SEAL** High Performance Butterfly Valves

How To Order Manual Power-Seal High Performance Butterfly Valves	
1 2 - 3 - 4 - 5 6 7 - 8 9 10	
↓↓ ↓ ↓ ↓↓↓ ↓↓↓	
PSC - W1 - 0300 - R S R - X A G	

How To Order Automated Power-Seal High Performance Butterfly Valves	
1 2 - 3 - 4 - 5 6 7 - 8 9 10/ actuator size - options	
↓↓ ↓ ↓ ↓↓↓ ↓↓↓ ↓	
PSC - W1 - 0300 - R S R - X A G/ 2R5S - XX	
(see Actuator Size Legend & Automated Accessories)	

Pneumatic Accessories



Stainless Steel Actuators



Solenoids, Positioners, Limit Switches, Lock Up Valves, Declutchable Gear Operators, Speed Controls, Quick Exhaust Valves and more

See product brochures for Rack & Pinion, Heavy Duty (THD) and other pneumatic automation options

Electric Actuator Options & Features



Explosion Proof

Options Specification

- Voltage Options: 110VAC, 220 VAC, 24 VDC/VAC, 12 VDC, 440 VAC, 460 VAC, 480 VAC
- Potentiometer unit (1K)
- (TMC) Electronic Modulating Card
- 4-20mA, 1-5mA, 0-10 VDC, 1-5 VDC, 0-135 Ohm Command Signal
- Current position transmitter (Output 4~20mA DC)
- Multi (24 VAC/DC)
- DC motor (24 VDC)
- Local control unit: remote/local/stop and open/close



TMC3 Electronic Modulating Card

- Auto Calibration for easy setup
- 10 Bit Microprocessor controller for precise positioning and control
- 4-20mA, 1-5mA, 0-10 VDC, 1-5 VDC, 0-135 Ohm or Command Signal Potentiometer
- TMC3 Can be programmed to Fail in Place, Fail CW, or Fail CCW on loss of command signal
- Characterized Control-Linear, quick opening (Square root), or Equal Percentage (Square)
- OnBoard 4-20 mA transmitter (optional)
- AS-i Network Card
- Boiler Feedwater Application

See electric actuator product brochures for ratings and other options



# **POWER-SEAL**

Manual and Automated  
High Performance Butterfly Valves  
ANSI/ASME Class 150# and 300#



  
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