Fisher™ 8532 High-Performance Butterfly Valve

The Fisher 8532 high-performance butterfly valve provides outstanding performance under extreme pressure and temperature conditions. The 8532 valve maintains tight shutoff, is available in a fire-tested version, and can be specified for cryogenic applications and oxygen service.

The 8532 valve is available as either a flangeless, wafer-style design or as a single-flange (lugged) design. A splined drive shaft combines with a variety of spring-and-diaphragm or pneumatic piston actuators to make the 8532 a reliable, high-performance butterfly valve for a variety of throttling and on-off applications in the various process industries.

The 8532 valve can be supplied with one of several dynamic seals (figure 4) that can be used in a variety of demanding applications. With the appropriate seal selection and materials of construction, the pressure-assisted seal provides excellent shutoff against the full CL150 or CL300 pressure ratings.

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Features

- Economical Tight Shutoff-- The pressure-assisted seal design provides tight shutoff against the full pressure rating of the specified valve.
- Safety-- Shaft blowout protection is designed into the 8532 valve (figure 6). The anti-blowout gland fits securely over the valve shaft which has been turned down to form a circumferential shoulder that contacts the anti-blowout gland.
- Excellent Flow Control-- With a modified equal percentage flow characteristic, the 8532 can be used for throttling applications through 90 degrees of disk rotation. Rangeability is 100 to 1.
- Economically Designed for Minimal Deadband-- A splined end connection on the drive shaft allows lever clamping by most Fisher rotary actuators.
- Application Versatility-- Optional keyed shaft is ideal for on/off applications and allows actuator selection flexibility. Standard construction materials and seal assemblies provide long life and outstanding performance in a broad range of liquid and gas applications.
- Ease of Maintenance-- Interchangeability of all parts including shafts and disks simplifies service and reduces maintenance costs.
- Improved Environmental Capabilities-- The optional ENVIRO-SEAL™ packing system is designed with very smooth stem surfaces and live-loading provides improved sealing, guiding, and loading force transmission. The ENVIRO-SEAL packing system can control emissions below the EPA (Environmental Protection Agency) limit of 100 ppm (parts per million).
- Easy Installation-- The valve body self-centers on the line flange bolts as a fast, accurate means of centering the valve in the pipeline.
- Reliable Flange Gasketing Surface-- Seal retainer screws are located so there is no interference with the sealing function of either flat sheet or spiral wound line flange gaskets.

Specifications

Available Valve Configurations

■ Wafer (Flangeless), ■ Lugged (Single Flange), or ■ Double Flanged valve bodies

Valve Body Sizes

NPS ■ 14, ■ 16, ■ 18, ■ 20, ■ 24, ■ 30, ■ 36, ■ 42, and ■ 48

End Connection Style

Valve body is designed to fit between raised-face mating flanges per ASME B16.5 CL150 or CL300

Maximum Inlet Pressure/Temperature(1)

Consistent with ■ CL150 and ■ CL300 pressure/temperature ratings per ASME B16.34. Also, see figures 2 and 3 for additional information
NPS 30 through 48: ■ CL150/150 construction has CL150 rated pressure retaining parts and 150 psid rated trim

Available Seal Configurations

Standard Constructions
See figure 4 and table 2

Standard Construction Materials

Valve Body and Disk: ASTM grades of ■ carbon steel or ■ stainless steel

Disk Coating:

Hardfacing options are available. Chrome plate is standard with NOVEX, Phoenix III, or Cryogenic seals

Shaft: ASTM grade of ■ S17400 (17-4PH H1025 SST), or ■ S20910

Shaft Extension Lengths:
High Temperature ■ Extensions are available but not required for temperatures less than 343°C (650°F), ■ Optional 6 inches for temperatures from 343 to 538°C (650 to 1000°F), or ■ 12 inches for temperatures above 538°C (1000°F)
Cryogenic ■ 914mm (36 in) from valve center line

Seal Ring: ■ PTFE, ■ S31600 (316 SST), ■ S21800, ■ S31600/PTFE, ■ UHMWPE(4), or ■ CTFE(5).

Backup ring: ■ Nitrile, ■ Chloroprene, ■ PTFE, ■ Fluorocarbon--for a broad range of hydrocarbon and chemical process applications(1) or ■ EPR--for process applications including steam and water(1). A backup ring is not used with the NOVEX seal

Packing: ■ PTFE V-ring (standard packing), ■ Graphite (optional), or ■ ENVIRO-SEAL packing (optional)

Bearings: ■ PEEK(2) (standard material), and ■ S31600, ■ PTFE Composition, or ■ CoCr-A (Alloy 6) (optional)

Gaskets: ■ Flexible graphite ■ Aramid with Neoprene

Valve Body Classification

Wafer and Lugged face-to-face dimensions are in compliance with MSS SP68 and API 609 standards through NPS 24. Double Flange valve bodies comply with API 609 short face-to-face dimensions. Valve bodies are designed for installation between ASME B16.5 CL150 or CL300 raised-face flanges

Shutoff Classification. Per ANSI/FCI 70-2 and IEC 60534-4

Standard Soft Seal: Bidirectional shutoff Class VI (bubble-tight)
NOVEX Seal: Unidirectional shutoff Class IV (preferred flow direction only(3)), Class VI optional (excluding NPS 42 and 48)
Phoenix III Seal: Bidirectional shutoff Class VI (bubble-tight)
Phoenix III Seal for Fire-Tested Applications: Unidirectional shutoff Class VI (reverse flow direction only) (bubble-tight). Fire Tested per API 607 Rev. 4. Contact your Emerson sales office for more information

Flow Characteristic

Modified equal percentage

Flow Coefficients

See table 1 and Fisher Catalog 12

Noise Levels

See Catalog 12 for sound pressure level prediction

-continued-

Specifications (cont.)

Disk Rotation

Clockwise to close

Valve Dimensions and Approximate Weights

See figures 7, 8, 9, and 10

ENVIRO-SEAL Packing

This optional ■ PTFE or ■ graphite packing system provides improved sealing, guiding, and transmission of loading force to control liquid and gas emissions. See Bulletin 59.3:041 ENVIRO-SEAL Packing Systems for Rotary Valves (D101638X012) for more information.

1. The pressure/temperature limits in this bulletin (figures 2 and 3), and any application code or standard limitation, should not be exceeded.
2. PEEK stands for poly-ether-ether-ketone.
3. For optimum seal performance, the preferred valve orientation at shutoff is with the retaining ring downstream from the high pressure side of the valve.
4. UHMWPE stands for ultra high molecular weight polyethylene.
5. CTFE not recommended for fast cycling, less than 2 seconds. Contact your Emerson sales office for other seals available for fast cycling or tighter shutoff.

Figure 1. Flow Direction

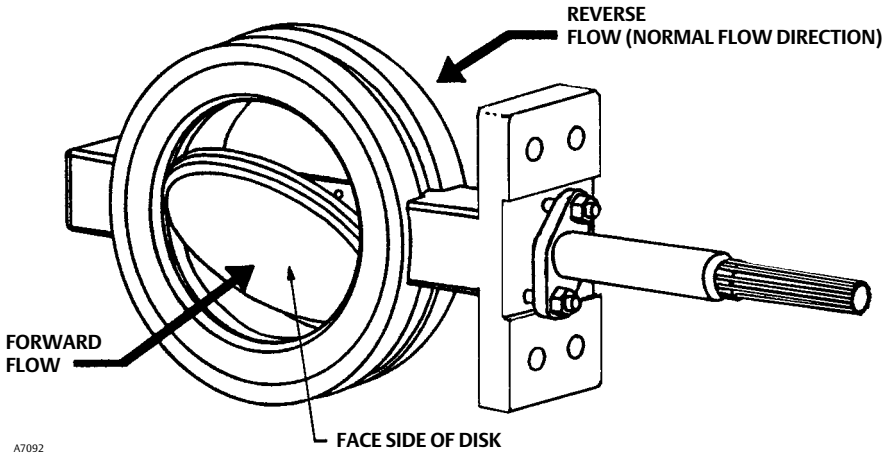


Table 1. Flow Coefficients[1][3]

VALVE SIZE, NPS	MAX C_v [2], VALVE 90° OPEN		
	CL150/150	CL150	CL300
14	---	6320	4550
16	---	8600	5630
18	---	11,050	8230
20	---	13,850	9530
24	---	21,500	12,510
30	40,500	33,900	23,800
36	60,600	50,500	36,800
42	79,800	72,700	57,100
48	106,000	92,600	62,200

1. To obtain the flow coefficient K_v in terms of cubic meters per hour at one kilogram force per square centimeter differential pressure across the valve, using the following multiplier: $K_v = 0.856\ C_v$.
2. Measured in gallons per minutes at 1 psi differential pressure across the valve.
3. See Catalog 12 for a complete listing of flow coefficients.

Installation

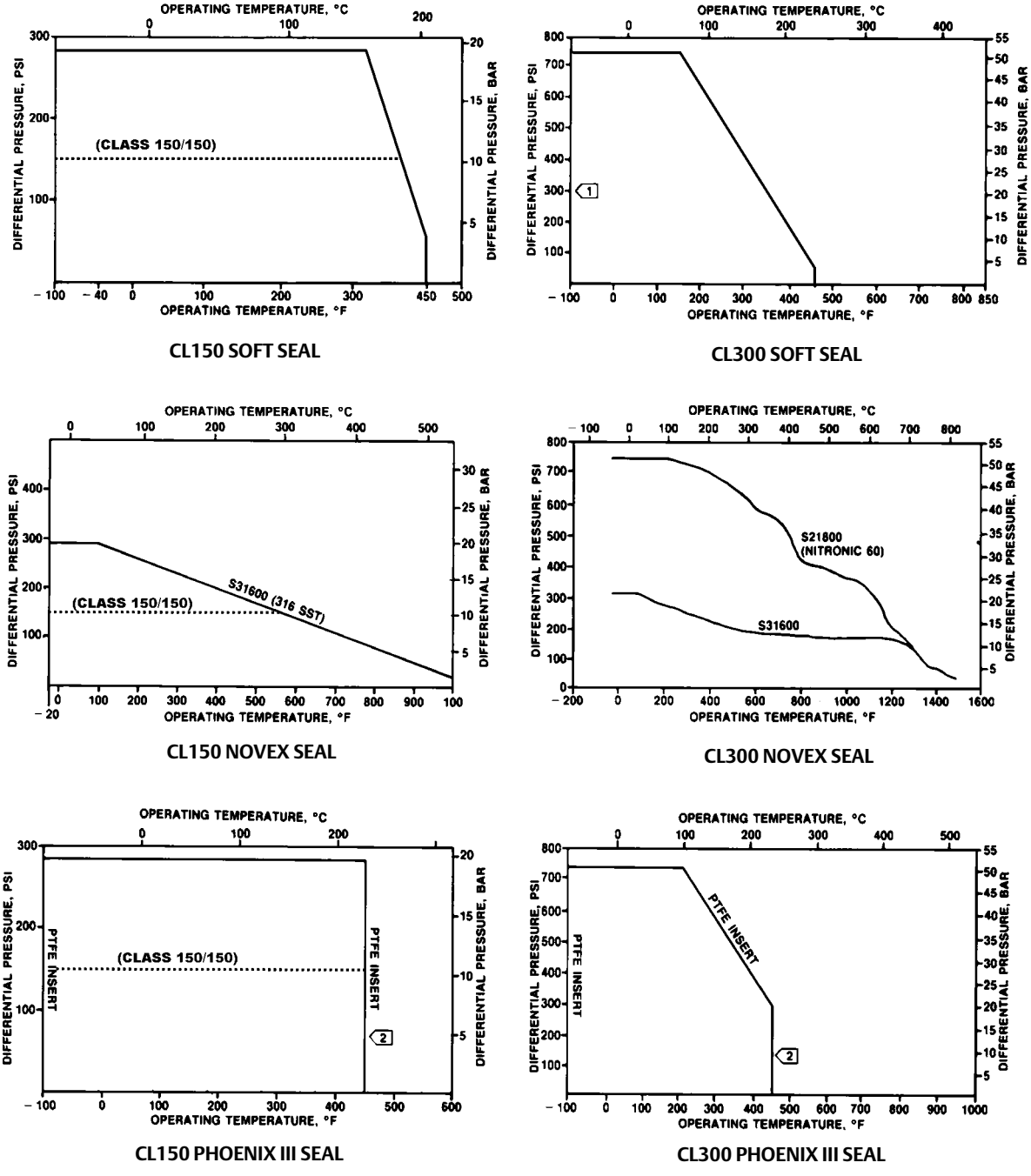
Recommended installation for the 8532 valve is with the shaft horizontal in a normal-flow direction. Horizontal installation will enhance valve performance because process fluid flow will sweep entrained solids from valve surfaces. This sweeping action prevents particle buildup on seal surfaces. However, the valve may be installed in either the forward or reverse flow direction.

The standard soft seal offers bubble-tight, bidirectional shutoff. To meet the performance requirements of many of today's fire-tested requirements, a Phoenix III valve must be installed in the preferred valve orientation. Both the NOVEX and cryogenic seals are uni-directional and should be installed with the shaft upstream of the seal.

Unique operating conditions may require a specific combination of actuator motion. To satisfy unique operating requirements, the valve and actuator can be assembled in eight ways, providing for actuator motion and open disk position. For assistance in selecting the appropriate combination of actuator action and open valve position, consult your Emerson sales office.

Dimensions and weights are shown in figures 7, 8, 9, and 10.

Figure 2. Maximum Pressure/Temperature Ratings for Soft Seal, NOVEX Seal and Phoenix III Seal, CL150 and CL300



Note

1 Because of potential erosive effects and premature seal failure that can occur, throttling PTFE seals at differential pressures greater than 300 psid at disk angles less than 20° open is not recommended.

2 Temperature limitations do not account for the additional limitations imposed by the backup O-ring used with this seal. To determine the effective temperature limitation of the appropriate seal, backup O-ring combination, refer to table 1.

Figure 3. Maximum Pressure/Temperature Ratings for Cryogenic Seal, CL150 and CL300

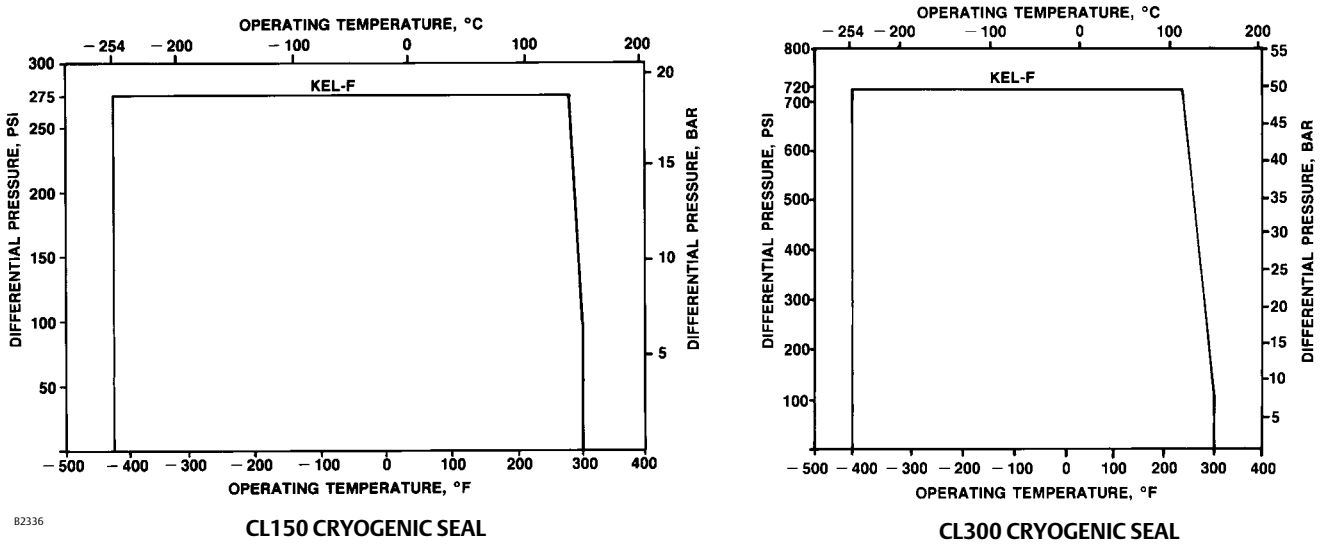


Figure 4. Available Seal Configurations

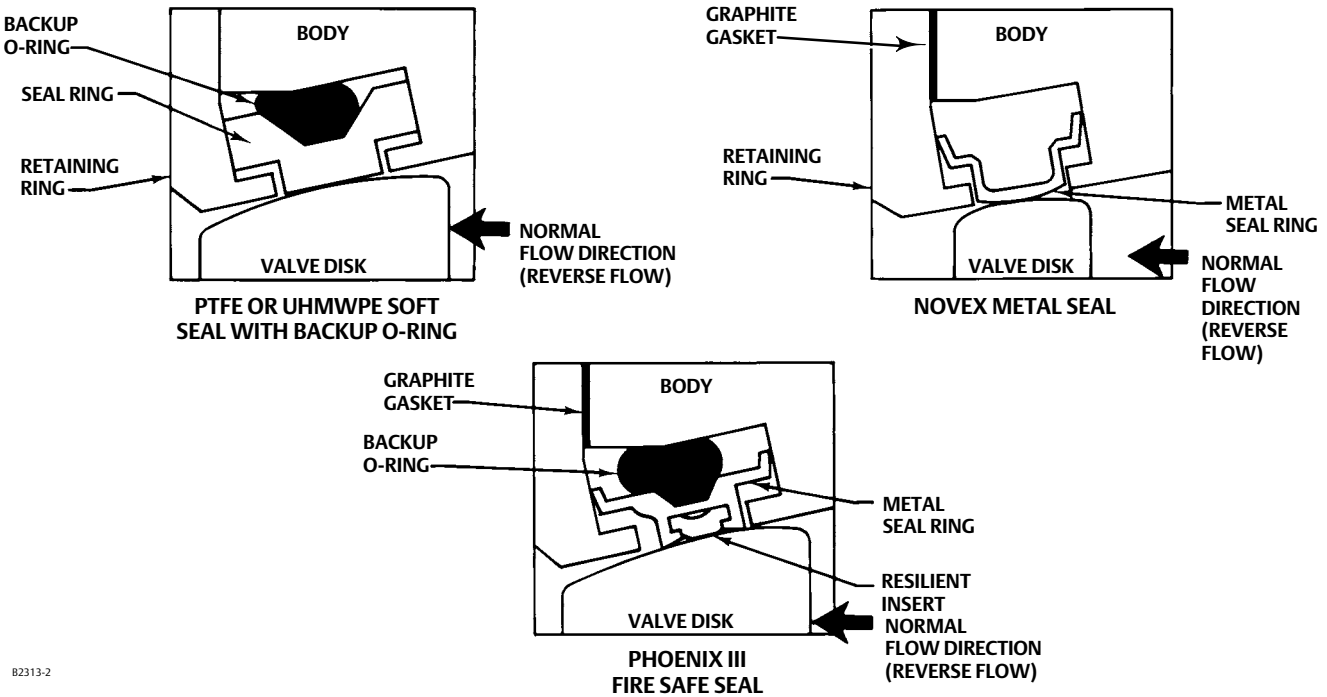


Figure 5. Typical Valve Assembly

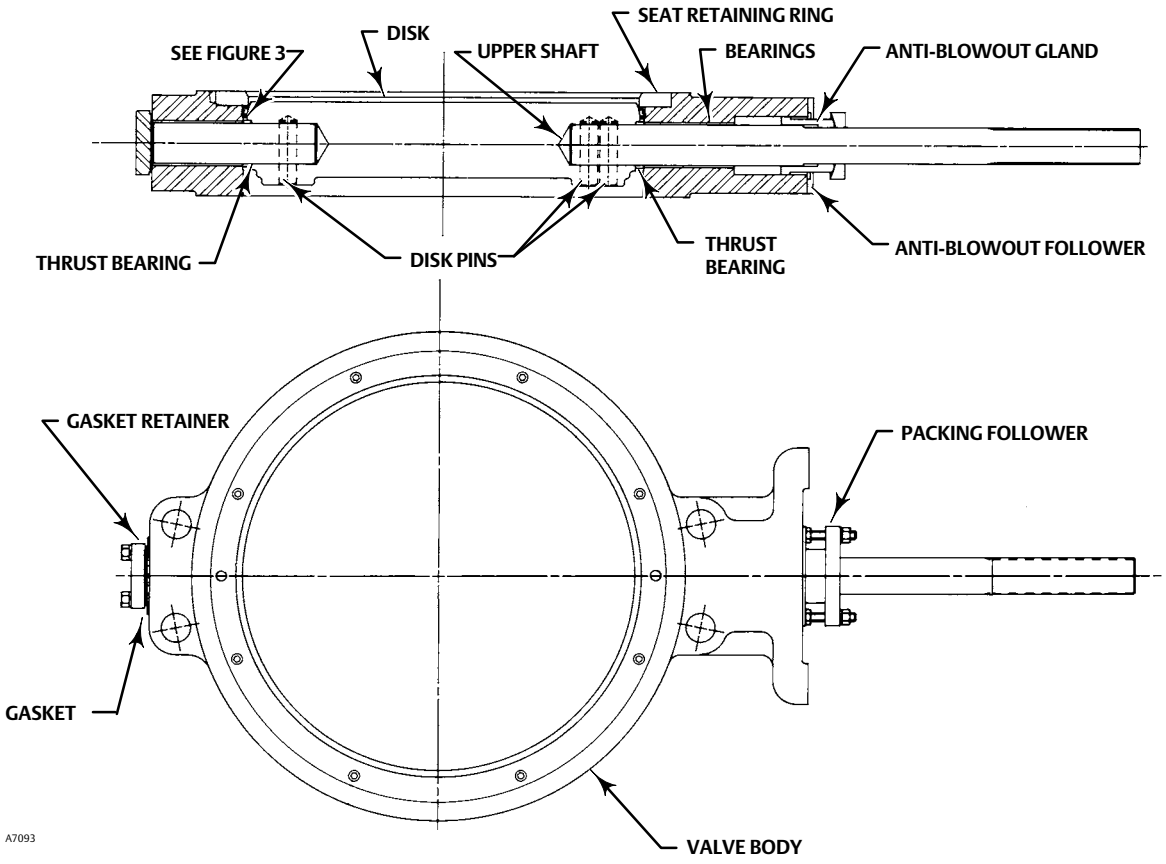
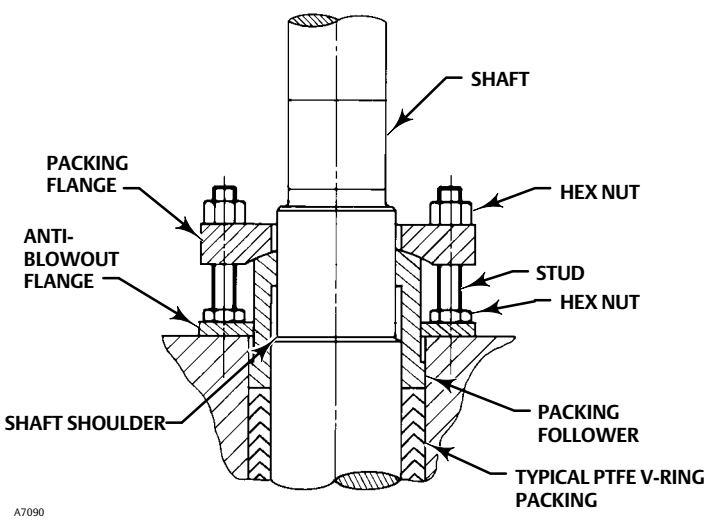
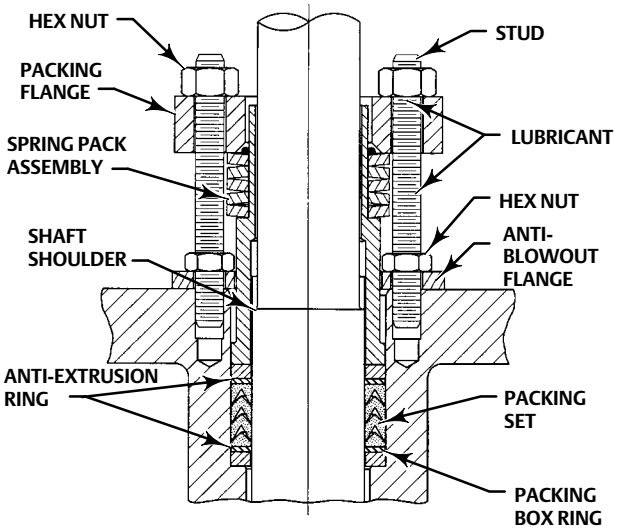


Figure 6. Blowout Protection



STANDARD PACKING ARRANGEMENT



ENVIRO-SEAL ARRANGEMENT (PTFE SHOWN)

Table 2. Material Temperature Ratings

COMPONENT AND MATERIAL OF CONSTRUCTION[1]		TEMPERATURE RANGE	
		°C	°F
Valve Body[2]			
Carbon Steel (WCC or SA 516-70)[7]		-29 to 427	-20 to 800
CF8M (316 SST)		-198 to 538	-325 to 1000
CF8M/CF10M (316/316H)[3] Dual-Certified		over 538 to 816	over 1000 to 1500
Disk			
CF8M (316 SST)		-198 to 538	-325 to 1000
CF8M/CF10M (316/316H)[3] Dual-Certified		over 538 to 816	over 1000 to 1500
Disk Coating			
Chromium Carbide		-198 to 816	-325 to 1500
Chrome Plating		-254 to 427	-425 to 800
Chromium Coating		-254 to 593	-425 to 1100
Shaft			
S20910		-198 to 538	-325 to 1000
S17400 (17-4 pH 1025)		-73 to 427	-100 to 800
N07718		-254 to 704	-425 to 1300
N07750		over 593 to 816	over 1100 to 1500
N05500		-198 to 482	-325 to 900
Bearings[6]			
PEEK (standard)		-73 to 260	-100 to 500
S31600[4]		-198 to 816	-325 to 1500
R30006 (Alloy 6)		-198 to 816	-325 to 1500
Bronze		-254 to 302	-425 to 575
Packing			
PTFE Packing and PTFE ENVIRO-SEAL Packing		-148 to 232	-325 to 450
Graphite packing		-198 to 816	-325 to 1500
Graphite packing with oxidizing media		-198 to 538	-325 to 1000
Graphite ENVIRO-SEAL Packing		-148 to 315	-325 to 600
Seal Ring and Backup Ring	**PTFE Seal Ring**		
	Nitrile Backup O-Ring	-29 to 93	-20 to 200
	Chloroprene Backup O-Ring	-43 to 149	-45 to 300
	EPR Backup O-Ring	-54 to 149	-65 to 300
	Fluorocarbon Backup O-Ring	-29 to 204	-20 to 400
	PTFE Backup O-Ring	-73 to 204	-100 to 400
	UHMWPE[5] Seal Ring (CL150 Only)		
	EPR Backup O-Ring	-54 to 93	-65 to 200
	Fluorocarbon Backup O-Ring	-29 to 93	-20 to 200
	Phoenix III and/or Fire Tested Construction		
	S31600 and PTFE Seal Ring with Nitrile Backup O-Ring	-40 to 149	-40 to 300
	Chloroprene Backup O-Ring	-54 to 149	-65 to 300
	EPR Backup O-Ring	-62 to 204	-80 to 400
	Fluorocarbon Backup O-Ring	-40 to 232	-100 to 200
Seal Ring	NOVEX S31600 Seal[4] Ring (CL150)	-29 to 538	-20 to 1000
	NOVEX S31600 Seal[4] Ring (CL300)	-29 to 816	-20 to 1500
	NOVEX S21800 Seal[4] Ring (CL300)	-29 to 816	-40 to 1500
	Cryogenic Seal Ring	Contact your Emerson sales office	
Gaskets	Flexible Graphite	-254 to 816	-425 to 1500
	Aramid with Neoprene	-254 to 538	-425 to 1000

1. NACE trim constructions are available; consult your Emerson sales office.
2. Special gasket retainer bolts are required for over 427°C (800°F)
3. Special retaining ring screws for single flange valves over 538°C (1000°F)
4. For a complete material description, contact your Emerson sales office.
5. UHMWPE stands for ultra high molecular weight polyethylene.
6. Special thrust bearings are required for high temp. applications over 343°C (650°F) (with 6- and 12-inch shaft extensions). Constructions with carbon steel valves and SST disks may require special thrust bearings at temperatures less than 343°C (650°F).
7. Cast or wrought /plate grades used interchangeably, depending upon availability - unless requested by customer.

Table 3. Dimensions and Weights, Wafer Style Valves

Valve Size, NPS[5]	Rating	A[1]	D	G	K	M[2]	R	S[3]	T	U	W	Y	Approx. Weight
		mm											kg
14	CL150	91.9	208	295	327	331	422	31.8	235	46.0	17.5	---[4]	72
	CL300	117	356	319	364	304	437	44.5	273	50.8	20.6	1-1/8 - 8 UNC	121
16	CL150	102	208	318	371	375	465	31.8	235	46.0	17.5	1 - 8 UNC	94
	CL300	133	356	353	397	346	498	44.5	273	50.8	20.6	1-1/4 - 8 UNC	183
18	CL150	114	356	349	400	419	529	39.6	273	50.8	20.1	1-1/8 - 8 UNC	139
	CL300	149	356	384	419	389	556	57.2	337	76.2	23.9	1-1/4 - 8 UNC	227
20	CL150	127	356	381	432	464	584	44.5	273	50.8	20.1	1-1/8 - 8 UNC	167
	CL300	159	265	416	483	442	605	76.0	337	76.2	23.9	1-1/4 - 8 UNC	364
24	CL150	154	356	438	292	581	692	57.2	337	76.2	23.9	1-1/4 - 8 UNC	255
	CL300	181	546	483	546	523	716	76.0	337	76.2	23.9	1-1/2 - 8 UNC	469
30	CL150/150	121	---	516	559	744	864	---	337	76	7/8-9	1 1/4-8	365
	CL150	159	---	521	591	736	867	---	337	76	7/8-9	1 1/4-8	528
	CL300	241	---	576	648	681	865	---	508	203	1 1/4-7	1 3/4-8	953
36	CL150/150	149	---	613	683	888	1029	---	337	76	7/8-9	1 1/2-8	626
	CL150	178	---	619	657	888	1032	---	305	152	1 1/4-7	1 1/2-8	806
	CL300	273	---	675	740	838	1035	---	432	203	1 1/4-7	2 -8	1315
42	CL150/150	210	---	695	762	1032	1207	---	337	76	7/8-9	1 1/2-8	1100
	CL150	229	---	730	838	1028	1207	---	305	152	1 1/4-7	1 1/2-8	1302
	CL300	298	---	768	867	943	1162	---	432	203	1 1/4-7	1 5/8-8	2263
48	CL150/150	229	---	826	889	1180	1364	---	305	152	1 1/4-7	1 1/2-8	1604
	CL150	260	---	797	902	1171	1372	---	508	203	1 1/4-7	1 1/2-8	1904
Size	**Rating**	**Inch**											**lb**
14	CL150	3.62	8.19	11.62	12.88	13.04	16.62	1-1/4	9.25	1.81	0.69	---[4]	158
	CL300	4.62	14.00	12.56	14.31	12.00	17.19	1-3/4	10.75	2.00	0.81	1-1/8 - 8 UNC	266
16	CL150	4.00	8.19	12.50	14.62	14.77	18.31	1-1/4	9.25	1.81	0.69	1 - 8 UNC	207
	CL300	5.25	14.00	13.88	15.62	13.60	19.62	1-3/4	10.75	2.00	0.81	1-1/4 - 8 UNC	403
18	CL150	4.50	14.00	13.75	15.75	16.49	20.81	1-9/16	10.75	2.00	0.81	1-1/8 - 8 UNC	307
	CL300	5.88	14.00	15.12	16.50	15.30	21.88	2-1/4	13.25	3.00	0.94	1-1/4 - 8 UNC	500
20	CL150	5.00	14.00	15.00	17.00	18.27	23.00	1-3/4	10.75	2.00	0.81	1-1/8 - 8 UNC	368
	CL300	6.25	10.44	16.38	19.00	17.40	23.81	3	13.25	3.00	0.94	1-1/4 - 8 UNC	802
24	CL150	6.06	14.00	17.25	19.38	22.87	27.25	2-1/4	13.25	3.00	0.94	1-1/4 - 8 UNC	563
	CL300	7.12	21.50	19.00	21.50	20.60	28.19	3	13.25	3.00	0.94	1-1/2 - 8 UNC	1035
30	CL150/150	4.75	---	20.31	22.00	29.30	34.00	---	13.25	3.00	7/8-9	1 1/4-8	805
	CL150	6.25	---	20.50	23.25	28.97	34.12	---	13.25	3.00	7/8-9	1 1/4-8	1164
	CL300	9.50	---	22.69	25.50	26.80	34.06	---	20.00	8.00	1 1/4-7	1 3/4-8	2100
36	CL150/150	5.88	---	24.12	26.88	34.96	40.50	---	13.25	3.00	7/8-9	1 1/2-8	1380
	CL150	7.00	---	24.38	25.88	34.95	40.62	---	12.00	6.00	1 1/4-7	1 1/2-8	1778
	CL300	10.75	---	26.56	29.12	33.00	40.75	---	17.00	8.00	1 1/4-7	2 -8	2900
42	CL150/150	8.25	---	27.38	30.00	40.64	47.50	---	13.25	3.00	7/8-9	1 1/2-8	2425
	CL150	9.00	---	28.75	33.00	40.48	47.50	---	12.00	6.00	1 1/4-7	1 1/2-8	2871
	CL300	11.75	---	30.25	34.12	37.13	45.75	---	17.00	8.00	1 1/4-7	1 5/8-8	4989
48	CL150/150	9.00	---	32.50	35.00	46.47	53.69	---	12.00	6.00	1 1/4-7	1 1/2-8	3537
	CL150	10.25	---	31.38	35.50	46.09	54.00	---	20.00	8.00	1 1/4-7	1 1/2-8	4198

1. For NPS 14 through 24, face-to-face dimensions are in compliance with MSS SP68 and API 609.
2. Minimum internal diameter of the mating pipe or flange required for full disk clearance.
3. For valves with spline shafts. Use this nominal shaft diameter for selecting Fisher actuators.
4. This size and class wafer body has no tapped holes for mating pipe flange.
5. NPS 30 through 48 use keyed shaft as standard.

Figure 7. Dimensions and Weights, Wafer Style Valves (also see table 3)

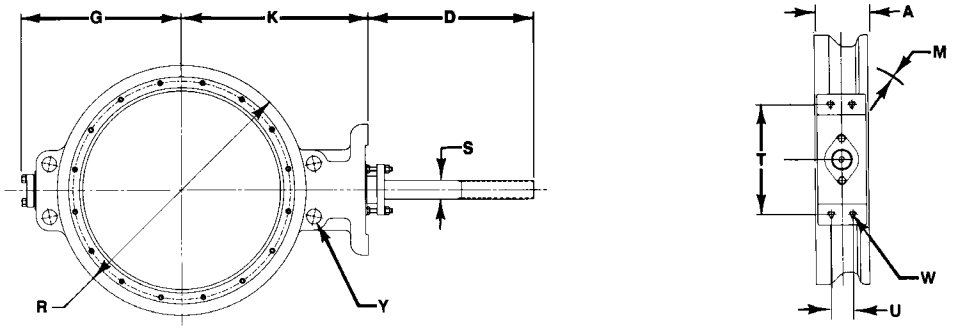


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Table 4. Dimensions and Weights, Lugged Valves

Valve Size, NPS[5]	Rating	A[1]	D	G	K	M[2]	R	S[3]	T	U	W	Y[4]	Approx-Weight
		mm											kg
14	CL150	91.9	208	295	327	331	531	31.8	235	46.0	17.5	1 - 8 UNC	95
	CL300	117	356	319	364	304	594	44.5	273	50.8	20.6	1-1/8 - 8 UNC	227
16	CL150	102	208	318	371	375	607	31.8	235	46.0	17.5	1 - 8 UNC	138
	CL300	133	356	353	397	346	657	44.5	273	50.8	20.6	1-1/4 - 8 UNC	294
18	CL150	114	356	349	400	419	645	39.6	273	50.8	20.1	1-1/8 - 8 UNC	178
	CL300	149	356	384	419	389	721	57.2	337	76.2	23.9	1-1/4 - 8 UNC	402
20	CL150	127	356	381	432	464	696	44.5	273	50.8	20.1	1-1/8 - 8 UNC	224
	CL300	159	265	416	483	442	784	76.0	337	76.2	23.9	1-1/4 - 8 UNC	544
24	CL150	154	356	438	292	581	822	57.2	337	76.2	23.9	1-1/4 - 8 UNC	315
	CL300	181	546	483	546	523	924	76.0	337	76.2	23.9	1-1/2 - 8 UNC	821
30	CL150/150	121	---	516	559	744	864	---	337	76	7/8-9	1 1/4-8	525
	CL150	159	---	521	591	736	867	---	337	76	7/8-9	1 1/4-8	736
	CL300	241	---	576	648	681	865	---	508	203	1 1/4-7	1 3/4-8	1406
36	CL150/150	149	---	613	683	888	1029	---	337	76	7/8-9	1 1/2-8	897
	CL150	178	---	619	657	888	1032	---	305	152	1 1/4-7	1 1/2-8	1120
	CL300	273	---	675	740	838	1035	---	432	203	1 1/4-7	2 -8	1989
42	CL150/150	210	---	695	762	1032	1207	---	337	76	7/8-9	1 1/2-8	1328
	CL150	229	---	730	838	1028	1207	---	305	152	1 1/4-7	1 1/2-8	1550
	CL300	298	---	768	867	943	1162	---	432	203	1 1/4-7	1 5/8-8	2726
48	CL150/150	229	---	826	889	1180	1364	---	305	152	1 1/4-7	1 1/2-8	1907
	CL150	260	---	797	902	1171	1372	---	508	203	1 1/4-7	1 1/2-8	2248
Size	**Rating**	**Inch**											**lb**
14	CL150	3.62	8.19	11.62	12.88	13.04	20.88	1-1/4	9.25	1.81	0.69	1 - 8 UNC	209
	CL300	4.62	14.00	12.56	14.31	12.00	23.38	1-3/4	10.75	2.00	0.81	1-1/8 - 8 UNC	500
16	CL150	4.00	8.19	12.50	14.62	14.77	23.88	1-1/4	9.25	1.81	0.69	1 - 8 UNC	304
	CL300	5.25	14.00	13.88	15.62	13.60	25.88	1-3/4	10.75	2.00	0.81	1-1/4 - 8 UNC	649
18	CL150	4.50	14.00	13.75	15.75	16.49	25.38	1-9/16	10.75	2.00	0.81	1-1/8 - 8 UNC	393
	CL300	5.88	14.00	15.12	16.50	15.30	28.38	2-1/4	13.25	3.00	0.94	1-1/4 - 8 UNC	886
20	CL150	5.00	14.00	15.00	17.00	18.27	27.38	1-3/4	10.75	2.00	0.81	1-1/8 - 8 UNC	493
	CL300	6.25	10.44	16.38	19.00	17.40	30.88	3	13.25	3.00	0.94	1-1/4 - 8 UNC	1200
24	CL150	6.06	14.00	17.25	19.38	22.87	32.38	2-1/4	13.25	3.00	0.94	1-1/4 - 8 UNC	773
	CL300	7.12	21.50	19.00	21.50	20.60	36.38	3	13.25	3.00	0.94	1-1/2 - 8 UNC	1810
30	CL150/150	4.75	---	20.31	22.00	29.30	34.00	---	13.25	3.00	7/8-9	1 1/4-8	1157
	CL150	6.25	---	20.50	23.25	28.97	34.12	---	13.25	3.00	7/8-9	1 1/4-8	1623
	CL300	9.50	---	22.69	25.50	26.80	34.06	---	20.00	8.00	1 1/4-7	1 3/4-8	3100
36	CL150/150	5.88	---	24.12	26.88	34.96	40.50	---	13.25	3.00	7/8-9	1 1/2-8	1978
	CL150	7.00	---	24.38	25.88	34.95	40.62	---	12.00	6.00	1 1/4-7	1 1/2-8	2470
	CL300	10.75	---	26.56	29.12	33.00	40.75	---	17.00	8.00	1 1/4-7	2 -8	4385
42	CL150/150	8.25	---	27.38	30.00	40.64	47.50	---	13.25	3.00	7/8-9	1 1/2-8	2928
	CL150	9.00	---	28.75	33.00	40.48	47.50	---	12.00	6.00	1 1/4-7	1 1/2-8	3418
	CL300	11.75	---	30.25	34.12	37.13	45.75	---	17.00	8.00	1 1/4-7	1 5/8-8	6009
48	CL150/150	9.00	---	32.50	35.00	46.47	53.69	---	12.00	6.00	1 1/4-7	1 1/2-8	4204
	CL150	10.25	---	31.38	35.50	46.09	54.00	---	20.00	8.00	1 1/4-7	1 1/2-8	4955

1. For NPS 14 through 24, face-to-face dimensions are in compliance with MSS SP68 and API 609.
2. Minimum internal diameter of the mating pipe or flange required for full disk clearance.
3. For valves with spline shafts. Use this nominal shaft diameter for selecting Fisher actuators.
4. Bolt hole quantity and bolt circle diameter to mate with B16.5 flanges for CL150 and CL300. Valve bodies also available with drilled-thru, clearance holes.
5. NPS 30 through 48 use keyed shaft as standard.

Figure 8. Dimensions and Weights, Lugged Valves (also see table 4)

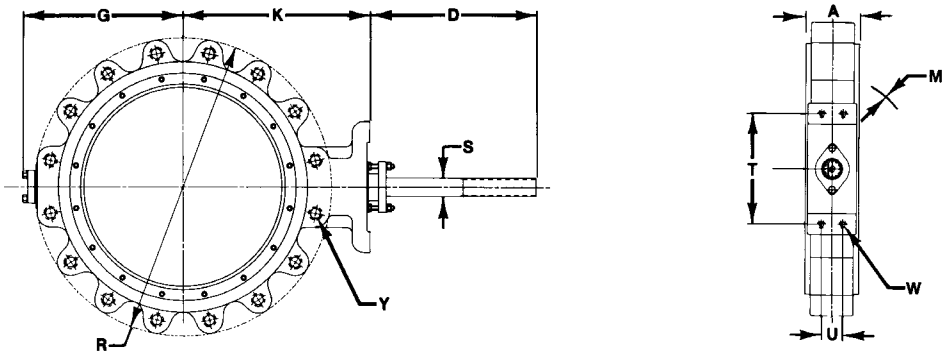


Table 5. Dimensions and Weights, Double Flange Valves

Valve Size, NPS	Rating	A(1)	B	D	G	K	R	S(2)	T	U	W	X	Y	Approx-Weight
		mm												kg
14	CL150	191	95.3	208	295	327	533	31.8	235	46.0	17.5	28.4	---(3)	152
	CL300	290	145	356	319	364	584	44.5	273	50.8	20.6	31.8	1-1/8 - 8 UNC	345
16	CL150	216	108	208	318	371	597	31.8	235	46.0	17.5	28.4	1 - 8 UNC	201
	CL300	310	155	356	353	397	648	44.5	273	50.8	20.6	34.8	1-1/4 - 8 UNC	563
18	CL150	222	111	356	349	400	635	39.6	273	50.8	20.1	31.8	1-1/8 - 8 UNC	243
	CL300	330	165	356	384	419	711	57.2	337	76.2	23.9	34.8	1-1/4 - 8 UNC	591
20	CL150	229	114	356	381	432	699	44.5	273	50.8	20.1	31.8	1-1/8 - 8 UNC	277
	CL300	350	175	265	416	483	767	76.0	337	76.2	23.9	34.8	1-1/4 - 8 UNC	706
24	CL150	267	133	356	438	292	813	57.2	337	76.2	23.9	35.0	1-1/4 - 8 UNC	434
	CL300	390	195	546	483	546	914	76.0	337	76.2	23.9	41.1	1-1/2 - 8 UNC	1307
Size	**Rating**	**Inch**												
14	CL150	7.50	3.75	8.19	11.62	12.88	21.00	1-1/4	9.25	1.81	0.69	1.13	---(3)	335
	CL300	11.41	5.70	14.00	12.56	14.31	23.00	1-3/4	10.75	2.00	0.81	1.25	1-1/8 - 8 UNC	760
16	CL150	8.50	4.25	8.19	12.50	14.62	23.50	1-1/4	9.25	1.81	0.69	1.13	1 - 8 UNC	443
	CL300	12.20	6.10	14.00	13.88	15.62	25.50	1-3/4	10.75	2.00	0.81	1.38	1-1/4 - 8 UNC	1240
18	CL150	8.75	4.38	14.00	13.75	15.75	25.00	1-9/16	10.75	2.00	0.81	1.25	1-1/8 - 8 UNC	535
	CL300	13.00	6.50	14.00	15.12	16.50	28.00	2-1/4	13.25	3.00	0.94	1.38	1-1/4 - 8 UNC	1303
20	CL150	9.00	4.50	14.00	15.00	17.00	27.50	1-3/4	10.75	2.00	0.81	1.25	1-1/8 - 8 UNC	611
	CL300	13.78	6.89	10.44	16.38	19.00	30.20	3	13.25	3.00	0.94	1.38	1-1/4 - 8 UNC	1556
24	CL150	10.50	5.25	14.00	17.25	19.38	32.00	2-1/4	13.25	3.00	0.94	1.38	1-1/4 - 8 UNC	956
	CL300	15.35	7.67	21.50	19.00	21.50	36.00	3	13.25	3.00	0.94	1.62	1-1/2 - 8 UNC	2881

1. Face-to-face dimensions are in compliance with API 609 short series and ISO 5752. Contact your Emerson sales office for other face-to-face lengths.
2. For valves with spline shafts. Use this nominal shaft diameter for selecting Fisher actuators.
3. This size and class double-flange valve body has no tapped holes for mating pipe flange.

Figure 9. Dimensions and Weights, Double Flange Valves (also see table 5)

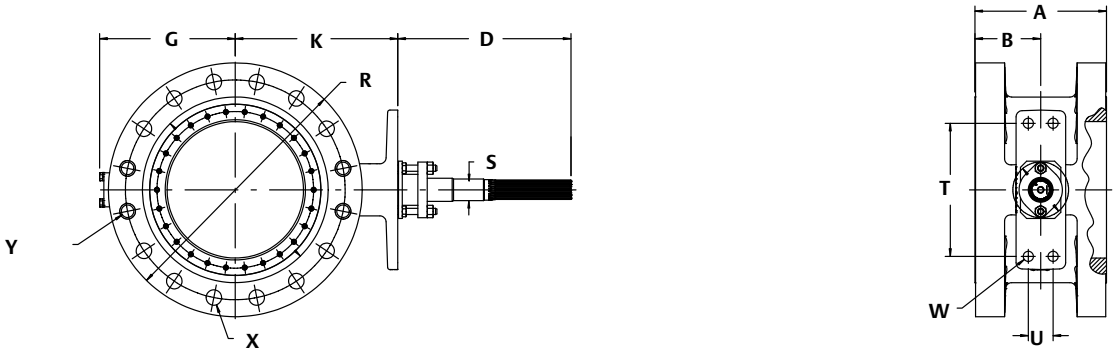
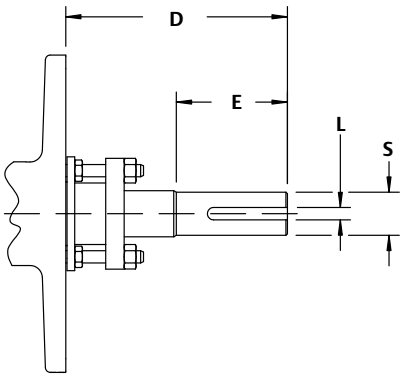


Table 6. Dimensions, Optional Keyed Shaft Valves

Valve Size, NPS[3]	Rating	D	E	L[1]	S[2]
		mm			
14	CL150	146	63.5	6.4	30.2
	CL300	229	79.5	9.5	44.5
16	CL150	146	63.5	6.4	31.8
	CL300	229	79.5	9.5	44.5
18	CL150	229	79.5	9.5	38.1
	CL300	254	105	12.7	57.2
20	CL150	229	79.5	9.5	44.5
	CL300	273	124	15.9	69.9
24	CL150	254	105	12.7	57.2
	CL300	273	124	15.9	69.9
30	CL150/150	295	95	12.7	57
	CL150	314	114	15.9	70
	CL300	314	114	15.9	70
36	CL150/150	295	95	12.7	57
	CL150	314	114	15.9	70
	CL300	353	152	22.2	95
42	CL150/150	314	114	15.9	70
	CL150	314	114	15.9	70
	CL300	363	164	25.4	102
48	CL150/150	314	114	15.9	70
	CL150	314	114	15.9	70
Size	**Rating**	**Inch**			
14	CL150	5.75	2.50	0.25	1.19
	CL300	9.00	3.13	0.38	1.75
16	CL150	5.75	2.50	0.25	1.25
	CL300	9.00	3.13	0.38	1.75
18	CL150	9.00	3.13	0.38	1.50
	CL300	10.00	4.13	0.50	2.25
20	CL150	9.00	3.13	0.38	1.75
	CL300	10.75	4.88	0.63	2.75
24	CL150	10.00	4.13	0.50	2.25
	CL300	10.75	4.88	0.63	2.75
30	CL150/150	11.62	3.75	0.500	2.25
	CL150	12.38	4.50	0.625	2.75
	CL300	12.38	4.50	0.625	2.75
36	CL150/150	11.62	3.75	0.500	2.25
	CL150	12.38	4.50	0.625	2.75
	CL300	13.88	6.00	0.875	3.75
42	CL150/150	12.38	4.50	0.625	2.75
	CL150	12.38	4.50	0.625	2.75
	CL300	14.31	6.44	1.000	4.00
48	CL150/150	12.38	4.50	0.625	2.75
	CL150	12.38	4.50	0.625	2.75

1. Nominal square key size.
2. Nominal shaft diameter at the keyway.
3. NPS 30 through 48 use keyed shaft as standard.

Figure 10. Dimensions, Optional Keyed Shaft Valves (also see table 6)



OPTIONAL KEYED DRIVE SHAFT

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