



- 50 psi bubble tight shut-off
- Long stem design allows for 2" insulation
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation
- Tees comply with ASME/ANSI B16.1 Class 125 flanges

Application

These valves are designed to meet the needs of HVAC and commercial applications requiring bubble tight shut off for liquids. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications. Designed for use in Victaulic piping systems when mated to Victaulic 41 series flange nipples.

Jobsite Note

Valves should be stored in a weather protected area prior to construction. Complete installation recommendations can be found in Belimo's Installation and Maintenance Instructions for F6/F7...HD/HDU Butterfly Valves.

Technical Data	
Service	chilled, hot water, 60% glycol
Flow characteristic	modified linear
Action	90° rotation
Sizes	2" to 12"
Type of end fitting	for use with ANSI 125/150 flanges
Materials	
Body	ductile iron ASTM A536
Body finish	epoxy powder finish
Disc	304 stainless steel
Seat	EPDM standard
Shaft	416 stainless steel
O-ring	EPDM
Upper bushing	RPTFE
Middle bushings	RPTFE
Lower bushing	RPTFE
Media temperature range	-22°F to 250°F [-30°C to 120°C]
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 125/150 (232 psi at -30°F to 275°F)
Close-off pressure	50 psi
Rangeability	10:1 (for 30° to 70° range)
Maximum velocity	12 FPS

Valve		Nominal Size		Type	Suitable Actuators			
C _v 90°	C _v 60°	IN	DN [mm]	3-way	Spring	Non-Spring		
115	44	2"	50	F750HDU	AF Series	AM	GM Series	SY Series
196	75	2½"	65	F765HDU				
302	116	3"	80	F780HDU				
600	230	4"	100	F7100HDU				
1022	392	5"	125	F7125HDU				
1579	605	6"	150	F7150HDU				
3136	1202	8"	200	F7200HDU				
5340	2047	10"	250	F7250HDU				
8250	3062	12"	300	F7300HDU				

Valve	Size	C_v	MOD							ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°
F750HDU	2"	115	.06	3	7	15	27	44	70	105	115
F765HDU	2½"	196	.10	6	12	25	45	75	119	178	196
F780HDU	3"	302	.20	9	18	39	70	116	183	275	302
F7100HDU	4"	600	.30	17	36	78	139	230	364	546	600
F7125HDU	5"	1022	.50	29	61	133	237	392	620	930	1022
F7150HDU	6"	1579	.80	45	95	205	366	605	958	1437	1579
F7200HDU	8"	3136	2	89	188	408	727	1202	1903	2854	3136
F7250HDU	10"	5340	3	151	320	694	1237	2047	3240	4859	5340
F7300HDU	12"	8250	4	234	495	1072	1911	3062	5005	7507	8250

F7...HDU Butterfly Valves 2"–12" Ductile Iron Lug Body Resilient Seat, 304 Stainless Disc



Maximum Dimensions (Inches)

Valve	Size	C _v 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)	
F750HDU	2"	115	4.50	6.15	6.15	15.50	4.75	4	5/8-11UNC	AF	50	Fail Safe
F765HDU	2½"	196	5.00	6.76	6.76	16.00	5.50	4	5/8-11UNC	2*AF	50	
F780HDU	3"	302	5.50	7.28	7.28	16.25	6.00	4	5/8-11UNC		50	
F750HDU	2"	115	4.50	6.15	6.15	15.50	4.75	4	5/8-11UNC	SY1...	50	Non-Fail Safe
F765HDU	2½"	196	5.00	6.76	6.76	16.00	5.50	4	5/8-11UNC		50	
F780HDU	3"	302	5.50	7.28	7.28	21.00	6.00	4	5/8-11UNC		50	
F7100HDU	4"	600	6.50	8.55	8.55	21.75	7.50	8	5/8-11UNC	SY2...	50	
F7125HDU	5"	1022	7.50	9.64	9.64	22.25	8.50	8	3/4-10UNC		50	
F7150HDU	6"	1579	8.00	10.19	10.19	22.75	9.50	8	3/4-10UNC		50	
F7200HDU	8"	3136	9.00	11.37	11.37	24.25	11.75	8	3/4-10UNC	SY3...	50	
F7250HDU	10"	5340	11.00	13.58	13.58	30.00	14.25	12	7/8-9UNC	SY4...	50	
F7300HDU	12"	8250	12.00	15.01	15.01	32.00	17.00	12	7/8-9UNC		50	

AF maximum actuator ambient temperature is 122°F.

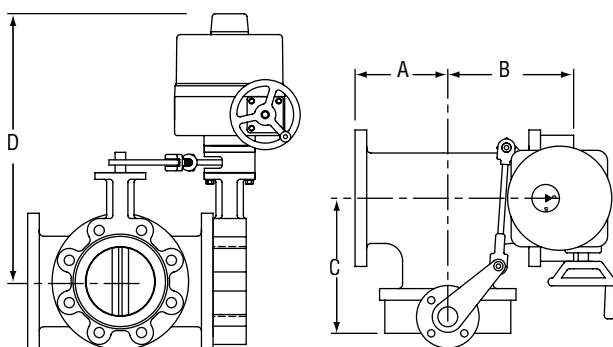
SY... maximum actuator ambient temperature is 150°F.

Model SY1... does not have hand wheel-override is via 8mm wrench on bottom side of actuator.

Application Notes

- Valves are rated at 50 psi differential pressure in the closed position.
- Valves are furnished with lugs tapped for use with ANSI Class 125/150 flanges. Installation flanges and hardware are not included.
- 3-way assemblies are furnished assembled and tested, ready for installation.
All 3-way assemblies require the customer to specify the 3-way configuration prior to order entry to guarantee correct placement of valves and actuators on the assembly.
- Dimension "D" allows for actuator removal without the need to remove the valve from the pipe.
- Weather shields are available, dimensional data upon request.
- Dual actuated valves have single actuators mounted on each valve shaft.
- Bolts supplied are for shipping purposes only. Upon installation replace with an appropriate SAE grade 5 or better hardware.
- Belimo SY Series actuators are NEMA 4X rated.

Dimensions



HS DWG P15



- 232 psi (2" to 12") and 150 psi (14"-30") bubble tight shut-off
- Long stem design allows for 2" insulation
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation
- Tees comply with ASME/ANSI B16.1 Class 125 flanges

Application

These valves are designed to meet the needs of HVAC and commercial applications requiring bubble tight shut off for liquids. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications. Designed for use in Victaulic piping systems when mated to Victaulic 41 series flange nipples. Fail safe operation is possible with NSV-SY series battery backup systems.

Jobsite Note

Valves should be stored in a weather protected area prior to construction. Complete installation recommendations can be found in Belimo's Installation and Maintenance Instructions for F6/F7...HD/HDU Butterfly Valves.

Technical Data	
Service	chilled, hot water, 60% glycol
Flow characteristic	modified linear
Action	90° rotation
Sizes	2" to 24"
Type of end fitting	for use with ANSI 125/150 flanges
Materials:	
Body	ductile iron ASTM A536
Body finish	epoxy powder coated
Disc	304 stainless steel
Seat	EPDM standard
Shaft	416 stainless steel
O-ring	EPDM
Upper bushing	RPTFE
Middle bushings	RPTFE
Lower bushing	RPTFE
Media temperature range	-22°F to 250°F [-30°C to 120°C]
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 125/150 (200 psi at -30°F to 275°F)
Close-off pressure	232 psi (2"-12"), 150 psi (14"-24")
Rangeability	10:1 (for 30° to 70° range)
Maximum Velocity	12 FPS

Valve		Nominal Size		Type	Suitable Actuators		
C_v 90°	C_v 60°	IN	DN [mm]	2-way	Spring	Non-Spring	
115	44	2"	50	F750HD	AF Series	AM	GM Series
196	75	2½"	65	F765HD			
302	116	3"	80	F780HD			
600	230	4"	100	F7100HD			
1022	392	5"	125	F7125HD			
1579	605	6"	150	F7150HD			
3136	1202	8"	200	F7200HD			
5340	2047	10"	250	F7250HD			
8250	3062	12"	300	F7300HD			
11917	4568	14"	350	F7350HD			
16388	6282	16"	400	F7400HD	SY Series		
21705	8320	18"	450	F7450HD			
27908	10698	20"	500	F7500HD			
43116	16528	24"	600	F7600HD			

Valve	Size	C_v	MOD							ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°
F750HD	2"	115	.06	3	7	15	27	44	70	105	115
F765HD	2½"	196	.10	6	12	25	45	75	119	178	196
F780HD	3"	302	.20	9	18	39	70	116	183	275	302
F7100HD	4"	600	.30	17	36	78	139	230	364	546	600
F7125HD	5"	1022	.50	29	61	133	237	392	620	930	1022
F7150HD	6"	1579	.80	45	95	205	366	605	958	1437	1579
F7200HD	8"	3136	2	89	188	408	727	1202	1903	2854	3136
F7250HD	10"	5340	3	151	320	694	1237	2047	3240	4859	5340
F7300HD	12"	8250	4	234	495	1072	1911	3062	5005	7507	8250
F7350HD	14"	11917	6	338	715	1549	2761	4568	7230	10844	11917
F7400HD	16"	16388	8	464	983	2130	3797	6282	9942	14913	16388
F7450HD	18"	21705	11	615	1302	2822	5028	8320	13168	19752	21705
F7500HD	20"	27908	14	791	1674	3628	6465	10698	16931	25396	27908
F7600HD	24"	43116	22	1222	2587	5605	9989	16528	26157	39236	43116

F7...HD Butterfly Valves 2"-24" Ductile Iron Lug Body
Resilient Seat, 304 Stainless Disc



Maximum Dimensions (Inches)											
Valve	Size	C _v 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)
F750HD	2"	115	4.50	6.15	6.15	20.25	4.75	4	5/8-11UNC	AF	200
F765HD	2½"	196	5.00	6.76	6.76	20.75	5.50	4	5/8-11UNC	2*AF	200
F750HD	2"	115	4.50	6.15	6.15	20.25	4.75	4	5/8-11UNC	SY2...	200
F765HD	2½"	196	5.00	6.76	6.76	20.75	5.50	4	5/8-11UNC		200
F780HD	3"	302	5.50	7.28	7.28	21.00	6.00	4	5/8-11UNC		200
F7100HD	4"	600	6.50	8.55	8.55	21.75	7.50	8	5/8-11UNC		200
F7125HD	5"	1022	7.50	9.64	9.64	22.25	8.50	8	3/4-10UNC	SY3...	200
F7150HD	6"	1579	8.00	10.19	10.19	22.75	9.50	8	3/4-10UNC		200
F7200HD	8"	3136	9.00	11.37	11.37	29.00	11.75	8	3/4-10UNC	SY4...	200
F7250HD	10"	5340	11.00	13.58	13.58	30.00	14.25	12	7/8-9UNC		200
F7300HD	12"	8250	12.00	15.01	15.01	32.00	17.00	12	7/8-9UNC	SY5...	200
F7350HD	14"	11917	14.00	17.02	17.02	33.00	18.75	12	1-8UNC	SY6...†	150
F7400HD	16"	16388	15.00	18.39	18.39	38.50	21.25	16	1-8UNC	SY7...†	150
F7450HD	18"	21705	16.50	20.63	20.63	39.50	22.75	16	1 1/8-7UNC	SY9...†	150
F7500HD	20"	27908	18.00	23.00	23.00	41.50	25.00	20	1 1/8-7UNC		150
F7600HD	24"	43116	22.00	27.9	27.9	53.25	29.50	20	1 1/4-7UNC	SY12...†	150

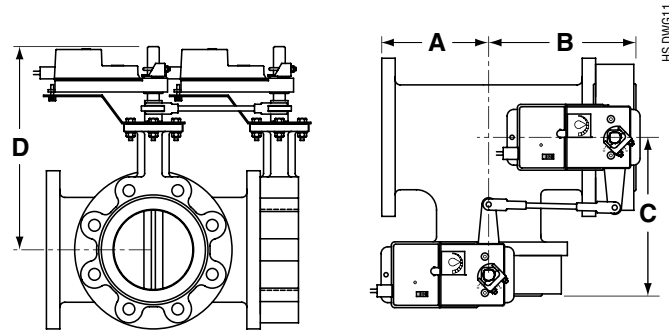
AF maximum actuator ambient temperature is 122°F.
SY... maximum actuator ambient temperature is 150°F.
†SY6 and larger available in 110/220 VAC versions only.

Application Notes

- 1. Valves are rated at 200 psi differential pressure in the closed position.
- 2. Valves are furnished with lugs tapped for use with ANSI Class 125/150 flanges. Installation flanges and hardware are not included.
- 3. 3-way assemblies are furnished assembled and tested, ready for installation.
All 3-way assemblies require the customer to specify the 3-way configuration prior to order entry to guarantee correct placement of valves and actuators on the assembly.
- 4. Dimension "D" allows for actuator removal without the need to remove the valve from the pipe.
- 5. Belimo SY Series actuators are NEMA 4X rated.
- 5. Weather shields are available, dimensional data upon request.
- 6. Dual actuated valves have single actuators mounted on each valve shaft.
- 7. Bolts supplied are for shipping purposes only. Upon installation replace with an appropriate SAE grade 5 or better hardware.

Note: For tee configuration, please refer to page 4.

Dimensions



3-Way Configuration Codes

D163

CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL	CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL	CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL
X10	OPEN	NON-FAIL	X20	OPEN	NON-FAIL	X30	OPEN	NON-FAIL
X11	OPEN	OPEN	X21	OPEN	OPEN	X31	OPEN	OPEN
X12	OPEN	CLOSED	X22	OPEN	CLOSED	X32	OPEN	CLOSED
X13	CLOSED	NON-FAIL	X23	CLOSED	NON-FAIL	X33	CLOSED	NON-FAIL
X14	CLOSED	OPEN	X24	CLOSED	OPEN	X34	CLOSED	OPEN
X15	CLOSED	CLOSED	X25	CLOSED	CLOSED	X35	CLOSED	CLOSED

X Specifies Bi-Directional Flow Capability

NOTES

- 1. Slave Valve operates inversely of the Master Valve.
- 2. The Master Valve is always located on the run.
- 3. The Slave Valve may also have an actuator if required (Direct Coupled).
- 4. On/Off actuator normal position is a function of field logic.
- 5. Proportional actuator normal position is a function of the CCW/CW switch.
- 6. All 3-way assemblies are designed for 90 degree actuator rotation.

ORDERING INFORMATION

Please note that HD series BF valves over 18" and ALL sizes 3-way tee assemblies ordered with Configuration Codes 30-35 are special order/custom built and are NOT returnable.



- Bubble tight shut-off to ANSI Class 150 Standards
- Long stem design allows for 2" insulation minimum
- Valve Face-to-face dimensions comply with API 609 & MSS-SP-68
- Designed to be installed between ASME/ANSI B16.5 Flanges
- Completely assembled and tested, ready for installation

Application

These valves are designed to meet the needs of HVAC and Commercial applications requiring positive shut-off for liquids at higher pressures and temperatures. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications.

Dead End Service

Follow all described pre-installation and installation procedures. Valves are capable of bubble tight, dead end closure with either the upstream or downstream flange removed.

Technical Data	
Media service	chilled, hot water, 60% glycol, steam to 50 psi
Valve service	double dead end service
Flow characteristic	modified equal percentage, unidirectional
Recommended install	SUS (Seat Up Stream)
Action	quarter turn, mechanically limited
Sizes	2" to 24"
Type of end fitting	for use with ASME/ANSI B16.5 flanges
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Seat	RPTFE
Shaft	17-4 PH stainless
Gland seal	PTFE
Bushings	glass backed PTFE
Media temperature range	ANSI Class 150 limitations
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 150 limitations
Close-off pressure	ANSI Class 150 to 285 psi @ 100°F
Rangeability	10:1 (for 30 deg to 70 deg range)
Maximum velocity	32 FPS

Valve Nominal Size		Type	Suitable Actuators	
C_v 90°	C_v 60°	IN	ANSI 150 2-way	Spring Non-Spring
102	56	2"	F650-150SHP	AF Series GM Series SY Series
146	80	2½"	F665-150SHP	
228	125	3"	F680-150SHP	
451	248	4"	F6100-150SHP	
714	392	5"	F6125-150SHP	
1103	607	6"	F6150-150SHP	
2064	1135	8"	F6200-150SHP	
3517	1934	10"	F6250-150SHP	
4837	2660	12"	F6300-150SHP	
6857	3592	14"	F6350-150SHP	
9287	4865	16"	F6400-150SHP	
11500	3270	18"	F6450-150SHP	
14420	7590	20"	F6500-150SHP	
22050	11550	24"	F6600-150SHP	
34388	18012	30"	F6750-150SHP	

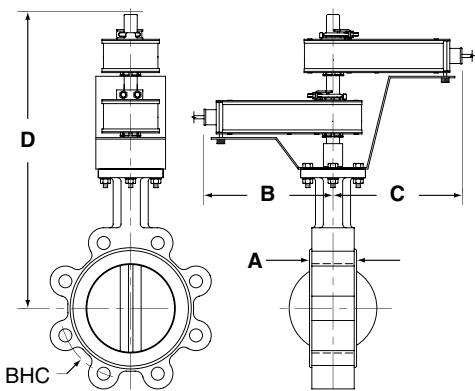
Valve	Size	C_v	MOD								ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°	
F650-150SHP	2"	102	1.50	6.10	14	26	39	56	77	99	102	
F665-150SHP	2.5"	146	2.20	8.80	20	37	55	80	110	142	146	
F680-150SHP	3"	228	3.40	14	32	57	87	125	171	221	228	
F6100-150SHP	4"	451	6.80	27	63	114	171	248	338	437	451	
F6125-150SHP	5"	714	11	43	100	180	271	393	536	693	714	
F6150-150SHP	6"	1103	17	66	154	278	419	607	827	1070	1103	
F6200-150SHP	8"	2064	31	124	289	520	784	1135	1548	2002	2064	
F6250-150SHP	10"	3517	53	211	492	886	1336	1934	2638	3411	3517	
F6300-150SHP	12"	4837	73	290	677	1219	1838	2660	3628	4692	4837	
F6350-150SHP	14"	6857	103	411	960	1728	2606	3771	5143	6651	6857	
F6400-150SHP	16"	9287	139	557	1300	2340	3529	5108	6965	9008	9287	
F6450-150SHP	18"	11400	171	684	1596	2873	4332	6270	8550	11058	11400	
F6500-150SHP	20"	14420	216	865	2019	3634	5480	7931	10815	13987	14420	
F6600-150SHP	24"	22050	331	1323	3087	5557	8379	12128	16538	21389	22050	
F6750-150SHP	30"	34388	491	1965	4585	8253	12445	18012	24563	32750	34388	

F6 ANSI Class 150
Reinforced Teflon Seat, 316 Stainless Disc



Maximum Dimensions (Inches)											
Valve	Size	Cv 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)
F650-150SHP	2"	102	1.75	9.00	9.00	19.50	4.75	4	5/8-11	2*AF	150
F665-150SHP	2.5"	146	1.88	9.00	9.00	20.00	5.50	4	5/8-11		150
F680-150SHP	3"	228	1.92	9.00	9.00	20.50	6.00	4	5/8-11		150
F6100-150SHP	4"	451	2.13	9.00	9.00	21.00	7.50	8	5/8-11		150
F650-150SHP	2"	102	1.75	9.00	9.00	19.50	4.75	4	5/8-11	GM	285
F665-150SHP	2.5"	146	1.88	9.00	9.00	20.00	5.50	4	5/8-11		285
F680-150SHP	3"	228	1.92	9.00	9.00	20.50	6.00	4	5/8-11		285
F6100-150SHP	4"	451	2.13	9.00	9.00	21.00	7.50	8	5/8-11		150
F6100-150SHP	4"	451	2.13	9.00	9.00	21.00	7.50	8	5/8-11	2*GM	285
F650-150SHP	2"	102	1.75	8.00	8.00	22.25	4.75	4	5/8-11 UNC	SY2...	285
F665-150SHP	2.5"	146	1.88	8.00	8.00	22.75	5.50	4	5/8-11 UNC		285
F680-150SHP	3"	228	1.92	8.00	8.00	23.00	6.00	4	5/8-11 UNC		285
F6100-150SHP	4"	451	2.13	8.00	8.00	23.75	7.50	8	5/8-11 UNC		285
F6125-150SHP	5"	714	2.25	8.00	8.00	24.25	8.50	8	3/4-10 UNC		285
F6150-150SHP	6"	1103	2.29	8.00	8.00	24.75	9.50	8	3/4-10 UNC		285
F6200-150SHP	8"	2064	2.50	12.00	12.00	32.00	11.75	8	3/4-10 UNC	SY3...	150
										SY4...	285
F6250-150SHP	10"	3517	2.81	12.00	12.00	33.00	14.25	12	7/8-9 UNC	SY4...	285
F6300-150SHP	12"	4837	3.23	12.00	12.00	35.00	17.00	12	7/8-9 UNC	SY4...	150
										SY5...	285
										SY5...	150
F6350-150SHP	14"	6857	3.62	14.00	14.00	36.00	18.75	12	1-8 UNC	SY7...	285
										SY7...	150
F6400-150SHP	16"	9287	4.00	14.00	14.00	37.50	21.25	16	1-8 UNC	SY8...	285
F6450-150SHP	18"	11400	4.50	14.00	14.00	42.25	22.75	16	1 1/8-8 UNC	SY7...	150
										SY8...	285
F6500-150SHP	20"	14420	5.00	14.00	14.00	49.50	25.00	20	1 1/8-8 UNC	SY8...	150
										SY10...	285
F6600-150SHP	24"	22050	6.06	14.00	14.00	56.25	29.50	20	1 1/4-8 UNC	SY10...	150
F6750-150SHP	30"	34388	6.75	14.00	14.00	66.58	36.00	28	1 1/4-8 UNC	SY12...	125

Dimensions

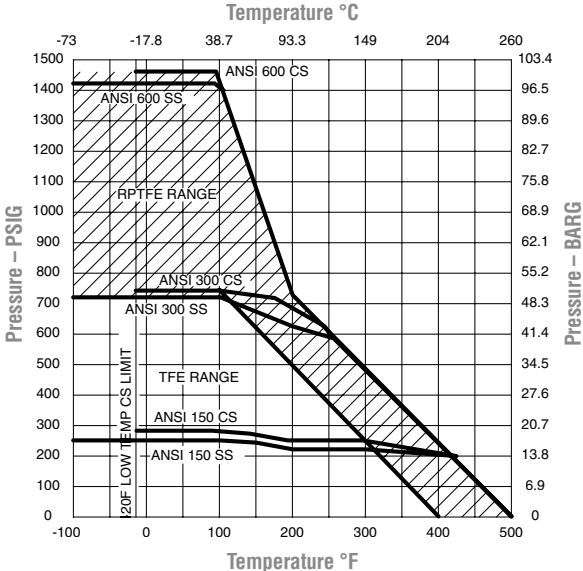


Dimension "A" does not include flange gaskets. (2 required per valve)

Application Notes

- 1. Valves are rated at 285 psi differential pressure in the closed position @ 100°F media temperature.
- 2. Valves are furnished with lugs tapped for use between ANSI Class 125/150 flanges conforming to ANSI B16.5 Standards.
- 3. 2-way assemblies are furnished assembled, calibrated and tested, ready for installation.
- 4. Dimension "D" allows for actuator(s) removal without the need to remove the valve from the pipe.
- 5. Weather shields are available, dimensional data furnished upon request.
- 6. Flange gaskets (2 required, not provided with valve) MUST be used between valve and ANSI flange.
- 7. Flange bolts are not included with the valve. These are furnished by others.

Pressure/temperature chart for ANSI class butterfly valves.



SHP series valves have a preferred flow direction.



- Bubble tight shut-off to ANSI Class 150 Standards
- Long stem design allows for 2" insulation minimum
- Valve Face-to-face dimensions comply with API 609 & MSS-SP-68
- Designed to be installed between ASME/ANSI B16.5 Flanges
- Completely assembled and tested, ready for installation
- Tees comply with ASME/ANSI B16.1 Class 125 Flanges

Application

These valves are designed to meet the needs of HVAC and Commercial applications requiring positive shut-off for liquids at higher pressures and temperatures. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications.

Dead End Service

Follow all described pre-installation and installation procedures. Valves are capable of bubble tight, dead end closure with either the upstream or downstream flange removed.

Technical Data	
Media service	chilled, hot water, 60% glycol, steam to 50 psi
Valve service	double dead end service
Flow characteristic	modified linear, unidirectional
Recommended install	SUS (Seat Up Stream)
Action	quarter turn, mechanically limited
Sizes	2" to 24"
Type of end fitting	for use with ASME/ANSI B16.5 flanges
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Seat	RPTFE
Shaft	17-4 PH stainless
Gland seal	PTFE
Bushings	glass backed PTFE
Media temperature range	ANSI Class 150 limitations
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 150 limitations
Close-off pressure	ANSI Class 150 to 285 psi @ 100°F
Rangeability	10:1 (for 30 deg to 70 deg range)
Maximum velocity	32 FPS

Valve Nominal Size		Type	Suitable Actuators			
C _v 90°	C _v 60°	IN	ANSI 150 3-way	Spring	Non-Spring	
102	56	2"	F750-150SHP	AF Series	GM Series	SY Series
146	80	2½"	F765-150SHP			
228	125	3"	F780-150SHP			
451	248	4"	F7100-150SHP			
714	392	5"	F7125-150SHP			
1103	607	6"	F7150-150SHP			
2064	1135	8"	F7200-150SHP			
3517	1934	10"	F7250-150SHP			
4837	2660	12"	F7300-150SHP			
6857	3592	14"	F7350-150SHP			
9287	4865	16"	F7400-150SHP			
11500	3270	18"	F7450-150SHP			
14420	7590	20"	F7500-150SHP			
22050	11550	24"	F7600-150SHP			

MOD									ON/OFF		
Valve	Size	C _v	10°	20°	30°	40°	50°	60°	70°	80°	90°
F750-150SHP	2"	102	1.50	6.10	14	26	39	56	77	99	102
F765-150SHP	2.5"	146	2.20	8.80	20	37	55	80	110	142	146
F780-150SHP	3"	228	3.40	14	32	57	87	125	171	221	228
F7100-150SHP	4"	451	6.80	27	63	114	171	248	338	437	451
F7125-150SHP	5"	714	11	43	100	180	271	393	536	693	714
F7150-150SHP	6"	1103	17	66	154	278	419	607	827	1070	1103
F7200-150SHP	8"	2064	31	124	289	520	784	1135	1548	2002	2064
F7250-150SHP	10"	3517	53	211	492	886	1336	1934	2638	3411	3517
F7300-150SHP	12"	4837	73	290	677	1219	1838	2660	3628	4692	4837
F7350-150SHP	14"	6857	103	411	960	1728	2606	3771	5143	6651	6857
F7400-150SHP	16"	9287	139	557	1300	2340	3529	5108	6965	9008	9287
F7450-150SHP	18"	11400	171	684	1596	2873	4332	6270	8550	11058	11400
F7500-150SHP	20"	14420	216	865	2019	3634	5480	7931	10815	13987	14420
F7600-150SHP	24"	22050	331	1323	3087	5557	8379	12128	16538	21389	22050

F7 ANSI Class 150 Reinforced Teflon Seat, 316 Stainless Disc

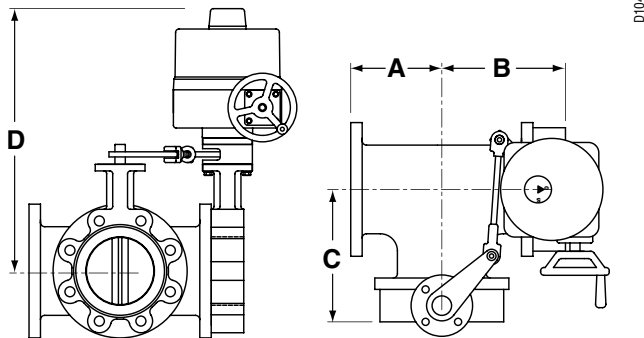


Maximum Dimensions (Inches)

Valve	Size	C _v 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)
F750-150SHP	2"	102	4.50	6.38	6.38	16.50	4.75	4	5/8-11	GMB(X)	150
F765-150SHP	2.5"	146	5.00	6.88	6.88	17.00	5.50	4	5/8-11		150
F780-150SHP	3"	228	5.50	7.56	7.56	17.50	6.00	4	5/8-11		150
F7100-150SHP	4"	451	6.50	8.63	8.63	18.00	7.50	8	5/8-11		150
F750-150SHP	2"	102	4.50	6.38	6.38	16.50	4.75	4	5/8-11	2*GMB(X)	285
F765-150SHP	2.5"	146	5.00	6.88	6.88	17.00	5.50	4	5/8-11		285
F780-150SHP	3"	228	5.50	7.56	7.56	17.50	6.00	4	5/8-11		285
F750-150SHP	2"	102	4.50	6.38	6.38	22.25	4.75	4	5/8-11 UNC		285
F765-150SHP	2.5"	146	5.00	6.88	6.88	22.75	5.50	4	5/8-11 UNC	SY2...	285
F780-150SHP	3"	228	5.50	7.56	7.56	23.00	6.00	4	5/8-11 UNC		285
F7100-150SHP	4"	451	6.50	8.63	8.63	23.75	7.50	8	5/8-11 UNC		285
F7125-150SHP	5"	714	7.50	9.75	9.75	24.25	8.50	8	3/4-10 UNC		285
F7150-150SHP	6"	1103	8.00	10.25	10.25	24.75	9.50	8	3/4-10 UNC	SY3...	285
F7200-150SHP	8"	2064	9.00	11.50	11.50	32.00	11.75	8	3/4-10 UNC		150
F7250-150SHP	10"	3517	11.00	13.81	13.81	33.00	14.25	12	7/8-9 UNC	SY4...	150
										SY5...	285
										SY6...	150
										SY7...	285
F7300-150SHP	12"	4837	12.00	15.81	15.81	35.00	17.00	12	7/8-9 UNC	SY7...	285
F7350-150SHP	14"	6857	14.00	17.62	17.62	36.00	18.75	12	1-8 UNC		285
F7400-150SHP	16"	9287	15.00	19.00	19.00	37.50	21.25	16	1-8 UNC	SY8...	150
										SY9...	285
										SY10...	150
										SY11...	285
F7500-150SHP	20"	14420	18.00	23.00	23.00	49.50	25.00	20	1 1/8-8 UNC	SY12...	285
F7600-150SHP	24"	22050	22.00	28.06	28.06	56.25	29.50	20	1 1/4-8 UNC		150

Non-Fail Safe

Dimensions



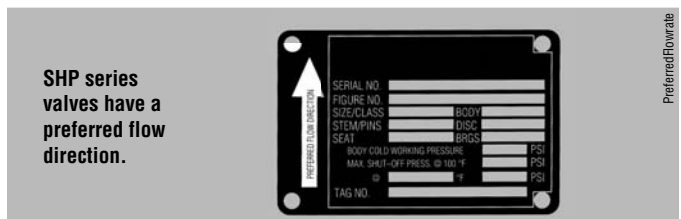
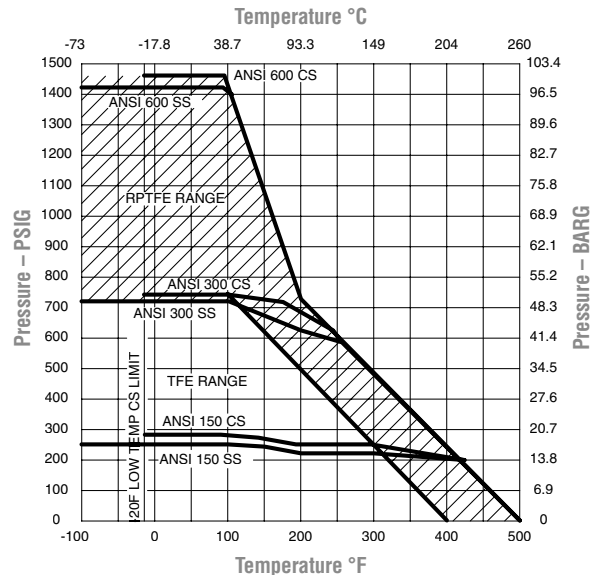
Dimensions "A, B and C" do not include flange gaskets. (3 required per valve)

Application Notes

- Valves are rated at 285 psi differential pressure in the closed position @ 100°F media temperature.
- Valves are furnished with lugs tapped for use between ANSI Class 125/150 flanges conforming to ANSI B16.5 Standards.
- 3-way assemblies are furnished assembled with Tee, calibrated and tested, ready for installation. All 3-way assemblies require the customer to specify the 3-way configuration code prior to order entry to guarantee correct placement of valves and actuator(s) on the assembly.
- Dimension "D" allows for actuator(s) removal without the need to remove the valve from the pipe.
- Weather shields are available, dimensional data furnished upon request.
- Dual actuated valves have single actuators mounted on each valve shaft.
- Flange gaskets (3 required, not provided with valve) MUST be used between valve and ANSI flange.
- Flange bolts are not included with the valve. These are furnished by others.

Note: For tee configuration, please refer to page 5.

Pressure/temperature chart for ANSI class butterfly valves.





- Bubble tight shut-off to ANSI Class 300 Standards
- Long stem design allows for 2" insulation minimum
- Valve Face-to-face dimensions comply with API 609 & MSS-SP-68
- Designed to be installed between ASME/ANSI B16.5 Flanges
- Completely assembled and tested, ready for installation

Application

These valves are designed to meet the needs of HVAC and Commercial applications requiring positive shut-off for liquids at higher pressures and temperatures. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications.

Dead End Service

Follow all described pre-installation and installation procedures. Valves are capable of bubble tight, dead end closure with either the upstream or downstream flange removed.

Technical Data	
Media service	chilled, hot water, 60% glycol, steam to 50 psi
Valve service	double dead end service
Flow characteristic	modified equal percentage, unidirectional
Recommended install	SUS (Seat Up Stream)
Action	quarter turn, mechanically limited
Sizes	2" to 24"
Type of end fitting	for use with ASME/ANSI B16.5 flanges
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Seat	RPTFE
Shaft	17-4 PH stainless
Gland seal	PTFE
Bushings	glass backed PTFE
Media temperature range	ANSI Class 300 limitations
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 300 limitations
Close-off pressure	ANSI Class 300 to 725 psi @ 100°F
Rangeability	10:1 (for 30 deg to 70 deg range)
Maximum velocity	32 FPS

Valve Nominal Size		Type	Suitable Actuators	
C_v 90°	C_v 60°	IN	ANSI 300 2-way	Spring Non-Spring
100	52	2"	F650-300SHP	AF Series GM Series SY Series
143	75	2½"	F665-300SHP	
223	117	3"	F680-300SHP	
435	228	4"	F6100-300SHP	
688	361	5"	F6125-300SHP	
1041	546	6"	F6150-300SHP	
1911	1001	8"	F6200-300SHP	
3194	1673	10"	F6250-300SHP	
4428	2319	12"	F6300-300SHP	
5702	2986	14"	F6350-300SHP	
8243	3988	16"	F6400-300SHP	
9712	5088	18"	F6450-300SHP	
10658	5775	20"	F6500-300SHP	
16205	8855	24"	F6600-300SHP	

Valve	Size	C_v	MOD								ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°	90°
F650-300SHP	2"	100	1.40	6.00	13	24	36	52	71	95	100	100
F665-300SHP	2.5"	143	2.10	8.00	19	34	52	75	102	136	143	143
F680-300SHP	3"	223	3.20	13	30	53	81	117	159	212	223	223
F6100-300SHP	4"	435	6.20	25	58	104	157	228	310	414	435	435
F6125-300SHP	5"	688	10	40	92	165	248	361	491	655	688	688
F6150-300SHP	6"	1041	15	60	139	250	377	546	744	992	1041	1041
F6200-300SHP	8"	1911	27	109	255	459	692	1001	1365	1820	1911	1911
F6250-300SHP	10"	3194	46	183	426	767	1156	1673	2282	3042	3194	3194
F6300-300SHP	12"	4428	63	253	590	1063	1602	2319	3163	4217	4428	4428
F6350-300SHP	14"	5702	81	326	760	1368	2063	2986	4072	5430	5702	5702
F6400-300SHP	16"	8243	109	435	1015	1827	2755	3988	5438	7850	8243	8243
F6450-300SHP	18"	9712	139	555	1295	2331	3515	5088	6938	9250	9712	9712
F6500-300SHP	20"	10658	158	630	1470	2646	3990	5775	7875	10150	10658	10658
F6600-300SHP	24"	16205	242	966	2254	4057	6118	8855	12075	16100	16205	16205

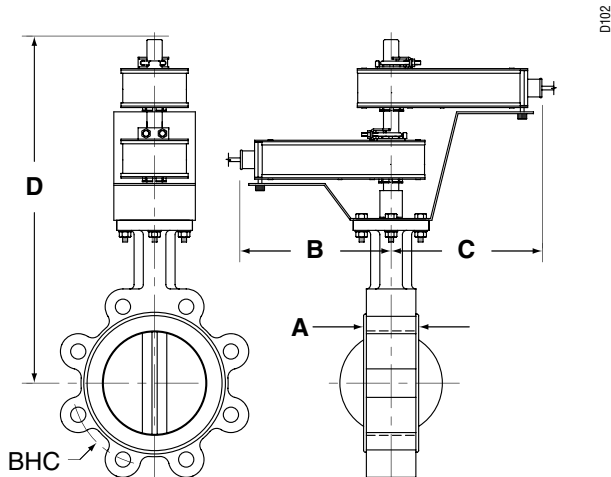
F6 ANSI Class 300 Reinforced Teflon Seat, 316 Stainless Disc



Maximum Dimensions (Inches)

Valve	Size	C _v 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)	
F650-300SHP	2"	100	1.75	9.00	9.00	19.50	5.00	8	5/8-11 UNC	2*AF	150	Fail Safe
F665-300SHP	2.5"	143	1.88	9.00	9.00	20.00	5.88	8	3/4-10 UNC		150	
F680-300SHP	3"	223	1.92	9.00	9.00	20.50	6.63	8	3/4-10 UNC		150	
F6100-300SHP	4"	435	2.13	9.00	9.00	21.00	7.88	8	3/4-10 UNC		150	
F650-300SHP	2"	100	1.75	9.00	9.00	19.50	5.00	8	5/8-11 UNC	GMB(X)	285	
F665-300SHP	2.5"	143	1.88	9.00	9.00	20.00	5.88	8	3/4-10 UNC		285	
F680-300SHP	3"	223	1.92	9.00	9.00	20.50	6.63	8	3/4-10 UNC		285	
F6100-300SHP	4"	435	2.13	9.00	9.00	21.00	7.88	8	3/4-10 UNC		150	
F650-300SHP	2"	100	1.75	9.00	9.00	19.50	5.00	8	5/8-11 UNC	2*GMB(X)	600	
F665-300SHP	2.5"	143	1.88	9.00	9.00	20.00	5.88	8	3/4-10 UNC		600	
F680-300SHP	3"	223	1.92	9.00	9.00	20.50	6.63	8	3/4-10 UNC		600	
F6100-300SHP	4"	435	2.13	9.00	9.00	21.00	7.88	8	3/4-10 UNC		400	
F650-300SHP	2"	100	1.75	8.00	8.00	22.25	4.75	8	5/8-11 UNC	SY2...	600	
F665-300SHP	2.5"	143	1.88	8.00	8.00	22.75	5.50	8	3/4-10 UNC		600	
F680-300SHP	3"	223	1.92	8.00	8.00	23.00	6.00	8	3/4-10 UNC		600	
F6100-300SHP	4"	435	2.13	8.00	8.00	23.75	7.50	8	3/4-10 UNC		600	
F6125-300SHP	5"	688	2.25	8.00	8.00	24.25	8.50	8	3/4-10 UNC	SY2...	285	Non-Fail Safe
										SY3...	600	
F6150-300SHP	6"	1041	2.29	8.00	8.00	24.75	9.50	12	3/4-10 UNC	SY2...	285	
										SY3...	600	
										SY3...	150	
F6200-300SHP	8"	1911	2.88	12.00	12.00	32.00	11.75	12	7/8-9 UNC	SY4...	600	
										SY4...	285	
										SY5...	400	
F6250-300SHP	10"	3194	3.25	12.00	12.00	33.00	14.25	16	1-8 UNC	SY7...	600	
										SY4...	150	
										SY5...	285	
F6300-300SHP	12"	4428	3.62	12.00	12.00	35.00	17.00	16	1 1/8-8 UNC	SY7...	600	
										SY5...	150	
										SY7...	400	
F6350-300SHP	14"	5702	4.62	14.00	14.00	36.00	18.75	20	1 1/8-8 UNC	SY8...	600	
										SY7...	150	
										SY8...	285	
F6400-300SHP	16"	8243	5.25	14.00	14.00	37.50	21.25	20	1 1/4-8 UNC	SY9...	400	
										SY10...	600	
										SY7...	150	
F6450-300SHP	18"	9712	5.88	14.00	14.00	42.25	22.75	24	1 1/4-8 UNC	SY8...	285	
										SY9...	400	
										SY11...	600	
										SY8...	150	
F6500-300SHP	20"	10658	6.31	14.00	14.00	49.50	25.00	24	1 1/4-8 UNC	SY10...	285	
										SY11...	400	
F6600-300SHP	24"	16205	7.19	14.00	14.00	56.25	29.50	24	1 1/2-8 UNC	SY10...	150	

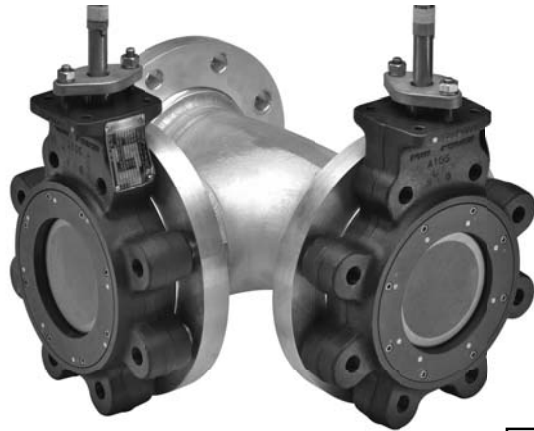
Dimensions



Dimension "A" does not include flange gaskets. (2 required per valve)

Application Notes

1. Valves are rated at 725 psi differential pressure in the closed position @ 100°F media temperature.
2. Valves are furnished with lugs tapped for use between ANSI Class 250/300 flanges conforming to ANSI B16.5 Standards.
3. 2-way assemblies are furnished assembled, calibrated and tested, ready for installation.
4. Dimension "D" allows for actuator(s) removal without the need to remove the valve from the pipe.
5. Weather shields are available, dimensional data furnished upon request.
6. Dual actuated valves have actuators mounted on a single common shaft.
7. Flange gaskets (2 required, not provided with valve) MUST be used between valve and ANSI flange.
8. Flange bolts are not included with the valve. These are furnished by others.



- Bubble tight shut-off to ANSI Class 300 Standards
- Long stem design allows for 2" insulation minimum
- Valve Face-to-face dimensions comply with API 609 & MSS-SP-68
- Designed to be installed between ASME/ANSI 16.5 Flanges
- Completely assembled and tested, ready for installation
- Tees comply with ASME/ANSI 16.5 Class 250/300 Flanges

Application

These valves are designed to meet the needs of HVAC and Commercial applications requiring positive shut-off for liquids at higher pressures and temperatures. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications.

Dead End Service

Follow all described pre-installation and installation procedures. Valves are capable of bubble tight, dead end closure with either the upstream or downstream flange removed.

Technical Data	
Media service	chilled, hot water, 60% glycol, steam to 50 psi
Valve service	double dead end service
Flow characteristic	modified linear, unidirectional
Recommended install	SUS (Seat Up Stream)
Action	quarter turn, mechanically limited
Sizes	2" to 24"
Type of end fitting	for use with ASME/ANSI B16.5 flanges
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Seat	RPTFE
Shaft	17-4 PH stainless
Gland seal	PTFE
Bushings	glass backed PTFE
Media temperature range	ANSI Class 300 limitations
Operation ambient temperature range	-22°F to 122°F [-30°C to 50°C]
Body pressure rating	ASME/ANSI Class 300 limitations
Close-off pressure	ANSI Class 300 to 725 psi @ 100°F
Rangeability	10:1 (for 30 deg to 70 deg range)
Maximum velocity	32 FPS

Valve Nominal Size		Type	Suitable Actuators				
C _v 90°	C _v 60°	IN	ANSI 150 3-way	Spring	Non-Spring		
100	52	2"	F750-300SHP	AF Series	GM Series	SY Series	
143	75	2½"	F765-300SHP				
223	117	3"	F780-300SHP				
435	228	4"	F7100-300SHP				
688	361	5"	F7125-300SHP				
1041	546	6"	F7150-300SHP				
1911	1001	8"	F7200-300SHP				
3194	1673	10"	F6250-300SHP				
4428	2319	12"	F7300-300SHP				
5702	2986	14"	F7350-300SHP				
8243	3988	16"	F7400-300SHP				
9712	5088	18"	F7450-300SHP				
10658	5775	20"	F7500-300SHP				
16205	8855	24"	F7600-300SHP				

Valve	Size	C_v	MOD								ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°	90°
F750-300SHP	2"	100	1.40	6.00	13	24	36	52	71	95	100	100
F765-300SHP	2.5"	143	2.10	8.00	19	34	52	75	102	136	143	143
F780-300SHP	3"	223	3.20	13	30	53	81	117	159	212	223	223
F7100-300SHP	4"	435	6.20	25	58	104	157	228	310	414	435	435
F7125-300SHP	5"	688	10	40	92	165	248	361	491	655	688	688
F7150-300SHP	6"	1041	15	60	139	250	377	546	744	992	1041	1041
F7200-300SHP	8"	1911	27	109	255	459	692	1001	1365	1820	1911	1911
F7250-300SHP	10"	3194	46	183	426	767	1156	1673	2282	3042	3194	3194
F7300-300SHP	12"	4428	63	253	590	1063	1602	2319	3163	4217	4428	4428
F7350-300SHP	14"	5702	81	326	760	1368	2063	2986	4072	5430	5702	5702
F7400-300SHP	16"	8243	109	435	1015	1827	2755	3988	5438	7850	8243	8243
F7450-300SHP	18"	9712	139	555	1295	2331	3515	5088	6938	9250	9712	9712
F7500-300SHP	20"	10658	158	630	1470	2646	3990	5775	7875	10150	10658	10658
F7600-300SHP	24"	16205	242	966	2254	4057	6118	8855	12075	16100	16205	16205

F7 ANSI Class 300 Reinforced Teflon Seat, 316 Stainless Disc

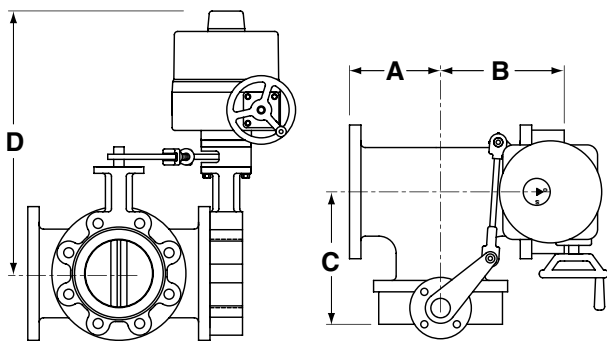


Maximum Dimensions (Inches)

Valve	Size	C _v 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)
F750-300SHP	2"	100	5.00	6.75	6.75	15.50	5.00	8	5/8-11 UNC	2*GMB(X)	285
F765-300SHP	2.5"	143	5.50	7.38	7.38	16.00	5.88	8	3/4-10 UNC		285
F780-300SHP	3"	223	6.00	7.92	7.92	16.25	6.63	8	3/4-10 UNC		285
F7100-300SHP	4"	435	7.00	9.13	9.13	18.00	7.88	8	3/4-10 UNC		150
F750-300SHP	2"	100	5.00	6.75	6.75	22.25	4.75	8	5/8-11 UNC	SY2...	400
										SY3...	600
F765-300SHP	2.5"	143	5.50	7.38	7.38	22.75	5.50	8	3/4-10 UNC	SY2...	400
										SY3...	600
F780-300SHP	3"	223	6.00	7.92	7.92	23.00	6.00	8	3/4-10 UNC	SY2...	400
										SY3...	600
F7100-300SHP	4"	435	7.00	9.13	9.13	23.75	7.50	8	3/4-10 UNC	SY2...	285
										SY3...	600
F7125-300SHP	5"	688	8.00	10.25	10.25	24.25	8.50	8	3/4-10 UNC	SY3...	285
										SY4...	600
F7150-300SHP	6"	1041	8.50	10.79	10.79	24.75	9.50	12	3/4-10 UNC	SY3...	285
										SY4...	600
F7200-300SHP	8"	1911	10.00	12.88	12.88	32.00	11.75	12	7/8-9 UNC	SY4...	400
										SY5...	600
										SY4...	150
F7250-300SHP	10"	3194	11.50	14.75	14.75	33.00	14.25	16	1-8 UNC	SY5...	285
										SY7...	600
										SY5...	150
F7300-300SHP	12"	4428	13.00	16.62	16.62	35.00	17.00	16	1 1/8-8 UNC	SY7...	400
										SY8...	600
										SY7...	150
F7350-300SHP	14"	5200	15.00	19.62	19.62	36.00	18.75	20	1 1/8-8 UNC	SY8...	400
										SY10...	600
										SY7...	150
F7400-300SHP	16"	8243	16.50	21.75	21.75	37.50	21.25	20	1 1/4-8 UNC	SY9...	285
										SY10...	400
										SY12...	600
										SY8...	150
F7450-300SHP	18"	9712	18.00	23.88	23.88	42.25	22.75	24	1 1/4-8 UNC	SY10...	285
										SY11...	400
F7500-300SHP	20"	10568	19.50	25.81	25.81	49.50	25.00	24	1 1/4-8 UNC	SY9...	150
										SY12...	285
F7600-300SHP	24"	16205	22.5	29.69	29.69	56.25	29.50	24	1 1/2-8 UNC	SY12...	150

Non-Fail Safe

Dimensions



D104

Dimensions "A, B and C" do not include flange gaskets. (3 required per valve)

Application Notes

- Valves are rated at 725 psi differential pressure in the closed position @ 100°F media temperature.
- Valves are furnished with lugs tapped for use between ANSI Class 250/300 flanges conforming to ANSI B16.5 Standards.
- 3-way assemblies are furnished assembled with Tee, calibrated and tested, ready for installation. All 3 way assemblies require the customer to specify the 3-way configuration code prior to order entry to guarantee correct placement of valves and actuator(s) on the assembly.
- Dimension "D" allows for actuator(s) removal without the need to remove the valve from the pipe.
- Weather shields are available, dimensional data furnished upon request.
- Dual actuated valves have single actuators mounted on each valve shaft.
- Flange gaskets (3 required, not provided with valve) MUST be used between valve and ANSI flange.
- Flange bolts are not included with the valve. These are furnished by others.



Note: For tee configuration, please refer to page 5.



MFT

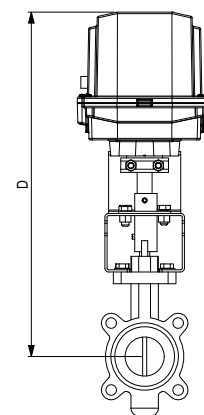
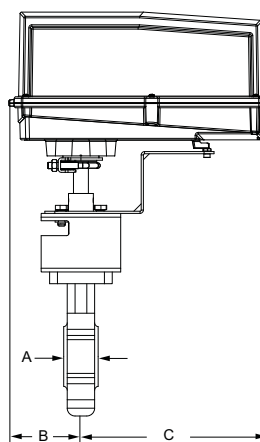


Models

GMX24-MFT-T-X1 N4 w/terminal block

Technical Data	
Control	2 to 10 VDC, 4 to 20 mA (default) variable (VDC, floating point, on/off)
Power supply	24 VAC $\pm$ 20% 50/60 Hz 24 VDC $\pm$ 10%
Power consumption	running 8 W
	holding 2.5 W
Transformer sizing	11 VA (class 2 power source)
Electrical connection	screw terminal (for 22 to 12 AWG wire)
Overload protection	electronic throughout 0° to 95° rotation
Input impedance	100 k Ω for 2 to 10 VDC (0.1 mA) 500 Ω for 4 to 20 mA 1000 Ω for floating point and on-off control
Angle of rotation	95°, adjustable with mechanical stop electronically variable
Direction of rotation	reversible with switch
Position indication	visual pointer
Manual override	internal push button (UL Type 4)
Running time	150 seconds (default) variable (75 to 290 seconds)
Humidity	5 to 100% RH (UL Type 4)
Ambient temperature	-22°F to 122°F [-30°C to 50°C]
Storage temperature	-40°F to 176°F [-40°C to 80°C]
Housing type	UL Type 4/NEMA 4/IP66
Housing material	Polycarbonate
Agency listings	cULus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1; Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14
EMC	CE according to 2004/108/EC
Quality standard	ISO 9001

Dimensions with 2-Way Valve



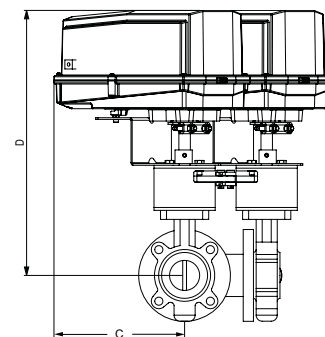
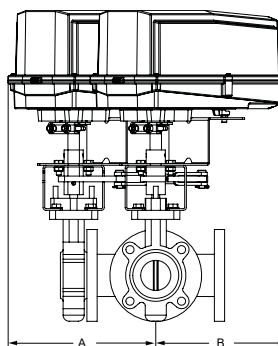
ZM0825

Valve Nominal Size

Dimensions (Inches [mm])

Valve Body	Inches	DN [mm]	A	B	C	D
F650-150SHP	2"	50	1.75 [44.5]	3.62 [92]	10.49 [266]	17.32 [440]
F665-150SHP	2.5"	65	1.88 [47.8]	3.62 [92]	10.49 [266]	17.32 [440]
F680-150SHP	3"	80	1.92 [48.8]	3.62 [92]	10.49 [266]	18.07 [459]
F6100-150SHP	4"	100	2.13 [54.1]	3.62 [92]	10.49 [266]	18.80 [478]
F650-300SHP	2"	50	1.75 [44.5]	3.62 [92]	10.49 [266]	17.32 [440]
F665-300SHP	2.5"	65	1.88 [47.8]	3.62 [92]	10.49 [266]	17.32 [440]
F680-300SHP	3"	80	1.92 [48.8]	3.62 [92]	10.49 [266]	18.07 [459]
F6100-300SHP	4"	100	2.13 [54.1]	3.62 [92]	10.49 [266]	18.80 [478]

Dimensions with 3-Way Valve



ZM0824

Valve Nominal Size

Dimensions (Inches [mm])

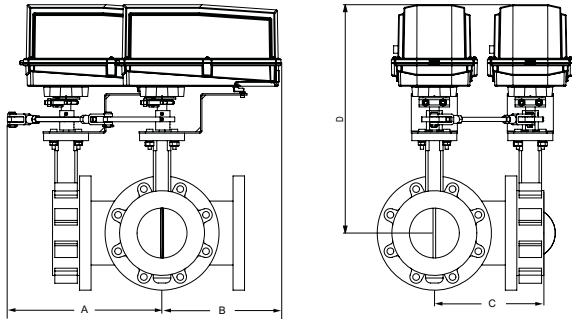
Valve Body	Inches	DN [mm]	A	B	C	D
F750-150SHP	2"	50	11.36 [288]	10.49 [266]	10.49 [266]	17.32 [440]
F765-150SHP	2.5"	65	11.43 [290]	10.49 [266]	10.49 [266]	17.32 [440]
F780-150SHP	3"	80	11.47 [291]	10.49 [266]	10.49 [266]	18.07 [459]
F7100-150SHP	4"	100	11.58 [294]	10.49 [266]	10.49 [266]	18.80 [478]
F750-300SHP	2"	50	11.36 [288]	10.49 [266]	10.49 [266]	17.32 [440]
F765-300SHP	2.5"	65	11.43 [290]	10.49 [266]	10.49 [266]	17.32 [440]
F780-300SHP	3"	80	11.47 [291]	10.49 [266]	10.49 [266]	18.07 [459]
F7100-300SHP	4"	100	11.58 [294]	10.49 [266]	10.49 [266]	18.80 [478]

Note: Most F7 versions use dual actuators.

GMX24-MFT-T N4 NEMA 4 Actuators, Multi-Function Technology



Dimensions with 3-Way Valve



ZM0822

Valve Nominal Size Dimensions (Inches [mm])

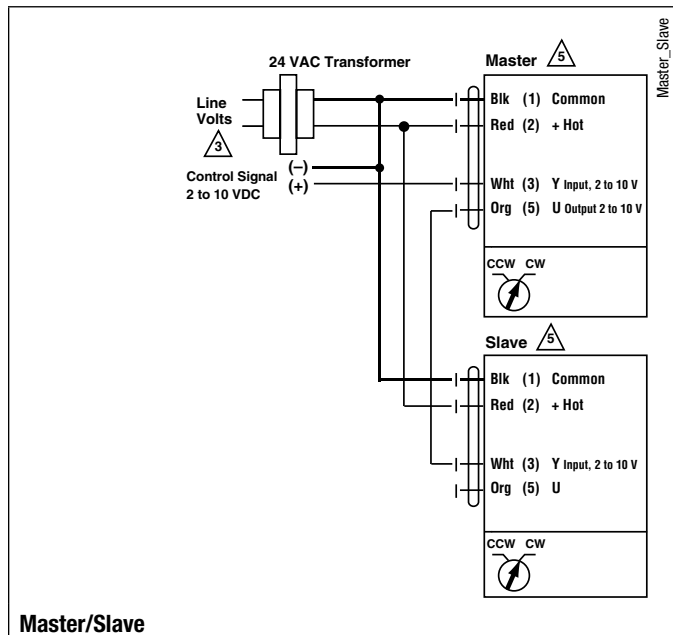
Valve Body	Inches	DN [mm]	A	B	C	D	FLG
F750HD/HDU	2"	50	11.26 [286]	10.49 [266]	10.49 [266]	18.94 [481]	F05
F765HD/HDU	2.5"	65	11.32 [287]	10.49 [266]	10.49 [266]	19.49 [495]	F05
F780HD/HDU	3"	80	11.36 [288]	10.49 [266]	10.49 [266]	19.73 [501]	F05
F7100HDU	4"	100	11.58 [294]	10.49 [266]	10.49 [266]	20.47 [520]	F07
F7125HDU	5"	125	11.62 [295]	10.49 [266]	10.49 [266]	20.99 [533]	F07
F7150HDU	6"	150	11.70 [297]	10.49 [266]	10.49 [266]	21.53 [547]	F07

Note: Most F7 versions use 2 actuators.

Wiring Diagrams

INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 4 Position feedback cannot be used with Triac sink controller. The actuator internal common reference is not compatible.
- 5 Control signal may be pulsed from either the Hot (source) or the Common (sink) 24 VAC line.



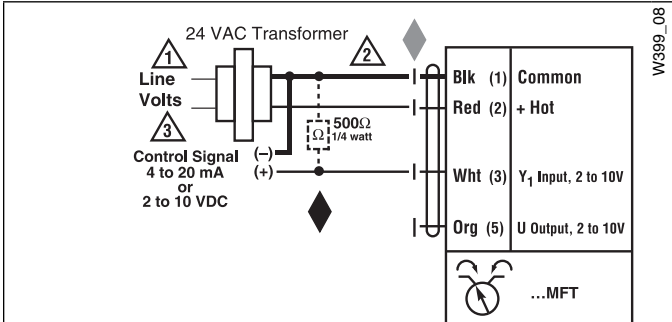
- 8 Contact closures A & B also can be triacs. A & B should both be closed for triac source and open for triac sink.
- 9 For triac sink the common connection from the actuator must be connected to the hot connection of the controller.

APPLICATION NOTES

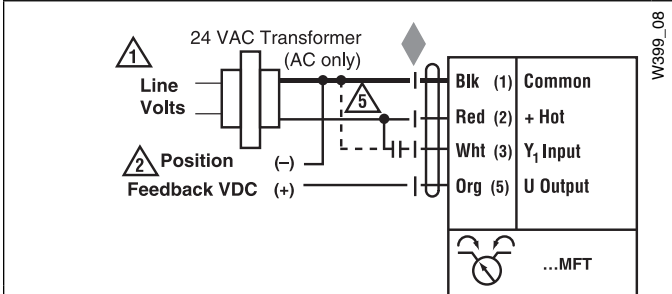
- The ZG-R01 500 Ω resistor may be used.

WARNING Live Electrical Components!

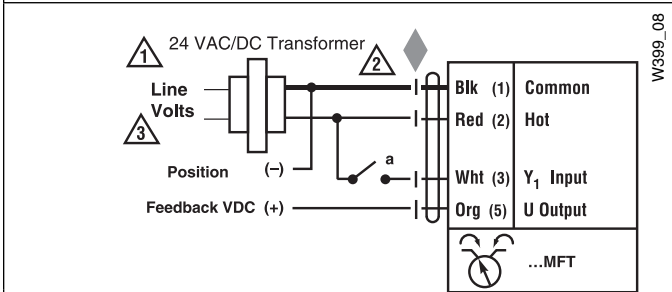
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



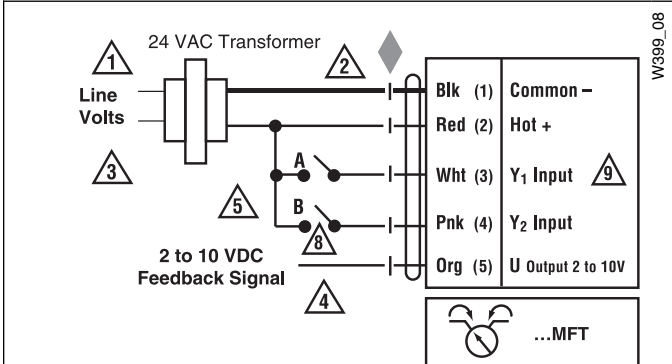
VDC/4-20 mA



PWM



On/Off control



Floating Point control