Butterfly Valve Assemblies

Product Summary

Schneider Electric's butterfly valve line offers a wide range of two- and three-way sizes, along with electric non-spring return, and spring return actuator models that operate with on/off, floating, or proportional control signals.

All assemblies include industry leading butterfly valve features, stainless steel double "D" shafts, nylon 11 coated ductile iron disc machined to provide bubble tight shut off, minimum torque, and longer seat life. The tongue and groove resilient seat design with molded in O-ring eliminates the use of flange gaskets and allows for ease of maintenance or replacement of the resilient seat. These features provide years of optimum performance and reliability.

For more technical information, refer to Butterfly Valve Assemblies Selection Guide, F-27440

Applications

Typical applications include data centers, cooling towers, central system shutoff and bypass piping control, thermal storage, and chiller and boiler control.

Features

- 2…18" two-way assemblies and 2…16" three-way assemblies
- Chilled/hot water/glycol applications
- EPDM resilient seats with tongue and groove design and build in O-ring seal
- Stainless steel double D stem, requires no pins or screws to connect the disc and stem
- Extended neck design for temperature isolation and ease of insulation installation
- Nylon 11 coated ductile iron disc
- Wide choice of electric actuators and control signals
- Cast iron lug bodies mate with ANSI class 125/150 flanges
- Bubble tight shut off
- Bidirectional flow
- Series S70 NEMA4 actuators available in 24 or 120 Vac

Valve Body Specifications

Service	Hot and chilled water, up to 60% glycol See EN-205 Water System Guidelines, F-26080
Fluid Temperature Limits	–40…250 °F (–40…120 °C)
Sizes	2…18" two-way models 2…16" three-way models
Neck	2" extended neck
Flow	Bi-directional
Leakage	Bubble tight shutoff

Materials	
Body	Polyester coated cast Iron ASTM A126 Class B lug. Mates with ANSI Class 125/150 flanges.
Stem	
2…8"	416 stainless steel double D stem
10" and 12"	316 stainless steel double D stem
14" and up	316 Stainless Steel round shaft woodruff key slot
Disc	Ductile iron nylon 11 coated disc
Seat	EPDM tongue and groove seat and molded O-ring flange seal

Document Number: F-27435-5

February, 2018 tc

Part Numbering System – Rubber Lined

V x x x – 6 x x x – x x x x – x – x x

Control Signal Type
A = 2-Position
B = Body only
F = Floating (SPDT, center off)
S = Proprotional (Vdc, mAdc)

Type
6 = Butterfly

Actuator Code
See Table 1

If actuator code is only three digits, leave the fourth digit blank.

Disc
F = Full 175 psi close to 12"
U = Undercut 50 psi close

Style
2 = 2-Way
3 = 3-Way

Body Style
L = Nylon disc and lug body
M = AlumBronze Disc*
SS = Stainless Steel Disc*
*Note: (Consult Factory)

Accessory
S = Auxilary switch

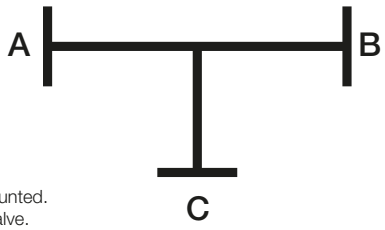
Leave the digit blank for no accessories

Power Loss Action
0 = NSR
1 = NO
2 = NC

Port Code
11 = 2”
12 = 2.5”
13 = 3”
14 = 4”
15 = 5”
16 = 6”
17 = 8”
18 = 10”
19 = 12”
20 = 14“
21 = 16”
22 = 18”
*Note:
Larger Sizes
(Consult Factory)

Flow Pattern[b]
0 = 2-Way
C = 3-Way

Configuration Number	Main Valve[a]	Main Valve Position[c]	Linked Valve
1	**A**	NC	C
2	**B**	NC	C
7	**B**	NO	C
8	**A**	NO	C



a. The letter indicates the main valve and where the actuator is mounted.
b. The view represented is looking down on the stem side of the valve.
c. Spring return models position on loss of power

Three-way valves are configurable during the order process. When placing an order manually through customer care please note the Configuration Number above. When ordering online through iPortal, please select the proper configuration from the drop-downs on the Cart Page. Refer to flow diagram above.

Document Number: F-27435-5

Actuator Codes

Table 1: Actuator Codes and Part Numbers[a]

Refer to the part numbering system illustration on the previous page.

Actuator Code[b]	**On/Off or Floating SR**	**Actuator Code[b]**	**Modulating (2…10 Vdc, 4…20mA) SR with the addition of a 500 ohm resistor**
556	MA41-7153 (VAx) (On/Off)	556	MS41-7153 (VSx)
556D	2 MA41-7153 (VAx) (On/Off)	556D	2 MS41-7153 (VSx) (Modulating)
556	MF41-7153 (VFx) (Floating)	–	–
556D	2 MF41-7153 (VFx) (Floating)		
Actuator Code[b]	**On/Off or Floating SR with Two SPDT Auxiliary Switches**	**Actuator Code[b]**	**Modulating (2…10 Vdc, 4…20 mA) SR with the addition of a 500 ohm resistor with Two Auxiliary Switches**
556	1 MA41-7153-502 (VAxS) (On/Off)	556	MS41-7153-502 (VSxS) (Modulated)
556D	1 MA41-7153 & 1 MA41-7153-502 (VAxS) (On/Off)	556D	1 MS41-7153 & 1 MS41-7153-502 (VSxS) (Modulated)
556	1 MF41-7153-502 (VFxS) (Floating)	–	–
556D	1 MF41-7153 & 1 MF41-7153-502 (VFxS) (Floating)		
Actuator Code[b]	**On/Off or Floating NSR**	**Actuator Code[b]**	**Modulating (0…10 Vdc, 4…20 mA) NSR**
E24	NR-2216-521 (VFx)	E24	NR-2216-541 (VSx)
E25	NR-2224-521 (VFx)	E25	NR-2224-541 (VSx)
E25D	2 NR-2224-521 (VFx)	E25D	2 NR-2224-541 (VSx)
Actuator Code[b]	**On/Off or Floating NSR with Two SPDT Auxiliary Switches**	**Actuator Code[b]**	**Modulating (0…10 Vdc, 4…20 mA) NSR with Two SPDT Auxiliary Switches**
E24	NR-2216-522 (VFxS)	E24	NR-2216-542 (VSxS)
E25	NR-2224-522 (VFxS)	E25	NR-2224-542 (VSxS)
E25D	1 NR-2224-521 & 1 NR-2224-522 (VFxS)	E25D	1 NR-2224-541 & 1 NR-2224-542 (VSxS)
Actuator Code[c]	**On/Off NSR with Two SPDT Auxiliary Switches and Heater**	**Actuator Code[c]**	**Modulating (0…10 Vdc, 4…20 mA) NSR with Two SPDT Auxiliary Switches and Heater**
E10	S70-120-0061-H (VAxS)	E12	S70-120-0061-SV (VAxS)
E20	S70-120-0121-H (VAxS)	E22	S70-120-0121-SV (VSxS)
E30	S70-120-0201-H (VAxS)	E32	S70-120-0201-SV (VSxS)
E40	S70-120-0301-H (VAxS)	E42	S70-120-0301-SV (VSxS)
E50	S70-120-0501-H (VAxS)	E52	S70-120-0501-SV (VSxS)
E60 (120 Vac only)	S70-120-0651-H (VAxS)	E62 (120 Vac only)	S70-120-0651-SV (VSxS)

a. See Table 2 to verify the correct actuator application for the valve selected.
b. D = Dual actuators
c. E10 through E50 available as 24 Vac powered: change actuator code E to “F” and 120 to 24, e.g. F10 = “S70-24-0061-H”

Table 2: Two-Way and Three-Way Valve Assemblies

Size	Close Off	Two-Way Butterfly Valve Assemblies[a]			Three-Way Butterfly Valve Assemblies[a]		
		Schneider Electric SmartX™ SR[b]	Direct Coupled NSR[c]	NEMA 4 with Hand Wheel NSR[c]	Schneider Electric SmartX SR[b]	Direct Coupled NSR[c]	NEMA 4 with Hand Wheel NSR[c]
2”	175	S	S	S	S	S	S
2.5”	175	S	S	S	S	S	S
3”	175	D	S	S	D	S	S
4”	50	D	S	–	D	S	S
	175	–	D	S	–	D	S
5”	50	–	S	S	–	D	S
	175	–	–	S	–	–	S
6”	50	–	D	–	–	D	S
	175	–	–	S	–	–	S
8”	50	–	–	S	–	–	S
	175	–	–	S	–	–	S
10”	50	–	–	S	–	–	S
	175	–	–	S	–	–	S
12”	50	–	–	S	–	–	S
	175	–	–	S	–	–	S
14”	50	–	–	S	–	–	S
	150	–	–	S	–	–	–
16”	50	–	–	S	–	–	S
18”	50	–	–	S	–	–	–

a. S = Single actuator, D = Dual actuators
b. SR = Spring return actuator available as configured for normally open and normally closed butterfly valves.
c. NSR = Non-spring return actuator.

3: Actuator Features

Actuator Family	Spring Return	Available Input Signals	Available Options
Schneider Electric SmartX SR MX41-7153	Yes	24 Vac. Two Position, Floating, 2…10 Vdc, 4…20 mA with the addition of a 500 ohm resistor, Proportional	Auxiliary Switch
Direct Coupled NSR NR-22xx	No	24 Vac. Three Wire Two Position, Floating, 0…10 Vdc, 4…20 mA, Proportional	Auxiliary Switch
NEMA 4 with Hand Wheel NSR S70-xxx-	No	120 Vac. or 24 Vac. Three Wire Two Position, Floating, 0…10 Vdc, 4…20 mA, Proportional	Auxiliary Switch (standard) and Heater (standard)

Document Number: F-27435-5