

10. Butterfly Valve Assemblies

Butterfly Valve Actuators & Assembly Ordering

Product Description

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.

Applications

Typical applications include data centers, cooling towers, central system shutoff and bypass piping control, thermal storage, and chiller and boiler control. High Performance Butterfly Valves are ideally suited to both high pressure, high temperature, high cycle HVAC applications and mission critical HVAC applications. This includes chiller isolation, cooling tower isolation, change-over systems, large air handler's coil control, bypass and process control applications. With ANSI Class 150 rating, all valves are tested for bubble tight close-off to API 598 standards at maximum rated differential pressure.

Standard 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 pneumatic and electric actuators and control signals
- Cast iron lug bodies mate with ANSI class 125/150 flanges
- Bubble tight shut off
- Bidirectional Flow
- Series S70 NEMA 4 actuators available in 24 or 120 Vac

High Performance Features

- Double Offset Stem/Disc Design
 - Reduced seat wear, zero leakage, and low torque
- Blow-out Proof Stem
 - Safety and ease of use
- Energized RTFE Seat
 - Zero leakage, self-adjusting for wear and easy field replacement
- Pressure Assisted, but not Pressure Dependent Seat Design
 - Optimal performance and sealing at high or low differential pressures
- Adjustable PTFE Packing
 - Packing can be adjusted while the valve is in service
- Dead End Rating Equal to Nominal Pressure Rating
 - Allows the control valve to function as an isolation valve.



Part Numbering System

Flow Pattern^b
0 = 2-Way
C = 3-Way

Configuration Number	C		
	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.

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

Type
6 = Butterfly

Actuator Code
See Table 1
If actuator code is only three digits, leave the fourth digit blank.

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"
*Notes: Larger Sizes (Consult Factory)

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*
*Notes: (Consult Factory)

Accessory
S = Auxiliary switch
Leave the digit blank for no accessories

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

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)
E70 (120 Vac only)	S70-120-1300-H (VAxS)	E72 (120 Vac only)	S70-120-1300-SV (VSxS)
E80 (120 Vac only)	S70-120-1800-H (VAxS)	E82 (120 Vac only)	S70-120-1800-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"