

# BUTTERFLY VALVES

Lug or Wafer, EPDM or PTFE, Electric or Pneumatic Actuators



WE20-CHD00-LE



WE20-EDA06-LE



WE20-ETD04-LE-A



WE20-CDA04-WP-AA07



WE20-CDA04-WP-NN08



The **Series WE20 Butterfly Valves** are offered in lug or wafer body styles and is equipped with a PTFE or EPDM liner. The most critical aspect of the Series WE20 Butterfly Valves is the cartridge seat design, which alleviates installation problems associated with common "dove tail design" seats. Valve torques are lower and more consistent as the seat dynamics are not dependent on being coupled between two flanges. Precision machining of the disc and body allow the cartridge design to maintain a tighter disc to seat tolerance, providing a perfect low torque seal each and every time the valve is cycled. The seat to disc seal is independent of flange support and capable of full rated dead end service.

Actuators are directly mounted creating a compact assembly for tight spaces. Limit switches are able to be mounted directly to the valves allowing for remote position indication.

The Series WE20 can be configured with either an electric or pneumatic actuator. Electric actuators are available in weatherproof or explosion-proof, a variety of supply voltages and two-position or modulating control. Two-position actuators use the supply voltage to drive the valve open or closed, while the modulating actuator accepts a 4-20 mA input for valve positioning. Actuators feature thermal overload protection and permanently lubricated gear train. The pneumatic double acting actuator uses an air supply to drive the valve open and closed. The actuator has two supply ports, with one driving the valve open and the other driving the valve closed. Spring return pneumatic actuators use the air supply to open the valve, and internally loaded springs return the valve to the closed position.

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## FEATURES/BENEFITS

- Machined flats attach disc/stem - no pins
- Phenolic backed cartridge seat design for extended service and ease of replacement
- Extended neck for insulation - no fabricated extensions required
- Capable of being configured to fit any application
- Limit switches can be mounted to manual valves for remote monitoring
- Available with a variety of electric and pneumatic actuators

## APPLICATIONS

- Gas or liquid flow control

## SPECIFICATIONS

### VALVE

**Service:** Compatible liquids, gases, and steam.

**Body:** 2-way, wafer or lug butterfly.

**Line Sizes:** 2 to 12".

**End Connections:** Lug and wafer pattern designed for flanges that are ANSI Class 125 (B16.1) and ANSI Class 150 (B16.5) dimension.

**Pressure Limits:** 225 psi (15.5 bar).

**Wetted Materials:** Body material: Ductile iron; Disc: 316 SS; Seat: EPDM or PTFE; O-ring: EPDM; Stem: 410 SS.

**Temperature Limits:** Disc: EPDM: -50 to 250°F (-46 to 121°C); PTFE: 0 to 300°F (-18 to 149°C).

**Bearings:** Nylatron.

**Operator:** 2 to 6" 10-position locking hand lever; 8 to 12": manual gear.

### ACTUATORS

#### Pneumatic "DA" and "SR" Series

**Type:** DA series is double acting and SR series is spring return (rack and pinion).

**Normal Supply Pressure:** DA: 40 to 115 psi (2.7 to 7.9 bar); SR: 70 to 115 psi (4.8 to 7.9 bar).

**Maximum Supply Pressure:** 120 psi (8.6 bar).

**Air Connections:** DA03 thru DA11: 1/4" FNPT; SR03 thru SR11: 1/4" FNPT.

**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.

**Temperature Limits:** -40 to 176°F (-40 to 80°C).

**Accessory Mounting:** NAMUR standard.

#### Electric "TD" and "MD" Series

**Power Requirements:** 110 VAC, 220 VAC or 24 VAC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** TD01 and MD01: 4 s; TD02 and MD02: 20 s; TD03 and MD03: 30 s; TD04 and MD04: 30 s; TD05 and MD05: 30 s; TD06 and MD06: 45 s; TD07 and MD07: 30 s.

**Duty Rating:** 85%.

**Enclosure Rating:** NEMA 4X (IP67).

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Manual override, position indicator, and TD models come with two limit switches.

#### Electric "TH and MH Series

**Power Requirements:** 110 VAC, 220 VAC, 24 VAC or 24 VDC.

**Power Consumption:** See instruction manual.

**Cycle Time (per 90°):** See instruction manual.

**Duty Rating:** See instruction manual.

**Enclosure Rating:** NEMA 7, designed to meet hazardous locations: Class I, Group C & D; Class II, Group E, F & G; Division I & II.

**Housing Material:** Powder coated aluminum.

**Temperature Limits:** -22 to 140°F (-30 to 60°C).

**Electrical Connection:** 1/2" female NPT.

**Modulating Input:** 4-20 mA.

**Standard Features:** Position indicator and two limit switches.

# BUTTERFLY VALVES

Lug or Wafer, EPDM or PTFE, Electric or Pneumatic Actuators

MODEL CHART						
Size	Cv (gal/min)	Popular Hand Operated Model	Popular Double Acting Pneumatic Model	Popular Spring Return Pneumatic Model	NEMA 4X Two-Position Electric (110 VAC) Model	NEMA 4X Modulating Electric (110 VAC) Model
2"	135	WE20-AHD00-WE	WE20-ADA03-WE	WE20-ASR04-WE	WE20-ATD02-WE-A	WE20-AMD02-WE-A
2-1/2"	220	WE20-BHD00-WE	WE20-BDA03-WE	WE20-BSR04-WE	WE20-BTD02-WE-A	WE20-BMD02-WE-A
3"	302	WE20-CHD00-WE	WE20-CDA04-WE	WE20-CSR06-WE	WE20-CTD02-WE-A	WE20-CMD02-WE-A
4"	600	WE20-DHD00-WE	WE20-DDA05-WE	WE20-DSR07-WE	WE20-DTD03-WE-A	WE20-DMD03-WE-A
5"	1022	WE20-EHD00-WE	WE20-EDA06-WE	WE20-ESR08-WE	WE20-ETD04-WE-A	WE20-EMD04-WE-A
6"	1579	WE20-FHD00-WE	WE20-FDA07-WE	WE20-FSR09-WE	WE20-FTD04-WE-A	WE20-FMD04-WE-A
8"	3136	WE20-GHD00-WE	WE20-GDA08-WE	WE20-GSR10-WE	WE20-GTD05-WE-A	WE20-GMD05-WE-A
10"	5340	WE20-HHD00-WE	WE20-HDA09-WE	WE20-HSR11-WE	WE20-HTD06-WE-A	WE20-HMD06-WE-A
12"	8250	WE20-IHD00-WE	WE20-IDA11-WE	WE20-ISR11-WE	WE20-ITD07-WE-A	WE20-IMD07-WE-A

MODEL CHART - HAND OPERATED & PNEUMATIC ACTUATOR						
Example	WE20	-BSR04	-WE	-A	00	WE20-BSR04-WE-AA00
Series	WE20					Butterfly valve
Size and Actuator	AHD00					2" hand operated
	BHD00					2-1/2" hand operated
	CHD00					3" hand operated
	DHD00					4" hand operated
	EHD00					5" hand operated
	FHD00					6" hand operated
	GHD00					8" hand operated
	HHD00					10" hand operated
	IHD00					12" hand operated
	ADA03					2" double acting
	BDA03					2-1/2" double acting
	CDA04					3" double acting
	DDA05					4" double acting
	EDA06					5" double acting
	FDA07					6" double acting
	GDA08					8" double acting
	HDA09					10" double acting
	IDA11					12" double acting
	ASR04					2" spring return
	BSR04					2-1/2" spring return
Body Type /Liner		WE				Wafer-EPDM
		WP				Wafer-PTFE
Solenoid			N			No solenoid
			A			NEMA 4X NAMUR solenoid
Solenoid Voltage				N		No solenoid
				A		120 VAC
				B		220 VAC
				C		24 VAC
				D		24 VDC
Positioner and Switches					00	None
					01	42AD0 exp limit switch
					02	45VD0 exp position transmitter
					03	42AD0-B ATEX limit switch
					04	42AD0-IE IECEx limit switch
					06	QV-210101 poly limit switch
					07	VPS and P1 prox switch
					08	265ER-D5 positioner
Options					09	285ER-D5 smart positioner
					NO	Fail open spring return actuator

MODEL CHART - ELECTRIC ACTUATOR				
Example	WE20	-DMH05	-WE	-A WE20-DMH05-WE-A
Series	WE20			Butterfly valve
Size and Actuator	ATD02			2" NEMA 4X two-position
	BTD02			2-1/2" NEMA 4X two-position
	CTD02			3" NEMA 4X two-position
	DTD03			4" NEMA 4X two-position
	ETD04			5" NEMA 4X two-position
	FTD04			6" NEMA 4X two-position
	GTD05			8" NEMA 4X two-position
	HTD06			10" NEMA 4X two-position
	ITD07			12" NEMA 4X two-position
	AMD02			2" NEMA 4X modulating
	BMD02			2-1/2" NEMA 4X modulating
	CMD02			3" NEMA 4X modulating
	DMD03			4" NEMA 4X modulating
	EMD04			5" NEMA 4X modulating
	FMD04			6" NEMA 4X modulating
	GMD05			8" NEMA 4X modulating
	HMD06			10" NEMA 4X modulating
	IMD07			12" NEMA 4X modulating
	ATH03			2" exp two-position
	BTH03			2-1/2" exp two-position
Material/ Liner	CTH05			3" exp two-position
	DTH05			4" exp two-position
	ETH06			5" exp two-position
	FTH08			6" exp two-position
	GTH09			8" exp two-position
	HTH10			10" exp two-position
	ITH11			12" exp two-position
	AMH03			2" exp electric modulating
	BMH03			2-1/2" exp electric modulating
	CMH05			3" exp electric modulating
Actuator Voltage	DMH05			4" exp electric modulating
	EMH06			5" exp electric modulating
	FMH08			6" exp electric modulating
	GMH09			8" exp electric modulating
	HMH10			10" exp electric modulating
	IMH11			12" exp electric modulating
			WE	Wafer-EPDM
			WP	Wafer-PTFE
			LE	Lug-EPDM
			LP	Lug-PTFE
			A	110 VAC
			B	220 VAC
			C	24 VAC
			D	24 VDC

ACCESSORIES	
Model	Description
AFR4	Air filter regulator 0 to 120 psi
VB-01	Volume booster