

Butterfly Valve with Lug types

- Disc 304 stainless steel
- Bubble tight shut-off
- Resilient seat
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation



5-year warranty

Type overview

Type	DN
F650HD	50

Technical data

Functional data	Valve size [mm]	2" [50]
Fluid		chilled or hot water, up to 60% glycol
Fluid Temp Range (water)		-22...250°F [-30...120°C]
Body Pressure Rating		ANSI Class Consistent with 125, 232 psi CWP
Close-off pressure Δps		200 psi
Flow characteristic		modified equal percentage
Leakage rate		0% leakage, leakage rateA
Pipe connection		Flange for use with ASME/ANSI class 125/150
Servicing		maintenance-free
Flow Pattern		2-way
Controllable flow range		90° rotation
Cv		115
Maximum Velocity		12 FPS
Lug threads		5/8-11 UNC
Materials	Valve body	Ductile cast iron ASTM A536
	Body finish	epoxy powder coating (blue RAL 5002)
	Stem	416 stainless steel
	Stem seal	EPDM (lubricated)
	Seat	EPDM
	Bearing	RPTFE
	Disc	304 stainless steel
Suitable actuators	Non Fail-Safe	ARB(X) GRB(X)
	Spring	AFRB(X)

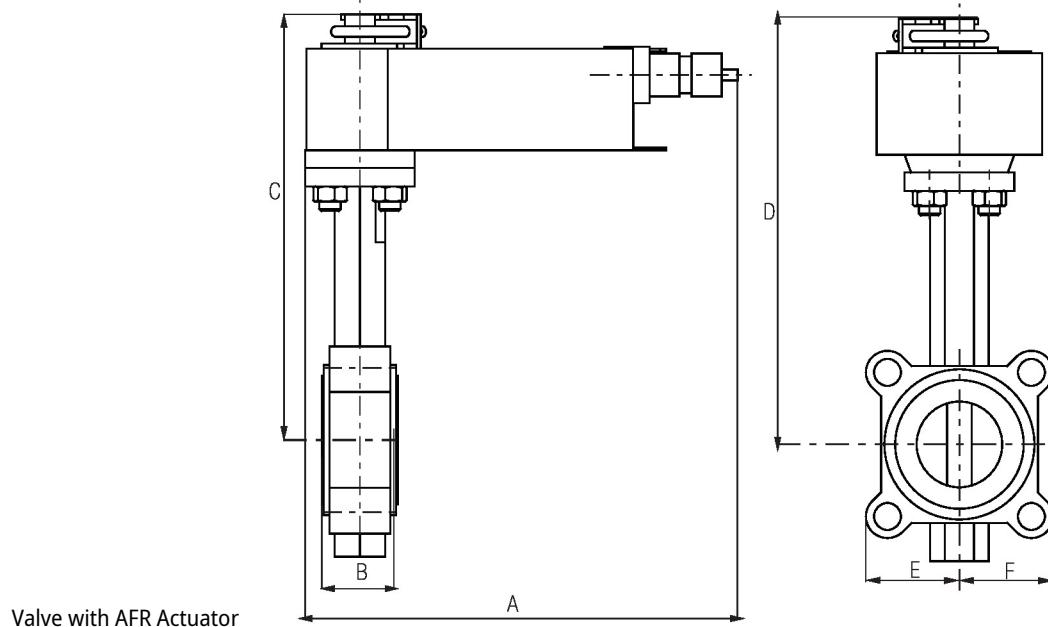
Product features

Flow/Mounting details

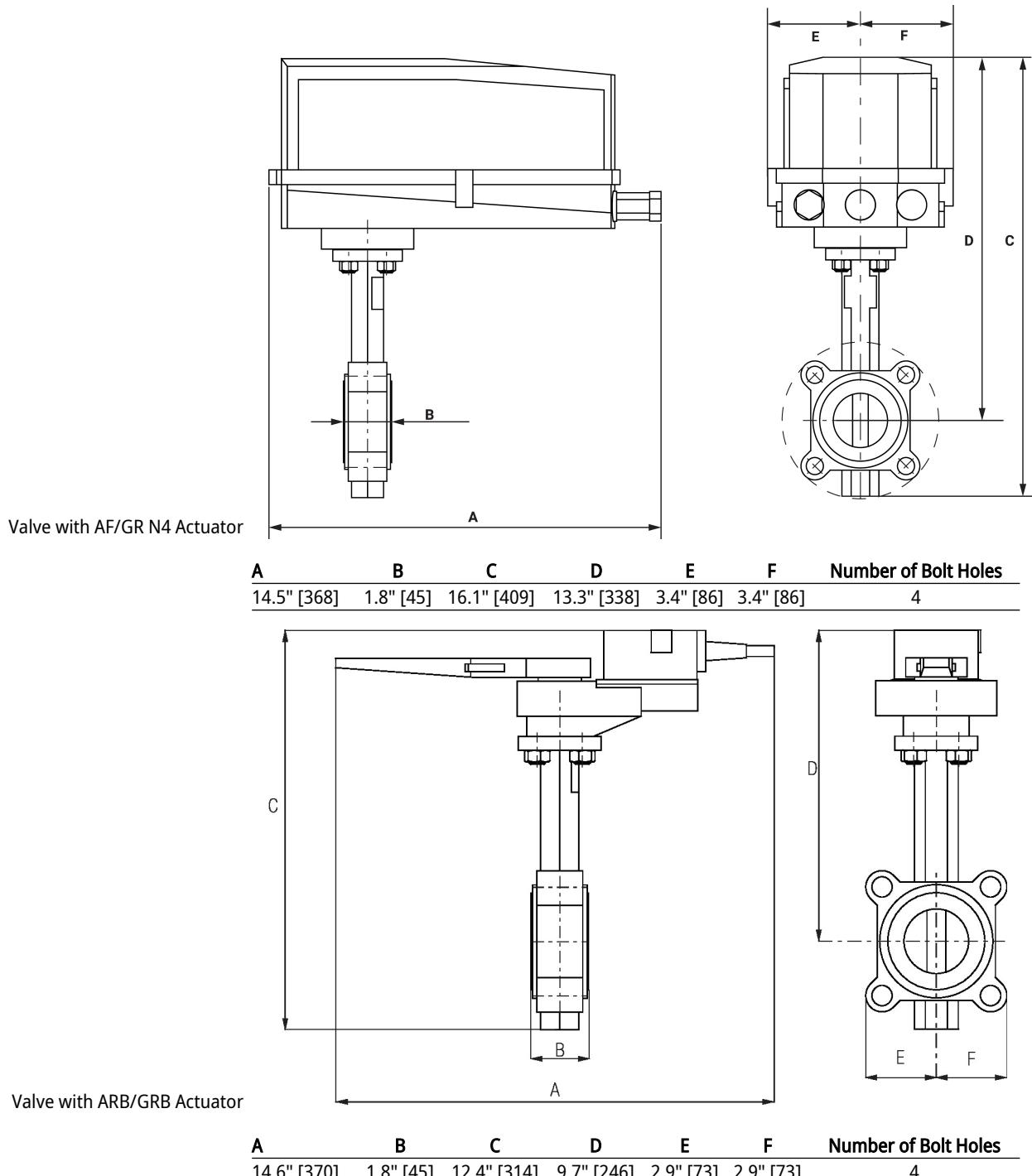


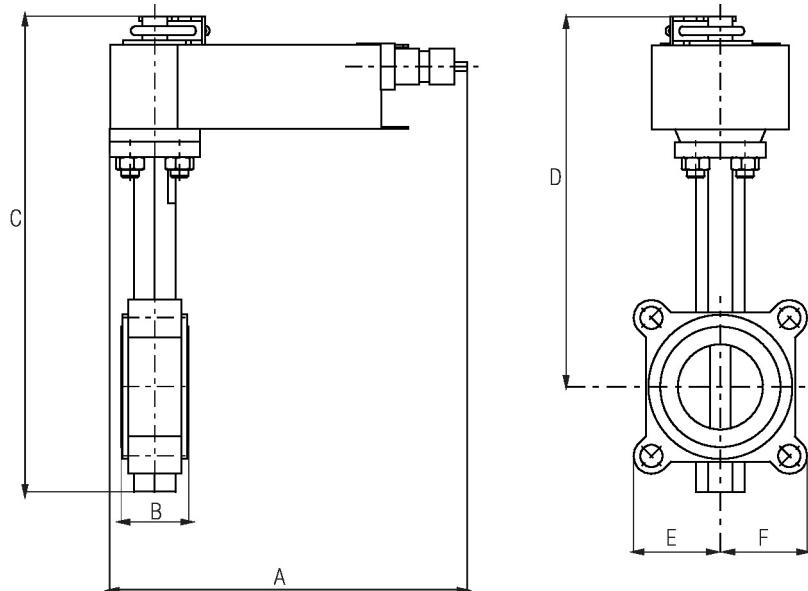
Dimensions

Type	DN	Weight
F650HD	50	12 lb [5.3 kg]



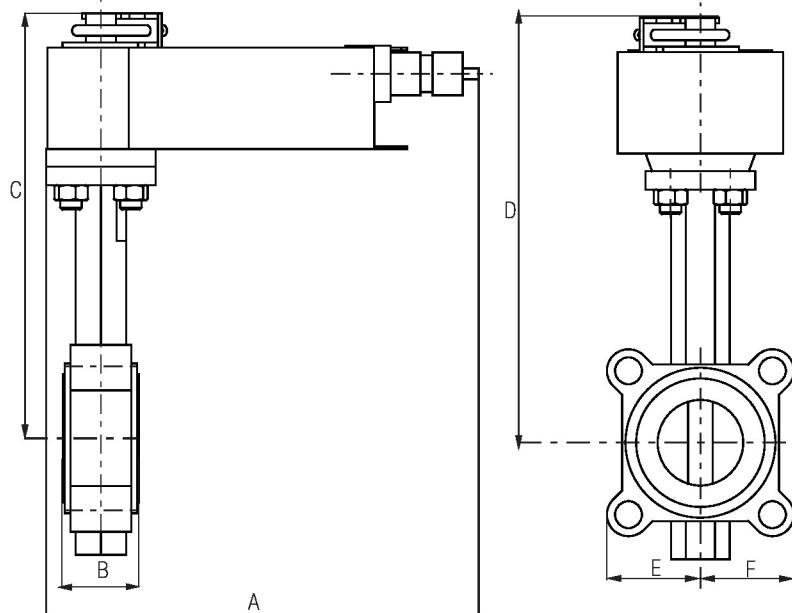
A	B	C	D	E	F	Number of Bolt Holes
10.1" [257]	1.8" [45]	12.3" [312]	9.5" [241]	2.9" [73]	2.9" [73]	4





Valve with AFB/AFX Actuator

A	B	C	D	E	F	Number of Bolt Holes
10.1" [257]	1.8" [45]	15.1" [384]	12.4" [315]	2.9" [73]	2.9" [73]	4

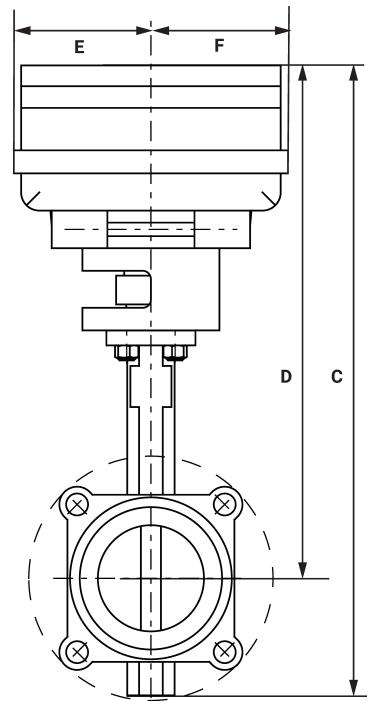
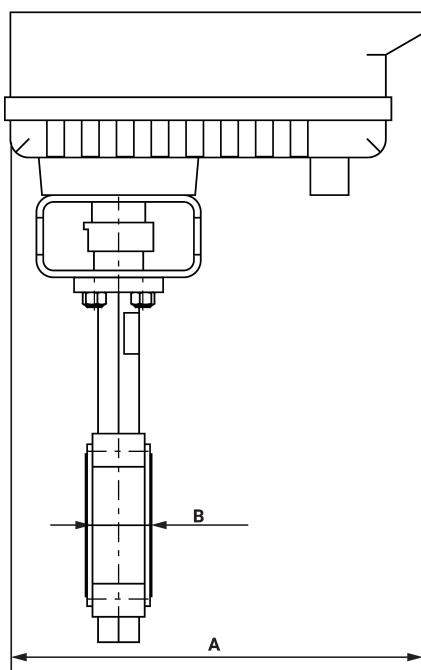


Valve with AMB/AMX Actuator

A	B	C	D	E	F	Number of Bolt Holes
8.3" [211]	1.8" [45]	15.1" [384]	12.4" [315]	2.9" [73]	2.9" [73]	4

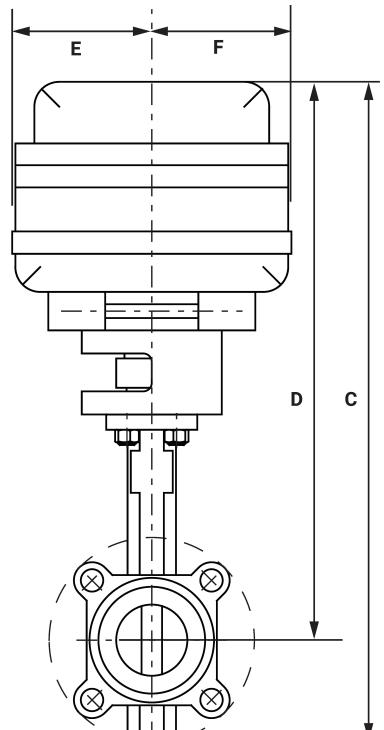
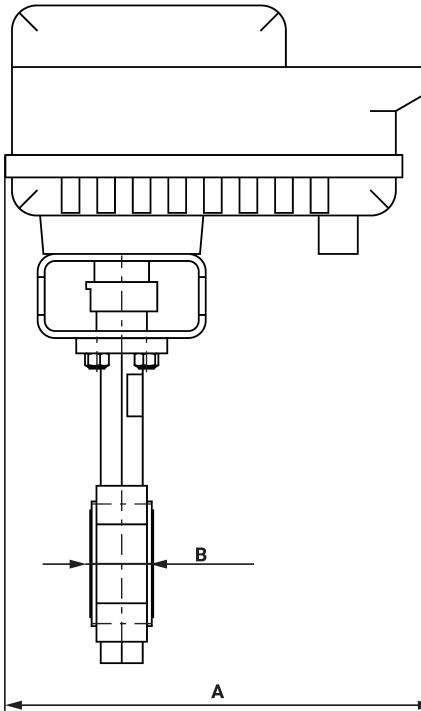
Dimensions

Valve with PR Actuator



A	B	C	D	E	F	Number of Bolt Holes
12.0" [304]	1.8" [45]	16.7" [425]	13.9" [354]	3.9" [100]	3.9" [100]	4

Valve with PK Actuator



A	B	C	D	E	F	Number of Bolt Holes
12.0" [304]	1.8" [45]	18.5" [470]	15.7" [399]	3.9" [100]	3.9" [100]	4
A	B	C	D	E	F	Number of Bolt Holes
10.8" [275]	1.8" [45]	13.0" [330]	10.2" [260]	2.9" [73]	2.9" [73]	4

On/Off, Spring return, 24...240 V



5-year warranty



Technical data

Electrical data	
Nominal voltage	AC 24...240 V / DC 24...125 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.2...264 V / DC 21.6...137.5 V
Power consumption in operation	7 W
Power consumption in rest position	3.5 W
Auxiliary switch	2x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V, 1x 10% / 1x 11...90%
Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V
Electrical Connection	(2) 18 AWG appliance cables, 1 m, with 1/2" NPT conduit connectors
Overload Protection	electronic throughout 0...95° rotation
Functional data	
Direction of motion motor	selectable by ccw/cw mounting
Direction of motion fail-safe	reversible with cw/ccw mounting
Manual override	5 mm hex crank (3/16" Allen), supplied
Angle of rotation	90°
Running Time (Motor)	75 s / 90°
Running time fail-safe	<20 s
Noise level, motor	45 dB(A)
Noise level, fail-safe	62 dB(A)
Position indication	Mechanical
Safety data	
Power source UL	Class 2 Supply
Degree of protection IEC/EN	IP66
Degree of protection NEMA/UL	NEMA 4X
Housing	UL Enclosure Type 4X
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
Quality Standard	ISO 9001
Ambient humidity	Max. 100% RH
Ambient temperature	-22...122°F [-30...50°C]
Ambient temperature note	-40...50°C [104...122°F] for actuator with integrated heating
Storage temperature	-40...176°F [-40...80°C]

Safety data	Servicing	maintenance-free
Weight	Weight	10 lb [4.5 kg]
Materials	Housing material	Die cast aluminium and plastic casing

Footnotes †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Accessories

Factory add-on option only	Description	Type
	Heater, with adjustable thermostat	ACT_PACK_H
	Heater, with adjustable thermostat	ACT_PACK_Y

Electrical installation

☒ INSTALLATION NOTES

- Ⓐ Actuators with appliance cables are numbered.
- UP Universal Power Supply (UP) models can be supplied with AC 24...240 V, or DC 24...125 V.
- 1 Provide overload protection and disconnect as required.
- 4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- 45 Actuators may be powered in parallel. Power consumption must be observed.
- 48 Parallel wiring required for piggy-back applications.
- ⚡ Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠ 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.

Wiring diagrams

On/Off

Auxiliary Switches

