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Valve Size	3" [80]
Fluid	chilled or hot water, up to 60% glycol
Fluid Temp Range (water)	-22250°F [-30120°C]
Body Pressure Rating	ANSI Class Consistent with 125, 232 psi CWP
Close-off pressure Δps	50 psi
Flow characteristic	modified linear
Servicing	maintenance-free
Rangeability Sv	10:1 (for 3070° range)
Flow Pattern	3-way Mixing/Diverting
Leakage rate	0%
Controllable flow range	90° rotation
Cv	302
ANSI Class	Consistent with 125
Body pressure rating note	232 psi CWP
Maximum Velocity	12 FPS
Lug threads	5/8-11 UNC
Valve body Body finish	Ductile cast iron ASTM A536
Seat	epoxy powder coating (blue RAL 5002)  EPDM
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### Materials

**Suitable actuators** 

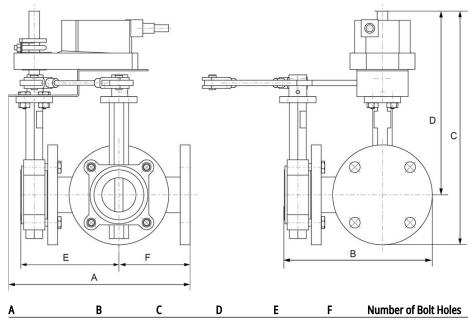
Valve body	Ductile cast iron ASTM A536	
Body finish	epoxy powder coating (blue RAL 5002)	
Seat	EPDM	
Pipe connection	for use with ANSI class 125/150 flanges	
Bearing	RPTFE	
Disc	304 stainless steel	
Non-Spring	GMB(X)	

# Dimensions



#### F780HDU Technical data sheet

# **Dimensional drawings**



Valve with GK/GM Actuator

A	В	С	D	E	F	Number of Bolt Holes
13.4" [340]	11.2" [284]	16.8" [426]	13.1" [334]	7.4" [187]	5.5" [140]	4

On/Off, Floating Point, Non-Spring Return, 24 V







echnical data			
Electrical data	Nominal voltage	AC/DC 24 V	
	Nominal voltage frequency	50/60 Hz	
	Power consumption in operation	4 W	
	Power consumption in rest position	2 W	
	Transformer sizing	6 VA (class 2 power source)	
	Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54	
	Overload Protection	electronic throughout 095° rotation	
Functional data	Input Impedance	600 Ω	
	Direction of motion motor	selectable with switch 0/1	
	Manual override	external push button	
	Angle of rotation	Max. 95°, adjustable with mechanical stop	
	Angle of rotation note	adjustable with mechanical stop	
	Running Time (Motor) 150 s, constant, independent of loa		
	Running time motor note	constant, independent of load	
	Noise level, motor	45 dB(A)	
	Position indication	Mechanically, 3065 mm stroke	
Safety data	Degree of protection IEC/EN	IP54	
	Degree of protection NEMA/UL	NEMA 2 UL Enclosure Type 2	
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35 EU; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC	
	Quality Standard	ISO 9001	
	Ambient temperature	-22122°F [-3050°C]	
	Storage temperature	-40176°F [-4080°C]	
	Ambient humidity	max. 95% r.H., non-condensing	
	Servicing	maintenance-free	
Weight	Weight	4.0 lb [1.8 kg]	

# Safety notes



- Battery Back Up System for SY(7~10)-110
- ZS-300 Mounting Bracket Set
- 120 to 24 VAC, 40 VA transformer.
- Cable for ZTH US to actuators w/o diagnostics socket.
- MFT95 resistor kit for Series 90 control applications.
- · PC Tool computer programming interface, serial port.

# **Electrical installation**



### > INSTALLATION NOTES

(A) Actuators with appliance cables are numbered.

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m \Delta}$  Provide overload protection and disconnect as required.

 $\sqrt{3}$  Actuators may also be powered by 24 VDC.

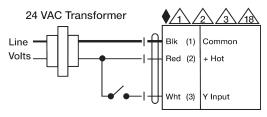
Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.

Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

Meets cULus requirements without the need of an electrical ground connection.

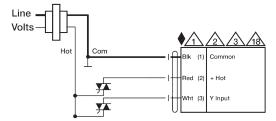
### Warning! Live Electrical Components!

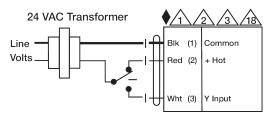
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow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



On/Off

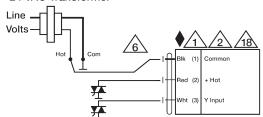
#### 24 VAC Transformer





Floating Point

#### 24 VAC Transformer



Floating Point - Triac Sink