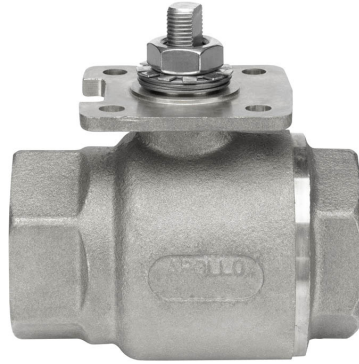


Ball Valve (VSS), 2", 2-way, Cv 108

- NSF/ANSI 61 – Water Quality – C. Hot
- NSF/ANSI 372 - Lead Free



2-year warranty

### Type overview

<b>Type</b>	<b>DN</b>
B249VSS	50

### Technical data

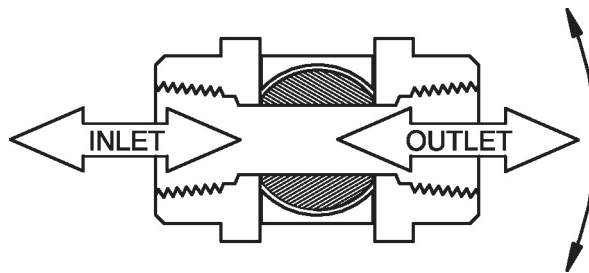
<b>Functional data</b>	Valve size [mm]	2" [50]
	Fluid	chilled or hot water, up to 60% glycol, steam
	Fluid Temp Range (water)	-22...298°F [-30...148°C]
	Body Pressure Rating	1500 psig WOG
	Close-off pressure Δps	1000 psi
	Flow characteristic	modified equal percentage
	Leakage rate	ANSI Class VI
	Pipe connection	Internal thread NPT (female)
	Max Differential Pressure (Steam)	50 psi
	Flow Pattern	2-way
	Controllable flow range	90° rotation, A – AB open ccw, B – AB open cw
	Cv	108
	Maximum Inlet Pressure (Steam)	50 psi
	Maximum Velocity	15 FPS
	<b>Materials</b>	Valve body
Housing seal		PTFE
Stem		316 stainless steel
Stem seal		RPTFE
Seat		RPTFE
Lock nut		stainless steel
Ball		316 stainless steel
<b>Suitable actuators</b>	Non Fail-Safe	GMB(X) PRB(X)
	Spring	AF
	Electrical fail-safe	GKB(X) PKRB(X)

Note: NSF/ANSI/CAN 61 Section 8, Annex G, NSF/ANSI 372 - Drinking Water System Components - Lead Content. Suitable for Cold, Domestic Hot, and Commercial Hot applications.

Product features

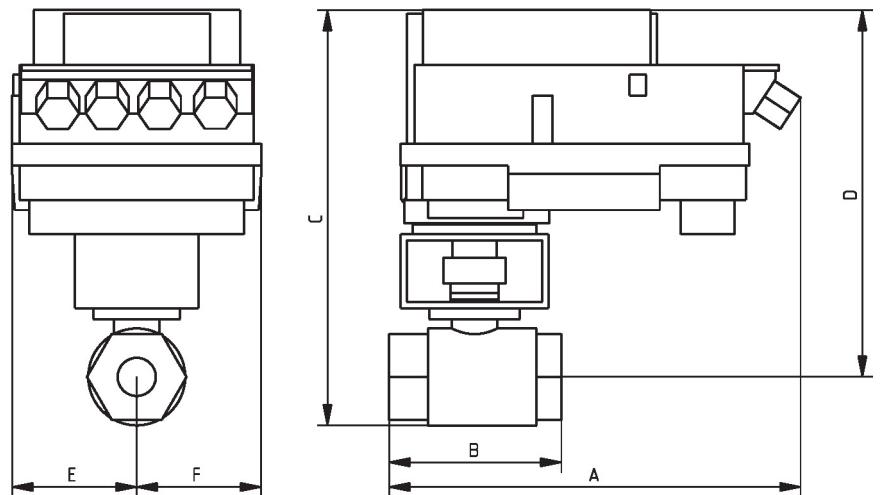
**Application** These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi.  
 Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements.  
 Up to 50 psi steam  
 1/2" - 2000 PSIG WOG, Cold Non-Shock  
 Federal Specification: WW-V-35C, Type II  
 Composition: SS  
 Style: 3

Flow/Mounting details



Dimensions

Type	DN	Weight
B249VSS	50	6.2 lb [2.8 kg]



B249VSS+PKR..

A	B	C	D	E	F
12.8" [325]	5.5" [140]	13.3" [337]	11.7" [298]	4.0" [102]	4.0" [102]

MFT/programmable, Spring return, 24 V



5-year warranty



## Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	7.5 W
	Power consumption in rest position	3 W
	Transformer sizing	20 VA
	Electrical Connection	18 GA appliance cable, 1 m, 3 m, or 5 m with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout 0...95° rotation
<b>Functional data</b>	Operating range Y	0...135 Ω
	Operating range Y note	Honeywell Electronic Series 90, input 0...135 Ω
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Manual override	5 mm hex crank (3/16" Allen), supplied
	Angle of rotation	95°
	Angle of rotation note	adjustable with mechanical end stop, 35...95°
	Running Time (Motor)	150 s / 90°
	Running time motor variable	70...220 s
	Running time fail-safe	<20 s
	Override control	MIN (minimum position) = 0% MID (intermediate position) = 50% MAX (maximum position) = 100%
	Noise level, motor	40 dB(A)
Noise level, fail-safe	62 dB(A)	
Position indication	Mechanical	
<b>Safety data</b>	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	Quality Standard	ISO 9001

**Technical data**

<b>Safety data</b>	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
<b>Weight</b>	Weight	□
<b>Materials</b>	Housing material	Galvanized steel and plastic housing
<b>Footnotes</b>	*Variable when configured with MFT options.	

**Accessories**

<b>Gateways</b>	<b>Description</b>	<b>Type</b>
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
<b>Tools</b>	<b>Description</b>	<b>Type</b>
	Connecting cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection	ZK4-GEN
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

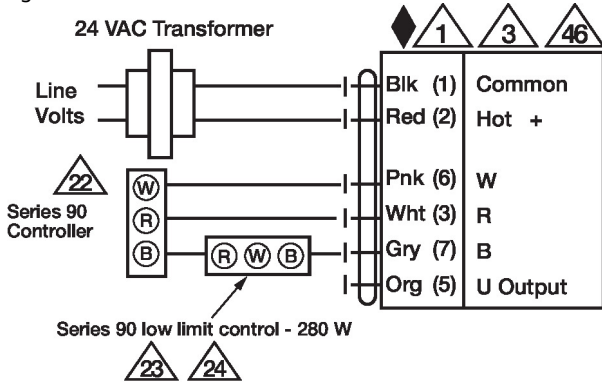
**Electrical installation**

- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ▲<sub>1</sub> Provide overload protection and disconnect as required.
- ▲<sub>3</sub> Actuators may also be powered by DC 24 V.
- ▲<sub>22</sub> Actuators and controller must have separate transformers.
- ▲<sub>23</sub> Consult controller instruction data for more detailed information.
- ▲<sub>24</sub> Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.
- ▲<sub>25</sub> To reverse control rotation, use the reversing switch.
- ▲<sub>46</sub> Actuators may be controlled in parallel. Current draw and input impedance must be observed.

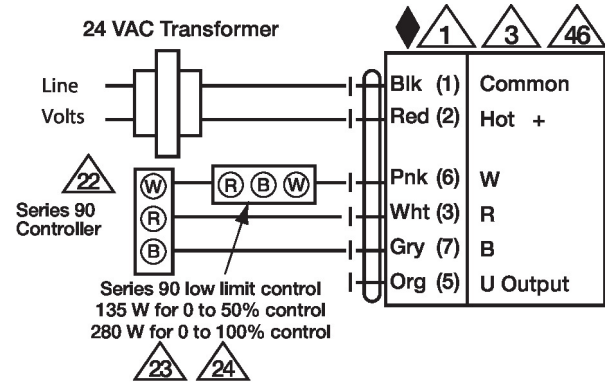
Electrical installation

Wiring diagrams

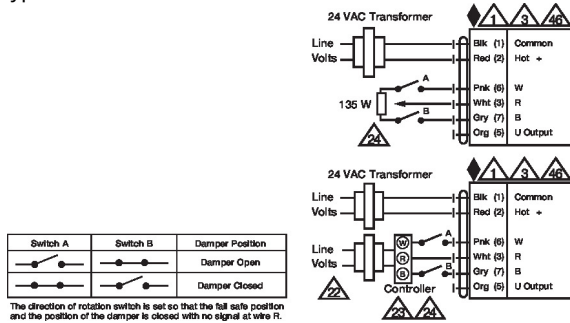
High Limit Control



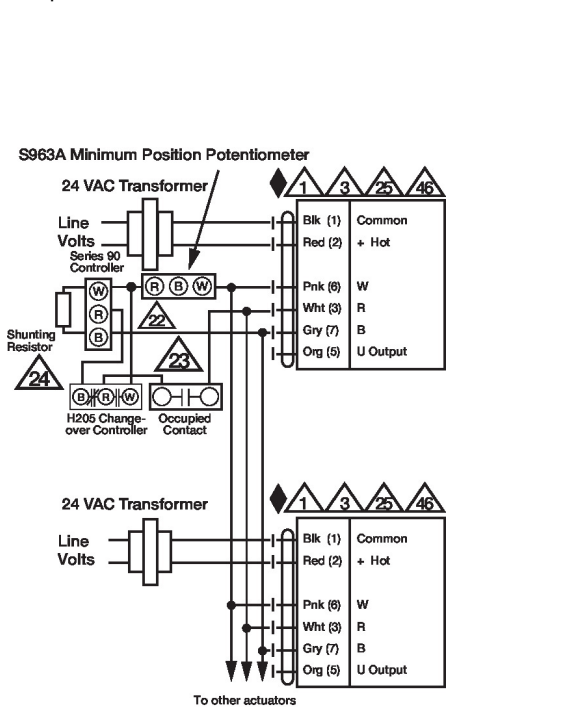
Low Limit Control



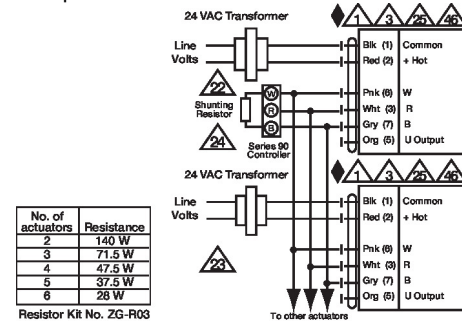
Typical and Override Control



Multiple Actuators with Minimum Position Potentiometer



Multiple Actuators



Multiple Actuators Used with W973, W7100 and T775

