

J Series

# Electric Zone Valves – Two-Way Spring Closed (Normally Closed), On/Off Control

## Description

This electric zone valve with forged brass body offers two-way spring closed (normally closed), on/off control for hot or chilled water applications. For complete details, refer to *J Series Electric Zone Valves Product Bulletin (LIT-977282)*.

## Features

- forged brass body and hard chrome-plated brass stem
- On/Off control from a two-wire thermostat
- provides economical control of hot or chilled water for fan coil, baseboard radiator, and VAV reheat applications
- 300 psig system operating pressure
- 400 psig static pressure rating
- buna-N (standard temperature) or nitrile disk (high temperature) provides tight closeoff



Standard Closeoff



High Closeoff

- 1/2, 3/4, and 1 in. line sizes
- sweat, NPT, or inverted flare end connections
- actuator can be factory or field installed
- actuator snaps in place for easy removal and assembly during installation

## Selection Charts

### J Series Electric Zone Valve – Two-Way Spring Closed (Normally Closed), On/Off Control (Part 1 of 2)

Valve Model Number					Actuator Model Number G Style Actuators have Standard Pressure Closeoff H Style Actuators have High Pressure Closeoff			
					Standard Temperature Rating: 200°F (93°C) Fluid, 104°F (40°C) Ambient		High Temperature Rating: 250°F (121°C) Fluid, 15 psig Steam, 169°F (76°C) Ambient	
Standard Temp	High Temp	Size, in.	Cv	Closeoff	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG13A020 JH13A020	JG13B020 JH13B020	JG14A020 JH14A020	JG14B020 JH14B020
<b>Sweat Connections – Standard Pressure Closeoff</b>								
JT2211	JS2211	1/2	1.0	60	JT2211G13A020	JT2211G13B020	JS2211G14A020	JS2211G14B020
JT2212	JS2212	1/2	2.5	40	JT2212G13A020	JT2212G13B020	JS2212G14A020	JS2212G14B020
JT2213	JS2213	1/2	3.5	25	JT2213G13A020	JT2213G13B020	JS2213G14A020	JS2213G14B020
JT2312	JS2312	3/4	2.5	40	JT2312G13A020	JT2312G13B020	JS2312G14A020	JS2312G14B020
JT2313	JS2313	3/4	3.5	25	JT2313G13A020	JT2313G13B020	JS2313G14A020	JS2313G14B020
JT2417	JS2417	1	8.0	17	JT2417G13A020	JT2417G13B020	JS2417G14A020	JS2417G14B020
JT2517	JS2517	1-1/4	8.0	17	JT2517G13A020	JT2517G13B020	JS2517G14A020	JS2517G14B020
<b>NPT Connections – Standard Pressure Closeoff</b>								
JT2221	JS2221	1/2	1.0	60	JT2221G13A020	JT2221G13B020	JS2221G14A020	JS2221G14B020
JT2222	JS2222	1/2	2.5	40	JT2222G13A020	JT2222G13B020	JS2222G14A020	JS2222G14B020
JT2223	JS2223	1/2	3.5	25	JT2223G13A020	JT2223G13B020	JS2223G14A020	JS2223G14B020
JT2322	JS2322	3/4	2.5	40	JT2322G13A020	JT2322G13B020	JS2322G14A020	JS2322G14B020
JT2323	JS2323	3/4	3.5	25	JT2323G13A020	JT2323G13B020	JS2323G14A020	JS2323G14B020
JT2427	JS2427	1	8.0	17	JT2427G13A020	JT2427G13B020	JS2427G14A020	JS2427G14B020
<b>Inverted Flare Connections – Standard Pressure Closeoff</b>								
JT2343	JS2343	3/4	3.5	25	JT2343G13A020	JT2343G13B020	JS2343G14A020	JS2343G14B020
<b>Sweat Connections – High Pressure Closeoff</b>								
JT2211	JS2211	1/2	1.0	75	JT2211H13A020	JT2211H13B020	JS2211H14A020	JS2211H14B020
JT2212	JS2212	1/2	2.5	50	JT2212H13A020	JT2212H13B020	JS2212H14A020	JS2212H14B020
JT2213	JS2213	1/2	3.5	30	JT2213H13A020	JT2213H13B020	JS2213H14A020	JS2213H14B020
JT2312	JS2312	3/4	2.5	50	JT2312H13A020	JT2312H13B020	JS2312H14A020	JS2312H14B020
JT2313	JS2313	3/4	3.5	30	JT2313H13A020	JT2313H13B020	JS2313H14A020	JS2313H14B020
JT2417	JS2417	1	8.0	20	JT2417H13A020	JT2417H13B020	JS2417H14A020	JS2417H14B020
JT2517	JS2517	1-1/4	8.0	20	JT2517H13A020	JT2517H13B020	JS2517H14A020	JS2517H14B020

The performance specifications are nominal and conform to acceptable industry standards. For applications at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products. © 2011 Johnson Controls, Inc. [www.johnsoncontrols.com](http://www.johnsoncontrols.com)

## Electric Zone Valves – Two-Way Spring Closed (Normally Closed), On/Off Control (Continued)

### J Series Electric Zone Valve – Two-Way Spring Closed (Normally Closed), On/Off Control (Part 2 of 2)

Valve Model Number					Actuator Model Number			
					G Style Actuators have Standard Pressure Closeoff H Style Actuators have High Pressure Closeoff			
					Standard Temperature Rating: 200°F (93°C) Fluid, 104°F (40°C) Ambient		High Temperature Rating: 250°F (121°C) Fluid, 15 psig Steam, 169°F (76°C) Ambient	
Standard Temp	High Temp	Size, in.	Cv	Closeoff	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG13A020 JH13A020	JG13B020 JH13B020	JG14A020 JH14A020	JG14B020 JH14B020
<b>NPT Connections – High Pressure Closeoff</b>								
JT2221	JS2221	1/2	1.0	75	JT2221H13A020	JT2221H13B020	JS2221H14A020	JS2221H14B020
JT2222	JS2222	1/2	2.5	50	JT2222H13A020	JT2222H13B020	JS2222H14A020	JS2222H14B020
JT2223	JS2223	1/2	3.5	30	JT2223H13A020	JT2223H13B020	JS2223H14A020	JS2223H14B020
JT2322	JS2322	3/4	2.5	50	JT2322H13A020	JT2322H13B020	JS2322H14A020	JS2322H14B020
JT2323	JS2323	3/4	3.5	30	JT2323H13A020	JT2323H13B020	JS2323H14A020	JS2323H14B020
JT2427	JS2427	1	8.0	20	JT2427H13A020	JT2427H13B020	JS2427H14A020	JS2427H14B020
<b>Inverted Flare Connections – High Pressure Closeoff</b>								
JT2343	JS2343	3/4	3.5	30	JT2343H13A020	JT2343H13B020	JS2343H14A020	JS2343H14B020

### Inverted Flare Fittings (Order Separately)

Code Number	Description	Length, in. (mm)
J647-601	For 1/2 in. (5/8 in. O.D.) Copper Tubing	15/16 (24)
J647-602	For 1/2 in. (5/8 in. O.D.) Copper Tubing	1-11/16 (43)
J647-603	For 1/2 in. (5/8 in. O.D.) Copper Tubing	3 (76)
J647-604	For 3/4 in. (7/8 in. O.D.) Copper Tubing	1-27/32 (47)
J647-605	For 1/2 in. (5/8 in. O.D.) Copper Tubing	1-15/16 (49)
J647-606	For 1 in. (1-1/8 in. O.D.) Copper Tubing	2-3/8 (60)



J647-601 J647-602 J647-603 J647-604 J647-605 J647-606  
Inverted Flare Fittings

### Repair Information

If the J Series Electric Zone Valve – Two-Way Spring Closed (Normally Closed), On/Off Control fails to operate within its specifications, refer to the *J Series Electric Zone Valves Product Bulletin (LIT-977282)* for a list of repair parts available. Available repair parts for J Series Electric Zone Valves include replacement valve bodies, replacement actuators, and the end connections listed in the Inverted Flare Fittings. No other field repairs should be attempted.

### Technical Specifications

J Series Electric Zone Valves – Two-Way Spring Closed (Normally Closed), On/Off Control			
Service <sup>1</sup>		Hot Water Chill Water, and 50/50 Glycol Solutions for HVAC Systems	
Fluid Temperature Limits	Water	JT Series	32 to 200°F (0 to 93°C)
		JS Series	32 to 250°F (0 to 121°C)
	Steam	JT Series	Not rated for steam service
		JS Series	15 psig (103 kPa) Saturated Steam
Valve Body Pressure Rating		300 psig (2,067 kPa)	
Leakage		Bubble tight shut off	
Ambient Operating Temperature Limits	JT Series		32 to 104°F (0 to 40°C)
	JS Series		32 to 169°F (0 to 76°C)
Cycle Time		Power stroke 9 to 11 seconds, spring return 4 to 5 seconds	
Control Signal		24 VAC or 120 VAC, 60 Hz, Two-wire On/Off	
Power Requirements		7 VA	
Electrical Connection		18 in. (457 mm) wire leads	
Materials	Body		Brass
	Stem		Brass (Hard Chrome Plated)
	Base Plate and Bearing Plate		Stainless Steel
	Actuator Housing		Stainless Steel
	Actuator Cover		Aluminum
	Valve Paddle	JT Series	Buna-N Rubber
		JS Series	Saturated Nitrile
	Stem Seals		Viton® O-rings

1. Refer to VDI 2035 Standard for recommended proper water treatment.