

J Series Electric Zone Valves — Two-Way Spring Open (Normally Open), On/Off Control

Description

This electric zone valve with forged brass body offers two-way spring open (normally open), on/off control for hot or chilled water applications.

Refer to the *J Series Electric Zone Valves Product Bulletin (LIT-977282)* for important product application information.

Features

- forged brass body and hard chrome-plated brass stem
- provides economical control of hot or chilled water for fan coil, baseboard radiator, and VAV reheat applications

- on/off control from a two-wire thermostat
- 300 psig system operating pressure
- 400 psig static pressure rating
- buna-N (standard temperature) or nitrile disk (high temperature) provides tight closeoff
- 1/2 in., 3/4 in., 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



Standard Closeoff

Selection Chart

Valve Model Code Number					Actuator Model Code 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, psig	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG23A020 JH23A020	JG23B020 JH23B020	JG24A020 JH24A020	JG24B020 JH24B020
Sweat Connections — Standard Pressure Closeoff								
JT2211	JS2211	1/2	1.0	60	JT2211G23A020	JT2211G23B020	JS2211G24A020	JS2211G24B020
JT2212	JS2212	1/2	2.5	40	JT2212G23A020	JT2212G23B020	JS2212G24A020	JS2212G24B020
JT2213	JS2213	1/2	3.5	25	JT2213G23A020	JT2213G23B020	JS2213G24A020	JS2213G24B020
JT2312	JS2312	3/4	2.5	40	JT2312G23A020	JT2312G23B020	JS2312G24A020	JS2312G24B020
JT2313	JS2313	3/4	3.5	25	JT2313G23A020	JT2313G23B020	JS2313G24A020	JS2313G24B020
JT2417	JS2417	1	8.0	17	JT2417G23A020	JT2417G23B020	JS2417G24A020	JS2417G24B020
JT2517	JS2517	1-1/4	8.0	17	JT2517G23A020	JT2517G23B020	JS2517G24A020	JS2517G24B020
NPT Connections — Standard Pressure Closeoff								
JT2221	JS2221	1/2	1.0	60	JT2221G23A020	JT2221G23B020	JS2221G24A020	JS2221G24B020
JT2222	JS2222	1/2	2.5	40	JT2222G23A020	JT2222G23B020	JS2222G24A020	JS2222G24B020
JT2223	JS2223	1/2	3.5	25	JT2223G23A020	JT2223G23B020	JS2223G24A020	JS2223G24B020
JT2322	JS2322	3/4	2.5	40	JT2322G23A020	JT2322G23B020	JS2322G24A020	JS2322G24B020
JT2323	JS2323	3/4	3.5	25	JT2323G23A020	JT2323G23B020	JS2323G24A020	JS2323G24B020
JT2427	JS2427	1	8.0	17	JT2427G23A020	JT2427G23B020	JS2427G24A020	JS2427G24B020
Inverted Flare Connections — Standard Pressure Closeoff								
JT2343	JS2343	3/4	3.5	25	JT2343G23A020	JT2343G23B020	JS2343G24A020	JS2343G24B020
Sweat Connections — High Pressure Closeoff								
JT2211	JS2211	1/2	1.0	75	JT2211H23A020	JT2211H23B020	JS2211H24A020	JS2211H24B020
JT2212	JS2212	1/2	2.5	50	JT2212H23A020	JT2212H23B020	JS2212H24A020	JS2212H24B020
JT2213	JS2213	1/2	3.5	30	JT2213H23A020	JT2213H23B020	JS2213H24A020	JS2213H24B020
JT2312	JS2312	3/4	2.5	50	JT2312H23A020	JT2312H23B020	JS2312H24A020	JS2312H24B020
JT2313	JS2313	3/4	3.5	30	JT2313H23A020	JT2313H23B020	JS2313H24A020	JS2313H24B020
JT2417	JS2417	1	8.0	20	JT2417H23A020	JT2417H23B020	JS2417H24A020	JS2417H24B020
JT2517	JS2517	1-1/4	8.0	20	JT2517H23A020	JT2517H23B020	JS2517H24A020	JS2517H24B020
NPT Connections — High Pressure Closeoff								
JT2221	JS2221	1/2	1.0	75	JT2221H23A020	JT2221H23B020	JS2221H24A020	JS2221H24B020
JT2222	JS2222	1/2	2.5	50	JT2222H23A020	JT2222H23B020	JS2222H24A020	JS2222H24B020
JT2223	JS2223	1/2	3.5	30	JT2223H23A020	JT2223H23B020	JS2223H24A020	JS2223H24B020
JT2322	JS2322	3/4	2.5	50	JT2322H23A020	JT2322H23B020	JS2322H24A020	JS2322H24B020
JT2323	JS2323	3/4	3.5	30	JT2323H23A020	JT2323H23B020	JS2323H24A020	JS2323H24B020
JT2427	JS2427	1	8.0	20	JT2427H23A020	JT2427H23B020	JS2427H24A020	JS2427H24B020
Inverted Flare Connections — High Pressure Closeoff								
JT2343	JS2343	3/4	3.5	30	JT2343H23A020	JT2343H23B020	JS2343H24A020	JS2343H24B020

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 shall not be liable for damages resulting from misapplication or misuse of its products. © 2019 Johnson Controls. www.johnsoncontrols.com

J Series Electric Zone Valves — Two-Way Spring Open (Normally Open), On/Off Control (Continued)

Repair Parts

Inverted Flare Fittings

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

Technical Specifications

J Series Electric Zone Valves — Two-Way Spring Open (Normally Open), On/Off Control			
Service ¹			Hot Water, Chilled Water, and 50/50 Glycol Solutions for HVAC Systems
Fluid Temperature Limits	Water	JT Series	32°F to 200°F (0°C to 93°C)
		JS Series	32°F to 250°F (0°C 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 Shutoff
Ambient Operating Temperature Limits		JT Series	32°F to 104°F (0°C to 40°C)
		JS Series	32°F to 169°F (0°C 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 the VDI 2035 Guideline for recommended proper water treatment.



WARNING This product is made of copper alloy, which contains lead. The product is therefore not to be used on drinking water.



WARNING This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

WARNING: BRASS MAY CONTAIN LEAD

To fulfill our obligations towards Article 33, in accordance to the European REACH Regulation No 1907/2006 EC, we hereby inform you that this article contains the following Substances of Very High Concern mentioned on the Candidate list:

- Lead

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.

Refer to the *J Series Electric Zone Valves Product Bulletin (LIT-977282)* for important product application information.

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
- 1/2 in., 3/4 in., 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

WARNING

This product is made of copper alloy, which contains lead. The product is therefore not to be used on drinking water.

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- Lead



High Closeoff



Standard Closeoff

Selection Chart

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

Valve Model Code Number					Actuator Model Code 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, psig	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG13A020 JH13A020	JG13B020 JH13B020	JG14A020 JH14A020	JG14B020 JH14B020
Sweat Connections — Standard Pressure Closeoff								
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
NPT Connections — Standard Pressure Closeoff								
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
Inverted Flare Connections — Standard Pressure Closeoff								
JT2343	JS2343	3/4	3.5	25	JT2343G13A020	JT2343G13B020	JS2343G14A020	JS2343G14B020
Sweat Connections — High Pressure Closeoff								
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

J Series Electric Zone Valves — Two-Way Spring Closed (Normally Closed), On/Off Control (Continued)

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

Valve Model Code Number					Actuator Model Code 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, psig	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG13A020 JH13A020	JG13B020 JH13B020	JG14A020 JH14A020	JG14B020 JH14B020
NPT Connections — High Pressure Closeoff								
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
Inverted Flare Connections — High Pressure Closeoff								
JT2343	JS2343	3/4	3.5	30	JT2343H13A020	JT2343H13B020	JS2343H14A020	JS2343H14B020

Repair Parts

Inverted Flare Fittings

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)



Technical Specifications

J Series Electric Zone Valves — Two-Way Spring Closed (Normally Closed), On/Off Control			
Service ¹			Hot Water, Chilled Water, and 50/50 Glycol Solutions for HVAC Systems
Fluid Temperature Limits	Water	JT Series	32°F to 200°F (0°C to 93°C)
		JS Series	32°F to 250°F (0°C 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 Shutoff
Ambient Operating Temperature Limits	JT Series		32°F to 104°F (0°C to 40°C)
	JS Series		32°F to 169°F (0°C 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 the VDI 2035 Guideline for recommended proper water treatment.

J Series Electric Zone Valves — Two-Way Spring Open (Normally Open), Modulating Control

Description

This electric zone valve with forged brass body offers two-way spring open (normally open), modulating control for hot or chilled water applications.

Refer to the *J Series Electric Zone Valves Product Bulletin (LIT-977282)* for important product application information.

WARNING

This product is made of copper alloy, which contains lead. The product is therefore not to be used on drinking water.

Features

- economical control of hot or chilled water (up to 50% glycol) for fan coil, baseboard radiator, and VAV reheat applications
- 0 VDC to 10 VDC proportional and three-wire floating control
- 32°F to 200°F (0°C to 93°C) fluid temperature rating
- 32°F to 125°F (0°C to 52°C) ambient temperature rating
- 300 psig static pressure rating
- 20 VAC to 30 VAC 50/60 Hz
- forged brass body



JM Series Two-Way Spring-Return Modulating Zone Valve

Selection Chart

Valve	Size, in.	Cv	Closeoff, psig	Actuator	
				Three-Wire Floating	0 to 10 VDC Proportional
				JT13A000	JP13A000
Two-Way — Sweat Connections					
JM2211	1/2	1	50	JM2211T23A000	JM2211P23A000
JM2212	1/2	2	50	JM2212T23A000	JM2212P23A000
JM2213	1/2	4	35	JM2213T23A000	JM2213P23A000
JM2312	3/4	2	50	JM2312T23A000	JM2312P23A000
JM2313	3/4	4	35	JM2313T23A000	JM2313P23A000
JM2317	3/4	7.5	35	JM2317T23A000	JM2317P23A000
JM2413	1	4	35	JM2413T23A000	JM2413P23A000
JM2417	1	8	35	JM2417T23A000	JM2417P23A000
JM2517	1-1/4	8	35	JM2517T23A000	JM2517P23A000
Two-Way — NPT Connections					
JM2221	1/2	1	50	JM2221T23A000	JM2221P23A000
JM2222	1/2	2	50	JM2222T23A000	JM2222P23A000
JM2223	1/2	4	35	JM2223T23A000	JM2223P23A000
JM2322	3/4	2	50	JM2322T23A000	JM2322P23A000
JM2323	3/4	4	35	JM2323T23A000	JM2323P23A000
JM2327	3/4	7.5	35	JM2327T23A000	JM2327P23A000
JM2427	1	8	35	JM2427T23A000	JM2427P23A000

Repair Information

If the J Series Zone Valve fails to operate within its specifications, replace the valve body, actuator, or entire assembly. For replacement parts, contact the nearest Johnson Controls® representative.

WARNING

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Note: Actuators and valve bodies can be ordered separately using the actuator and valve code numbers shown. JM Series Modulating Three-Way Electric Zone Valves must be piped in a mixing configuration only.

Technical Specifications

J Series Electric Zone Valves — Two-Way Spring Open (Normally Open), Modulating Control		
Service ¹		Hot Water, Chilled Water, and 50/50 Glycol Solutions for HVAC Systems
Fluid Temperature Limits	Water	32°F to 200°F (0°C to 93°C)
	Steam	Not Rated for Steam Service
Valve Body Pressure Rating		300 psig (2,067 kPa)
Leakage		0.01% of Maximum Flow per ANSI/FCI 70-2 Class IV
Ambient Operating Temperature Limits		32°F to 125°F (0°C to 52°C)
Cycle Time		Full Close to Full Open 150 Seconds
Control Signal	T Type Actuator	24 VAC, 60 Hz, Three-Wire Floating Control
	P Type Actuator	0 VDC to 10 VDC (1 VDC to 9 VDC Actual) Factory Setting, 0 VDC to 5 VDC, 5 VDC to 10 VDC Jumper Selectable
Control Action	P Type Actuator	Factory Setting: Direct Acting Valve Opens Port B as Signal Increases. Jumper Selectable
Power Requirements		1.6 VA
Electrical Connection		Terminal Block
Materials	Body	Brass
	Stem	Brass (Hard Chrome Plated)
	Base Plate and Bearing Plate	Stainless Steel
	Actuator Housing	High-Temperature Plastic
	Valve Plug	High-Temperature Thermoplastic Rubber
Stem Seals		Viton™ O-Rings

1. Refer to the VDI 2035 Guideline for recommended proper water treatment.

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- Lead

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 shall not be liable for damages resulting from misapplication or misuse of its products. © 2019 Johnson Controls. www.johnsoncontrols.com

J Series Electric Zone Valves — Three-Way Spring Return, On/Off Control

Description

J Series Electric Zone Valves accurately control the flow of saturated steam, hot water, and chilled water through coils and heat exchanges of all types.

Refer to the *J Series Electric Zone Valves Product Bulletin (LIT-977282)* for important product application information.

Features

- forged brass body and hard chrome-plated brass stem
- provides economical control of hot or chilled water for fan coil, baseboard radiator, and VAV reheat applications
- On/Off control from a two-wire thermostat
- 300 psig system operating pressure
- 400 psig static pressure rating
- can be piped for mixing or diverting configuration



Standard Closeoff

- buna-N (standard temperature) or nitrile disk (high temperature) provides tight closeoff
- 1/2 in., 3/4 in., and 1 in. line sizes



High Closeoff

- 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 Chart

Note: Three-way valves are shipped from the factory in the normally closed configuration (Port B closed); for normally open configuration, simply turn the valve around during installation.

Valve Model Code Number					Actuator Model Code 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, psig	24 VAC, 60 Hz	120 VAC, 60 Hz	24 VAC, 60 Hz	120 VAC, 60 Hz
					JG13A020 JH13A020	JG13B020 JH13B020	JG14A020 JH14A020	JG14B020 JH14B020
Sweat Connections — Standard Pressure Closeoff								
JT3213	JS3213	1/2	4.0	25	JT3213G13A020	JT3213G13B020	JS3213G14A020	JS3213G14B020
JT3315	JS3315	3/4	5.0	20	JT3315G13A020	JT3315G13B020	JS3315G14A020	JS3315G14B020
JT3417	JS3417	1	8.0	17	JT3417G13A020	JT3417G13B020	JS3417G14A020	JS3417G14B020
JT3517	JS3517	1-1/4	8.0	17	JT3517G13A020	JT3517G13B020	JS3517G14A020	JS3517G14B020
NPT Connections — Standard Pressure Closeoff								
JT3223	JS3223	1/2	4.0	25	JT3223G13A020	JT3223G13B020	JS3223G14A020	JS3223G14B020
JT3325	JS3325	3/4	5.0	20	JT3325G13A020	JT3325G13B020	JS3325G14A020	JS3325G14B020
JT3427	JS3427	1	8.0	17	JT3427G13A020	JT3427G13B020	JS3427G14A020	JS3427G14B020
Inverted Flare Connections — Standard Pressure Closeoff								
JT3343	JS3343	3/4	4.0	25	JT3343G13A020	JT3343G13B020	JS3343G14A020	JS3343G14B020
Sweat Connections — High Pressure Closeoff								
JT3213	JS3213	1/2	4.0	30	JT3213H13A020	JT3213H13B020	JS3213H14A020	JS3213H14B020
JT3315	JS3315	3/4	5.0	25	JT3315H13A020	JT3315H13B020	JS3315H14A020	JS3315H14B020
JT3417	JS3417	1	8.0	20	JT3417H13A020	JT3417H13B020	JS3417H14A020	JS3417H14B020
JT3517	JS3517	1-1/4	8.0	20	JT3517H13A020	JT3517H13B020	JS3517H14A020	JS3517H14B020
NPT Connections — High Pressure Closeoff								
JT3223	JS3223	1/2	4.0	30	JT3223H13A020	JT3223H13B020	JS3223H14A020	JS3223H14B020
JT3325	JS3325	3/4	5.0	25	JT3325H13A020	JT3325H13B020	JS3325H14A020	JS3325H14B020
JT3427	JS3427	1	8.0	20	JT3427H13A020	JT3427H13B020	JS3427H14A020	JS3427H14B020
Inverted Flare Connections — High Pressure Closeoff								
JT3343	JS3343	3/4	4.0	30	JT3343H13A020	JT3343H13B020	JS3343H14A020	JS3343H14B020

J Series Electric Zone Valves — Three-Way Spring Return, On/Off Control (Continued)

Repair Parts

Inverted Flare Fittings

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

Technical Specifications

J Series Electric Zone Valves — Three-Way Spring Return, On/Off Control			
Service ¹			Hot Water, Chilled Water, and 50/50 Glycol Solutions for HVAC Systems
Fluid Temperature Limits	Water	JT Series	32°F to 200°F (0°C to 93°C)
		JS Series	32°F to 250°F (0°C 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 Shutoff
Ambient Operating Temperature Limits		JT Series	32°F to 104°F (0°C to 40°C)
		JS Series	32°F to 169°F (0°C 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 the VDI 2035 Guideline for recommended proper water treatment.



WARNING

This product is made of copper alloy, which contains lead. The product is therefore not to be used on drinking water.



WARNING

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

WARNING: BRASS MAY CONTAIN LEAD

To fulfill our obligations towards Article 33, in accordance to the European REACH Regulation No 1907/2006 EC, we hereby inform you that this article contains the following Substances of Very High Concern mentioned on the Candidate list:

- Lead

J Series Electric Zone Valves for Assembly in the Field

Description

J Series Electric Zone Valves accurately control the flow of saturated steam, hot water, and chilled water through coils and heat exchangers of all types, in a wide range of HVAC applications. The spring-return, two-position design with synchronous motor has proven reliable in millions of installations worldwide. The actuator can be removed from the valve quickly and easily, simplifying installation and servicing. No special linkage kit or commissioning is required.

Refer to the *J Series Zone Valves Product Bulletin (LIT-977282)* for important product application information.

Features

- quick and simple actuator removal eases installation and provides quick actuator replacement during service
- bubble-tight shutoff conserves energy and accurately controls zone temperature for increased comfort

- high closeoff pressure actuator option satisfies demanding requirements of high-rise buildings and high-pressure pumping systems
- interchangeable actuators allow field conversion from normally open to normally closed without re-piping
- choice of end connections provides increased versatility and replacement capability

Repair Information

If the J Series Zone Valve fails to operate within its specifications, replace the valve body, actuator, or entire assembly. For replacement parts, contact the nearest Johnson Controls® representative.



J Series Electric Zone Valve

Selection Charts

J Series On/Off Valves — Standard Closeoff (Part 1 of 2)

Size, In.	Cv	Closeoff, psig	Valve — End Connections			Actuators			
			NPT	Sweat	Inverted Flare	AC 24 V	AC 120 V	AC 208 V	AC 230 V
Two-Way, Spring Closed, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)									
1/2	1	60	JT2221	JT2211		JG13A020	JG13B020	JG13D020	JG13U020
	2.5	40	JT2222	JT2212					
	3.5	25	JT2223	JT2213					
3/4	2.5	40	JT2322	JT2312					
	3.5	25	JT2323	JT2313	JT2343				
1	8	17	JT2427	JT2417					
1-1/4	8	17		JT2515					
Two-Way, Spring Open, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)									
1/2	1	60	JT2221	JT2211		JG23A020	JG23B020	JG23D020	JG23U020
	2.5	40	JT2222	JT2212					
	3.5	25	JT2223	JT2213					
3/4	2.5	40	JT2322	JT2312					
	3.5	25	JT2323	JT2313	JT2343				
1	8	17	JT2427	JT2417					
1-1/4	8	17		JT2515					
Three-Way, Spring Return Port B Closed, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)									
1/2	4	30	JT3223	JT3213		JG13A020	JG13B020	JG13D020	JG13U020
3/4	5	25	JT3325	JT3315	JT3343				
1	8	20	JT3427	JT3417					
1-1/4	8	20		JT3517					
Two-Way, Spring Closed, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)									
1/2	1	60	JS2221	JS2211		JG14A020	JG14B020		
	2.5	40	JS2222	JS2212					
	3.5	25	JS2223	JS2213					
3/4	2.5	40	JS2322	JS2312					
	3.5	25	JS2323	JS2313	JS2343				
1	8	17	JS2427	JS2417					
1-1/4	8	17		JS2515					

J Series Electric Zone Valves for Assembly in the Field (Continued)

J Series On/Off Valves — Standard Closeoff (Part 2 of 2)

Size, In.	Cv	Closeoff, psig	Valve — End Connections			Actuators			
			NPT	Sweat	Inverted Flare	AC 24 V	AC 120 V	AC 208 V	AC 230 V
Two-Way, Spring Open, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)									
1/2	1	60	JS2221	JS2211		JG24A020	JG24B020		
	2.5	40	JS2222	JS2212					
	3.5	25	JS2223	JS2213					
3/4	2.5	40	JS2322	JS2312					
	3.5	25	JS2323	JS2313	JS2343				
1	8	17	JS2427	JS2417					
1-1/4	8	17		JS2515					
Three-Way, Spring Return Port B Closed, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)									
1/2	4	30	JS3223	JS3213		JG14A020	JG14B020		
3/4	5	25	JS3325	JS3315	JS3343				
1	8	20	JS3427	JS3417					
1-1/4	8	20		JS3517					

J Series On/Off Valves — High Closeoff

Size, in.	Cv	Closeoff, psig	Valve — End Connections			Actuators	
			NPT	Sweat	Inverted Flare	AC 24 V	AC 120 V
Two-Way, Spring Closed, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)							
1/2	1	75	JT2221	JT2211		JH13A020	JH13B020
	2.5	50	JT2222	JT2212			
	3.5	30	JT2223	JT2213			
3/4	2.5	50	JT2322	JT2312			
	3.5	30	JT2323	JT2313	JT2343		
1	8	20	JT2427	JT2417			
1-1/4	8	20		JT2515			
Two-Way, Spring Open, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)							
1/2	1	75	JT2221	JT2211		JH23A020	JH23B020
	2.5	50	JT2222	JT2212			
	3.5	30	JT2223	JT2213			
3/4	2.5	50	JT2322	JT2312			
	3.5	30	JT2323	JT2313	JT2343		
1	8	20	JT2427	JT2417			
1-1/4	8	20		JT2515			
Three-Way, Spring Return Port B Closed, Standard Temperature (32 to 200°F, 32 to 104°F Ambient)							
1/2	4	30	JT3223	JT3213		JH13A020	JH13B020
3/4	5	25	JT3325	JT3315	JT3343		
1	8	20	JT3427	JT3417			
1-1/4	8	20		JT3517			
Two-Way, Spring Closed, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)							
1/2	1	75	JS2221	JS2211		JH14A020	JH14B020
	2.5	50	JS2222	JS2212			
	3.5	30	JS2223	JS2213			
3/4	2.5	50	JS2322	JS2312			
	3.5	30	JS2323	JS2313	JS2343		
1	8	20	JS2427	JS2417			
1-1/4	8	20		JS2515			
Two-Way, Spring Open, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)							
1/2	1	75	JS2221	JS2211		JH24A020	JH24B020
	2.5	50	JS2222	JS2212			
	3.5	30	JS2223	JS2213			
3/4	2.5	50	JS2322	JS2312			
	3.5	30	JS2323	JS2313	JS2343		
1	8	20	JS2427	JS2417			
1-1/4	8	20		JS2515			
Three-Way, Spring Return Port B Closed, High Temperature (32 to 250°F, 15 psig Steam, 32 to 169°F Ambient)							
1/2	4	30	JS3223	JS3213		JH14A020	JH14B020
3/4	5	25	JS3325	JS3315	JS3343		
1	8	20	JS3427	JS3417			
1-1/4	8	20		JS3517			

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 shall not be liable for damages resulting from misapplication or misuse of its products. © 2019 Johnson Controls. www.johnsoncontrols.com

J Series Electric Zone Valves for Assembly in the Field (Continued)

J Series Modulating Control Valves — Spring Return

Size, in.	Cv	Valve — End Connection		Actuators					
				Spring Return Open			Spring Return Closed		
		NPT	Sweat	Closeoff, psig	AC 24 V Floating Control	DC 0 to 10 V Proportional	Closeoff, psig ¹	AC 24 V Floating Control	DC 0 to 10 V Proportional
Two-Way — Spring Return									
1/2	1	JM2221	JM2211	50	JT23A000	JP23A000	50/50	JT13A000	JP13A000
	2	JM2222	JM2212	50			50/20		
	4	JM2223	JM2213	35			35/20		
3/4	2	JM2322	JM2312	50			50/20		
	4	JM2323	JM2313	35			35/20		
	7.5	JM2327	JM2317	35			35/15		
1	4		JM2413	35			35/20		
	8	JM2427	JM2417	35			35/15		
1-1/4	8		JM2517	35			35/15		
Three-Way — Spring Return									
1/2	1	JM3221	JM3211	50	JT23A000	JP23A000	50/50	JT13A000	JP13A000
	2	JM3222	JM3212	50			50/20		
	4	JM3223	JM3213	35			35/20		
3/4	2	JM3322	JM3312	50			50/20		
	4	JM3323	JM3313	35			35/20		
	7.5	JM3327	JM3317	35			35/15		
1	4		JM3413	35			35/20		
	8	JM3427	JM3417	35			35/15		
1-1/4	8		JM3517	35			35/15		

1. Operating/power failure

J Series Modulating Control Valves — Non-Spring Return

Size, in.	Cv	Valve — End Connection		Actuators (Non-Spring Return)		
		NPT	Sweat	Closeoff, psig	AC 24 V Floating Control	DC 0 to 10 V Proportional
Two-Way — Non-Spring Return						
1/2	1	JM2221	JM2211	50	JT33A00T	JP33A000
	2	JM2222	JM2212	50		
	4	JM2223	JM2213	35		
3/4	2	JM2322	JM2312	50		
	4	JM2323	JM2313	35		
	7.5	JM2327	JM2317	35		
1	4		JM2413	35		
	8	JM2427	JM2417	35		
1-1/4	8		JM2517	35		
Three-Way — Non-Spring Return						
1/2	1	JM3221	JM3211	50	JT33A00T	JP33A000
	2	JM3222	JM3212	50		
	4	JM3223	JM3213	35		
3/4	2	JM3322	JM3312	50		
	4	JM3323	JM3313	35		
	7.5	JM3327	JM3317	35		
1	4		JM3413	35		
	8	JM3427	JM3417	35		
1-1/4	8		JM3517	35		