

ST2 Ball Valve Actuators **Non-Spring Return** **On/Off • Floating • Modulating**



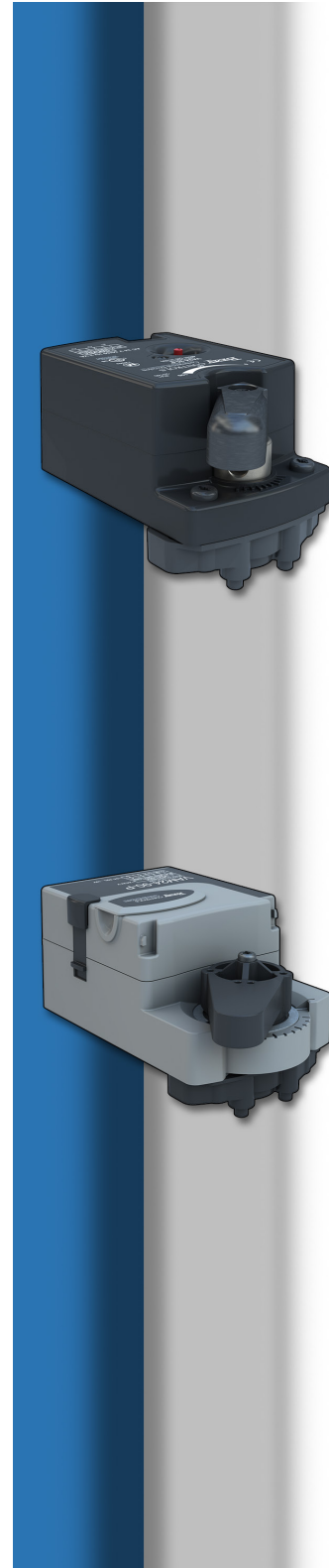
Application

Bray's wide variety of electric actuator choices increases flexibility when choosing peripheral products for Building Automation Systems.

We offer many different torque outputs and optional features to ensure you have the best actuator for the application. Jumper or DIP switch selectable features allow versatility in the field. The actuators are maintenance-free, which means fewer call backs after installation and start-up. In addition, our actuators are manufactured to ISO 9001 and Six Sigma Standards making them the highest quality on the market today.

Options include:

- Non spring return operation
- Auxiliary switches (optional)
- Weather Shields for outdoor use
- 24V and line voltage models
- On/Off, Floating, or Modulating operation
- Analog feedback on all modulating models
- UL, CSA and CE listings
- 5-year warranty on selected models
- Flying lead or terminal strip electrical connections



Non-Spring Return ST2 Ball Valve Actuators - VA24-35 Series

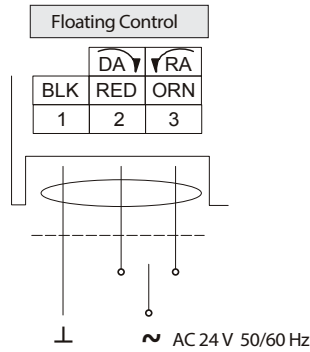


Technical Specifications - VA24-35 Series Actuator				
Type	Actuator Models	VA24-35-P	VA24-35-PTO	VAM24-35-P
			Non-Spring Return - Floating & On/Off (relay required)	Non-Spring Return - Floating with Time-Out & On/Off (relay required)
	Torque	35 lb-in. (4 Nm)		
Electrical	Operating Voltage	24 VAC +25%/-20% at 50/60 Hz		
	Power Consumption	2.3 VA	3.0 VA	2.9 VA
	Input Signal	24 VAC +25%/-20% at 50/60 Hz	24 VAC +25%/-20% at 50/60 Hz, with Time-Out	0(2) to 10 VDC or 0(4) to 20 mA with field-furnished 500 ohm resistor
	Input Impedance	N/A		200k Ohms
	Equipment Rating	Class 2 or Safety Extra-Low Voltage (SELV)		
	Feedback Signal	N/A		0 to 10 VDC or 2 to 10 VDC for 90° (10 VDC at 1 mA), Corresponds to input signal span selection
	Electrical Connection	48 in. (1.2 m) UL 444 Type CMP Plenum Rated cable with 19 AWG (0.75 mm ²) conductors and 1/4 in. (6 mm) ferrule ends		
Operation	Manual Override	External Push Button		
	Time Out feature	N/A	Electronic stall detection ensures higher reliability by deactivating the actuator motor when a stall condition is detected	N/A
	Runtime for 90° of Rotation	60 Seconds at 60 Hz / 72 Seconds at 50 Hz		
	Rotation Range	93° ±3°, CW or CCW		
	Cycle Life	100,000 Full Stroke Cycles; 2,500,000 repositions at rated running torque		
	Mechanical Connections	Round Shafts - Up to 1/2 in. (13 mm) Square Shafts - Up to 3/8 in. (10 mm)		
Environmental	Enclosure	NEMA 2 (IP42)		
	Ambient Conditions (Non-Condensing)	Operating — -4 to 140°F (-20 to 60°C); 90% RH Max. Storage — -20 to 150°F (-29 to 66°C); 90% RH Max.		
	Audible Noise Rating	35 dBA Nominal at 39-13/32 in. (1 meter)		
	Dimensions	5.16 x 2.81 x 2.06 in. (131 x 71 x 52 mm)		
	Weight	1.25 lb (0.55 kg)		
Conditions	Agency Certifications	United States/Canada - United States UL Listed, File E27734, CCN XAPX (United States) and XAPX7 (Canada) Actuator Housing is Plenum Rated per CSA C22.2 No. 236/UL 1995, Heating and Cooling Equipment Europe - CE Mark - Product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC Australia/New Zealand - C-Tick Mark Australia/NZ Emissions Compliant		
	Warranty	5 Years limited from time of shipment.		

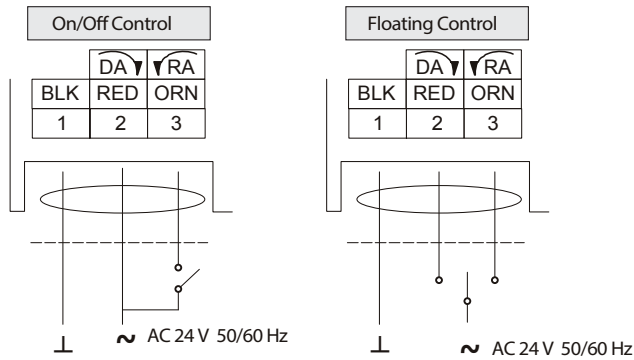
Non-Spring Return ST2 Ball Valve Actuators - VA24-35 Series Wiring



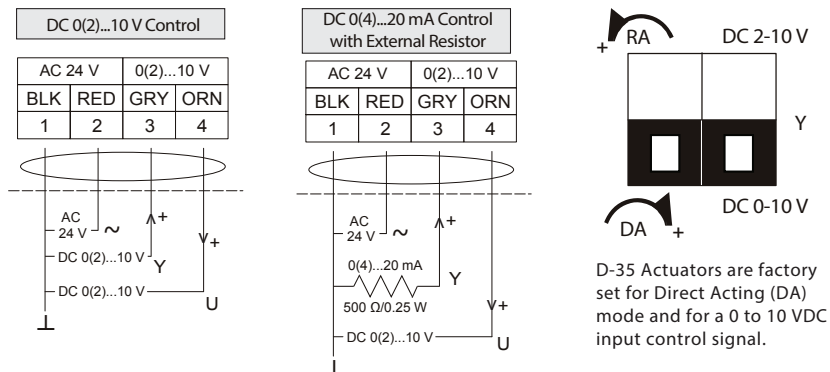
VA24-35-P PLENUM CABLE



VA24-35-PTO PLENUM CABLE



VAM24-35-P PLENUM CABLE



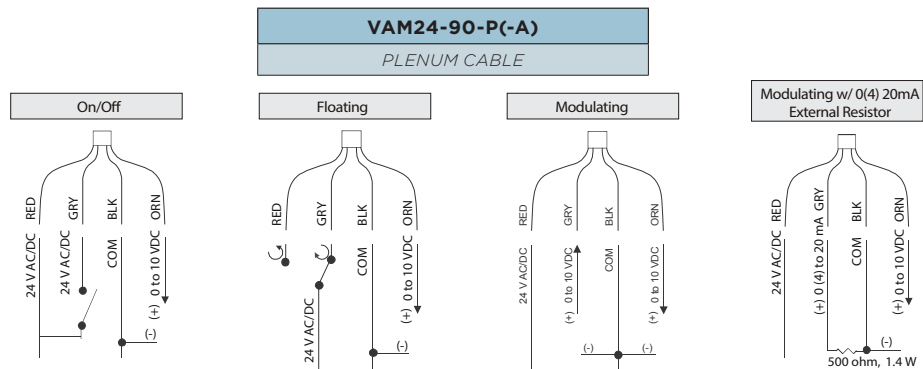
NOTE - To avoid excessive wear or drive time on the motor, use a controller and/or software that provides a time-out function to remove the signal at the end of rotation (stall).

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the nearest Bray office. Bray controls shall not be liable for damages resulting from misapplication or misuse of its products.

Non-Spring Return ST2 Ball Valve Actuators - VAM24-90 Series



Technical Specifications - VAM24-90 Series Actuator		
Type	Actuator Models	<div style="display: flex; justify-content: space-between;"> VAM24-90-P VAM24-90-P-A </div>
		Non-Spring Return - On/Off, Floating & Modulating
	Torque	90 lb-in. (10 Nm)
Electrical	Operating Voltage	24 VAC ±20% at 50/60 Hz 24 VDC ±10%, 1.3 W running.
	Power Consumption	4.7 VA
	Transformer Sizing Requirements	≥6.5 VA
	Input Signal Adjustments	AC 19.2 V to 28.8 V at 50/60 Hz or DC 24 V ±10%
	Control Impedance	4.7k Ohm
	Equipment Rating	Class 2 or Safety Extra-Low Voltage (SELV)
	Feedback Signal	N/A
	Electrical Connection	120 in. (3.05 m) UL 444 type CMP plenum rated cable with 19 AWG cable (0.75 mm ²) conductors and 0.25 in. (6 mm) ferrule ends
	Conduit Connection	1/2 in. NPSM (13 mm) threaded conduit connectors with optional conduit connector
	Manual Override	External Push Button
Operation	Time Out Feature	Electronic stall detection ensures higher reliability by deactivating the actuator motor when a stall condition is detected
	Runtime for 90° of Rotation	35 seconds, constant for all operating conditions 35 seconds, Runtime Auto-Calibration
	Rotation Range	Mechanically limited 35° to 95° (±3°) in 5° increments
	Cycle Life	100,000 Full Stroke Cycles; 2,500,000 repositions at rated running torque
	Mechanical Connections	Round Shafts - Up to 1/2 in. (13 mm) Square Shafts - Up to 3/8 in. (10 mm)
Environmental	Enclosure	NEMA 5/IP54
	Ambient Conditions (Non-Condensing)	Operating — -22 to 140°F (-30 to 60°C); 95% RH Max. Storage — -40 to 185°F (-40 to 85°C); 95% RH Max.
	Audible Noise Rating	<35 dBA Nominal at 39-13/32 in. (1 meter)
	Dimensions	6.7 x 3.1 x 2.4 in. (169 x 81 x 62 mm)
	Weight	2 lb (0.9 kg)
Conditions	Agency Certifications	United States - UL Listed, CCN XAPX, File E27734; to UL 60730-1: Automatic Electrical Controls for Household and Similar Use, Part 1; and UL 60730-2-14: Part 2, Particular Requirements for Electric Actuators. Plenum Rated (UL 2043). Suitable for use in Other Environmental Air Space (Plenum) in accordance with section 300.22 (c) of the National Electrical Code. Canada - UL Listed, CCN XAPX7, File E27734; to CAN/CSA E60730-1:02: Automatic Electrical Controls for Household and Similar Use, Part 1; and CAN/CSA-E60730-2-14, Particular Requirements for Electric Actuators. Europe - CE Mark—Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive and the Low Voltage Directive. Australia/New Zealand - RCM Mark, Australia/NZ Emissions Compliant
	Warranty	5 Years limited from time of shipment.



Warning - These actuators are designed for use only in conjunction with operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add safety devices or alarm systems that protect against, and/or warn of, control failure.

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the nearest Bray office. Bray controls shall not be liable for damages resulting from misapplication or misuse of its products.

Bray COMMERCIAL

Bray Commercial provides automated Butterfly, Ball, Globe and Pressure Independent Control Valves to the commercial building HVAC market throughout the world. Where ever valve performance is required to maintain climate controlled environments, Bray can provide the required automated valves to meet the demanding flow applications of chiller/boiler isolation, air handlers and terminal units for new construction, retrofit and/or LEED certification applications in buildings.

Building Types

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- Data Centers
- Government and Municipal
- Sports/Entertainment/Convention Centers
- K-12 and University Education
- Transportation
- Hotels
- Office Buildings
- Retail

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