

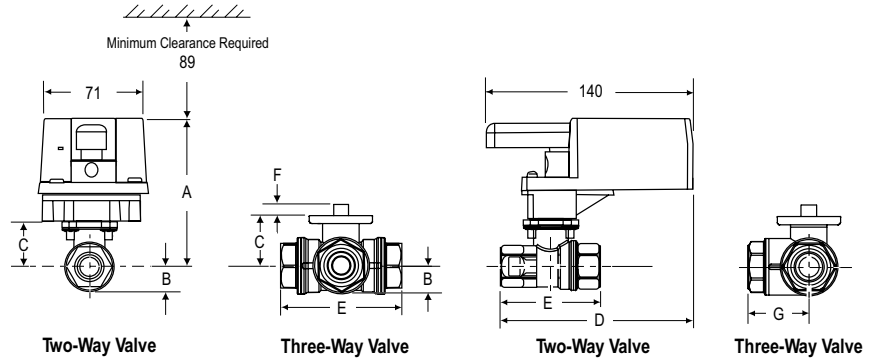
**BAD1.4 / BAD1 / BAD2**  
Electric Non-Spring Return Valve Actuators

**Application**

The VA9104 electric actuator series have been developed for the operation of ball valves. These synchronous, motor-driven direct mountable actuators are used to provide accurate positioning on VG1000 series DN15, DN20 and DN25 ball valves.

**Features**

- Floating control with Timeout
- Load-independent running time
- Up to 5 actuators in parallel operation possible
- Manual release button
- 1,2 m. PVC cable



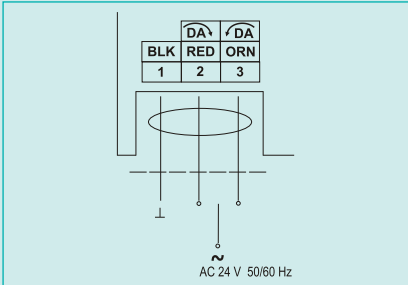
Dimensions (in mm)

| Valve Size (DN)* | A   | B  | C  | D   | E  | F | G  |
|------------------|-----|----|----|-----|----|---|----|
| <b>DN15</b>      | 98  | 17 | 31 | 129 | 64 | 9 | 32 |
| <b>DN20</b>      | 98  | 17 | 31 | 133 | 71 | 9 | 36 |
| <b>DN25</b>      | 100 | 19 | 33 | 141 | 87 | 9 | 43 |

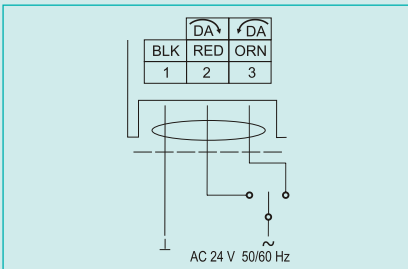
Note: \* On models with the flow-characterizing disk, the disk is located in Port A. Port A must be the Valve inlet.

**BAD1.4 / BAD1 / BAD2**  
Electric Non-Spring Return Valve Actuators

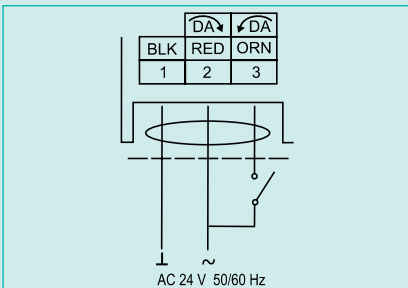
**Control Wiring Diagrams**



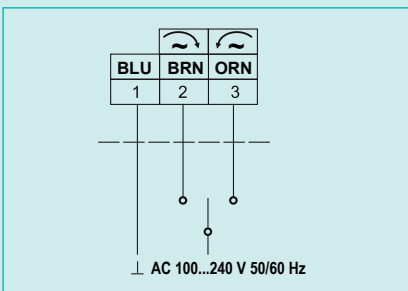
**BAD1.4**



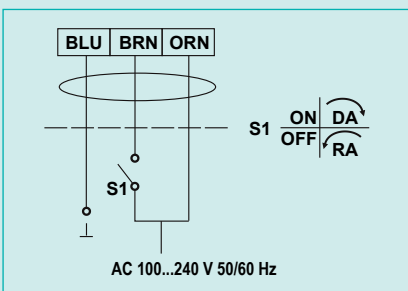
**BAD1 Floating**



**BAD1 - ON/OFF**

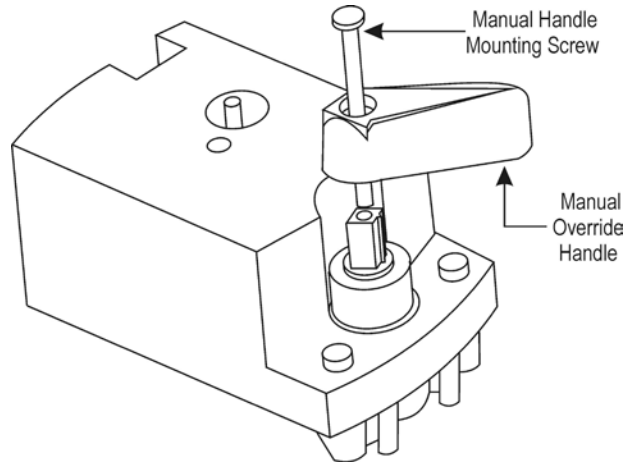


**BAD2 Floating**




**BAD2 - ON/OFF**

**Mounting**



**BAD1.4 / BAD1 / BAD2**  
**Electric Non-Spring Return Valve Actuators**

**Technical Specifications**

| Product Codes   | BAD1.4   | BAD1                                     | BAD2  |
|---|--|--|---|
| <b>Power Requirements</b>   | AC 24 V +25% / -20% at 50/60 Hz  |  | AC 100 to 240V -15%/+10% at 50/60 Hz          |
|   | 2.1 VA   | 3.0 VA                                   | 7.5 VA Supply and 0.07 A                      |
| <b>Control Type</b>   | Floating Control without Timeout   | ON/OFF and Floating Control With Timeout |   |
| <b>Input Signal</b>   | AC 24 V +25% / -20% at 50/60 Hz, SELV or Class II  |  | AC 100 to 240V -15%/+10% at 50/60 Hz Class II |
| <b>Feedback Signal</b>  | ---  |  |   |
| <b>Motor Input Impedance</b>  | 200 ohms Nominal   |  |   |
| <b>Running Torque</b>   | 4 Nm   |  |   |
| <b>Travel Time (for 90° of Rotation)</b>  | 60 Seconds at 60 Hz<br>72 Seconds at 50 Hz   |  |   |
| <b>Rotation Range</b>   | 93° ±3°, CW or CCW   |  |   |
| <b>Cycles</b>   | 100,000 Full Stroke Cycles;<br>2,500,000 Repositions at Rated Running Torque   |  |   |
| <b>Audible Noise Rating</b>   | 35 dBA Nominal at 1 m  |  |   |
| <b>Electrical Connections</b>   | 1.2 m Polyvinyl Chloride (PVC) cable   |  |   |
| <b>Mechanical Connections</b>   | Up to 13 mm Diameter Round Damper Shafts, or 10 mm Square Damper Shafts  |  |   |
| <b>Enclosure</b>  | IP 42  |  |   |
| <b>Ambient Conditions</b>   | - <b>Operating</b> -20 to 60 °C; 90% RH Maximum, Noncondensing<br>- <b>Storage</b> -40 to 85 °C; 90% RH Maximum, Noncondensing   |  |   |
| <b>Fluid Temperature Limits (Actuator and Valve Assembly)</b>   | - <b>Water</b> VG1205 and VG1805 Series Valves: -30 to +95 °C (140 °C with M9000-561 Thermal Barrier)<br>- <b>Steam</b> Rated for Steam Service only with M9000-561 Thermal Barrier                        |  |   |
| <b>Shipping Weight</b>  | 0.5 Kg   |  |   |
|  <b>Compliance</b> | Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC |  |   |

**Ordering Codes**

| Codes         | Descriptions                            |
|---------------|---|
| <b>BAD1.4</b> | 4 Nm, AC 24 V with 1,2 PVC cable        |
| <b>BAD1</b>   | 4 Nm, AC 24 V with 1,2 PVC cable        |
| <b>BAD2</b>   | 4 Nm, AC 100 to 240V with 1,2 PVC cable |

**Building Efficiency**

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