

VA-9070

Electric rotary actuator for butterfly valves

Product Bulletin

The VA-9070 Series Electric Rotary Actuators for Two-Position and Modulating Service are designed for direct mounting on VFB Series Butterfly Valves. The VA-9070 is available in six different sizes, for two-position and modulating service on VFB Series PN16 (6/10) DN25...DN500 2-way Wafer Butterfly Valves.



- **Low Profile and Lightweight Design**
Reduces space requirements and provides ease of installation.
- **Built-in Motor Overload Protection**
Prevents thermal overload of motor.
- **Pre-wired Actuators Switches to Terminal Block; Field-Configurable Power and Input Signal**
Provide ease of wiring without interference from other components; enable field modification of input signal.
- **Patented Travel Limit Switch Cam Design**
Allows simple adjustment of travel limit cams without interference.
- **External Manual Handwheel Override**
Ensures positive and fast manual operation without the need for extra tools or levers.
- **Rugged, Die-Cast Aluminium NEMA 4, 4X, IP65 Type Enclosure with Captive Housing Screws**
Provide waterproofing and exceptional corrosion, wear, impact and Ultraviolet (UV) light resistance; prevents time-consuming problems due to lost or misplaced bolts.
- **Valve Status Display**
Provides clear and convenient indication of valve position throughout full range of travel.
- **Heater/Thermostat**
Prevents condensation build-up and freeze-ups.

Ordering Codes

VA-907	X	-	X	X
			Controls: 3 = Modulating Control 4 = ON/OFF & Floating Control	
			Power Supply: 1 = 24 VAC 2 = 230 VAC	
			Torque: 2 = 68 Nm 5 = 226 Nm 7 = 565 Nm 8 = 735 Nm A = 1470 Nm B = 2034 Nm	

Admitted combinations of VA-9070 Series Actuator and VFB Valves

The VA-9070 actuator series is used in combination with the VFB butterfly valve from the nominal sizes DN 50 to DN 500.

The corresponding allocation can be taken from the following tables:

VFB Wafer Butterfly Valves				VA-9070 Series Actuators							
				Power supply 230 VAC					Power supply 24 VAC		
				68 Nm	226 Nm	735 Nm	1470 Nm	2034 Nm	68 Nm	226 Nm	565 Nm
Order Number Valves	DN	Inches	MAX Closeoff Pressure (bar)	VA-9072	VA-9075	VA-9078	VA-907A	VA-907B	VA-9072	VA-9075	VA-9077
VFB025H	25	1	12		---	---	---	---		---	---
VFB032H	32	1-1/4	12		---	---	---	---		---	---
VFB040H	40	1-1/2	12		---	---	---	---		---	---
VFB050H	50	2	12		---	---	---	---		---	---
VFB065H	65	2-1/2	12		---	---	---	---		---	---
VFB080H	80	3	12		---	---	---	---		---	---
VFB100H	100	4	12		---	---	---	---		---	---
VFB125H	125	5	12		---	---	---	---		---	---
VFB150H	150	6	12		---	---	---	---		---	---
VFB200H	200	8	12	---		---	---	---	---		---
VFB250H	250	10	12	---	---		---	---	---	---	
VFB300H	300	12	10	---	---		---	---	---	---	
VFB350H	350	14	10	---	---		---	---	---	---	---
VFB400H	400	16	10	---	---	---		---	---	---	---
VFB450H	450	18	10	---	---	---		---	---	---	---
VFB500H	500	20	10	---	---	---	---		---	---	---
VFB100L	100	4	3.5		---	---	---	---		---	---
VFB125L	125	5	3.5		---	---	---	---		---	---
VFB150L	150	6	3.5		---	---	---	---		---	---
VFB200L	200	8	3.5	---		---	---	---	---		---
VFB250L	250	10	3.5	---		---	---	---	---		---
VFB300L	300	12	3.5	---	---		---	---	---	---	
VFB350L	350	14	3.5	---	---		---	---	---	---	
VFB400L	400	16	3.5	---	---		---	---	---	---	
VFB450L	450	18	3.5	---	---		---	---	---	---	
VFB500L	500	20	3.5	---	---		---	---	---	---	---

Electrical Connection Diagram ON/OFF and Floating

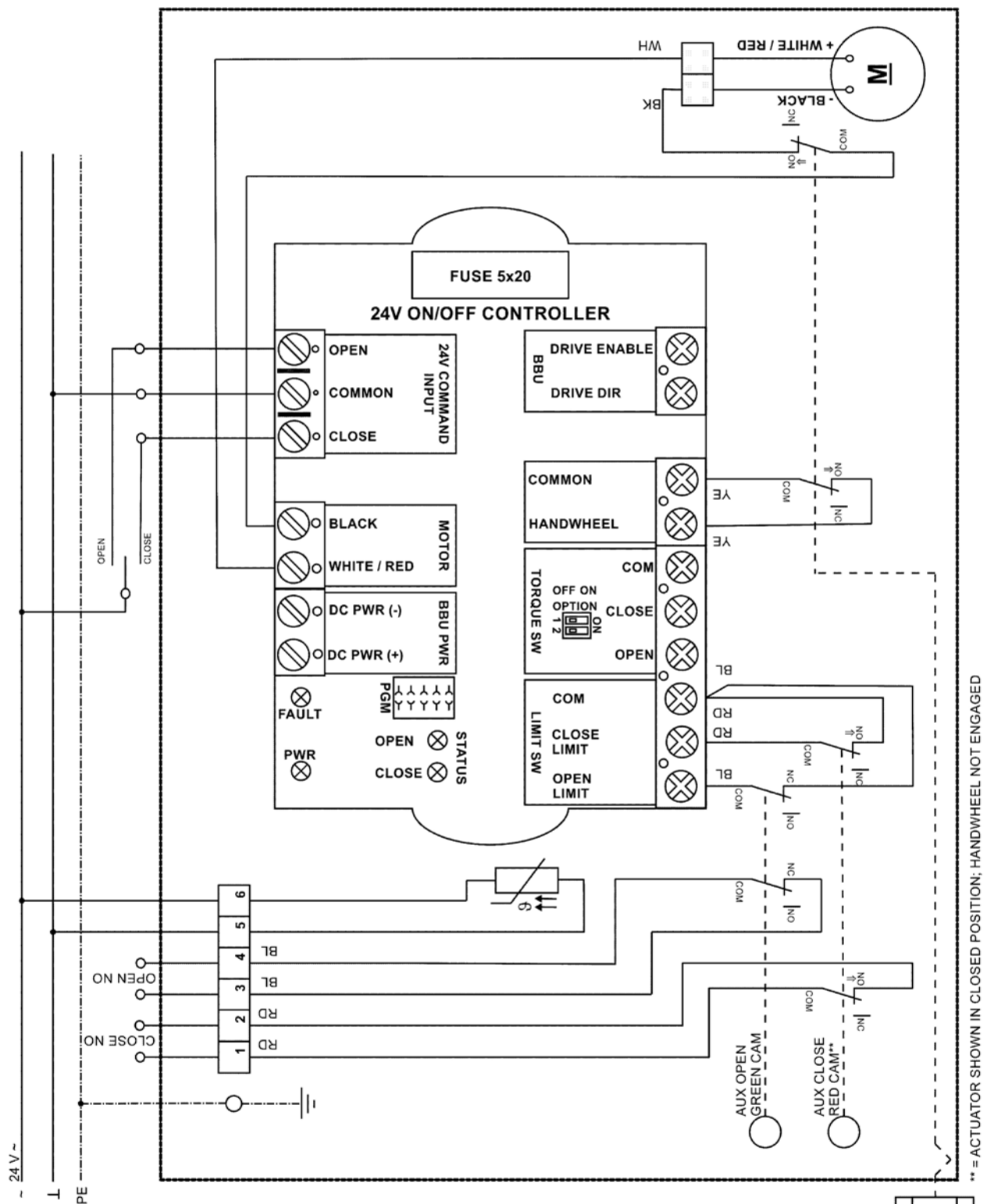
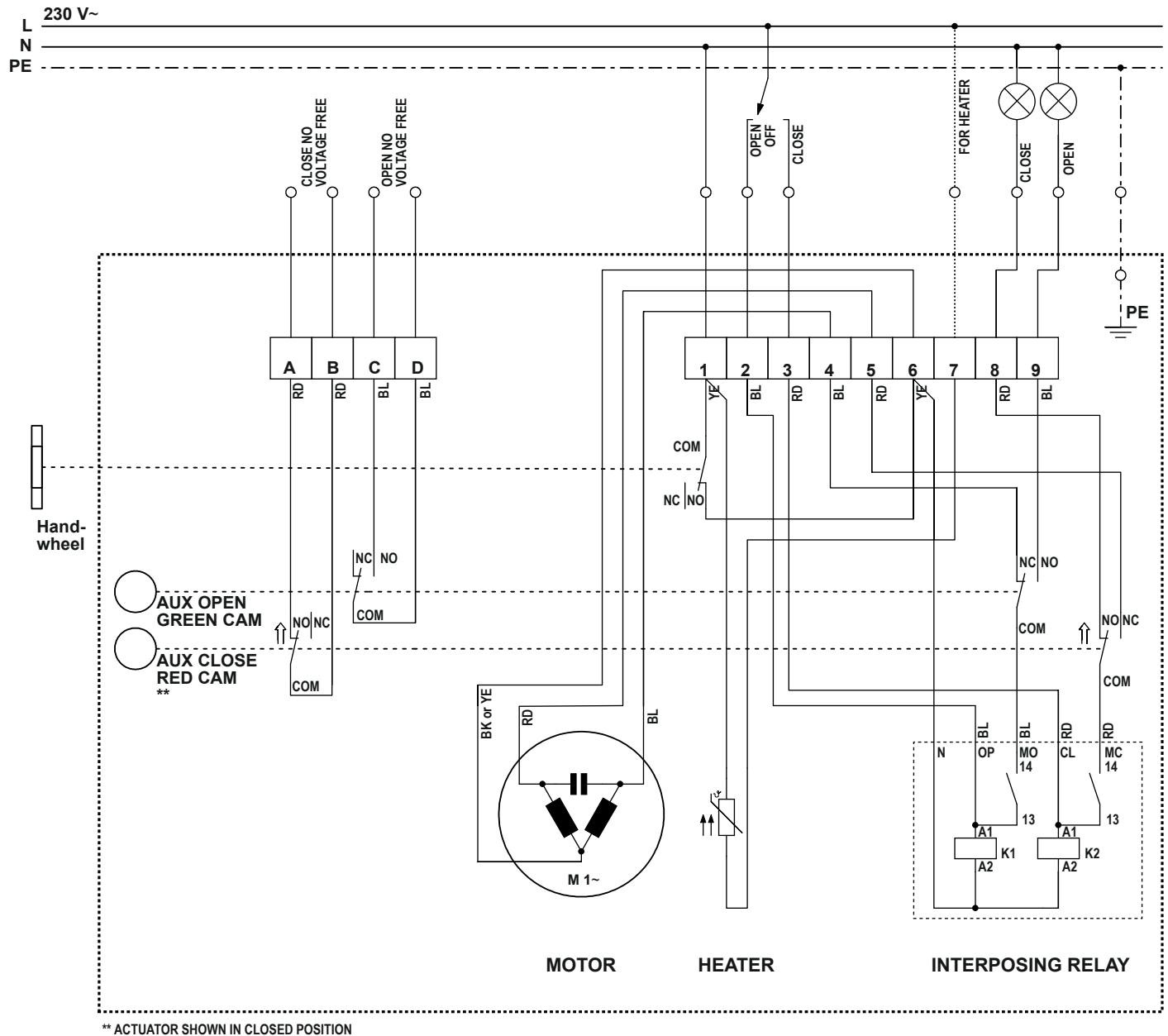


Figure 1: 24 V AC ON/OFF and Floating



Electrical Connection Diagram Proportional

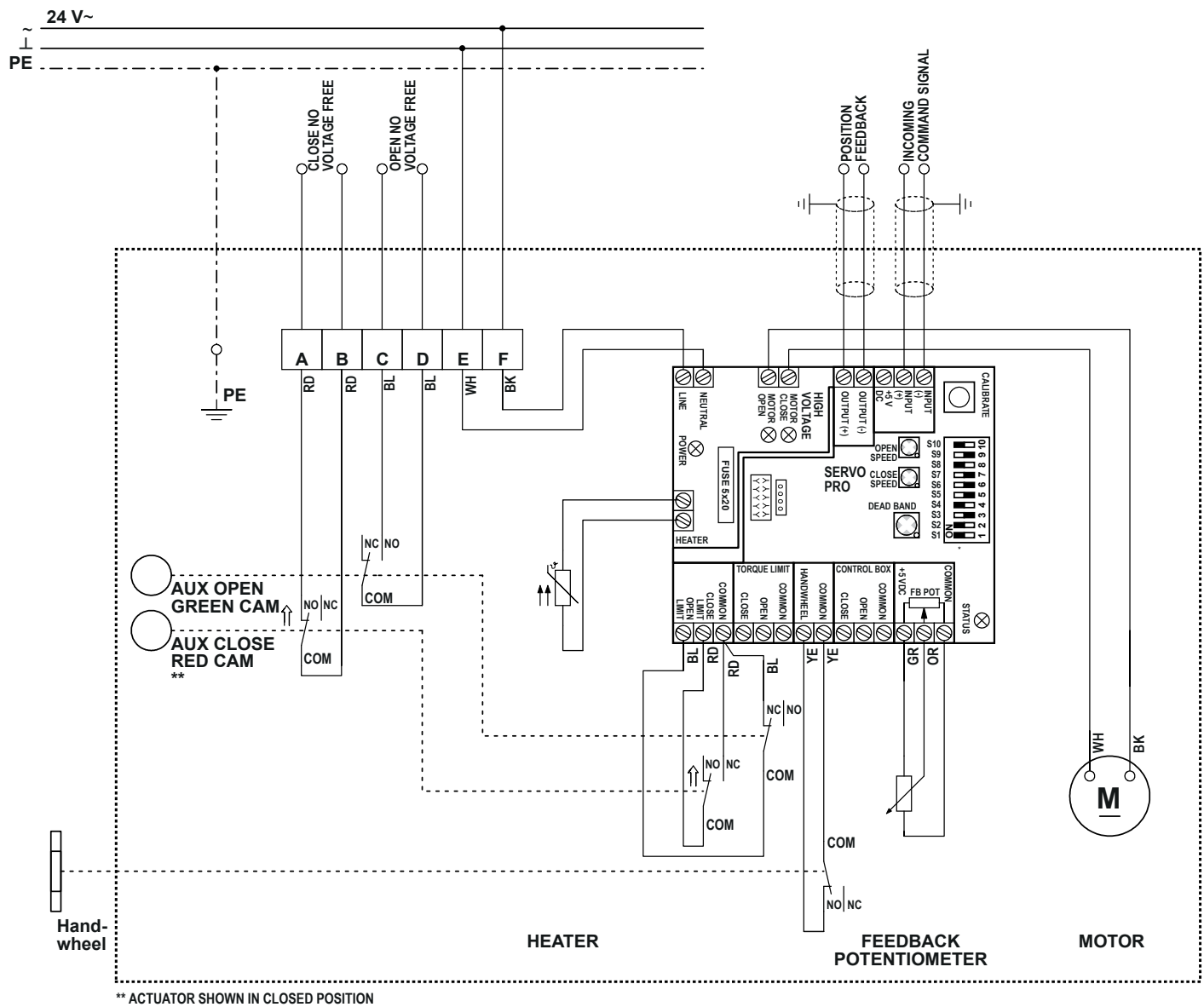


Figure 3: 24 V AC Proportional

DIP-Switch Settings

Switch	Command Signal Input			
	4-20 mADC	0-5 VDC	0-10 VDC	2-10 VDC
1	Off	On	On	On
2	Off	Off	On	On
3	Off	Off	Off	On
Feedback Output Signal				
	4-20 mADC	0-5 VDC	0-10 VDC	2-10 VDC
4	Off	On	On	N/A
5	On	Off	Off	N/A
6	Off	On	Off	N/A
Forward Acting		Reverse Acting		
7	Off	On		
Fall in Last Position		Fall Enable*		
8	Off	On		
Fall in Close		Fall Open		
9	Off	On		
Torque Switch Enable		Torque Switch Disable		
10	Off	On		

ON

* Fail position is the position that the Servo Pro will move the actuator when the control signal is removed. It does not apply to 0-5 VDC or 0-10 VDC Command Signal.

Table 1: Control, Electrical Data, Runtime

Code Number	Torque (Nm)	Power Supply	Control	Current-consumption	Apparent Power	Runtime 90° ∇ 50 Hz	Max. adjustable	Cable-entry
VA-9072-24	68	230 Vac	ON/OFF & Floating	0.55 A	135 VA	36 s	---	2 x M20 * 1.5
VA-9072-23	68	230 Vac	Modulating	0.55 A	137 VA	36 s	36.. 480 s	2 x M20 * 1.5
VA-9075-24	226	230 Vac	ON/OFF & Floating	0.5 A	115 VA	36 s	---	2 x M25 * 1.5
VA-9075-23	226	230 Vac	Modulating	0.5 A	117 VA	36 s	36.. 480 s	2 x M25 * 1.5
VA-9078-24	735	230 Vac	ON/OFF & Floating	1.1 A	253 VA	36 s	---	2 x M25 * 1.5
VA-9078-23	735	230 Vac	Modulating	1.1 A	255 VA	36 s	36.. 480 s	2 x M25 * 1.5
VA-907A-24	1470	230 Vac	ON/OFF & Floating	1.3 A	300 VA	132 s	---	2 x M25 * 1.5
VA-907A-23	1470	230 Vac	Modulating	1.3 A	302 VA	132 s	132.. 1760 s	2 x M25 * 1.5
VA-907B-24	2034	230 Vac	ON/OFF & Floating	1.5 A	345 VA	132 s	---	2 x M25 * 1.5
VA-907B-23	2034	230 Vac	Modulating	1.5 A	347 VA	132 s	132.. 1760 s	2 x M25 * 1.5
VA-9072-14	68	24 Vac	ON/OFF & Floating	1.5 A	41 VA	60 s	---	2 x M20 * 1.5
VA-9072-13	68	24 Vac	Modulating	1.5 A	43 VA	60 s	60.. 800 s	2 x M20 * 1.5
VA-9075-14	226	24 Vac	ON/OFF & Floating	2.0 A	48 VA	60 s	---	2 x M25 * 1.5
VA-9075-13	226	24 Vac	Modulating	2.0 A	50 VA	60 s	60.. 800 s	2 x M25 * 1.5
VA-9077-14	565	24 Vac	ON/OFF & Floating	3.0 A	72 VA	60 s	---	2 x M25 * 1.5
VA-9077-13	565	24 Vac	Modulating	3.0 A	74 VA	60 s	60.. 800 s	2 x M25 * 1.5

Technical drawings and connection diagram

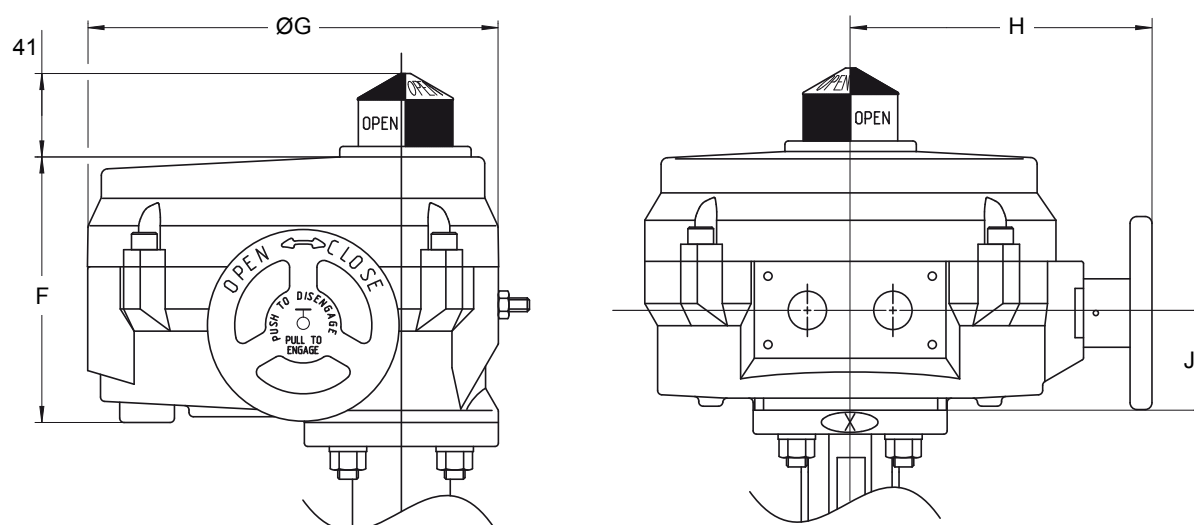


Figure 5: Two-Way VFB Series Actuated with VA-9072 / VA-9075 / VA-9077 / VA-9078 Actuators
Dimensions in mm (See table 2)

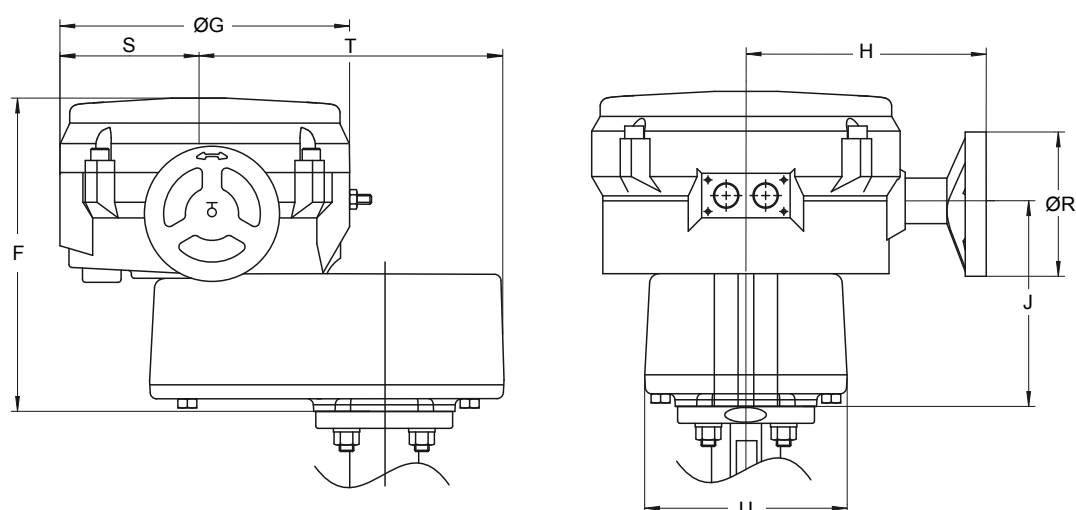


Figure 6: Two-Way VFB Series Actuated with VA-907A / VA-907B Actuators -
Dimensions in mm (See table 2)

Table 2

Actuator Model	F mm	G mm	H mm	J mm	S mm	T mm	R mm	U mm	Top flange	Weight (kg)
VA-9072	130	191	142	48	---	---	---	---	F07	5.9
VA-9075	165	257	198	64	---	---	---	---	F07/F12	13
VA-9077 / VA-9078	183	307	241	74	---	---	---	---	F12/F16	22
VA-907A / VA-907B	317	307	241	206	155	323	305	203	F12/F16	53

Technical Specifications

Actuator	ON/OFF and Floating	Proportional
Nominal voltage	230 V +/- 10 % or 24 V +/- 20 %	
Frequency	50/60 Hz	
Motor rating operating speed and output torque	See table 1: Control, Electrical Data, Runtime	
Protection class	IP65 (NEMA 4, 4X)	
Ambient operating and storage temperature	-40 °C to 65 °C	
Humidity	95%, Non condensation	
Noise level	max.70dB(A)	
Input	Nominal voltage	0(2)-10V DC 0-5V DC 4-20mA
Output	---	0(2)-10V DC 0-5V DC 4-20mA
Impedance	---	0(2)-10V DC 0-5V DC >10MΩ 4-20mA 200 Ω
Manual override	Standard	
Power (Heating)	5W	
Auxiliary switches	2 SPDT Standard; 10A at 250VAC; 0,5A at 24VDC	
Electrical connections	Screw terminals 0.35 .. 4 mm ²	Screw terminals 0.35 .. 4 mm ² for Nominal voltage supply 0.25 .. 2.5 mm ² for control
Servicing	No servicing required	



Johnson Controls, Inc., declares that this 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