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CATALOG KỸ THUẬT · JOHNSON CONTROLS

Bộ truyền động van cầu VAP

VAP600 · VAP1000 · VAP3000 cho van VGA

VAP Johnson Controls – bộ truyền động van cầu tĩnh tiến 600N, 1000N, 3000N, tín hiệu 0–10 V/4–20 mA hoặc floating, IP65, cho van VGA7000, VGA8000, VPMA.

Mã: VAP · Hãng: Johnson Controls · Hotline: 093 797 2339

dlk.com.vn/vap-johnson-controls-bo-truyen-dong-van.html



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VAP Series Electric Actuators

Overview

600N, 1000N, 3000N

The VAP series BLDC motor-driven actuators are available for proportional control or 3-point (floating) control. They feature stroke calibration and manual operating which are user friendly to job sites.

In combination with VGA7000, VGA8000 or VPMA series valves, they provide specified close-off pressure according to the application requests.

Features

- Proportional control, floating control mode selectable
- Multiple input and feedback signal selectable
- Stroke calibration ensure stroke consistency with valve
- Manual override and LED status indication
- Running time adjustable for different applications
- Direct mounting on valves, no linkage required



Ordering Information

VA	P	600	S	-24	-B
VA	Valve Actuator				
	P	Type: Proportional control / Floating control			
		600	Rated Force: 600 = 600N, 1000 = 1000N, 3000 = 3000N		
			S	Rated Stroke: S = 30mm, L = 50mm	
				-24	Power supply: -24 = 24V, 50/60Hz
					-B
					Action (factory setting):
					-B = Actuator stem extends when input signal increases
					-C/CN = Actuator stem retracts when input signal increases

Selection Table

Product Number	Rated Force (N)	Rated Stroke (mm)	Connection to valve	Action	Valve Series
VAP600S-24-B	600	30	S12	actuator stem extends when input signal increases	VGA7000 series Globe Valve VGA8000 series Globe Valve
VAP1000S-24-B	1000	30	S12		
VAP1000L-24-B	1000	50	S14		
VAP3000L-24-B	3000	50	S14		
VAP600S-24-C/CN	600	30	S12	actuator stem retracts when input signal increases	VPMA series PICV
VAP1000L-24-C/CN	1000	50	S14		
VAP3000L-24-C/CN	3000	50	S14		

Note: See "VGA7000 series Valve", "VGA8000 series Valve" and "VPMA series Valve" Product Bulletins for more information of valves and compatibility selection tables.

Globe Valve & Actuator

Technical Specifications

Control Modes	Proportional Control	Floating Control
Input Signal	0(2)~10VDC / 0(4)~20mA	3-point
Feedback Signal	0(2)~10VDC / 0(4)~20mA	
Supply Voltage (50/60Hz)	24VAC / VDC $\pm$ 15%	
Power Consumption	VAP600xx / VAP1000xx : 27VA (24VAC), 12VA (24VDC)	
	VAP3000xx : 40VA (24VAC), 20VA (24VDC)	
Running Speed	Selectable (High speed: 1s/mm; Low speed: 2s/mm)	
Input Impedance	100k Ω min. at 0(2)~10V; 0.15k Ω max. at 0(4)~20mA	
Operating Status Indications	LED	
Enclosure protection	IP65 (EN60529)	
Cable Entry	Waterproof connector PG13.5	
Wiring terminal	1 ~ 6mm ²	
Ambient Operating Condition	-25°C to 65°C, $\leq$ 95% RH%, non-condensing	
Ambient Storage Condition	-40°C to 65°C, $\leq$ 95% RH%, non-condensing	
Materials	Cover	PC
	Housing and Yoke	Stainless Steel
Net weight (kg)	VAP600xx / VAP1000xx : 3.0kg; VAP3000xx : 3.8kg	
CE Compliance	Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive and Low Voltage Directive.	

Wiring Diagram

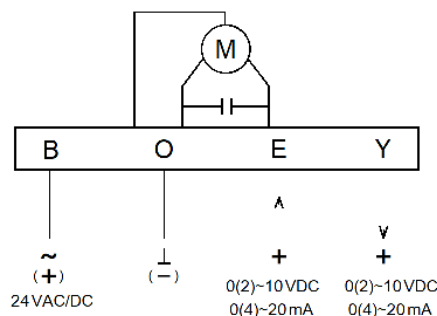


Fig 3: Proportional Application

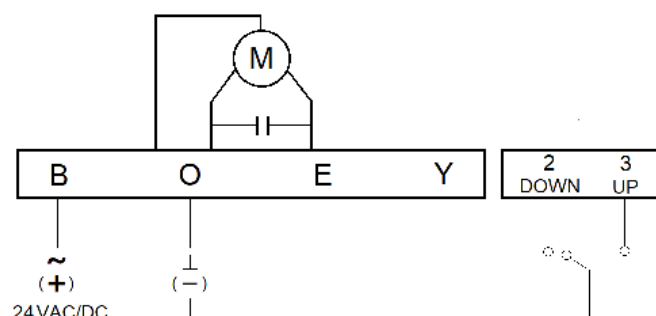


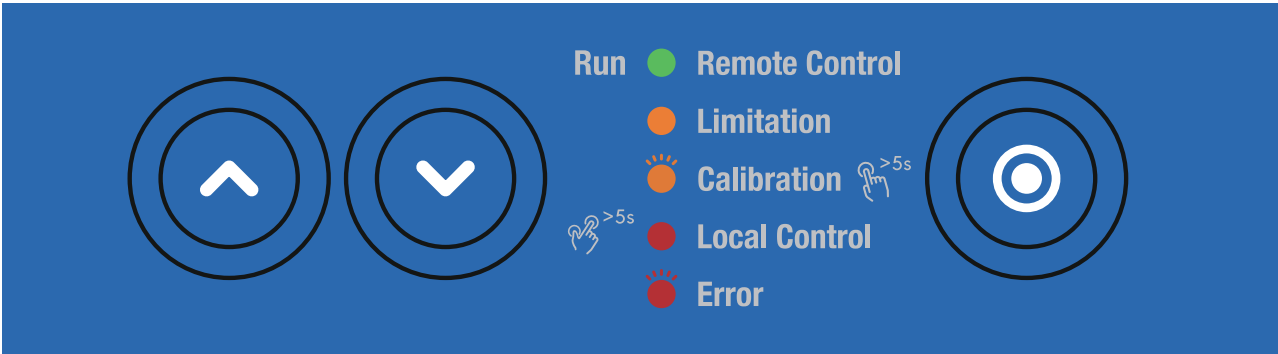
Fig 4: Floating Application



Manual Operating and Led Instruction

VAP series actuator has 3 buttons with LED indications:

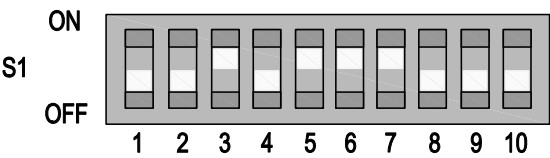
- 1. The actuator provides 2 manual modes: manual override and electric manual operating (local control mode).
- 2. Insert the crank (under the actuator) in the hexagonal hole on the cover, the power to motor is cut-off and manual override is engaged.
- 3. Press the "▲" and "▼" buttons at the same time for more than 5 seconds, then release the actuator to enter the local control mode (electric manual operating). After setting is completed, press the "▲" and "▼" buttons again for more than 5 seconds then release to exist local control mode.



LED Indication (▲ and ▼)		LED Indication (◎)	
Green steady on	Moving to position	Green steady on	Remote control mode
Orange steady on	Position reached	Orange blinking (1Hz)	Stroke calibrating
Red blinking (1Hz)	Alarm	Red blinking (2Hz)	Alarm
Red steady on	Local control mode	Red steady on	Local control mode

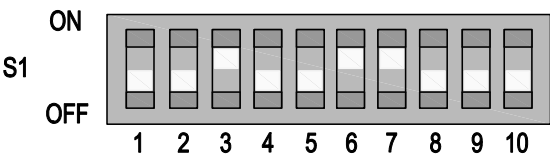
Dip Switch Settings

Factory Setting (white buttons are the switches):



VAPxxx-24-B

Input and feedback signal: 0~10 VDC
Stem extends when input signal increases



VAPxxx-24-C/CN

Input and feedback signal: 0~10 VDC
Stem retracts when input signal increases

Globe Valve & Actuator

Technical Specifications

DIP	Function	Setting and Description	
S1-1	Input/feedback signal	ON	4~20mA or 2~10V
		OFF	0~20mA or 0~10V
S1-2 S1-3	Type of input signal	S1-2 ON S1-3 OFF	Current input signal
		S1-2 OFF S1-3 ON	Voltage input signal
S1-4	Type of feedback signal	ON	Current feedback signal
		OFF	Voltage feedback signal
S1-5	Action of movement	ON	Stem extends when input signal increases; Stem retracts when input signal decreases
		OFF	Stem retracts when input signal increases; Stem extends when input signal decreases
S1-6	Action at signal loss	ON	The actuator acts in corresponding to the minimum input signal
		OFF	1) The actuator acts in corresponding to the maximum input signal (applicable to voltage input signal) 2) The actuator acts in corresponding to the minimum input signal (applicable to current input signal)
S1-7	Stroke calibration	ON	Automatic stroke calibration when powered
		OFF	Manual stroke calibration
S1-8	Control type	ON	Floating (3 points) control
		OFF	Proportional control
S1-9	Pre-set position at signal loss ①	ON	Actuator stays in position when signal loss (only applicable to input signal of 4~20mA)
		OFF	Actuator acts in corresponding to the setting of S1-6
S1-10	Running speed	ON	High speed: 1s/mm
		OFF	Low speed: 2s/mm

Note: ① Staying in position at signal loss is only available when input signal is 4~20mA.

Max. flow rate Setting: Only for VAPxxxx-24-CN

S2



Scale - Flow (valve stroke opening percentage)										
scale	0	1	2	3	4	5	6	7	8	9
flow	100%	28%	36%	44%	52%	60%	68%	76%	84%	92%

Once the scale is set, the maximum stroke of actuator (valve) is as in the table, and the max. flow through valve is also limited accordingly. For example, when the scale is set to 5, the max. opening of valve stroke is 60% and the max. flow rate could be found in corresponding technical documents.

Note: See "Installation Guide" for max. flow selection tables of each VPMA valve.

Dimensions (mm)

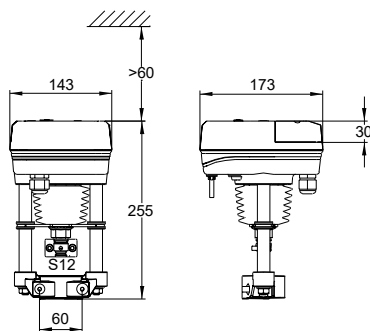


Fig 5: VAP600S / VAP1000S

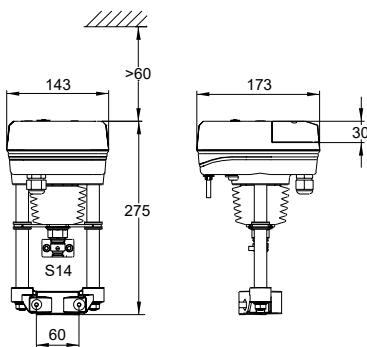


Fig 6: VAP1000L

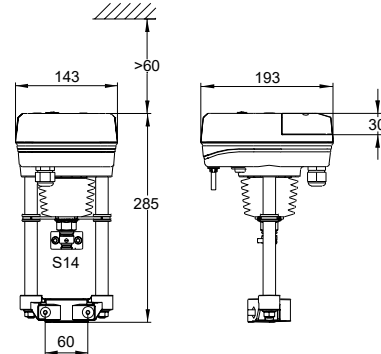


Fig 7: VAP3000L



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0317566997

ĐỊA CHỈ THUẾ

G6/18H Đường Trần Văn Giàu, Xã Bình Lợi,
Thành phố Hồ Chí Minh, Việt Nam

VĂN PHÒNG

CS1: 111/7 Vườn Lài, Phú Thọ Hòa, Tân Phú,
TP.CHM

CS2: TT1-09 Foresa 4A, KĐT Xuân Phương,
TP. Hà Nội

HOTLINE

093 797 2339

EMAIL

info@dlk.com.vn

WEBSITE

www.dlk.com.vn