



SPRING RETURN ELECTRICAL ACTUATOR



VAHN-TECH International Inc., headquartered in Toronto, Canada is a unique company within the Flow Control Industry.

- ✳ 'vt' brand = high quality certified products (API, NSF, CSA, WRAS etc.)
- ✳ Valves, Actuators and Accessories – all 'vt' branded
- ✳ Width and Depth of Product Offerings
- ✳ Flexibility to customize products to customer needs
- ✳ Specialized user-friendly products including large sizes
- ✳ Quick Response
- ✳ Reduced Delivery times
- ✳ Efficient after sales service
- ✳ Competitive Pricing

VAHN-TECH International Inc. is a customer focused organization based on “Value-add” and “Quality Service” principles. Achieving long term partnership with our customers and being their supplier of choice is our prime mission.

We develop, manufacture and market VAHN-TECH (vt) branded Valves, Actuators, Automatic Control Valves and Accessories for variety of Industrial Applications. Our product range includes:



Oil and Gas



Water and Sewage,
Desalination



Chemicals



Paper and Pulp



Irrigation



Power Plants



Various
Industrial Applications

We can supply all types of valves with following materials of construction like:

Ductile Iron, Cast Iron, Carbon Steel, Stainless Steel – SS304, SS304L, SS316, SS316L, Duplex Stainless Steel, Super Duplex, Alloy, Monel and Inconel with variety of seating and stem configurations.



License Number 80-1724



OVERVIEW

Vahn-Tech spring return fail-safe electrical actuators in addition to the normal function (floating control, on-off control, modulating control) are designed to provide fail-safe positioning of valves and dampers upon loss of power supply. A mechanical spring set is used to position the controlled device to either the fully OPEN or fully CLOSED position without any external power source. For ON-OFF type, a mechanical BUFFER is employed at the end of the spring stroke in order to reduce the dynamic effects of the spring return system. A clutch-free manual override is available as an option for standard units to provide full-time manual positioning of the valve.

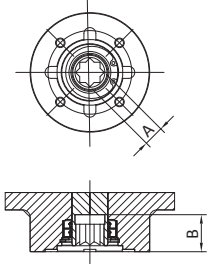
FEATURES

- ✦ IP67, NEMA 4X: Water proof and dust-proof enclosure
- ✦ Control: Modulating, Floating and ON / OFF.
- ✦ Clutch-free manual override (optional).
- ✦ ISO 5211 mounting flange.
- ✦ Built-in thermal protection prevents motor burnout.
- ✦ Self-locking function provides a stable, reliable and powerful drive system
- ✦ Gear trains have been already lubricated sufficiently with high temperature resistant lubricant at the factory. Lubrication is not necessary under normal operating condition.

STANDARD SPECIFICATIONS

- ✦ Available supply voltages: 24VAC / DC, 110/120VAC, 220VAC, 380V/3PH and 440V/3PH.
- ✦ Dry polyester powder coated aluminum alloy housing.
- ✦ Standard 50% duty cycle (In accordance with IEC standard).
- ✦ Continuous mechanical position indicator on the top of actuator cover.
- ✦ 2 limit switches for operation, fail clockwise spring return and ON / OFF control provided as standard.
- ✦ Relative humidity: 30 to 95%.
- ✦ Ambient Temperature: -30°C to +70°C / -22°F to +158°F.

TECHNICAL DATA

Model	Type	Motor Power	Weight				Flange Type	Shaft (A)		Depth of Shaft (B)			
			Standard		w/ Manual Override			mm	inch	mm	inch		
			N.m	in.lb	kg	lb						kg	lb
VT-S-500		50	443	50	27	60	37	82	F07	17	0.67	30	1.18
VT-S-1300		130	1151	130	57	126	74	163	F10	22	0.87	39	1.54
VT-S-2000		200	1771	130	95	209	135	298	F12	27	1.06	45	1.77
VT-S-2600		260	2302	130	95	209	135	298	F12	27	1.06	45	1.77

Note: the motor power and speed data are based on 110V AC at 60Hz

OPTIONS AND ACCESSORIES

OPERATING DIRECTION



Standard
Fail clockwise on loss of power.



Optional
Fail counterclockwise on loss of power.

MANUAL OVERRIDE

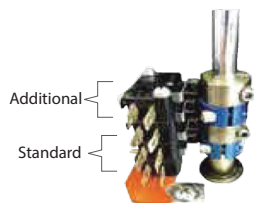


Standard
(Without Manual Override)
VT-S Series

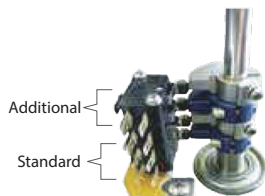


Optional
(With Manual Override)
VT-SH Series

ADDITIONAL LIMIT SWITCHES



S500



S1300~S2600

The standard models are equipped with the 1st & 2nd switches for fully-open and fully-closed. The optional accessory with the 3rd & 4th auxiliary switches which provide dry contacts for fully-open and fully-closed added.

SPACE HEATER



AC/DC 24V



AC 200V



AC 110V



AC 380V~400V/3PH

A space heater can increase the internal temperature and keep dry inside actuator to avoid freezing of the lubricant and moisture causing actuator failure under low temperature or high humidity. Heater is not recommended if the ambient temperature is above 35°C/95°F. However, when the temperature varies much from day to night or between summer and winter, heater and thermostat (25±5°C/77°F±9°F) are recommended.

HEATER THERMOSTAT

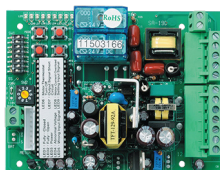


This optional accessory can switch the heater off when the temperature inside the actuator is over 25°C / 77°F.

MODULATING CONTROLLER

Input Signal: 4-20mA, 1-5V, 2-10V

Output Signal: 4-20mA, 2-10V



Based on AC 110/220V

Actuator can be operated according to input signal and provide the output signal for indication.

☛ Vahn-Tech International Inc. reserves the right to change the technical data without prior notice.

FLOATING CONTROLLER



The actuator can be controlled by external controller to open, close and stop at any position between 0 and 90 degree and will fail clockwise to the end position on loss of power. (Based on the standard running direction that the actuator fails clockwise on loss of power.)

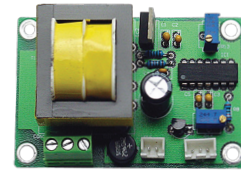
OPTIONS AND ACCESSORIES

POTENTIOMETER UNIT



This optional accessory can be ordered with On/Off actuators. The selection has 1k or 5k ohm resistance values. It provides feedback signal for position indicator.

ANALOG SIGNAL OUTPUT



This optional accessory can provide 4-20mA output signal and suit for two-position control units.

OTHER OPTION

Conduit Entries

Standard: 1/2" PS
 Optional: 3/4" PF
 1 1/2" NPT
 M20

ENCLOSURE HAZARDOUS AREA RATING

ATEX European Hazardous Area: IEC 60079-0, IEC 60079-1, IEC60079-31

Directive	Group	Ambient Temperature
ATEX II 2 GD	Ex db IIB T4 Gb	-30°C ~ +70°C (-22°F ~ +158°F)
ATEX II 2 GD	Ex tb IIIC T130°C Db	-30°C ~ +70°C (-22°F ~ +158°F)

IECEx International Hazardous Area: EN60079-0, EN60079-1, EN60079-31

Group	Ambient Temperature
Ex db IIB T4 Gb	-30°C ~ +70°C (-22°F ~ +158°F)
Ex tb IIIC T130°C Db	-30°C ~ +70°C (-22°F ~ +158°F)

North American Hazardous Area:

Zone System :

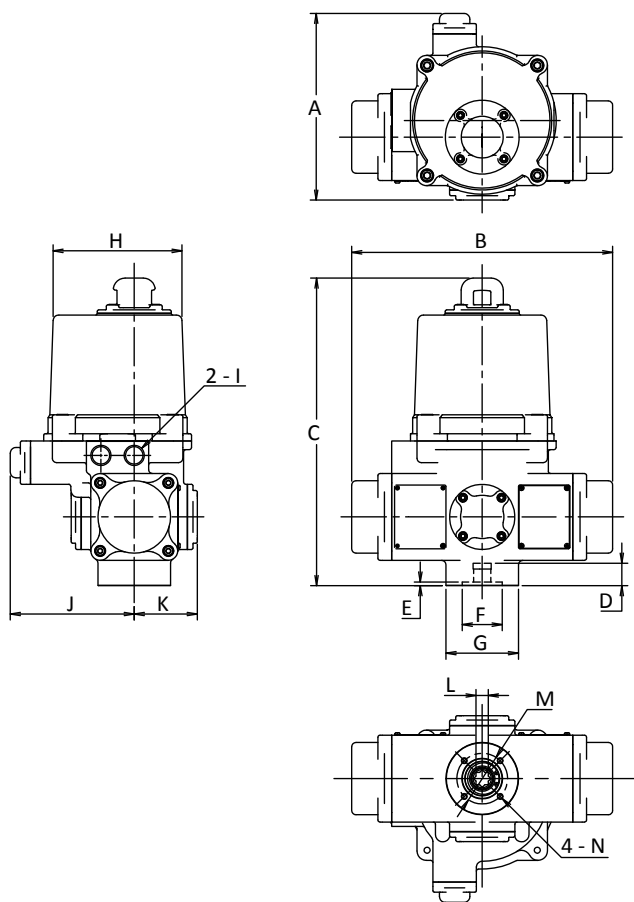
- CAN/CSA-C22.2 No. 0-10
- CAN/CSA-C22.2 No. 60079-1
- UL 60079-0
- CAN/CSA-C22.2 No. 60079-0
- CAN/CSA-C22.2 No. 60079-31
- UL 60079-1
- UL 60079-31

National Community	Class	Zone	Protection Method	Groups	T-Code	Standard Temperature
AEx / Ex	I	1	db	IIB, IIA	T4	-30°C ~ +70°C (-22°F ~ +158°F)
AEx / Ex	II	21	tb	IIC, IIB, IIIA	T130°C	-30°C ~ +70°C (-22°F ~ +158°F)

ACTUATOR DIMENSION (mm/in)



Standard



mm

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Flange Type
VT-S-500	258	360	425	31	5	∅55	∅100	∅178	1/2"NPT	171	87	17	∅70	M8*1.25	F07
VT-S-1300	365	462	503	41	5	∅70	∅140	∅265	1/2"NPT	247	110	22	∅102	M10*1.5	F10
VT-S-2000	438	600	577	46	6	∅85	∅170	∅305	1/2"NPT	305	133	27	∅125	M12*1.75	F12
VT-S-2600	438	600	577	46	6	∅85	∅170	∅305	1/2"NPT	305	133	27	∅125	M12*1.75	F12

C=462°C S500: with DC Power Supply C=462

inch

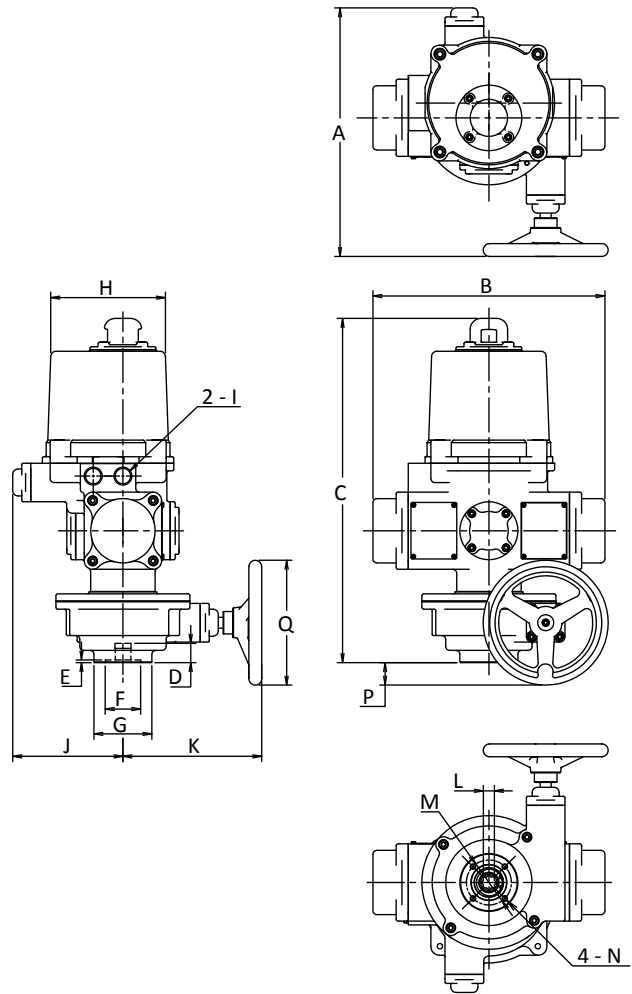
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Flange Type
VT-S-500	10.157	14.173	16.732	1.220	0.197	∅2.165	∅3.937	∅7.008	1/2"NPT	6.732	3.425	0.669	∅2.756	M8*1.25	F07
VT-S-1300	14.370	18.189	19.803	1.614	0.197	∅2.756	∅5.511	∅10.433	1/2"NPT	9.724	4.331	0.866	∅4.016	M10*1.5	F10
VT-S-2000	17.244	23.622	22.717	1.811	0.236	∅3.346	∅6.693	∅12.008	1/2"NPT	12.008	5.236	1.063	∅4.921	M12*1.75	F12
VT-S-2600	17.244	23.622	22.717	1.811	0.236	∅3.346	∅6.693	∅12.008	1/2"NPT	12.008	5.236	1.063	∅4.921	M12*1.75	F12

C=462°C S500: with DC Power Supply C=18.189

ACTUATOR DIMENSION (mm/in)



W /Manual Override



mm

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	Flange Type
VT-S-500	387	360	535	30	4	∅55	∅90	∅178	1/2"NPT	171	216	17	∅70	M8*1.25	35	∅194	F07
VT-S-1300	484	462	638	41	5	∅70	∅125	∅265	1/2"NPT	247	237	22	∅102	M10*1.5	68	∅295	F10
VT-S-2000	589	600	732	45	5	∅85	∅150	∅305	1/2"NPT	305	284	27	∅125	M12*1.75	109	∅398	F12
VT-S-2600	589	600	732	45	5	∅85	∅150	∅305	1/2"NPT	305	284	27	∅125	M12*1.75	109	∅398	F12

C=462°C S500: with DC Power Supply C=572

inch

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	Flange Type
VT-S-500	15.236	14.173	21.063	1.181	0.157	∅2.165	∅3.543	∅7.008	1/2"NPT	6.732	8.504	0.669	∅2.756	M8*1.25	1.378	∅7.638	F07
VT-S-1300	19.055	18.189	25.118	1.614	0.197	∅2.756	∅4.921	∅10.433	1/2"NPT	9.724	9.331	0.866	∅4.016	M10*1.5	2.677	∅11.614	F10
VT-S-2000	23.189	23.622	28.819	1.772	0.197	∅3.346	∅5.906	∅12.008	1/2"NPT	12.008	11.181	1.063	∅4.921	M12*1.75	4.291	∅15.669	F12
VT-S-2600	23.189	23.622	28.819	1.772	0.197	∅3.346	∅5.906	∅12.008	1/2"NPT	12.008	11.181	1.063	∅4.921	M12*1.75	4.291	∅15.669	F12

C=462°C S500: with DC Power Supply C=22.520

Power Supply

AC 110 / 120V, 1-Phase

Model	Operating Time (Sec / 90°)		Current (60Hz / 50Hz)			
			AC 110V		AC 120V	
	Motor(50Hz / 60Hz)	Spring	Run	Lock	Run	Lock
VT-S-500	7 / 9	3	1.0A / 1.3A	2.0A / 2.2A	1.0A / 1.3A	2.0A / 2.2A
VT-S-1300	7 / 9	8	2.6A / 4.5A	10A / 10.5A	3.8A / 6.9A	11A / 11.5A
VT-S-2000	11 / 13	12	2.6A / 4.5A	10A / 10.5A	3.8A / 6.9A	11A / 11.5A
VT-S-2600	14 / 17	12	2.6A / 4.5A	10A / 10.5A	3.8A / 6.9A	11A / 11.5A

AC 220 / 240V, 1-Phase

Model	Operating Time (Sec / 90°)		Current (60Hz / 50Hz)			
			AC 220V		AC 240V	
	Motor(50Hz / 60Hz)	Spring	Run	Lock	Run	Lock
VT-S-500	7 / 9	3	0.6A / 0.7A	1.0A / 1.2A	0.7A / 0.8A	1.3A / 1.5A
VT-S-1300	7 / 9	8	1.5A / 2.2A	5.0A / 5.1A	2.1A / 3.8A	5.6A / 5.7A
VT-S-2000	11 / 13	12	1.5A / 2.2A	5.0A / 5.1A	2.1A / 3.8A	5.6A / 5.7A
VT-S-2600	14 / 17	12	1.5A / 2.2A	5.0A / 5.1A	2.1A / 3.8A	5.6A / 5.7A

AC 380 / 440V, 3-Phase

Model	Operating Time (Sec / 90°)		Current (60Hz / 50Hz)			
			AC 380V		AC 440V	
	Motor(50Hz / 60Hz)	Spring	Run	Lock	Run	Lock
VT-S-500	7 / 8.5	3	0.4A / 0.4A	0.5A / 0.6A	0.3A / 0.4A	0.5A / 0.6A
VT-S-1300	7 / 8.5	8	1.0A / 1.5A	2.8A / 3.0A	0.7A / 1.0A	5.6A / 5.7A
VT-S-2000	11 / 13	12	1.0A / 1.5A	2.8A / 3.0A	0.7A / 1.0A	5.6A / 5.7A
VT-S-2600	14 / 17	12	1.0A / 1.5A	2.8A / 3.0A	0.7A / 1.0A	5.6A / 5.7A

AC / DC 24V, 1-Phase

Model	Operating Time (Sec / 90°)		Current	
			AC / DC 24V	
	Motor	Spring	Run	Lock
VT-S-500	7	3	3.0A	4.0A
VT-S-1300	8	3	9.0A	19.0A
VT-S-2000	11	3	9.0A	19.0A
VT-S-2600	17	3	9.0A	19.0A



VAHN-TECH International Inc.

2608-88, Bluejays Way, Toronto, Ontario, M5V 0L7, Canada

Tel.: +1 416 342 0001 E-mail: info@vahn-tech.com

www.vahn-tech.com