V Series Linear Actuators

Specification & Installation Instructions

VM000
VM060
VT000
VT060

Features:

- Power supply 24 Vac/Vdc
- Minimum force 120N [27lbs]
- Control mode: digital (VT models) or analog (VM models)
- Patented Enerdrive Fail-Safe System* (060 models)
- Auto stroke on power up (VM models)
- Anti-stick option (VM models)
- Manual override
- Direct or reverse acting (configurable)
- Status LED
- Standard cable 1 meter (3.2 ft) long
- Easy installation, no tools required
- Small size allows for easy installation in limited space
- Stall-proof, maintenance free
- IP54 enclosure
- Equal percentage available upon request (VM only)

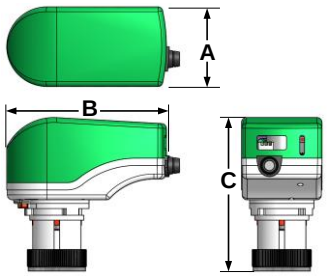
Technical Data	VM000	VM060	VT000	VT060
Minimum Force	120N [27lbs]			
Power supply	22 to 26 Vac or 22 to 26 Vdc			
Power consumption	5VA	10VA peak, 6VA	5VA	10VA peak, 6VA
Electrical connection	4-wire (except VT000 is 3-wire) halogen free cable; 0.8 mm^2 [18AWG], 1 m (3.2 ft) long			
Control mode & signal	Analog, 0-10Vdc or 2-10Vdc 4-20mA with externally wired 500Ω resistor		Digital, 2 positions or 3 point floating	
Feedback signal	0-10Vdc or 2-10Vdc		No feedback	
Running time	18.5 sec/mm - 120 sec for 6.5mm			
Failsafe Running time	No failsafe	9.2 sec/mm 60 sec for 6.5mm	No failsafe	9.2 sec/mm 60 sec for 6.5mm
Maximum stroke	Up to 6.5 mm [¼ in], self adjustable			
Direction	Reversible, normally up position (close) or normally down position (open)			
Ambient temperature	2ºC to 50ºC [36ºF to 122ºF]			
Storage temperature	-30ºC to 50ºC [-22ºF to 122ºF]			
Relative Humidity	5 to 95 % non condensing			
Medium temperature (in valve)	2ºC to 120ºC [36ºF to 248ºF]			
Weight	0.4 kg [0.9 lbs.]			
Ingress protection	IP54 equivalent to NEMA type 3R			
Country of manufacture	Made in Canada			
Certifications	CE UL LISTED			

Dimensions

VM000 / VT000

A = 2.08” | 53mm
B = 4.09” | 104mm
C = 3.62” | 92mm

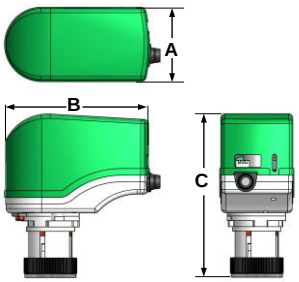
adaptor -500



VM060 / VT060

A = 2.08” | 53mm
B = 4.09” | 104mm
C = 4.18” | 107mm

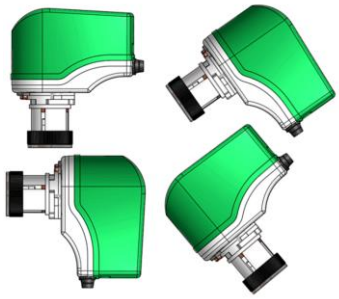
adaptor -500



Mechanical installation

Mounting of the actuated valve on system

Correct mounting



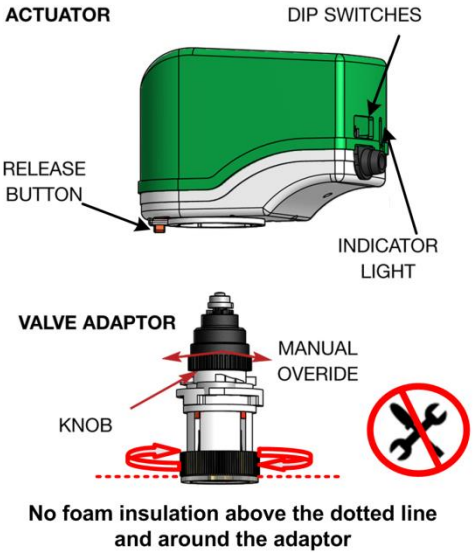
Incorrect mounting

1. The actuated valve installation should be easily accessible and provide sufficient clearance for service and replacement.
2. Horizontal and vertical positions are preferred orientation for the installation of actuated valve. However, this actuator can be installed at any in between angle.

Caution:

Do not install at more than 90º from horizontal.

Mounting of the actuator on valve



1. Mount the valve adaptor to the valve and finger-tighten only.

Finger-tighten only. Do not use a wrench or any other tool.

2. Rotate knob clockwise to open the valve. Do not force knob in either direction!
3. Manually adjust the knob to test piping network.
4. Once satisfied that the network is working properly, engage the actuator over the valve adaptor and turn 30º clockwise (CW). You should hear an audible click.

To disengage the actuator, press the release button while turning the actuator CCW 30º.

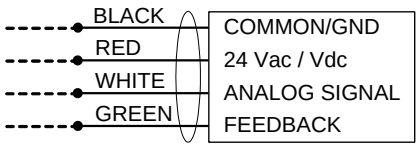
Caution:

Actuator specifically calibrated to its adapter. **DO NOT exchange original adapter with a different actuator**.

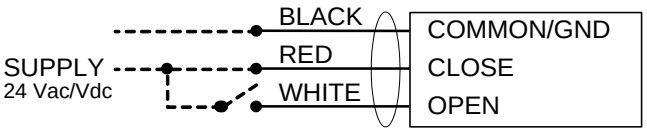
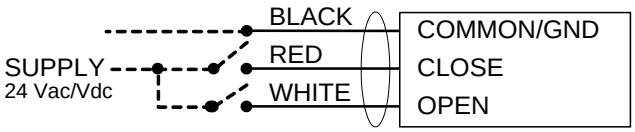
WARNING!

	**You must connect the actuator to its adaptor and mount it on a valve before applying power. Failure to do so will result in incorrect operation of the actuator.**
	**Improper use of mechanical tools or application of excessive force to tighten the adaptors on the valves could lead to structural damage of the adaptor, which could lead to failure over time.**
	**If you plan to add foam insulation, do not add insulation foam beyond the chrome ring and around the adaptor. Improper installation of insulation material could lead to a build-up of condensate water around the valve and the chrome ring of the adaptor, which could lead to build up of rust and compromise the structure of the chrome ring that holds the adaptor.**

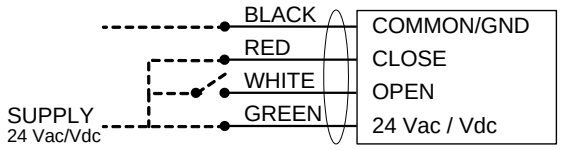
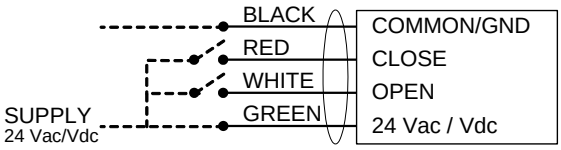
Wiring (VM000 & VM060)



Wiring (VT000)

3-wire / Digital 2 positions	3-wire / Digital 3 point floating
	

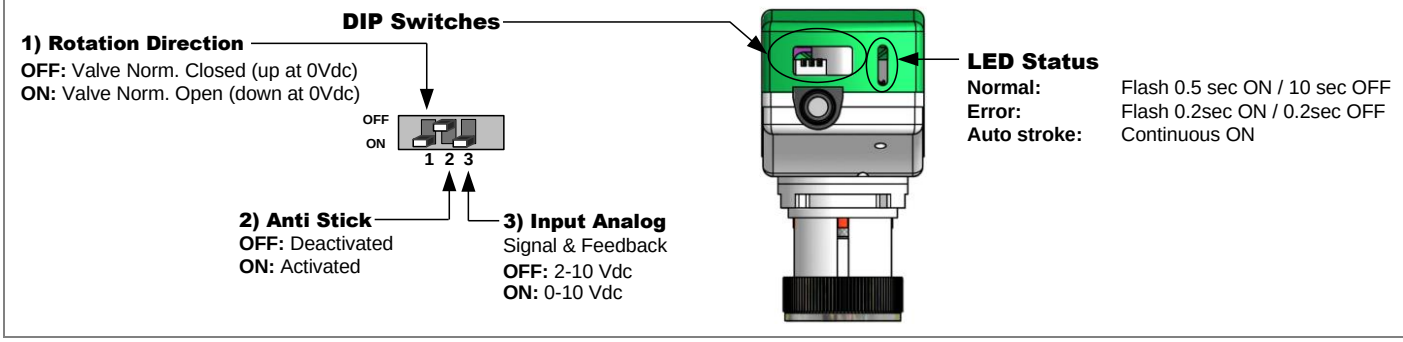
Wiring (VT060)

3-wire / Digital 2 positions	3-wire / Digital 3 point floating
	

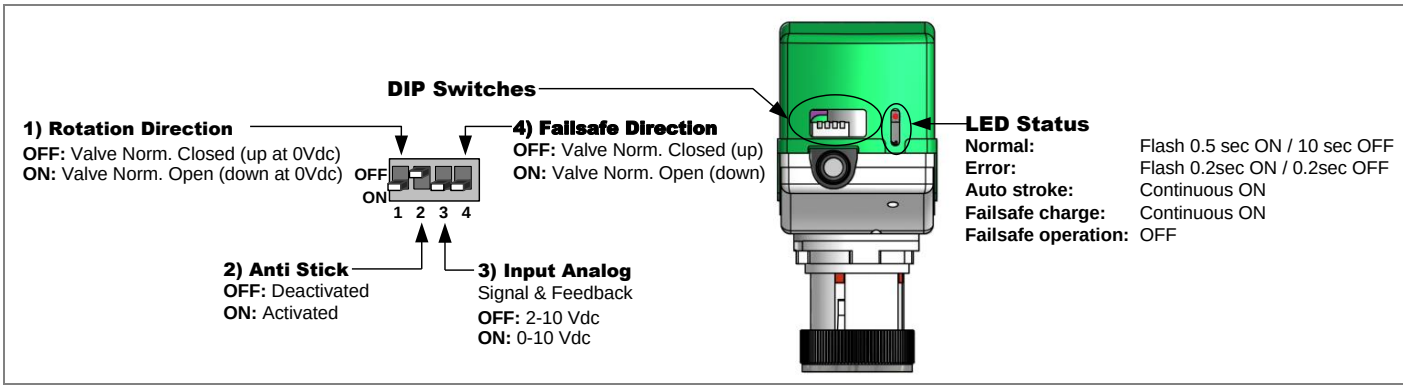
DIP Switches and LED

DIP switches are externally accessible.

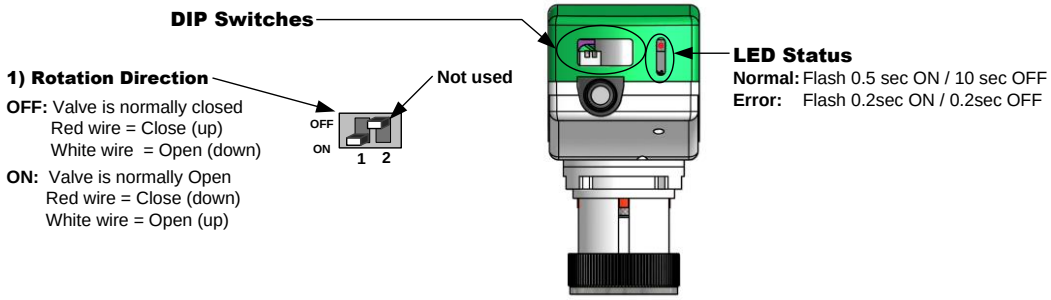
VM000



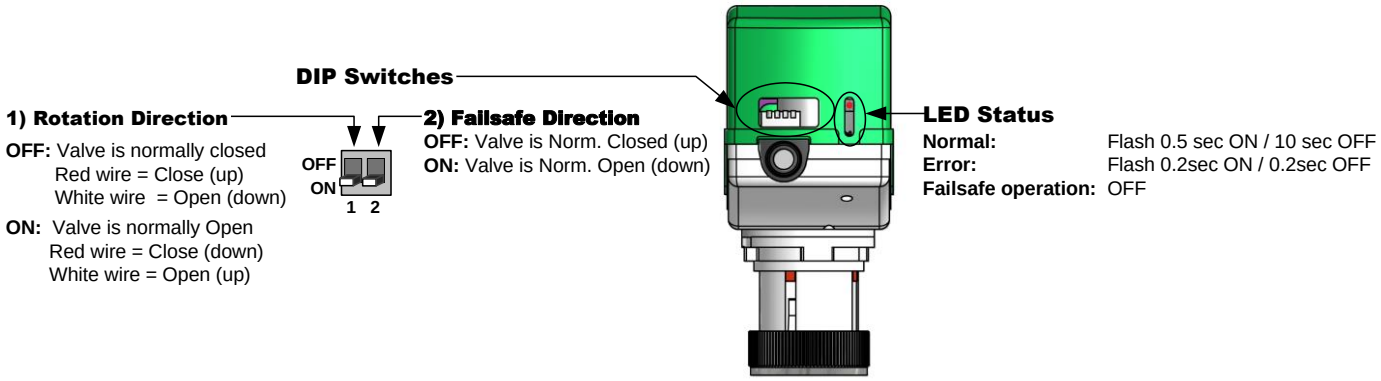
VM060



VT000



VT060



** Enerdrive Fail-Safe System: US Patent # 5,278,454 | European Patent # 0647366*

Caution

We strongly recommend that all Neptronic® products be wired to a separate transformer and that transformer shall service only Neptronic® products. This precaution will prevent interference with, and/or possible damage to incompatible equipment. When multiple actuators are wired on a single transformer, polarity must be observed. Long wiring runs create voltage drop which may affect the actuator performance.

Recycling at end of life

At end of life, please return the thermostat to your Neptronic® local distributor for recycling. If you need to find the nearest Neptronic® authorized distributor, please consult **www.neptronic.com**.