

# VMSM-05 HI-SPEED ROTATING ACTUATOR

- Heavy duty fast electric actuator
- 24VAC or DC supply to the motor
- Modulating control with input 2..10V or 0..10V
- Position signal feed back 2..10V or 0..10V
- Protection class IP54
- Fitted 900mm long connection cable
- Rotation adjustable from 0..95°
- Factory set to 0..90° and feed back to 2..10V
- Continuous control function or on-off
- Rotation speed 4s for 0..90°
- Torque 8Nm continuously rotating
- CMR standard 24 month warranty
- 10 Years field application experience

The VMSM-05 damper actuator has been designed for commercial and industrial ventilation applications. The protection class is IP54 and it can be installed in any in-door normal environment. It is being used in high rise office blocks for the ventilation control or in many clean room pressure or constant air volume applications where a hi-speed and reliable air volume control must be achieved. It is also used in fume cupboard extract and make up air laboratory control.

It has a rotating clamp which can grip 8..12mm square damper shafts or 8..16mm round damper shafts. It will fit perfectly onto the CMR fume cupboard control valves. It will also fit directly onto the CMR square or rectangular dampers with gear drive or the round PPs chemical resistant valves and the galvanised or stainless steel valves. CMR manufactures all the associated mounting brackets also to suit specific custom applications. The motors are best used with the CMR dampers as the rotating shaft and gear mechanism on the damper must be able to withstand very fast small open and closed commands under automatic control.

The actuator has a digital motor control which has the advantage that it can be commissioned with a PC. It also has dip switches to adjust the input and output voltage control without PC. The actuator has built in overload control and the motor is capable driving against a block without end switches. The rotation angle can be adjusted via mechanical end stops for opening and closing.

There is a rotating position indicator which is part of the clamp and a red arrow can be adjusted to show the actual position. It is highly visible at a distance. A feed back is standard which can be adjusted to be 2..10V or 0..10V. The rotation direction is adjustable via a dip switch under the motor cover.

A manual push button clutch mechanism can be operated by hand. When pushing the manual button, it disengages the gear drive to the application. The clamp can then be rotated manually to any position. The power should be isolated before using the manual push button as otherwise the motor drives back to the control position when the button is released. This function should only be used in a controlled maintenance condition.

When there is a power failure, the motor shall remain in its last position. It has no fail safe spring return action. The electronic is built into the actuator and there are no further adjustments to be made. Once the motor has been commissioned it will be set for life and is maintenance free.

A 900mm long cable is factory fitted and can be terminated according to a wiring diagram which is on a label fixed to the actuator. The damper motor is factory tested and pre-set to a standard operation.



VMSM-05 Actuator



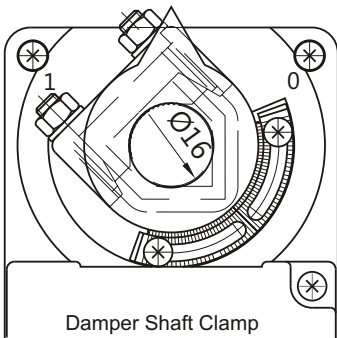
Galvanised modulating Valve with VMSM-05



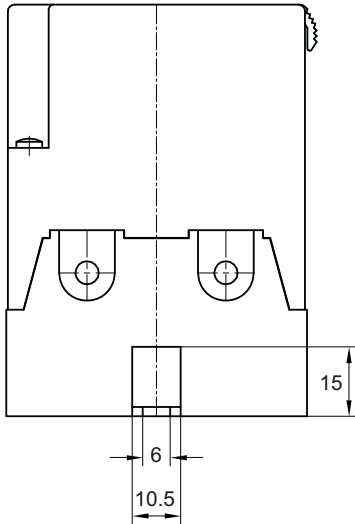
PPs modulating venturi valve with VMSM-05

# VMSM-05 TECHNICAL SPECIFICATION

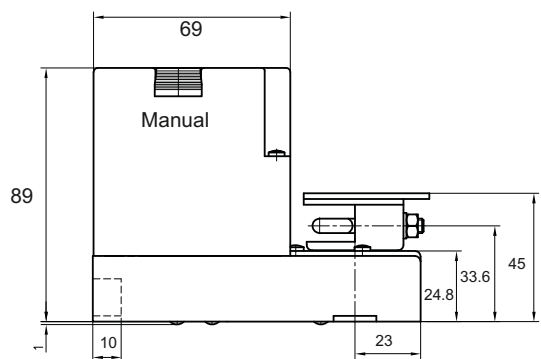
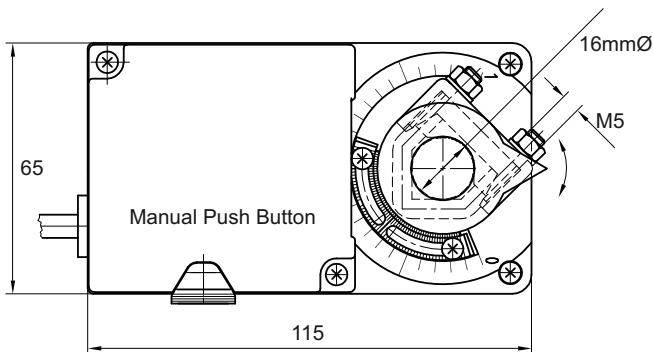
VMSM-05 Part No. 204-405



Damper Shaft Clamp with rotation adjustment blocks.



Rear Mounting Slot



CMR Technical Data Electric Actuator Type VMSM-05 Part No. 204-405	
Characteristic	Specifications
Nominal voltage	24 VAC 50/60 Hz or 24V DC +/- 20%,
Protection class	IP54 (cable fitted downwards)
Power Consumption	12.0 W
Transformer sizing	15.0 VA
Max output torque	8 Nm
Rotation direction	Selectable via dip switches
Angle of rotation	Max. 0..95° adjustable via end blocks on the drive clamp
Manual adjustment	With Hand push button disengaging of gears
Drive shaft Clamp	◇ 8..12mm square or ○ 8..16mm round damper shaft
Running time	4 seconds for 90° during normal operation
Feedback	0..10VDC or 2..10VDC standard
Control signal	0..10V - 2..10V - 0..20mA - 4..20mA
Ambient temperature	-20 to +50°C
Storage temperature	-40 to +85°C
Duty cycle	Continuous
CE	73/23/EWG,89/336/EWG
Connection Cable	4 x 0,75 mm <sup>2</sup> , 0,9 m length
Weight	approx. 0,75 kg
Maintenance	Maintenance free
Wiring schematics VMSM-05 Actuator Part No: 204-405 Speed 4s at 8Nm	
0..10V-4..20mA Modulating	
Dip switch factory setting	<p>Direction rotation clockwise cw 0-90° 3=off counter clockwise ccw 90-0° 3=on</p> <p>Control signal Y 2..10VDC 1=off 2=off 0..10VDC 2=off 1=on 4..20mA 1=off 2=on 0..20mA 1=on 2=on</p>
SW3 = off	
Y = 2..10V	
SW1 = off	
SW2 = off	