

# CMV



Engineering  
*GREAT* Solutions

**Control Drive Large Enclosed  
Actuator with Auto Engaged  
Manual Override**

# CMV: Control Drive Large Enclosed Actuator with Automatic Engaged Manual Override

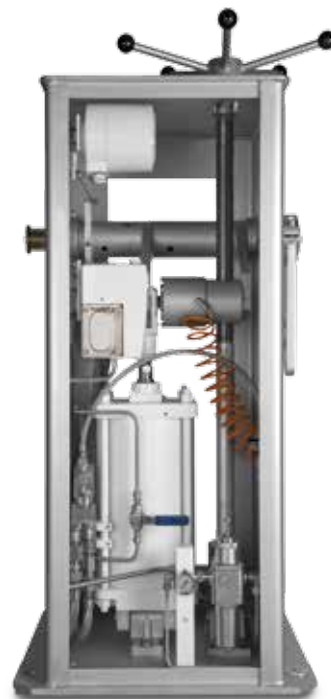
The CMV series pneumatic actuator system consists of an actuator and a manual override integrated into a steel housing which is also a portable structure. This rugged construction guarantees continuous operation in harsh environments, for example in power stations, steel industries, petrochemical plants, desert areas, etc. This actuator is able to control final elements like dampers or hydraulic converters with high power actuators. In this actuator, the housing provides a double function of protection and a bearing frame. The engaging of the manual control is made automatically or manually through a dedicated switch.

## Key features

- > Actuator with manual override and lock
- > Portable within reinforced steel housing for sturdy support for high forces
- > Up to 4000 daNm
- > -20degC to 70degC
- > Lever has 70deg operating angle for convenient orientation
- > Lever orientation variable on
- > Splined shaft
- > Typical operating pressure 7barg up to 10 barg
- > Mechanical position indicator
- > Large removal panels for ease of access and maintenance

## Benefits

- > It can work in harsh environments, maintaining excellent performance
- > Manual override built-in as standard
- > Easy installation of a wide range of accessories on a separated internal panel
- > Easy maintenance
- > Design for a long operating life
- > Internal SC linear actuator with built-in permanent lubrication system (see SC brochure for more information)
- > Balancing Security Sensor device (BSS) switches automatically from manual function to modulating with signal (after request to come in service) only when the signal matches position where actuator is mechanically locked from manual override. BSS is available as an option only for CMV actuator
- > No competitors have as wide a range of products



A CMV-2 with some IMI STI products such as cylinder, positioner and accessories.



FasTrak is a smart positioner and it has a high-capacity and high-precision digital-pneumatic valve controller that replaces a conventional positioner.

## Actuator with piston built-in permanent lubrication system

The CMV utilises an IMI STI linear SC series of actuators with a built-in permanent lubrication system, patented by IMI STI, which assures an extremely smooth valve operation even if dry instrument air is used. Thanks to this lubrication system, which is common to all IMI STI actuators, no maintenance of the moving parts is required, even after many years of continuous service.

The patented lubrication system consists mainly of a grease lubricant filled annular

cavity placed inside the cylinder piston, between a sealing ring and a sliding ring to avoid direct contact between the metal surfaces of the piston and the cylinder, even in case of lateral forces acting on the actuator stem; the annular cavity is filled with grease which, during the piston movement, keeps the metal parts lubricated allowing a very smooth sliding and a long seal life.



SC actuators are suitable for service in harsh environments such as desert areas.

## Technical specifications

### Housing

Carbon steel

### Lever shaft

Alloy steel 38 NiCrMo4 heat treated

### Shaft support

on bearing bronze for CMV-2 to CMV-4  
spherical joints for CMV-1

### External lever

Carbon steel

### Manual override

Pneumatic by-pass function for manual override using an external lever

### Bearing frame

Carbon steel

### Manual control screw

Alloy steel 38 NiCrMo4 heat treated

### Tubing & fittings

Brass fittings and copper tubing  
(stainless steel 316 available on option)

### Standard painting

RAL 7030 grey

### Lever features

70° operating angle  
Lever orientation variable on splined shaft  
Mechanical position indicator

### Control signal

4 to 20 mA (3 to 15 psi)  
(special cam and/or special control signal available on request)

### Air supply

Dry instrument air according to ISO 8573-1

### Operating pressure

Pneumatic version from 7 barg up to 10 barg (special version available on request)

### Standard operating temperature

-20°C to 70°C (lower or higher temperature on request)

Available with a wide range of positioners, in particular we suggest FT positioners (see FT brochure for more information)

Actuator Type	Size stroke mm	Torque* available (daNm)			
		Min		Max	
		70	90	70	90
CMV-1	125/250	101	72	124	101
	160/200	134	94	164	133
	200/200**	188	132	230	187
CMV2	160/300	201	141	246	200
	200/300	317	224	389	316
	260/300	540	380	662	538
CMV-3	260/400	720	507	882	717
	330/400	1179	830	1444	1174
CMV-4	390/450	1909	1316	2337	1881
	420/450	2193	1531	2678	2171
	520/450	3361	2320	4119	3314

\* Torque referred at 0.50 Mpa supply pressure and 70° or 90° operating angle of final element (damper).

\*\* Max operating air supply pressure 0.44 Mpa.



The air-lock device is mounted on pneumatic actuators when they need to be isolated from control devices (positioners, electro-pneumatic distributors etc) in the event air pressure falls below the pre-determined operating safety point

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