# PSF / PSFM

*Linear Electric Actuators*

It is a multifunctional actuator for industrial valves in various applications with either extending or retracting output stem in case of power failure. Due to its robustness and small dimensions the PSF/PSF-M series is an interesting extension of the product range for the industrial as well as the heating, ventilation and air-conditioning sectors.

In the PSF series, an integrated power spring causes the fail safe in the case of loss of power supply, either extending or retracting. The PSF-M series with manual override can be operated by using the hand wheel or the two

- The microprocessor-supported control with integrated positioners in conjunction with the precise control of the brushless DC motor (BLDC) and the contactless, non-wearing position decoding with Hall sensor ensures an exact positioning and repeatability accuracy. Simultaneously, important actuator functions like thrust, supply voltage, set value and temperature are monitored. Automatic commissioning and adjustable parameters make the PSF actuators very easy to use.

- The power supply of 24 VAC/DC can be extend to 100-240 VAC by an optional wide range power supply. Additional accessories like two signal relays or a heating are also available.

- The PSF and PSF-M series are available with thrust 1 or 2 kN.
  The actuator impresses with its robust industrial design with polycarbonate cover; the powder-coated aluminum gearbox; the compact design with low installation height and the easy valve mounting

# Technical Data Std Construction

## PSF-M401 1 kN

| Operating speed | 0.6 / 0.9 / 1.2 mm/s (adjustable) | |
|---|---|---|
| Power Supply [V] | 100 - 240 VAC 1~ | 24 VAC/DC |
| Frequency [Hz] | 50 - 60 | 50 - 60 / - |
| Nominal Current [A] | 0.07 - 0.14 | 0.7 / 0.35 |
| Maximum Current [A] | 0.07 - 0.14 | 0.7 / 0.35 |
| Power Consumption)[2] [W] | 9 | 9 / 8 |
| Duty Cycle IEC 60034-1,8 | S2 - 30 min. / S4 - 1200 c/h - 50%ED | |

## PSF-M402 2 kN

| Operating speed | 0.6 / 0.9 / 1.2 mm/s (adjustable) | |
|---|---|---|
| Power Supply [V] | 100 - 240 VAC 1~ | 24 VAC/DC |
| Frequency [Hz] | 50 - 60 | 50 - 60 / - |
| Nominal Current [A] | 0.1 - 0.2 | 0.9 / 0.45 |
| Maximum Current [A] | 0.1 - 0.2 | 0.9 / 0.45 |
| Power Consumption)[2] [W] | 12 | 12 / 10 |
| Duty Cycle IEC 60034-1,8 | S2 - 30 min. / S4 - 1200 c/h - 50%ED | |

## Standard Equipment

| Standard | Description |
|---|---|
| Ambient Temperature [°C] | -20 to +60 °C |
| Motor Protection | electronic motor current monitoring with safety cut-off |
| Overvoltage Category | II |
| Set Value and Feedback | 0-20 mA, 4-20 mA, 0-10 V, 2-10 V selectable |
| Binary Control | 24-230 V for ON/OFF service |
| Valve Positioner Function | integrated, deadband 0.6% of full signal range, shut-off minimum |
| Automatic Start-Up | recognizing the end position(s) and autoscaling of set value and feed-back |
| Internal Fault Monitoring | force, set value, temperature, power supply |
| Cable Glands | 2 threaded holes ISO M 20 x 1.5 and 1 threaded hole ISO M 16 x 1.5 |

## Accessories/Options

| | |
|---|---|
| Position Signal 2WE Switches, mechanical | 2 potential-free position switches, mechanical, with silver changeover contacts (0.1 A - 5 A switching current) |
| Position Signal 2WE Switches Gold, Gold Mechanical | 2 potential-free position switches, mechanical, with gold changeover contacts (0.1 mA - 100 mA switching current) |
| Position Signal Relays | 2 position signal relays with changeover contacts, calibrated automatically to valve stroke 24 V to 230 V AC/DC @ 0.1 A – 1 A<br>Switching point adjustable 0-100 % of the stroke using potentiometers |
| Heating Resistor HR | Heating resistor to prevent condensation |
| Wide Range Power Supply | 100 - 240 VAC 1~ |
| Increased Enclosure IP | Increase of enclosure to IP67 |

# Technical Data Fail Safe Function

PSF401 1 kN

| Operating speed | 0,3 mm/s | |
|---|---|---|
| Power Supply [V] | 100 - 240 VAC 1~ | 24 VAC/DC |
| Frequency [Hz] | 50 - 60 | 50 - 60 / - |
| Nominal Current [A] | 0.04 - 0.08 | 0.4 / 0.2 |
| Maximum Current [A] | 0.04 - 0.08 | 0.4 / 0.2 |
| Power Consumption)[2] [W] | 6 | 6 / 5 |
| Duty Cycle IEC 60034-1,8 | S2 - 30 min / S4 - 1200 c/h - 50%ED | |

PSF402 2 kN

| Operating speed | 0,3 mm/s | |
|---|---|---|
| Power Supply [V] | 100 - 240 VAC 1~ | 24 VAC/DC |
| Frequency [Hz] | 50 - 60 | 50 - 60 / - |
| Nominal Current [A] | 0.07 - 0.14 | 0.7 / 0.35 |
| Maximum Current [A] | 0.07 - 0.14 | 0.7 / 0.35 |
| Power Consumption)[2] [W] | 9 | 9 / 8 |
| Duty Cycle IEC 60034-1,8 | S2 - 30 min / S4 - 1200 c/h - 50%ED | |

## Standard Equipment

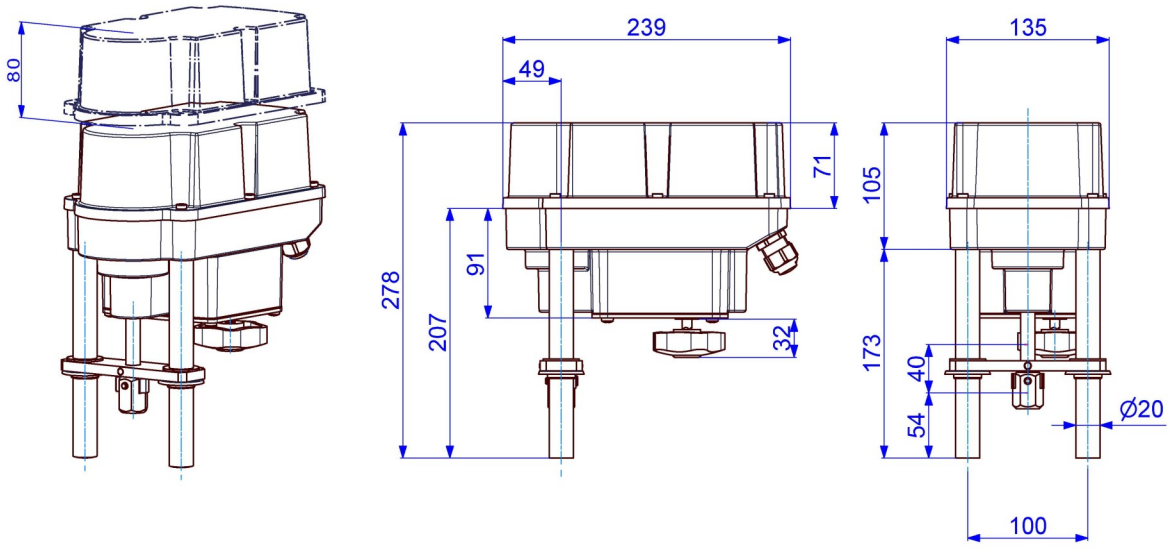
| Standard | Description |
|---|---|
| Ambient Temperature [°C] | -10 to +60 °C |
| Motor Protection | electronic motor current monitoring with safety cut-off |
| Overvoltage Category | II |
| Set Value and Feedback | 0-20 mA, 4-20 mA, 0-10 V, 2-10 V selectable |
| Binary Control | 24 - 230 VAC for ON/OFF service (minimum duration of pulse 1 sec.) |
| Valve Positioner Function | integrated, deadband 0.6% of full signal range, shut-off minimum |
| Automatic Start-Up | recognizing the end position(s) and autoscaling of set value and feedback |
| Internal Fault Monitoring | force, set value, temperature, power supply |
| Cable Glands | 2 threaded holes ISO M 20 x 1.5 and 1 threaded hole ISO M 16 x 1.5 |
| Fail-Safe Operating Direction | **Spring Extend (SE) - Spring extends actuator stem or Spring Retract (SR) - Spring retracts actuator stem** |

## Accessories/Options

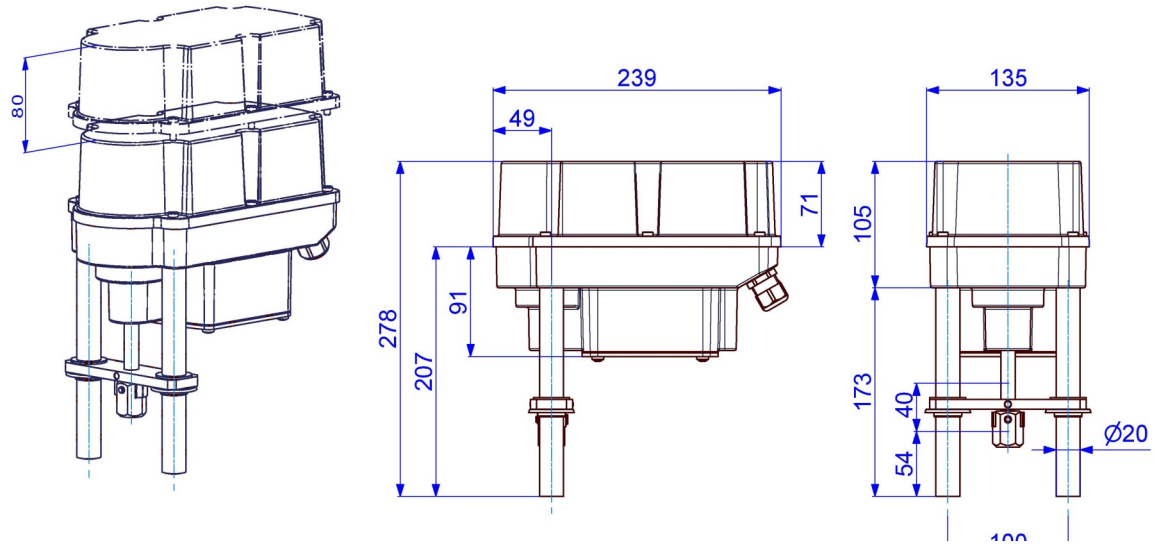
| | |
|---|---|
| Position Signal Switches, mechanical 2WE | 2 potential-free position switches, mechanical, with silver changeover contacts (0.1 A - 5 A switching current) |
| Position Signal Switches Gold, mechanical 2WE Gold | 2 potential-free position switches, mechanical, with gold changeover contacts (0.1 mA - 100 mA switching current) |
| Position Signal Relays | 2 position signal relays with changeover contacts, calibrated automatically to valve stroke 24 V to 230 V AC/DC @ 0.1 A – 1 A<br>Switching point adjustable 0-100 % of the stroke using potentiometers |
| Heating Resistor HR | Heating resistor to prevent condensation |
| Wide Range Power Supply | 100 - 240 VAC 1~ |
| Increased Enclosure IP | Increase of enclosure to IP67 |

## DIMENSIONS

# PSFM




# PSF

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**OMC S.p.A.**
Via Galileo Galilei, 18 - 20060 Cassina de Pecchi (MI) - ITALY
Tel.: (+39) 02.95.28.468 / Fax: (+39) 02.95.21.495
E-MAIL : info@omcvalves.com / www.omcvalves.com