



- Multiple pressure ranges selectable
- Special adaptation to individual pressure ranges
- Setpoint value input as analogue voltage or current signal
- Optional setpoint module
- Connection sizes G $\frac{1}{8}$, G $\frac{1}{4}$, G $\frac{1}{2}$

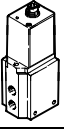
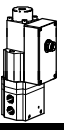
Proportional pressure regulators MPPE/MPPES

Product range overview



Proportional valves
Proportional pressure valves

6.1

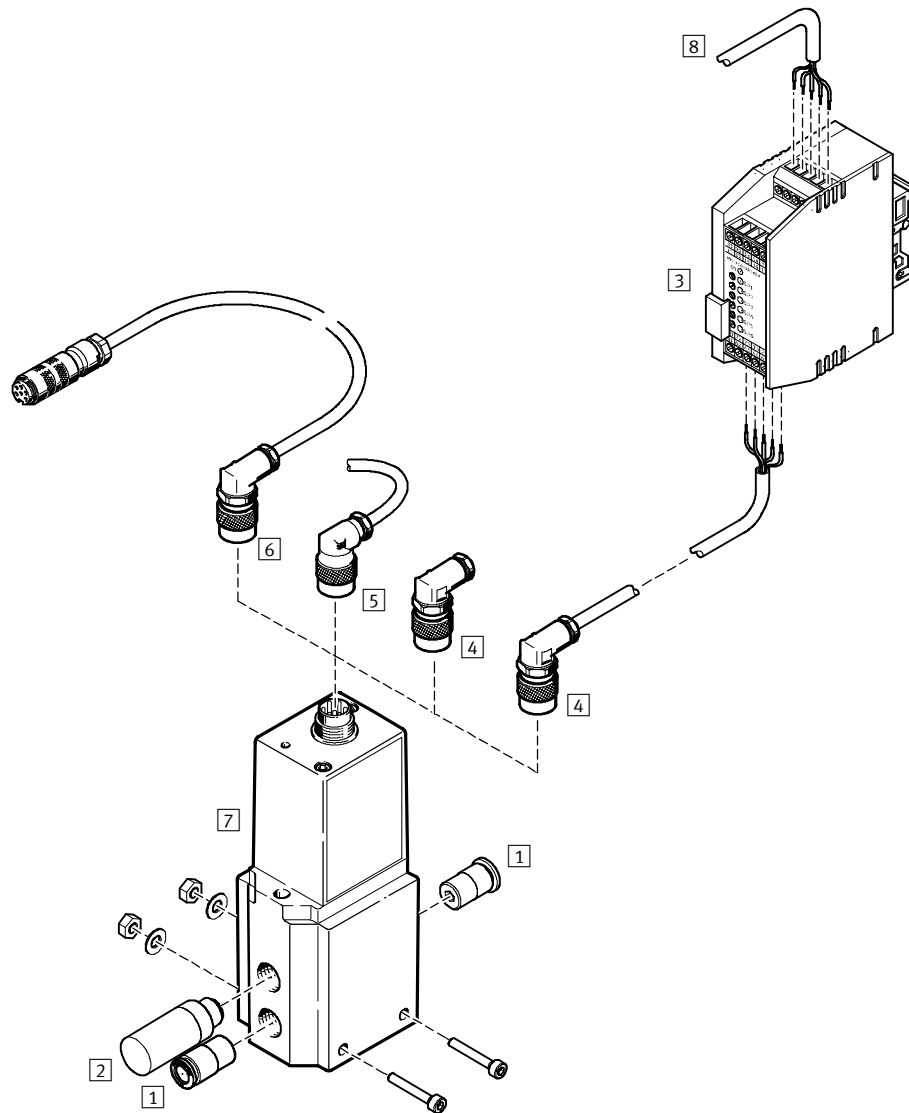
| Function | Version | Type | Construc- tional design | Pneumatic connection 1 | Nominal size Ventilation/ exhaust [mm] | Pressure regulation range ¹⁾ [bar] | Setpoint/actual values ¹⁾ | | → Page |
|------------------------|---|-------|---|---------------------------|---|--|--------------------------------------|-----------------------------|------------|
| | | | | | | | Voltage type 0 ... 10 V | Current type 4 ... 20 mA | |
| Pressure regulators | with pilot control via 2x 2/2-way valves (switching valve) | | | | | | | | |
| |  | MPPE | Pilot actuated poppet valve | G $\frac{1}{8}$ | 5/5 | 0 ... 1 | ■ | ■ | 2 / 6.1-5 |
| | | | | G $\frac{1}{4}$ | 7/7 | 0 ... 2.5 | ■ | ■ | |
| | | | | G $\frac{1}{2}$ | 11/12 | 0 ... 6 0 ... 10 | ■ | ■ | |
| | with proportional solenoid | | | | | | | | |
| |  | MPPES | Directly actuated piston regulator | G $\frac{1}{8}$ | 3/2 | 0 ... 2 | ■ | ■ | 2 / 6.1-11 |
| G $\frac{1}{4}$ | | | | 7/7 | 0 ... 6 | ■ | ■ | | |
| G $\frac{1}{2}$ | | | | 11/12 | 0 ... 10 | ■ | ■ | | |

1) Pressure regulation range and setpoint/actual values also by customer request

Proportional pressure regulators MPPE/MPPES

Peripherals overview

FESTO



| Accessories | | | |
|-------------|---|---|------------|
| | Brief description | → Page | |
| 1 | Push-in fitting QS | For connecting compressed air tubing with standard O.D. | Volume 3 |
| 2 | Silencer | For fitting in exhaust ports | Volume 3 |
| 3 | Setpoint value generator MPZ | For generating 6+1 analogue voltage signals | 2 / 6.1-16 |
| 4 | Angled plug socket MPPE-3-B | – | 2 / 6.1-18 |
| 5 | Angled plug socket with cable KMPE-B | – | 2 / 6.1-18 |
| 6 | Connecting cable KVIA-MPPE | – | 2 / 6.1-18 |
| 7 | Proportional pressure regulator MPPE | – | 2 / 6.1-5 |
| 8 | Digital input/output | For controlling the setpoint module | – |

Proportional pressure regulators MPPE

Type codes

FESTO

Proportional valves
Proportional pressure valves

6.1

Basic version


| | | | | | | | | | | | |
|----------------------------------|--|---|---|---|-----|---|---|---|-----|---|---|
| MPPE | | - | 3 | - | 1/8 | - | 1 | - | 010 | - | B |
| Type | | | | | | | | | | | |
| MPPE | Proportional pressure regulator with switching valve | | | | | | | | | | |
| Valve function | | | | | | | | | | | |
| 3 | 3/2-way valve | | | | | | | | | | |
| Pneumatic connection | | | | | | | | | | | |
| 1/8 | G1/8 | | | | | | | | | | |
| 1/4 | G1/4 | | | | | | | | | | |
| 1/2 | G1/2 | | | | | | | | | | |
| Pressure regulation range | | | | | | | | | | | |
| 1 | 0 ... 1 bar | | | | | | | | | | |
| 2.5 | 0 ... 2.5 bar | | | | | | | | | | |
| 6 | 0 ... 6 bar | | | | | | | | | | |
| 10 | 0 ... 10 bar | | | | | | | | | | |
| Setpoint value input | | | | | | | | | | | |
| 010 | Analogue voltage signal | | | | | | | | | | |
| 420 | Analogue current signal | | | | | | | | | | |
| Generation | | | | | | | | | | | |
| B | B series | | | | | | | | | | |


Special pressure regulation range by customer request


| | | | | | | | | | | | | | |
|---|--|---|---|---|-----|---|---|---|---|---|-----|---|---|
| MPPE | | - | 3 | - | 1/8 | - | 1 | - | 6 | - | 010 | - | B |
| Type | | | | | | | | | | | | | |
| MPPE | Proportional pressure regulator with switching valve | | | | | | | | | | | | |
| Valve function | | | | | | | | | | | | | |
| 3 | 3/2-way valve | | | | | | | | | | | | |
| Pneumatic connection | | | | | | | | | | | | | |
| 1/8 | G1/8 | | | | | | | | | | | | |
| 1/4 | G1/4 | | | | | | | | | | | | |
| 1/2 | G1/2 | | | | | | | | | | | | |
| Required pressure at 0 V or 4 mA [bar] | | | | | | | | | | | | | |
| Required pressure at 10 V or 20 mA [bar] | | | | | | | | | | | | | |
| Setpoint value input | | | | | | | | | | | | | |
| 010 | Analogue voltage signal | | | | | | | | | | | | |
| 420 | Analogue current signal | | | | | | | | | | | | |
| Generation | | | | | | | | | | | | | |
| B | B series | | | | | | | | | | | | |

Proportional pressure regulators MPPE

Technical data

-  - Flow rate
350 ... 5,500 l/min

-  - Voltage
18 ... 30 V DC

-  - Pressure regulation ranges
0 ... 1 bar
0 ... 2.5 bar
0 ... 6 bar
0 ... 10 bar

Variants

- Setpoint value input as analogue voltage signal 0 ... 10 V
- Setpoint value input as analogue current signal 4 ... 20 mA

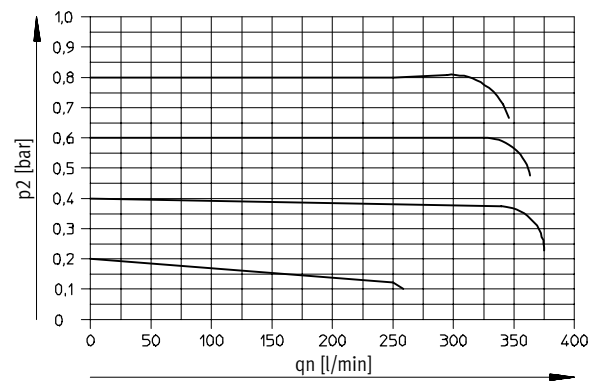


| General technical data | | | | | |
|----------------------------|-------------|-------------------------------------|------------|------|-------|
| Pneumatic connection | | G1/8 | G1/4 | G1/2 | |
| Constructional design | | Pilot actuated piston regulator | | | |
| Sealing principle | | Soft | | | |
| Actuation type | | Electrical | | | |
| Type of pilot control | | Pilot actuated using 2/2-way valves | | | |
| Type of mounting | | Via through-holes | | | |
| Mounting position | | Any | | | |
| Nominal size | Ventilation | [mm] | 5 | 7 | 11 |
| | Exhaust | [mm] | 5 | 7 | 12 |
| Standard nominal flow rate | | [l/min] | → Diagrams | | |
| Product weight | | [g] | 710 | 920 | 2,400 |

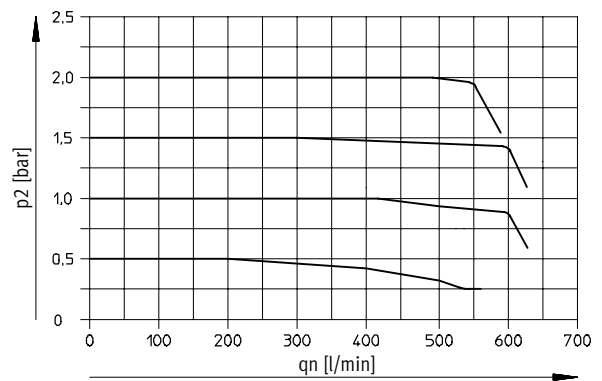
Flow rate qn as a function of the output pressure p2

Pneumatic connection G1/8

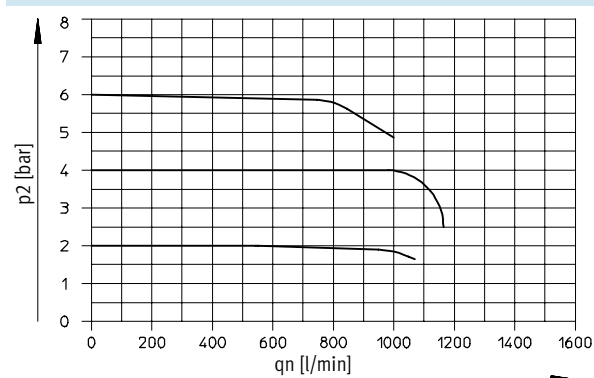
Pressure regulation range 0 ... 1 bar



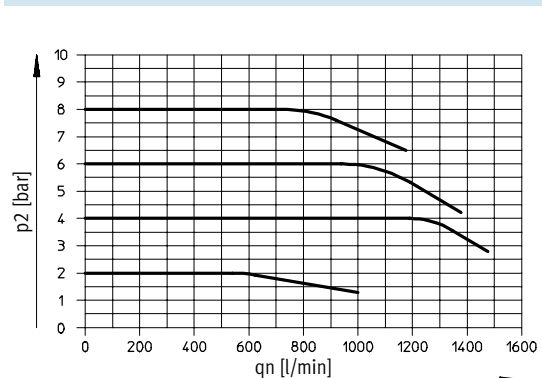
Pressure regulation range 0 ... 2.5 bar



Pressure regulation range 0 ... 6 bar



Pressure regulation range 0 ... 10 bar



Proportional pressure regulators MPPE

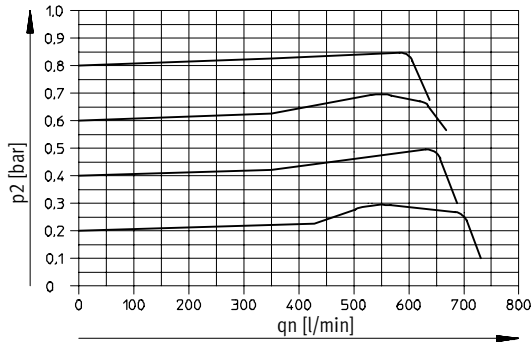
Technical data



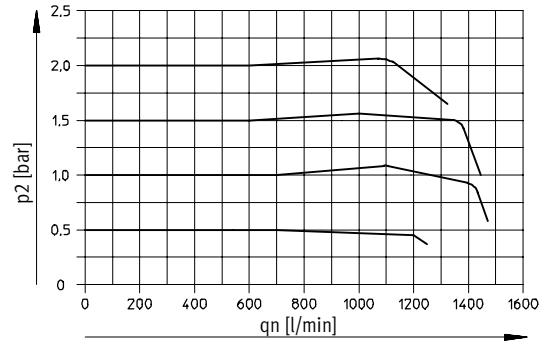
Flow rate q_n as a function of the output pressure p_2

Pneumatic connection $G\frac{1}{4}$

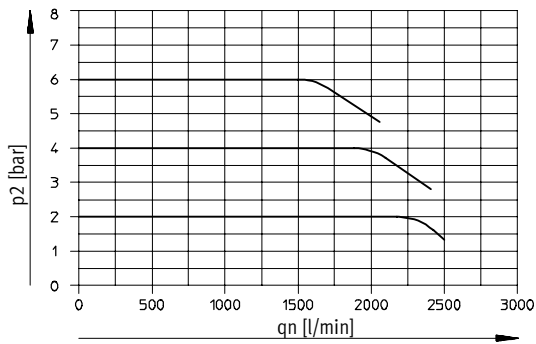
Pressure regulation range 0 ... 1 bar



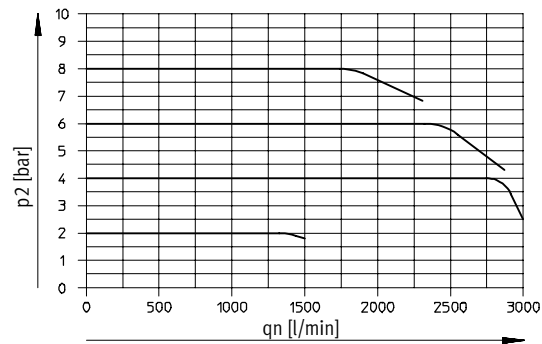
Pressure regulation range 0 ... 2.5 bar



Pressure regulation range 0 ... 6 bar

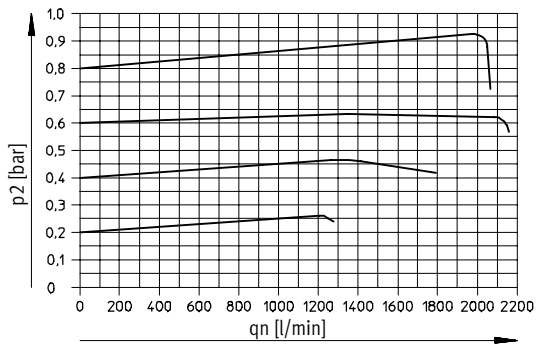


Pressure regulation range 0 ... 10 bar

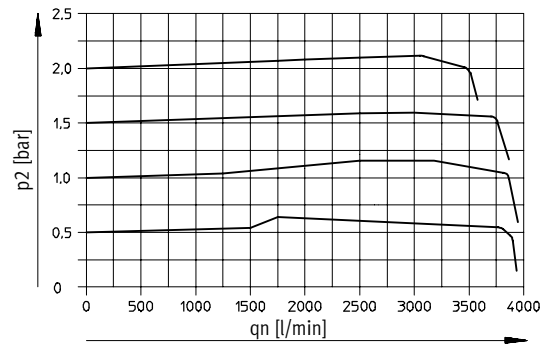


Pneumatic connection $G\frac{1}{2}$

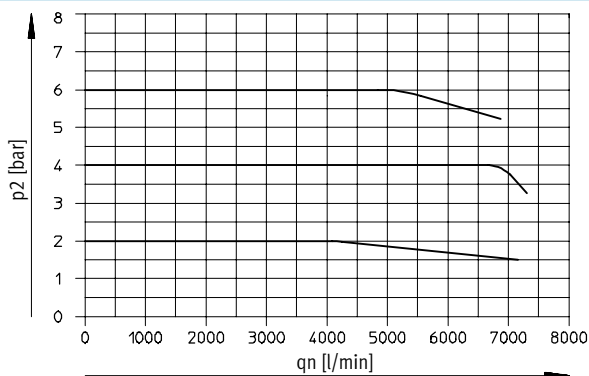
Pressure regulation range 0 ... 1 bar



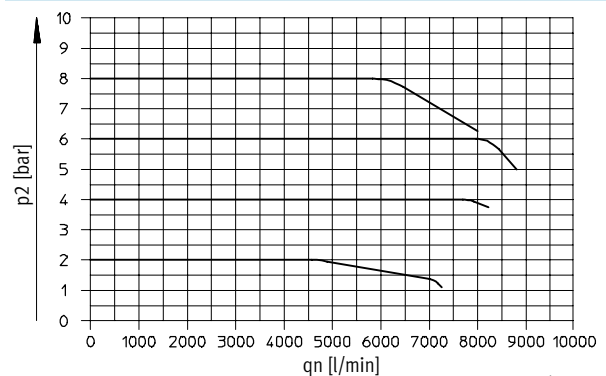
Pressure regulation range 0 ... 2.5 bar



Pressure regulation range 0 ... 6 bar



Pressure regulation range 0 ... 10 bar



Proportional pressure regulators MPPE

FESTO

Technical data

| Operating and environmental conditions | | | | | |
|--|--------|--|-------------|---------|-----------|
| Pressure regulation range | [bar] | 0 ... 1 | 0 ... 2.5 | 0 ... 6 | 0 ... 10 |
| Operating medium | | Filtered compressed air, lubricated or unlubricated Neutral gases | | | |
| Input pressure 1 | [bar] | 1.5 ... 2 | 3.5 ... 4.5 | 7 ... 8 | 11 ... 12 |
| Max. hysteresis | [mbar] | 30 | 40 | 40 | 50 |
| Ambient temperature | [°C] | 0 ... 50 | | | |
| Temperature of medium | [°C] | 0 ... 60 | | | |
| Corrosion resistance class CRC ¹⁾ | | 2 | 2 | 2 | 2 |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

| Response times/step responses to output 2 at p _{1max} [s] | | | | | | | | | |
|--|-------------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| Pressure regulation range [bar] | Volume to output 2 | 0 ... 1 | | 0 ... 2.5 | | 0 ... 6 | | 0 ... 10 | |
| | | On ¹⁾ | Off ²⁾ | On ¹⁾ | Off ²⁾ | On ¹⁾ | Off ²⁾ | On ¹⁾ | Off ²⁾ |
| 0 l | G ¹ / ₈ | 0.095 | 0.165 | 0.100 | 0.180 | 0.100 | 0.190 | 0.125 | 0.220 |
| | G ¹ / ₄ | 0.140 | 0.225 | 0.150 | 0.260 | 0.150 | 0.260 | 0.160 | 0.280 |
| | G ¹ / ₂ | 0.170 | 0.500 | 0.170 | 0.500 | 0.170 | 0.510 | 0.140 | 0.535 |
| 0.7 l | G ¹ / ₈ | 0.140 | 0.250 | 0.180 | 0.310 | 0.220 | 0.340 | 0.250 | 0.380 |
| | G ¹ / ₄ | 0.150 | 0.280 | 0.170 | 0.320 | 0.180 | 0.360 | 0.200 | 0.390 |
| | G ¹ / ₂ | 0.120 | 0.510 | 0.130 | 0.520 | 0.160 | 0.560 | 0.180 | 0.600 |
| 2 l | G ¹ / ₈ | 0.340 | 0.730 | 0.380 | 0.990 | 0.430 | 1.250 | 0.600 | 1.160 |
| | G ¹ / ₄ | 0.360 | 0.620 | 0.400 | 0.700 | 0.540 | 0.930 | 0.540 | 1.050 |
| | G ¹ / ₂ | 0.330 | 0.600 | 0.410 | 0.720 | 0.570 | 1.000 | 0.540 | 1.000 |

1) On = 0 ... 90% p_{2max}.

2) Off = 100 ... 10% p_{2max}.

| Electrical data | | | | | |
|--------------------------------------|--|--|-----------|-----------|-----------|
| Pressure regulation range | [bar] | 0 ... 1 | 0 ... 2.5 | 0 ... 6 | 0 ... 10 |
| Electrical connection | | Plug, round design to DIN 45 326, M16 x 0.75, 8-pin | | | |
| Operating voltage range | U _B [V DC] | 18 ... 30 | 18 ... 30 | 18 ... 30 | 18 ... 30 |
| Residual ripple | | 10% | | | |
| Power consumption | P _{max.} [W] | 3.6 (at 30 V DC and 100% duty cycle) | | | |
| Signal setpoint value input | Voltage U _w [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _w [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Signal actual value output | Voltage U _x [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _x [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Signal actual value input external | Voltage U _{x,ext.} [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _{x,ext.} [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Protection class to DIN 60 529 | | IP65 (with connection socket) | | | |
| Safety note | | If the power supply cable is interrupted, output pressure is maintained unregulated. | | | |
| Protection against polarity reversal | Setpoint value input Voltage signal 0 ... 10 mV | For all electrical connections | | | |
| | Setpoint value input Current signal 4 ... 20 mA | For operating voltage | | | |
| Protection against short circuit | | No | | | |

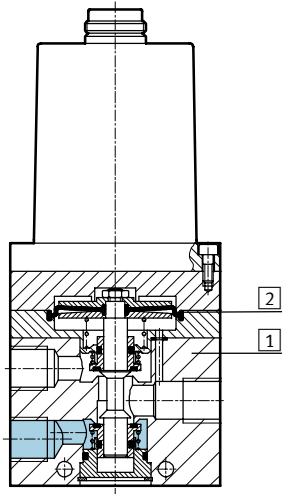
Proportional pressure regulators MPPE

Technical data



Materials

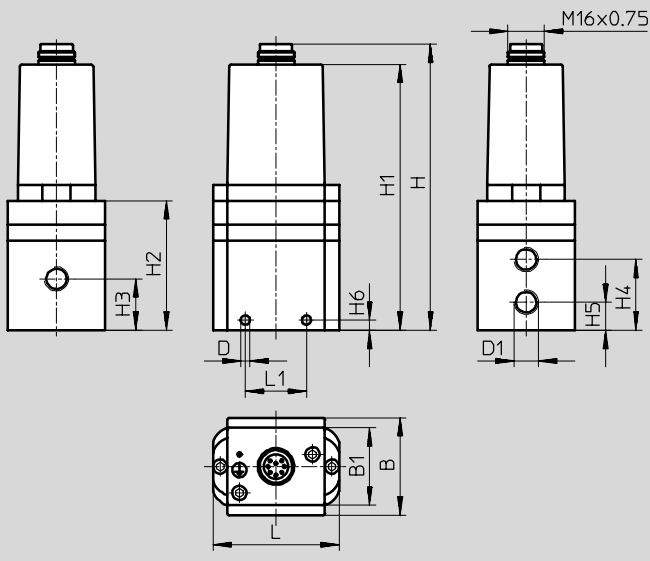
Sectional view



| | | |
|---|-----------|-------------------------|
| 1 | Housing | Wrought aluminium alloy |
| 2 | Diaphragm | Nitrile rubber |

Dimensions

Download CAD data → www.festo.com/en/engineering



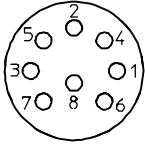
| Pneumatic connection | B | B1 | D | H | H1 | H2 | H3 | H4 | H5 | H6 | L | L1 |
|----------------------|----|----|-----|-------|-------|-------|------|------|------|----|----|----|
| D1 | | | ∅ | | | | | | | | | |
| G $\frac{1}{8}$ | 38 | - | 4.5 | 129.1 | 119.1 | 60.2 | 18.8 | 26.8 | 9.3 | 4 | 62 | 34 |
| G $\frac{1}{4}$ | 48 | 38 | 4.5 | 140.7 | 130.7 | 63.6 | 25.3 | 34.8 | 13.8 | 5 | 62 | 30 |
| G $\frac{1}{2}$ | 76 | 38 | 7 | 194.6 | 184.6 | 117.5 | 53 | 74 | 32 | 18 | 86 | 50 |

Proportional pressure regulators MPPE

Technical data

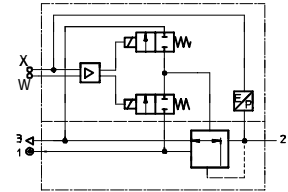
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Terminal allocation



| | | |
|---|----|---|
| 1 | WH | X _{ext,in} (external actual value input) |
| 2 | BN | GND |
| 3 | GN | GND |
| 4 | YE | W _{in} (setpoint value input) |
| 5 | GY | 10 V _{out} (external potentiometer supply) |
| 6 | PK | X _{out} (actual value output) |
| 7 | RD | 24 V DC (supply voltage) |
| 8 | BU | GND |

Switching function



Ordering data

| Pneumatic connection | Pressure regulation range [bar] | Voltage type 0 ... 10 mV | | Current type 4 ... 20 mA | |
|---|---------------------------------|--------------------------|------------------------------------|--------------------------|------------------------------------|
| | | Part No. | Type | Part No. | Type |
| Basic version | | | | | |
| G ¹ / ₈ | 0 ... 1 | 161 160 | MPPE-3-1/8-1-010-B | 161 163 | MPPE-3-1/8-1-420-B |
| | 0 ... 2.5 | 164 315 | MPPE-3-1/8-2,5-010-B | 164 316 | MPPE-3-1/8-2,5-420-B |
| | 0 ... 6 | 161 161 | MPPE-3-1/8-6-010-B | 161 164 | MPPE-3-1/8-6-420-B |
| | 0 ... 10 | 161 162 | MPPE-3-1/8-10-010-B | 161 165 | MPPE-3-1/8-10-420-B |
| G ³ / ₄ | 0 ... 1 | 161 166 | MPPE-3-1/4-1-010-B | 161 169 | MPPE-3-1/4-1-420-B |
| | 0 ... 2.5 | 164 317 | MPPE-3-1/4-2,5-010-B | 164 318 | MPPE-3-1/4-2,5-420-B |
| | 0 ... 6 | 161 167 | MPPE-3-1/4-6-010-B | 161 170 | MPPE-3-1/4-6-420-B |
| | 0 ... 10 | 161 168 | MPPE-3-1/4-10-010-B | 161 171 | MPPE-3-1/4-10-420-B |
| G ¹ / ₂ | 0 ... 1 | 161 172 | MPPE-3-1/2-1-010-B | 161 175 | MPPE-3-1/2-1-420-B |
| | 0 ... 2.5 | 164 319 | MPPE-3-1/2-2,5-010-B | 164 320 | MPPE-3-1/2-2,5-420-B |
| | 0 ... 6 | 161 173 | MPPE-3-1/2-6-010-B | 161 176 | MPPE-3-1/2-6-420-B |
| | 0 ... 10 | 161 174 | MPPE-3-1/2-10-010-B | 161 177 | MPPE-3-1/2-10-420-B |
| Special adaptation type¹⁾ | | | | | |
| G ¹ / ₈ | 0 ... 10 | 164 330 | MPPE-3-1/8-...-010-B ¹⁾ | 164 330 | MPPE-3-1/8-...-420-B ¹⁾ |
| G ³ / ₄ | 0 ... 10 | 164 331 | MPPE-3-1/4-...-010-B ¹⁾ | 164 331 | MPPE-3-1/4-...-420-B ¹⁾ |
| G ¹ / ₂ | 0 ... 10 | 164 332 | MPPE-3-1/2-...-010-B ¹⁾ | 164 332 | MPPE-3-1/2-...-420-B ¹⁾ |

1) The special adaptation type allows a lower pressure to be assigned to the setpoint value 0 V or 4 mA and an upper pressure to be assigned to the setpoint value 10 V or 20 mA. Upper and lower pressure by customer request.

Proportional pressure regulators MPPES

Type codes

FESTO

Proportional valves
Proportional pressure valves

6.1

Basic version

| | | | | | | | | | |
|----------------------------------|--|---|---|---|-----|---|---|---|-----|
| MPPES | | – | 3 | – | 1/8 | – | 1 | – | 010 |
| Type | | | | | | | | | |
| MPPES | Proportional pressure regulator with proportional solenoid | | | | | | | | |
| Valve function | | | | | | | | | |
| 3 | 3/2-way valve | | | | | | | | |
| Pneumatic connection | | | | | | | | | |
| 1/8 | G1/8 | | | | | | | | |
| 1/4 | G1/4 | | | | | | | | |
| 1/2 | G1/2 | | | | | | | | |
| Pressure regulation range | | | | | | | | | |
| 2 | 0 ... 2 bar | | | | | | | | |
| 6 | 0 ... 6 bar | | | | | | | | |
| 10 | 0 ... 10 bar | | | | | | | | |
| Setpoint value input | | | | | | | | | |
| 010 | Analogue voltage signal | | | | | | | | |
| 420 | Analogue current signal | | | | | | | | |

Special pressure regulation range by customer request

| | | | | | | | | | | | |
|---|--|---|---|---|-----|---|---|---|---|---|-----|
| MPPES | | – | 3 | – | 1/8 | – | 1 | – | 6 | – | 010 |
| Type | | | | | | | | | | | |
| MPPES | Proportional pressure regulator with proportional solenoid | | | | | | | | | | |
| Valve function | | | | | | | | | | | |
| 3 | 3/2-way valve | | | | | | | | | | |
| Pneumatic connection | | | | | | | | | | | |
| 1/8 | G1/8 | | | | | | | | | | |
| 1/4 | G1/4 | | | | | | | | | | |
| 1/2 | G1/2 | | | | | | | | | | |
| Required pressure at 0 V or 4 mA [bar] | | | | | | | | | | | |
| Required pressure at 10 V or 20 mA [bar] | | | | | | | | | | | |
| Setpoint value input | | | | | | | | | | | |
| 010 | Analogue voltage signal | | | | | | | | | | |
| 420 | Analogue current signal | | | | | | | | | | |

Proportional pressure regulators MPPES



Technical data

- - Flow rate
230 ... 5,500 l/min

- - Voltage
18 ... 30 V DC

- - Pressure regulation ranges
0 ... 2 bar
0 ... 6 bar
0 ... 10 bar

Variants

- Setpoint value input as analogue voltage signal 0 ... 10 V
- Setpoint value input as analogue current signal 4 ... 20 mA

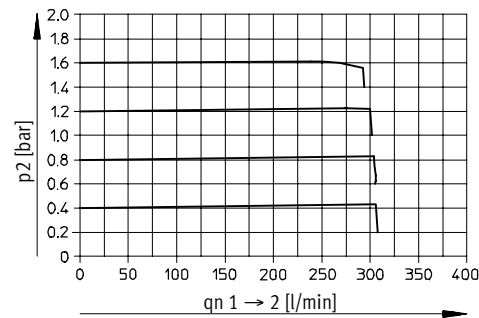


| General technical data | | | | | |
|----------------------------|------------------------------------|------|-------------------------------------|-------|-------|
| Pneumatic connection | G1/8 | | G1/4 | G1/2 | |
| Constructional design | Directly actuated piston regulator | | Pilot actuated piston regulator | | |
| Sealing principle | Soft | | | | |
| Actuation type | Electrical | | | | |
| Type of pilot control | Direct | | Pilot actuated using 2/2-way valves | | |
| Type of mounting | Via through-holes | | | | |
| Mounting position | Any | | | | |
| Nominal size | Ventilation | [mm] | 5 | 7 | 11 |
| | Exhaust | [mm] | 5 | 7 | 12 |
| Standard nominal flow rate | [l/min] | | → Diagrams | | |
| Product weight | [g] | | 915 | 1 310 | 2 670 |

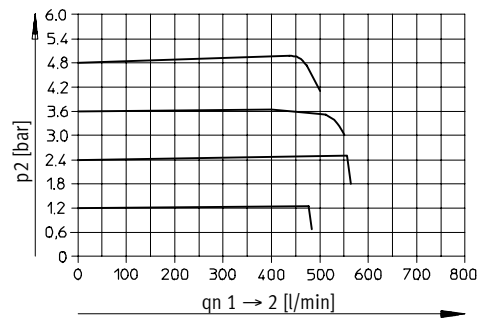
Flow rate q_{n1} as a function of the output pressure p_2

Pneumatic connection G1/8

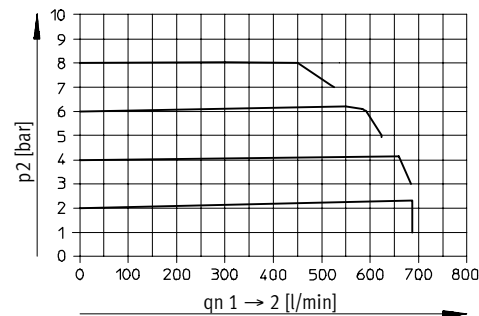
Pressure regulation range 0 ... 2 bar



Pressure regulation range 0 ... 6 bar



Pressure regulation range 0 ... 10 bar



Proportional pressure regulators MPPES

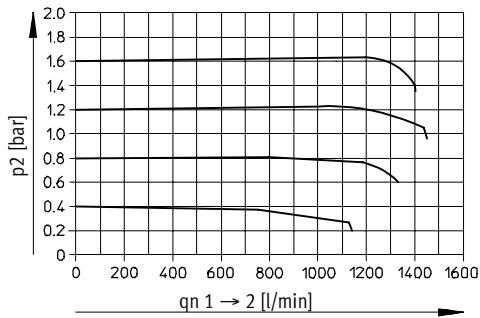
Technical data



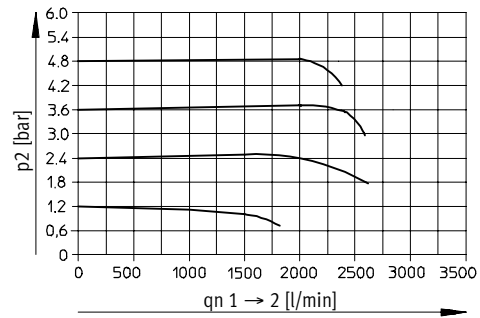
Flow rate q_n as a function of the output pressure p_2

Pneumatic connection $G\frac{1}{4}$

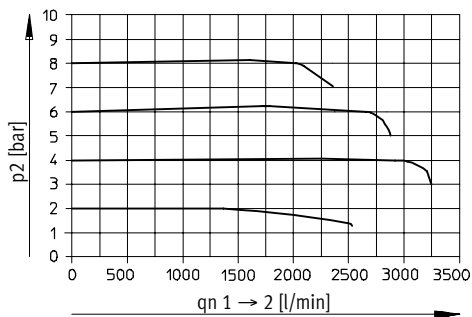
Pressure regulation range 0 ... 2 bar



Pressure regulation range 0 ... 6 bar

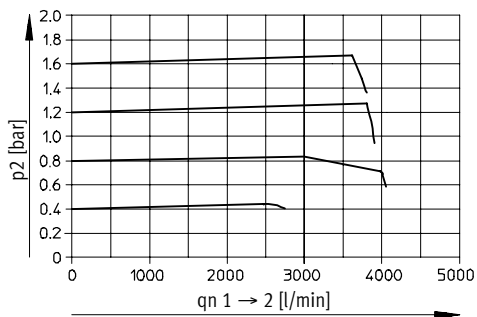


Pressure regulation range 0 ... 10 bar

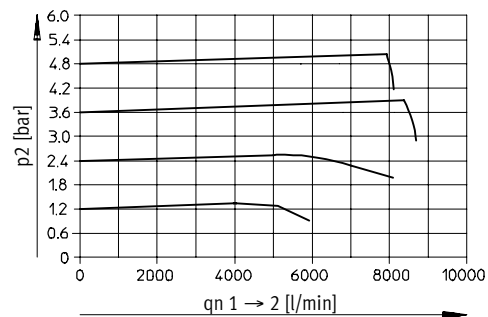


Pneumatic connection $G\frac{1}{2}$

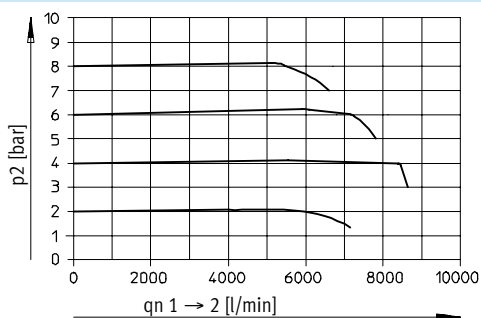
Pressure regulation range 0 ... 2 bar



Pressure regulation range 0 ... 6 bar



Pressure regulation range 0 ... 10 bar



Proportional pressure regulators MPPES

Technical data

FESTO

| Operating and environmental conditions | | | | |
|--|--------|--|---------|-----------|
| Pressure regulation range | [bar] | 0 ... 2 | 0 ... 6 | 0 ... 10 |
| Operating medium | | Filtered compressed air, lubricated or unlubricated Neutral gases | | |
| Input pressure 1 | [bar] | 3 ... 4 | 7 ... 8 | 11 ... 12 |
| Max. hysteresis | [mbar] | 10 | 50 | 50 |
| Ambient temperature | [°C] | 0 ... 50 | | |
| Temperature of medium | [°C] | 0 ... 60 | | |
| Corrosion resistance class CRC ¹⁾ | | 2 | 2 | 2 |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

| Response times/step responses to output 2 at p _{1max} [s] | | | | | | | |
|--|--------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| Pressure regulation range [bar] | Volume to output 2 | 0 ... 2 | | 0 ... 6 | | 0 ... 10 | |
| | | On ¹⁾ | Off ²⁾ | On ¹⁾ | Off ²⁾ | On ¹⁾ | Off ²⁾ |
| 0 l | G1/8 | 0.220 | 0.410 | 0.210 | 0.280 | 0.200 | 0.290 |
| | G1/4 | 0.200 | 0.890 | 0.200 | 0.640 | 0.200 | 0.360 |
| | G1/2 | 0.220 | 1.000 | 0.230 | 0.660 | 0.230 | 0.450 |
| 2 l | G1/8 | 0.660 | 2.530 | 1.200 | 5.760 | 1.370 | 6.300 |
| | G1/4 | 0.200 | 1.000 | 0.450 | 0.760 | 0.460 | 0.900 |
| | G1/2 | 0.320 | 1.000 | 0.340 | 0.570 | 0.350 | 0.630 |
| 10 l | G1/8 | 2.700 | 2.800 | 5.150 | 24.000 | 5.800 | 27.000 |
| | G1/4 | 0.900 | 2.700 | 1.500 | 3.000 | 1.900 | 3.400 |
| | G1/2 | 0.800 | 1.400 | 1.100 | 1.500 | 1.300 | 1.800 |

1) On = 0 ... 90% p_{2max}.

2) Off = 100 ... 10% p_{2max}.

| Electrical data | | | | |
|--------------------------------------|--|--|-----------|-----------|
| Pressure regulation range | [bar] | 0 ... 2 | 0 ... 6 | 0 ... 10 |
| Electrical connection | | Plug, round design to DIN 45 326, M16 x 0.75, 8-pin | | |
| Operating voltage range | U _B [V DC] | 18 ... 30 | 18 ... 30 | 18 ... 30 |
| Residual ripple | | 10% | | |
| Power consumption | P _{max.} [W] | 20 (at 30 V DC) | | |
| Signal setpoint value input | Voltage U _w [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _w [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Signal actual value input | Voltage U _x [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _x [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Signal actual value input external | Voltage U _{x,ext.} [V DC] | 0 ... 10 | 0 ... 10 | 0 ... 10 |
| | Current I _{x,ext.} [mA] | 4 ... 20 | 4 ... 20 | 4 ... 20 |
| Protection class to DIN 60 529 | | IP65 (with connection socket) | | |
| Safety note | | If the power supply cable is interrupted, output pressure is maintained unregulated. | | |
| Protection against polarity reversal | Setpoint value input Voltage signal 0 ... 10 mV | For all electrical connections | | |
| | Setpoint value input Current signal 4 ... 20 mA | For operating voltage | | |
| Protection against short circuit | | No | | |

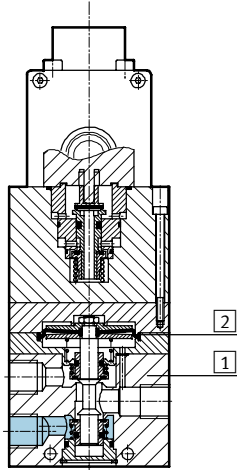
Proportional pressure regulators MPPES

Technical data



Materials

Sectional view



| | | |
|---|-----------|-------------------------|
| 1 | Housing | Wrought aluminium alloy |
| 2 | Diaphragm | Nitrile rubber |

Dimensions

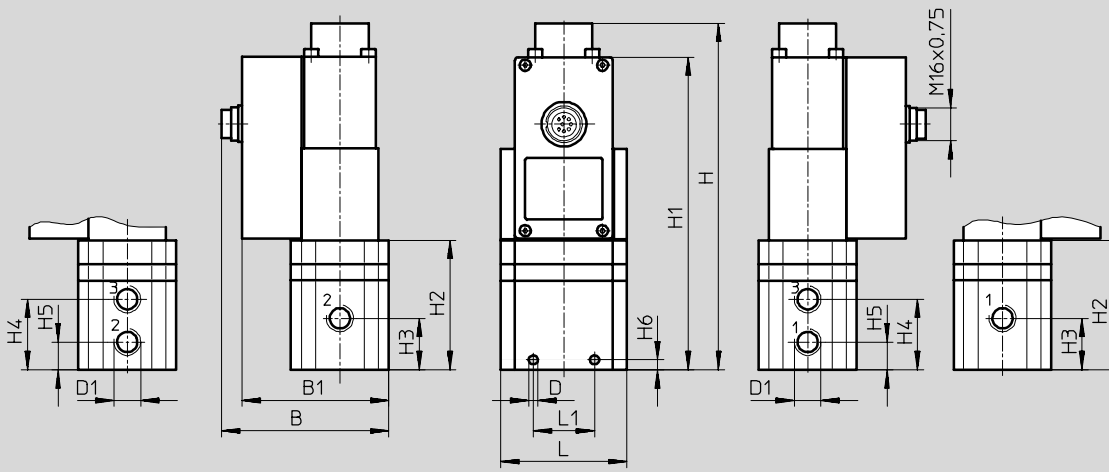
Download CAD data → www.festo.com/en/engineering

MPPES-3-1/8-...

MPPES-3-1/4-...
MPPES-3-1/2-...

MPPES-3-1/4-...
MPPES-3-1/2-...

MPPES-3-1/8-...



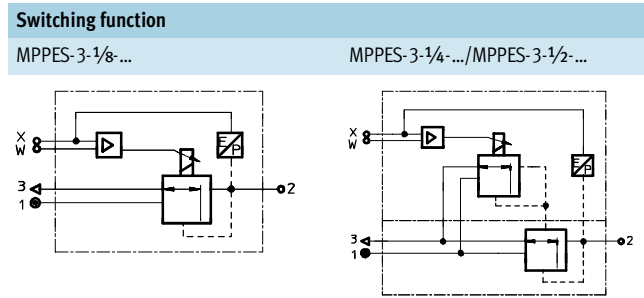
| Pneumatic connection D1 | B | B1 | D Ø | H | H1 | H2 | H3 | H4 | H5 | H6 | L | L1 |
|----------------------------|------|------|--------|-------|-------|-------|------|------|------|----|----|----|
| G1/8 | 77.1 | 67.1 | 4.4 | 116.5 | 100 | 55 | 34 | 45 | 23 | 4 | 62 | 34 |
| G1/4 | 82.1 | 72.1 | 4.5 | 170.2 | 153.7 | 63.7 | 25.3 | 34.8 | 13.8 | 5 | 62 | 30 |
| G1/2 | 96.1 | 86.1 | 7 | 227.1 | 210.6 | 120.6 | 53 | 74 | 32 | 18 | 86 | 50 |

Proportional pressure regulators MPPES

Technical data



| Connections | | |
|---------------------|------|---------------------------------|
| Terminal allocation | | |
| | 1 WH | n. c. |
| | 2 BN | GND |
| | 3 GN | GND |
| | 4 YE | W_{in} (setpoint value input) |
| | 5 GY | n. c. |
| | 6 PK | X_{out} (actual value output) |
| | 7 RD | 24 V DC (supply voltage) |
| | 8 BU | GND |



| Ordering data | | | | | |
|---|---------------------------------|--------------------------|-----------------------|--------------------------|-----------------------|
| Pneumatic connection | Pressure regulation range [bar] | Voltage type 0 ... 10 mV | | Current type 4 ... 20 mA | |
| | | Part No. | Type | Part No. | Type |
| Basic version | | | | | |
| G ¹ / ₈ | 0 ... 2 | 187 350 | MPPES-3-1/8-2-010 | 187 351 | MPPES-3-1/8-2-420 |
| | 0 ... 6 | 187 352 | MPPES-3-1/8-6-010 | 187 353 | MPPES-3-1/8-6-420 |
| | 0 ... 10 | 187 348 | MPPES-3-1/8-10-010 | 187 349 | MPPES-3-1/8-10-420 |
| G ¹ / ₄ | 0 ... 2 | 187 335 | MPPES-3-1/4-2-010 | 187 336 | MPPES-3-1/4-2-420 |
| | 0 ... 6 | 187 337 | MPPES-3-1/4-6-010 | 187 338 | MPPES-3-1/4-6-420 |
| | 0 ... 10 | 187 333 | MPPES-3-1/4-10-010 | 187 334 | MPPES-3-1/4-10-420 |
| G ¹ / ₂ | 0 ... 2 | 187 328 | MPPES-3-1/2-2-010 | 187 329 | MPPES-3-1/2-2-420 |
| | 0 ... 6 | 187 330 | MPPES-3-1/2-6-010 | 187 331 | MPPES-3-1/2-6-420 |
| | 0 ... 10 | 187 326 | MPPES-3-1/2-10-010 | 187 327 | MPPES-3-1/2-10-420 |
| Special adaptation type¹⁾ | | | | | |
| G ¹ / ₈ | 0 ... 10 | 187 347 | MPPES-3-1/8-PU-PO-010 | 187 762 | MPPES-3-1/8-PU-PO-420 |
| G ¹ / ₄ | 0 ... 10 | 187 339 | MPPES-3-1/4-PU-PO-010 | 187 744 | MPPES-3-1/4-PU-PO-420 |
| G ¹ / ₂ | 0 ... 10 | 187 332 | MPPES-3-1/2-PU-PO-010 | 187 735 | MPPES-3-1/2-PU-PO-420 |

1) The special adaptation type allows a lower pressure PU to be assigned to the setpoint value 0 V or 4 mA and an upper pressure PO to be assigned to the setpoint value 10 V or 20 mA. PU and PO by customer request.

Proportional pressure regulators MPPE/MPPES

Accessories – Setpoint module MPZ



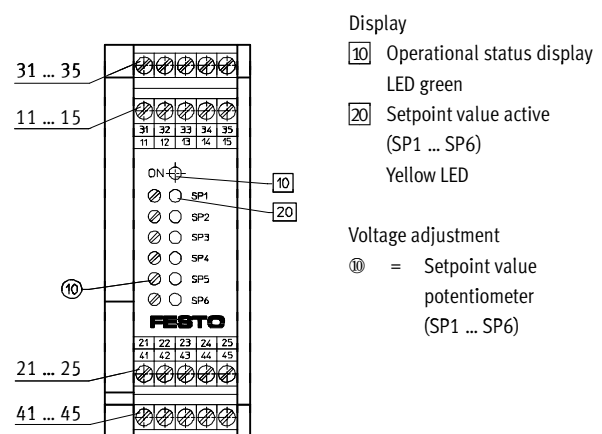
Voltage
20 ... 30 V DC

- Function
- Generation of 6+1 analogue setpoint values for the proportional pressure regulators MPPE, MPPES and proportional control valve MPYE
 - Digital controller
 - Output voltage adjustable with spindle potentiometer



| General technical data | | | |
|--|---|--------------------|-------------|
| Function | Digital-analogue circuit with analogue output | | |
| Type of mounting | Mounting on G or H rails | | |
| Mounting position | Any | | |
| Electrical connection | Screw terminal | [mm ²] | 2.5 |
| Operating voltage range | | [V DC] | 20 ... 30 |
| Output voltage | | [V DC] | 0 ... 10 |
| Output current | | [mA] | 5 |
| Power consumption at 24 V DC | | [W] | 1.5 |
| Supply setpoint value adjustment | Voltage ± 3 % | [V] | 10 |
| | Current ± 3 % | [mA] | 6 |
| External setpoint input | Voltage | [V DC] | 0 ... 10 |
| | Input resistance | [kΩ] | Approx. 100 |
| | Potentiometer | [kΩ] | 2.5 ... 10 |
| Setpoint controller | Input resistance | [kΩ] | 3 |
| Electromagnetic compatibility (DIN 843 Part 2 and 4) | Severity level 2 | | |
| Residual ripple | Max. 10% within operating voltage | | |
| Displays | Ready | | Green LED |
| | Setpoint value active | | Yellow LED |
| Ambient temperature | | [°C] | 0 ... 60 |
| Protection class to DIN 60 529 | IP20 | | |
| Product weight | | [g] | 190 |

| Connections and control elements | | | |
|----------------------------------|-------------------------------|---------------------|-------------|
| Connections | | | Priority |
| 31 | Activate setpoint 1 | SP1 | 1 (highest) |
| 32 | Activate setpoint 2 | SP2 | 2 |
| 33 | Activate setpoint 3 | SP3 | 3 |
| 34 | Activate setpoint 4 | SP4 | 4 |
| 35 | Activate setpoint 5 | SP5 | 5 |
| 11 | Activate setpoint 6 | SP6 | 6 |
| 13 | Pilot line | 0 V | – |
| 21 | Pilot line | 0 V | – |
| 22 | External setpoint value input | U _{w,in} | 7 (lowest) |
| 23 | Pilot line | 10 V DC | – |
| 24 | Screening | PE | – |
| 41 | Pilot line | 0 V DC | – |
| 42 | Setpoint value output | U _{w, out} | – |
| 43 | Power supply | – | – |
| 44 | Earth | GND | – |
| 45 | Power supply | + | – |



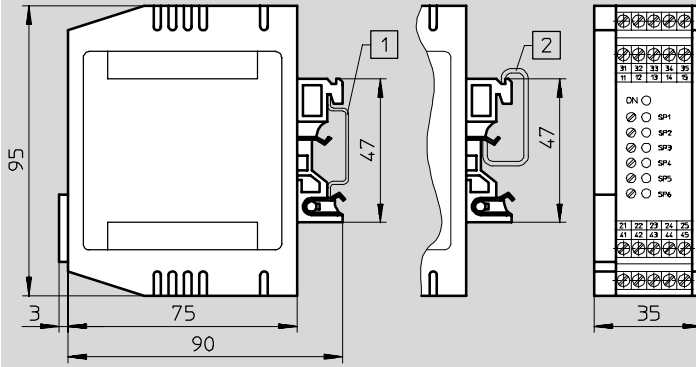
Proportional pressure regulators MPPE/MPPEs

Accessories – Setpoint module MPZ



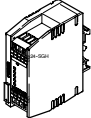
Dimensions

Download CAD data → www.festo.com/en/engineering



- 1 H-rail
- 2 G-rail

Ordering data

| | Description | Part No. | Type |
|---|---|---------------|----------------------------|
|  | Setpoint module for generating 6 + 1 analogue voltage signals | 36 101 | MPZ-1-24DC-SGH-6-SW |

Proportional valves
Proportional pressure valves

6.1



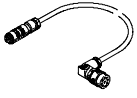



Proportional pressure regulators MPPE/MPPES

Accessories



Proportional valves
Proportional pressure valves

6.1

| Ordering data | | | | | | | |
|---|------------------|----------|-----------------|--------------------------|--|----------|------|
| | Cable length [m] | Part No. | Type | | | Part No. | Type |
| Angled plug socket without cable | | | | Data sheets → 2 / 7.2-10 | | | |
|  | – | 161 839 | MPPE-3-B | | | | |
| Angled plug socket with cable | | | | Data sheets → 2 / 7.3-21 | | | |
|  | 2.5 | 161 879 | KMPPE-...-B-2,5 | | | | |
| | 5 | 161 878 | KMPPE-...-B-5 | | | | |
| Connecting cable | | | | Data sheets → → | | | |
|  | 5 | 163 882 | KVIA-MPPE-5 | | | | |
| | 10 | 163 883 | KVIA-MPPE-10 | | | | |
| | | | | Push-in fittings | | | |
|  | | | | → Volume 3 | | | |
| | | | | Silencer | | | |
|  | | | | → Volume 3 | | | |
| | | | | Reducing nipple | | | |
|  | | | | → Volume 3 | | | |