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Find the *Festo MYPE-5-1/8-LF-010-B* at our website: *Click HERE*

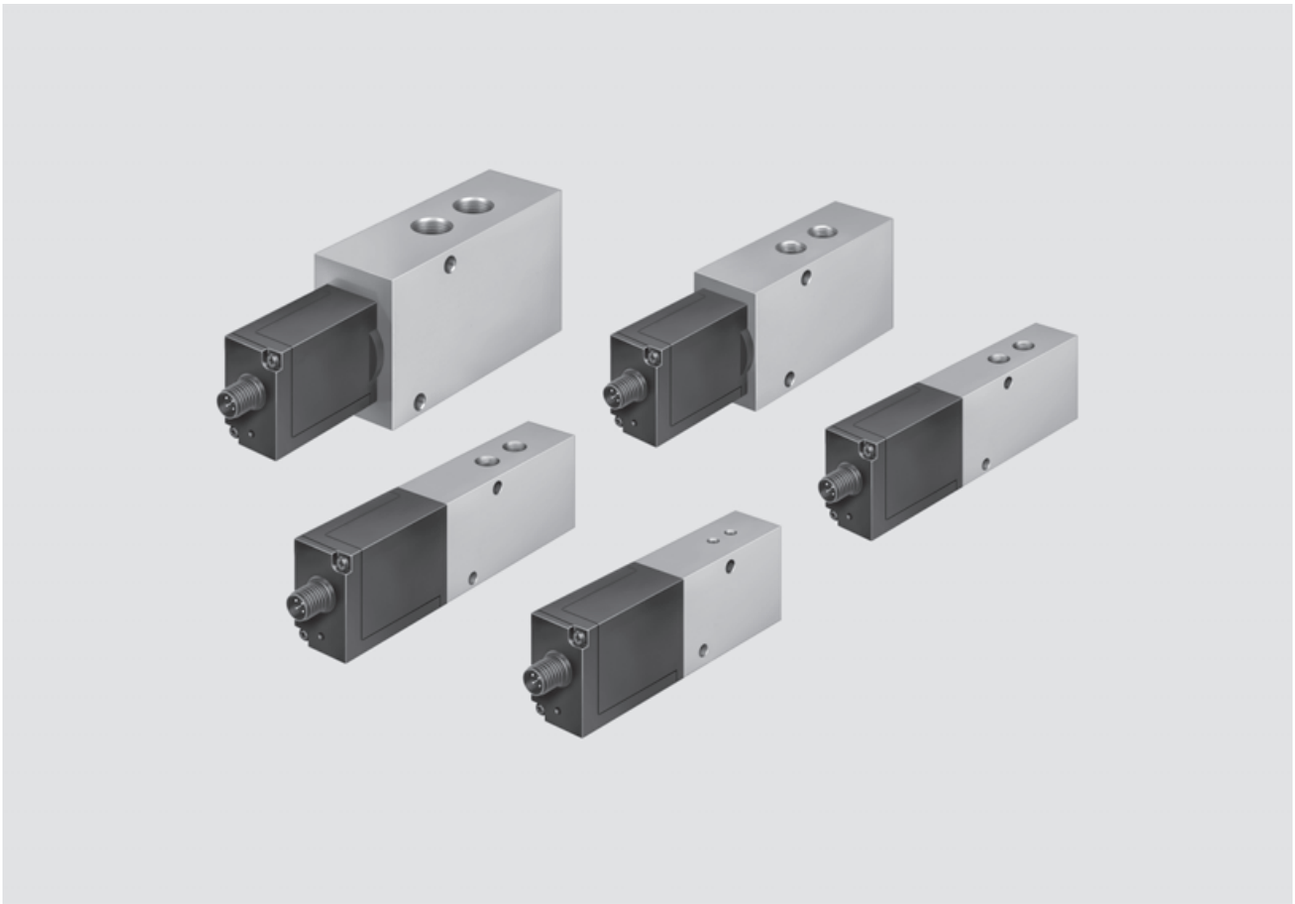
Proportional directional control valves MPYE



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Proportional directional control valves MPYE

Key features



General information

The directly actuated proportional directional control valve has a position-controlled spool. This transforms an analogue input signal into a corresponding opening cross-section at the valve outputs.

In combination with an external position controller and displacement encoder, a precise pneumatic positioning system can be created.

- Flow control function for varying cylinder speed
- 5/3-way function for varying the direction of movement

Wide choice of variants

- Setpoint value input
  - Analogue voltage signal
  - Analogue current signal
- Flow rates from 100 ... 2000 l/min

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Proportional directional control valves MPYE

Key features

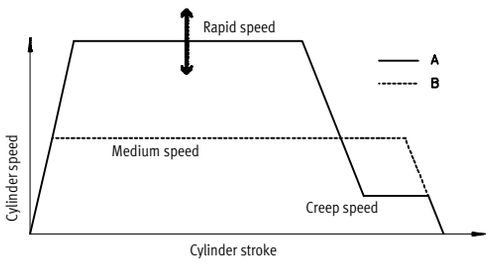
Short machine cycle times – fast switching of programmed flow rates

Reduce machine cycle times by optimising cylinder speeds.

- Assembly technology
- Handling technology
- Furniture industry

A: Proportional valves allow different speed levels and speed ramps to be set.

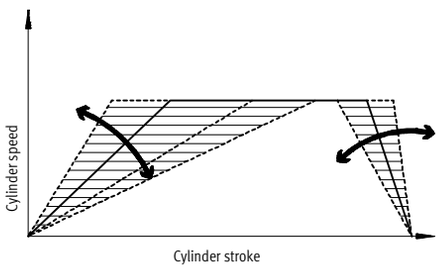
B: Speed regulation with directional control valves is more difficult and is performed by means of exhaust air flow control.



Flexible cylinder speeds – Achieving variable flow rates

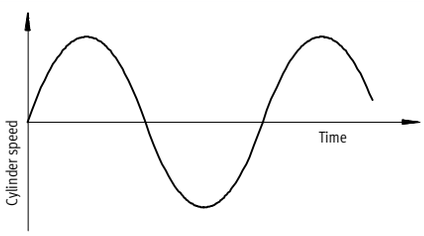
Flexibly adapting cylinder speeds to the process. Traversing individual acceleration ramps (gentle approach with delicate goods).

- Automobile suppliers
- Production technology
- Conveyor technology
- Test engineering



Proportionaldirectional control valve as final control element – Dynamic and fast changing of flow rates

- Fatigue tests
- SoftStop with end-position controller SPC11

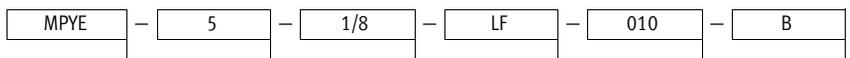


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Proportional directional control valves MPYE

Type codes

Type codes



Type	
MPYE	Proportional directional control valve

Valve function	
5	5/3-way valve

Pneumatic connection	
M5	Thread M5
1/8	Thread G1/8 Low Flow
1/8	Thread G1/8 High Flow
1/4	Thread G1/4
3/8	Thread G3/8

Flow rate	
LF	Low flow rate
HF	High flow rate

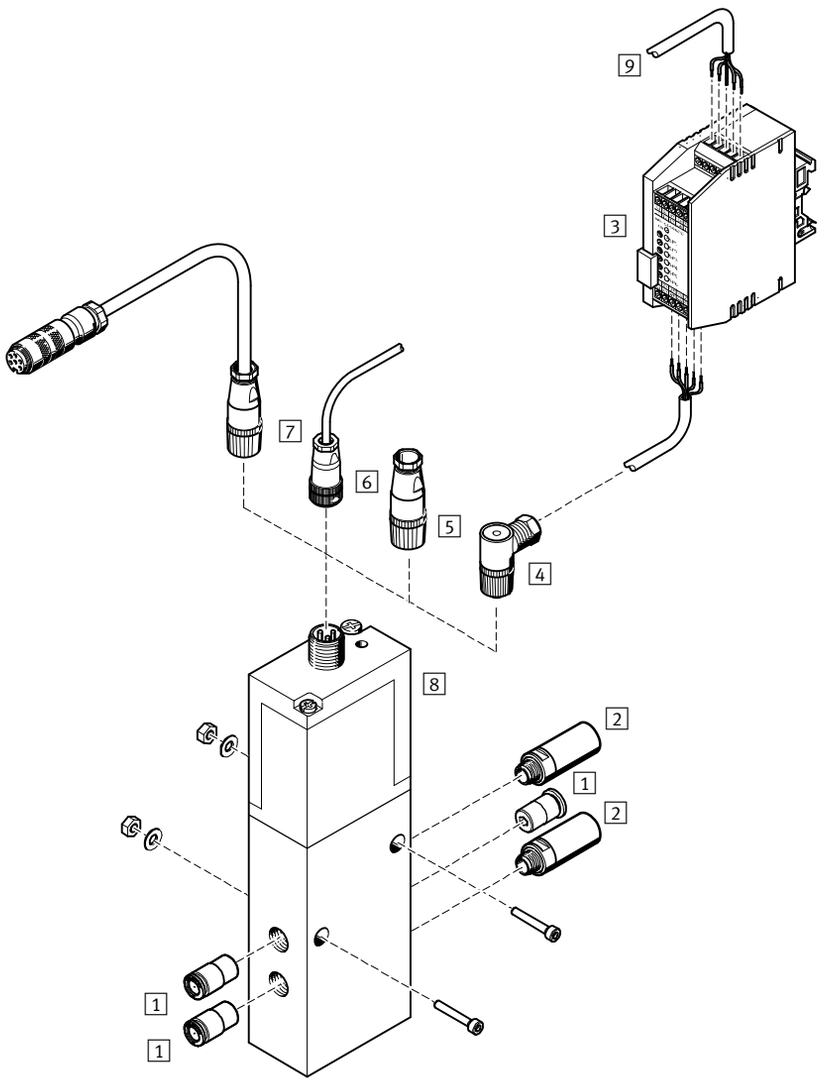
Setpoint value input	
010	Analogue voltage signal
420	Analogue current signal

Generation	
B	B series

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Proportional directional control valves MPYE

Peripherals overview



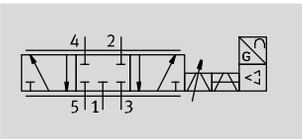
Accessories			
		Description	**➔ Page/Internet**
1	Push-in fitting	For connecting compressed air tubing with standard external diameters	npqh
2	Silencer U	For fitting in exhaust ports	u
3	Setpoint module MPZ	For generating 6+1 analogue voltage signals	9
4	Sensor socket SIE-WD-TR	Angled, 4-pin, M12x1	9
5	Sensor socket SIE-GD	Straight, 4-pin, M12x1	9
6	Connecting cable KMPYE	–	9
7	Connecting cable KVIA-MPYE	–	9
8	Proportional directional control valve MPYE	–	6
9	Digital input/output	For controlling the setpoint module	–

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Proportional directional control valves MPYE

Technical data

Function



Voltage
17 … 30 V DC

Flow rate
100 … 2000 l/min

Pressure
0 … 10 bar

Variants

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

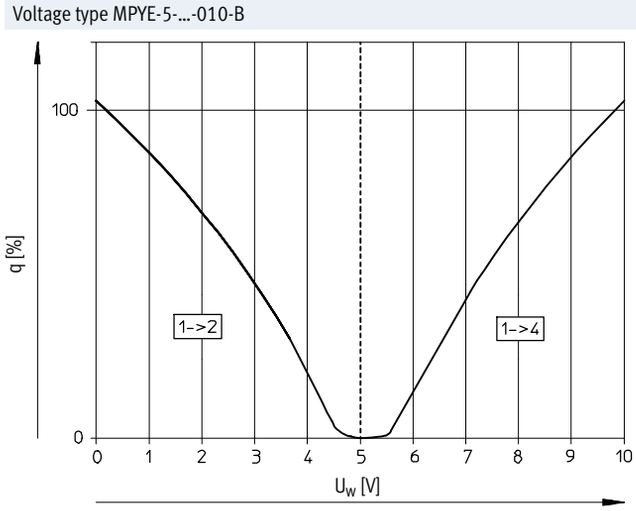


General technical data						
Pneumatic connection		M5	G1/8		G1/4	G3/8
			Low flow rate	High flow rate		
Valve function		5/3-way, normally closed				
Constructional design		Piston spool, directly actuated, controlled piston spool position				
Sealing principle		Hard				
Actuation type		Electrical				
Type of reset		Mechanical spring				
Type of pilot control		Direct				
Direction of flow		Non-reversible				
Type of mounting		Via through-holes				
Mounting position[1)]		Any				
Nominal size	[mm]	2	4	6	8	10
Standard nominal flow rate	[l/min]	100	350	700	1400	2000
Product weight	[g]	255	285	285	510	685

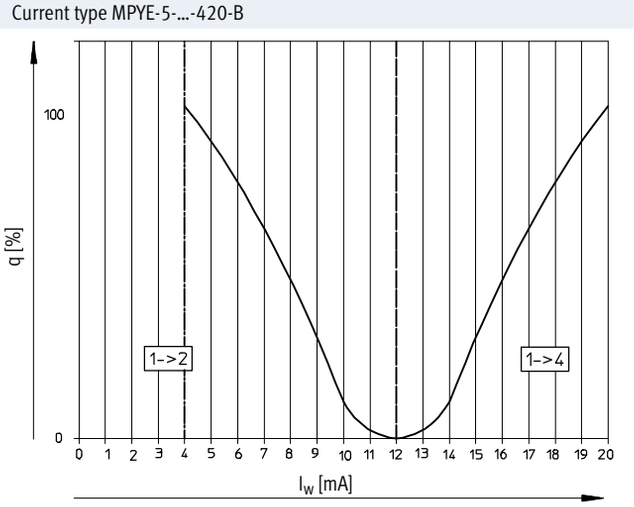
1) If the proportional directional control valve is in motion during operation, it must be mounted at right angles to the direction of movement.

Flow rate q at 6 ⇢ 5 bar as a function of the setpoint voltage or current

Voltage type MPYE-5-...-010-B



Current type MPYE-5-...-420-B



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Electrical data							
Pneumatic connection			M5	G1/8		G1/4	G3/8
				Low flow rate	High flow rate		
Power supply		[V DC]	17 … 30				
Response times			4.1	4.8		5.0	5.5
Setpoint value	Voltage type	[V DC]	0 … 10				
	Current type	[mA]	4 … 20				
Max. hysteresis[1]		[%]	0.4				
Valve mid-position	Voltage type	[V DC]	5 (±0.1)				
	Current type	[mA]	12 (±0.16)				
Duty cycle[2]		[%]	100				
Residual ripple		[%]	5				
Critical frequency[3]		[Hz]	115	95	95	80	70
Protection against polarity reversal	Voltage type		For all electrical connections				
	Current type		For setpoint value				
Protection class			IP65				
Electrical connection			4-pin plug socket, round design, M12x1				

1) Referred to the maximum stroke of the piston spool.
2) The proportional direction control valve automatically switches off if it overheats (goes to mid-position) and switches back on once it cools down.
3) Corresponds to the 3dB frequency at the maximum movement stroke of the piston spool.

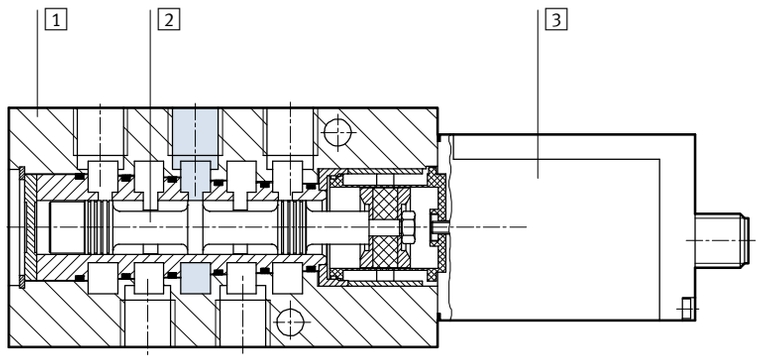
Operating and environmental conditions		
Operating pressure	[bar]	0 … 10
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [6:4:4]
Note on operating/pilot medium		Operation with lubricated medium not possible
Ambient temperature	[°C]	0 … 50
Temperature of medium	[°C]	5 … 40, condensation not permitted
Certification		RCM trademark
Vibration resistance[1]		To DIN/IEC 68 Parts 2 – 27, severity level 2 to FN 942017 Parts 4 and 5
CE mark		To EU EMC Directive[2] (see declaration of conformity)
Corrosion resistance class CRC[3]		2
Note on materials		RoHS-compliant

1) If the proportional directional control valve is in motion during operation, it must be mounted at right angles to the direction of movement.
2) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ Certificates.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.
3) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

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Materials

Sectional view



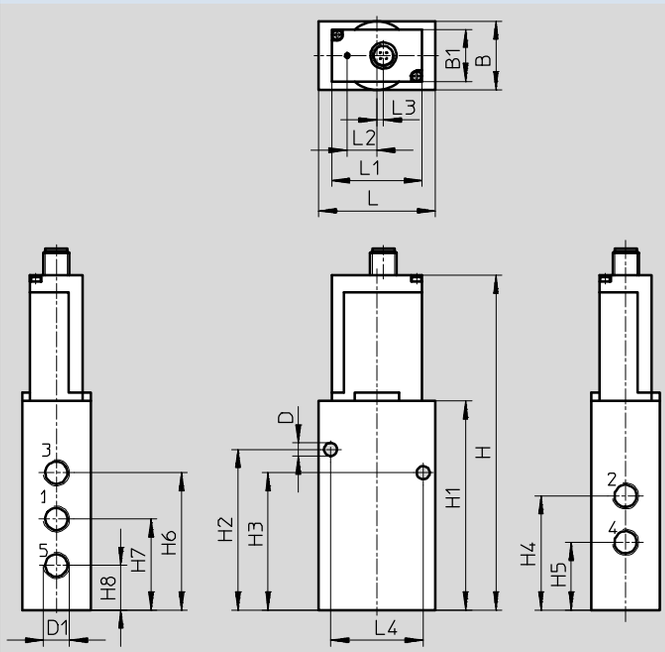
Note

If the power supply cable breaks, the valve assumes the closed mid-position.

1	Housing	Anodised aluminium
2	Valve spool	Tempered aluminium
3	Housing for electronics	Galvanised acrylic butadiene styrene
–	Seals	Nitrile rubber

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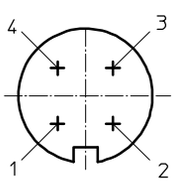
Dimensions Download CAD data ➔ **www.festo.com**



Type	Pneumatic connection D1	B	B1	D ∅	H	H1	H2	H3	H4
MPYE-5-M5-...-B	M5	26	–	5.5	129.9	69	56.1	38.1	32.1
MPYE-5-1/8-...-B	G1/8	26	–	5.5	148.8	88.4	71.3	55.3	45.8
MPYE-5-1/4-...-B	G1/4	35	26	6.5	164.1	103.7	79.6	68.1	56.6
MPYE-5-3/8-...-B	G3/8	40	26	6.5	176.1	115.7	98.4	79.4	65.4

Type	Pneumatic connection D1	H5	H6	H7	H8	L	L1	L2	L3	L4
MPYE-5-M5-...-B	M5	20.1	38.1	26.1	14.1	45	–	14.8	3.2	32
MPYE-5-1/8-...-B	G1/8	26.8	55.3	36.3	17.3	45	–	14.8	3.2	35
MPYE-5-1/4-...-B	G1/4	33.6	68.1	45.1	22.1	58	45	14.8	3.2	46
MPYE-5-3/8-...-B	G3/8	37.4	82.4	51.4	20.4	67	45	14.8	3.2	54

Terminal allocation

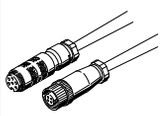
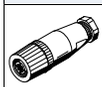
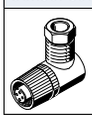
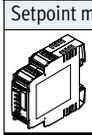


1 24 V DC, supply voltage
2 GND
3 Uw/I_W, setpoint input
4 GND

Ordering data

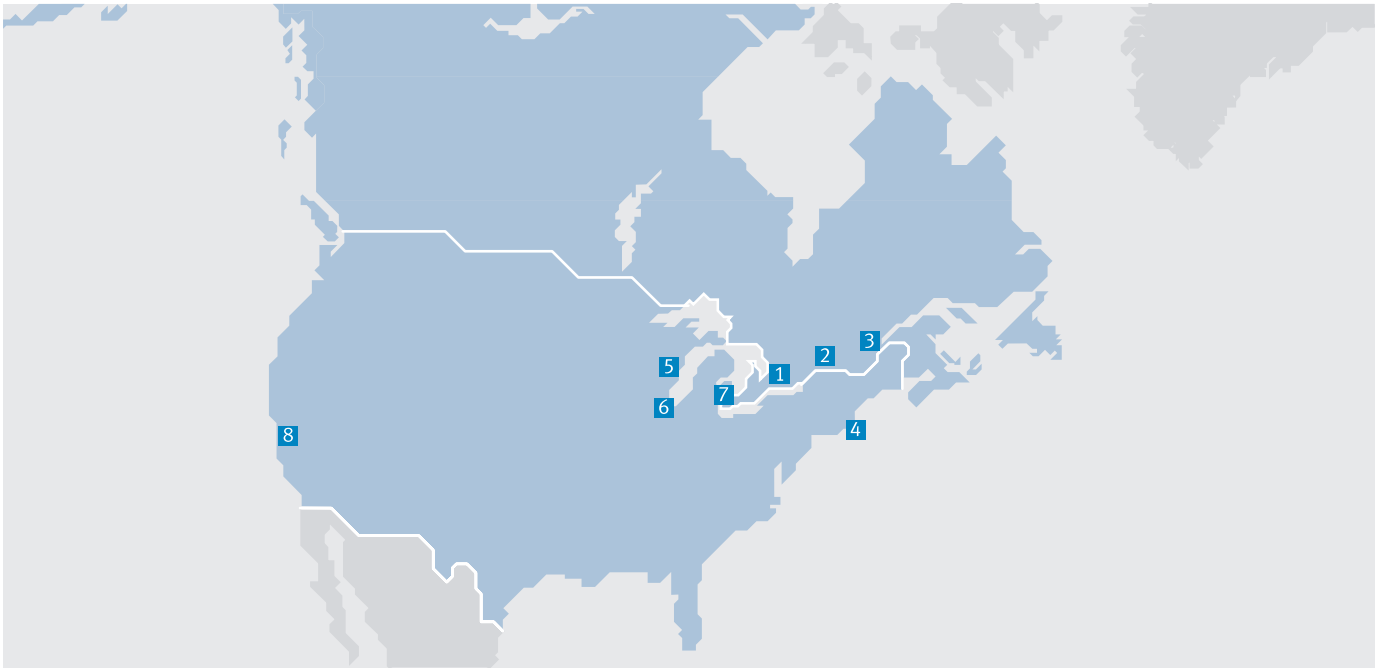
Pneumatic connection	Voltage type 0 ... 10 mV		Current type 4 ... 20 mA	
	Part No.	Type	Part No.	Type
M5	**154200**	**MPYE-5-M5-010-B**	**162959**	**MPYE-5-M5-420-B**
G1/8	**151692**	**MPYE-5-1/8-LF-010-B**	**161978**	**MPYE-5-1/8-LF-420-B**
	151693	**MPYE-5-1/8-HF-010-B**	**161979**	**MPYE-5-1/8-HF-420-B**
G1/4	**151694**	**MPYE-5-1/4-010-B**	**161980**	**MPYE-5-1/4-420-B**
G3/8	**151695**	**MPYE-5-3/8-010-B**	**161981**	**MPYE-5-3/8-420-B**

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Ordering data				
	Description	Cable length [m]	Part No.	Type
Connecting cable				Technical data ➔ Internet: kmpye, kvia
	Straight socket, M12x1, 4-pin, open cable end	5	**151909**	**KMPYE-5**
	Straight socket, M12x1, 4-pin, straight plug, M16x0.75, 6-pin	5	**161984**	**KVIA-MPYE-5**
		10	**161985**	**KVIA-MPYE-10**
Sensor socket				Technical data ➔ Internet: sie
	Straight, 4-pin, M12x1	–	**18494**	**SIE-GD**
Sensor socket				Technical data ➔ Internet: sie
	Angled, 4-pin, M12x1	–	**12956**	**SIE-WD-TR**
Setpoint module				Technical data ➔ Internet: mpz
	Generation of 6+1 analogue setpoint values	–	**546224**	**MPZ-1-24DC-SGH-6-SW5**

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