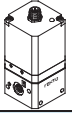
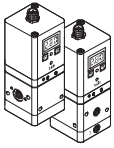


Proportional pressure regulators VPPE/VPPE with display



Proportional pressure regulators VPPE/VPPE with display

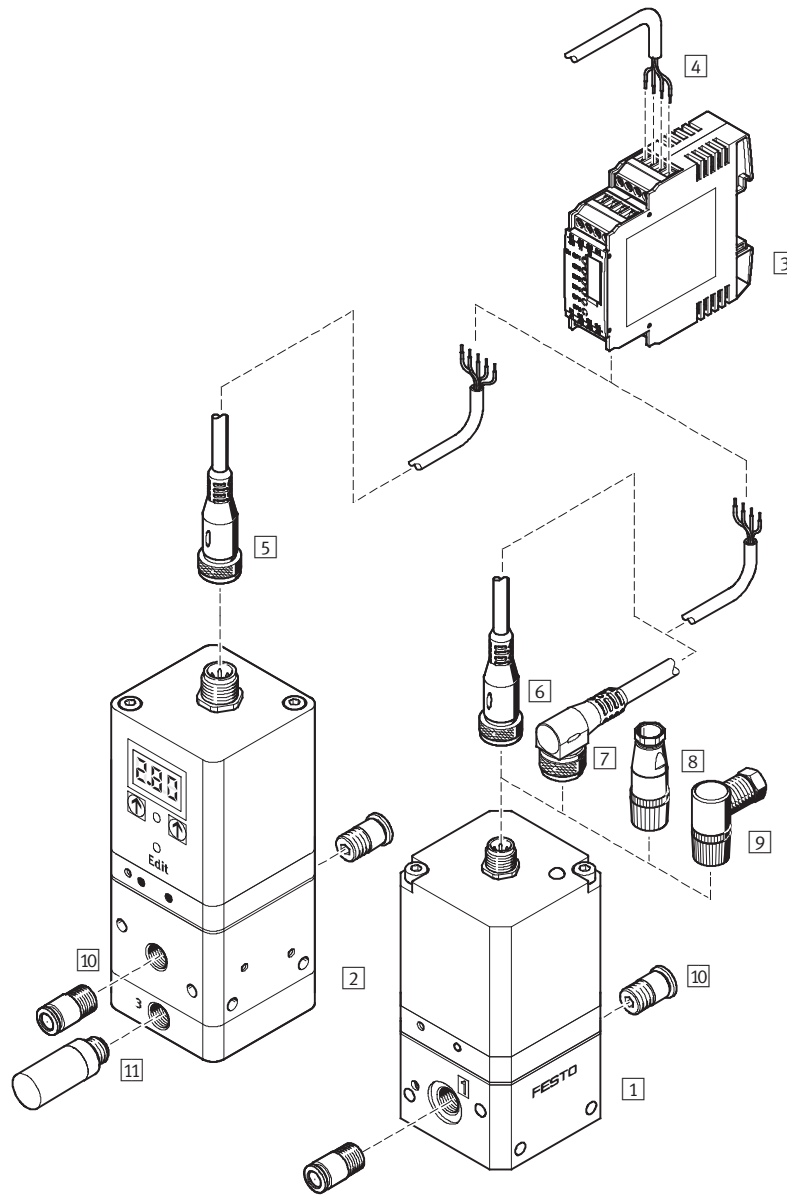
Product range overview

Function	Version	Pneumatic connection 1	Nominal size for air supply/exhaust [mm]	Pressure regulation range [bar]	Setpoint input		→ Page/Internet
					Voltage type 0 ... 10 V	Current type 4 ... 20 mA	
Pressure regulators		G ¹ / ₈	5/2.5	0.15 ... 6	■	-	5
				<hr/>			
		G ¹ / ₈	5/2.5	0.02 ... 2	■	■	8
				0.06 ... 6			
0.1 ... 10							

Proportional pressure regulators VPPE/VPPE with display

Peripherals overview

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Accessories				
	Type	Brief description	→ Page/Internet	
1	Proportional pressure regulator	VPPE	–	5
2	Proportional pressure regulator with display	VPPE...E1	–	8
3	Setpoint module	MPZ	For generating 6+1 analogue voltage signals	11
4	Digital input/output	–	For actuating the setpoint module	–
5	Plug socket with cable	SIM-M12-5GD-...-PU	With straight plug socket for actuating the VPPE...E1	11
6	Plug socket with cable	SIM-M12-4GD-5PU	With straight plug socket for actuating the VPPE	
7	Plug socket with cable	SIM-M12-4WD-5PU	With angled plug socket for actuating the VPPE	
8	Plug socket	SIE-GD	Straight plug socket for actuating the VPPE	
9	Plug socket	SIE-WD-TR	Angled plug socket for actuating the VPPE	
10	Push-in fitting	QS	For compressed air tubing with standard O.D.	quick star
11	Silencer	U	For fitting in exhaust ports	u




Proportional pressure regulators VPPE

Type codes

VPPE		3	1/8	6	010
Type					
VPPE	Proportional pressure regulator with switching valve head				
Valve function					
3	3-way pressure regulator				
Pneumatic connection					
1/8	Female thread G1/8				
Pressure regulation range					
6	0.15 ... 6 bar				
Analogue setpoint input					
010	0 ... 10 V				

Proportional pressure regulators VPPE

Technical data

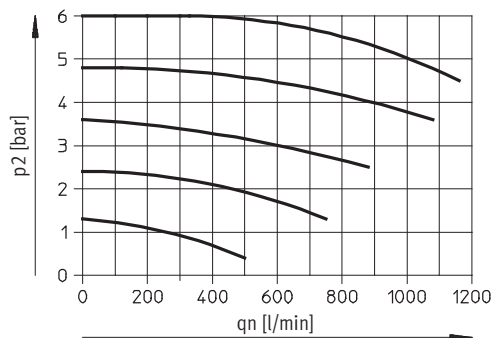
-  - Flow rate
1,000 l/min
-  - Voltage
21.6 ... 26.4 V DC
-  - Pressure regulation range
0.15 ... 6 bar

- Variants
- Setpoint input as analogue voltage signal 0 ... 10 V




General technical data			
Pneumatic connection 1 and 2			G1/8
Design			Pilot actuated 3-way proportional pressure regulator
Sealing principle			Soft
Actuation type			Electrical
Type of control			Pilot actuated via 2/2-way valves
Type of mounting			Via through-hole
Mounting position			Any, preferably vertical
Nominal size	Air supply	[mm]	5
	Exhaust	[mm]	2.5
Standard nominal flow rate		[l/min]	→ Graph
Product weight		[g]	445

Flow rate qn as a function of output pressure p2



Electrical data	
Electrical connection	Plug, round design, 4-pin, M12x1
Operating voltage range	[V DC] 24 ±10% = 21.6 ... 26.4
Power supply indicator	LED
Residual ripple	10%
Max. electrical power consumption	[W] 3.6
Setpoint input signal	[V DC] 0 ... 10
Protection against short circuit	For all electrical connections
Reverse polarity protection	For all electrical connections
Protection class	IP65
CE mark (see declaration of conformity)	To EU EMC Directive

-  - Note
Output pressure is maintained unregulated if the power supply cable is interrupted.

Proportional pressure regulators VPPE

FESTO

Technical data

Operating and environmental conditions		
Operating medium		Filtered, unlubricated compressed air, grade of filtration 40 µm Neutral gases
Supply pressure 1	[bar]	7 ... 8
Pressure regulation range	[bar]	0.15 ... 6
Max. pressure hysteresis	[bar]	0.15
Ambient temperature	[°C]	10 ... 50
Temperature of medium	[°C]	10 ... 50
Corrosion resistance class CRC		2 ¹⁾

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

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

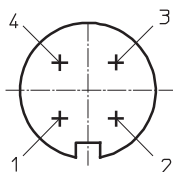
Information on materials	
Housing	Wrought aluminium alloy
Seals	NBR

Dimensions Download CAD data → www.festo.com

1 Earthing hole

Type	B1	B2	∅ D1	D2	EE	H1	H2	H3	H4	H5	H6
VPPE-3-1/8-6-010	50	32	4.5	M12x1	G1/8	114	102	23	13	28	8

M12x1 – Pin allocation for VPPE



- 1 Power supply
21.6 ... 26.4 V DC
- 2 Setpoint (-)
- 3 GND (-)
- 4 Setpoint (+) 0 ... 10 V DC

Ordering data			
Pneumatic connection	Pressure regulation range [bar]	Part No.	Type
G1/8	0 ... 6	539639	VPPE-3-1/8-6-010

Proportional pressure regulators VPPE with display




Type codes

VPPE – 3 – 1 – 1/8 – 6 – 010 – E1 T

Type	
VPPE	Proportional pressure regulator with switching valve head
Valve function	
3	3-way pressure regulator
Valve function	
1	Closed in basic position
Pneumatic connection	
1/8	Female thread G1/8
Pressure regulation range	
2	0.02 ... 2 bar
6	0.06 ... 6 bar
10	0.1 ... 10 bar
Analogue setpoint input	
010	0 ... 10 V
420	4 ... 20 mA
Operator unit	
E1	Segmented LED display
Operator unit	
–	In-line valve
T	Common supply manifold assembly

Proportional pressure regulators VPPE with display

Technical data

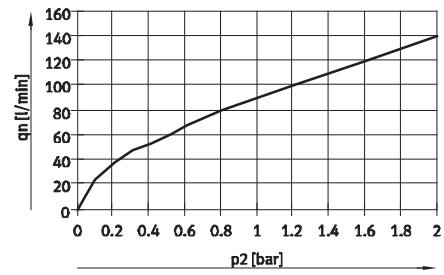
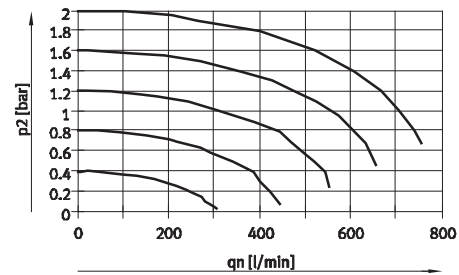
-  Flow rate
310 ... 1,250 l/min
 -  Voltage
21.6 ... 26.4 V DC
 -  Pressure regulation range
0.02 ... 2 bar
0.06 ... 6 bar
0.1 ... 10 bar
- Variants
- Setpoint input as analogue voltage signal 0 ... 10 V
 - Setpoint input as analogue current signal 4 ... 20 mA
 - Assembly as in-line valve or on common supply manifold (manifold on request)
 - 3-digit LED display



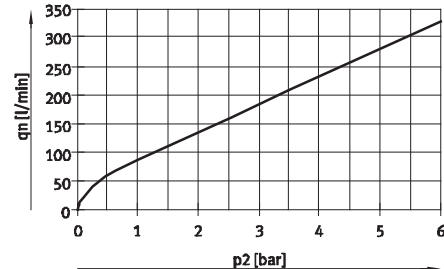
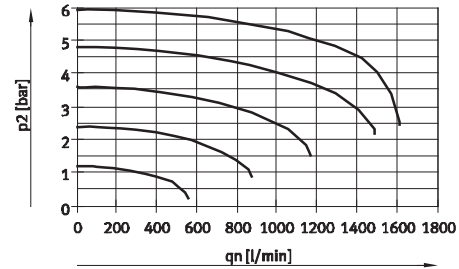
General technical data			
Pneumatic connection 1 and 2			G1/8
Design and valve function			Pilot actuated 3-way proportional pressure regulator
Sealing principle			Soft
Actuation type			Electrical
Reset method			Mechanical spring
Type of control			Pilot actuated via 2/2-way valves
Type of mounting			Via through-hole
Mounting position			Any
Nominal size	Air supply	[mm]	5
	Exhaust	[mm]	2.5
Standard nominal flow rate			[l/min] → Graphs
Product weight			[g] 390

Flow rate qn as a function of output pressure p2

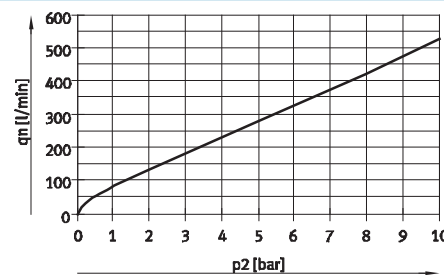
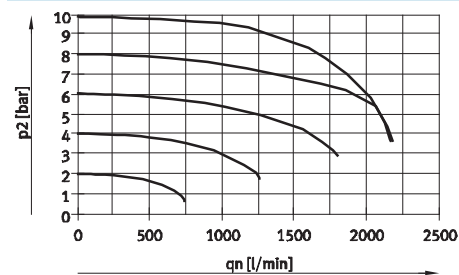
VPPE-3-1-1/8-2- ... qn 1 → 2 qn 2 → 3



VPPE-3-1-1/8-6- ... qn 1 → 2 qn 2 → 3



VPPE-3-1-1/8-10- ... qn 1 → 2 qn 2 → 3




Proportional pressure regulators VPPE with display

Technical data

Electrical data			
Electrical connection		Plug, round design, 5-pin, M12x1	
Operating voltage range		[V DC]	24 ±10% = 21.6 ... 26.4
Power supply indicator		LED	
Residual ripple		10%	
Max. electrical power consumption		[W]	4.2
Setpoint input and analogue output signal	Voltage	[V DC]	0 ... 10
	Current	[mA]	4 ... 20
Protection against short circuit		For all electrical connections	
Switching output		PNP	
Reverse polarity protection		For all electrical connections	
Protection class		IP65	
CE mark (see declaration of conformity)		To EU EMC Directive	

Operating and environmental conditions					
Pressure regulation range		[bar]	0.02 ... 2	0.06 ... 6	0.1 ... 10
Operating medium		Filtered, unlubricated compressed air, grade of filtration 40 µm Neutral gases			
Supply pressure 1		[bar]	3 ... 4	6 ²⁾ ... 8	6 ²⁾ ... 11
Max. pressure hysteresis		[mbar]	20	30	50
FS (full scale) linearity error		[%]	± 1		
FS (full scale) repetition accuracy		[%]	0.5		
Temperature coefficient		[%/K]	0.04/1		
Duty cycle		[%]	100		
Ambient temperature		[°C]	0 ... 60		
Temperature of medium		[°C]	10 ... 50		
Corrosion resistance class		[CRC]	2 ¹⁾		

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents
- 2) Supply pressure 1 should always be 1 bar greater than the maximum regulated output pressure

 - Note
Output pressure is maintained unregulated if the power supply cable is interrupted.

Information on materials	
Housing	Anodised wrought aluminium alloy
Note on materials	RoHS-compliant

Proportional pressure regulators VPPE with display

Technical data

Dimensions Download CAD data → www.festo.com

1 Earthing hole
2 Booster turned by 90° with variant VPPE-...-E1T

Type	B1	B2	B3	∅ D1	D2	EE	H1	H2	H3	H4	H5	H6
VPPE-3-1/8-... E1 ...	50	32	3.05	4.5	M12x1	G1/8	117.2	105.8	27.5	73.8	63.8	17.5
	H7	H8	H9									
	32.5	22.5	7									




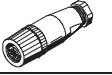

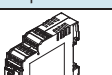
M12x1 – Pin allocation for VPPE with display

- Power supply
21.6 ... 26.4 V DC
- Setpoint (-)
- GND (-)
- Setpoint (+) 0 ... 10 V DC/
4 ... 20 mA
- Actual value output or switching output (can be chosen via the control panel)

Ordering data					
Pneumatic connection	Pressure regulation range [bar]	Voltage type 0 ... 10 V		Current type 4 ... 20 mA	
		Part No.	Type	Part No.	Type
G1/8	0.02 ... 2	557771	VPPE-3-1-1/8-2-010-E1	557774	VPPE-3-1-1/8-2-420-E1
		557777	VPPE-3-1-1/8-2-010-E1T	557779	VPPE-3-1-1/8-2-420-E1T
	0.06 ... 6	557772	VPPE-3-1-1/8-6-010-E1	557775	VPPE-3-1-1/8-6-420-E1
		567539	VPPE-3-1-1/8-6-010-E1T	567540	VPPE-3-1-1/8-6-420-E1T
	0.1 ... 10	557773	VPPE-3-1-1/8-10-010-E1	557776	VPPE-3-1-1/8-10-420-E1
		557778	VPPE-3-1-1/8-10-010-E1T	557780	VPPE-3-1-1/8-10-420-E1T

Proportional pressure regulators VPPE/VPPE with display

Accessories

Ordering data				
	Description	Cable length [m]	Part No.	Type
Plug socket with cable for VPPE with display		Technical data → Internet: sim-m12-5gd		
	Straight, 5-pin, M12x1	2.5	175715	SIM-M12-5GD-2,5-PU
		5	175716	SIM-M12-5GD-5-PU
Plug socket with cable		Technical data → Internet: sim-m12-4gd		
	Straight, 4-pin, M12x1	5	164259	SIM-M12-4GD-5-PU
Plug socket with cable		Technical data → Internet: sim-m12-4wd		
	Angled, 4-pin, M12x1	5	164258	SIM-M12-4WD-5-PU
Plug socket		Technical data → Internet: sie-gd		
	Straight, 4-pin, M12x1	–	18494	SIE-GD
Plug socket		Technical data → Internet: sie-wd		
	Angled, 4-pin, M12x1	–	12956	SIE-WD-TR
Setpoint module		Technical data → Internet: mpz		
	Setpoint module for generating 6 + 1 analogue voltage signals	–	546224	MPZ-1-24DC-SGH-6-SW