

Proportional pressure regulators VPPE

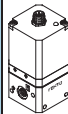
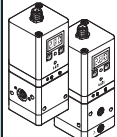
FESTO



Proportional pressure regulators VPPE

Product range overview

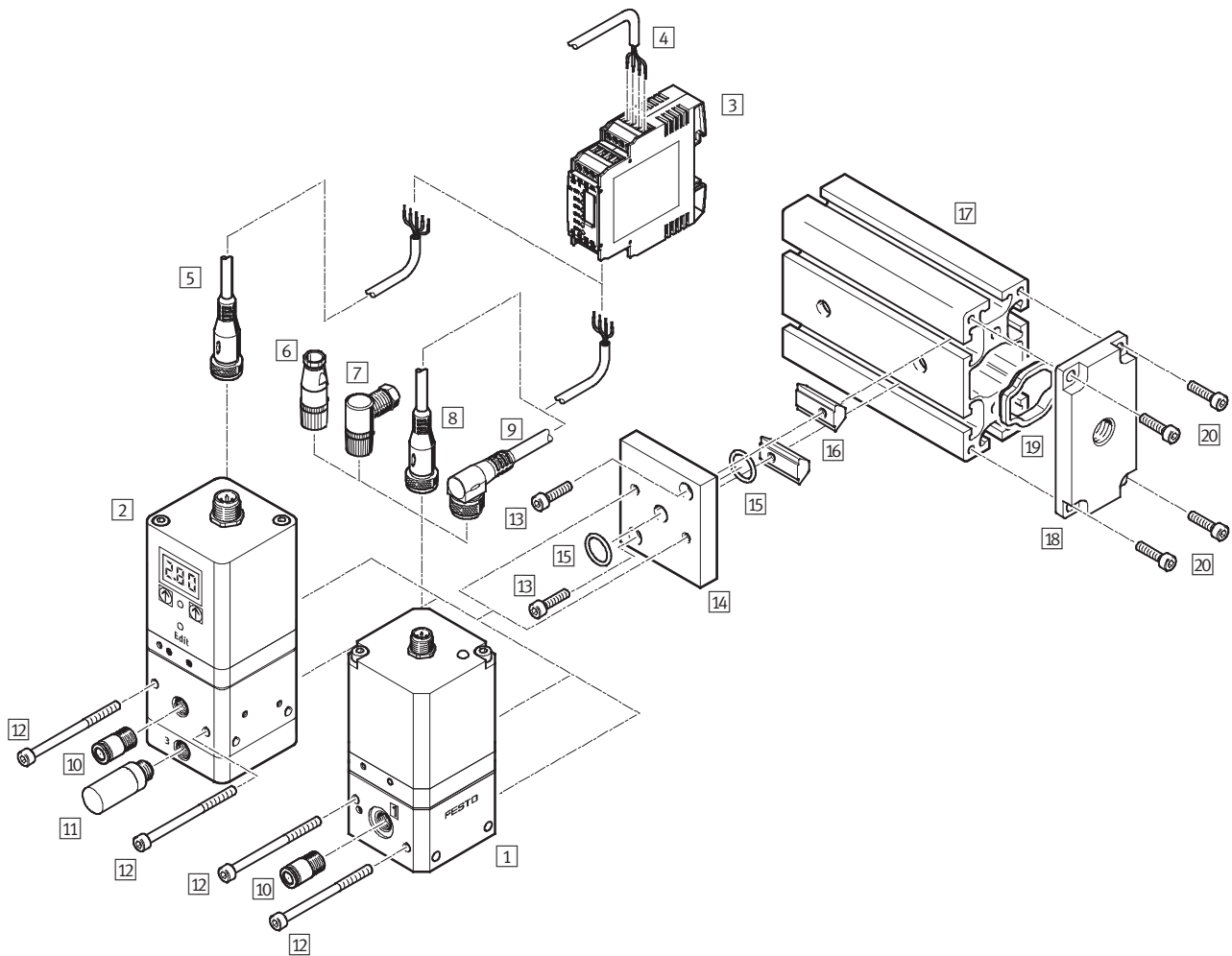
FESTO

Function	Version	Pneumatic connection	Nominal size for pressurisation/exhaust [mm]	Pressure regulation range [bar]	Setpoint input		➔ Page/ Internet
					Voltage type 0 ... 10 V	Current type 4 ... 20 mA	
Proportional pressure regulator	Without display						
		G1/8	5/2.5	0.15 ... 6	■	—	6
	With display						
		G1/8	5/2.5	0.02 ... 2	■	■	10
				0.06 ... 6			
				0.1 ... 10			

Proportional pressure regulators VPPE

Peripherals overview

FESTO

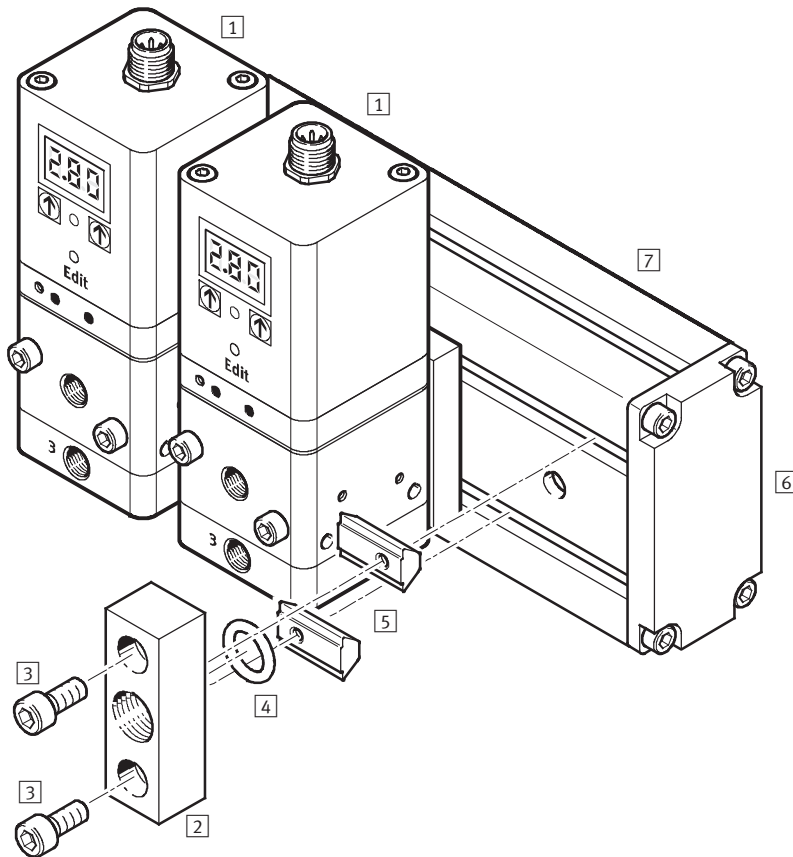


Accessories			
	Type	Brief description	→ Page/Internet
1	Prop. pressure regulator	VPPE...	8
2	Prop. pressure regulator with display	VPPE ... E1	13
3	Setpoint module	MPZ	For generating 6+1 analogue voltage signals 8, 13
4	Digital input/output	–	For actuating the setpoint module –
5	Connecting cable	SIM-M12-5GD-...-PU	With straight plug socket for actuating the VPPE...E1 13
6	Plug socket	SIE-GD	Straight plug socket for actuating the VPPE 8
7	Plug socket	SIE-WD-TR	Angled plug socket for actuating the VPPE 8
8	Connecting cable	SIM-M12-4GD-5PU	With straight plug socket for actuating the VPPE 8
9	Connecting cable	SIM-M12-4WD-5PU	With angled plug socket for actuating the VPPE 8
10	Push-in fitting	QS	For connecting compressed air tubing with standard O.D. quick star
11	Silencer	U	For fitting in exhaust ports u
12	Socket head screw M4x55	–	For screwing the VPPE to the mounting plate 15
13	Socket head screw M4x16	–	For screwing the mounting plate to the slot nut 15
14	Mounting plate (set)	VAME-P5-MK	For attaching the VPPE to the mounting rail (consists of mounting plate, slot nuts, screws and seals) 15
15	O-ring	–	For sealing 15
16	Slot nuts	–	For clamp fitting components on the mounting rail 15
17	Mounting rail	–	Standard mounting rail as central air supply 15
18	Compressed air supply plate (set)	VABF-P5-P3A3...	For supplying compressed air (consists of compressed air supply plate, screws and seal) 15
19	Seal	–	– 15
20	Socket head screw M5x12	–	For screwing a compressed air supply plate to the mounting rail 15

Proportional pressure regulators VPPE

Peripherals overview – Additional power supply

FESTO



Accessories			
	Type	Brief description	➔ Page/Internet
1 Prop. pressure regulator with display	VPPE ... E1	–	13
2 Additional power supply module (set)	VABF-P5-P1A3...	For supplying compressed air (consists of compressed air supply plate, screws and seal)	15
3 Socket head screw M6x20	–	For screwing a compressed air supply plate to the slot nut	15
4 O-ring	–	For sealing	15
5 Slot nuts	–	For clamp fitting components on the mounting rail	15
6 End plate (set)	VABE-P5-C	For sealing the mounting rail (consists of an end plate, screws and seal)	15
7 Mounting rail	IPM-PN-08-40x80-AL	Standard mounting rail as central air supply	15

Proportional pressure regulators VPPE without display

FESTO

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	G1/8 female thread									
Pressure regulation range										
6	0.15 ... 6 bar									
Analogue setpoint input										
010	0 ... 10 V									

Proportional pressure regulators VPPE without display

FESTO

Technical data

Flow rate
850 l/min

Voltage
21.6 ... 26.4 V DC

Pressure
0.15 ... 6 bar

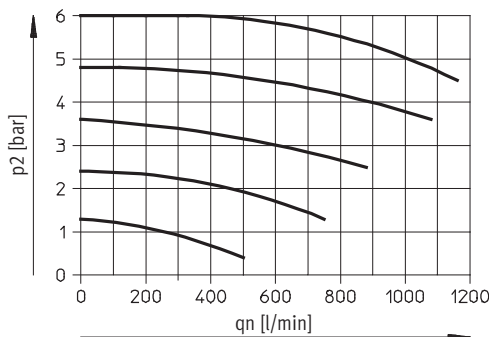
Variants

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



General technical data			
Pneumatic connection 1 and 2			G1/8
Design, valve function			Piloted piston regulator, 3-way proportional pressure regulator, closed
Sealing principle			Soft
Actuation type			Electric
Type of control			Piloted via 2/2-way valves
Type of mounting			Via through-hole
Mounting position			Any, preferably vertical
Nominal size	Pressurisation	[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

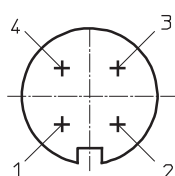


Note

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

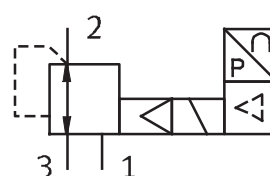
Electrical data		
Electrical connection		Plug, round design, 4-pin, M12x1
Operating voltage range	[V DC]	21.6 ... 26.4
Power supply indicator		LED
Residual ripple	[%]	10
Max. electrical power consumption	[W]	3.6
Setpoint input signal	[V DC]	0 ... 10
Switching time on/off	[ms]	550/1,300
Protection against short circuit		For all electrical connections
Protection against incorrect polarity		For all electrical connections
Protection class		IP65

M12x1 – Pin allocation for VPPE



- Supply
21.6 ... 26.4 V DC
- Setpoint value (-)
- GND (-)
- Setpoint value (+) 0 ... 10 V DC

Circuit symbol



Proportional pressure regulators VPPE without display

FESTO

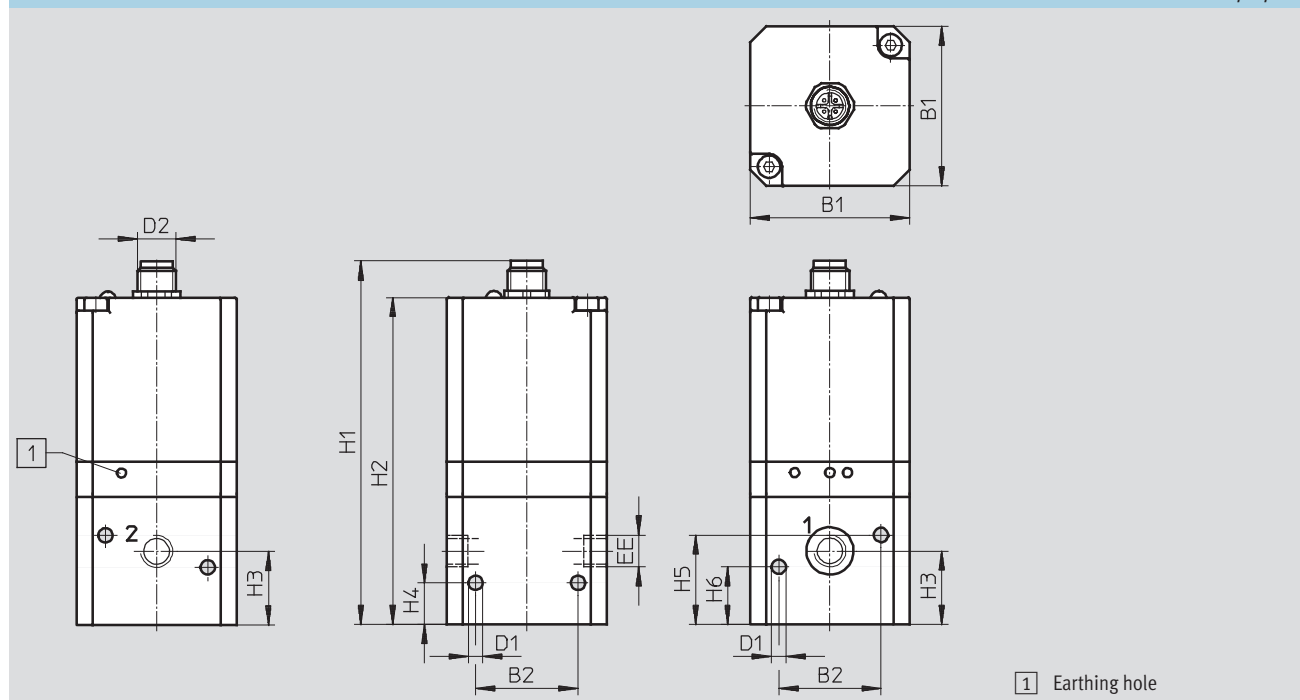
Technical data

Operating and environmental conditions	
Operating medium	Compressed air according to ISO 8573-1:2010 [7:4:4] Inert gases
Note on operating/pilot medium	Lubricated operation not possible
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 ¹⁾	2
CE marking (see declaration of conformity)	In accordance with EU EMC Directive ²⁾
Certification	C-Tick

- 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) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
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.

Information on materials	
Housing	Wrought aluminium alloy
Seals	Nitrile rubber

Dimensions Download CAD Data → www.festo.com/us/cad

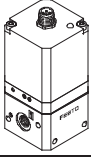

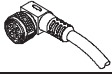





Type	B1	B2	∅D1	D2	EE	H1	H2	H3	H4	H5	H6
VPPE-3-1/8-6-010	50	32	4.5	M12x1	G1/8	114	102	23	13	28	18

Proportional pressure regulators VPPE without display

FESTO

Ordering data

Ordering data			
	Description	Part No.	Type
Proportional pressure regulator VPPE without display			
	<ul style="list-style-type: none"> Pressure regulation range: 0 ... 6 bar Pneumatic connection: G$\frac{1}{8}$ 	539639	VPPE-3-$\frac{1}{8}$-6-010
Plug socket with cable			
		Technical data → Internet: nebu	
	<ul style="list-style-type: none"> Straight socket, M12x1, 5-pin Open end, 4-wire, cable length 5 m 	164259	SIM-M12-4GD-5-PU
	<ul style="list-style-type: none"> Angled socket, M12x1, 5-pin Open end, 4-wire, cable length 5 m 	164258	SIM-M12-4WD-5-PU
Plug socket			
		Technical data → Internet: sie-gd	
	Straight socket, M12x1, 4-pin	18494	SIE-GD
	Angled socket, M12x1, 4-pin	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

Proportional pressure regulators VPPE with display

FESTO


Type codes


		VPPE	–	3	–	1	–	1/8	–	6	–	010	–	E1	T
Type															
VPPE	Proportional pressure regulator with switching valve head														
Directional control function															
3	3-way pressure regulator														
Valve function															
1	Normally closed														
Pneumatic connection															
1/8	G1/8 female thread														
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														
Assembly															
–	In-line valve														
T	Common supply manifold assembly (mounting rail)														

Proportional pressure regulators VPPE with display

FESTO

Technical data

-  Flow rate
310 ... 1,250 l/min

-  Voltage
21.6 ... 26.4 V DC

Pressure

0.02 ... 2 bar

0.06 ... 6 bar

0.1 ... 10 bar

Variants

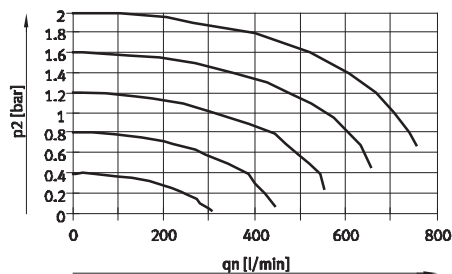
- Setpoint input as analogue voltage signal 0 ... 10 V
- Setpoint input as analogue current signal 4 ... 20 mA
- Assembly as in-line valve or on mounting rail
- 3-digit LED display



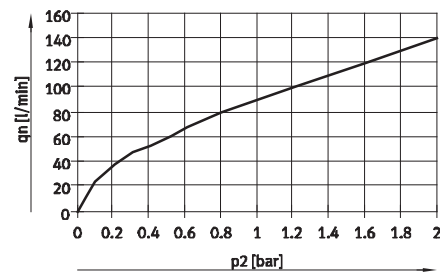
General technical data			
Pneumatic connection 1, 2, 3			G1/8
Design, valve function			Piloted diaphragm regulator, 3-way proportional pressure regulator
Sealing principle			Soft
Actuation type			Electric
Reset method			Mechanical spring
Type of control			Piloted via 2/2-way valves
Type of mounting	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

Flow rate q_n as a function of output pressure p_2

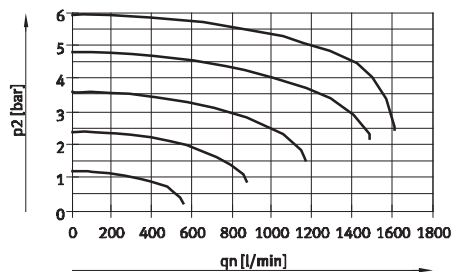
VPPE- ... -2- ... $q_n 1 \rightarrow 2$



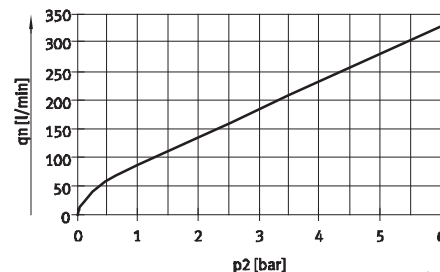
$q_n 2 \rightarrow 3$



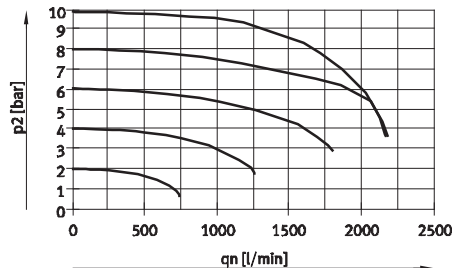
VPPE- ... -6- ... $q_n 1 \rightarrow 2$



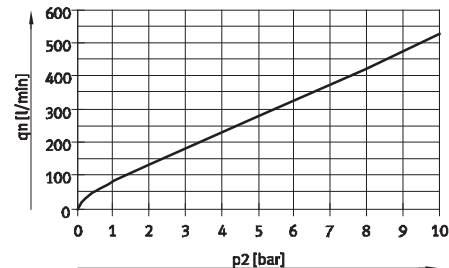
$q_n 2 \rightarrow 3$



VPPE- ... -10- ... $q_n 1 \rightarrow 2$



$q_n 2 \rightarrow 3$



Proportional pressure regulators VPPE with display

FESTO

Technical data

Electrical data			
Electrical connection		Plug, round design, 5-pin, M12x1	
Operating voltage range	[V DC]	21.6 ... 26.4	
Power supply indicator		LED	
Residual ripple	[%]	10	
Max. electrical power consumption		[W]	
Analogue signal range		Voltage [V DC]	
Output/input	Current [mA]	4 ... 20	
Protection against short circuit		For all electrical connections	
Switching output		PNP	
Protection against incorrect polarity		For all electrical connections	
Protection class		IP65	

Operating and environmental conditions			
Pressure regulation range	[bar]	0.02 ... 2	0.06 ... 6
Operating medium		Compressed air according to ISO 8573-1:2010 [7:4:4]	
		Inert gases	
Note on operating/pilot medium		Lubricated operation not possible	
Supply pressure 1 ¹⁾	[bar]	3 ... 4	6 ... 8
Max. pressure hysteresis	[mbar]	20	30
FS (full scale) linearity error	[%]	± 1	
FS (full scale) repetition accuracy	[%]	0.5	
Temperature coefficient	[%/K]	0.04	
Duty cycle	[%]	100	
Ambient temperature	[°C]	0 ... 60	
Temperature of medium	[°C]	10 ... 50	
Corrosion resistance class	[CRC]	2 ²⁾	
CE marking (see declaration of conformity)		To EU EMC Directive ³⁾	

1) Supply pressure 1 should always be 1 bar greater than the maximum regulated output pressure.

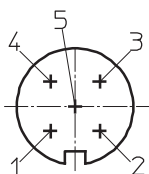
2) Corrosion resistance class 2 according to Festo standard 940 070

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.

3) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.

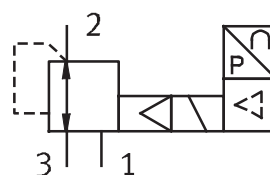
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Pin allocation for VPPE with display, M12x1



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

Circuit symbol



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

Note

Output pressure remains unregulated if the power supply cable is interrupted.

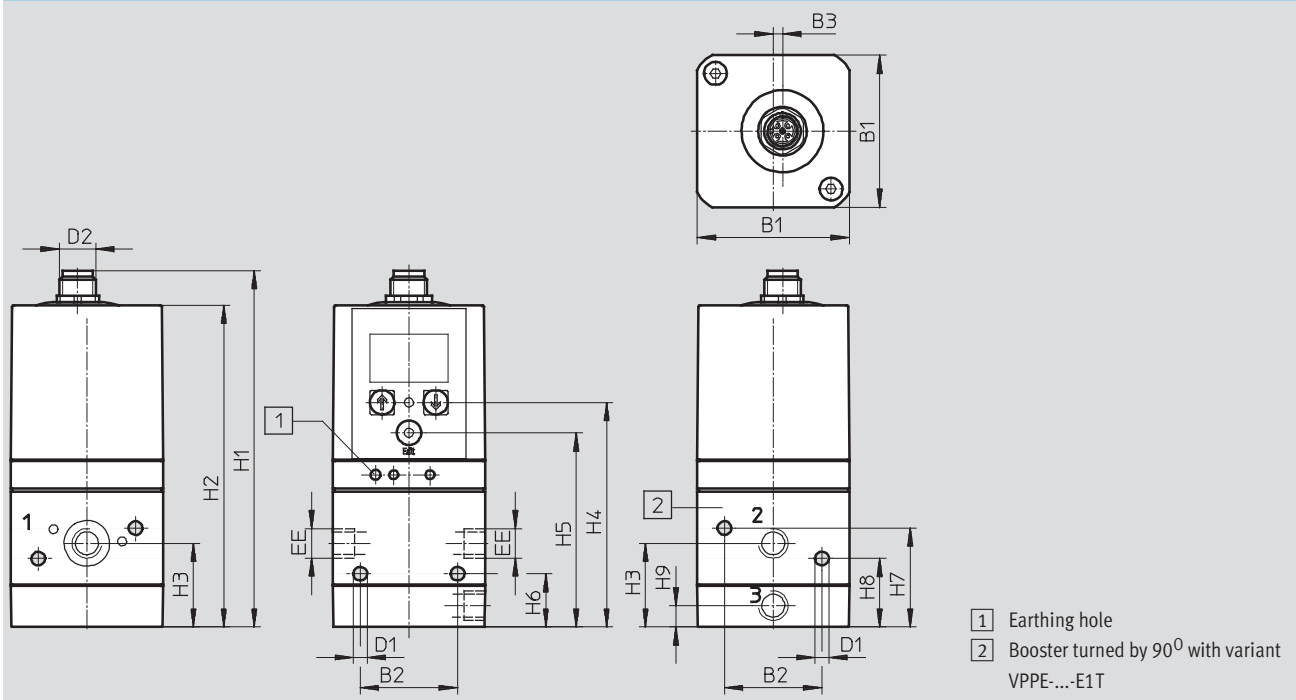
Proportional pressure regulators VPPE with display

Technical data

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

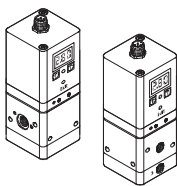




Type	B1	B2	B3	Ø D1	D2	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9
VPPE-3-1/8- ... E1 ...	50	32	3.1	4.5	M12x1	G1/8	117.2	105.8	27.5	73.8	63.8	17.5	32.5	22.5	7

Proportional pressure regulators VPPE with display

FESTO

Ordering data

Ordering data				
	Description	Part No.	Type	
Proportional pressure regulator VPPE with display				
	Voltage type 0 ... 10 V			
	Pressure regulation range 0.02 ... 2 bar	557771	VPPE-3-1-1/8-2-010-E1	
		557777	VPPE-3-1-1/8-2-010-E1T	
	Pressure regulation range 0.06 ... 6 bar	557772	VPPE-3-1-1/8-6-010-E1	
		567539	VPPE-3-1-1/8-6-010-E1T	
	Pressure regulation range 0.1 ... 10 bar	557773	VPPE-3-1-1/8-10-010-E1	
		557778	VPPE-3-1-1/8-10-010-E1T	
	Current type 4 ... 20 mA			
	Pressure regulation range 0.02 ... 2 bar	557774	VPPE-3-1-1/8-2-420-E1	
		557779	VPPE-3-1-1/8-2-420-E1T	
	Pressure regulation range 0.06 ... 6 bar	557775	VPPE-3-1-1/8-6-420-E1	
		567540	VPPE-3-1-1/8-6-420-E1T	
	Pressure regulation range 0.1 ... 10 bar	557776	VPPE-3-1-1/8-10-420-E1	
		557780	VPPE-3-1-1/8-10-420-E1T	
Connecting cable				
	<ul style="list-style-type: none">Straight socket, M12x1, 5-pinOpen end, 5-wire	2.5 m	175715	SIM-M12-5GD-2,5-PU
		5 m	175716	SIM-M12-5GD-5-PU
Setpoint module				
	Setpoint module for generating 6 + 1 analogue voltage signals	546224	MPZ-1-24DC-SGH-6-SW	

Mounting rail for proportional pressure regulators VPPE

FESTO

Technical data

General

Design

Some selected types of the pressure regulator VPPE can be screwed to a mounting rail. This has the advantage that the mounting rail can be used to create a central compressed air supply.

The air can be fed into the mounting rail:

- at one end or
- at both ends through end plates,
- using an intermediate air supply module (in applications where an increased air rate is required).

The holes for the mounting rail must be drilled according to the assembly instructions. The pressure regulators VPPE are screwed to the mounting rail using the mounting plate. The end

plates are screwed to the left and right end faces of the mounting rail. See the assembly instructions for further information:

➔ Internet: vppe

Compressed air supply on the mounting rail

When using the mounting rail as a central compressed air supply, make sure that the required compressed air supply is guaranteed. Bear in mind

that an intermediate air supply module needs a valve position. The intermediate air supply module takes up one VPPE valve position.

Recommendation for compressed air supply

E.g. with tubing Ø 16 mm with simultaneous max. flow rate for all valves, the following applies: Compressed air supply – number of valves:

- At one end – max. 5 valves
- At both ends – max. 10 valves
- With intermediate air supply module – max. 5 valves per module

Note

- Intermediate air supply modules must always be centred on the mounting rail.
- Multiple intermediate air supply modules must be evenly distributed.

Note

Only the following types of proportional pressure regulators VPPE can be mounted on mounting rails using a mounting plate:

- Valve VPPE with LED display, VPPE-3-1/8-6-010
- Valve VPPE with display and top part rotated by 90° VPPE- ... -E1T

Further information on mounting proportional pressure regulators VPPE as well as intermediate air supply

modules on mounting rails can be found in the assembly instructions: ➔ Internet: vppe

Mounting plate (set) materials

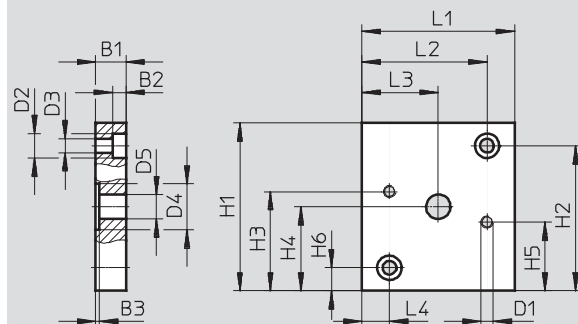
Plate	Wrought aluminium alloy
Seals	Nitrile rubber
Screws	Steel
Note on materials	RoHS-compliant
Corrosion resistance class	[CRC] 2 ¹⁾

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.

Dimensions – Mounting plate

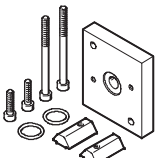

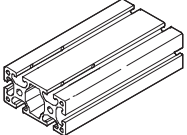


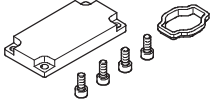

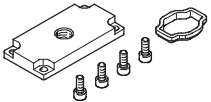



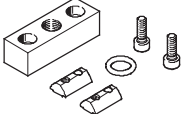


Download CAD Data ➔ www.festo.com/us/cad



Type	B1	B2	B3	D1	Ø D2	Ø D3	Ø D4	Ø D5	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
VAME-P5-MK	10	4.6	1.3	M4	8	4.5	15	8	55	47.5	32.5	27.5	22.5	7.5	50	41	25	9

Mounting rail for proportional pressure regulators VPPE

Ordering data

Ordering data			
	Description	Part No.	Type
Mounting plate set			
	Set, consisting of: <ul style="list-style-type: none"> • 1x mounting plate, weight: 110 g • 2x socket head screws M4X55 • 2x socket head screws M4X16 • 2x slot nuts • 2x O-rings 	570966	VAME-P5-MK 
Mounting rail			
	Made from aluminium, as central air supply, length: individually adaptable	191512	IPM-PN-08-40X80-AL 
	Made from aluminium, as central air supply, length: 3,000 mm	191513	IPM-PN-08-40X80-AL 
End plate set (closed)			
	For sealing the mounting rail, consisting of: <ul style="list-style-type: none"> • 1x plate • 1x seal • 4x socket head screws M5x12 	8021858	VABE-P5-C 
Compressed air supply plate set			
	With connecting thread G $\frac{1}{4}$, consisting of: <ul style="list-style-type: none"> • 1x plate with connecting thread G$\frac{1}{4}$ • 1x seal • 4x socket head screws M5x12 	8021859	VABF-P5-P3A3-G14 
	With connecting thread G $\frac{3}{8}$, consisting of: <ul style="list-style-type: none"> • 1x plate with connecting thread G$\frac{3}{8}$ • 1x seal • 4x socket head screws M5x12 	8021860	VABF-P5-P3A3-G38 
	With connecting thread G $\frac{1}{2}$, consisting of: <ul style="list-style-type: none"> • 1x plate with connecting thread G$\frac{1}{2}$ • 1x seal • 4x socket head screws M5x12 	8021861	VABF-P5-P3A3-G12 
Additional power supply module set			
	Connection G $\frac{1}{4}$, consisting of: <ul style="list-style-type: none"> • 1x plate with connecting thread G$\frac{1}{4}$ • 1x O-ring • 2x slot nuts • 2x socket head screws M6x20 	8021862	VABF-P5-P1A3-G14 
	Connection G $\frac{3}{8}$, consisting of: <ul style="list-style-type: none"> • 1x plate with connecting thread G$\frac{3}{8}$ • 1x O-ring • 2x slot nuts • 2x socket head screws M6x20 	8021863	VABF-P5-P1A3-G38 

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drives



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



© Copyright 2008, Festo Corporation. While every effort is made to ensure that all dimensions and specifications are correct, Festo cannot guarantee that publications are completely free of any error, in particular typing or printing errors. Accordingly, Festo cannot be held responsible for the same. For Liability and Warranty conditions, refer to our "Terms and Conditions of Sale", available from your local Festo office. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of Festo. All technical data subject to change according to technical update.



Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,

Call: 1.800.99.FESTO (1.800.993.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: customer.service@us.festo.com

For technical support,

Call: 1.866.GO.FESTO (1.866.463.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: product.support@us.festo.com

Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)

Fax: 1.877.FX.FESTO (1.877.393.3786)

Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton

North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York

395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States



USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: info@festo-usa.com

www.festo.com/us

Canada



Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: festo.canada@ca.festo.com

www.festo.ca

Mexico



Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,
54020 Tlalnepantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: festo.mexico@mx.festo.com

www.festo.com/mx

Central USA

Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480



Western USA

Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286



Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark
Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan Latvia
Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore
Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

www.festo.com