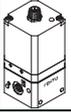
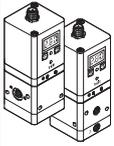


Proportional pressure regulators VPPE/VPPE with display



Proportional pressure regulators VPPE/VPPE with display

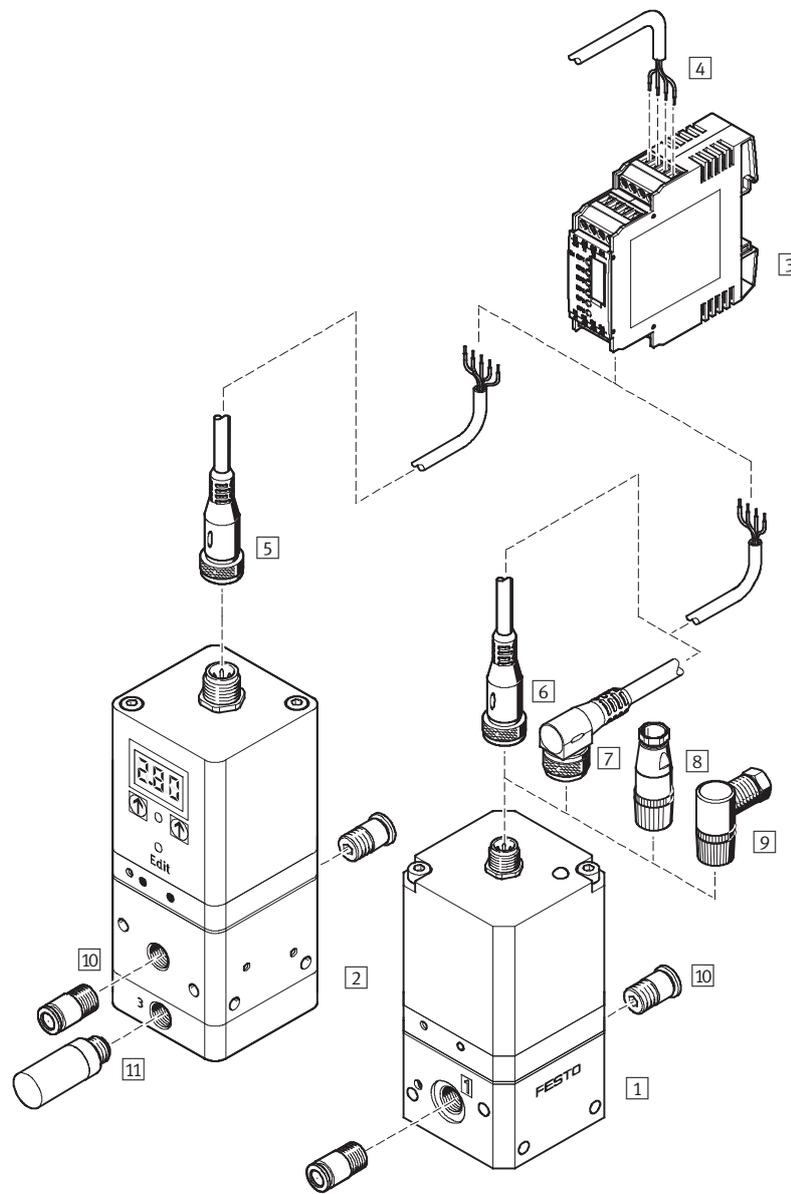
Product range overview

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

FESTO



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

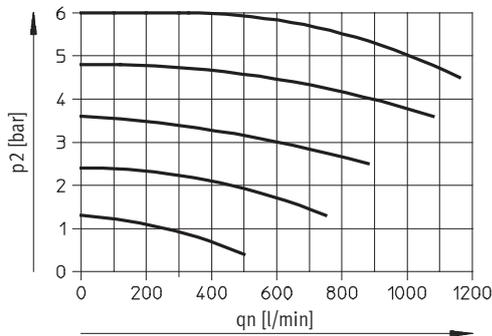
-  - Flow rate
1,000 l/min
-  - Voltage
21.6 ... 26.4 V DC
-  - Pressure regulation range
0.15 ... 6 bar

- 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

Technical data

FESTO

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

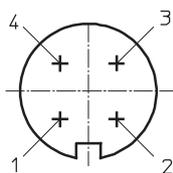
Information on materials	
Housing	Wrought aluminium alloy
Seals	NBR

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	G3/8	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
G3/8	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

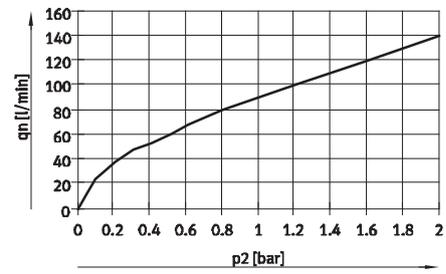
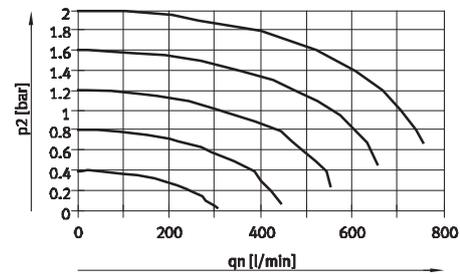
-  Flow rate
310 ... 1,250 l/min
 -  Voltage
21.6 ... 26.4 V DC
 -  Pressure regulation range
0.02 ... 2 bar
0.06 ... 6 bar
0.1 ... 10 bar
- Variants
- Setpoint input as analogue voltage signal 0 ... 10 V
 - Setpoint input as analogue current signal 4 ... 20 mA
 - Assembly as in-line valve or on common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



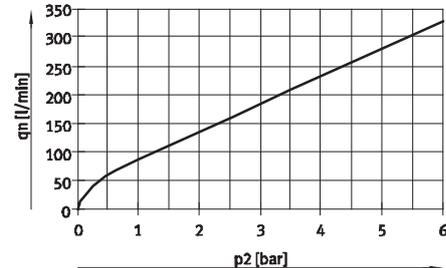
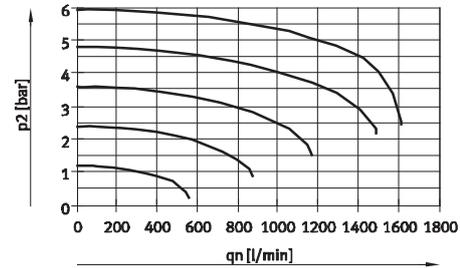
General technical data			
Pneumatic connection 1 and 2			G $\frac{1}{8}$
Design and valve function			Pilot actuated 3-way proportional pressure regulator
Sealing principle			Soft
Actuation type			Electrical
Reset method			Mechanical spring
Type of control			Pilot actuated via 2/2-way valves
Type of mounting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

Flow rate q_n as a function of output pressure p_2

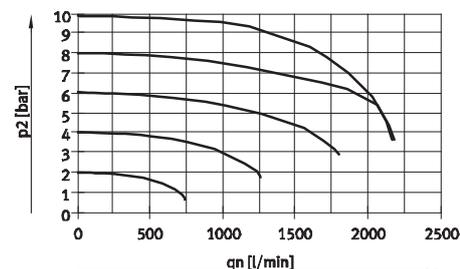
VPPE-3-1-1/8-2- ... $q_n 1 \rightarrow 2$ $q_n 2 \rightarrow 3$



VPPE-3-1-1/8-6- ... $q_n 1 \rightarrow 2$ $q_n 2 \rightarrow 3$



VPPE-3-1-1/8-10- ... $q_n 1 \rightarrow 2$ $q_n 2 \rightarrow 3$



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

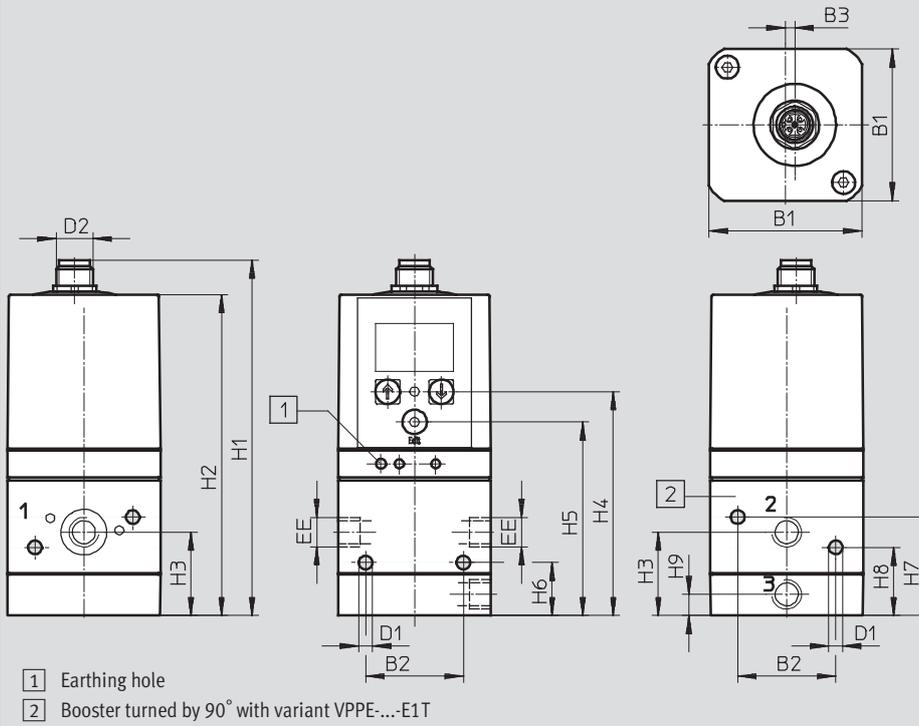
Proportional pressure regulators VPPE with display

Technical data

FESTO

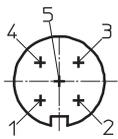
Dimensions

Download CAD data → www.festo.com



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

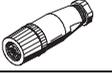
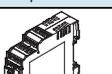


- 1 Power supply
21.6 ... 26.4 V DC
- 2 Setpoint (-)
- 3 GND (-)
- 4 Setpoint (+) 0 ... 10 V DC/
4 ... 20 mA
- 5 Actual value output or switching output (can be chosen via the control panel)

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

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

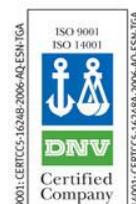
Supporting Advanced Automation... As No One Else Can!

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 Tlalneantla, 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