

Series PRE proportional pressure regulator with CoilVision technology

Two sizes available: PRE1 and PRE2
Ports G1/4 - G3/8 - 1/4NPTF

COILVISION TECHNOLOGY



The Series PRE proportional pressure regulator is equipped with a new technology, CoilVision, which constantly monitors the operation of the solenoids in the regulator to assess their health status.

All data generated by the regulator can be transmitted wirelessly, for logging, aggregation and analysis and can be viewed through the UVIX software, downloadable from the Camozzi Catalogue website.

The Series PRE is available in two sizes and in different configurations, including IO-Link connectivity. As well as the standard options with and without display, there is a version with an integral exhaust valve, which enables the system to exhaust even without a power supply.

A manifold version enables the control of several outlets with only one inlet, while a version with an additional external sensor connection enables pressure control at any point in the system.

- » "CoilVision technology" for diagnostics and health status analysis
- » Compatible with OXYGEN
- » Control parameters can be customised
- » Configuration flexibility
- » IO-Link version
- » Version with and without display
- » Manifold version
- » Version with integrated exhaust valve UL CSA certificate
- » 5 bit PreSet version for a maximum of 32 different pressures
- » Modular with Series MD

GENERAL DATA

Standard of reference	CE; Rosh; UL-CSA		
Controlled quantity	Pressure		
Number of ways	3		
Flow (Qn)	PRE104 - 1100 NI/min	PRE238 - 4600 NI/min	
Media	Filtered and non-lubricated compressed air of class 7.4.4 according to ISO 8573.1. Inert gases and oxygen		
Min & max regulated pressure (bar)	0 - 1 bar (0-14,5 PSI)(B) 0,03 - 4 bar (0,43-58 PSI) (E)	0,05 - 10,3 bar (0,72-150 PSI)(D) 0,05 - 7 bar (0,72-101,5 PSI) (G)	0,05 - 6 bar (0,72-87 PSI)(F)
Maximum inlet pressure	2 bar (B) 5 bar (E)	11 bar (D); (G) ed (F)	
External sensor (optional)	input signal 0-10 V DC or 4-20 mA		
Resolution (% FS)	0,3 (Size 1) 0,6 (Size 2)		
Fluid temperature (min and max °C)	0 - 50 °C		
Environmental temperature (min and max °C)	0 - 50 °C		
Pneumatic ports	G1/4 - G3/8 - 1/4NPTF		
Materials	body: aluminium - cover: technopolymer - seals: NBR or FKM		
Supply voltage (V)	24 V DC		
Command signal	0-10V (2); 4-20 mA (4); 5 bit Digital (D); IO-Link (I)		
Hysteresis (% FS)	0,5% (Size 1) 0.7% (Size 2)		
Power consumption	Max 0,5A (Envisage a power supply of at least 1A)		
Type of electrical connection	M12 5 Pin Male (IO-Link) M12 8 Pin Male (Analog and PreSet) M12 12 Pin Male (version with external sensor)		
IP protection class	IP65		
Repeatability (% FS)	0,4		
Linearity (% FS)	0,4		
Modularity	with Series MD		
PRE in IO-Link version	V1.1 according to standard IEC 61131-9 / 61131-2		
Feedback signal	0-5 V DC and 4-20 mA (always present in the version with analog command signal (2) (4))		

CODING EXAMPLE

PRE	1	04	-	D	D	5	I	2	E	-	00		
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PRE	SERIES
1	Size: 1 = Size 1 2 = Size 2
04	CONNECTION PORTS: 04 = G1/4 38 = G3/8 (only size 2) M4 = G1/4 Manifold 14 = NPTF 1/4 (only size 1) N4 = 1/4 NPTF Manifold
D	DISPLAY: E = without display D = with display
D	WORKING PRESSURE (1 bar = 14,5 psi): B = 0-1 bar E = 0-4 bar F = 0-6 bar (standard for OX1 version with internal servo pilot supply) G = 0-7 bar D = 0-10,3 bar 2 = external sensor 0-10 or 4-20 mA (only with command signal 2 or 4) The external sensor is not included with the regulator. It must be bought separately.
5	VALVE FUNCTIONS: 5 = 3 ways (standard) 6 = integrated exhaust valve (maximum working pressure B, E or G) 7 = 3 ways (connection 3 conveyable, optional for size 1, standard for size 2) 8 = integrated exhaust valve (connection 3 conveyable, optional for size 1, standard for size 2. Maximum working pressure B, E or G)
I	PILOT SUPPLY: I = Internal E = External
2	COMMAND SIGNAL: 2 = 0-10 V 4 = 4-20 mA D = 5 bit Preset for 32 different pressure values I = IO-Link
E	DIGITAL FEEDBACK SIGNAL: E = error signal (only with command signal 2, 4, D) P = pressure switch (only with command signal 2, 4, D) W = window (only with command signal 2, 4, D) N = no digital output (only with IO-Link version)
00	CABLE LENGTH: 00 = no cable 2F = 2 mt straight 2R = 2 mt 90° 5F = 5 mt straight 5R = 5 mt 90° 2FC = 2 mt straight shielded 2RC = 2 mt 90° shielded 5FC = 5 mt straight shielded 5RC = 5 mt 90° shielded
	ACCESSORY DIAGNOSTICS: = without diagnostics (only with command signal 2, 4, D) 0D = with Basic diagnostics (only with command signal 2, 4, D) 0W = Wireless connection (only with command signal 2, 4, D) DW = Wireless connection+ CoilVision diagnostics (only with command signal 2, 4, D) 1D = IO-Link + CoilVision diagnostics (only with IO-Link version)
	CERTIFICATIONS: = no certification OX1 = compatible with oxygen

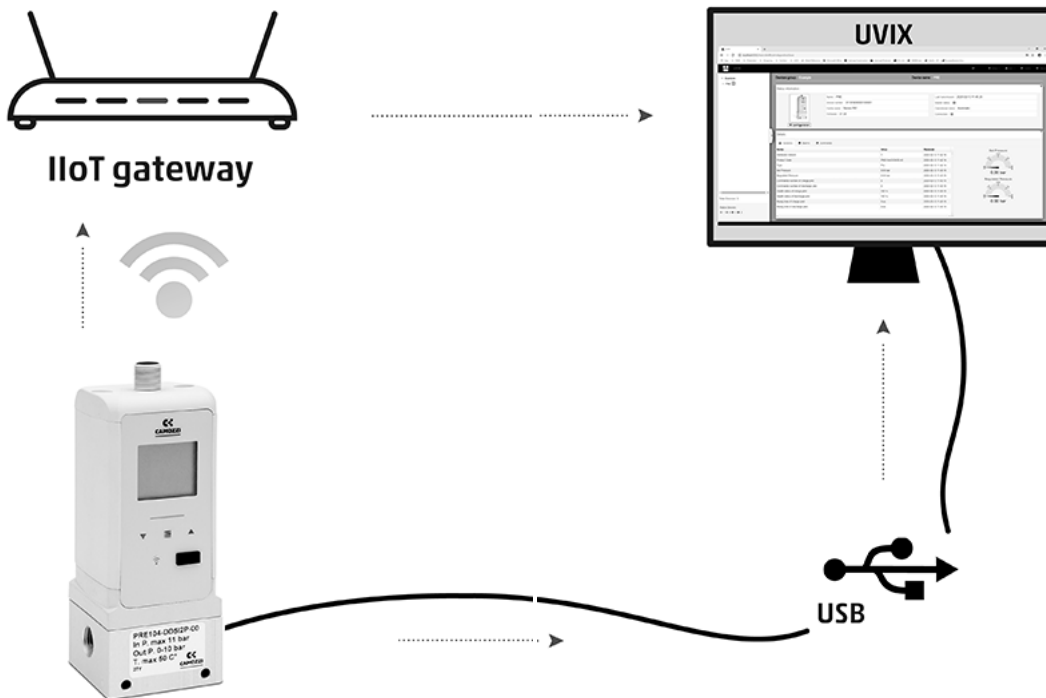
SERIES PRE - COILVISION DIAGNOSTICS



SERIES PRE - PROPORTIONAL REGULATORS

The CoilVision function, (optional in the Series PRE proportional regulators), has the aim to constantly monitor the operation of the individual solenoids in the regulator, this is possible thanks to specific electronics and algorithms patented by Camozzi.

This option allows to monitor the health and operating status of the pilot solenoids, indicating any discrepancies compared to the ideal operating conditions. The information obtained allows the user to plan, in advance, any interventions on the most essential devices.

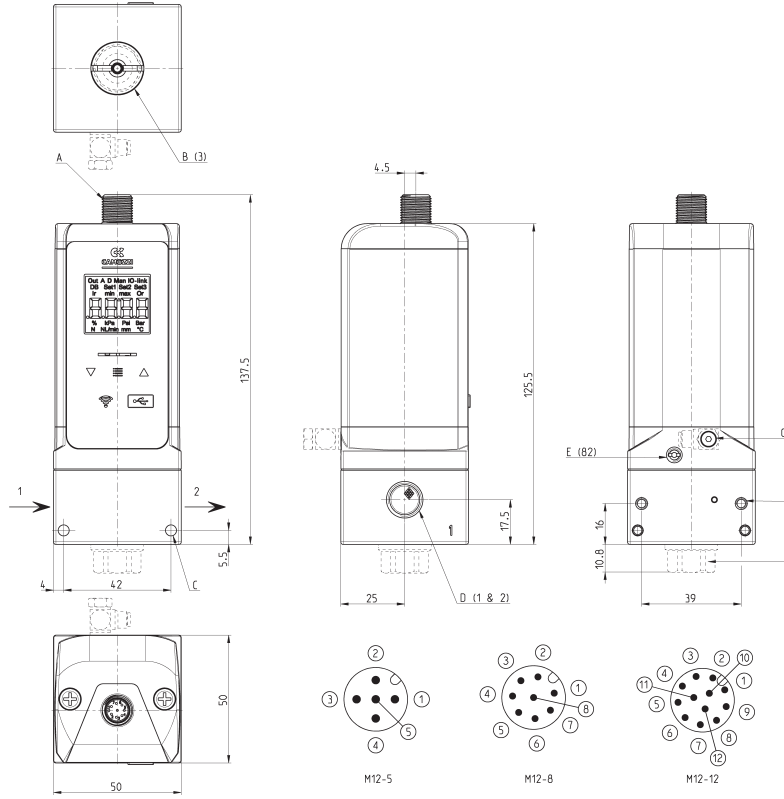


Through this function, you also have control over the internal temperature and the actual working hours of the regulator. All these indications can be read by the "UVIX" supervisor software, that can be downloaded free of charge from the Camozzi website in the products section.

Thanks to UVIX, data can be read via USB port or via wireless connection, where present. Devices equipped with an IO-Link connection can also make the data available to the PLC through the IO-Link master.

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1

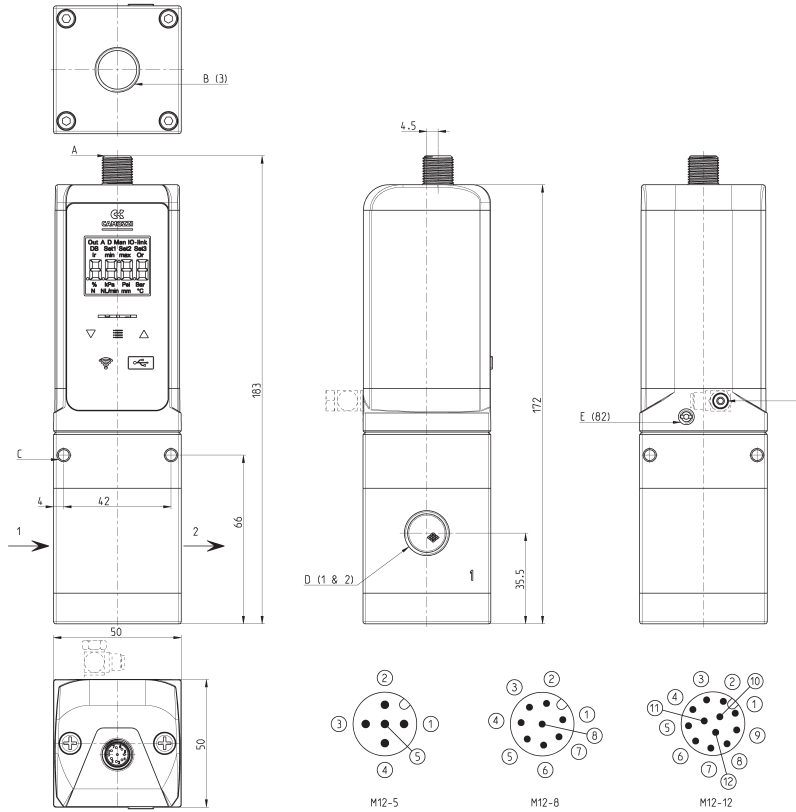
SERIES PRE PROPORTIONAL REGULATORS



Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 1	Electrical connection M12	Regulator exhaust	Fixing holes $\varnothing 4,3$	Port 1/4 or NPTF)	(GAS Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male) for I/O Link version	M12 - 8 (pin male) for analog version	M12 - 12 (pin male) for version with external sensor connection
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DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2



SERIES PRE PROPORTIONAL REGULATORS

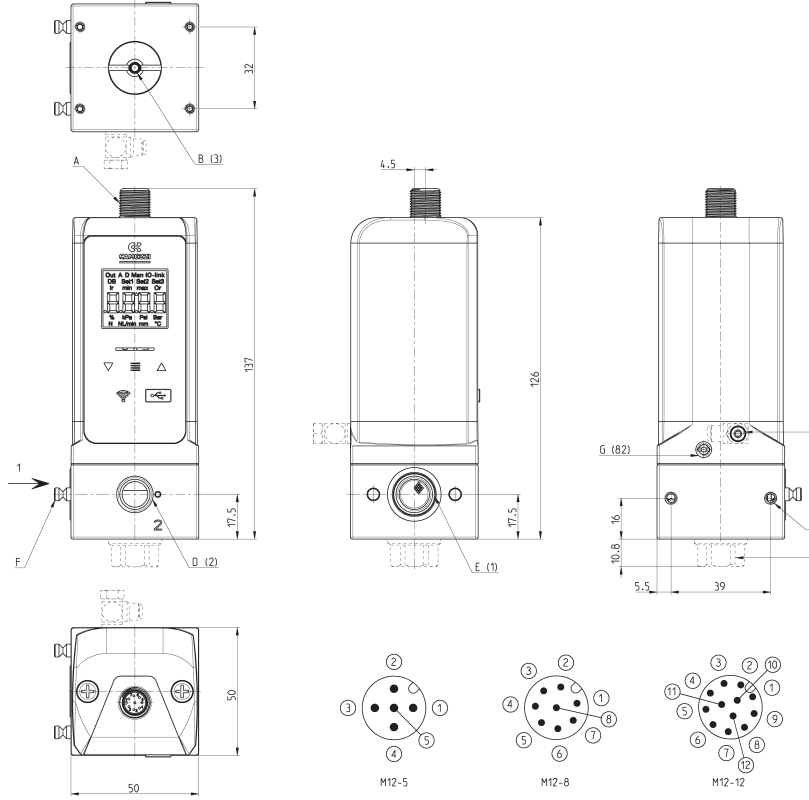
Mod.	A	B (3)	C	D (1 & 2)	E (82)	F
PRE 2	Electrical Connection M12	Regulator exhaust G3/8	Fixing holes Ø4,3	Ports G 3/8 or G 1/4	Exhaust of pilot solenoids M5	External servo-pilot M5

M12 - 5 (pin male)
for I/O Link version

M12 - 8 (pin male)
for analog version

M12 - 12 (pin male)
for version with external sensor connection

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1 MANIFOLD



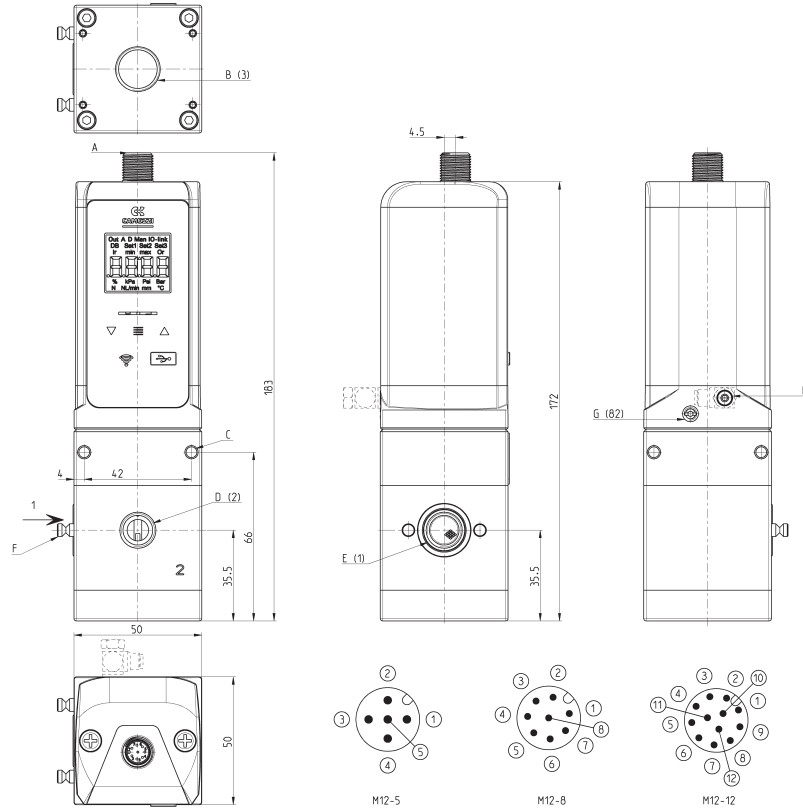
Mod.	A	B (3)	C	D (2)	E (1)	F	G (82)	H
PRE 1	Electrical connection M12	Regulator exhaust G3/8	Fixing holes Ø4.3	Outlet G 1/4	Ports G 1/4	Connection pin	Exhaust of pilot solenoids M5	External servo-pilot M5

M12 - 5 (pin male)
for I/O Link version

M12 - 8 (pin male)
for analog version

M12 - 12 (pin male)
for version with external sensor connection

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2 MANIFOLD



SERIES PRE PROPORTIONAL REGULATORS

Mod.	A	B (3)	C	D (2)	E (1)	F	G (82)	H	I
PRE 2	Electrical Connection M12	Regulator exhaust	Fixing holes M3	Outlet 1/4 (GAS or NPTF)	Ports 1/4 (GAS or NPTF)	Connection pin	Exhaust of pilot solenoids M5	External servo-pilot M5	Valve function (7 - 8) G 1/4

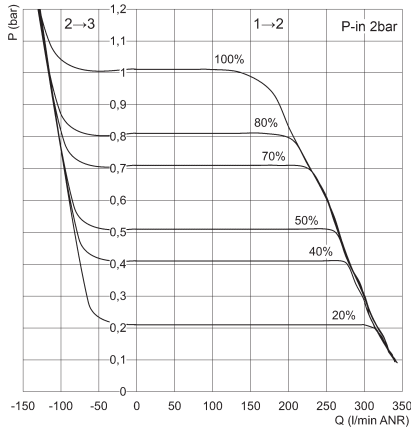
M12 - 5 (pin male)
for I/O Link version

M12 - 8 (pin male)
for analog version

M12 - 12 (pin male)
for version with external sensor connection

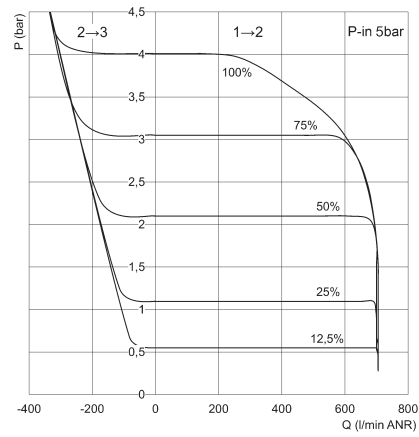
FLOW CHARTS SIZE 1 - Standard version (1/4G)

Working pressure 1 bar



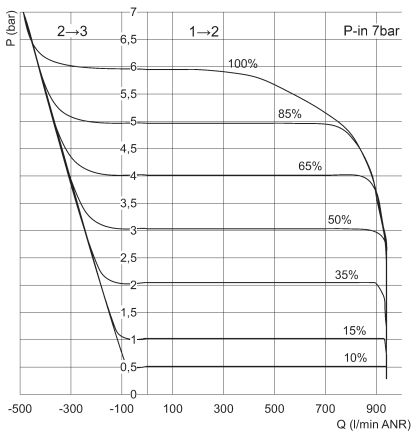
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



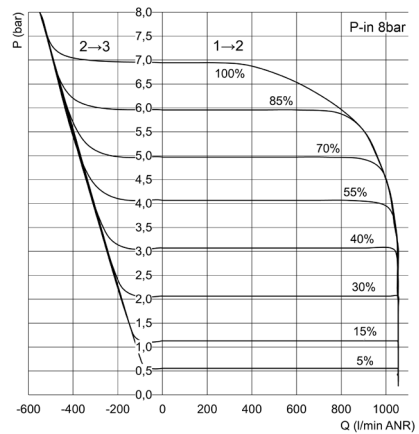
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



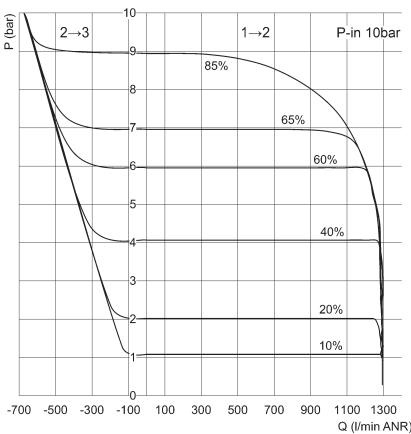
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

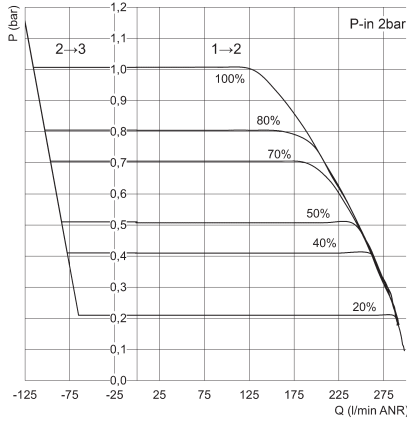
Working pressure 10.3 bar



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

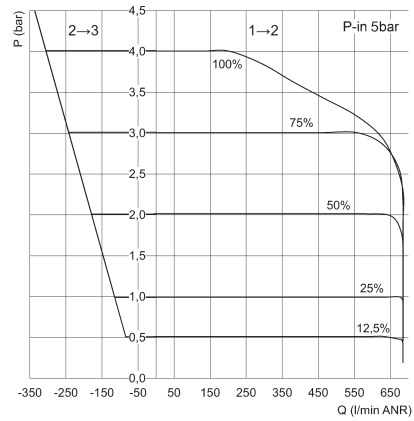
FLOW CHARTS SIZE 1 - Manifold version (1/4G)

Working pressure 1 bar



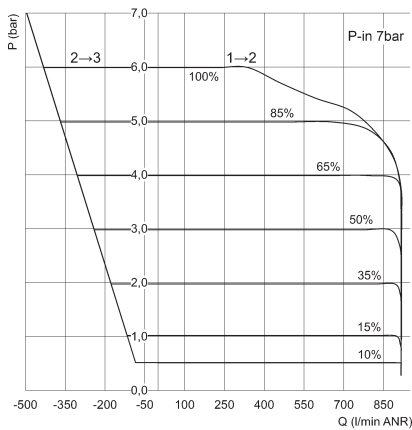
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 4 bar



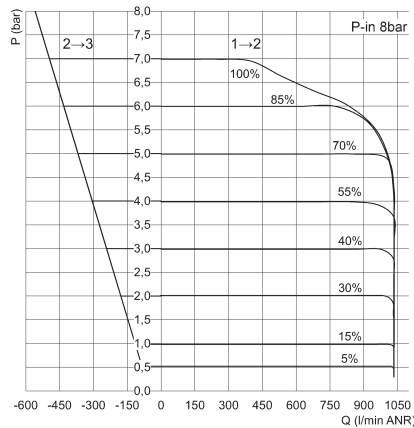
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 6 bar



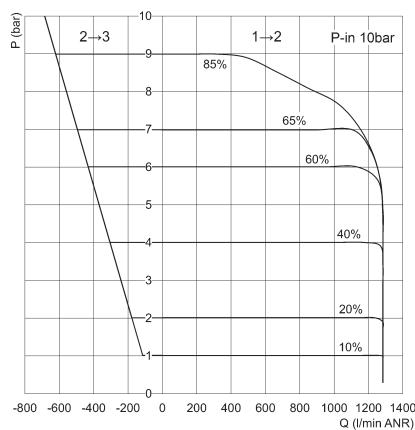
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 7 bar



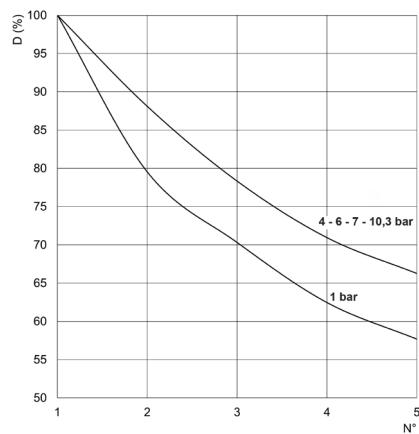
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 10.3 bar



P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

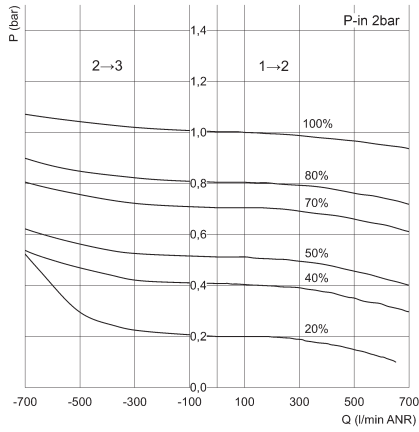
DECAY FACTOR FOR MANIFOLD REGULATORS SIZE 1



N° = number of regulators in manifold configuration
 D(%) = relative percentage decay of the maximum flow rate
 Note: the air inlet is only from one side, in case it should be on the right and on the left, only consider the positions as from 1 ÷ 3.

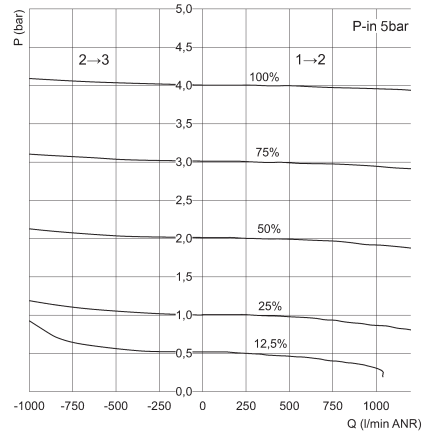
FLOW CHARTS SIZE 2 - Standard version (1/4G)

Working pressure 1 bar



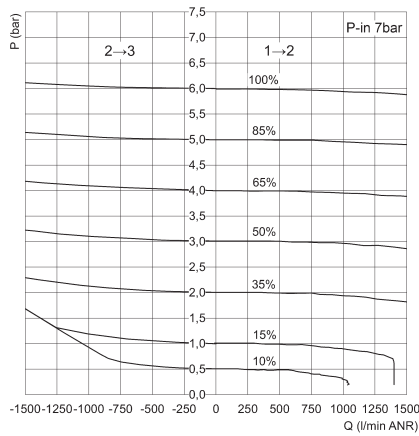
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



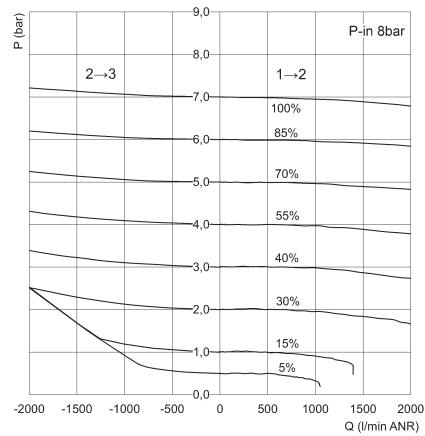
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



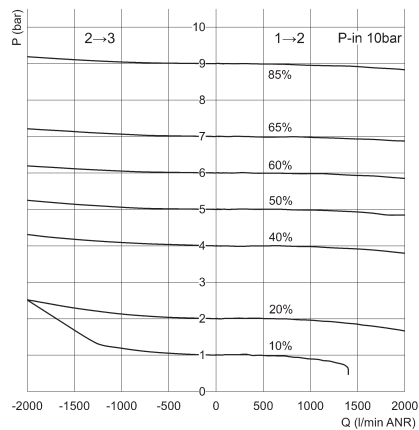
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 10.3 bar

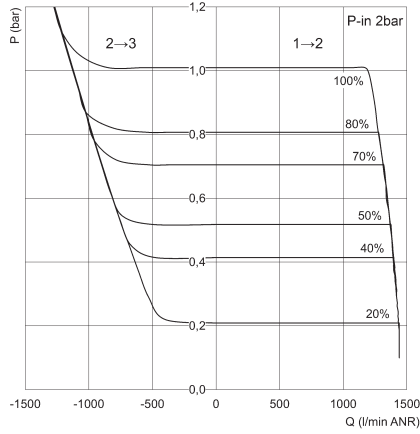


P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

SERIES PRE PROPORTIONAL REGULATORS

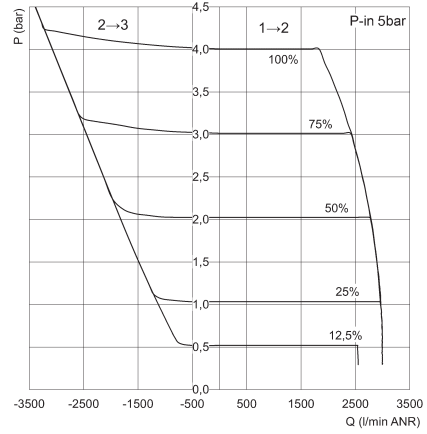
FLOW CHARTS SIZE 2 - Standard version (3/8G)

Working pressure 1 bar



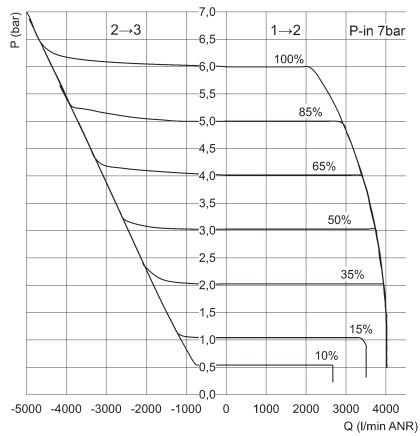
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 4 bar



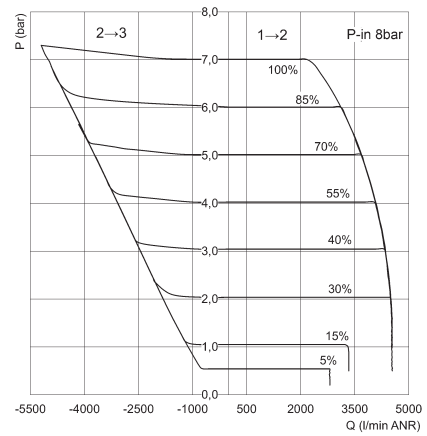
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 6 bar



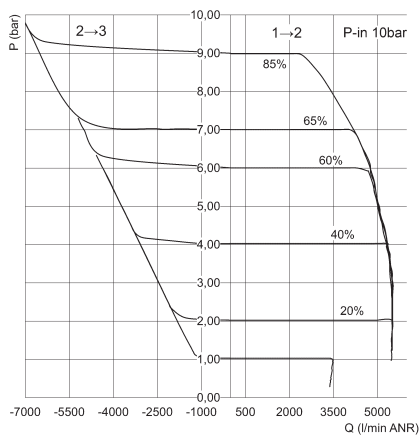
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 7 bar



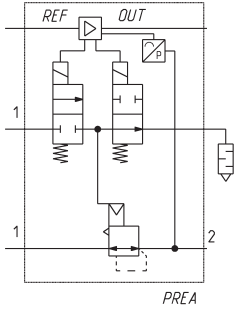
P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

Working pressure 10.3 bar

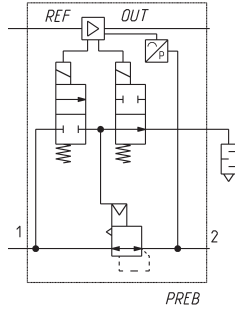


P = Regulated outlet pressure and exhaust pressure
 Q = Flow
 % = Percentage of the command signal

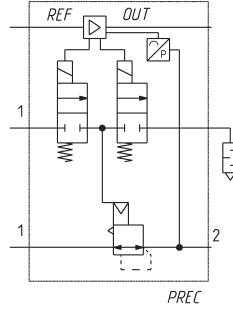
PNEUMATIC SYMBOLS



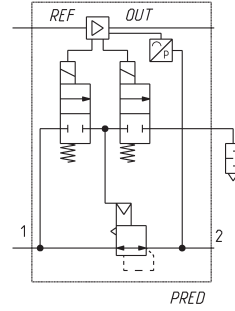
Version with integrated exhaust valve and external servo-pilot supply



Version with integrated exhaust valve and internal servo-pilot supply



3 ways N.C. version with external servo-pilot supply

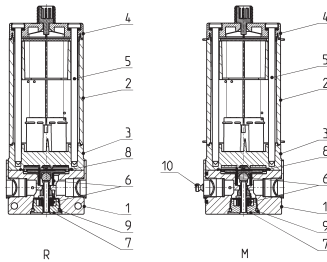


3 ways N.C. version with internal servo-pilot supply

SERIES PRE PROPORTIONAL REGULATORS

SIZE 1 - MATERIALS

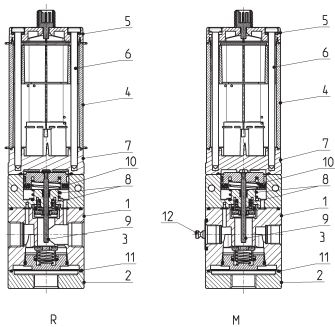
R = Proportional regulator
M = Proportional regulator - manifold version



PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = body	Anodised aluminium	Anodised aluminium
2 = cover	PA6 CM 30%	PA6 CM 30%
3 = valve body	PARA GF50%	PARA GF50%
4 = cap	PA6 CM 30%	PA6 CM 30%
5 = screws	stainless steel	stainless steel
6 = springs	stainless steel	stainless steel
7 = plug	nickel-plated brass	nickel-plated brass
8 = diaphragm	NBR	FKM
9 = seals and O-Ring	NBR	FKM
10 = pin for manifold version stainless steel only for manifold version stainless steel only for manifold version		

SIZE 2 - MATERIALS

R = Proportional regulator
M = Proportional regulator - manifold version

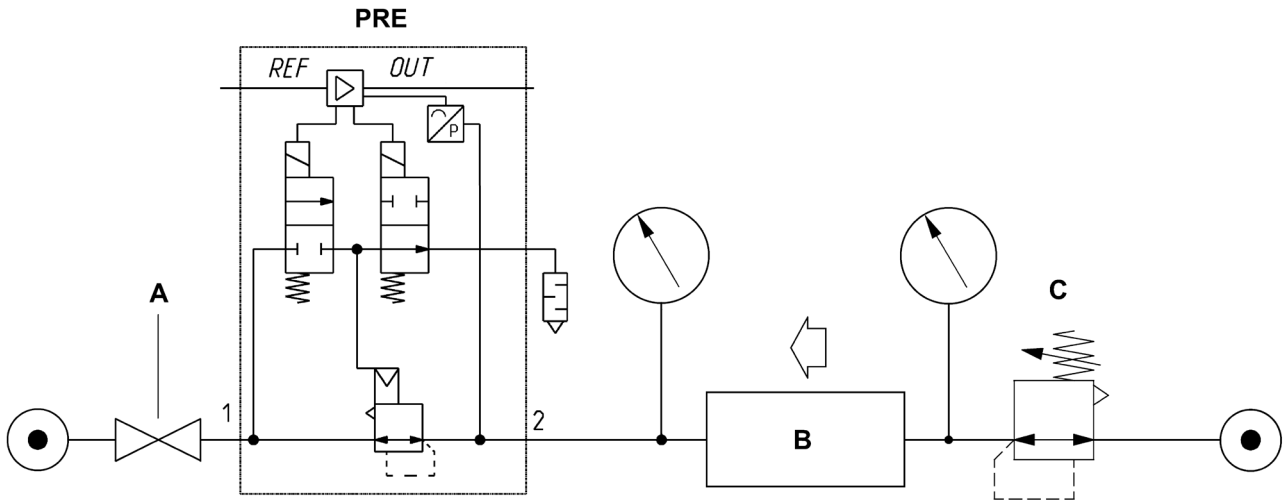


PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = body	Anodised aluminium	Anodised aluminium
2 = end cover	Anodised aluminium	Anodised aluminium
3 = plug	brass	brass
4 = cover	PA6 CM 30%	PA6 CM 30%
5 = cap	PA6 CM 30%	PA6 CM 30%
6 = screws	stainless steel	stainless steel
7 = valve body	PARA GF50%	PARA GF50%
8 = springs	stainless steel	stainless steel
9 = piston rod	stainless steel	stainless steel
10 = piston seal	NBR	NBR
11 = seals and O-Ring	NBR	FKM
12 = pin for manifold version stainless steel only for manifold version stainless steel only for manifold version		

MEASURING THE EXHAUST FLOW RATE OF SERIES PRE REGULATOR

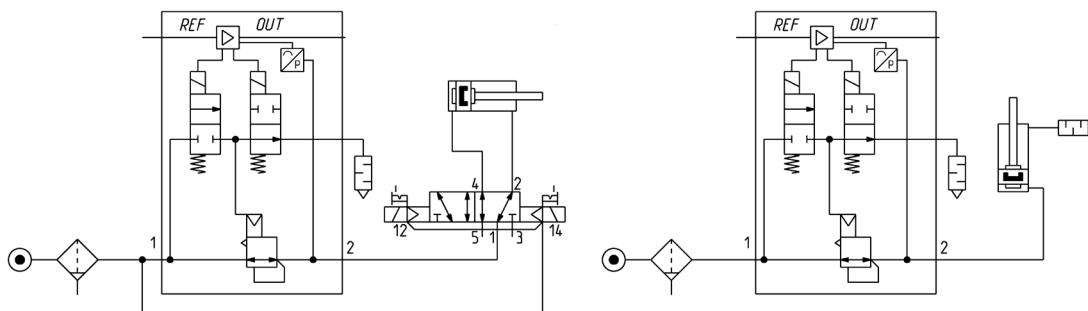
Measuring the exhaust flow rate: inlet pressure 9 bar, outlet pressure 4 bar. With the pressure regulator opposite the PRE (C), connected as shown in the diagram, the pressure rises progressively from a minimum value of 4 bar and with the flowmeter (B) the exhaust flow rate is measured from the exhaust port.

- A = Ball valve
- B = Flowmeter
- C = Back pressure regulator



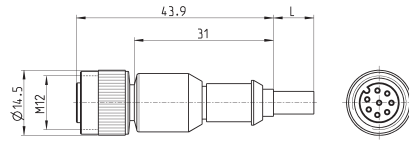
PNEUMATIC DIAGRAM FOR INSTALLATION

PRE version with integrated exhaust valve. We suggest to make a pneumatic diagram in order to create a pneumatic circuit that allows to discharge the regulated pressure in absence of power supply.



Cable with M12 8 pin straight connector, female

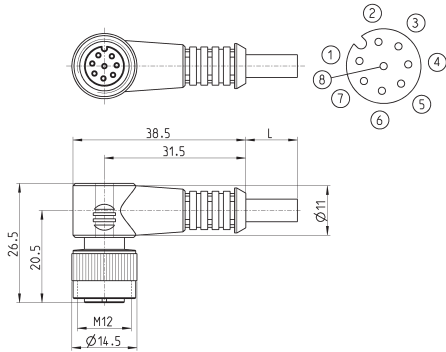
For power supply, analog command signal and PreSet



Mod.	Cable length (m)	
CS-LF08HB-H200	2	Unshielded
CS-LF08HB-H500	5	Unshielded
CS-LF08HC-G200	2	Shielded
CS-LF08HC-G500	5	Shielded

Cable with M12 8 pin connector, 90°, female

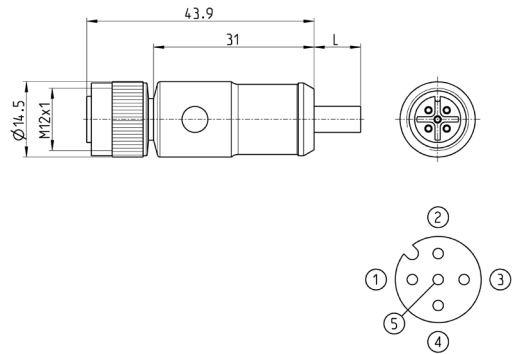
For power supply, analog command signal and PreSet



Mod.	Cable length (m)	
CS-LR08HB-H200	2	Unshielded
CS-LR08HB-H500	5	Unshielded
CS-LR08HC-G200	2	Shielded
CS-LR08HC-G500	5	Shielded

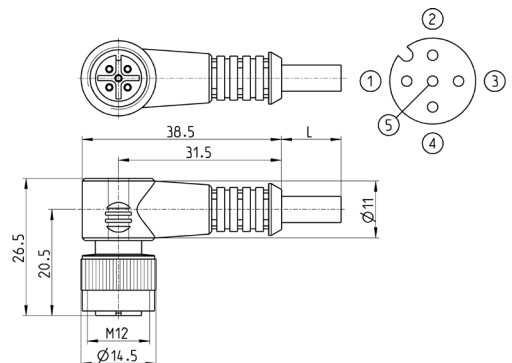
Cable with M12 5 pin connector, 90°, female, not shielded

For power supply and IO-Link command signal



Mod.	Cable length (m)
CS-LF05HB-D200	2
CS-LF05HB-D500	5

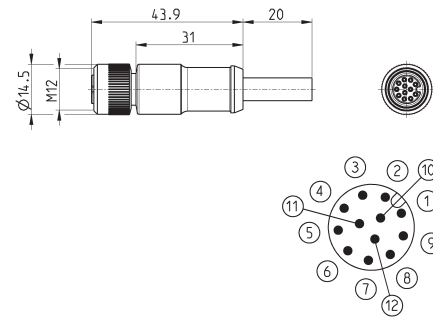
Cable with M12 5 pin connector straight, female, not shielded



Mod.	Cable length (m)
CS-LR05HB-D200	2
CS-LR05HB-D500	5

Cable with M12, 12 pin connector, straight, female, not shielded

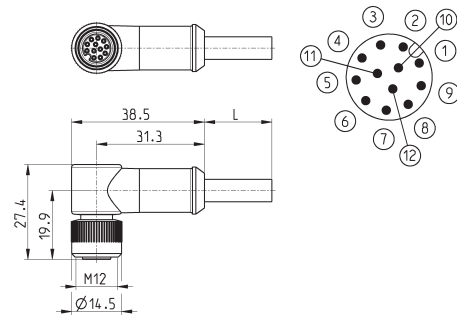
For power supply and analog command signal with external sensor



Mod.	Cable length (m)
CS-LF12HC-D200	2
CS-LF12HC-D500	5

Cable with M12 12 pin connector, 90°, female, not shielded

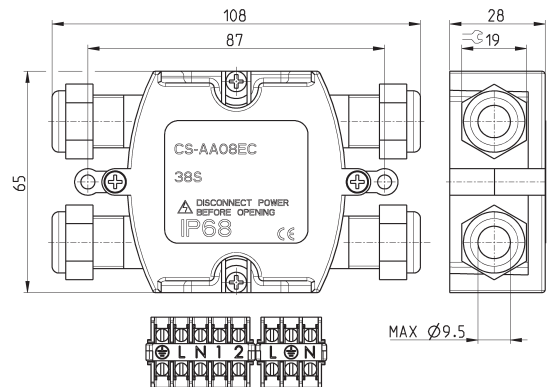
For electric supply and commands



Mod.	Cable length (m)
CS-LR12HC-D200	2
CS-LR12HC-D500	5

Electrical tee box Mod. CS-AA08EC

To connect the external transducer, power supply and command signal



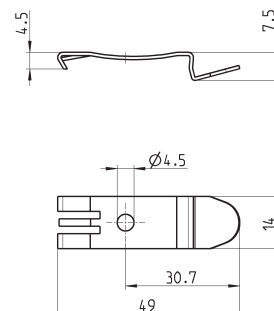
CS-AA08EC

Mounting brackets for DIN-rail Mod. PCF-EN531

DIN EN 50022 (7,5mm x 35mm - width 1)



Supplied with:
2x mounting brackets
2x screws M4x6 UNI 5931
2x nuts

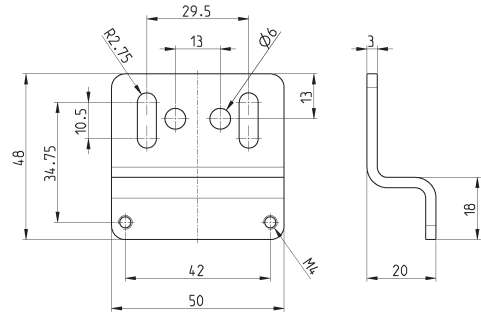


Mod.
PCF-EN531

Rear bracket Mod. PRE-ST



The kit includes
1x zinc-plated bracket
2x M4x55 white zinc-plated screws

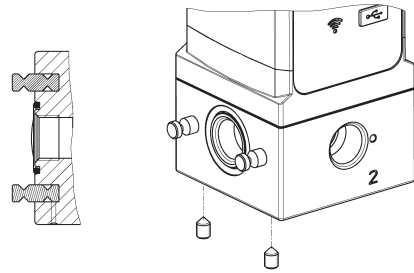


PRE-ST

Fixing kit for manifold version: PRE-M-PIN-1-2



The kit includes:
2x shaped steel pins
4x steel grub screws
1x O-Ring

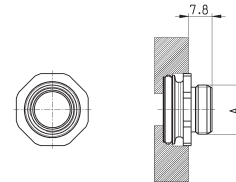


PRE-M-PIN-1-2

Fixing kit for Series MD: PRE

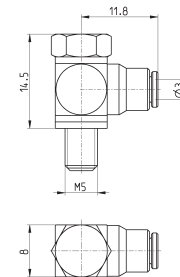


The kit includes:
1x bushing
1x O-Ring
2x special Ø4.5x34 white zinc-plated screws



DIMENSIONS	
Mod.	A
PRE-1/4-C	G1/4
PRE-3/8-C	G3/8

Fittings for external pilot supply



6625 3-M5