CATALOGUE

CAMOZZI
Automation

FLUID CONTROL
SOLUTIONS FOR INDUSTRIAL AND LIFE SCIENCE APPLICATIONS

WELCOME TO THE WORLD OF CAMOZZI

For more than 50 years Camozzi Automation is leader in the design and production of motion and fluid control components, systems and technologies for Industrial Automation, Transportation and Life Science industries.

Introduction

1 Solenoid valves and valves for fluids

2 Proportional technology

3 Treatment and fluid control

3 Pneumatic connection

CAMOZZI, COMPANY PROFILE

Camozzi Automation is one of the world's leading suppliers of advanced **pneumatic components** and systems for industrial automation with a network of subsidiaries and distributors serving more than 70 countries spanning the world. Our offering includes motion and fluid (both liquids and gases) control components, systems and technologies for any application sector.

Our mission is to accompany you in the development of innovative, efficient and **high added value** solutions that can positively impact the future of the environment and people.
We do this through our components, designed to allow you to better face future technological challenges.
In a highly competitive context like today's, it is of essential importance to be able to distinguish yourself from others by also offering **processes, skills, technologies and services** to support the product. Our goal is to work closely with our customers, establishing a **long-term relationship** to accompany them towards the future.

SOLUTIONS FOR INDUSTRIAL AND LIFE SCIENCE APPLICATIONS

CAMOZZI
Automation

The science of **fluid control** encompasses various technologies, application sectors and industries. Regardless of the sector involved, it is essential to understand the physical properties of the liquid or gas in order to correctly control its **flow and pressure**.

Our engineers dealing with fluid control applications are able to **offer highly engineered** and specialised components and solutions for the main industrial sectors as well as for more delicate applications in the medical and analytical fields.

Our **range of Camozzi products** includes both single components, such as valves and solenoid valves, proportional valves, servo-valves, pressure and flow regulators, fittings and components for air treatment, as well as complete **customised systems**.

FLUID CONTROL

Industrial Automation

Life Science

Manufacturing industry

Processsing industry

Analytical Instruments

Medical Devices

INDUSTRIAL AUTOMATION

In industrial systems and machines, solutions for **motion and fluid control** often coexist. Industrial manufacturing sectors such as the food & beverage, textile, printing or process, oil & gas, energy or chemical industry require components that **reliably and safely** control gases and liquids of different kinds, from air or water, to substances that can be flammable, oxidizing or harmful to human health.

Our solutions, in particular solenoid valves, fittings, flow and pressure regulators, **meet the main needs of all industrial sectors** in terms of reliability, flow rate and compatibility with liquids and gases.

Applications:

- Cleaning machines and equipment
- Sterilisation
- Textile
- Packaging and printing
- Injection and plastics
- Food & Beverage
- Renewable energy and machinery
- Machine tools
- Waste and paint processes
- Air-conditioning, heating and cooling
- Humidification
- Water treatment and control
- Peripherical processes for food and pharmaceutical industries
- Sanitary appliances
- Biogas and fuel cells
- Chemical and petrochemical equipment
- Water purification and osmosis
- Filling and PET processes

LIFE SCIENCE

The **life science sector** includes technologies and devices useful to diagnose, monitor, evaluate and cure patients with a wide variety of **symptoms and diseases**.
Our components **meet the main industry requirements** in terms of compatibility with fluids, energy efficiency, miniaturisation and standards for **total safety to guarantee people's health**.

Medical devices:

- Dental equipment
- Anaesthesia
- Ventilators
- Incubators
- Dialysis equipment
- Hospital sterilizers
- Vacuumtherapy
- Pressotherapy
- Ophtalmology
- Oxygentherapy
- Oxygen concentrators
- Pressure measurement
- Surgery equipment
- Dosing and dispensing
- Drug infusion equipment
- Emergency ventilators
- Oxy & medical gas control

Analytical instruments:

- Mass Spectrometry
- Gas Chromatography and Liquid Chromatography
- Biomedical Analysis
- Environmental Analysis
- Molecular Analysis • Genomics

STANDARD COMPONENTS

The solutions for the control of fluids (both liquids and gases) are characterised by a **modern and functional design** that allows to guarantee **high** and constant **performance** in any application field.

The wide range of products includes components to control pressure, flow and position.

- Valves and solenoid valves
- Proportional valves (flow and pressure)
- Air treatment and regulators
- Fittings

CUSTOMISED SOLUTIONS

Camozzi Automation proposes a broad range of **customised solutions** for the control of fluids (both liquids and gases) with the aim to help its partners to **improve the time to market** as well as the efficiency and reliability of their machines.

The components and special solutions may include the **engineering** of new products or the design of **customised manifolds** in which all necessary components are assembled in a single block to create the desired fluid solution. This enables to reduce overall dimensions, dead volumes, losses and assembly and test times.

The experience gained over the years allows us to accompany our partners **from the idea to the implementation of the solution**, respecting constraints, standards, technical requirements and project times.

CAMOZZI: TOTAL QUALITY OF PRODUCTS AND PROCESSES

In order to guarantee the **best quality** in all production phases, Camozzi Automation has created controlled atmosphere environments and an **ISO 7 cleanroom** for the assembly of products and solutions that require extreme cleanliness (elimination of all organic and/or inorganic contaminants).

Ultrasonic cleaning and inspection equipment that makes use of UV blacklight enables us to **supply components** that can be used with **aggressive liquids** as well as **highly flammable gases** like oxygen.

THE CAMOZZI CLEAN ROOM

In Camozzi all materials chosen for oxygen-enriched environments are carefully selected. Gaskets and non-metallic materials used for oxygen applications are designed to be compatible with oxygen.
No organic sealants, adhesives or lubricants are used in the manufacturing process.
An accurate level of cleanliness is guaranteed by qualified personnel and by rigorous cleaning procedures. Both organic and inorganic contaminants such as particulate matter and Hydrocarbon oils are removed by careful ultrasonic cleaning.
The process is periodically monitored through ASTM G93.

Valves, fittings, pressure regulators, manifolds and sub-bases can be supplied with two levels of cleanliness:

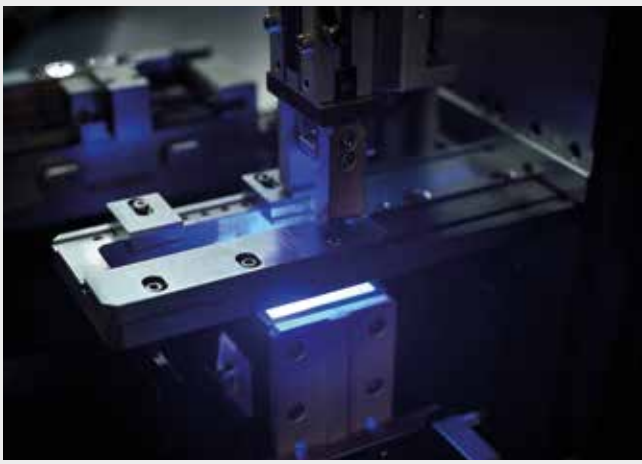
OX1

Non-volatile residue equal to or less than 550 mg/m²
Level OX1: ultrasonic cleaning of components, inspection with UV black light, lubrication (only if necessary for the product's operation) with a specific grease suitable to be used with oxygen.
Assembly, testing and packaging outside the clean room.

OX2

Non-volatile residue equal to or less than 33 mg/m²
Level OX2: ultrasonic cleaning of components, inspection with UV black light, lubrication (only if necessary for the product's operation) with a specific grease suitable to be used with oxygen.
Assembly, testing and packaging inside a clean room with ISO 7 classification according to ISO 14644-1.

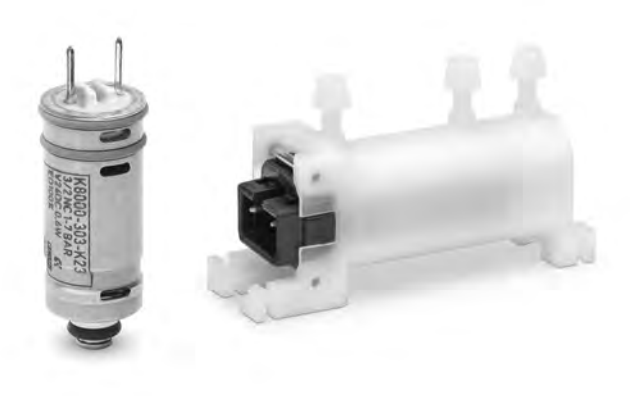
Class	Maximum number of particles/m^3			FED STD 209E
	≥ 0.5 µm	≥ 1 µm	≥ 5 µm	
ISO 7	352,000	83,200	2,930	Class 10,000



UV Black light provides evidence of eventual traces of hydrocarbons, grease or particulate.

Series K8 - K8X
directly operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Universal (UNI)



- Compact design
- High performances
- Manifold mounting
- Long life
- Version for use with oxygen available

The universal (UNI) version enables to mix two different gaseous fluids or to select the path of the gaseous fluid in the pneumatic circuit.

Thanks to their particular design these valves can be used in applications where very compact solutions are required as well as high performances.
Series K8 is used to control actuators or very small devices and it is suitable for portable equipments thanks to low power consumption, reduced weight and dimensions.

GENERAL DATA

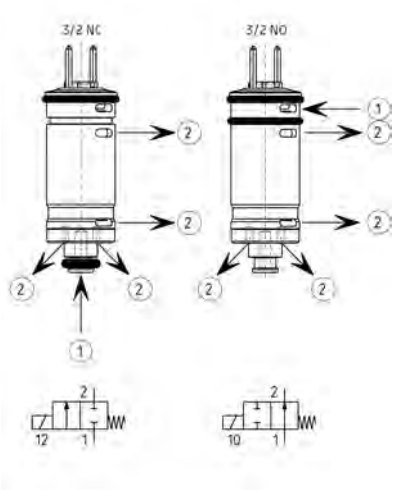
TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC - 2/2 NO - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	cartridge seat in manifold / barb fittings for tube 4/2 - 4/2.5 - 5/3 mm
Orifice diameter	0.5 ... 0.7 mm
Flow efficient kv (l/min)	0.08 ... 0.15
Operating pressure	-1 ÷ 3 ... 7 bar
Operating temperature	0 ÷ 50 °C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time (ISO 12238)	ON <10 ms – OFF <10 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	brass - stainless steel - PBT
Seals	FKM
Internal parts	stainless steel - enamelled copper
ELECTRICAL FEATURES	
Voltage	3 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 pins 0.5 x 0.5 pitch 4 mm - JST connector with 300 mm flying leads
Protection class	IP00
Special versions available on demand	

CODING EXAMPLE

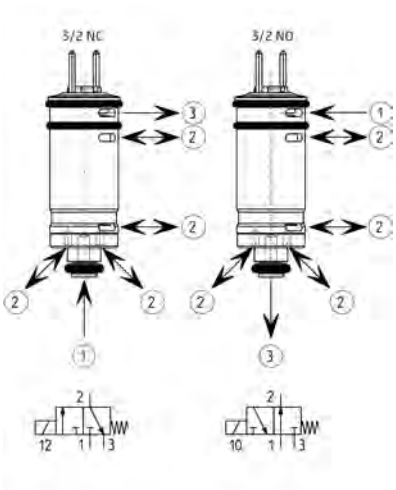
K8	0	00	-	3	0	3	-	K	2	3	

K8	SERIES
0	VALVE VERSION 0 = cartridge valve X = cartridge valve with PBT body
00	BODY DESIGN 00 = cartridge valve without body 1A = valve with PBT body and barb fittings for tube Ø 4/2 mm 1B = valve with PBT body and barb fittings for tube Ø 4/2.5 mm 1C = valve with PBT body and barb fittings for tube Ø 5/3 mm
3	NUMBER OF WAYS - FUNCTIONS 3 = 3/2-way - NC 4 = 3/2-way - NO 6 = 2/2-way - NO 5 = 2/2-way - NC 7 = 3/2-way - UNI
0	SEALS MATERIAL 0 = FKM
3	ORIFICE DIAMETER 3 = Ø 0.5 mm (max pressure 7 bar) 5 = Ø 0.7 mm 6 = Ø 0.5 mm (max pressure 4 bar)
K	MATERIALS K = brass orifice
2	ELECTRICAL CONNECTION 2 = pins - pitch 4 mm 3 = JST connector with 300 mm flying leads
3	VOLTAGE - POWER CONSUMPTION: 1 = 6 V DC - 0.6 5 = 5 V DC - 0.6 W 2 = 12 V DC - 0.6 W 6 = 3 V DC - 0.6 W 3 = 24 V DC - 0.6 W
	OPTIONS = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m²)

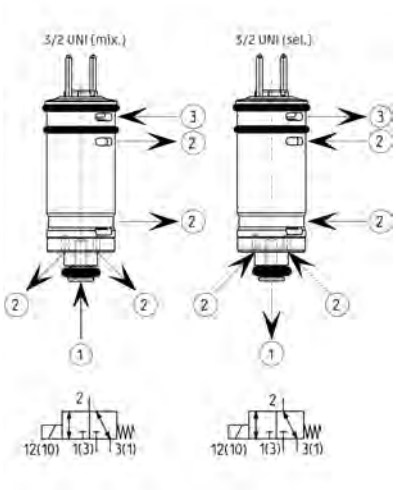
AVAILABLE FUNCTIONS



1 = inlet
2 = outlet



1 = inlet
2 = outlet
3 = exhaust

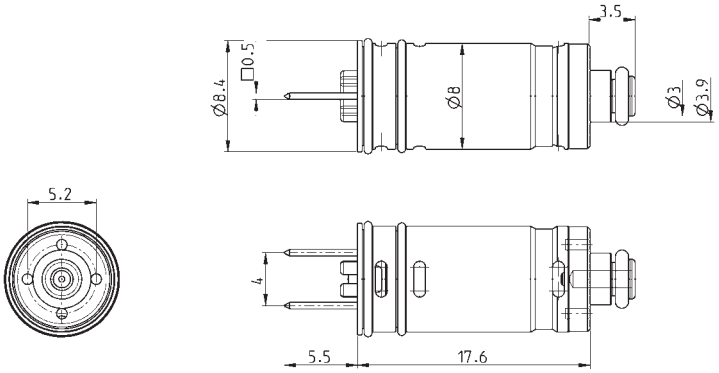


1 = inlet A
2 = outlet
3 = inlet B

1 = outlet A
2 = inlet
3 = outlet B

Series K8 solenoid valve - cartridge version

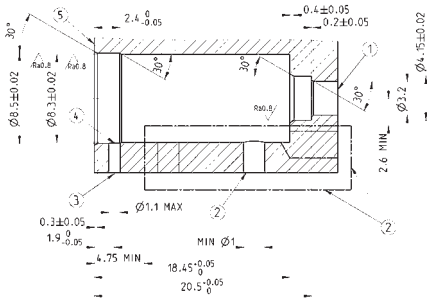
* add
- VOLTAGE
(see CODING EXAMPLE)



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8000-503-K2*	2/2 NC	0.5	0.08	1 ÷ 7
K8000-506-K2*	2/2 NC	0.5	0.08	-1 ÷ 4
K8000-505-K2*	2/2 NC	0.7	0.15	-1 ÷ 3
K8000-603-K2*	2/2 NO	0.6	0.10	1 ÷ 7
K8000-606-K2*	2/2 NO	0.6	0.10	-1 ÷ 4
K8000-303-K2*	3/2 NC	0.5	0.08	1 ÷ 7
K8000-306-K2*	3/2 NO	0.5	0.08	-1 ÷ 4
K8000-305-K2*	3/2 NC	0.7	0.15	-1 ÷ 3
K8000-403-K2*	3/2 NO	0.6	0.10	1 ÷ 7
K8000-406-K2*	3/2 NO	0.6	0.10	-1 ÷ 4
K8000-405-K2*	3/2 NO	0.6	0.10	1 ÷ 7
K8000-703-K2*	3/2 UNI	0.5	0.08	0 ÷ 3
K8000-705-K2*	3/2 UNI	0.7	0.15	-1 ÷ 2

Series K8 solenoid valve - valve seat dimensions for manifolds

LEGEND:
1 = Port 1
2 = Port 2
3 = Port 3
4 = Free from burrs
5 = Surface to be aligned with the upper surface of the valve reinforcement



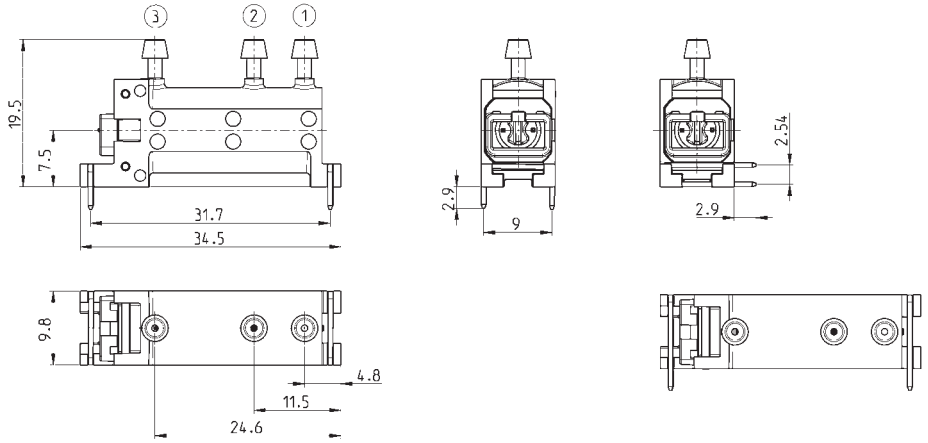
FUNCTION	2/2 NC	2/2 NO	3/2 NC	3/2 NO	3/2 UNI (mix.)	3/2 UNI (sel.)
PORT 1	inlet	-	inlet	exhaust	inlet A	outlet A
PORT 2	outlet	outlet	outlet	outlet	outlet	inlet
PORT 3	-	inlet	exhaust	inlet	inlet B	outlet B

Series K8X solenoid valve - PBT version body

* add
- BODY DESIGN
- VOLTAGE
(see CODING EXAMPLE)

Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8X1*-503-K3*	2/2 NC	0.5	0.08	1 ÷ 7
K8X1*-506-K3*	2/2 NC	0.5	0.08	-1 ÷ 4
K8X1*-505-K3*	2/2 NC	0.7	0.15	-1 ÷ 3
K8X1*-603-K3*	2/2 NO	0.6	0.10	1 ÷ 7
K8X1*-606-K3*	2/2 NO	0.6	0.10	-1 ÷ 4
K8X1*-303-K3*	3/2 NC	0.5	0.08	1 ÷ 7
K8X1*-306-K3*	3/2 NC	0.5	0.08	-1 ÷ 4
K8X1*-305-K3*	3/2 NC	0.7	0.15	-1 ÷ 3
K8X1*-403-K3*	3/2 NO	0.6	0.10	1 ÷ 7
K8X1*-406-K3*	3/2 NO	0.6	0.10	-1 ÷ 4
K8X1*-405-K3*	3/2 NO	0.6	0.10	1 ÷ 7
K8X1*-703-K3*	3/2 UNI	0.5	0.08	0 ÷ 3
K8X1*-705-K3*	3/2 UNI	0.7	0.15	-1 ÷ 2

Series K8X solenoid valve - dimensions

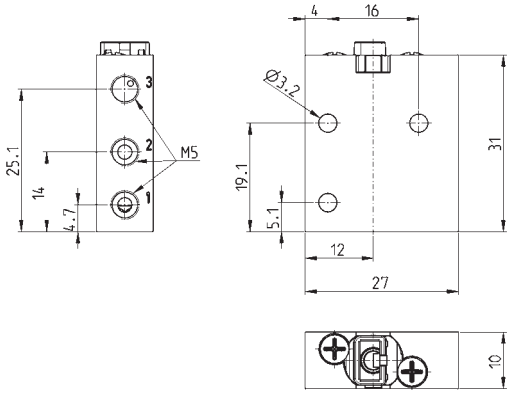


FUNCTION	2/2 NC	2/2 NO	3/2 NC	3/2 NO	3/2 UNI (mix.)	3/2 UNI (sel.)
PORT 1	inlet	-	inlet	exhaust	inlet A	outlet A
PORT 2	outlet	outlet	outlet	outlet	outlet	inlet
PORT 3	-	inlet	exhaust	inlet	inlet B	outlet B

Single body for Series K8 solenoid valve

Material: anodized aluminium
Connections: M5 threads

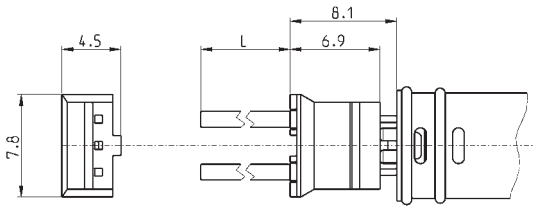
Valve and electrical connector restraint system to be used only with connector Mod. 120-J



Mod.
K8303/14C

Connector with flying leads Mod. 120-J...

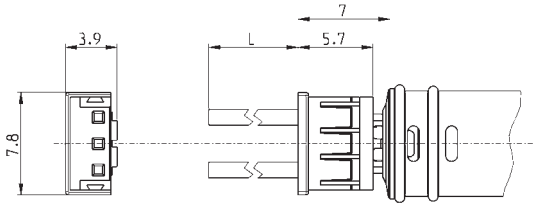
Flying leads section: 0.22 mm²
Flying lead external diameter: 1.1 mm
Material for the flying leads insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Connector with flying leads Mod. 120-..

Cable section: 0.25 mm²
Cable external diameter: 1.2 mm
Material for the cable insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-803	crimped cable	white	300	crimping
120-806	crimped cable	white	600	crimping

Series K8B
pilot operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)

- Compact design
- High flow
- Manifold mounting
- Long life

Thanks to their low power consumption and light weight Series K8B solenoid valves are particularly suitable for use with portable equipment too.

Series K8B pilot operated solenoid valves represent the evolution of Series K8 which has been equipped with a flow amplifier. Their particular design makes these valves ideal for use in applications requiring very compact solutions and high flow.

GENERAL DATA

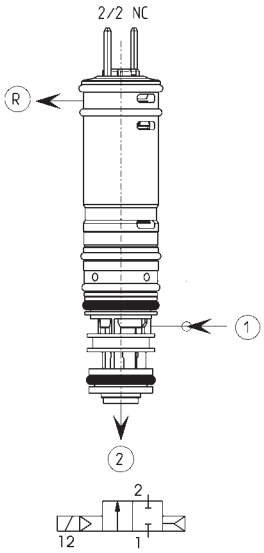
TECHNICAL FEATURES	
Function	2/2 NC - 2/2 NO - 3/2 NC - 3/2 NO
Operation	pilot operated poppet type
Pneumatic connections	cartridge seat in manifold - M7 threads - on subbase
Orifice diameter	3.6 mm
Flow coefficient kv (l/min)	2.8
Operating pressure	1 ÷ 7 bar
Operating temperature	0 ÷ 50 °C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 2.4.2, inert gas
Response time (ISO 12238)	ON <15 ms – OFF <15 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	brass - stainless steel - PBT - aluminium
Seals	FKM
Internal parts	stainless steel - enamelled copper
ELECTRICAL FEATURES	
Voltage	3 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 pins 0.5 x 0.5 pitch 4 mm - JST connector with 300 mm flying leads
Protection class	IP00
Special versions available on demand	

CODING EXAMPLE

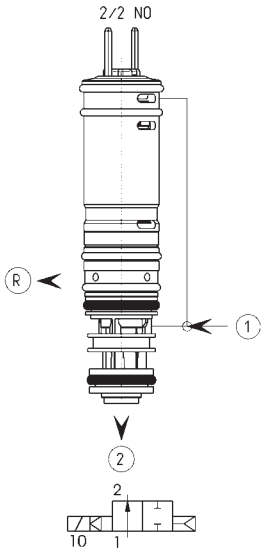
K8B	C5	4	00	-	D4	3	2	N	-	N	00	1A	C003

K8B	SERIES
C5	BODY DESIGN C0 = valve with aluminium body flanged connections C3 = valve with aluminium body threaded connections C5 = cartridge valve without body
4	NUMBER OF WAYS - FUNCTIONS 1 = 2/2-way - NC 2 = 2/2-way - NO 4 = 3/2-way - NC 5 = 3/2-way - NO
00	PNEUMATIC CONNECTIONS 00 = cartridge seat in manifold 03 = M7 thread 18 = 2/2-way K8B-type interface 19 = 3/2-way K8B-type interface
D4	ORIFICE DIAMETER D4 = Ø 3.6mm
3	SEALS MATERIALS 3 = FKM
2	MATERIALS 1 = stainless steel - brass - aluminium (valve with body version) 2 = stainless steel - brass (cartridge version)
N	MANUAL OVERRIDE N = not foreseen
N	FIXING N = not foreseen P = screws for plastics M = screws for metal
00	OPTION 00 = no option
1A	ELECTRICAL CONNECTION 2 = pins - pitch 4 mm 3 = JST connector with 300 mm flying leads
C003	VOLTAGE - POWER CONSUMPTION C001 = 6 V DC (0.6 W) C002 = 12 V DC (0.6 W) C003 = 24 V DC (0.6 W)
	OPTIONS: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m²)

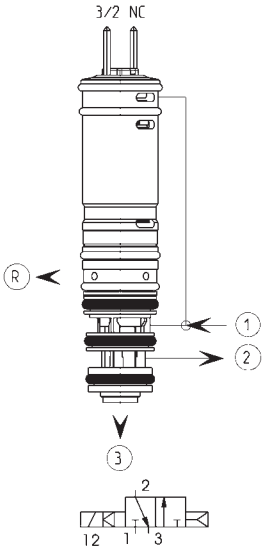
AVAILABLE FUNCTIONS



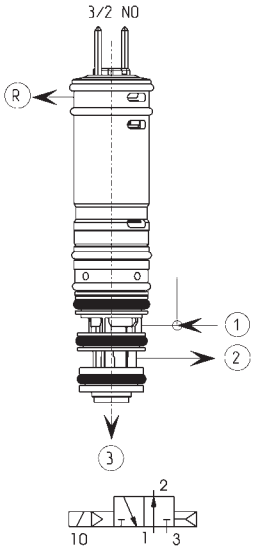
1 = inlet
2 = outlet
R = piloting exhaust



1 = inlet
2 = outlet
R = piloting exhaust



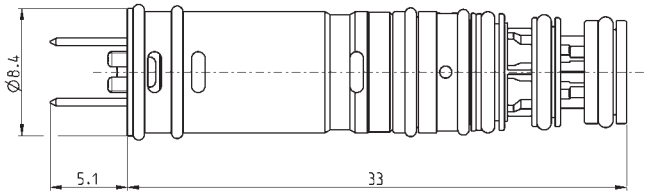
1 = inlet
2 = outlet
3 = exhaust
R = piloting exhaust



1 = inlet
2 = outlet
3 = exhaust
R = piloting exhaust

Solenoid valve Series K8B - cartridge version

* add
- VOLTAGE
(see CODING EXAMPLE)

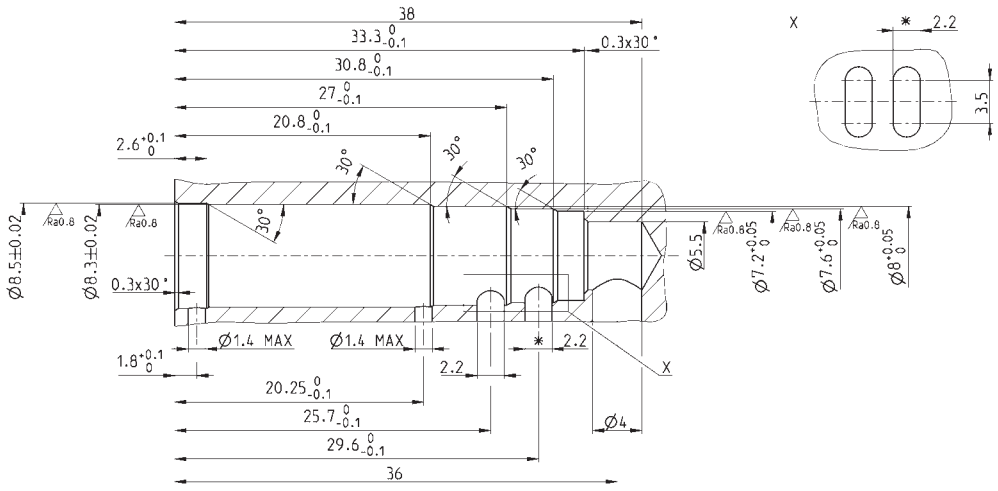


	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8BC5100-D432N-N001A*	2/2 NC	3.6	2.8	1÷7
K8BC5200-D432N-N001A*	2/2 NO	3.6	2.8	1÷7
K8BC5400-D432N-N001A*	3/2 NC	3.6	2.8	1÷7
K8BC5400-D432N-N001A*	3/2 NO	3.6	2.8	1÷7

Series K8B - seat dimensions cartridge version

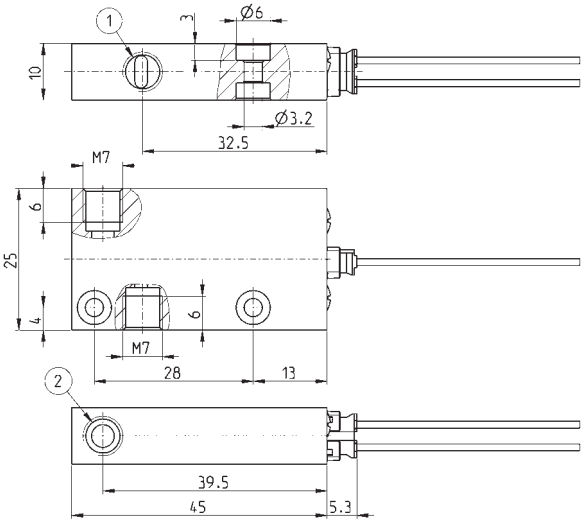
To achieve the declared flow rate it is necessary
to realize the ports with a section of 12.5 mm²
(equal to a diameter of 4 mm)

* for the 2/2 version this operation has not to be performed

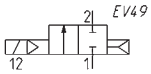


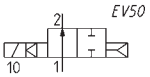
Series K8B solenoid valve - 2/2-way - threaded ports body version

Supplied with:
1x connector with flying leads
Mod. 120-J803 (300mm)



* add
- VOLTAGE
(see CODING EXAMPLE)

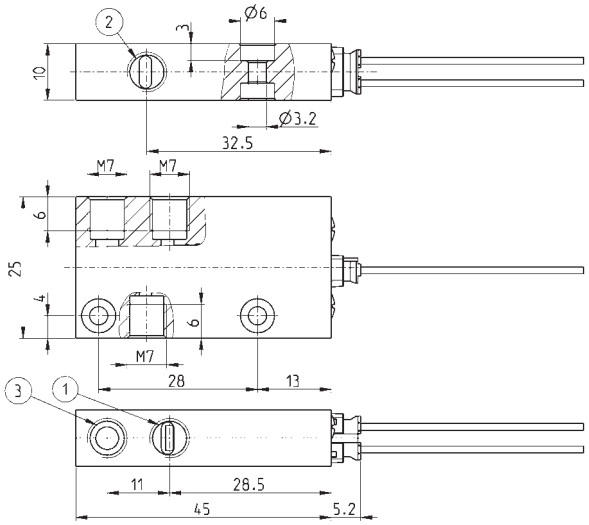




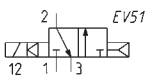
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8BC3103-D431N-N001B*	2/2 NC	3.6	2.8	1÷7
K8BC3103-D431N-N001B*	2/2 NO	3.6	2.8	1÷7

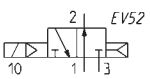
Series K8B solenoid valve - 3/2-way - threaded ports body version

Supplied with:
1x connector with flying leads
Mod. 120-J803 (300mm)



* add
- VOLTAGE
(see CODING EXAMPLE)



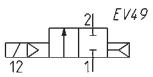


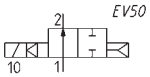
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8BC3403-D431N-N001B*	3/2 NC	3.6	2.8	1÷7
K8BC3503-D431N-N001B*	3/2 NO	3.6	2.8	1÷7

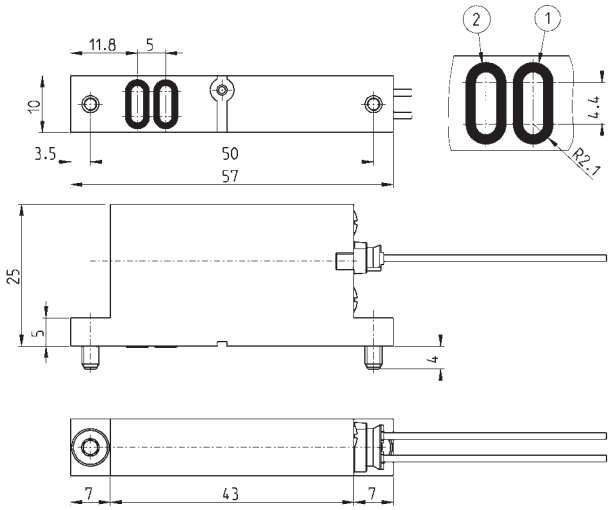
Series K8B solenoid valve - 2/2-way - flanged body version

Supplied with:
1x connector with flying leads Mod. 120-J803 (300mm)
2x interface seals
2x M3x6 screws for mounting on metal
or
2x Ø3x6 screws for mounting on plastic

* add
- FIXING
- VOLTAGE
(see CODING EXAMPLE)





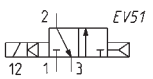


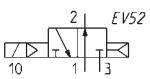
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K8BC0118-D431N-*001B*	2/2 NC	3.6	2.8	1÷7
K8BC0218-D431N-*001B*	2/2 NO	3.6	2.8	1÷7

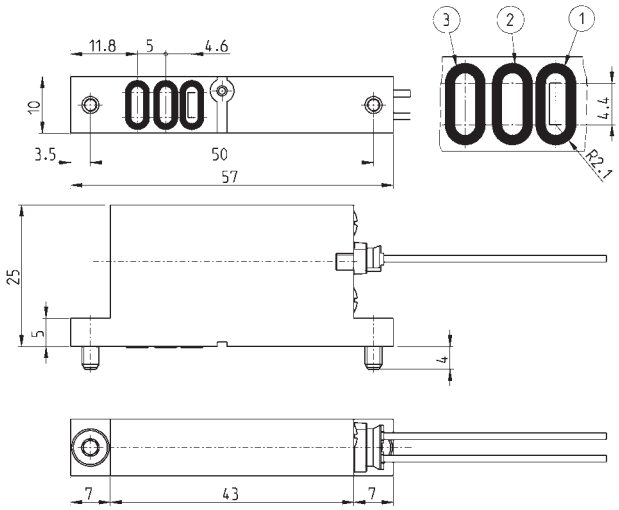
Series K8B solenoid valve - 3/2-way - flanged body version

Supplied with:
1x connector with flying leads Mod. 120-J803 (300mm)
3x interface seals
2x M3x6 screws for mounting on metal
or
2x Ø3x6 screws for mounting on plastic

* add
- FIXING
- VOLTAGE
(see CODING EXAMPLE)



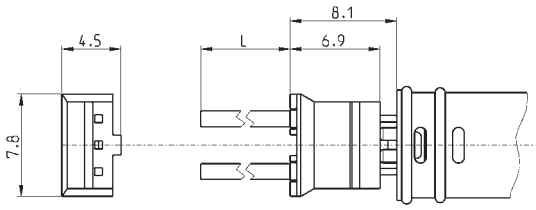




Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
KBC0419-D431N-*001B*	3/2 NC	3.6	2.8	1÷7
KBC0519-D431N-*001B*	3/2 NO	3.6	2.8	1÷7

Connector with flying leads Mod. 120-J...

Flying leads section: 0.22 mm²
Flying lead external diameter: 1.1 mm
Material for the flying leads insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Series K8DV diaphragm isolation valves directly operated

2/2-way - Normally Closed (NC)

- Very compact design and reduced weight
- High flow performances
- Very low internal volume
- Suitable to be applied in medical equipment and analytical instruments

To choose the most suitable model for a specific application, check the chemical compatibility of the medium to control with the available materials of body and seals.

The K8DV solenoid valve was born to meet all the demands to shut off aggressive or heat sensitive fluids. Thanks to a fluid separation membrane, the fluid is isolated from all internal metal parts of the solenoid valve and avoids heating, even if minimum, generated by the solenoid positioned above.

GENERAL DATA

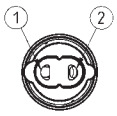
TECHNICAL FEATURES	
Function	2/2 NC
Operation	directly operated with fluid separation membrane
Pneumatic connections	cartridge seat in manifold - on subbase
Orifice diameter	0.7 mm
Flow efficient kv (l/min)	0.1
Operating pressure	0 ÷ 2.1 bar (FKM/EPDM) / 0 ÷ 1.5 bar (FFKM)
Operating temperature	5 ÷ 50 °C (FKM/EPDM) / 20 ÷ 50 °C (FFKM)
Media	inert or corrosive liquids and gases compatible with the materials in contact
Response time	ON ≤ 10 ms - OFF ≤ 15 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PEEK
Seals	FKM - EPDM - FFKM
ELECTRICAL FEATURES	
Voltage	3 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 pins 0.5 x 0.5 pitch 4 mm
Protection class	IP00

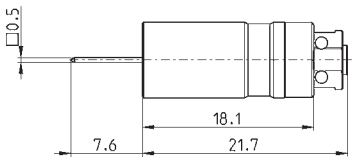
CODING EXAMPLE

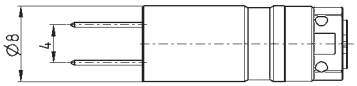
K8DV	C	00	-	5	0	5	-	G	2	3

K8DV	SERIES
C	TYPE OF BODY C = cartridge version 0 = flanged version
00	NUMBER OF POSITIONS 00 = valve without housing
5	NUMBER OF WAYS - FUNCTIONS 5 = 2/2-way - NC
0	SEAL MATERIAL 0 = FKM 4 = EPDM 5 = FFKM
5	ORIFICE DIAMETER 5 = Ø 0.7 mm
G	BODY MATERIAL G = PEEK
2	ELECTRICAL CONNECTION 2 = pins - pitch 4 mm
3	VOLTAGE - POWER CONSUMPTION 1 = 6V DC - 0.6 W 2 = 12V DC - 0.6 W 3 = 24V DC - 0.6 W 4 = 3V DC - 0.6 W 5 = 5V DC - 0.6 W
	OPTIONS: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m^2)

Series K8DV solenoid valve - cartridge version

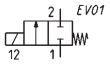






DRAWING LEGEND:
1 = inlet
2 = outlet

* add
- VOLTAGE
(see CODING EXAMPLE)

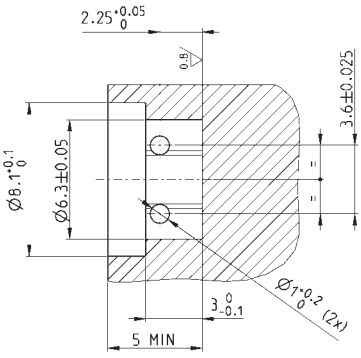


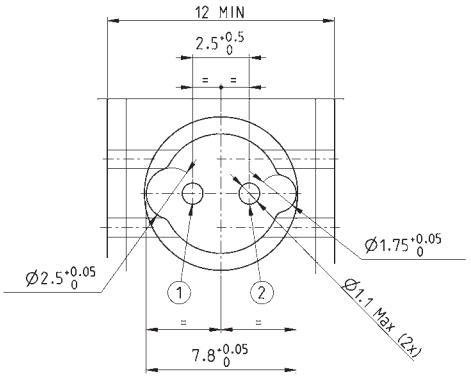
Mod.	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Body material	Seal material
K8DVC00-505-G2*	0.7	0.1	0 ÷ 2.1	PEEK	FKM
K8DVC00-545-G2*	0.7	0.1	0 ÷ 2.1	PEEK	EPDM
K8DVC00-555-G2*	0.7	0.1	0 ÷ 1.5	PEEK	FFKM

Series K8DV - seat dimensions cartridge version

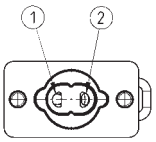
DRAWING LEGEND:

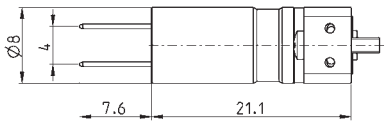
1 = inlet
2 = outlet

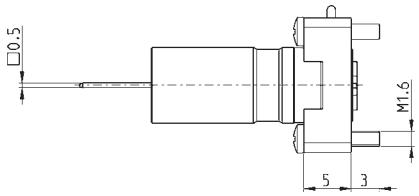


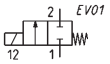


Serie K8DV solenoid valve - flanged version







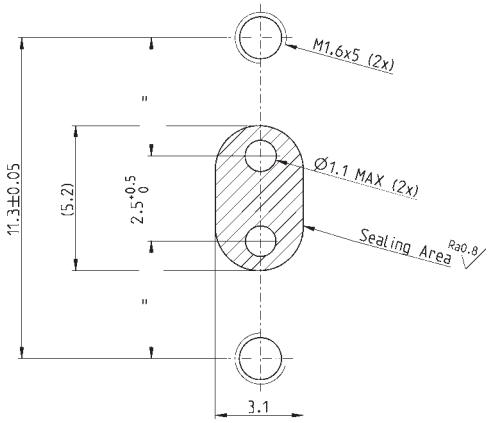


DRAWING LEGEND:
1 = inlet
2 = outlet

* add
- VOLTAGE
(see CODING EXAMPLE)

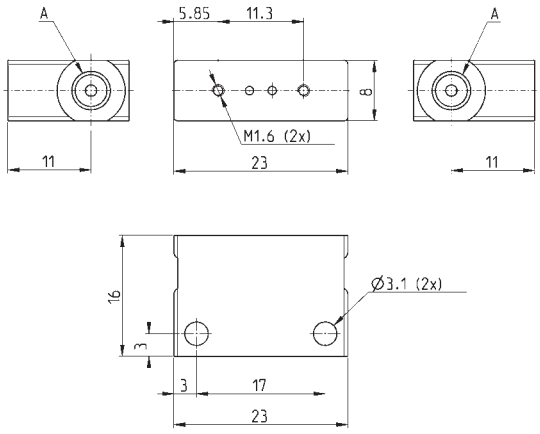
Mod.	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Body material	Seal material
K8DV000-505-G2*	0.7	0.1	0 ÷ 2.1	PEEK	FKM
K8DV000-545-G2*	0.7	0.1	0 ÷ 2.1	PEEK	EPDM
K8DV000-555-G2*	0.7	0.1	0 ÷ 1.5	PEEK	FFKM

Series K8DV - seat dimensions flanged version



Single sub base for flanged version

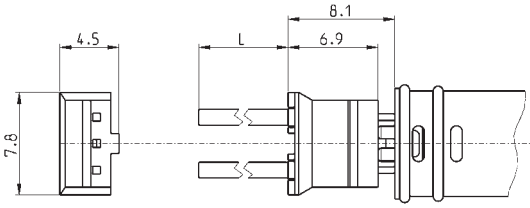
Material: PEEK
Pneumatic connections: M5 or 1/4-28 UNF threads



Mod.	Thread A
K8DV0001-1/4	1/4 - 28 UNF
K8DV0001-M5	M5

Connector with flying leads Mod. 120-J...

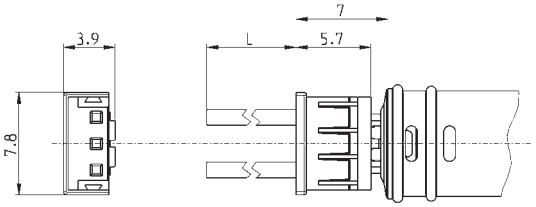
Flying leads section: 0.25 mm²
Flying lead external diameter: 1.2 mm
Material for the flying leads insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Connector with flying leads Mod. 120-..

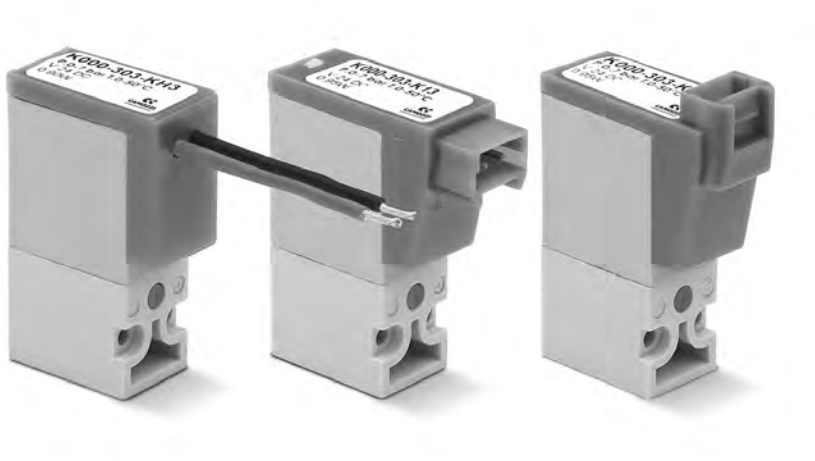
Cable section: 0.25 mm²
Cable external diameter: 1.2 mm
Material for the cable insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-803	crimped cable	white	300	crimping
120-806	crimped cable	white	600	crimping

Series K
directly operated solenoid valves

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC) and Normally Open (NO)



- Low power consumption
- Compact design
- Version for use with oxygen available

The Series K directly operated solenoid valves can be mounted on single sub-bases or manifolds.
Thanks to the same mounting pad 2/2-way and 3/2-way versions can be installed on the same manifold.
The manual override is available only for the 3/2-way versions.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase
Orifice diameter	0.6 ... 1 mm
Flow coefficient kv (l/min)	0.12 ... 0.30
Operating pressure	0 ÷ 3 ... 7 bar
Operating temperature	0 ÷ 50 °C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	ON <10 ms – OFF <10 ms
Manual override	monostable - only for 3/2 versions
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	NBR - FKM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	6 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1 W
Duty cycle	ED 100%
Electrical connection	connector mod. 121-8... - 300 mm flying leads
Protection class	IP50
Special versions available on demand	

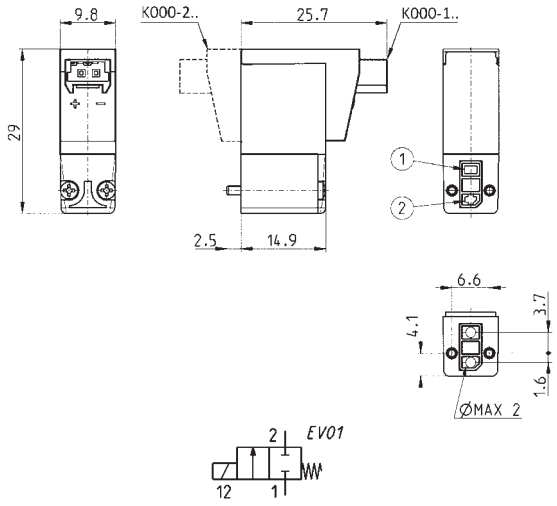
CODING EXAMPLE

K	0	00	-	3	0	3	-	K	2	3	

K	SERIES		
0	BODY DESIGN 0 = single sub-base (only M5) or interface 1 = manifold		
00	NUMBER OF POSITIONS 00 = interface 01 = single base (only M5) 02 ÷ 99 = manifold number of positions		
3	NUMBER OF WAYS - FUNCTIONS 0 = manifold or single base 1 = 2/2-way - NC 1 = 2/2-way - NC electric part revolved by 180°	3 = 3/2-way - NC 5 = 3/2-way - NC electric part revolved by 180°	4 = 3/2-way - NO 6 = 3/2-way - NO electric part revolved by 180°
0	PORTS: 0 = on subbase or manifold 2 = M5 side outlets		
3	ORIFICE DIAMETER 2 = Ø 0.6 mm 3 = Ø 0.65 mm 5 = Ø 1.0 mm		
K	MATERIALS F = PBT body - FKM poppet seal K = PBT body - HNBR poppet seal (only for 3/2-way versions)		
2	ELECTRICAL CONNECTION 1 = 90° connection with protection and led 2 = 90° connection with protection 3 = 90° connection	B = in-line connection with protection and led C = in-line connection with protection D = in-line connection	F = 300 mm flying leads with protection and led G = 300 mm flying leads with protection H = 300 mm flying leads
3	VOLTAGE - POWER CONSUMPTION 1 = 6V DC - 1W 2 = 12V DC - 1W 3 = 24V DC - 1W		
	FIXING = fixing screws for plastic M = fixing screws for metal		
	OPTIONS = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m^2) OX2 = for use with oxygen (non volatile residual less than 33 mg/m^2)		

Series K solenoid valve - 2/2-way NC - 90° connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal

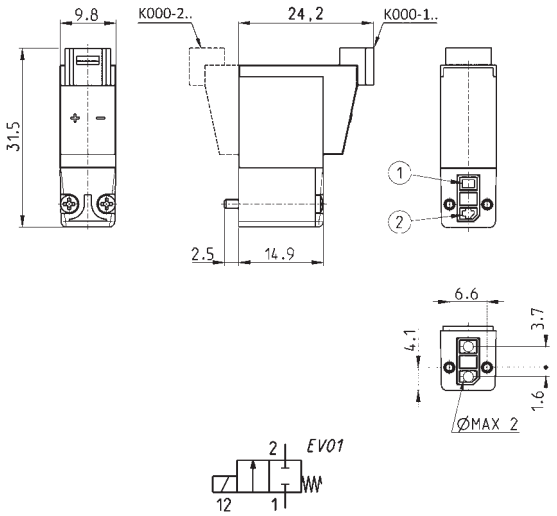


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-102-F1	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-F2	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-F3	2/2 NC	0.6	0.15	0 ÷ 6
K000-105-F1	2/2 NC	1	0.30	0 ÷ 3
K000-105-F2	2/2 NC	1	0.30	0 ÷ 3
K000-105-F3	2/2 NC	1	0.30	0 ÷ 3

* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 2/2-way NC - in-line connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal)

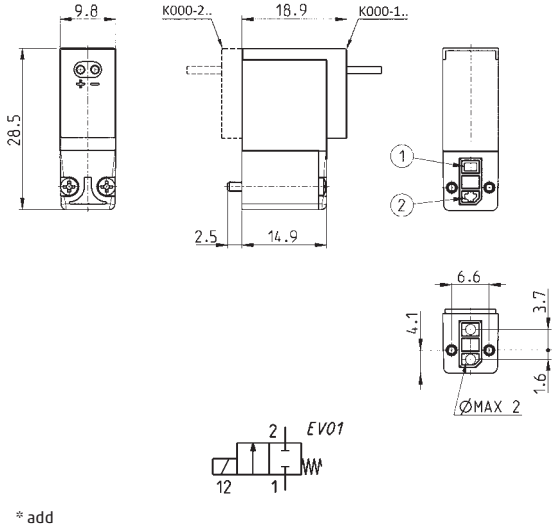


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-102-FB	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-FC	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-FD	2/2 NC	0.6	0.15	0 ÷ 6
K000-105-FB	2/2 NC	1	0.30	0 ÷ 3
K000-105-FC	2/2 NC	1	0.30	0 ÷ 3
K000-105-FD	2/2 NC	1	0.30	0 ÷ 3

* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 2/2-way NC - 300 mm flying leads

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal

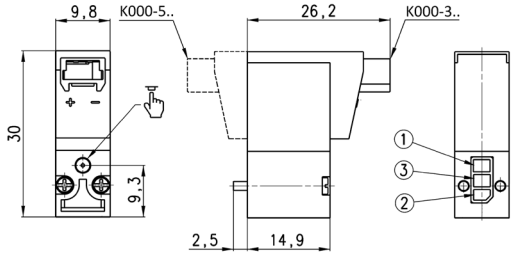


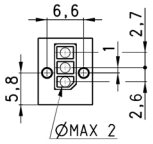
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-102-FF	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-FG	2/2 NC	0.6	0.15	0 ÷ 6
K000-102-FH	2/2 NC	0.6	0.15	0 ÷ 6
K000-105-FF	2/2 NC	1	0.30	0 ÷ 3
K000-105-FG	2/2 NC	1	0.30	0 ÷ 3
K000-105-FH	2/2 NC	1	0.30	0 ÷ 3
K000-102-FH3M-OX1	2/2 NC	0.6	0.15	0 ÷ 6

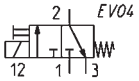
* add
- VOLTAGE
(see CODING EXAMPLE)

Seris K solenoid valve - 3/2-way NC - 90° connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal





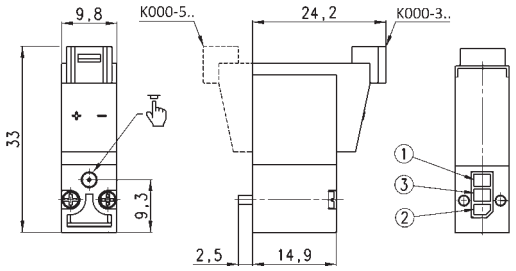


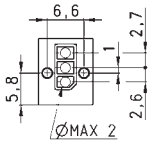
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-303-K1	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-F1	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-K2	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-F2	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-K3	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-F3	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-K13M	3/2 NC	0.6	0.12	0 ÷ 7

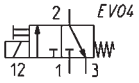
* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 3/2-way NC - in-line connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal





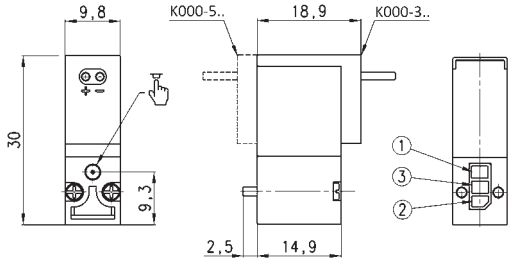


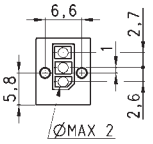
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-303-KB	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FB	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KC	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FC	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KD	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FD	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KF3	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KH3	3/2 NC	0.6	0.12	0 ÷ 7

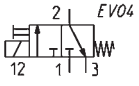
* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 3/2-way NC - 300 mm flying leads

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x16 screws for mounting on metal





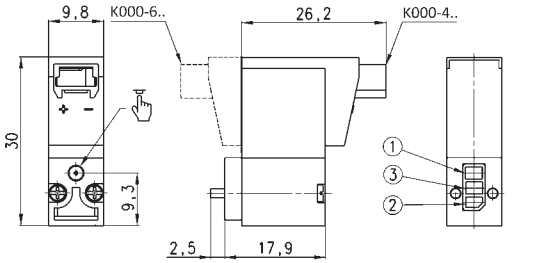


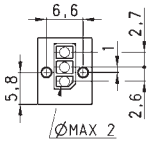
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-303-KF	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FF	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KG	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FG	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-KH	3/2 NC	0.6	0.12	0 ÷ 7
K000-303-FH	3/2 NC	0.6	0.12	0 ÷ 7

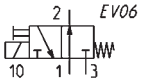
* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 3/2-way NO - 90° connector

Supplied with:
1x interface for NO with position ports as per NC
2x interface seals
2x Ø1.6x19 screws for mounting on plastic
or
2x M1.6x19 screws for mounting on metal
For use without port 1 and 3 inversion interface, use 16 mm long screws (see accessories)





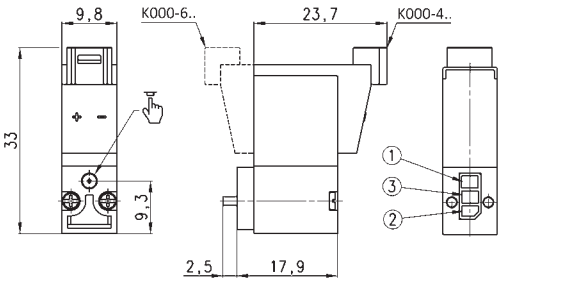


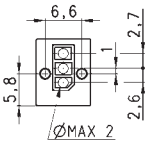
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-403-K1	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-F1	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-K2	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-F2	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-K3	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-F3	3/2 NO	0.8	0.20	0 ÷ 5

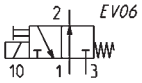
* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 3/2-way NO - in-line connector

Supplied with:
1x interface for NO with position ports as per NC
2x interface seals
2x Ø1.6x19 screws for mounting on plastic
or
2x M1.6x19 screws for mounting on metal
For use without port 1 and 3 inversion interface, use 16 mm long screws (see accessories)





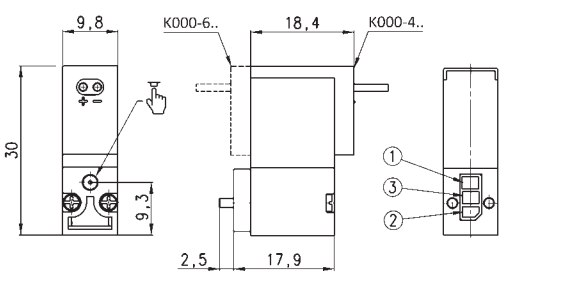


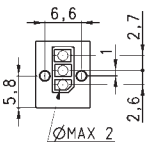
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-403-KB	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FB	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-KC	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FC	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-KD	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FD	3/2 NO	0.8	0.20	0 ÷ 5

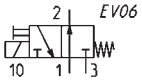
* add
- VOLTAGE
(see CODING EXAMPLE)

Series K solenoid valve - 3/2-way NO - 300 mm flying leads

Supplied with:
1x interface for NO with position ports as per NC
2x interface seals
2x Ø1.6x19 screws for mounting on plastic
or
2x M1.6x19 screws for mounting on metal
For use without port 1 and 3 inversion interface, use 16 mm long screws (see accessories)







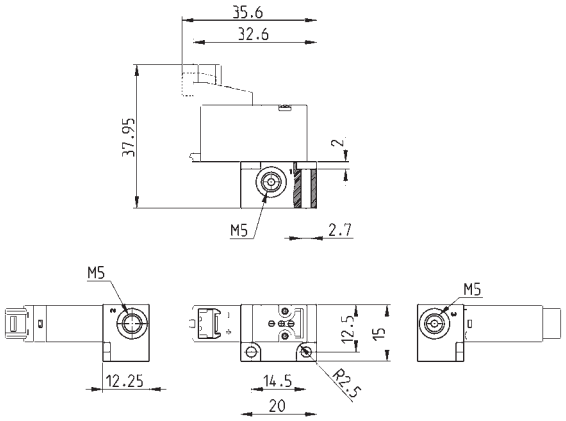
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)
K000-403-KF	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FF	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-KG	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FG	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-KH	3/2 NO	0.8	0.20	0 ÷ 5
K000-403-FH	3/2 NO	0.8	0.20	0 ÷ 5

* add
- VOLTAGE
(see CODING EXAMPLE)

Single sub-base for solenoid valve size 10 mm

Single sub-base suitable for Series K 2-way or 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads



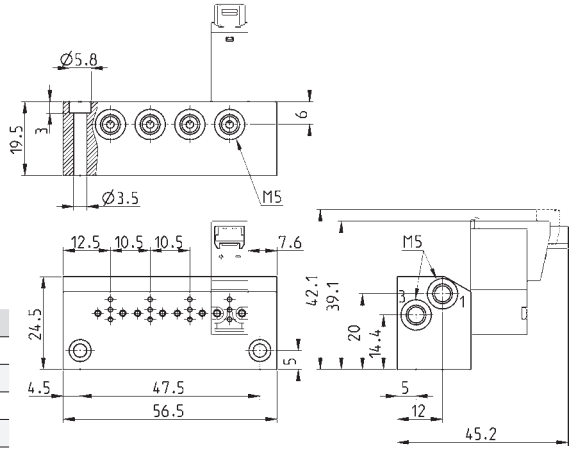
Mod.
K001-02

Manifold Mod. K1**-02

** Number of positions
With side outlets and conveyed inlet and exhaust.

Use solenoid valves with screws for mounting on metal (see coding)

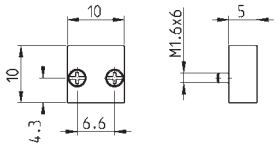
Material: anodized aluminium
Connections: M5 threads



Mod.	A	B	Number of ports
K102-02	35.5	26.5	2
K103-02	46	37	3
K104-02	56.5	47.5	4
K105-02	67	58	5
K106-02	77.5	68.5	6
K107-02	88	79	7
K108-02	98.5	89.5	8
K109-02	109	100	9
K110-02	119.5	110.5	10

Position valve cap

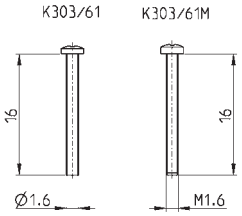
Supplied with:
1x position valve cap
3x O-Rings
2x M1.6x6 screws for mounting on metal



Mod.
K000-TP

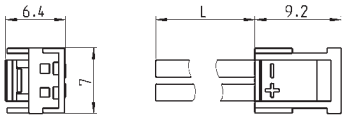
Mounting screws for Series K solenoid valves

16 mm long screws for use with Series K 3/2-way NO solenoid valves without port 1 and 3 inversion interface



Mod.	
K303/61	Ø1.6x16 mm screw for mounting on plastic
K303/61M	M1.6x16 mm screw for mounting on metal

Connector with flying leads Mod. 121-8..



Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

Series KL - KLE
directly operated solenoid valves

New

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Universal (UNI)

- Compact design
- High flow in proportion to the size
- Extended version for higher performance
- M8 - 3 pin electric connection available
- Monostable and bistable manual override

The new Series KL and KLE 10 mm solenoid valves now offer a range with improved models and performance compared to the previous generation.
The possibility to use a longer coil allowed to increase the pressure values to which the valves can be submitted.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	on subbase
Orifice diameter	0.6 ... 1.6 mm
Flow coefficient kv (l/min)	0.12 ... 0.52
Operating pressure	0 ÷ 3 ... 9 bar
Operating temperature	0 ÷ 50 °C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	ON <10 ms – OFF <10 ms
Manual override	monostable or bistable - only for 3/2 versions
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	FKM
Internal parts	stailess steel - brass
ELECTRICAL FEATURES	
Voltage	6 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1 W - 1.3/0.3 W - 4/1 W
Duty cycle	ED 100%
Electrical connection	connector mod. 121-8... - M8 connector mod. CS...
Protection class	IP50 with connector 121-8... - IP65 with M8 connector

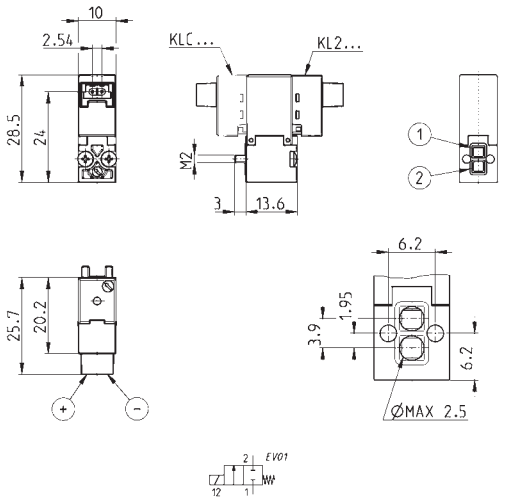
CODING EXAMPLE

KL	0	4	0	-	A6	3	A	Y	-	1	3	M

KL	SERIES KL = standard KLE = extended
0	BODY DESIGN 0 = 3/2 body - ISO 15218 A = 3/2 body - ISO 15218 - coil rotated by 180° 2 = 2/2 body C = 2/2 body - coil rotated by 180°
4	NUMBER OF WAYS - FUNCTIONS 1 = 2/2-way NC 4 = 3/2-way NC 5 = 3/2-way NO 6 = 3/2-way UNI
0	PORTS 0 = on subbase or manifold
A6	ORIFICE DIAMETER A6 = Ø 0.60 mm A8 = Ø 0.80 mm B1 = Ø 1.10 mm B2 = Ø 1.20 mm B3 = Ø 1.30 mm B6 = Ø 1.60 mm
3	SEAL MATERIAL 3 = FKM
A	BODY MATERIAL A = PBT
Y	MANUAL OVERRIDE 0 = not requested or not foreseen Y = monostable B = bistable
1	ELECTRICAL CONNECTION 1 = 90° connection with protection and led B = in-line connection with protection and led M = M8 - 3 pin connection
3	VOLTAGE - POWER CONSUMPTION 1 = 6 V DC - 1 W 2 = 12 V DC - 1 W 3 = 24 VDC - 1 W A = 6 V DC - 1.3/0.3 W B = 12 V DC - 1.3/0.3 W C = 24 VDC - 1.3/0.3 W 6 = 6 VDC - 4/1 W 7 = 12 V DC - 4/1 W 8 = 24 V DC - 4/1 W
M	FIXING M = fixing screws for metal P = fixing screws for plastic

Series KL solenoid valve - 2/2-way NC - 90° connector

Supplied with:
1x interface seal
2x M2x16 screws for mounting on metal

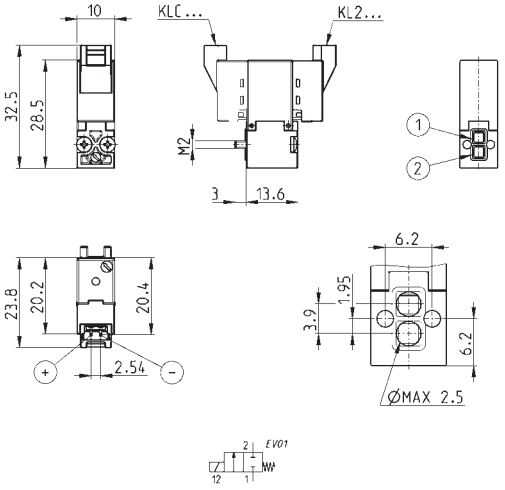


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KL210-A83A0-1*M	2/2 NC	0.8	0.18	0 ÷ 7	1.3 / 0.3
KL210-B23A0-1*M	2/2 NC	1.2	0.40	0 ÷ 3	1.3 / 0.3
KL210-B63A0-1*M	2/2 NC	1.6	0.52	0 ÷ 3	4 / 1
KLC10-A83A0-1*M	2/2 NC	0.8	0.18	0 ÷ 7	1.3 / 0.3
KLC10-B23A0-1*M	2/2 NC	1.2	0.40	0 ÷ 3	1.3 / 0.3
KLC10-B63A0-1*M	2/2 NC	1.6	0.52	0 ÷ 3	4 / 1

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KL solenoid valve - 2/2-way NC - in-line connector

Supplied with:
1x interface seal
2x M2x16 screws for mounting on metal

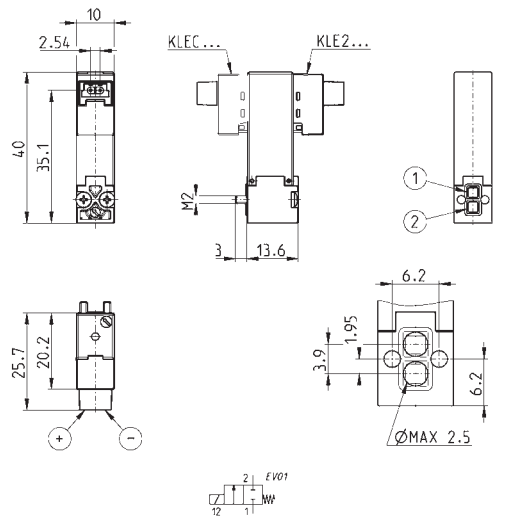


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KL210-A83A0-B*M	2/2 NC	0.8	0.18	0 ÷ 7	1.3 / 0.3
KL210-B23A0-B*M	2/2 NC	1.2	0.40	0 ÷ 3	1.3 / 0.3
KL210-B63A0-B*M	2/2 NC	1.6	0.52	0 ÷ 3	4 / 1
KLC10-A83A0-B*M	2/2 NC	0.8	0.18	0 ÷ 7	1.3 / 0.3
KLC10-B23A0-B*M	2/2 NC	1.2	0.40	0 ÷ 3	1.3 / 0.3
KLC10-B63A0-B*M	2/2 NC	1.6	0.52	0 ÷ 3	4 / 1

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KLE solenoid valve - 2/2-way NC - 90° connector

Supplied with:
1x interface seal
2x M2x16 screws for mounting on metal

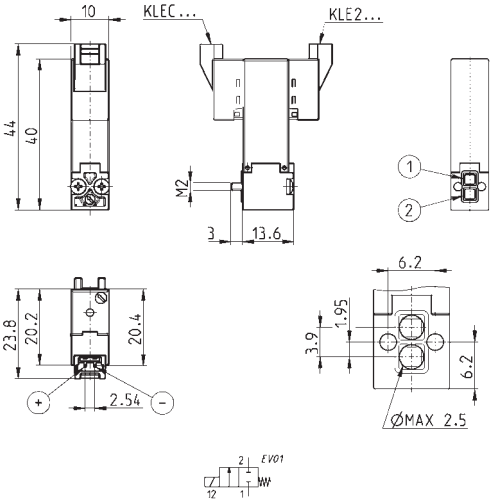


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE210-A83A0-1*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLE210-B23A0-1*M	2/2 NC	1.2	0.4	0 ÷ 4	1
KLE210-B63A0-1*M	2/2 NC	1.6	0.56	0 ÷ 4	4 / 1
KLEC10-A83A0-1*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLEC10-B23A0-1*M	2/2 NC	1.2	0.4	0 ÷ 4	1
KLEC10-B63A0-1*M	2/2 NC	1.6	0.56	0 ÷ 4	4 / 1

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KLE solenoid valve - 2/2-way NC - in-line connector

Supplied with:
1x interface seal
2x M2x16 screws for mounting on metal



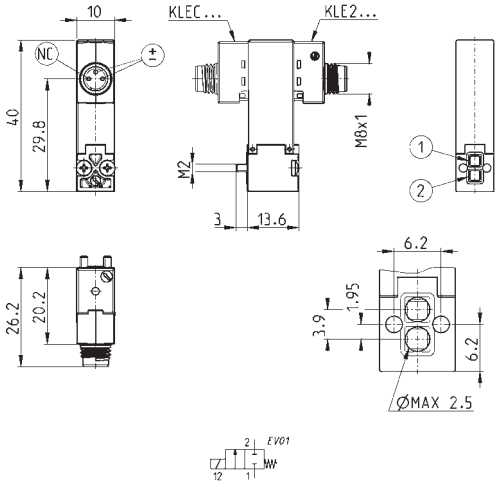
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE210-A83A0-B*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLE210-B23A0-B*M	2/2 NC	1.2	0.40	0 ÷ 4	1
KLE210-B63A0-B*M	2/2 NC	1.6	0.56	0 ÷ 4	4 / 1
KLEC10-A83A0-B*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLEC10-B23A0-B*M	2/2 NC	1.2	0.40	0 ÷ 4	1
KLEC10-B63A0-B*M	2/2 NC	1.6	0.56	0 ÷ 4	4 / 1

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KLE solenoid valve - 2/2-way NC - M8 connector

Supplied with:
1x interface seal
2x M2x16 screws for mounting on metal

The M8 connector accepts polarity reversal

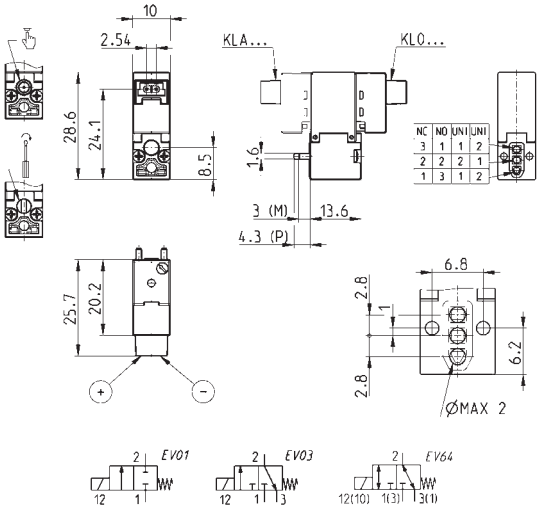


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE210-A83A0-M*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLE210-B23A0-M*M	2/2 NC	1.2	0.4	0 ÷ 4	1
KLEC10-A83A0-M*M	2/2 NC	0.8	0.18	0 ÷ 8	1
KLEC10-B23A0-M*M	2/2 NC	1.2	0.4	0 ÷ 4	1

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KL solenoid valve - 3/2-way - 90° connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic



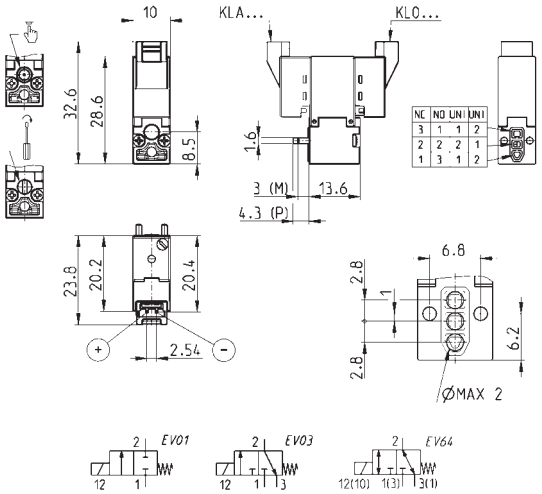
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KL*40-A63A*-1**	3/2 NC	0.6	0.12	0 ÷ 7	1
KL*40-A83A*-1**	3/2 NC	0.8	0.18	0 ÷ 5	1
KL*40-B13A*-1**	3/2 NC	1.1	0.32	3 ÷ 7	4 / 1
KL*40-B33A*-1**	3/2 NC	1.3	0.37	0 ÷ 3	4 / 1
KL*50-A63A*-1**	3/2 NO	0.6	0.12	0 ÷ 7	1.3 / 0.3
KL*50-A83A*-1**	3/2 NO	0.8	0.18	0 ÷ 5	1.3 / 0.3
KL*50-B13A*-1**	3/2 NO	1.0	0.30	0 ÷ 5	4 / 1
KL*50-B33A*-1**	3/2 NO	1.3	0.37	0 ÷ 3	4 / 1
KL*60-A63A*-1**	3/2 UNI	0.6	0.12	0 ÷ 5	1.3 / 0.3
KL*60-A83A*-1**	3/2 UNI	0.8	0.18	0 ÷ 2	1.3 / 0.3
KL*60-B13A*-1**	3/2 UNI	1.1	0.30	0 ÷ 3	4 / 1
KL*60-B33A*-1**	3/2 UNI	1.3	0.37	0 ÷ 2	4 / 1

*add
- BODY DESIGN
- MANUAL OVERRIDE

- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Series KL solenoid valve - 3/2-way - in-line connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KL*40-A63A*-B**	3/2 NC	0.6	0.12	0 ÷ 7	1
KL*40-A83A*-B**	3/2 NC	0.8	0.18	0 ÷ 5	1
KL*40-B13A*-B**	3/2 NC	1.1	0.32	3 ÷ 7	4 / 1
KL*40-B33A*-B**	3/2 NC	1.3	0.37	0 ÷ 3	4 / 1
KL*50-A63A*-B**	3/2 NO	0.6	0.12	0 ÷ 7	1.3 / 0.3
KL*50-A83A*-B**	3/2 NO	0.8	0.18	0 ÷ 5	1.3 / 0.3
KL*50-B13A*-B**	3/2 NO	1.0	0.30	0 ÷ 5	4 / 1
KL*50-B33A*-B**	3/2 NO	1.3	0.37	0 ÷ 3	4 / 1
KL*60-A63A*-B**	3/2 UNI	0.6	0.12	0 ÷ 5	1.3 / 0.3
KL*60-A83A*-B**	3/2 UNI	0.8	0.18	0 ÷ 2	1.3 / 0.3
KL*60-B13A*-B**	3/2 UNI	1.1	0.30	0 ÷ 3	4 / 1
KL*60-B33A*-B**	3/2 UNI	1.3	0.37	0 ÷ 2	4 / 1

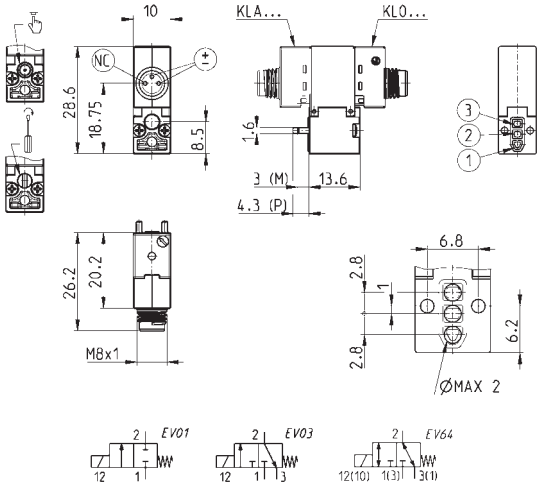
*add
- BODY DESIGN
- MANUAL OVERRIDE

- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Series KL solenoid valve - 3/2-way - M8 connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic

The M8 connector accepts polarity reversal



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KL*40-A63A*-M**	3/2 NC	0.6	0.12	0 ÷ 7	1
KL*40-A83A*-M**	3/2 NC	0.8	0.18	0 ÷ 5	1

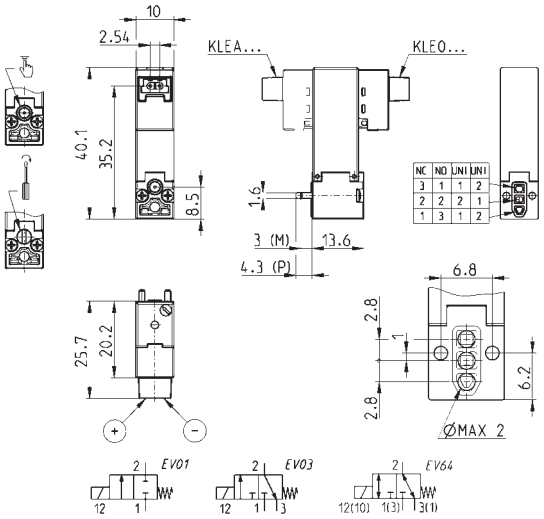
*add
- BODY DESIGN
- MANUAL OVERRIDE

- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Series KLE solenoid valve - 3/2-way - 90° connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic

Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE*40-A63A*-1**	3/2 NC	0.6	0.12	0 ÷ 9	1
KLE*40-A83A*-1**	3/2 NC	0.8	0.18	0 ÷ 7	1
KLE*40-B13A*-1**	3/2 NC	1.1	0.33	0 ÷ 7	4 / 1
KLE*40-B33A*-1**	3/2 NC	1.3	0.37	0 ÷ 4	4 / 1
KLE*50-A63A*-1**	3/2 NO	0.6	0.12	0 ÷ 9	1
KLE*50-A83A*-1**	3/2 NO	0.8	0.18	0 ÷ 7	1
KLE*50-B13A*-1**	3/2 NO	1.0	0.33	0 ÷ 7	4 / 1
KLE*50-B33A*-1**	3/2 NO	1.3	0.37	0 ÷ 4	4 / 1
KLE*60-A63A*-1**	3/2 UNI	0.6	0.12	0 ÷ 7	1
KLE*60-A83A*-1**	3/2 UNI	0.8	0.18	0 ÷ 4	1
KLE*60-B13A*-1**	3/2 UNI	1.1	0.33	0 ÷ 4	4 / 1
KLE*60-B33A*-1**	3/2 UNI	1.3	0.37	0 ÷ 3	4 / 1



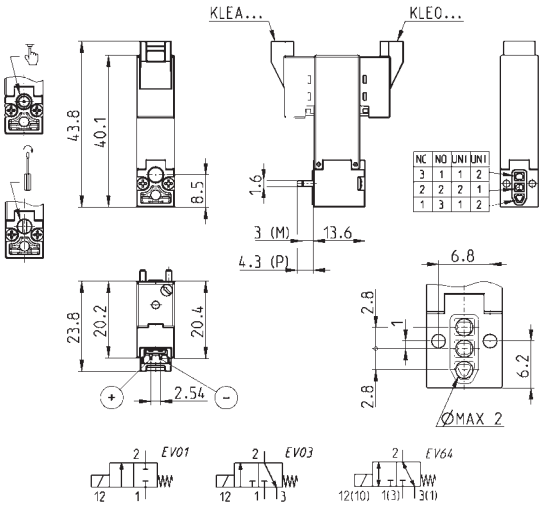
* add
- BODY DESIGN
- MANUAL OVERRIDE

- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Series KLE solenoid valve - 3/2-way - in-line connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic

Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE*40-A63A*-B**	3/2 NC	0.6	0.12	0 ÷ 9	1
KLE*40-A83A*-B**	3/2 NC	0.8	0.18	0 ÷ 7	1
KLE*40-B13A*-B**	3/2 NC	1.1	0.33	0 ÷ 7	4 / 1
KLE*40-B33A*-B**	3/2 NC	1.3	0.37	0 ÷ 4	4 / 1
KLE*50-A63A*-B**	3/2 NO	0.6	0.12	0 ÷ 9	1
KLE*50-A83A*-B**	3/2 NO	0.8	0.18	0 ÷ 7	1
KLE*50-B13A*-B**	3/2 NO	1.0	0.30	0 ÷ 7	4 / 1
KLE*50-B33A*-B**	3/2 NO	1.3	0.37	0 ÷ 4	4 / 1
KLE*60-A63A*-B**	3/2 UNI	0.6	0.12	0 ÷ 7	1
KLE*60-A83A*-B**	3/2 UNI	0.8	0.18	0 ÷ 4	1
KLE*60-B13A*-B**	3/2 UNI	1.1	0.30	0 ÷ 4	4 / 1
KLE*60-B33A*-B**	3/2 UNI	1.3	0.37	0 ÷ 3	4 / 1



* add
- BODY DESIGN
- MANUAL OVERRIDE

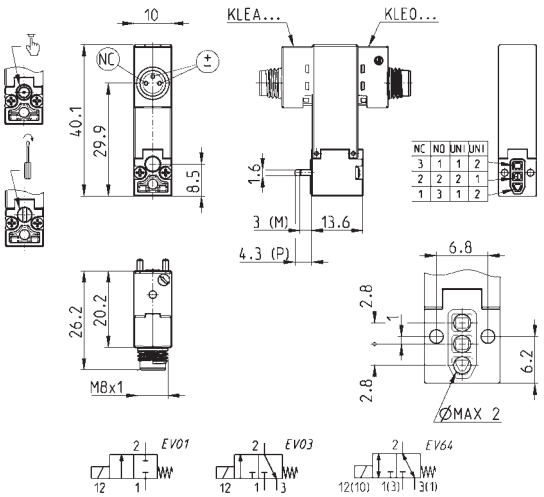
- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Series KLE solenoid valve - 3/2-way - M8 connector

Supplied with:
1x interface seal
2x M1.6x14.7 screws for mounting on metal
or
2x Ø1.6x16 screws for mounting on plastic

The M8 connector accepts polarity reversal

Mod.	Function	Orifice Ø (mm)	kv (l/min)	Pressure min ÷ max (bar)	Power (W)
KLE*40-A63A*-M**	3/2 NC	0.6	0.12	0 ÷ 9	1
KLE*40-A83A*-M**	3/2 NC	0.8	0.18	0 ÷ 7	1
KLE*50-A63A*-M**	3/2 NO	0.6	0.12	0 ÷ 9	1
KLE*50-A83A*-M**	3/2 NO	0.8	0.18	0 ÷ 7	1
KLE*60-A63A*-M**	3/2 UNI	0.6	0.12	0 ÷ 7	1
KLE*60-A83A*-M**	3/2 UNI	0.8	0.18	0 ÷ 4	1



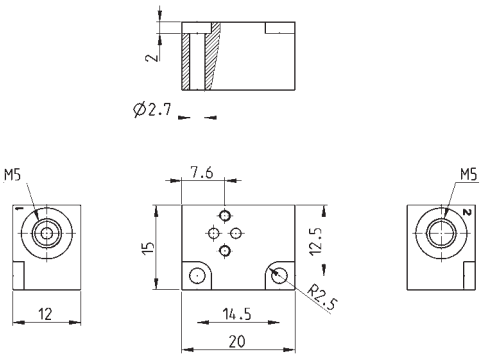
* add
- BODY DESIGN
- MANUAL OVERRIDE

- VOLTAGE
- FIXING
(see CODING EXAMPLE)

Single sub-base for 2-way solenoid valve size 10 mm

Single sub-base suitable for Series KL 2-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads

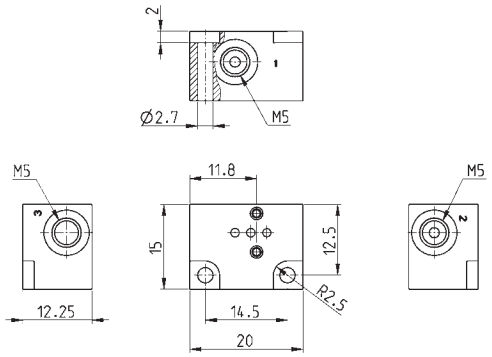


Mod.
KL01-02

Single sub-base for 3-way solenoid valve size 10 mm

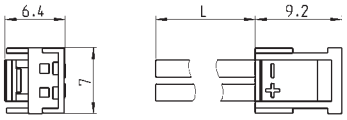
Single sub-base suitable for Series KN - KL - KLE 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads



Mod.
KN01-02

Connector with flying leads Mod. 121-8..

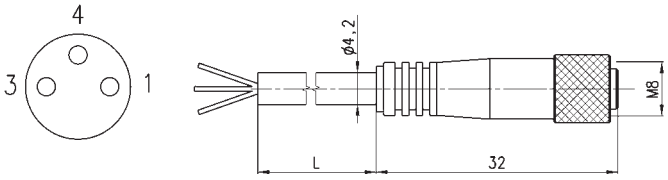


Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

3-wire extension with M8 3-pin female connector

With PU sheathing, non shielded cable.
Protection class: IP65

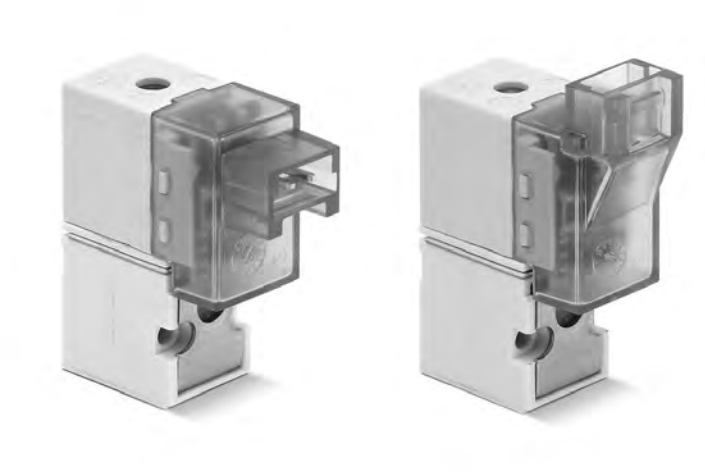
1 BN = Brown
4 BK = Black
3 BU = Blue



Mod.	L = cable length (m)
CS-2	2
CS-5	5
CS-10	10

Series KN and KN High Flow directly operated solenoid valves

3/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Universal (UNI)



- Low energy consumption
- Compact design
- High Flow
- ISO 15218 Interface
- Version for use with oxygen available

Thanks to its low energy consumption and to its compact design, the KN miniaturized solenoid valve can be used in industrial and scientific applications.

The Series KN directly operated solenoid valves are available also in the high flow version (KN High Flow).

GENERAL DATA

TECHNICAL FEATURES	
Function	3/2 NC - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface
Orifice diameter	0.65 ... 1.1 mm
Flow coefficient kv (l/min)	0.15 ... 0.39
Operating pressure	0 ÷ 3 ... 7 bar
Operating temperature	0 ÷ 50 °C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	ON <10 ms - OFF <10 ms
Manual override	monostable
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	NBR - FKM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	5 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1.3/0.25 ... 4/1 W (inrush/holding)
Duty cycle	ED 100%
Electrical connection	connector mod. 121-8...
Protection class	IP50
Special versions available on demand	

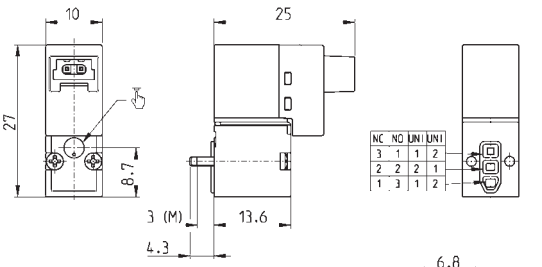
CODING EXAMPLE

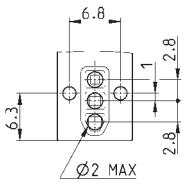
KN	0	00	-	3	0	3	-	K	1	3	

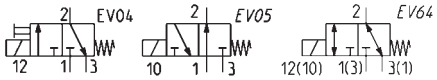
KN	SERIES
0	BODY DESIGN 0 = single valve
00	NUMBER OF POSITIONS 00 = interface
3	NUMBER OF WAYS - FUNCTIONS 3 = 3/2-way - NC 4 = 3/2-way - NO 7 = 3/2-way - UNI
0	PORTS 0 = ISO 15218 on subbase or manifold
3	ORIFICE DIAMETER 3 = Ø 0.65 mm 5 = Ø 1.1 mm - only for NC version with minimum pressure required to operate 6 = Ø 1.1 mm
K	MATERIALS F = PBT body - FKM poppet - FKM other seals K = PBT body - FKM poppet - NBR other seals
1	ELECTRICAL CONNECTION 1 = 90° connection with protection and led B = in-line connection with protection and led
3	VOLTAGE - POWER CONSUMPTION 2 = 12 V DC - 1.3/0.25 W 3 = 24 V DC - 1.3/0.25 W 5 = 5 V DC - 4/1 W 7 = 12 V DC - 4/1 W 8 = 24 V DC - 4.1 W
	FIXING = fixing screws for plastic M = fixing screws for metal
	OPTIONS = standard OX2 = for use with oxygen (non volatile residual less than 33 mg/m²)

Series KN solenoid valve - 3/2-way - 90° connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x14.7 screws for mounting on metal





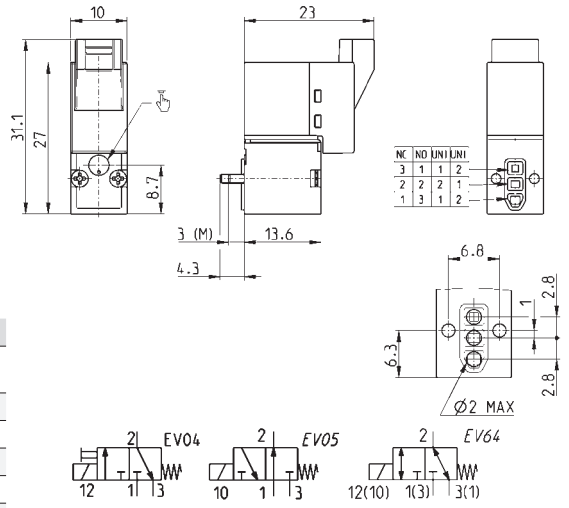


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)	Symb.
KN000-303-K1*	3/2 NC	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV04
KN000-303-F1*	3/2 NC	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV04
KN000-305-F1*	3/2 NC	1.1	0.39	3 ÷ 7	4 / 1	EV04
KN000-306-F1*	3/2 NC	1.1	0.39	0 ÷ 3	4 / 1	EV04
KN000-403-F1*	3/2 NO	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV05
KN000-703-F1*	3/2 UNI	0.65	0.15	0 ÷ 4	1.3 / 0.25	EV64
KN000-706-F1*	3/2 UNI	1.1	0.39	0 ÷ 1.5	4 / 1	EV64

* add
- VOLTAGE
(see CODING EXAMPLE)

Series KN solenoid valve - 3/2-way - in-line connector

Supplied with:
1x interface seal
2x Ø1.6x16 screws for mounting on plastic
or
2x M1.6x14.7 screws for mounting on metal



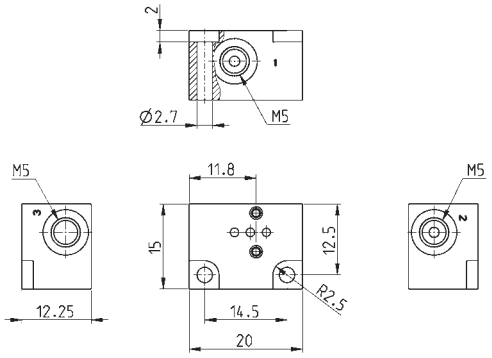
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)	Symb.
KN000-303-KB*	3/2 NC	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV04
KN000-303-FB*	3/2 NC	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV04
KN000-305-FB*	3/2 NC	1.1	0.39	3 ÷ 7	4 / 1	EV04
KN000-306-FB*	3/2 NC	1.1	0.39	0 ÷ 3	4 / 1	EV04
KN000-403-FB*	3/2 NO	0.65	0.15	0 ÷ 7	1.3 / 0.25	EV05
KN000-703-FB*	3/2 UNI	0.65	0.15	0 ÷ 4	1.3 / 0.25	EV64
KN000-706-FB*	3/2 UNI	1.1	0.39	0 ÷ 1.5	4 / 1	EV64

* add
- VOLTAGE
(see CODING EXAMPLE)

Single sub-base for 3-way solenoid valve size 10 mm

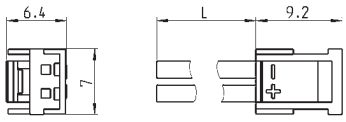
Single sub-base suitable for Series KN - KL -KLE 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads



Mod.
KN01-02

Connector with flying leads Mod. 121-8..

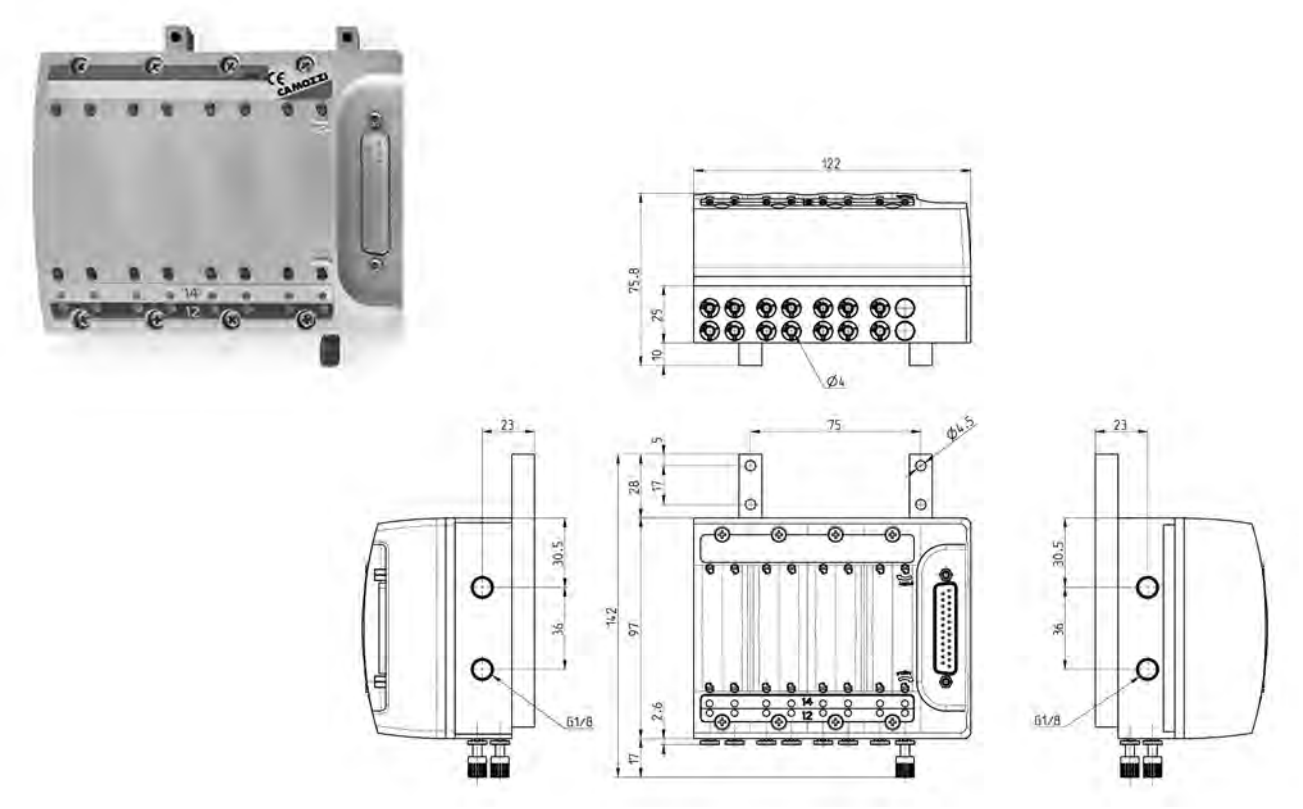


Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

Example of SERIES KN MANIFOLD VERSION - Max 16 positions on demand

Pneumatics and electronics integrated
Valve functions: 2x2/2 - 2x3/2
Pneumatic modularity
10mm valve width

Several solutions of electrical connection.
Modules for digital inputs can be connected.

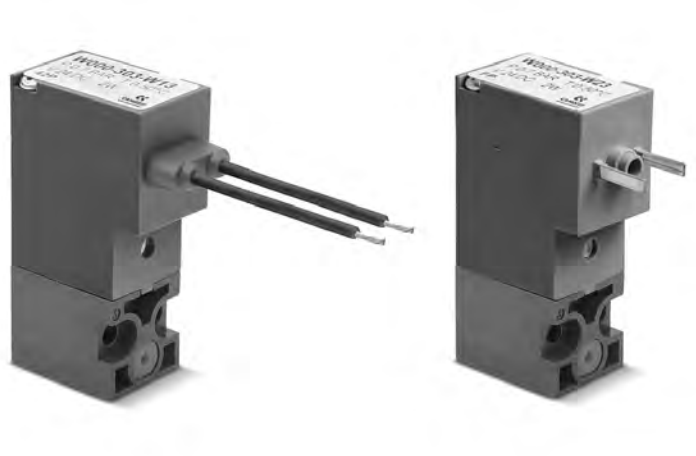


TECHNICAL FEATURES

Pneumatic connections	tube collet ø 4 mm
Nominal diameter	0.65 mm
Nominal flow	10 Nl/min (single solenoid valve)
Operating pressure	0 ÷ 7 bar
Operating temperature	0 ÷ +50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Seals	HNBR, NBR (FKM on demand)
Voltage	24 V DC
Voltage tolerance	±10%
Power consumption	1.3 W (inrush), 0.25 W (holding)
Duty cycle	ED 100%
Electrical connection	Multipole-PNP / Individual / Fieldbus

Series W
directly operated solenoid valves

3/2-way - Normally Closed (NC) and Normally Open (NO)



- Can be mounted on a single base (M5 connections) or on manifold (M5 connections or fittings for Ø3 or Ø4 tube).
- Electrical connection with flyling leads or in compliance to DIN EN 175 301-803-C standard

Series W directly operated solenoid valves are available as 3/2-way either NC or NO. Both versions can be mounted on single sub-bases or manifolds and they are equipped with a monostable manual override.

GENERAL DATA

TECHNICAL FEATURES	
Function	3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface
Orifice diameter	0.8 ... 1.5 mm
Flow coefficient kv (l/min)	0.21 ... 0.54
Operating pressure	0 ÷ 5 ... 10 bar
Operating temperature	0 ÷ 50 °C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 ms - OFF <15 ms
Manual override	monostable
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	PU - NBR - FKM - EPDM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 ... 48 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	connector DIN EN 175 301-803-C (8 mm) - 300 mm flying leads
Protection class	IP65 with connector
Special versions available on demand	

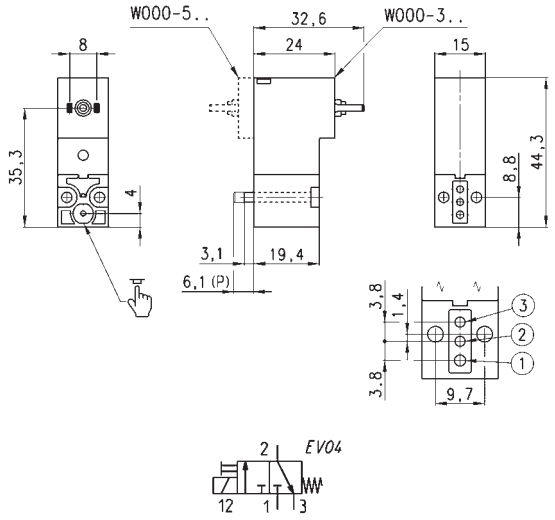
CODING EXAMPLE

W	0	00	-	3	0	3	-	W	2	3	

W	SERIES
0	BODY DESIGN 0 = single sub-base (only M5) or interface 1 = single manifold 2 = double manifold
00	NUMBER OF POSITIONS 00 = ISO 15218 interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS 0 = manifold or single sub-base 3 = 3/2-way - NC 4 = 3/2-way - NO 5 = 3/2-way - NC electric part revolved by 180° 6 = 3/2-way - NO electric part revolved by 180°
0	VALVE PORTS 0 = ISO 15218 interface MANIFOLD PORTS for P - PL - PN - W Series 2 = M5 thread - front outlets 3 = tube Ø 3 mm fittings - front outlets 4 = tube Ø 4 mm fittings - front outlets 6 = M5 thread - bottom outlets 7 = tube Ø 3 mm fittings - bottom outlets 8 = tube Ø 4 mm fittings - bottom outlets
3	ORIFICE DIAMETER 1 = Ø 0.8 mm 3 = Ø 1.5 mm 5 = Ø 1.1 mm - NC versions 6 = Ø 1.5 mm - NC versions with voltage tolerance -25% ÷ +10% 5 = Ø 0.9 mm - NO versions
W	MATERIALS E = PBT body - EPDM seals F = PBT body - FKM seals W = PBT body - NBR - FKM - PU seals
2	ELECTRICAL CONNECTION 1 = 300 mm flying leads 2 = DIN EN 175 301-803-C (8 mm)
3	VOLTAGE - POWER CONSUMPTION 2 = 12 V DC - 2 W 3 = 24 V DC - 1 W - NC Ø 0.8 mm version only 3 = 24 V DC - 2 W 4 = 48 V DC - 2 W
	FIXING = fixing screws for metal P = fixing screws for plastic
	OPTIONS: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m^2) OX2 = for use with oxygen (non volatile residual less than 33 mg/m^2)

Series W solenoid valve - 3/2-way NC - DIN EN 175 301-803-C (8 mm)

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic



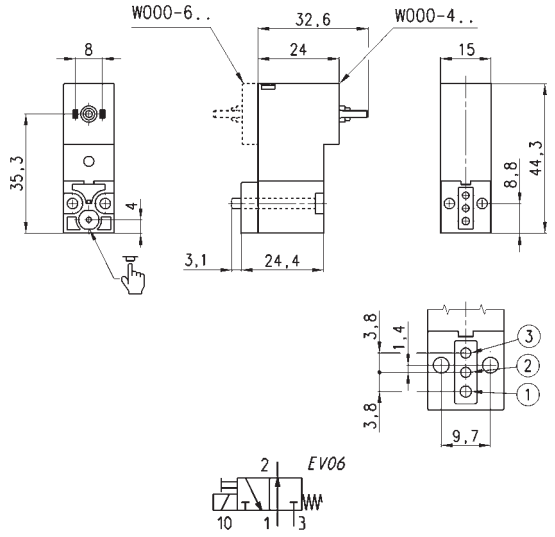
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
W000-301-*23	3/2 NC	0.8	0.21	0 ÷ 10	1
W000-305-*2*	3/2 NC	1.1	0.39	0 ÷ 10	2
W000-303-*2*	3/2 NC	1.5	0.54	0 ÷ 7	2
W000-306-*2*	3/2 NC	1.5	0.39	0 ÷ 3	2
W000-501-*23	3/2 NC	0.8	0.21	0 ÷ 10	1
W000-505-*2*	3/2 NC	1.1	0.39	0 ÷ 10	2
W000-503-*2*	3/2 NC	1.5	0.54	0 ÷ 7	2
W000-506-*2*	3/2 NC	1.5	0.39	0 ÷ 3	2
W000-303-W22	3/2 NC	1.5	0.54	0 ÷ 7	2
W000-306-W23	3/2 NC	1.5	0.39	0 ÷ 3	2

* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Series W solenoid valve - 3/2-way NO - DIN EN 175 301-803-C (8 mm)

Supplied with:
1x interface for NO with position ports as per NC
(ports 1 and 3 are inverted)
2x interface seals
2x M3x25 screws for mounting on metal



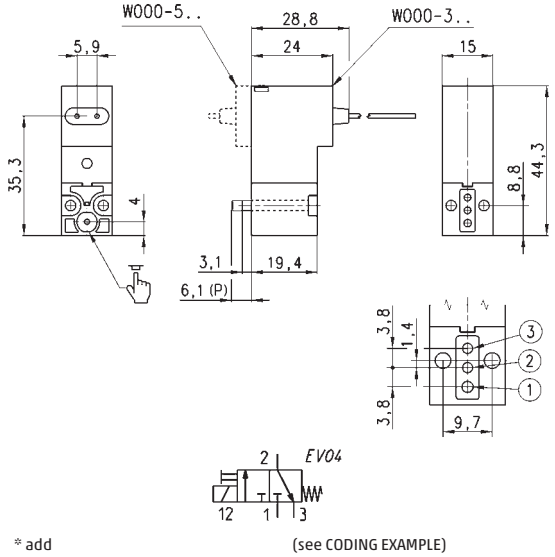
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
W000-405-*2*	3/2 NO	0.9	0.23	0÷10	2
W000-403-*2*	3/2 NO	1.5	0.39	0÷5	2
W000-605-*2*	3/2 NO	0.9	0.23	0÷10	2
W000-603-*2*	3/2 NO	1.5	0.39	0÷5	2

* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Series W solenoid valve - 3/2-way NC - 300 mm flying leads

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic



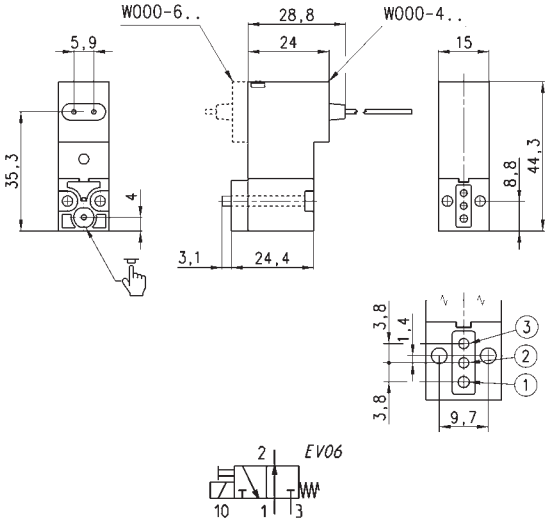
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
W000-301-*13*	3/2 NC	0.8	0.21	0÷10	1
W000-305-*1*	3/2 NC	1.1	0.39	0÷10	2
W000-303-*1*	3/2 NC	1.5	0.54	0÷7	2
W000-306-*1*	3/2 NC	1.5	0.39	0÷3	2
W000-501-*13	3/2 NC	0.8	0.21	0÷10	1
W000-505-*1*	3/2 NC	1.1	0.39	0÷10	2
W000-503-*1*	3/2 NC	1.5	0.54	0÷7	2
W000-506-*1*	3/2 NC	1.5	0.39	0÷3	2
W000-303-W12	3/2 NC	1.5	0.54	1.5	2
W000-305-W12	3/2 NC	1.1	0.39	0÷10	2

* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Series W solenoid valve - 3/2-way NO - 300 mm flying leads

Supplied with:
1x interface for NO with position ports as per NC (ports 1 and 3 are inverted)
2x interface seals
2x M3x25 screws for mounting on metal



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
W000-405-*1*	3/2 NO	0.9	0.23	0÷10	2
W000-403-*1*	3/2 NO	1.5	0.39	0÷5	2
W000-605-*1*	3/2 NO	0.9	0.23	0÷10	2
W000-603-*1*	3/2 NO	1.5	0.39	0÷5	2

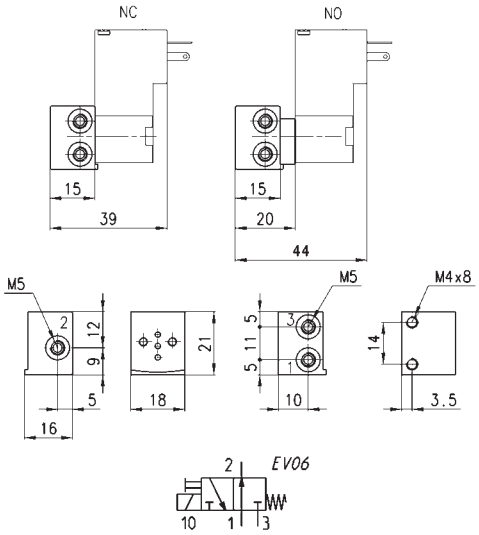
* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Single sub-base for 3-way solenoid valve size 15 mm

Single sub-base suitable for Series P - PL - PN - W 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads

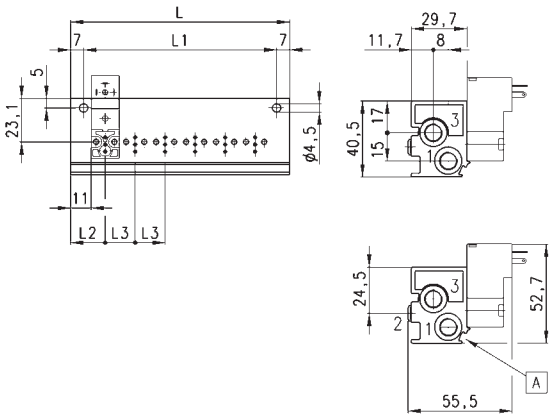


Mod.
P001-02

Manifold - single side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

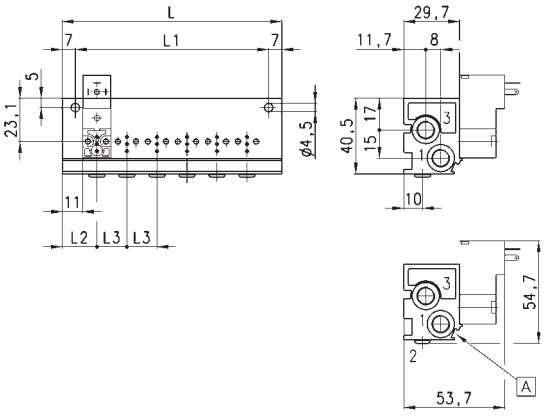
A= groove for identification label

Manifold - single side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

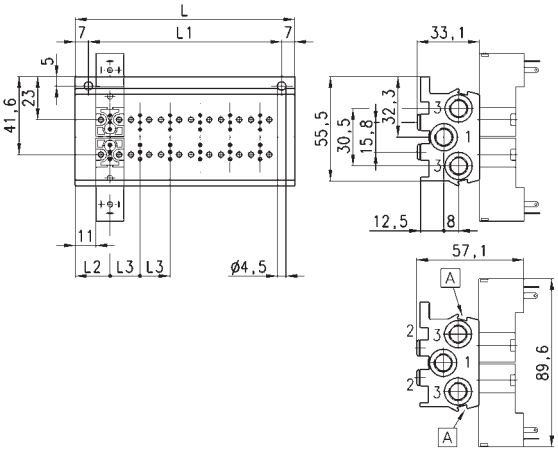
* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A= groove for identification label

Manifold - double side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

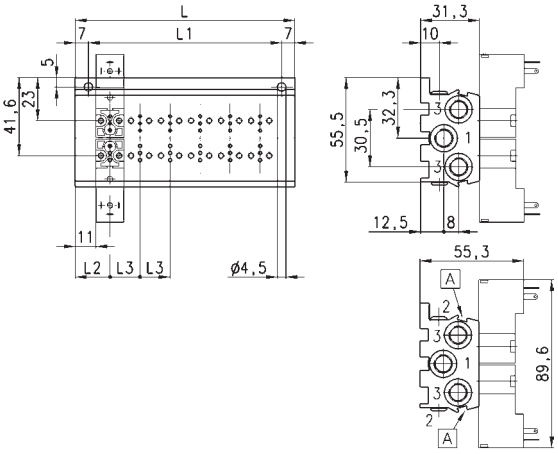
A= groove for identification label

Manifold - double side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



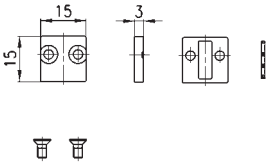
DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A= groove for identification label

Position valve cap

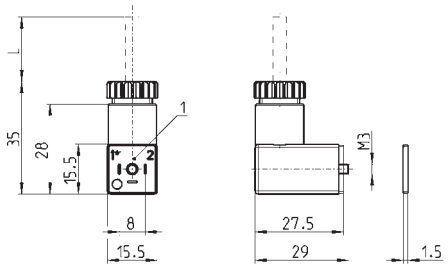
Supplied with:
1x position valve cap
1x interface seal
2x screws



Mod.
P000-TP

1 = 90° adjustable connector

Connector Mod. 126-... - DIN EN 175 301-803-C (8 mm)

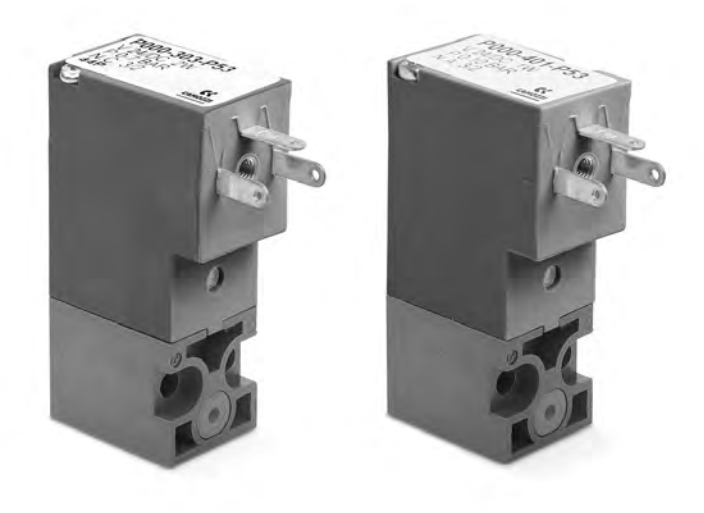


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
126-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
126-800	connector, without electronics	black	-	-	PG7	0.3 Nm
126-701	connector, varistor + Led	transparent	24 V AC/DC	-	PG7	0.3 Nm

1 = 90° adjustable connector

Series P
directly operated solenoid valves

3/2-way - Normally Closed (NC) and Normally Open (NO)



» Can be mounted on a single base (M5 connections) or on manifold (M5 connections or fittings for Ø3 o Ø4 tube).

Series P directly operated solenoid valves are available as 3/2-way, either NC or NO. Both versions can be mounted on single sub-bases or manifolds and they are equipped with a monostable manual override.

Please note that all Series P solenoid valves are supplied with direct current (DC).
To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

GENERAL DATA

TECHNICAL FEATURES	
Function	3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface
Orifice diameter	0.8 ... 1.5 mm
Flow coefficient kv (l/min)	0.21 ... 0.54
Operating pressure	0 ÷ 3 ... 10 bar
Operating temperature	0 ÷ 50 °C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 ms - OFF <15 ms
Manual override	monostable
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	PU - NBR - FKM - EPDM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 ... 110 V DC - 24 ... 110 V AC 50/60 Hz - other voltages on demand
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	industrial standard connector (9.4 mm)
Protection class	IP65 with connector
Special versions available on demand	

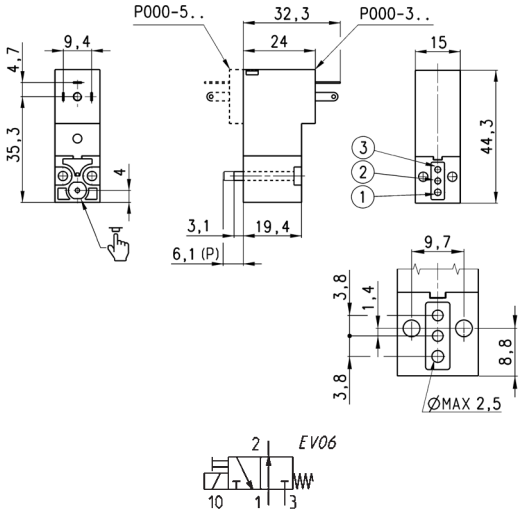
CODING EXAMPLE

P	0	00	-	3	0	3	-	P	5	3	

P	SERIES
0	BODY DESIGN 0 = single sub-base (M5 only) or interface 1 = single manifold 2 = double sided manifold
00	NUMBER OF POSITIONS 00 = ISO 15218 interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS 0 = manifold or single base 3 = 3/2-way - NC 4 = 3/2-way - NO 5 = 3/2-way - NC electric part revolved by 180° 6 = 3/2-way - NO electric part revolved by 180°
0	VALVE PORTS 0 = ISO 15218 interface MANIFOLD PORTS for P - PL - PN - W Series 2 = M5 thread - front outlets 3 = tube Ø 3 mm fittings - front outlets 4 = tube Ø 4 mm fittings - front outlets 6 = M5 thread - bottom outlets 7 = tube Ø 3 mm fittings - bottom outlets 8 = tube Ø 4 mm fittings - bottom outlets
3	ORIFICE DIAMETER 1 = Ø 0.8 mm 3 = Ø 1.5 mm 5 = Ø 1.1 mm - NC versions 6 = Ø 1.5 mm - NC versions with voltage tolerance -25% ÷ +10% 5 = Ø 0.9 mm - NO versions
P	MATERIALS E = PBT body - EPDM seals F = PBT body - FKM seals P = PBT body - NBR - FKM - PU seals
5	ELECTRICAL CONNECTION 5 = industrial standard (9.4 mm)
3	VOLTAGE - POWER CONSUMPTION 2 = 12 V DC - 2 W 3 = 24 V DC - 1 W (solo per versione NC - Ø 0.8 mm) 3 = 24 V DC - 2 W 4 = 48 V DC - 2 W 6 = 110 V DC - 2W B = 24 V 50/60 Hz - 2 W C = 48 V 50/60 Hz - 2 W D = 110 V 50/60 Hz - 2W
	FIXING = fixing screws for metal P = fixing screws for plastic
	OPTIONS = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m^2) OX2 = for use with oxygen (non volatile residual less than 33 mg/m^2)

Series P solenoid valve - 3/2-way NC

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic



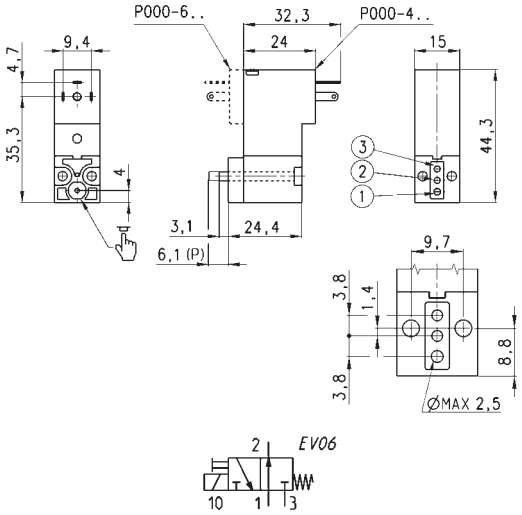
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
P000-301-*53	3/2 NC	0.8	0.21	0 ÷ 10	1
P000-305-*5*	3/2 NC	1.1	0.39	0 ÷ 10	2
P000-303-*5*	3/2 NC	1.5	0.54	0 ÷ 7	2
P000-306-*5*	3/2 NC	1.5	0.54	0 ÷ 3	2
P000-501-*53	3/2 NC	0.8	0.21	0 ÷ 10	1
P000-505-*5*	3/2 NC	1.1	0.39	0 ÷ 10	2
P000-503-*5*	3/2 NC	1.5	0.54	0 ÷ 7	2
P000-506-*5*	3/2 NC	1.5	0.39	0 ÷ 3	2

* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Series P solenoid valve - 3/2-way NO

Supplied with:
1x interface for NO with position ports as per NC (ports 1 and 3 are inverted)
2x interface seals
2x M3x25 screws for mounting on metal



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Power (W)
P000-405-*5*	3/2 NO	0.9	0.23	0 ÷ 10	2
P000-403-*5*	3/2 NO	1.5	0.39	0 ÷ 5	2
P000-605-*5*	3/2 NO	0.9	0.23	0 ÷ 10	2
P000-603-*5*	3/2 NO	1.5	0.39	0 ÷ 5	2

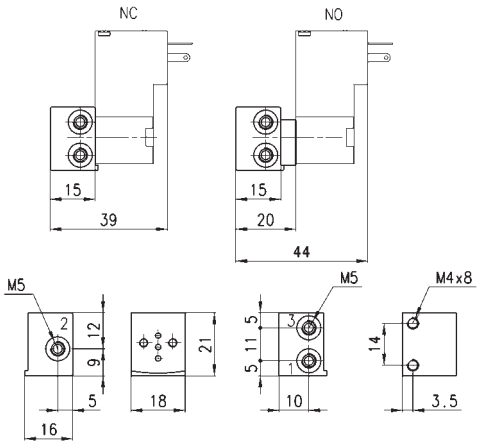
* add
- MATERIALS
- VOLTAGE

(see CODING EXAMPLE)

Single sub-base for 3-way solenoid valve size 15 mm

Single sub-base suitable for Series P - PL - PN - W 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads

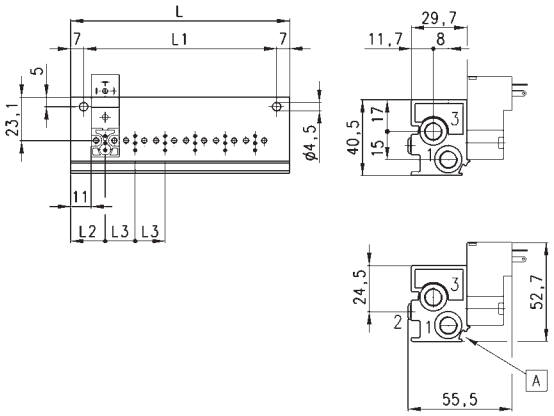


Mod.
P001-02

Manifold - single side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18.5	16	G1/8	G1/8
P103-0*	3	69	55	18.5	16	G1/8	G1/8
P104-0*	4	85	71	18.5	16	G1/8	G1/8
P105-0*	5	101	87	18.5	16	G1/8	G1/8
P106-0*	6	117	103	18.5	16	G1/8	G1/8

*add
- MANIFOLD PORTS
(see CODING EXAMPLE)

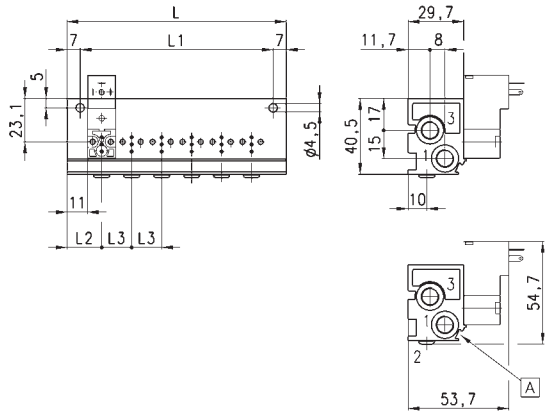
A = groove for identification label

Manifold - single side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18.5	16	G1/8	G1/8
P103-0*	3	69	55	18.5	16	G1/8	G1/8
P104-0*	4	85	71	18.5	16	G1/8	G1/8
P105-0*	5	101	87	18.5	16	G1/8	G1/8
P106-0*	6	117	103	18.5	16	G1/8	G1/8

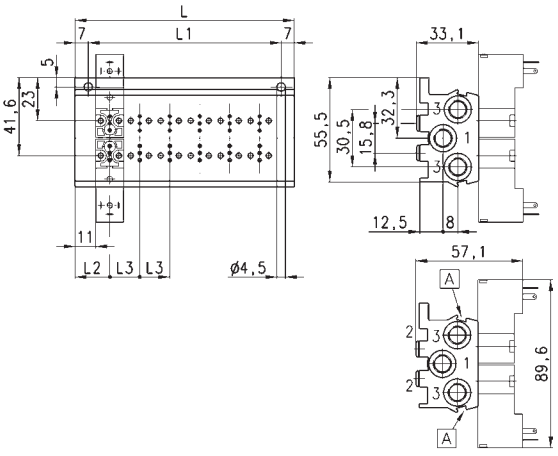
*add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A = groove for identification label

Manifold - double side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18.5	16	G1/8	G1/8
P206-0*	6	69	55	18.5	16	G1/8	G1/8
P208-0*	8	85	71	18.5	16	G1/8	G1/8
P210-0*	10	101	87	18.5	16	G1/8	G1/8
P212-0*	12	117	103	18.5	16	G1/8	G1/8

*add
- MANIFOLD PORTS
(see CODING EXAMPLE)

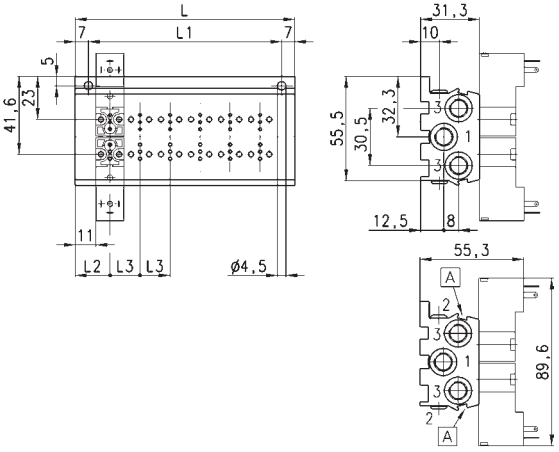
A = groove for identification label

Manifold - double side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



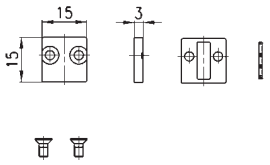
DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18.5	16	G1/8	G1/8
P206-0*	6	69	55	18.5	16	G1/8	G1/8
P208-0*	8	85	71	18.5	16	G1/8	G1/8
P210-0*	10	101	87	18.5	16	G1/8	G1/8
P212-0*	12	117	103	18.5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A = groove for identification label

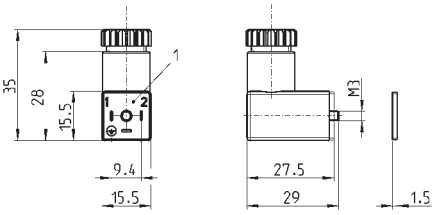
Position valve cap

Supplied with:
1x position valve cap
1x interface seal
2x screws



Mod.
P000-TP

Connector Mod. 125-... - industrial std. 9.4 mm

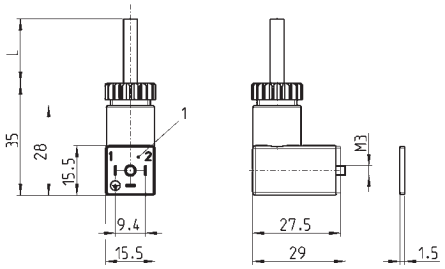


Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - 90° cable

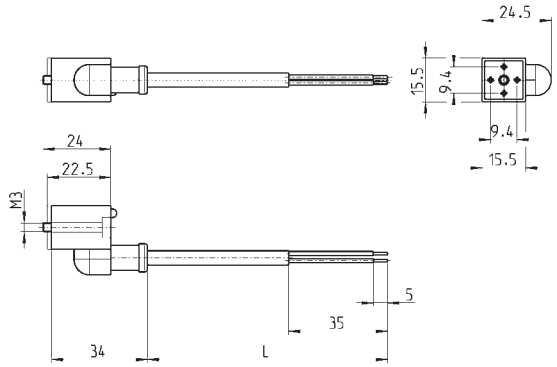
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

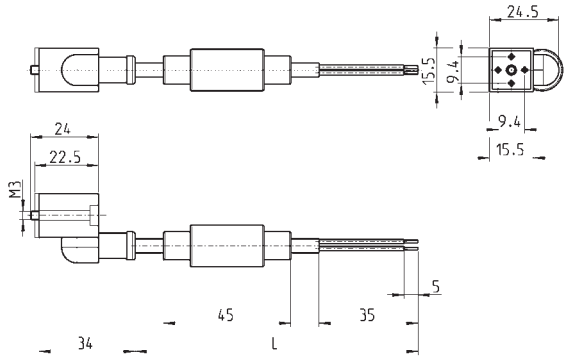
1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

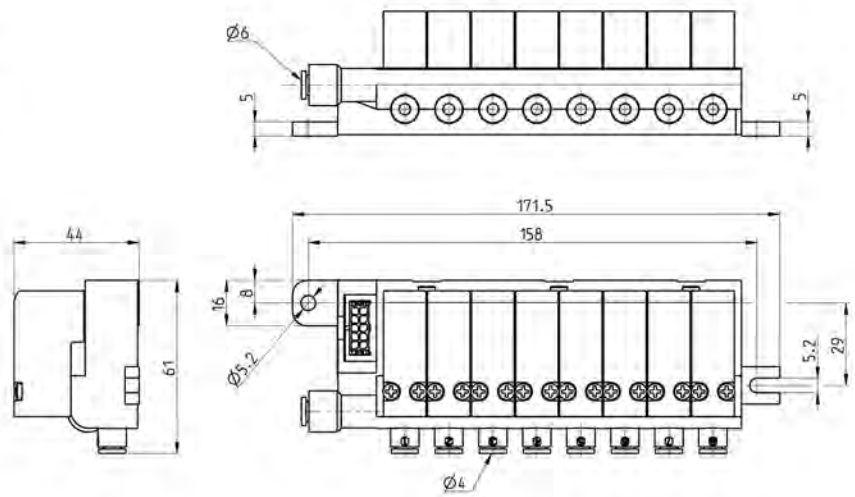
Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier

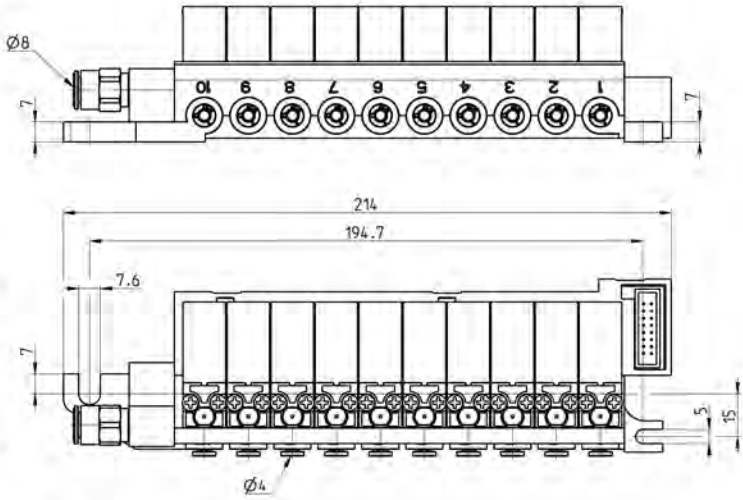


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

SERIES P MANIFOLD VERSION

Plug-In system based on Series P solenoid valves
Valve functions: 3/2 NC
Feasible versions: 8, 10 positions
Valve width: 15mm
Multipole electrical connection
Flexible assembly
Easy installation





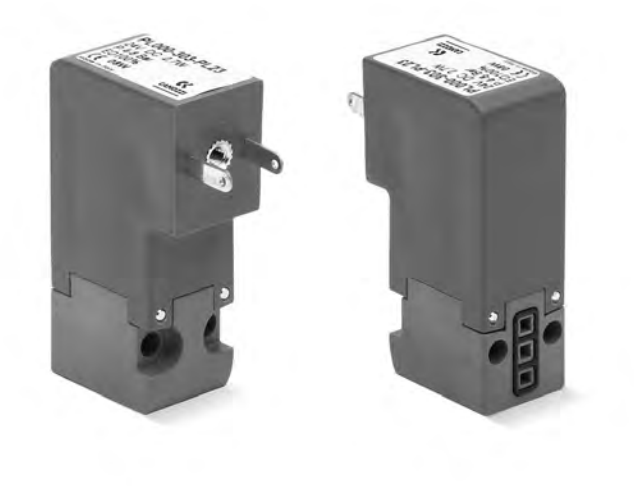
Pneumatic connections	tube* collect inlet and exhaust ø 8 mm - outlets ø 4 mm	* it is recommended to use tube Mod. TPC 4/2 (PU 98°Sh).
Nominal diameter	1.5 mm	For further information see Camozzi catalogue, section 4.4.15.
Nominal flow	35 Nl/min (single solenoid valve)	
Operating pressure	0 ÷ 7 bar	
Operating temperature	0 ÷ +50°C	
Medium	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas	

Seals	FKM, NBR (FKM on demand)

Voltage	24 V DC
Voltage tolerance	±10%
Power consumption	2 W
Duty cycle	ED 100%
Electrical connection	Multipole

Series PL
directly operated solenoid valves

3/2-way - Normally Closed (NC)



» Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge ø 3 and 4)

Series PL directly operated mini-solenoid valves are available in the NC version and can be mounted on single bases or on manifolds.

Please note that all Series PL solenoid valves are supplied with direct current (DC).
To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 2/2 NO - 3/2 NC - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	on subbase
Orifice diameter	1.1 ... 1.6 mm
Flow coefficient kv (l/min)	0.54
Operating pressure	0.34 ... 0.62
Operating temperature	0 ÷ 50 °C (FKM) / -50 ÷ 50 °C (NBR)
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <10 ms - OFF <15 ms
Manual override	not foreseen
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	brass - PBT - PPS
Seals	FKM - NBR
Internal parts	brass - stainless steel
ELECTRICAL FEATURES	
Voltage	6 ... 110 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1.2 ... 2.7 W
Duty cycle	ED 100%
Electrical connection	industrial standard connector (9.4 mm)
Protection class	IP65 with connector
Special versions available on demand	

CODING EXAMPLE

PL	0	00	-	3	0	3	-	PL	2	3	

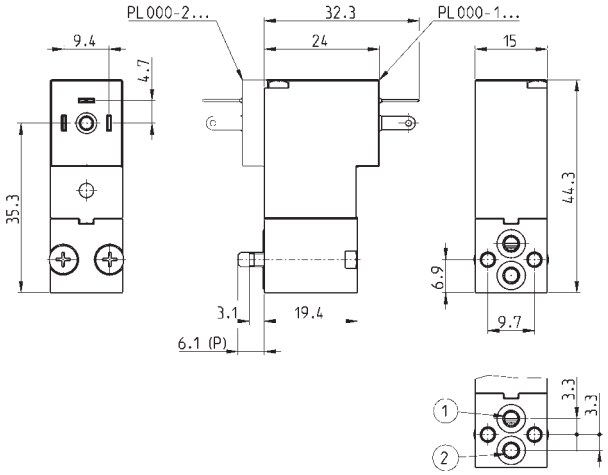
PL	SERIES
0	BODY DESIGN 0 = single sub-base (M5 only) or interface 1 = manifold - valves single side 2 = manifold - valves double side
00	NUMBER OF POSITIONS 00 = ISO 15218 or Series PD interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS 0 = manifolds or single base 1 = 2/2 vie - NC 2 = 2/2 vie - NC electric part revolved by 180° 9 = 2/2 vie - NO A = 2/2 vie - NO electric part revolved by 180° 3 = 3/2 vie - NC 5 = 3/2 vie - NC electric part revolved by 180° 4 = 3/2 vie - NO 6 = 3/2 vie - NO electric part revolved by 180° B = 3/2 vie - NO (NC interface) C = 3/2 vie - NO (NC interface) electric part revolved by 180° 7 = 3/2 vie - UNI 8 = 3/2 vie - UNI electric part revolved by 180°
0	VALVE PORTS 0 = ISO 15218 interface - 3/2-way A = ISO 15218 interface - 2/2-way B = series PD interface - 2/2-way MANIFOLD PORTS for P - PL - PN - W Series 2 = M5 thread - front outlets 3 = tube Ø 3 mm fittings - front outlets 4 = tube Ø 4 mm fittings - front outlets 6 = M5 thread - front outlets 7 = tube Ø 3 mm fittings - bottom outlets 8 = tube Ø 4 mm fittings - bottom outlets
3	ORIFICE DIAMETER 1 = Ø 0.8 mm 3 = Ø 1.5 mm (NC version with pressure 4 ÷ 8 bar only) 5 = Ø 1.5 mm 6 = Ø 1.5 mm (NC version with pressure 0 ÷ 3.5 bar only) 7 = Ø 1.6 mm
PL	MATERIALS PL = PBT body - FKM poppet seal - NBR other seals PF = PBT body - FKM seals PT = PBT body - Low Temperature NBR seals SF = PPS body - FKM seals ST = PPS body - Low Temperature NBR seals BL = nickel-planted brass body - NBR seals BF = nickel-planted brass body - FKM seals
2	ELECTRICAL CONNECTION 2 = industrial standard connection (9.4 mm)
3	VOLTAGE - POWER CONSUMPTION 1 = 6 V DC - 2.7 W - PBT 2 = 12 V DC - 2.7 W - PBT 3 = 24 V DC - 2.7 W - PBT D = 6 V DC - 2.2 W - PBT E = 12 V DC - 2.2 W - PBT A = 6 V DC - 2.2 W - PPS B = 12 V DC - 2.2 W - PPS C = 24 V DC - 2.2 W - PPS H = 110 V DC - 3 W - PPS
	FIXING = fixing screws for metal P = fixing screws for plastics
	OPTIONS = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m²)

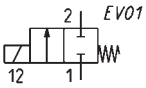
Series PL solenoid valve - 2/2-way NC - series PD interface

Supplied with:
2x O-Rings
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)





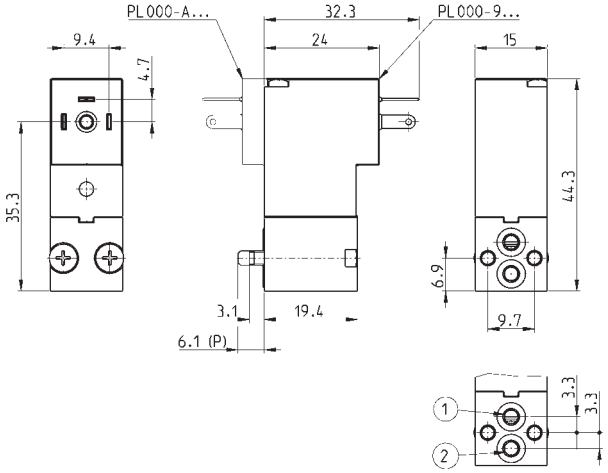
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max pressure (bar)			
PL000-1B7-PF2*	2/2 NC		1.6		0.62		PBT+brass	FKM	2.7
PL000-2B7-PF2*	2/2 NC		1.6		0.62		PBT+brass	FKM	2.7
PL000-1B7-BF2*	2/2 NC		1.6		0.62		brass	FKM	2.7
PL000-2B7-BF2*	2/2 NC		1.6		0.62		brass	FKM	2.7

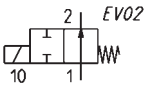
Series PL solenoid valve - 2/2-way NO - series PD interface

Supplied with:
2x O-Rings
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)





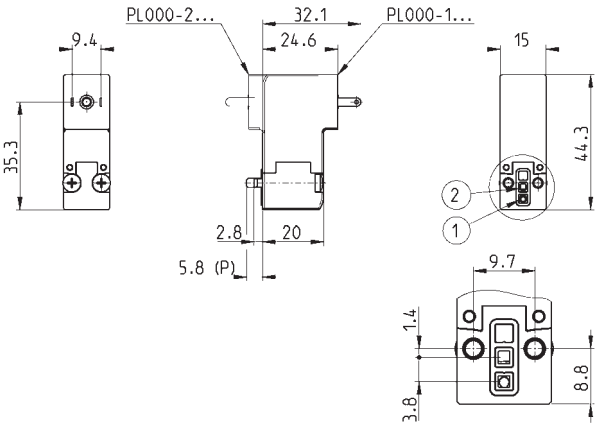
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max pressure (bar)			
PL000-9B7-PF2*	2/2 NO		1.6		0.62			FKM	2.7
PL000-AB7-PF2*	2/2 NO		1.6		0.62			FKM	2.7
PL000-9B7-BF2*	2/2 NO		1.6		0.62			FKM	2.7
PL000-AB7-BF2*	2/2 NO		1.6		0.62			FKM	2.7

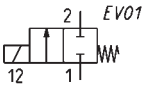
Series PL solenoid valve - 2/2-way NC - ISO 15218 interface

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Ambient temperature:
models PL000-...-SF... 0 ÷ 50 °C
models PL000-...-ST... -50 ÷ 50 °C

* add
- VOLTAGE
(see CODING EXAMPLE)





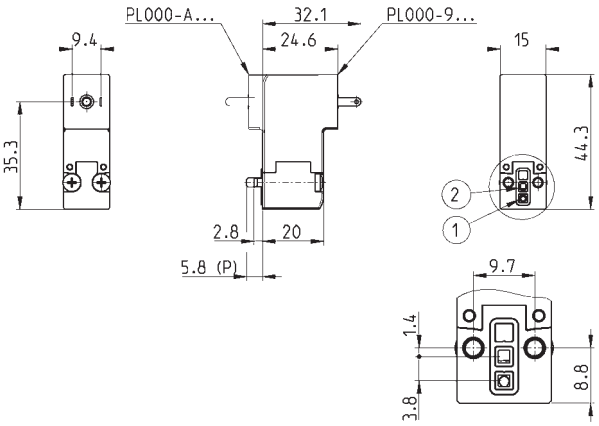
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)		
PL000-1A5-SF2*	2/2 NC		1.5		0.47			FKM	2.2
PL000-2A5-SF2*	2/2 NC		1.5		0.47			FKM	2.2
PL000-1A5-ST2*	2/2 NC		1.5		0.47			NBR (LT)	2.2
PL000-1A5-ST2*	2/2 NC		1.5		0.47			NBR (LT)	2.2

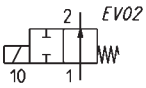
Series PL solenoid valve - 2/2-way NO - ISO 15218 interface

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Ambient temperature:
models PL000-...-SF... 0 ÷ 50 °C
models PL000-...-ST... -50 ÷ 50 °C

* add
- VOLTAGE
(see CODING EXAMPLE)





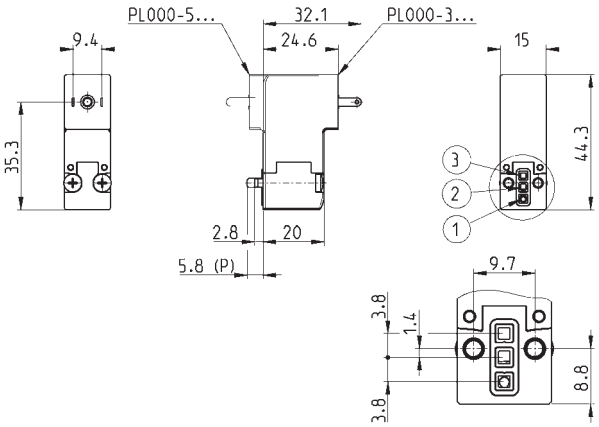
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)		
PL000-9A5-SF2*	2/2 NO		1.5		0.47			FKM	2.2
PL000-AA5-SF2*	2/2 NO		1.5		0.47			FKM	2.2
PL000-9A5-ST2*	2/2 NO		1.5		0.47			NBR (LT)	2.2
PL000-AA5-ST2*	2/2 NO		1.5		0.47			NBR (LT)	2.2

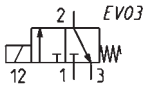
Series PL solenoid valve - 3/2-way NC - PBT body

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)





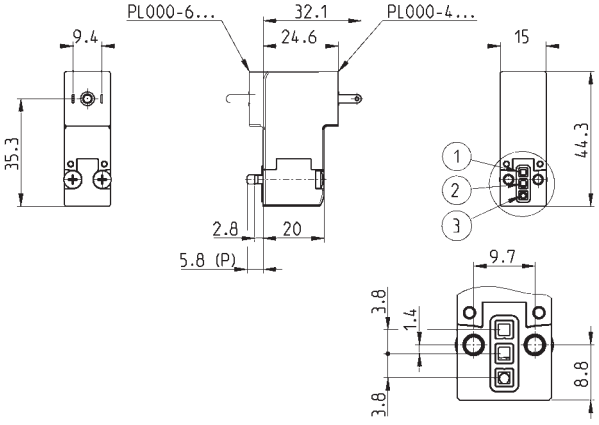
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)		
PL000-301-PL2*	3/2 NC	1.1		0.34				FKM+NBR	2.7
PL000-501-PL2*	3/2 NC	1.1		0.34				FKM+NBR	2.7
PL000-303-PL2*	3/2 NC	1.5		0.47		4 ÷ 8		FKM+NBR	2.7
PL000-503-PL2*	3/2 NC	1.5		0.47		4 ÷ 8		FKM+NBR	2.7
PL000-306-PL2*	3/2 NC	1.5		0.47		0 ÷ 3.5		FKM+NBR	2.7
PL000-506-PL2*	3/2 NC	1.5		0.47		0 ÷ 3.5		FKM+NBR	2.7
PL000-305-PF2*	3/2 NC	1.5		0.47				FKM	2.2
PL000-505-PF2*	3/2 NC	1.5		0.47				FKM	2.2

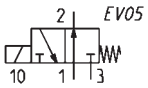
Series PL solenoid valve - 3/2-way NO - PBT body

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)





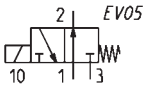
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)		
PL000-401-PL2*	3/2 NO	1.1		0.34				FKM+NBR	2.7
PL000-601-PL2*	3/2 NO	1.1		0.34				FKM+NBR	2.7
PL000-405-PL2*	3/2 NO	1.5		0.42				FKM+NBR	2.7
PL000-605-PL2*	3/2 NO	1.5		0.42				FKM+NBR	2.7

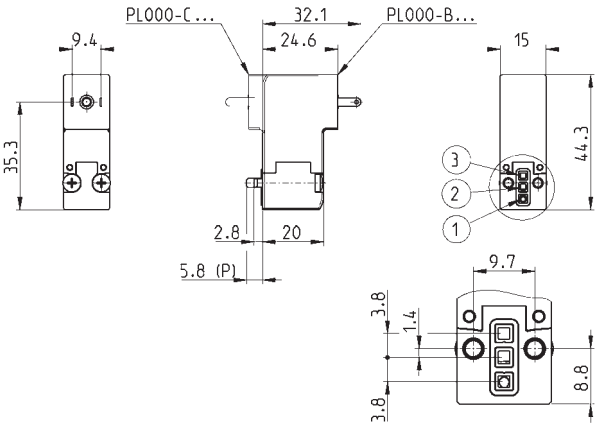
Series PL solenoid valve - 3/2-way NO - PBT body - interface as per NC

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)





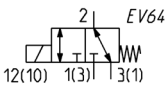
Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max pressure (bar)			
PL000-B01-PF2*	3/2 NO	1.1		0.34		0 ÷ 7	PBT+ottone	FKM+NBR	2.7
PL000-C01-PF2*	3/2 NO	1.1		0.34		0 ÷ 7	PBT+ottone	FKM+NBR	2.7
PL000-B05-PF2*	3/2 NO	1.5		0.42		0 ÷ 6.5	PBT+ottone	FKM+NBR	2.7
PL000-C05-PF2*	3/2 NO	1.5		0.42		0 ÷ 6.5	PBT+ottone	FKM+NBR	2.7

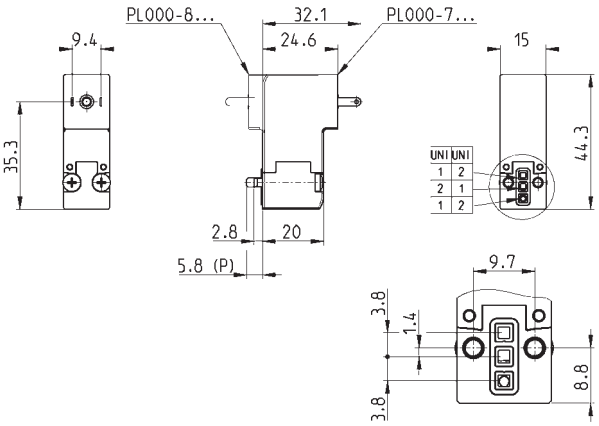
Series PL solenoid valve - 3/2-way UNI - PBT body

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Also availble models PL000-...-PT... for ambient temperature -50 ÷ 50 °C with NBR seals.

* add
- VOLTAGE
(see CODING EXAMPLE)



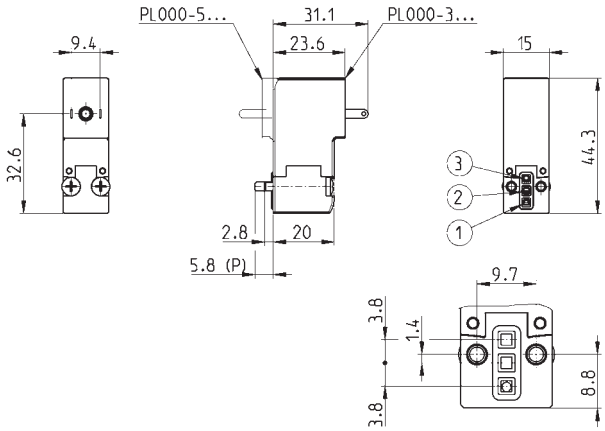


Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max pressure (bar)			
PL000-705-PL2*	3/2 NO	1.5		0.42			PTB+inox	FKM+NBR	2.2
PL000-805-PL2*	3/2 NO	1.5		0.42			PTB+inox	FKM+NBR	2.2
PL000-705-PF2*	3/2 NO	1.5					PTB+inox	FKM	2.2
PL000-805-PF2*	3/2 NO	1.5					PTB+inox	FKM	2.2

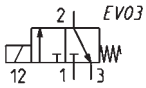
Series PL solenoid valve - 3/2-way NC - PPS body

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Ambient temperature: -50 ÷ 50 °C



* add
- VOLTAGE
(see CODING EXAMPLE)

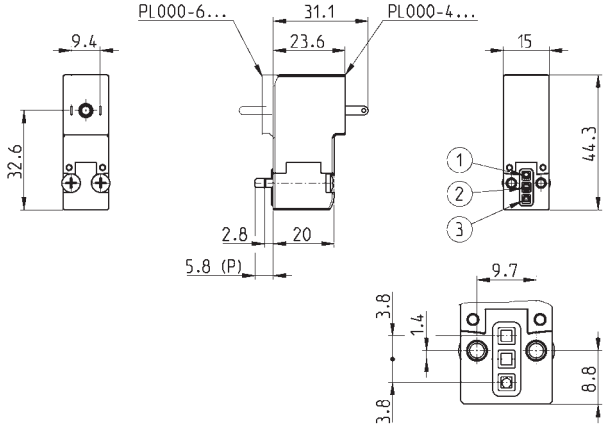


Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)			
PL000-501-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-305-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-301-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2
PL000-505-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2

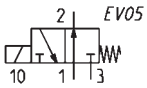
Series PL solenoid valve - 3/2-way NO - PPS body

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Ambient temperature: -50 ÷ 50 °C



* add
- VOLTAGE
(see CODING EXAMPLE))

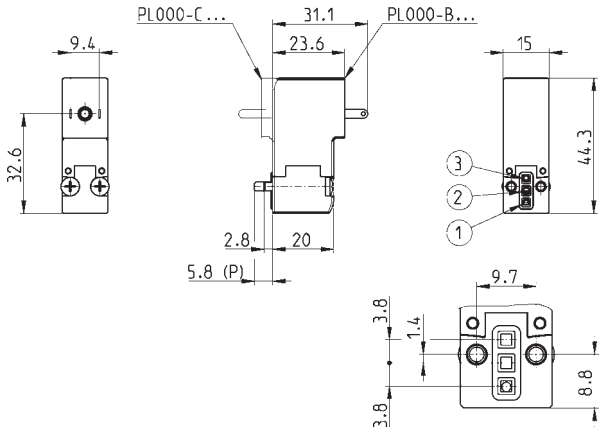


Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)			
PL000-401-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-601-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-405-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2
PL000-605-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2

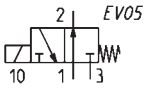
Series PL solenoid valve - 3/2-way NO - PPS body - interface as per NC

Supplied with:
1x interface seal
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

Ambient temperature: -50 ÷ 50 °C



* add
- VOLTAGE
(see CODING EXAMPLE))

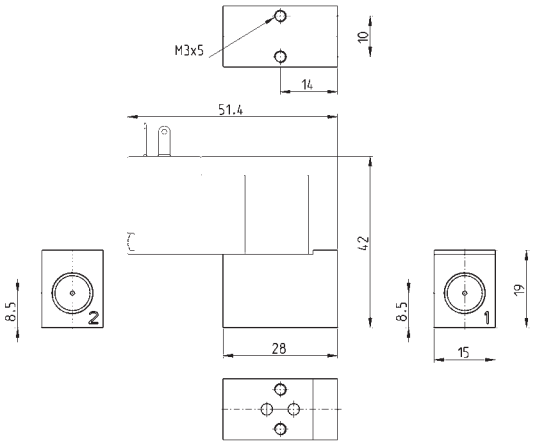


Mod.	Function	Orifice	Ø (mm)	kv	(l/min)	Min÷max	pressure (bar)			
PL000-B01-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-C01-ST2*	3/2 NO		1.1					PPS+inox	NBR (LT)	2.2
PL000-B05-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2
PL000-C05-ST2*	3/2 NO		1.5					PPS+inox	NBR (LT)	2.2

Single sub-base for 15mm size 3 way interface

Single sub-base suitable for 2-way solenoid valves Series PD and PL models PD000-2A..., PL000-1B..., PL000-9B...
Use solenoid valves with fixing screws for metal (see codification page)

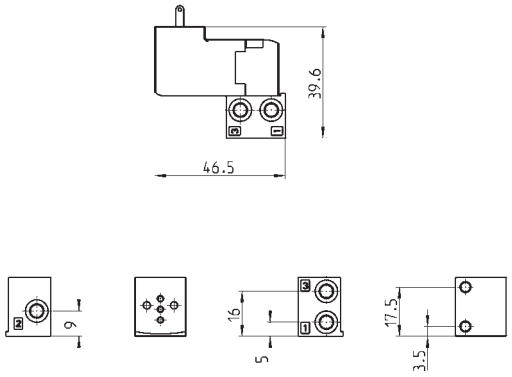
Material: anodized aluminium
Connections: G1/8 threads



Mod.
P001-02

Single sub-base suitable for Series P - PL - PN - W 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads

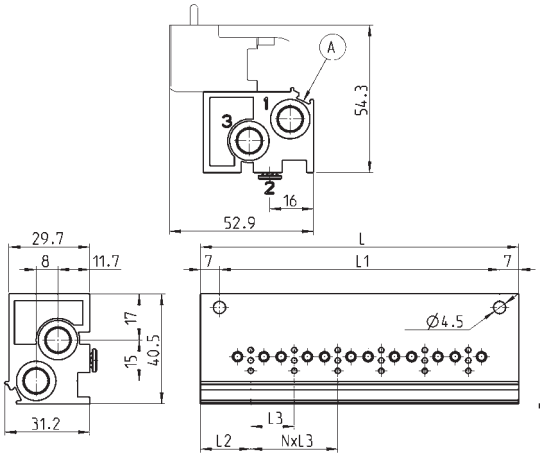


Mod.
P001-02

Single manifold with rear outlets

Manifold suitable for Series P - PL - PN - W 3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

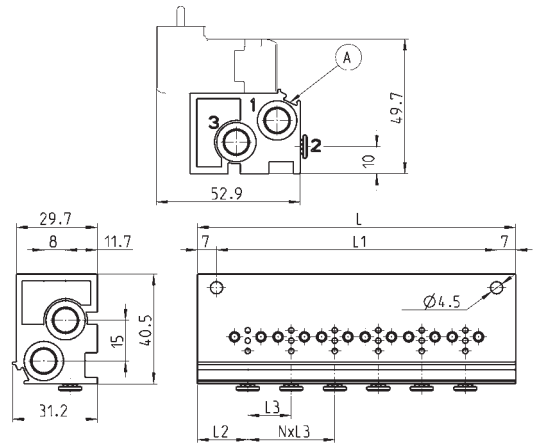
Material: anodized aluminium



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)ù

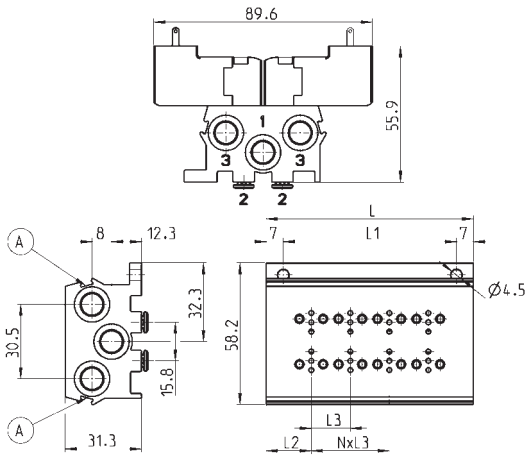
A = groove for identification label



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)ù

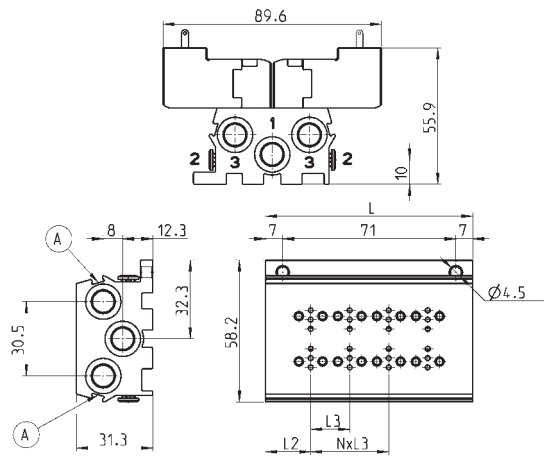
A = groove for identification label



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

Double sided manifold with front outlets

This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.



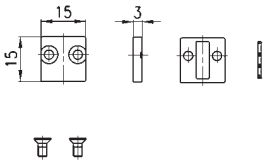
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)ù

A = groove for identification label

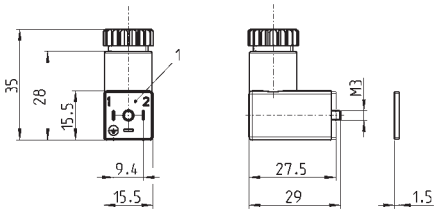
Valve position cap

The supply includes:
1 valve position cap
N ° 1 interface gasket
2 screws



Mod.
P000-TP

Industrial standard (9.4 mm) connector Mod. 125-...

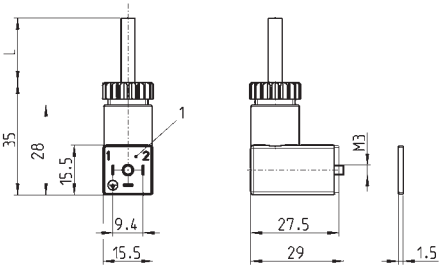


Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable

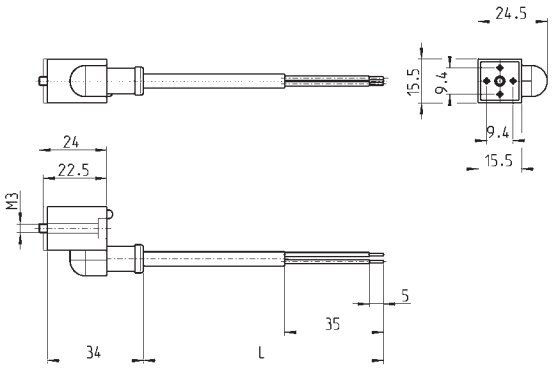
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

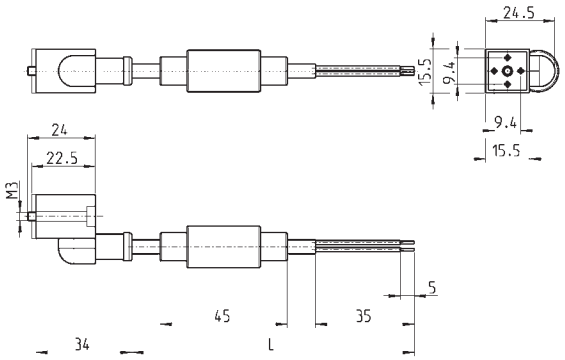
1 = 90° adjustable connector

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PN
directly operated solenoid valves

3/2-way - Normally Closed (NC)

Series PN directly operated solenoid valves are available as 3/2-way NC.

- Can be mounted on a single base (M5 connections) or on manifold (M5 connections or fittings for Ø3 o Ø4 tube)
- Compact design suitable for use in reduced mounting space

Please note that all Series PN solenoid valves are supplied with direct current (DC).
To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

GENERAL DATA

TECHNICAL FEATURES	
Function	3/2 NC
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 12238 interface
Orifice diameter	0.8 mm
Flow coefficient kv (l/min)	0.19
Operating pressure	0 ÷ 10 bar
Operating temperature	0 ÷ 50 °C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 ms - OFF <15 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PBT
Seals	FKM - NBR
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	24 ... 205 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	industrial standard connector (9.4 mm)
Protection class	IP65 with connector
Special versions available on demand	

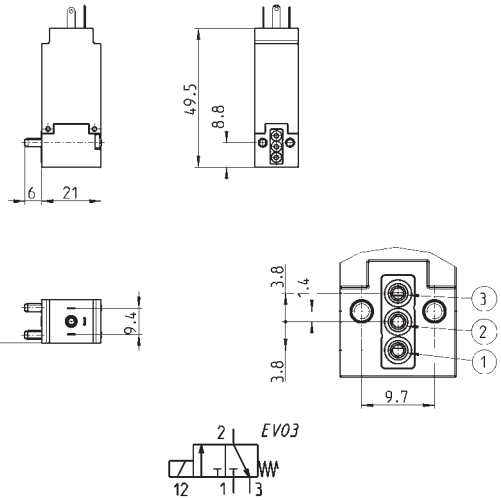
CODING EXAMPLE

PN	0	00	-	3	0	1	-	P	5	3	

PN	SERIES
0	BODY DESIGN 0 = single sub-base 1 = single manifold 2 = double sided manifold
00	NUMBER OF POSITIONS 00 = ISO 15218 interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS 0 = manifold or single base 3 = 3/2-way - NC
0	VALVE PORTS 0 = ISO 15218 interface MANIFOLD PORTS for P - PL - PN - W Series 2 = M5 thread - front outlets 3 = tube Ø 3 mm fittings - front outlets 4 = tube Ø 4 mm fittings - front outlets 6 = M5 thread - bottom outlets 7 = tube Ø 3 mm fittings - bottom outlets 8 = tube Ø 4 mm fittings - bottom outlets
1	ORIFICE DIAMETER 1 = Ø 0.8 mm
P	MATERIALS P = PBT body - seals FKM - NBR
5	ELECTRICAL CONNECTION 5 = industrial standard (9.4 mm)
3	VOLTAGE - POWER CONSUMPTION 3 = 24 V DC - 1 W 4 = 48 V DC - 2 W 6 = 110 V DC - 2W 7 = 205 V DC - 2W
	FIXING = fixing screws for plastic P = fixing screws for metal

Series PN solenoid valve - 3/2-way NC

Supplied with:
1x interface seal
2x Ø3x25 screws for mounting on plastic
or
2x M3x25 screws for mounting on metal



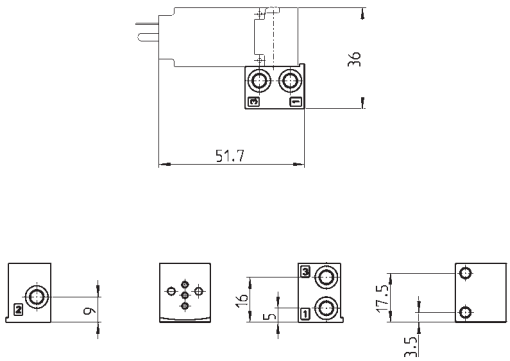
Mod.	Function	Orifice Ø (mm)	kv (l/m)	Min÷max pressure (bar)	Voltage Power
PN00-301-P53*	3/2 NC	0.8	0.19	0 ÷ 10	24 V DC 1 W
PN00-301-P54*	3/2 NC	0.8	0.19	0 ÷ 10	48 V DC 2 W
PN00-301-P56*	3/2 NC	0.8	0.19	0 ÷ 10	110 V DC 2 W
PN00-301-P57*	3/2 NC	0.8	0.19	0 ÷ 10	205 V DC 2 W
PN000-301-P53M	3/2 NC	0.8	0.19	0 ÷ 10	24 V DC 1 W
PN000-301-P57M	3/2 NC	0.8	0.19	0 ÷ 10	205 V DC 2 W

* add
- FIXING
(see CODING EXAMPLE)

Single sub-base for 3-way solenoid valve size 15 mm

Single sub-base suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium
Connections: M5 threads

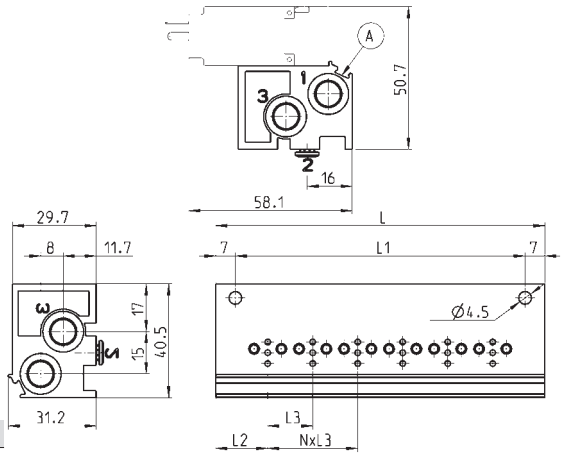


Mod.
P001-02

Manifold - single side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

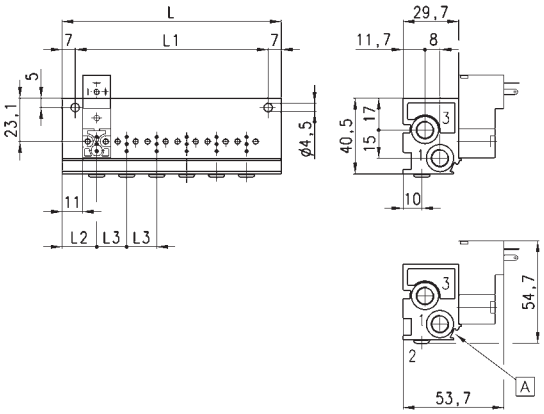
A= groove for identification label

Manifold - single side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

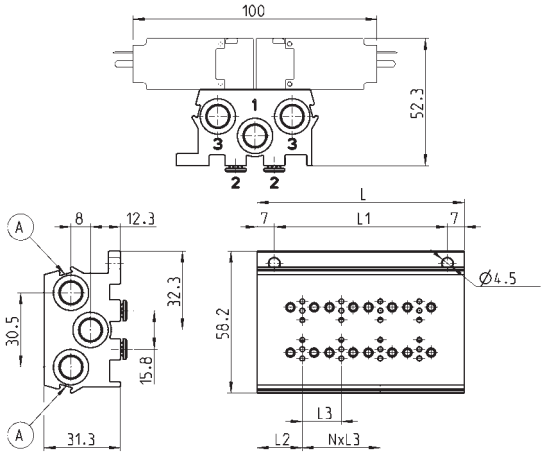
* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A= groove for identification label

Manifold - double side valve - bottom outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

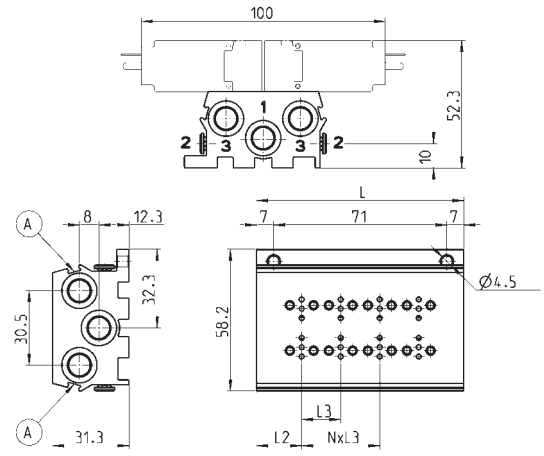
A= groove for identification label

Manifold - double side valve - frontal outlets

Manifold suitable for Series P - PL - PN - W
3-way solenoid valve
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



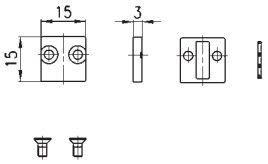
DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

* add
- MANIFOLD PORTS
(see CODING EXAMPLE)

A= groove for identification label

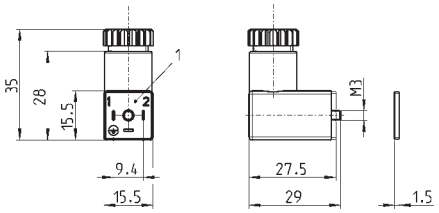
Position valve cap

Supplied with:
1x position valve cap
1x interface seal
2x screws



Mod.
P000-TP

Connector Mod. 125-... - industrial std. 9.4 mm

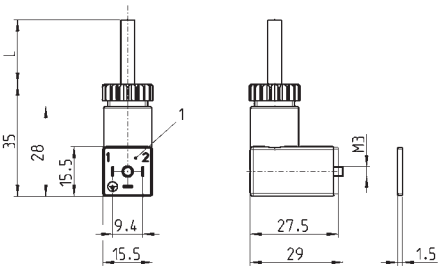


Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - 90° cable

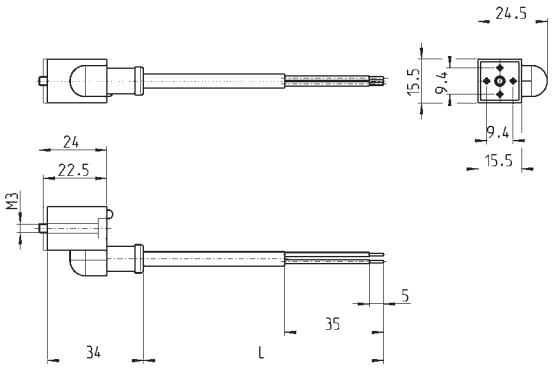
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

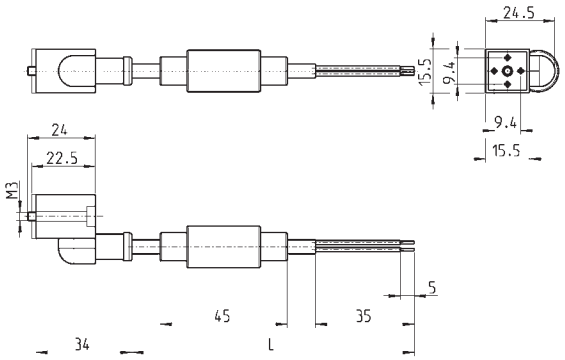
1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

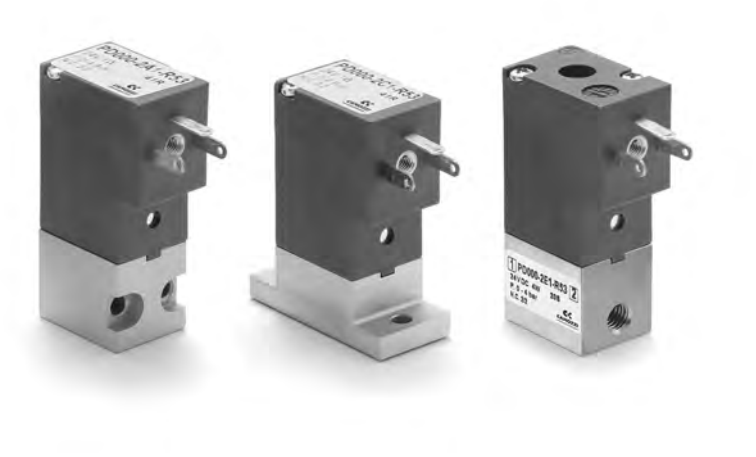
Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PD
directly operated solenoid valves

2/2-way - Normally Closed (NC)



This directly operated solenoid valve is available as 2/2-way, NC, in several sizes and in three different versions.

Please note that all Series PD solenoid valves are supplied with direct current (DC).
To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC
Operation	direct acting poppet type
Pneumatic connections	on subbase - M5 threads
Orifice diameter	0.8 ... 2.5 mm
Flow coefficient kv (l/min)	0.39 ... 1.93
Operating pressure	-0.9 ÷ 4 ... 12 bar
Operating temperature	0 ÷ 50 °C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas - liquids (on demand)
Response time	<15 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	brass - anodized aluminium - POM
Seals	NBR - FKM - EPDM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 ... 24 V DC - other voltages on demand
Voltage tolerance	1 and 2 W ±10% - 4 W ±5%
Power consumption	1 ... 4 W
Duty cycle	ED 100% (1 and 2 W) - ED 50% (4W) see the ED definition diagram
Electrical connection	industrial standard connector (9.4 mm)
Protection class	IP65 with connector
Special versions available on demand	

CODING EXAMPLE

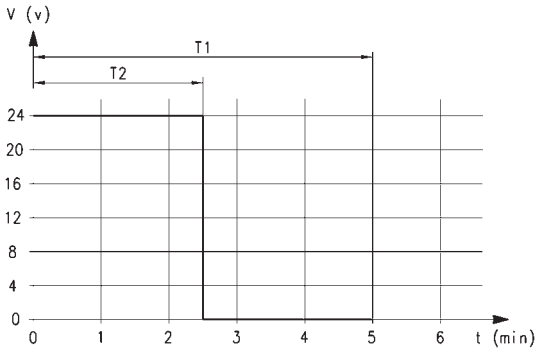
PD	0	00	-	2	A	1	-	R	5	3	

PD	SERIES
0	BODY DESIGN 0 = single body
00	NUMBER OF POSITIONS 00 = interface
2	NUMBER OF WAYS - FUNCTIONS 2 = 2/2-way - NC
A	MATERIAL - BODY CONNECTIONS A = aluminium body - lateral interface AR = aluminium body - lateral interface - electric part revolved by 180° C = aluminium body - bottom interface CR = aluminium body - bottom interface - electric part revolved by 180° DF = POM body - bottom interface DR = POM body - bottom interface - electric part revolved by 180° E = brass body - M5 threaded ports ER = brass body - M5 threaded ports - electric part revolved by 180°
1	ORIFICE DIAMETER 1 = Ø 0.8 mm 2 = Ø 1.2 mm 3 = Ø 1.6 mm 4 = Ø 2 mm 5 = Ø 2.5 mm
R	SEAL MATERIAL R = NBR F = FKM E = EPDM
5	ELECTRICAL CONNECTION 5 = industrial standard (9.4 mm)
3	VOLTAGE - POWER CONSUMPTION 1 = 12 V DC - 1 W 2 = 12 V DC - 2 W 3 = 24 V DC - 1 W 5 = 24 V DC - 2 W 8 = 24 V DC - 4 W
	FIXING = with screws for metal P = with screws for plastics
	OPTIONS = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m²) OX2 = for use with oxygen (non volatile residual less than 33 mg/m²)

ED definition diagram

Operating factor lower than 50%

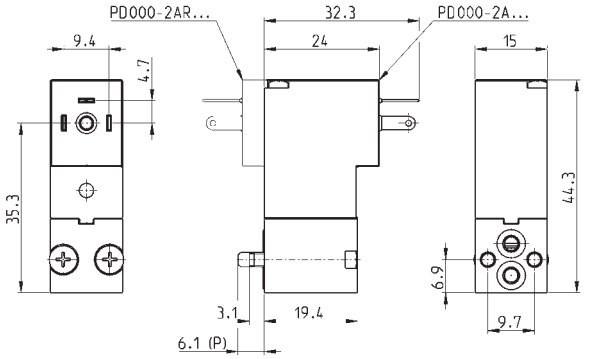
T1 = cycle time (5 minutes max)
T2 = energizing time
t = time (minutes)
V = working voltage (volt)
ED = T2/T1 x 100



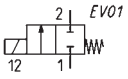
Series PD solenoid valve - aluminium body - lateral interface

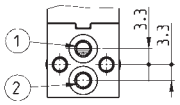
Supplied with:
2x O-Rings
2x M3x20 screws for mounting on metal
or
2x Ø3x23 screws for mounting on plastic

For vacuum applications connect the suction source to port 2



* add
- SEAL MATERIAL
- VOLTAGE
(see CODING EXAMPLE)



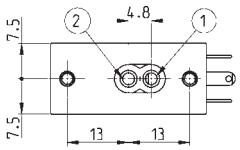


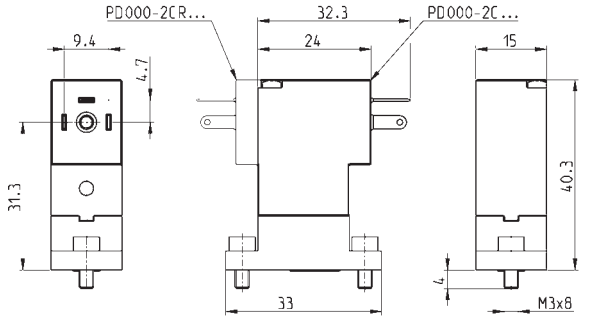
Mod.	Function	Orifice (mm)	Ø	kv (l/min)	Min ÷ max pressure (bar)	Power (W)	ED (%)
PD000-2A1-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2AR1-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2A2-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2AR2-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2A3-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100
PD000-2AR3-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100
PD000-2A4-*5*	2/2 NC	2.0		1.31	0 ÷ 6	4	50
PD000-2AR4-*5*	2/2 NC	2.0		1.31	0 ÷ 6	4	50
PD000-2A5-*5*	2/2 NC	2.5		1.93	0 ÷ 4	4	50
PD000-2AR5-*5*	2/2 NC	2.5		1.93	0 ÷ 4	4	50

Series PD solenoid valve - aluminium body - bottom interface

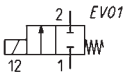
Supplied with:
1x interface seal
2x M3x8 screws for mounting on metal

For vacuum applications connect the suction source to port 2





* add
- SEAL MATERIAL
- VOLTAGE
(see CODING EXAMPLE)

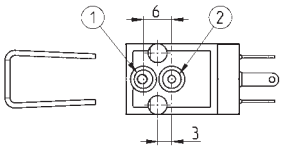


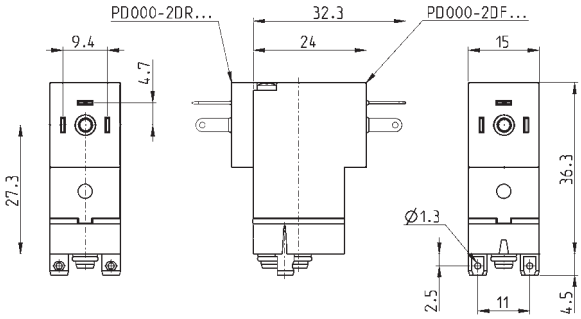
Mod.	Function	Orifice (mm)	Ø	kv (l/min)	Min ÷ max pressure (bar)	Power (W)	ED (%)
PD000-2C1-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2CR1-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2C2-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2CR2-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2C3-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100
PD000-2CR3-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100
PD000-2C4-*5*	2/2 NC	2		1.31	0 ÷ 6	4	50
PD000-2C5-*5*	2/2 NC	2.5		1.93	0 ÷ 4	4	50

Series PD solenoid valve - POM body - bottom interface

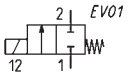
Supplied with:
2x O-Rings
1x mounting clip

For vacuum applications connect the suction source to port 2





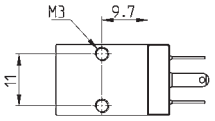
* add
- VOLTAGE
(see CODING EXAMPLE)

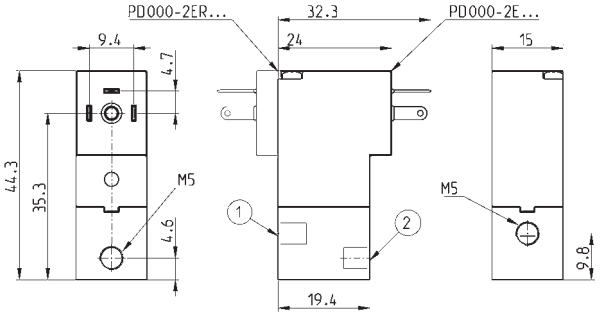


Mod.	Function	Orifice (mm)	Ø	kv (l/min)	Min ÷ max pressure (bar)	Power (W)	ED (%)
PD000-2DF3-E5*	2/2 NC	1.6		-	0 ÷ 6	2	100
PD000-2DR3-E5*	2/2 NC	1.6		-	0 ÷ 6	2	100

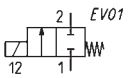
Series PD solenoid valve - brass body - M5 threaded ports

For vacuum applications connect the suction source to port 2





* add
- SEAL MATERIAL
- VOLTAGE
(see CODING EXAMPLE)

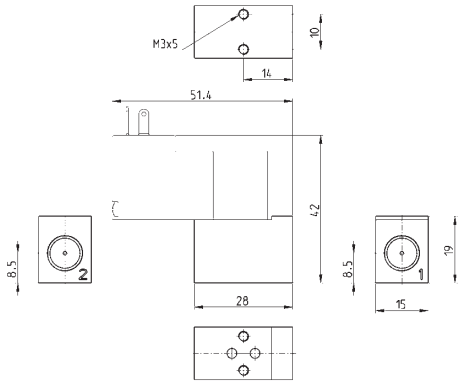


Mod.	Function	Orifice (mm)	Ø	kv (l/min)	Min ÷ max pressure (bar)	Power (W)	ED (%)
PD000-2E1-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2E1R-*5*	2/2 NC	0.8		0.39	0 ÷ 12	1	100
PD000-2E2-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2E2R-*5*	2/2 NC	1.2		0.54	0 ÷ 12	2	100
PD000-2E3-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100
PD000-2E3R-*5*	2/2 NC	1.6		0.70	0 ÷ 7	2	100

Single sub-base for Series PD lateral interface

Single sub-base suitable for 2-way solenoid valves Series PD and PL models PD000-2A..., PL000-1B..., PL000-9B...
Use solenoid valves with fixing screws for metal (see codification page)

Material: anodized aluminium

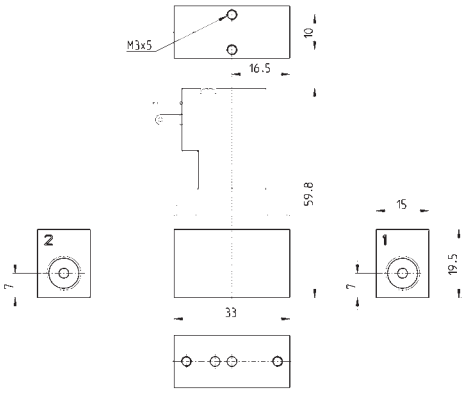


Mod.
PDA01-1/8

Single sub-base for Series PD bottom interface

Single sub-base suitable for Series PD 2-way solenoid valve models PD000-2C... and PD000-2CR...

Material: anodized aluminium
Connections: G1/8 threads

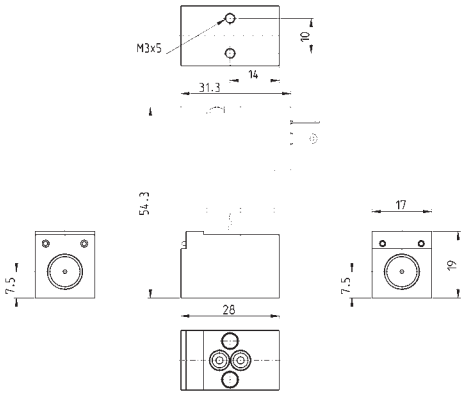


Mod.
PDC01-1/8

Single sub-base for Series PD bottom interface

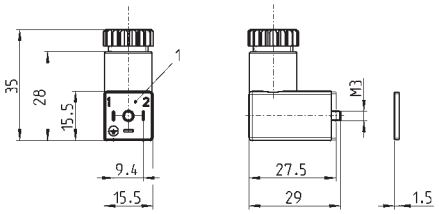
Single sub-base suitable for Series PD 2-way solenoid valve models PD000-2DF... and PD000-2DR...

Material: anodized aluminium
Connections: G1/8 threads



Mod.
PDD01-1/8

Connector Mod. 125-... - industrial std. 9.4 mm

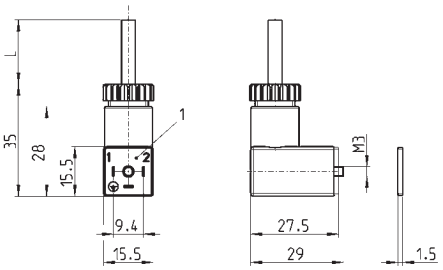


Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - 90° cable

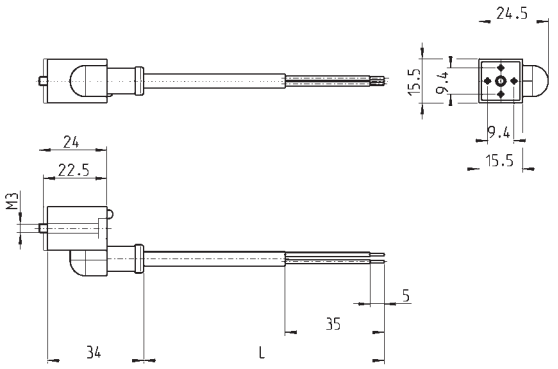
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

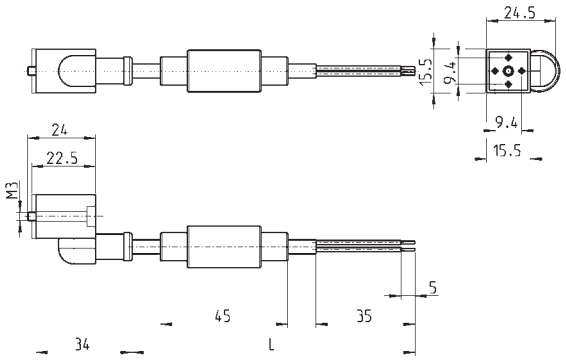
1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PDV diaphragm isolation valves directly operated

2/2-way - Normally Closed (NC)

- Suitable to be used with neutral or aggressive fluids
- Suitable for specific applications on medical and analytical equipment or instruments
- Compact design

To choose the most suitable model for a specific application, check the chemical compatibility of the medium with the available materials of body and seals.

Series PDV directly operated solenoid valve is available with several nominal diameters and in three different versions according to the electrical connection.
Moreover, the fluid separation membrane protects the medium from extreme changes of temperature due to heating of the solenoid.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC
Operation	directly operated with fluid separation membrane
Pneumatic connections	on subbase
Orifice diameter	0.8 ... 2 mm
Flow coefficient kv (l/min)	0.25 ... 0.8
Operating pressure	0 ... 7 bar
Operating temperature	10 ÷ 50 °C (FKM/EPDM) / 20 ÷ 50 °C (FFKM)
Media	inert or corrosive liquids and gases compatible with the materials in contact
Response time	≤ 15 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PEEK
Seals	FKM - EPDM - FFKM
ELECTRICAL FEATURES	
Voltage	6 ... 24 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	2 W
Duty cycle	ED 100%
Electrical connection	industrial standard (9.4 mm), DIN EN 175 301-803-C (8 mm), 300 mm flying leads
Protection class	IP65 with connector
Special versions available on request	

CODING EXAMPLE

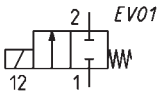
PDV	C0	1	22	-	B7	3	G	N	-	M	00	4A	C023

PDV	SERIES
C0	BODY DESIGN C0 = body with interface for subbase
1	NUMBER OF WAYS - FUNCTIONS 1 = 2/2-way - NC
22	PNEUMATIC CONNECTIONS 22 = PDV-type interface, 2-way
B7	ORIFICE DIAMETER A7 = Ø 0.8 mm B3 = Ø 1.2 mm B7 = Ø 1.6 mm C1 = Ø 2.0 mm
3	SEAL MATERIAL 3 = FKM 4 = EPDM 5 = FFKM
G	BODY MATERIAL G = PEEK
N	MANUAL OVERRIDE N = not foreseen
M	FIXING M = fixing screws for metal
00	OPTIONS 00 = none
4A	ELECTRICAL CONNECTION 3A = DIN EN 175 301-803-C (8 mm) 4A = industrial standard (9.4 mm) 7A = 300 mm flying leads 3C = DIN EN 175 301-803-C (8 mm) with coil rotated 180° 4C = industrial standard (9.4 mm) with coil rotated 180° 7C = 300 mm flying leads with coil rotated 180°
C023	VOLTAGE - POWER CONSUMPTION C017 = 6 V DC - 2 W C020 = 12 V DC - 2 W C023 = 24 V DC - 2 W
	OPTIONS = standard OX2 = for oxygen (non-volatile residue less than 33 mg / m2)

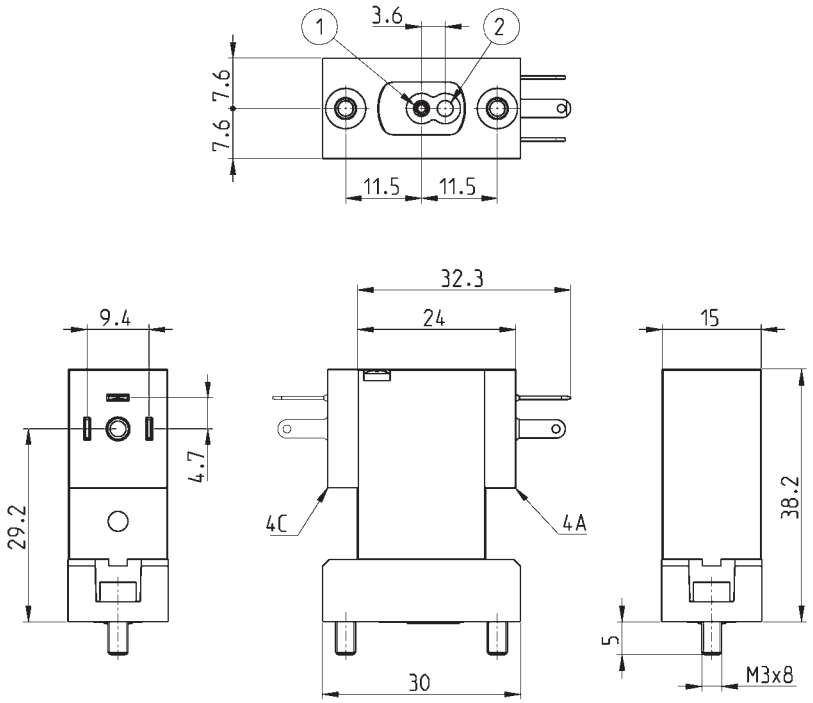
Series PDV solenoid valve - 2/2-way NC - industrial standard (9.4 mm)

Supplied with:
1x interface seal
2x M3x8 screws for mounting on metal

* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)



1 = inlet
2 = outlet

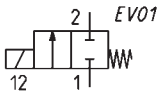


Mod.	Orifice Ø (mm)	kv (l/min)	Min ÷ max pressure (bar)	Maximum back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-A75GN-M00*	0.8	0.25	0 ÷ 3.0	0.6	PEEK	FFKM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B35GN-M00*	1.2	0.55	0 ÷ 2.5	0.8	PEEK	FFKM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-B75GN-M00*	1.6	0.65	0 ÷ 1.8	0.8	PEEK	FFKM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM
PDVC0122-C15GN-M00*	2.0	0.80	0 ÷ 1.2	0.8	PEEK	FFKM

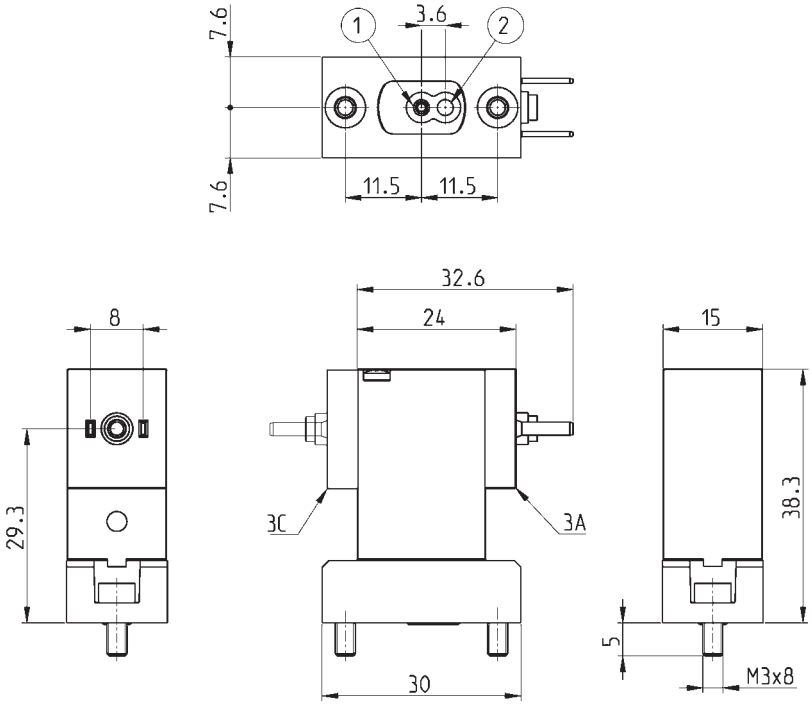
Series PDV solenoid valve - 2/2-way NC - DIN EN 175 301-803-C (8 mm)

Supplied with:
1x interface seal
2x M3x8 screws for mounting on metal

* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)



1 = inlet
2 = outlet

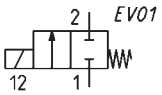


Mod.	Orifice Ø (mm)	kv (l/min)	Min ÷ max pressure (bar)	Maximum back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-A75GN-M00*	0.8	0.25	0 ÷ 3.0	0.6	PEEK	FFKM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B35GN-M00*	1.2	0.55	0 ÷ 2.5	0.8	PEEK	FFKM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-B75GN-M00*	1.6	0.65	0 ÷ 1.8	0.8	PEEK	FFKM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM
PDVC0122-C15GN-M00*	2.0	0.80	0 ÷ 1.2	0.8	PEEK	FFKM

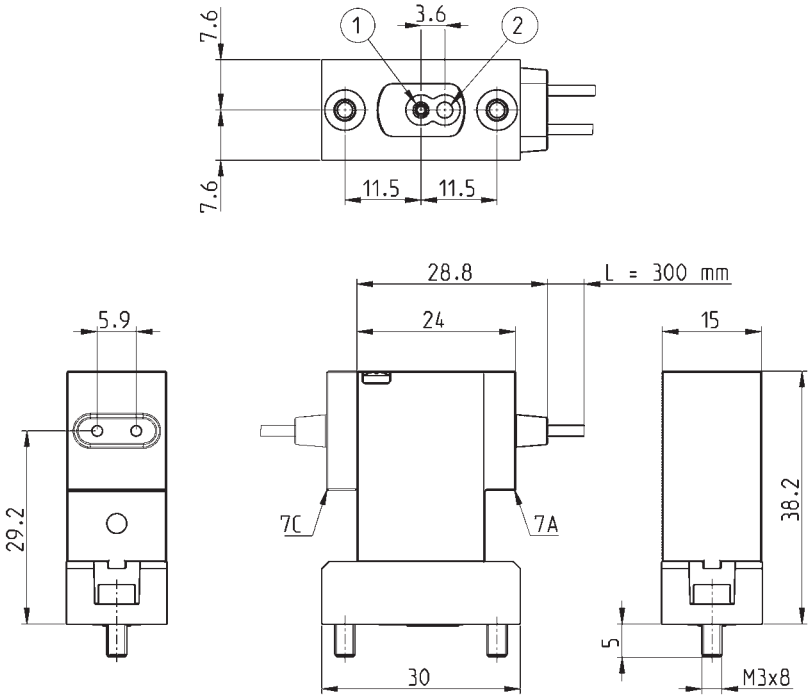
Series PDV solenoid valve - 2/2-way NC - 300 mm flying leads

Supplied with:
1x interface seal
2x M3x8 screws for mounting on metal

* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)



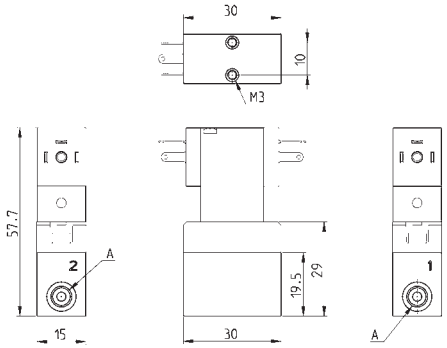
1 = inlet
2 = outlet



Mod.	Orifice Ø (mm)	kv (l/min)	Min ÷ max pressure (bar)	Maximum back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-A75GN-M00*	0.8	0.25	0 ÷ 3.0	0.6	PEEK	FFKM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B35GN-M00*	1.2	0.55	0 ÷ 2.5	0.8	PEEK	FFKM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-B75GN-M00*	1.6	0.65	0 ÷ 1.8	0.8	PEEK	FFKM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM
PDVC0122-C15GN-M00*	2.0	0.80	0 ÷ 1.2	0.8	PEEK	FFKM

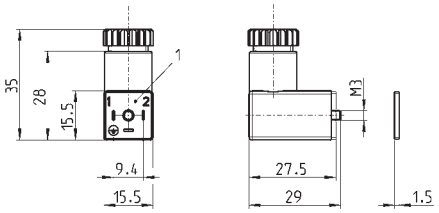
Single subbase for Series PDV solenoid valve

Material: PEEK
Connections: M5 or 1/4-28 UNF threads



Mod.	Thread A
PDV001-1/4	1/4 - 28 UNF
PDV001-M5	M5

Connector Mod. 125-... - industrial std. 9.4 mm

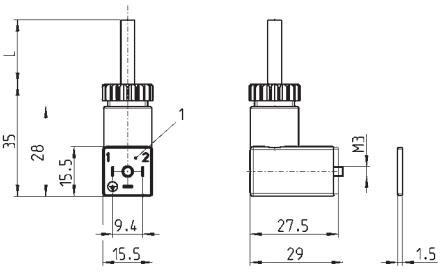


Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - 90° cable

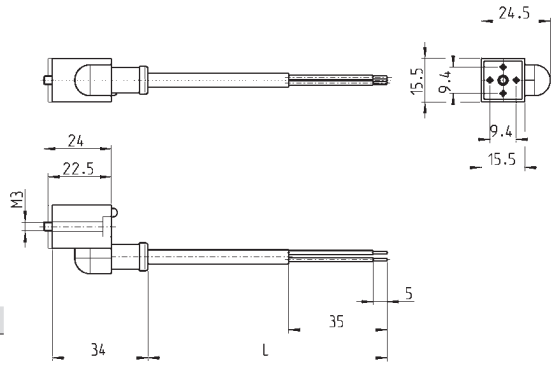
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

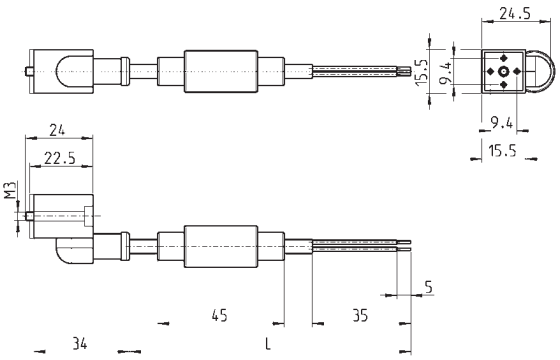
1 = 90° adjustable connector

Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable



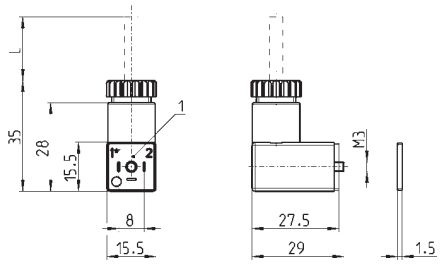
Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Connector Mod. 126-... - DIN EN 175 301-803-C (8 mm)



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
126-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
126-800	connector, without electronics	black	-	-	PG7	0.3 Nm
126-701	connector, varistor + Led	transparent	24 V AC/DC	-	PG7	0.3 Nm

1 = 90° adjustable connector

Series A
directly operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)

- Ports: M5, G1/8, R1/8, cartridge Ø4
- Bistable version also available (with magnetic memory)

Series A solenoid valves are of the directly operated type and can be used with dry or lubricated air. They are available in the 2/2 and 3/2-way versions with normally closed (NC) or normally open (NO) operation.
As shown in the following tables, they are supplied in different versions according to the type of body, threaded ports and orifice. They can thus satisfy various operating and installation requirements.

The solenoid can be easily and quickly replaced without interfering with the pressurised part of the valve.
On the same mechanical part different types of solenoids can be interchanged. The choice of solenoids determines the performance of the solenoid valve in terms of consumption and pressure.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC - 2/2 NO - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	M5, G1/8, R1/8 threads - ø4 fitting - CNOMO interface
Nominal diameter	1.5 ... 2.5 mm
Nominal flow	40 ... 130 Nl/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	0.62 ... 2.0
Operating pressure	-0.9 ... 15 bar
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <15 msec - OFF <25 msec
Manual override	see tables
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	nickel-plated brass - PBT technopolymer
Seals	HNBR, FKM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 ... 110 V DC - 24 ... 380 V AC 50/60 Hz
Voltage tolerance	±10% (DC) / -15% ÷ +10% (AC)
Power consumption	3 ... 5 W (DC) / 3.5 ... 7 VA (AC)
Duty cycle	ED 100%
Electrical connection	F (155°C)
Protection class	DIN 43650 connector, (A, B Shape) IP65 with connector
Special versions available on demand	

CODING EXAMPLE

A	3	3	1	-	0	C	2	-	U7	7

A SERIES

3 BODY DESIGN:
1 = base (24x24 mm) interface rotatable through 360°
2 = base (24x24 mm) fixed interface
3 = threaded body
4 = rapid exhaust body
5 = base with ISO standard interface, fixed body in technopolymer
6 = (16x16 mm) interface rotatable through 360°
A = single manifold
B = 2-part manifold
C = 3-part manifold
D = 4-part manifold
E = 5-part manifold
F = 6-part manifold
G = 7-part manifold
H = 8-part manifold
K = 9-part manifold
L = 10-part manifold
M = 11-part manifold
N = 12-part manifold
P = 13-part manifold
R = 14-part manifold
S = 15-part manifold

3 NUMBER OF PORTS:
2 = 2 way
3 = 3 way

1 FUNCTION:
1 = NC
2 = NO
3 = NO in line

0 PORTS:

	1	2	3
0	M5	M5	M5
1	G1/8	G1/8	M5
3	M5	R1/8	M5
4	M5	R1/8	M5 with manual override
A	swivel O-ring interface		M5
B	fixed O-ring interface		M5
C	G1/8	cartridge Ø 4	M5

C NOMINAL DIAMETER:
C = Ø 1,5
D = Ø 2
E = Ø 2,5

2 BODY MATERIAL:
2 = nickel-plated brass
3 = technopolymer

U7 ENCAPSULATING MATERIAL / SOLENOID DIMENSIONS:
A8 = PPS / 30 x 30
G7 = PA / 22 x 22
G8 = PA / 30 x 30 (24 V DC only)
G9 = PA / 22 x 58
H8 = PA 6 V0 / 30 x 30
U7 = PET / 22 x 22

7 SOLENOID VOLTAGE (see the dedicated section 2.35)

PRESSURE RANGES AND SOLENOIDS - VALVES BODY MATCHING TABLE

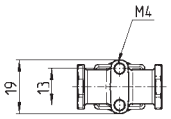
For vacuum applications:
2/2-way function connect the suction source to port 2
3/2-way function connect the suction source to port 1

Mod.	Solenoids 3W working pressure (bar) allowed pressure with solenoids DC - 3 W	Solenoids 4-5 W working pressure (bar) allowed pressure with solenoids DC - 4-5 W	Solenoids 3,5 VA working pressure (bar) allowed pressure with solenoids AC - 3,5 VA
Function 2/2 NC			
A321-0C2-*	- 0,9 ÷ 8	- 0,9 ÷ 15	- 0,9 ÷ 15
A321-1C2-*	- 0,9 ÷ 8	- 0,9 ÷ 15	- 0,9 ÷ 15
A321-1D2-*	- 0,9 ÷ 4	- 0,9 ÷ 9	- 0,9 ÷ 9
A321-1E2-*	- 0,9 ÷ 1	- 0,9 ÷ 6	- 0,9 ÷ 6
A821-FE3-*	- 0,9 ÷ 1	- 0,9 ÷ 6	- 0,9 ÷ 6
Function 2/2 NO			
A322-0C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A322-1C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
Function 3/2 NC			
A131-AC2-*			
A231-BC2-*			
A331-0C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-1C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-1D2-*	0 ÷ 6	- 0,9 ÷ 6	- 0,9 ÷ 6
A331-1E2-*	0 ÷ 4	- 0,9 ÷ 4	- 0,9 ÷ 4
A331-3C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-4C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A431-1C2-*	2 ÷ 10	2 ÷ 10	2 ÷ 10
A531-BC2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A631-AC2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A831-FE3-*	0 ÷ 4	- 0,9 ÷ 4	- 0,9 ÷ 4
AA31-0C2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
AA31-0C3-*	2 ÷ 8	- 0,9 ÷ 8	- 0,9 ÷ 8
AA31-CC2-*	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
AA31-CC3-*	2 ÷ 8	- 0,9 ÷ 8	- 0,9 ÷ 8
Function 3/2 NO			
A332-0C2-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
A332-1C2-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
AA32-0C2-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
AA32-0C3-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
AA32-CC2-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
AA32-CC3-*	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
Function 3/2 NO IN LINE			
A333-0C2-*	- 0,9 ÷ 6	-	- 0,9 ÷ 9
A333-1C2-*	- 0,9 ÷ 6	-	- 0,9 ÷ 9
AA33-0C2-*	- 0,9 ÷ 6	-	- 0,9 ÷ 9
AA33-0C3-*	- 0,9 ÷ 6	-	- 0,9 ÷ 8
AA33-CC3-*	- 0,9 ÷ 6	-	- 0,9 ÷ 9
AA33-CC3-*	- 0,9 ÷ 6	-	- 0,9 ÷ 8
Solenoids for functions 2/2 NC - 2/2 NO - 3/2 NC - 3/2 NO			
12 V DC - 3.1 W	G7H - U7H - U7HEX		
24 V DC - 3.1 W	G77 - U77 - U77EX		
48 V DC - 3.1 W	G79 - U79 - U79EX		
110 V DC - 3.2 W	G710 - U710 - U710EX		
6 V DC - 5.1 W		U71 - U71EX	
12 V DC - 5 W		G72 - U72 - U72EX	
24 V DC - 5 W		G73 - U73 - U73EX	
48 V DC - 5.3 W		U74 - U74EX	
72 V DC - 4.8 W		G7K - U7K - U7KEX	
110 V DC - 4.2 W		G76 - U76 - U76EX	
48 V 50/60 Hz - 3.8 VA			G77 - U77 - U77EX
110 V 50/60 Hz - 3.8 VA			G7K - U7K - U7KEX
125 V 50/60 Hz - 5.5 VA			G7K - U7K - U7KEX
230 V 50/60 Hz - 3.5 VA			G7J - U7J - U7JEX
240 V 50/60 Hz - 4 VA			G7J - U7J - U7JEX
Solenoids for 3/2 NO IN LINE functions			
12 VDC - 3.1 W	G7H1 - U7H1		
24 V DC - 3.1 W	U771 - U771EX		
72 V DC - 5.6 W		G7K1 - U7K1 - U7K1EX	
48 V 50/60 Hz - 3.8 VA			G771 - U771 - U771EX
110 V 50/60 Hz - 5.8 VA			G7K1 - U7K1 - U7K1EX
125 V 50/60 Hz - 8.3 VA			G7K1 - U7K1 - U7K1EX

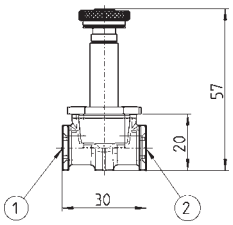
Nota: for AC voltages, the indicated pressure ranges refer to 50 Hz frequency.
Please contact our technical dept. for use with with 60Hz frequency.

Series A solenoid valve - 2/2-way - Mod. A32

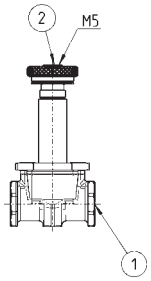
Available in the 2/2-way version NC (normally closed), NO (normally open).
In the 2/2-way NO version the M5 threaded output port 2 is located on the upper side of the coil.



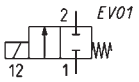
* choose the most suitable solenoid.

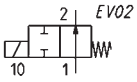


A321



A322

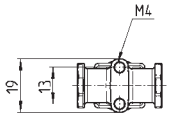




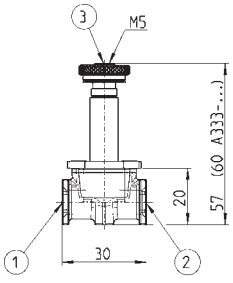
Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
A321-0C2-*	2/2 NC	M5	1.5			0.77	nickel plated brass	no	EV01
A321-1C2-*	2/2 NC	G1/8	1.5			0.85	nickel plated brass	no	EV01
A321-1D2-*	2/2 NC	G1/8	2.0			1.55	nickel plated brass	no	EV01
A321-1E2-*	2/2 NC	G1/8	2.5			2.00	nickel plated brass	no	EV01
A322-0C2-*	2/2 NO	M5	1.8			1.08	nickel plated brass	no	EV02
A322-1C2-*	2/2 NO	G1/8	1.8			1.24	nickel plated brass	no	EV02

Series A solenoid valve - 3/2-way - Mod. A33

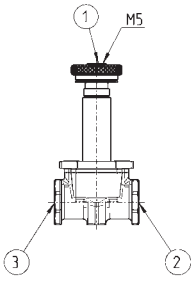
Available in the 2/2-way version NC (normally closed), NO (normally open).
In the 3/2-way NO version the M5 threaded inlet port 1 is located on the upper side of the coil.



* choose the most suitable solenoid.



A331-A333



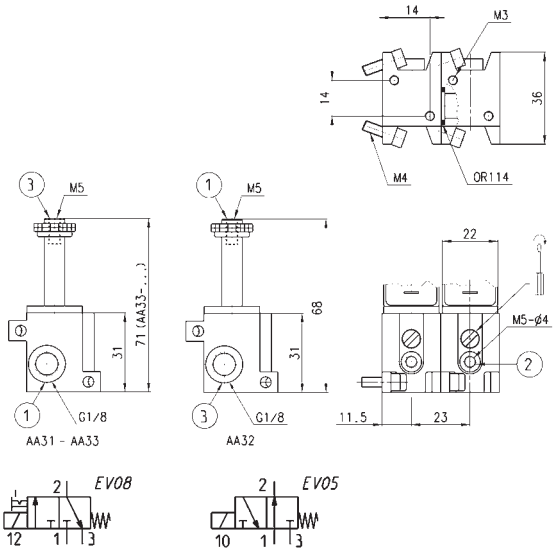
A332

Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
A331-0C2-*	3/2 NC	M5	1.5			0.77	nickel plated brass	no	EV03
A331-1C2-*	3/2 NC	G1/8	1.5			0.93	nickel plated brass	no	EV03
A331-1D2-*	3/2 NC	G1/8	2.0			???	nickel plated brass	no	EV03
A331-1E2-*	3/2 NC	G1/8	2.5			???	nickel plated brass	no	EV03
A332-0C2-*	3/2 NO	M5	1.5			0.85	nickel plated brass	no	EV05
A332-1C2-*	3/2 NO	M5-G1/8	1.5			0.85	nickel plated brass	no	EV05
A333-0C2-*	3/2 NO in line	M5	1.5			0.93	nickel plated brass	no	EV05
A333-1C2-*	3/2 NO in line	G1/8	1.5			0.93	nickel plated brass	no	EV05

Series A solenoid valve - 3/2-way - Mod. AA3 - modular brass body

* choose the most suitable solenoid.

3/2-way NC and NO IN LINE versions with G1/8 common inlet port located on the valve body.
3/2-way NO versions with M5 single inlets located on the upper side of the coil.

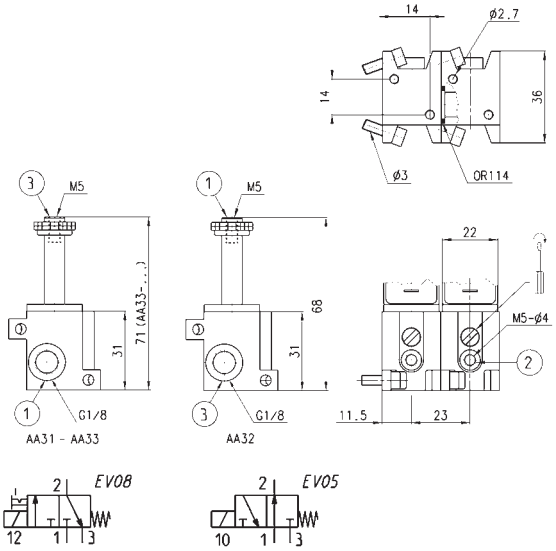


Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
AA31-0C2-*	3/2 NC	G1/8-M5	1.5		0.85		nickel plated brass	bistable	EV08
AA31-CC2-*	3/2 NC	G1/8-Ø4	1.5		0.85		nickel plated brass	bistable	EV08
AA32-0C2-*	3/2 NO	M5-M5	1.4		???		nickel plated brass	bistable	EV05
AA32-CC2-*	3/2 NO	M5-Ø4	1.4		???		nickel plated brass	bistable	EV05
AA33-0C2-*	3/2 NO in line	G1/8-M5	1.5		1.00		nickel plated brass	no	EV05
AA33-CC2-*	3/2 NO in line	G1/8-Ø4	1.5		1.00		nickel plated brass	no	EV05

Series A solenoid valve - 3/2-way - Mod. AA3 - modular technopolymer body

* choose the most suitable solenoid.

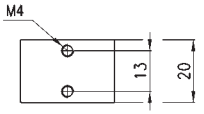
3/2-way NC and NO IN LINE versions with G1/8 common inlet port located on the valve body.
3/2-way NO versions with M5 single inlets located on the upper side of the coil.

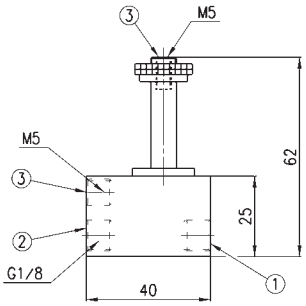


Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
AA31-0C3-*	3/2 NC	G1/8-M5	1.5		0.85		PA6	bistable	EV08
AA31-CC3-*	3/2 NC	G1/8-Ø4	1.5		0.85		PA6	bistable	EV08
AA32-0C3-*	3/2 NO	M5-M5	1.4		???		PA6	bistable	EV05
AA32-CC3-*	3/2 NO	M5-Ø4	1.4		???		PA6	bistable	EV05
AA33-0C3-*	3/2 NO in line	G1/8-M5	1.5		1.00		PA6	no	EV05
AA33-CC3-*	3/2 NO in line	G1/8-Ø4	1.5		1.00		PA6	no	EV05

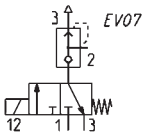
Series A solenid valve - 3/2-way NC - Mod. A43 - quick exhaust

The 3/2-way NC solenoid valve, with G1/8 ports, incorporates a rapid exhaust valve.
It is particularly suitable for operating small single-acting cylinders.





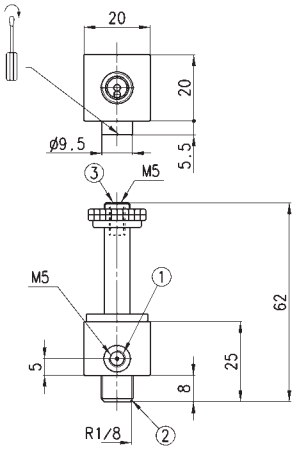
* choose the most suitable solenoid.



Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
A431-1C2-*	3/2 NC	G1/8		1.5		0.77	aluminium	EV07	

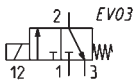
Series A solenoid valve - 3/2-way - Mod. A33

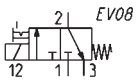
They are particularly suitable for the actuation of small single-acting cylinders and the operation of pneumatic valves with very low operating pressures.



M5 thread inlet
R1/8 thread outlet
The valve can be screwed directly onto the component to be operated.

* choose the most suitable solenoid.



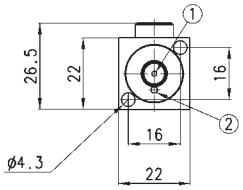


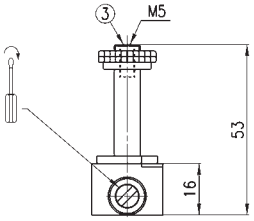
Mod.	Function	Ports	Orifice	Ø (mm)	kv	(l/min)	Material	Manual override	Symbol
A331-3C2-*	3/2 NC	M5-R1/8		1.5		0.85	nickel plated brass	no	EV03
A331-4C2-*	3/2 NC	M5-R1/8		1.5		0.85	nickel plated brass	no	EV08

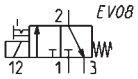
Series A solenoid valve - 3/2-way NC - Mod. A63 - rotatable interface

* choose the most suitable solenoid.

Ideal for direct installation on manifold by means of 2 screws. Seal ensured by 2 concentric O-Rings that allow 360° body orientation. Equipped with a bistable manual override.







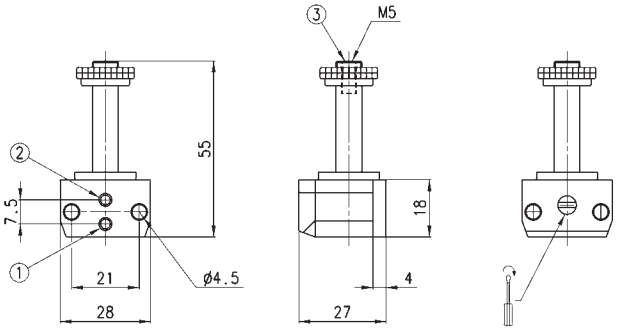
Mod.	Function	Interface	Orifice Ø (mm)	kv (l/min)	Material	Manual override	Symbol
A631-AC2-*	3/2 NC	OR rotatable	1.2	0.62	burnished brass	bistable	EV08

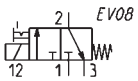
3/2-way solenoid valve Mod. A53

The body only is in technopolymer.

* choose the most suitable solenoid.

Equipped with a manual override for a steady operation, it is suitable to be mounted on Series 9 valves with an ISO interface. The interface which complies CNOMO norms is interchangeable with all ISO versions.



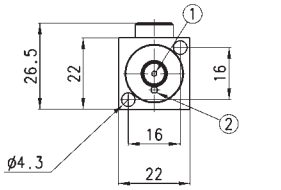


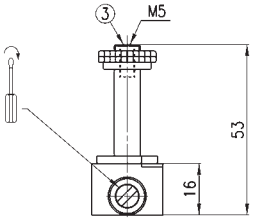
Mod.	Interface	Function	Orifice Ø (mm)	Qn (Nl/min)
A531-BC2	OR	3/2 NC	1,5	40

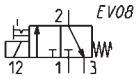
3/2-way solenoid valve Mod. A63

* choose the most suitable solenoid.

Equipped with a manual override for a steady operation, it is suitable to be mounted directly onto machine parts by two screws. The sealing is ensured by two concentric O-rings allowing the body a 360° adjustment.







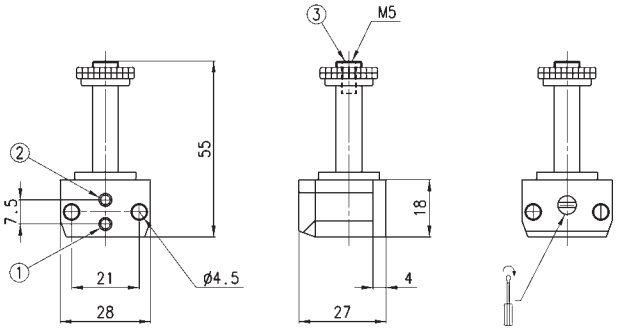
Mod.	Interface	Function	Orifice Ø (mm)	Qn (Nl/min)
A631-AC2	OR	3/2 NC	1,5	40

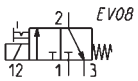
3/2-way solenoid valve Mod. A53

The body only is in technopolymer.

* choose the most suitable solenoid.

Equipped with a manual override for a steady operation, it is suitable to be mounted on Series 9 valves with an ISO interface. The interface which complies CNOMO norms is interchangeable with all ISO versions.



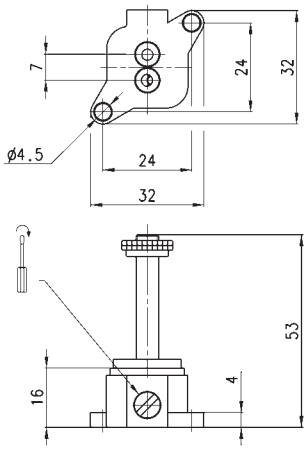


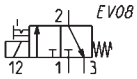
Mod.	Interface	Function	Orifice Ø (mm)	Qn (Nl/min)
A531-BC2	OR	3/2 NC	1,5	40

3/2-way solenoid valve Mod. A231 with fixed interface

* choose the most suitable solenoid.

Equipped with a manual override with the possibility of a bistable actuation.



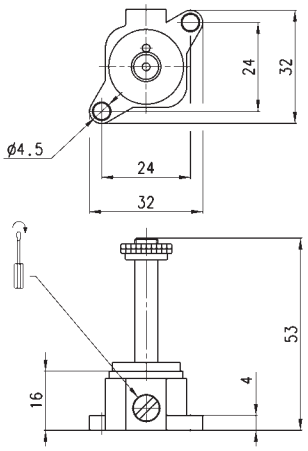


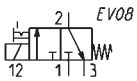
Mod.	Interface	Function	Orifice Ø (mm)	Qn (Nl/min)
A231-BC2	OR	3/2 NC	1,5	70

3/2-way solenoid valve Mod. A131 with swivel interface

* choose the most suitable solenoid.

Equipped with a manual override with the possibility of a bistable actuation.





Mod.	Interface	Function	Orifice Ø (mm)	Qn (Nl/min)
A131-AC2	OR	3/2 NC	1,5	70
A131-AC2IL	OR	3/2 NC	1,5	70

Series 6
directly operated solenoid valves

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC), Normally Open (NO)

- Ports: G1/8, G3/8, cartridge Ø4
- Available also in version for the low temperatures up to -50°C

Series 6 solenoid valves are available as 2/2 and 3/2-way, either NC or NO.
These directly operated solenoid valves can be used either with or without lubrication.

The bodies of these valves can be used either individually or in manifolds.
The latter are provided with G1/8 threaded ports or an inbuilt diameter 4 cartridge(G3/8 for 2-way only).

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	G1/8, G3/8 threads - ø4 fitting - CNOMO interface
Orifice diameter	2 ... 4 mm
Flow coefficient kv (l/min)	1.2 ... 5.4
Operating pressure	0 ÷ 4 ... 15 bar
Operating temperature	0 ÷ 60 °C (FKM seals) / -50 ÷ 50 °C (NBR seals)
Media	filtered air, class 5.4.4 (5.1.4 for versions -50°C) according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <15 ms - OFF <15 ms
Manual override	see tables
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	nickel-plated brass - anodized aluminium
Seals	FKM (NBR for versions -50 °C)
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 ... 110 V DC - 24 ... 230 V AC 50/60 Hz
Voltage tolerance	±10% (DC) - +10% ÷ -15% (AC)
Power consumption	10 W (DC) - 19 VA (inrush AC), 12 VA (holding AC)
Duty cycle	ED 100%
Electrical connection	H (180°C)
Protection class	connector DIN EN 175 301-803-A IP65 with connector
Special versions available on demand	

CAMOZZI Automation

CODING EXAMPLE

6	3	8	M	-	105	-	A	6	B	

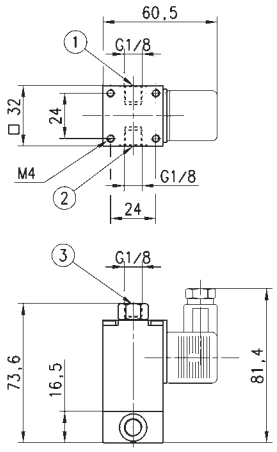
6	SERIES
3	NUMBER OF PORTS AND FUNCTIONS 0 = interface 2 = 2/2-way - NC 3 = 3/2-way - NC 4 = 3/2-way - NO
8	CONNECTION 0 = interface 3 = G3/8 8 = G1/8 C = cartridge Ø 4
M	M = manifold
105	TYPE OF BODY 150 = threaded body G1/8 - orifice Ø 2 mm 15E = threaded body G3/8 - orifice Ø 2.5 mm 15F = threaded body G3/8 - orifice Ø 3 mm 15G = threaded body G3/8 - orifice Ø 4 mm 450 = rotatable interface body - Ø 2 mm orifice 45E = rotatable interface body - Ø 2.5 mm orifice 457 = fixed interface body - Ø 2 mm orifice 101 = single manifold 102 = manifold - 2 pieces 103 = manifold - 3 pieces 104 = manifold - 4 pieces 105 = manifold - 5 pieces 106 = manifold - 6 pieces 107 = manifold - 7 pieces 108 = manifold - 8 pieces 109 = manifold - 9 pieces 110 = manifold - 10 pieces 111 = manifold - 11 pieces 112 = manifold - 12 pieces 113 = manifold - 13 pieces 114 = manifold - 14 pieces 115 = manifold - 15 pieces
A	COIL MATERIAL: A = PPS
6	SOLENOID DIMENSIONS 6 = 32x32
B	VOLTAGE - POWER CONSUMPTION B = 24 V 50/60 Hz - 12 VA C = 48 V 50/60 Hz - 12 VA D = 110 V 50/60 Hz - 12 VA E = 230 V 50/60 Hz - 12 VA 2 = 12 V DC - 10 W 3 = 24 V DC - 10 W 4 = 48 V DC - 10 W 5 = 72 V DC - 10 W 6 = 110 V DC - 10 W 8 = 160 V DC - 10 W
	VERSIONS = standard LT = for low temperatures

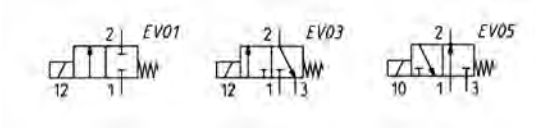
Series 6 solenoid valve - 2/2 and 3/2-way NC - Mod. 628 - 638 - 648

These valves are particularly suitable for operating single-acting cylinders or for use as signal valves.

In the mod. 648-150-A6* (NO) connections 1 and 3 are inverted.

* add
- VOLTAGE
(see CODING EXAMPLE)



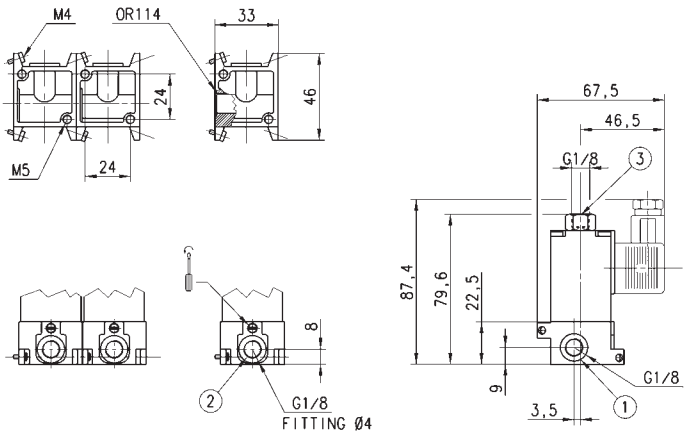


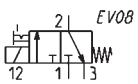
Mod.	Ports	Function	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)	Symbol
628-150-A6*	G1/8	2/2 NC	2	2.0	130	0 ÷ 10 [DC] - 0 ÷ 7 [AC]	EV01
638-150-A6*	G1/8	3/2 NC	2	2.0	130	0 ÷ 10 [DC]	EV03
648-150-A6*	G1/8	3/2 NO	2	1.2	80	0 ÷ 8 [DC] - 0 ÷ 6 [AC]	EV05

Series 6 solenoid valve - 3/2-way NC - Mod. 638M - 63CM

These solenoid valves are equipped with a manual override and are available with G1/8 inlet ports and with G1/8 outlets or with a diameter 4 cartridge. The body is supplied complete with screws and O-ring.

* add
- VOLTAGE
(see CODING EXAMPLE)

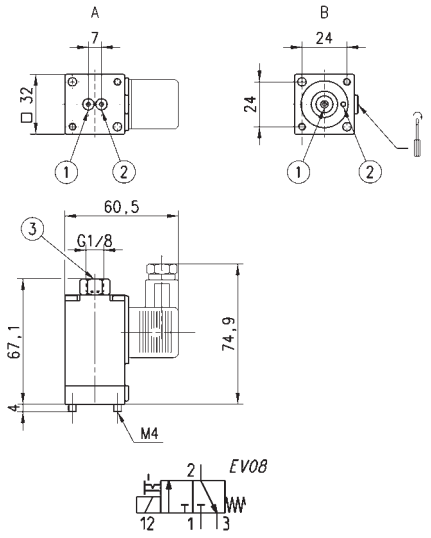




Mod.	Inlet	Outlet	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
638M-101-A6*	G1/8	G1/8	2	1.8	120	0 ÷ 10
63CM-101-A6*	G1/8	cartridge Ø 4	2	1.6	108	0 ÷ 10

Series 6 solenoid valve - 3/2-way NC - Mod. 600

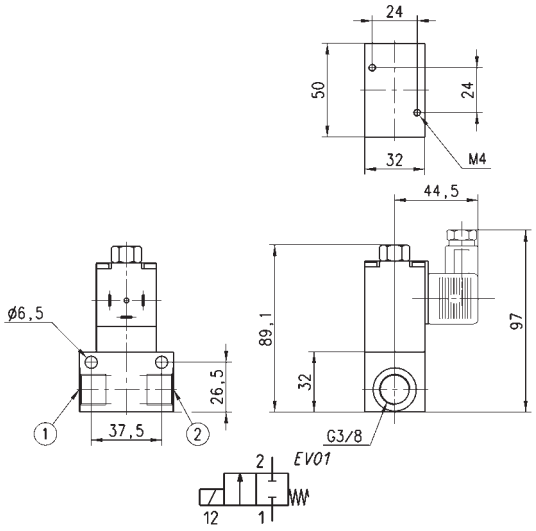
These solenoid valves are equipped with an override and are available with two types of interface:
A = fixed interface
B = rotatable interface



Mod.	Interface	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
600-450-A6*	rotatable	2	1.6	106	0 ÷ 10
600-45E-A6*	rotatable	2.5	2.0	130	0 ÷ 8
600-457-A6*	fixed	2	1.6	106	0 ÷ 10

* add
- VOLTAGE
(see CODING EXAMPLE)

Series 6 solenoid valve - 2/2-way NC - Mod. 623

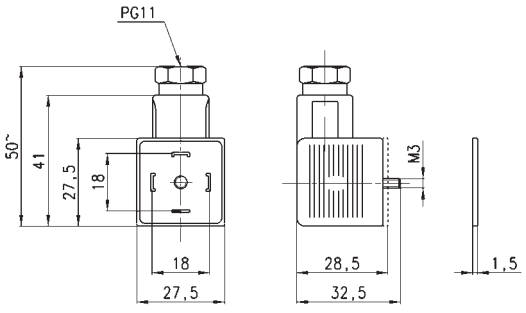


Mod.	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min-max pressure (bar)
623-15E-A6*	2.5	3.4	220	0 ÷ 12 [AC 50Hz] - 0 ÷ 15 [DC]
623-15F-A6*	2.5	3.4	220	0 ÷ 10 [AC 50Hz] - 0 ÷ 14 [DC]
623-15G-A6*	3	4.5	290	0 ÷ 4 [AC 50Hz] - 0 ÷ 7 [DC]

* add
- VOLTAGE
(see CODING EXAMPLE)

Connector Mod. 124-... DIN EN 175 301-803-A

Protection class IP65



Mod.	description	colour	working voltage	cable gland	tightening torque
124-800	connector, without electronics	black	-	PG9/PG11	0.5 Nm
124-702	connector, varistor + Led	black	110 V AC/DC	PG9/PG11	0.5 Nm
124-701	connector, varistor + Led	black	24 V AC/DC	PG9/PG11	0.5 Nm
124-703	connector, varistor + Led	black	230 V AC/DC	PG9/PG11	0.5 Nm

Series CFB solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)

- Solenoid valves for air and water
- Great reliability over time, even in heavy working conditions

Series CFB solenoid valves for general purpose are available in the NC and NO version, 2/2 and 3/2-way.
Special versions are available on demand for the protection against the water hammer or with specific traitments for the interception of aggressive fluids.

The valve function is determined by a poppet or by a diaphragm with operation direct or indirect.
Different versions are available according to the nominal diameter and to the threaded ports, as shown in the following tables.
They can thus satisfy various requirements in terms of flow rates and working pressures.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 2/2 NO - 3/2 NC
Operation	direct acting poppet type - servo-assisted with diaphragm
Pneumatic connections	G1/8 ... G2 threads
Orifice diameter	1.4 ... 50 mm
Flow coefficient Kv (m^3/h)	0.14 ... 45
Operating pressure	0 ÷ 0.8 ... 22 bar
Operating temperature	-10 ÷ 90 ... 140 °C
Media	air, water, liquid and gaseous fluids with max viscosity 37 cSt (5° E)
Response time	ON <15 ms - OFF <25 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	brass (alimentary or anti-limestone nickel-platings on demand)
Seals	NBR (CFB-A, CFB-E) - FKM (CFB-B, CFB-D) - EPDM (on demand)
Internal parts	stainless steel - stainless steel and brass (CFB-D1)
ELECTRICAL FEATURES	
Voltage	12 V DC, 24 V DC - 24 V 50 Hz, 110 V 50/60 Hz, 220/230 V 50/60 Hz
Voltage tolerance	±5% (DC) - ±10% (AC)
Power consumption	10 ... 30 W (DC) - 9 ... 29 VA (AC)
Duty cycle	ED 100%
Insulation class	H (180°C)
Electrical connection	DIN EN 175 301-803-A - DIN EN 175 301-803-B
Protection class	IP65 with connector
Special versions available on demand	

It is recommended to use connections with internal diameters bigger than valve orifices, otherwise there may be a performance change.

CODING EXAMPLE

CFB	-	A	1	3	L	-	R	1	-	B7	E

CFB	SERIES
A	OPERATION A = indirect B = direct with linked diaphragm D = direct E = indirect with coil for heavy-duty applications
1	NUMBER OF WAYS - POSITIONS 1 = 2/2-way - NO 2 = 2/2-way - NC 3 = 3/2-way - NC
3	CONNECTIONS 1 = G1/8 2 = G1/4 3 = G3/8 4 = G1/2 5 = G3/4 6 = G1 7 = G1 1/4 8 = G1 1/2 9 = G2
L	ORIFICE DIAMETER A = 1.4 mm B = 2 mm C = 2.5 mm D = 2.8 mm F = 4 mm G = 6 mm J = 8 mm L = 11.5 mm M = 13 mm N = 13.5 mm P = 18 mm R = 26 mm T = 32 mm X = 45 mm Z = 50 mm
R	SEALS MATERIAL R = NBR W = FKM E = EPDM (on demand)
1	BODY MATERIAL 1 = brass 2 = alimentary anti-limestone nickel-plated brass for high temperatures (on demand) 3 = alimentary nickel-plated brass (on demand)
B7	SOLENOID DIMENSION B7 = 22 mm B8 = 30 mm B9 = 36 mm
E	SOLENOID VOLTAGE B = 24 V AC 50 Hz D = 110 V AC 50/60 Hz E = 230 V AC 50/60 Hz 2 = 12 V DC 3 = 24 V DC

TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

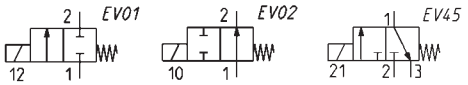
For solenoids and their connectors voir la section dédiée.
Coil mod. B8... / B9... - DIN EN 175 301-803-A = connector mod. 124-...
Coil mod. B7... - DIN EN 175 301-803-B = connector mod. 122-...

Mod.	24V AC 50 Hz	110V AC 50/60 Hz	220/230V AC 50/60 Hz	12V DC	24V DC
Directly operated solenoid valve, 2/2 NC - 2/2 NO - 3/2 NC					
CFB-D21C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22G-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23J-*	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24J-*	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24M-*	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	not available
CFB-D11A-*	B8BK (15VA)	B8DK (15VA)	B8EK (15VA)	B82K (19W)	B83K (19W)
CFB-D12D-*	B8BK (15VA)	B8DK (15VA)	B8EK (15VA)	B82K (19W)	B83K (19W)
CFB-D13J-*	B8BK (15VA)	B8DK (15VA)	B8EK (15VA)	non disponibile	non disponibile
CFB-D31A-*	B8B (15VA)	B8D (15VA)	B8EK (15VA)	B82 (19W)	B83 (19W)
CFB-D31D-*	B8B (15VA)	B8D (15VA)	B8EK (15VA)	B82 (19W)	B83 (19W)
CFB-D32A-*	B8B (15VA)	B8D (15VA)	B8EK (15VA)	B82 (19W)	B83 (19W)
CFB-D32D-*	B8B (15VA)	B8D (15VA)	B8EK (15VA)	B82 (19W)	B83 (19W)
Directly operated solenoid valve with constrained diaphragm, 2/2 NC					
CFB-B23L-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B24N-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B25P-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B26R-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
Indirectly operated solenoid valve, 2/2 NC					
CFB-A23L-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A24N-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A25P-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A26R-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A27T-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A28X-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A29Z-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
Indirectly operated solenoid valve, for heavy-duty applications, 2/2 NC					
CFB-E23L-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E24N-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E25P-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E26R-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E27T-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E28X-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-E29Z-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
Indirectly operated solenoid valve, 2/2 NO					
CFB-A13L-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B721 (14W)	B731 (14W)
CFB-A14N-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B721 (14W)	B731 (14W)
CFB-A15P-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B721 (14W)	B731 (14W)
CFB-A17T-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A16R-*	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B721 (14W)	B731 (14W)
CFB-A18X-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-A19Z-*	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)

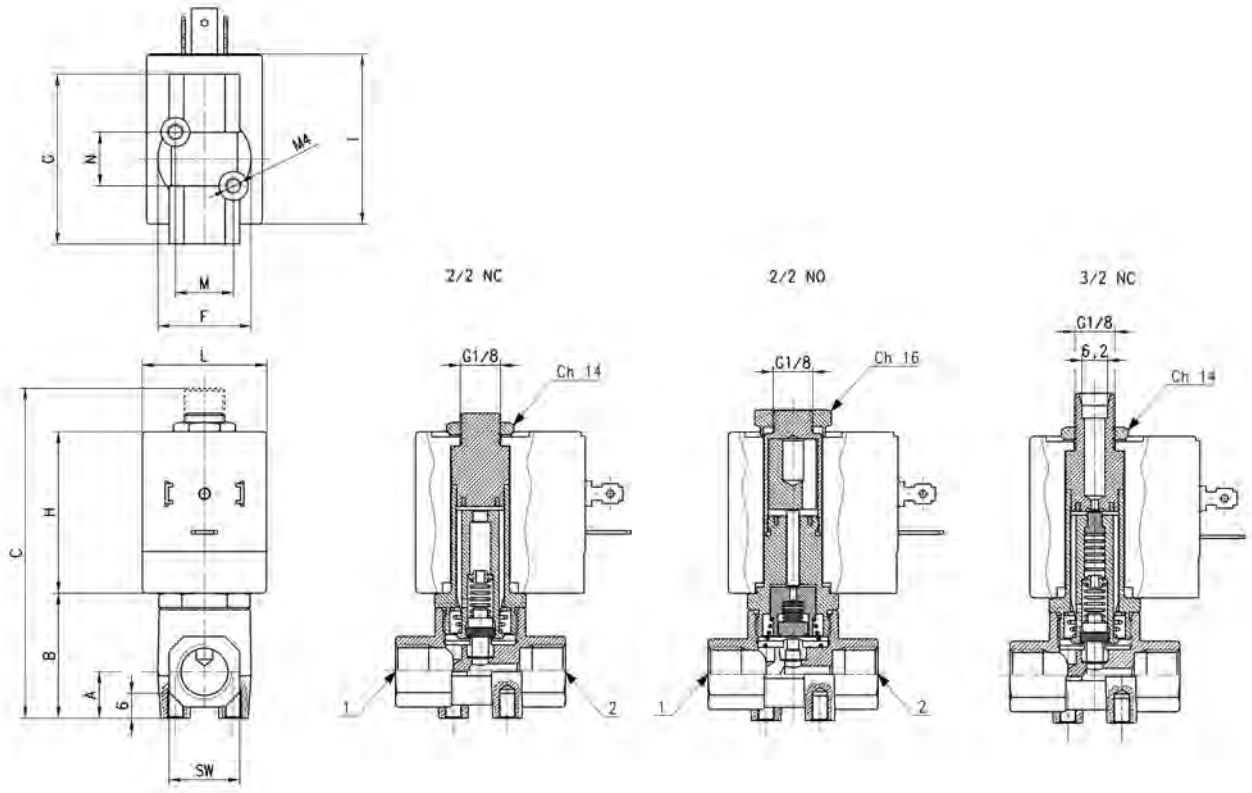
	* B7B solenoid with nominal bifrequency of 50/60 Hz		** only to be used with nominal frequency of 50 Hz

Series CFB solenoid valve - directly operated - 2/2 NC-NO e 3/2 NC

The direct control of these solenoid valves enables them to work with operating pressures which are equal to zero. Ports: G1/8 and G1/2.



* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES
** = the performances shown in the table refer to the use with inlet from "2" and outlet from "1".
*** = 0 ÷ 4 with B9... solenoid



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	SW	H	I	L	N	M	Symbol
CFB-D21C-W1-*	2/2 NC	G1/8	2.5	0.14	0 ÷ 15 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D21F-W1-*	2/2 NC	G1/8	4	0.25	0 ÷ 6 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D22C-W1-*	2/2 NC	G1/4	2.5	0.14	0 ÷ 15 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D22F-W1-*	2/2 NC	G1/4	4	0.25	0 ÷ 6 [AC / DC]	12	31.5	75	26	41	17	39	41	30	13	14	EV01
CFB-D22G-W1-*	2/2 NC	G1/4	6	0.6	0 ÷ 2.5 [AC / DC] ***	12	31.5	75	26	41	17	39	41	30	13	14	EV01
CFB-D23J-R1-*	2/2 NC	G3/8	8	1	0 ÷ 2 [AC] - 0 ÷ 0.8 [DC]	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D24J-R1-*	2/2 NC	G1/2	8	1	0 ÷ 2 [AC] - 0 ÷ 0.8 [DC]	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D24M-R1-*	2/2 NC	G1/2	13	2.4	0 ÷ 1 [AC] - /	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D11A-W1-*	2/2 NO	G1/8	1.4	0.07	0 ÷ 22 [AC 50Hz / DC]	11	30	75	23	41	17	39	41	30	13	14	EV02
CFB-D12D-W1-*	2/2 NO	G1/4	2.8	0.20	0 ÷ 7.5 [AC 50Hz / DC]	11	30	75	23	41	17	39	41	30	13	14	EV02
CFB-D13J-W1-*	2/2 NO	G3/8	8	1	0 ÷ 1.5 [AC 50Hz]	15	45	89	37	55	27	39	47	36	22	22	EV02
CFB-D31A-W1-*	3/2 NC **	G1/8	1.4	0.06	0 ÷ 14 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D31D-W1-*	3/2 NC **	G1/8	2.8	0.14	0 ÷ 5 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D32A-W1-*	3/2 NC **	G1/4	1.4	0.06	0 ÷ 14 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D32D-W1-*	3/2 NC **	G1/4	2.8	0.14	0 ÷ 5 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45

Series CFB solenoid valve - with linked diaphragm - 2/2 NC

The diaphragm which is linked to the mobile plunger is a good arrangement between high fluid flow rates and working pressures (zero pressures as well).
Ports: from G3/8 to G1.
The standard diaphragm is supplied in FKM.

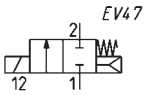
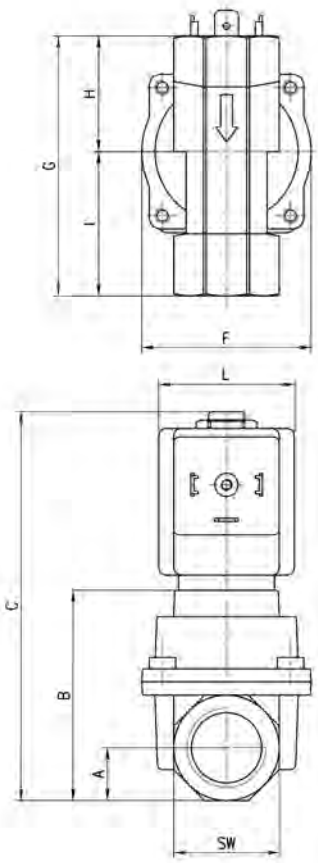
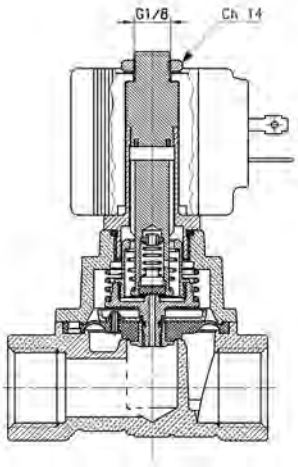


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES





Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	H	I	L	SW
CFB-B23L-W1-*	2/2 NC	G3/8	11.5	2.1	0 ÷ 15 [AC] - 0 ÷ 8 [DC]	14	55.8	103.2	45	64	28.2	35.8	36	28
CFB-B24N-W1-*	2/2 NC	G1/2	13.5	2.5	0 ÷ 15 [AC] - 0 ÷ 8 [DC]	14	55.8	103.2	45	69	30.7	38.3	36	28
CFB-B25P-W1-*	2/2 NC	G3/4	18	5	0 ÷ 15 [AC] - 0 ÷ 5 [DC]	21	72	119.4	71	93	43.5	49.5	36	42
CFB-B26R-W1-*	2/2 NC	G1	26	8	0 ÷ 15 [AC] - 0 ÷ 5 [DC]	21	72	119.4	71	93	43.5	49.5	36	42

Series CFB - indirectly operated - 2/2 NC

The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures to operate.
Ports: from G3/8 to G2.
The standard diaphragm is supplied in NBR.
On demand it can be supplied in FKM or EPDM.

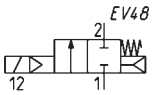
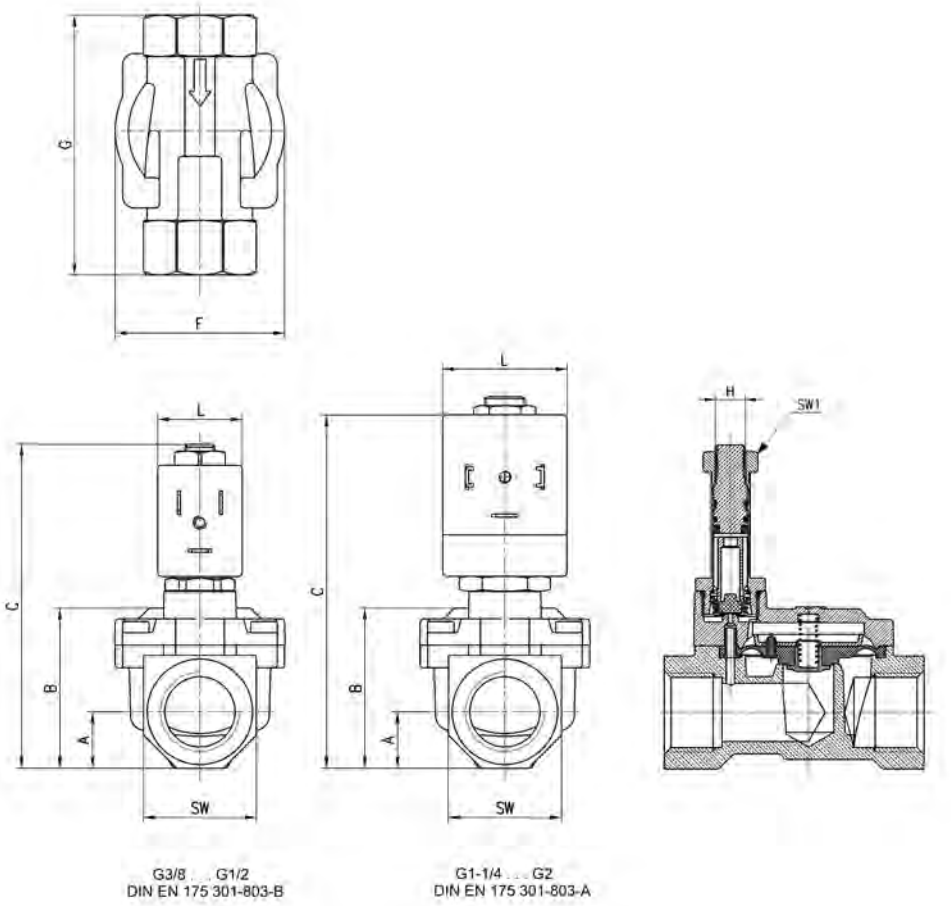


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES

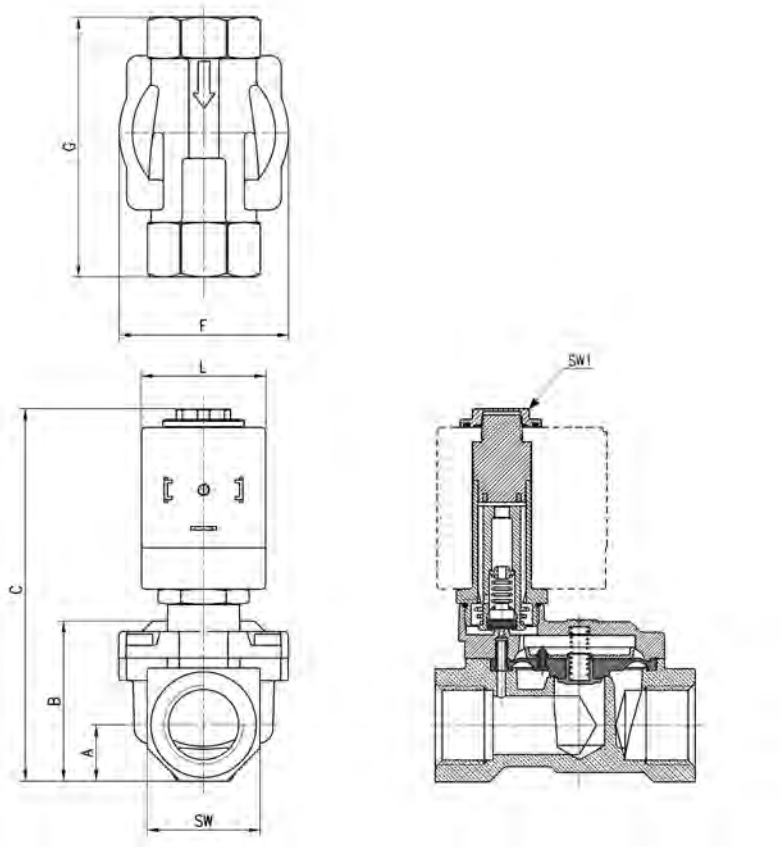


Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	H	L	SW	SW1
CFB-A23L-R1-*	2/2 NC	G3/8	11.5	2.6	0.1 ÷ 15 [AC / DC]	12	32.5	78.5	41.9	57	M8x0.75	22	24	13
CFB-A24N-R1-*	2/2 NC	G1/2	13.5	3.5	0.1 ÷ 15 [AC / DC]	15	39.7	85.7	45	69	M8x0.75	22	30	13
CFB-A25P-R1-*	2/2 NC	G3/4	18	5.8	0.2 ÷ 15 [AC / DC]	18	46.5	91.5	54.4	74	M8x0.75	22	34	13
CFB-A26R-R1-*	2/2 NC	G1	26	9.5	0.2 ÷ 12 [AC / DC]	22.5	59.8	104.5	71	93	M8x0.75	22	45	13
CFB-A27T-R1-*	2/2 NC	G1 1/4	32	12.5	0.4 ÷ 12 [AC 50 Hz / DC] - 0.4 ÷ 6 [AC 60 Hz]	27.5	73.5	130	86.6	111	G1/8	30	55	14
CFB-A28X-R1-*	2/2 NC	G1 1/2	45	31	0.4 ÷ 10 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	31	85	138.3	110	138	G1/8	30	62	14
CFB-A29Z-R1-*	2/2 NC	G2	50	45	0.4 ÷ 10 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	37.5	98.8	152	110	145	G1/8	30	75	14

Series CFB solenoid valve - indirectly op. for heavy-duty applications - 2/2 NC

These solenoid valves have a solenoid protection system suitable to be used in particularly humid environments and in harsh conditions.
The system consists of two gaskets placed above and below the coil and a lock nut that integrates the upper gasket.
The standard diaphragm valve supplied is in NBR.
On demand it can be supplied in FKM or EPDM.

TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	H	L	SW	SW1
CFB-E23L-R1-*	2/2 NC	G3/8	11.5	2.6	0.1 ÷ 15 [AC / DC]	12	32.5	78.5	41.9	57	M8x0.75	30	24	13
CFB-E24N-R1-*	2/2 NC	G1/2	13.5	3.5	0.1 ÷ 15 [AC / DC]	15	39.7	85.7	45	69	M8x0.75	30	30	13
CFB-E25P-R1-*	2/2 NC	G3/4	18	5.8	0.2 ÷ 15 [AC / DC]	18	46.5	91.5	54.4	74	M8x0.75	30	34	13
CFB-E26R-R1-*	2/2 NC	G1	26	9.5	0.2 ÷ 12 [AC / DC]	22.5	59.8	104.5	71	93	M8x0.75	30	45	13
CFB-E27T-R1-*	2/2 NC	G1 1/4	32	12.5	0.4 ÷ 12 [AC 50 Hz / DC] - 0.4 ÷ 6 [AC 60 Hz]	27.5	73.5	130	86.6	111	G1/8	30	55	14
CFB-E28X-R1-*	2/2 NC	G1 1/2	45	31	0.4 ÷ 10 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	31	85	138.3	110	138	G1/8	30	62	14
CFB-E29Z-R1-*	2/2 NC	G2	50	45	0.4 ÷ 10 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	37.5	98.8	152	110	145	G1/8	30	75	14

Series CFB - indirectly operated - 2/2 NO

The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures to operate.
Ports: from G3/8 to G2.
The standard diaphragm is supplied in NBR.
On demand it can be supplied in FKM or EPDM.

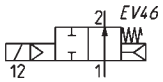
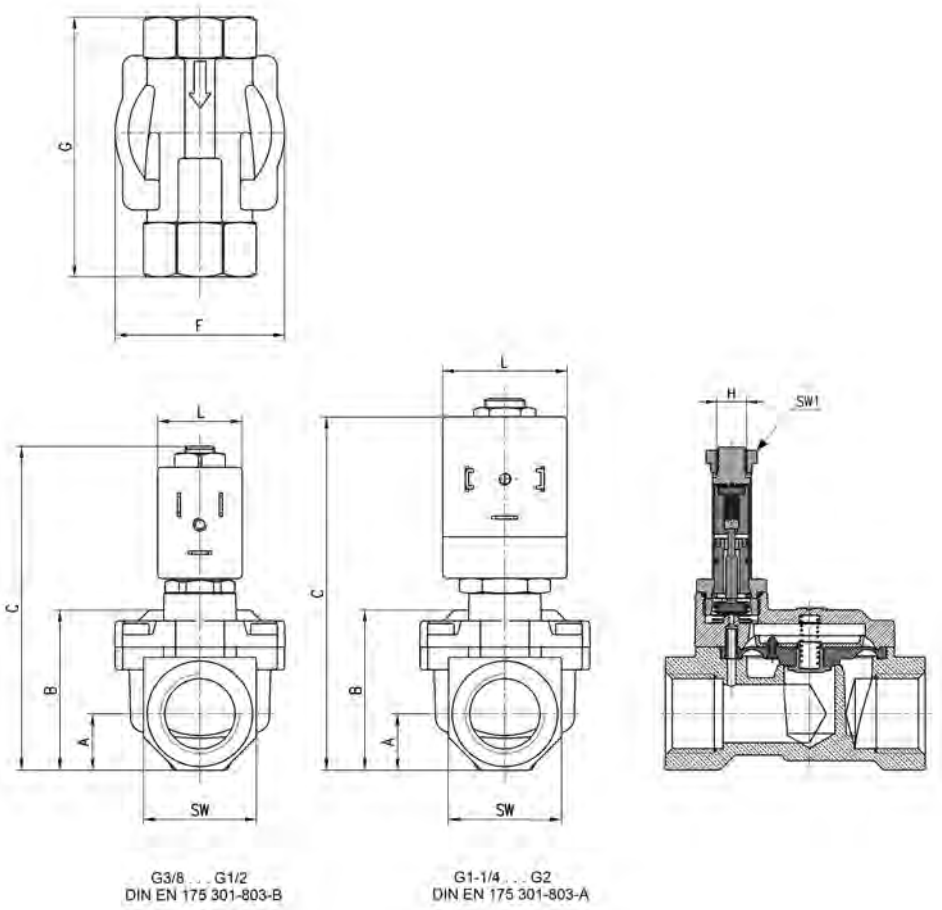


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES



G3/8 . . . G1/2
DIN EN 175 301-803-B

G1-1/4 . . . G2
DIN EN 175 301-803-A

Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	H	L	SW	SW1
CFB-A13L-R1-*	2/2 NO	G3/8	11.5	2.6	0.1 ÷ 15 [AC / DC]	12	32.5	78.5	41.9	57	M8x0.75	22	24	13.5
CFB-A14N-R1-*	2/2 NO	G1/2	13.5	3.5	0.1 ÷ 15 [AC / DC]	15	39.7	85.7	45	69	M8x0.75	22	30	13.5
CFB-A15P-R1-*	2/2 NO	G3/4	18	5.8	0.2 ÷ 15 [AC / DC]	18	46.5	92.7	54.4	74	M8x0.75	22	36	13.5
CFB-A16R-R1-*	2/2 NO	G1	26	9.5	0.2 ÷ 12 [AC / DC]	22.5	59.8	104.5	71	93	M8x0.75	22	45	13.5
CFB-A17T-R1-*	2/2 NO	G1 1/4	32	12.5	0.4 ÷ 12 [AC / DC]	27.5	73.5	130	86.6	111	G1/8	30	55	14
CFB-A18X-R1-*	2/2 NO	G1 1/2	45	31	0.4 ÷ 10 [AC / DC]	31	85	138.3	110	138	G1/8	36	62	14
CFB-A19Z-R1-*	2/2 NO	G2	50	45	0.4 ÷ 10 [AC / DC]	37.5	98.8	152	110	145	G1/8	36	75	14

Series CFB stainless steel solenoid valves

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC)

- Stainless steel version for particularly aggressive environment and fluids
- High reliability over time, even in hard working conditions
- Compact dimensions
- Suitable to control inert and medical gases, alimentary fluids and beverages

Series CFB Stainless Steel directly operated solenoid valves for general purpose, 2/2-way and 3/2-way NC, are the ideal solution for a wide range of applications whereby the environment and fluids used can be particularly aggressive and contaminating. Special versions are available on demand.

The valve function is determined by a poppet and the operation is direct.
Different versions are available according to the nominal diameter and to the threaded ports, as shown in the following tables.
They can thus satisfy various requirements in terms of flow rates and working pressures.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC
Operation	direct acting poppet type
Pneumatic connections	G1/8 ... G1/2 threads
Orifice diameter	1.5 ... 4 mm
Flow coefficient Kv (m^3/h)	0.08 ... 0.28
Operating pressure	0 ÷ 4 ... 25 bar
Operating temperature	-10 ÷ 140 °C
Media	air, water, liquid and gaseous fluids with max viscosity 37 cSt (5° E)
Response time	ON <15 ms - OFF <25 ms
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	stainless steel 316L
Seals	FKM - EPDM
Internal parts	stainless steel
ELECTRICAL FEATURES	
Voltage	12 V DC, 24 V DC - 24V AC 50 Hz, 110 V AC 50/60 Hz, 220/230 V AC 50/60 Hz
Voltage tolerance	±5% (DC) - ±10% (AC)
Power consumption	19 W (DC) - 15 VA (AC)
Duty cycle	ED 100%
Insulation class	H (180°C)
Electrical connection	DIN EN 175-301-803-A connector
Protection class	IP65 with connector
Special versions available on demand	

It is recommended to use connections with internal diameters bigger than valve orifices, otherwise there may be a performance change.

CODING EXAMPLE

CFB	-	D	2	1	A	-	W	X	-	B8	E

CFB	SERIES
D	OPERATION D = direct
2	NUMBER OF WAYS - POSITIONS 2 = 2/2-way - NC 3 = 3/2-way - NC
1	CONNECTIONS 1 = G1/8 2 = G1/4 3 = G3/8 4 = G1/2
A	ORIFICE DIAMETER A = 1.5 mm B = 2 mm C = 2.5 mm E = 3 mm F = 4 mm
W	SEALS MATERIAL W = FKM E = EPDM
X	BODY MATERIAL X = 316L stainless steel
B8	SOLENOID DIMENSION B8 = 30 mm
E	VOLTAGE - POWER CONSUMPTION B = 24 V 50/60 Hz - 15 VA D = 110 V 50/60 Hz - 15 VA E = 230 V 50/60 Hz - 15 VA 2 = 12 V DC - 19 W 3 = 24 V DC - 19 W

TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

For solenoids and their connectors see the dedicated section.
Coil mod. B8... - DIN EN 175 301-803-A = connector mod. 124-...

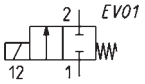
* = complete the code according to coding example

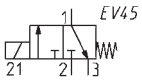
Mod.	24V AC 50 Hz	110V AC 50/60 Hz	220/230V AC 50/60 Hz	12V DC	24V DC
CFB-D21A-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21B-.*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22B-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D24E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D24F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32A-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32B-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)

Series CFB solenoid valve - directly operated - 2/2 and 3/2 NC

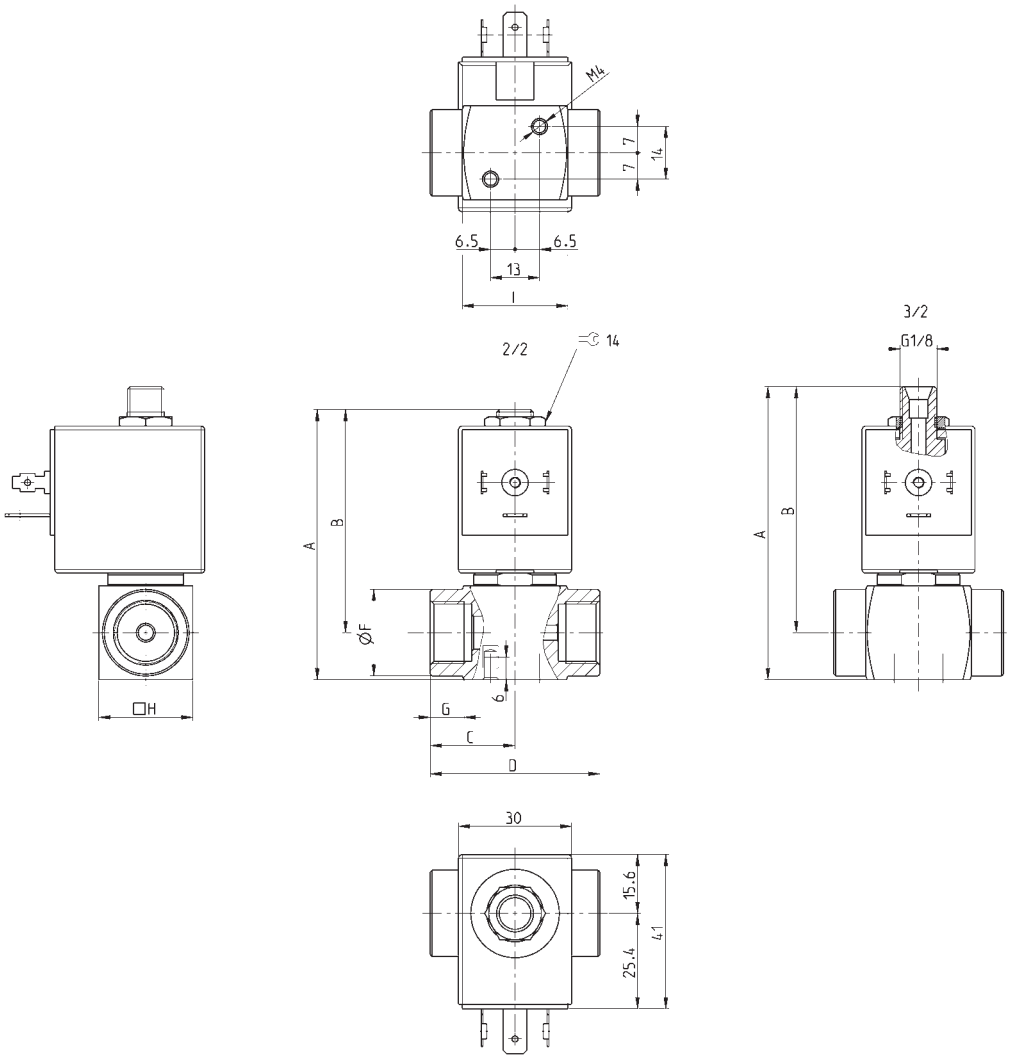
The direct control of these solenoid valves allows to operate with working pressures that are equal to zero.

Ports: from G1/8 to G1/2.





* add
- SEALS MATERIAL
- VOLTAGE
(see CODING EXAMPLE)



Mod.	Function	Connections	Orifice Ø (mm)	Kv (m³/h)	Pressure min-max (bar)	A	B	C	D	F	G	H	I	Pneumatic symbol
CFB-D21A-...X-*	2/2 NC	G1/8	1.5	0.08	0 ÷ 25	71.7	59.2	21	42	15	8	25	29	EV01
CFB-D21B-...X-*	2/2 NC	G1/8	2	0.10	0 ÷ 22	71.7	59.2	21	42	15	8	25	29	EV01
CFB-D21C-...X-*	2/2 NC	G1/8	2.5	0.14	0 ÷ 15	71.7	59.2	21	42	15	8	25	29	EV01
CFB-D22B-...X-*	2/2 NC	G1/4	2	0.10	0 ÷ 22	71.7	59.2	21	42	18	8	25	28	EV01
CFB-D22C-...X-*	2/2 NC	G1/4	2.5	0.14	0 ÷ 15	71.7	59.2	21	42	18	8	25	28	EV01
CFB-D22E-...X-*	2/2 NC	G1/4	3	0.18	0 ÷ 10	71.7	59.2	21	42	18	8	25	28	EV01
CFB-D23E-...X-*	2/2 NC	G3/8	3	0.18	0 ÷ 10	71.7	59.2	22.5	45	23	9.5	25	28	EV01
CFB-D23F-...X-*	2/2 NC	G3/8	4	0.28	0 ÷ 6	71.7	59.2	22.5	45	23	9.5	25	28	EV01
CFB-D24E-...X-*	2/2 NC	G1/2	3	0.18	0 ÷ 10	76.7	61.7	24.5	49	27.5	11	30	31	EV01
CFB-D24F-...X-*	2/2 NC	G1/2	4	0.28	0 ÷ 6	76.7	61.7	24.5	49	27.5	11	30	31	EV01
CFB-D32A-...X-*	3/2 NC	G1/4	1.5	0.08	0÷13	77.8	65.3	21	42	18	8	25	28	EV45
CFB-D32B-...X-*	3/2 NC	G1/4	2	0.1	0÷9	77.8	65.3	21	42	18	8	25	28	EV45
CFB-D32C-...X-*	3/2 NC	G1/4	2.5	0.14	0÷5.5	77.8	65.3	21	42	18	8	25	28	EV45
CFB-D32E-...X-*	3/2 NC	G1/4	3	0.18	0÷4	77.8	65.3	21	42	18	8	25	28	EV45

Series 8 pneumatic operated cartridge valves

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC)

Series 8 pneumatic operated valves are particularly suitable for applications requiring high flow combined wtih compact design.
The valve is pneumatic operated by electro-pilots which are dimensioned according to the size.
The cartridge design, which is ideal for manifold assembly, allows to reduce both dimensions and the number of pneumatic connections.

The standard function of the valve is 2/2-way NC.
It can however fulfill the 3/2-way NC function if inserted in a proper seat (see the following pages).

- New versions with PPS body
- High flow
- Manifold assembly
- Oxygen use
- Suitable also for general purpose

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 3/2 NC
Operation	pneumatic operated poppet type
Pneumatic connections	cartridge seat in manifold
Orifice diameter	5 ... 9 mm
Nominal flow	420 ... 1480 Nl/min (air at 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	6.5 ... 23
Operating pressure	3 ÷ 6 bar (0 ÷ 6 bar with external pilot supply)
Piloting pressure	3 ÷ 6 bar
Operating temperature	0 ÷ 50 °C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas, oxigen
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM	
Body	PPS - brass
Internal parts	aluminium
Seals	FKM

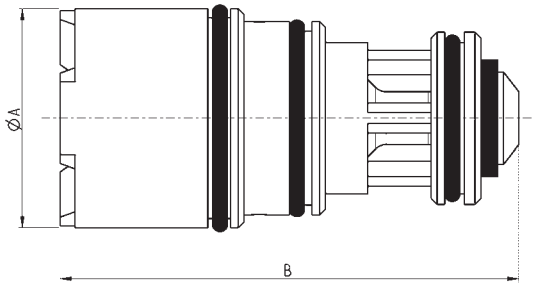
CODING EXAMPLE

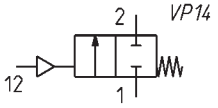
8	10	C5	1	00	-	F1	3	2	-	OX2

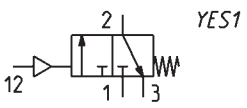
8	SERIES
10	SIZE 10 = size 1 - Ø 10.0 mm 20 = size 2 - Ø 14.5 mm 30 = size 3 - Ø 22.0 mm
C5	BODY DESIGN C5 = cartridge
1	NUMBER OF WAYS - FUNCTIONS 1 = 2/2 or 3/2-way - NC NOTE: the function 2/2 o 3/2-way depends on the seat used (see the following pages)
00	PNEUMATIC CONNECTIONS 00 = cartridge
F1	ORIFICE DIAMETER F1 = Ø 5.0 mm - size 1 only G7 = Ø 6.6 mm - size 2 only K1 = Ø 9.0 mm - size 3 only
3	SEAL MATERIAL 3 = FKM
2	BODY MATERIAL 2 = brass B = PPS
OX2	OX2 = for use with oxygen (non volatile residual less than 33 mg/m²) NOTE: the OX2 suffix must be added also in case of use with air/gas.

Series 8 pneumatic cartridge valve - 2/2-way NC and 3/2-way NC

For 2/2-way (pneumatic symbol VP14) or 3/2-way (pneumatic symbol YES1) function, see the seat dimensioning in the next pages.



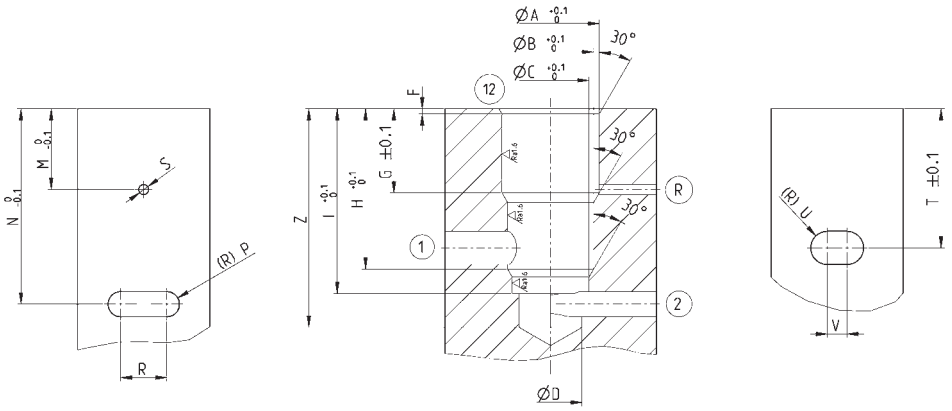




Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min ÷ max pressure (bar)	Min÷max pilot pressure (bar)	Body material	A Ø (mm)	B (mm)
810C5100-F132-OX2	2/2 - 3/2 NC	5.0	6.5	0 ÷ 6	3 ÷ 6	ottone	10	26.7
810C5100-G73B-OX2	2/2 - 3/2 NC	6.6	12.5	0 ÷ 6	3 ÷ 6	PPS	14.5	30.3
810C5100-G732-OX2	2/2 - 3/2 NC	6.6	12.5	0 ÷ 6	3 ÷ 6	ottone	14.5	30.3
810C5100-K13B-OX2	2/2 - 3/2 NC	9.0	23	0 ÷ 6	3 ÷ 6	PPS	22	34.8
810C5100-K132-OX2	2/2 - 3/2 NC	9.0	23	0 ÷ 6	3 ÷ 6	ottone	22	34.8

Series 8 pneumatic cartridge valve - 2/2-way NC - valve seat dimensions

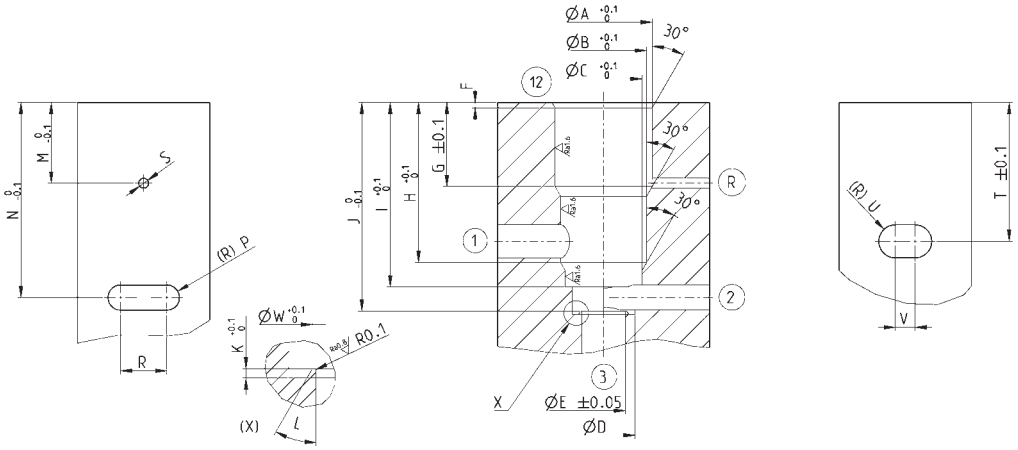
1 = inlet
2 = outlet
12 = piloting
R = poppet chamber exhaust



SERIES 8																	
Size	A	B	C	D	F	G	H	I	M	N	P	R	S	T	U	V	Z
1	10.4	9.7	9	8.2	0.8	14.5	20.7	25	13.2	26.2	1.5	5	1.5	19.1	1.5	5	30
2	14.65	12.95	11.55	9.5	0.8	12.8	24.2	27.9	12.2	29.3	1.9	7	1.5	20.5	2.5	4	33
3	22.1	20.6	19.6	16.2	0.5	15	28.7	33.4	12.5	37.1	4	4.4	2.5	24.8	3.75	5	41

Series 8 pneumatic cartridge valve - 3/2-way NC - valve seat dimensions

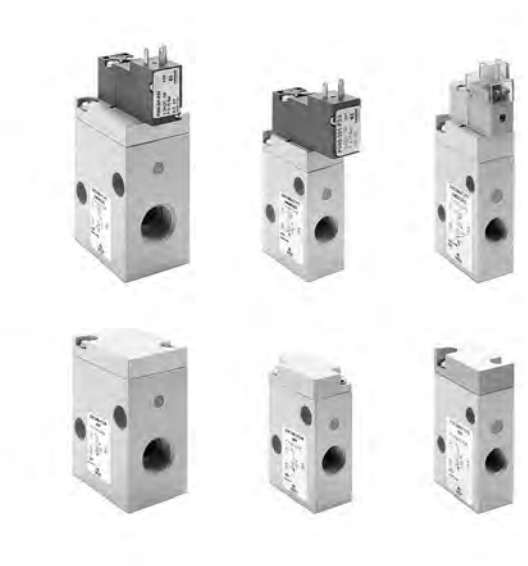
1 = inlet
2 = outlet
3 = exhaust
12 = piloting
R = poppet chamber exhaust



SERIES 8																					
Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	V	W
1	10.4	9.7	9	8.2	5	0.8	14.5	20.7	25	28	0.3	45	13.2	26.2	1.5	5	1.5	19.1	1.5	5	5.4
2	14.65	12.95	11.55	9.5	6.6	0.8	12.8	24.2	27.9	31.55	0.5	45	12.2	29.3	1.9	7	1.5	20.5	2.5	4	7
3	22.1	20.6	19.6	16.2	9	0.5	15	28.7	33.4	38.05	1	60	12.5	37.1	4	4.4	2.5	24.8	3.75	5	10

Series 8 pneumatically and electropneumatically operated valves

2/2-way - Normally Closed (NC)
3/2-way - Normally Closed (NC)



- High flow
- Available in 3 different sizes for general purpose
- Version for use with oxygen available

The Series 8 enlarges the range of versions available with the cartridge valve directly integrated in an anodized aluminium body comprising also the pilot solenoid valve. The new bodies enable to have pneumatically operated versions with external piloting or electropneumatically operated versions with both external and internal piloting.

GENERAL DATA

TECHNICAL SPECIFICATIONS	
Function	2/2 NC – 3/2 NC
Operation	pneumatic or electropneumatic
Pneumatic connections	G1/8 – G1/4 – G3/8
Nominal diameter	5 ... 9 mm
Flow coefficient kv (l/min)	6.5 ... 23
Nominal flow	420 ... 1480 Nl/min (air at 6 bar ΔP 1 bar)
Operating pressure	3 ÷ 6 bar (0 ÷ 6 bar with external pilot supply)
External pilot pressure	3 ÷ 6 bar
Operating temperature	0 ÷ 50 °C
Fluid	filtered air class 5.4.4 according to ISO 8573-1 (oil viscosity max. 32 cSt), inert gases
Response times	ON <10 ms - OFF <10 ms
Installation	any position

MATERIALS IN CONTACT WITH FLUID	
Body	aluminium
Seals	FKM
Internal parts	aluminium – brass

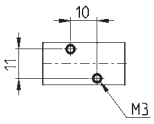
ELECTRICAL SPECIFICATIONS	
Voltage	24 V DC – other voltages on demand
Voltage tolerance	Size 1 = ±10% - Size 2 and 3 = -10% +15%
Power consumption	Size 1 = 1.3 W (inrush) 0.25 W (holding) – Size 2 and 3 = 2 W
Duty cycle	ED 100%
Electrical connection	connectors – 300 mm flying leads
Protection class	Size 1 = IP50 – Size 2 and 3 = IP65 (with connector)

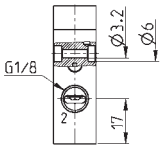
CODING EXAMPLE

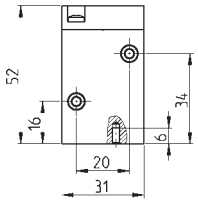
8	10	C3	4	04	-	F1	3	1	Y	-	N	00	2C	C014	

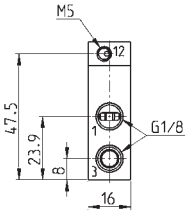
8	SERIES
10	SIZE 10 = size 1 20 = size 2 30 = size 3
C3	TYPE OF BODY C3 = valve with aluminium body threaded connections
4	NUMBER OF WAYS - FUNCTIONS 1 = 2/2-way - NC 4 = 3/2-way - NC
04	PNEUMATIC CONNECTIONS 04 = G1/8 (size 1) 05 = G1/4 (size 2) 06 = G3/8 (size 3)
F1	ORIFICE DIAMETER F1 = 5.0 mm (size 1) G7 = 6.6 mm (size 2) K1 = 9.0 mm (size 3)
3	SEAL MATERIAL 3 = FKM
1	BODY MATERIAL 1 = aluminium
Y	MANUAL OVERRIDE N = not provided Y = provided monostable
N	MOUNTING ACCESSORIES N = not provided
00	OPTIONS 00 = no option PP = pneumatic piloting PE = electropilot with external piloting
2C	ELECTRICAL CONNECTION 2C = KN 90° type + protection + led - only for size 1 2F = KN in line type + protection + led - only for size 1 3A = DIN EN 175 301-803-C (8 mm) - only for size 2 and 3 4A = industrial standard (9.4 mm) - only for size 2 and 3 7A = 300 mm flying leads - only for size 2 and 3
C014	VOLTAGE - POWER CONSUMPTION C012 = 12V DC - 1.3/0.25W (size 1) C014 = 24V DC - 1.3/0.25W (size 1) C020 = 12V DC - 2W (size 2 - 3) C023 = 24V DC - 2W (size 2 - 3) C025 = 48V DC - 2W (size 2 - 3)
	VERSION = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m²) OX2 = for use with oxygen (non volatile residual less than 33 mg/m²)

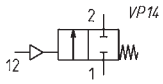
Series 8 pneumatic valve - size 1 - 2/2 and 3/2-ways NC

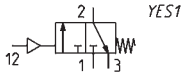






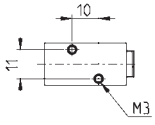




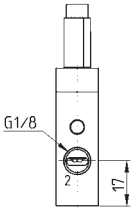


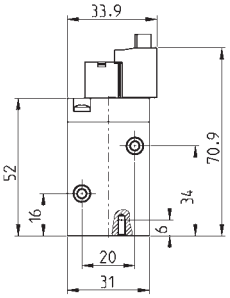
Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
810C3104-F131N-NPP	2/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	VP14
810C3404-F131N-NPP	3/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	YES1

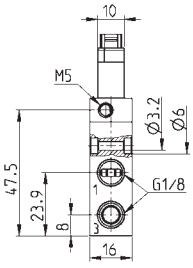
Series 8 solenoid valve - size 1 - 2/2 and 3/2-ways NC

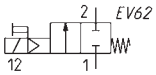


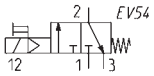
* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)

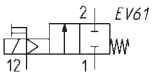


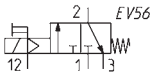






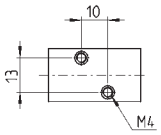


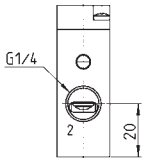


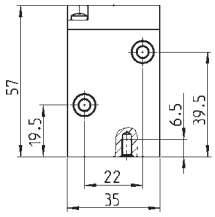


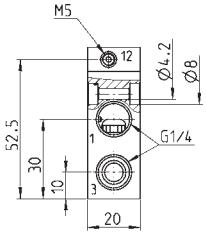
Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
810C3104-F131Y-N00*	2/2 NC	G1/8	5.0	6.5	420	3 ÷ 6	-	Internal	EV62
810C3404-F131Y-N00*	3/2 NC	G1/8	5.0	6.5	420	3 ÷ 6	-	Internal	EV54
810C3104-F131Y-NPE*	2/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	EV61
810C3404-F131Y-NPE*	3/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	EV56

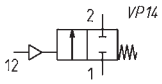
Series 8 pneumatic valve - size 2 - 2/2 and 3/2-ways NC

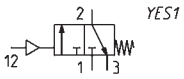








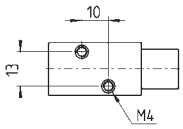


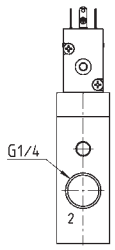


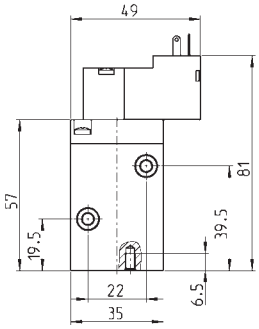
Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
820C3105-G731N-NPP	2/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	VP14
820C3405-G731N-NPP	3/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	YES1

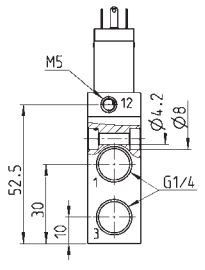
Series 8 solenoid valve - size 2 - 2/2 and 3/2-ways NC

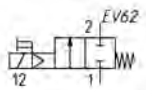
* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)

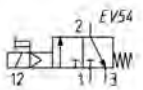


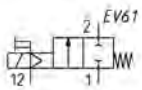


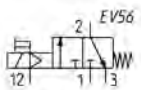






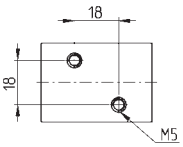


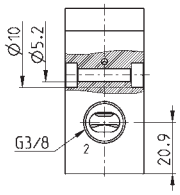


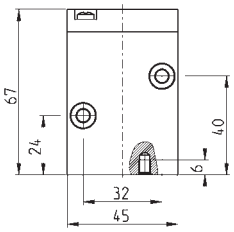


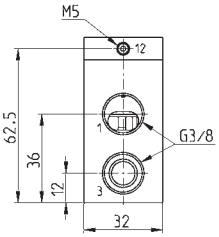
Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
820C3105-G731Y-N00*	2/2 NC	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV62
820C3405-G731Y-N00*	3/2 NC	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV54
820C3105-G731Y-NPE*	2/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV61
820C3405-G731Y-NPE*	3/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV56

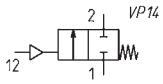
Series 8 pneumatic valve - size 3 - 2/2 and 3/2-ways NC

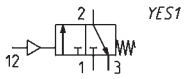








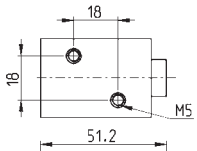


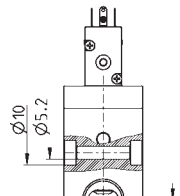


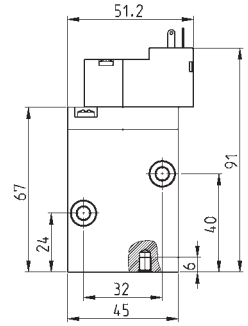
Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
830C3106-K131N-NPP	2/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	VP14
830C3406-K131N-NPP	3/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	YES1

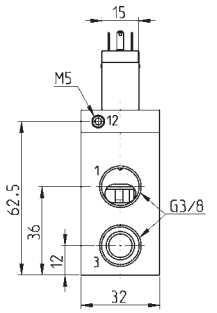
Series 8 solenoid valve - size 3 - 2/2 and 3/2-ways NC

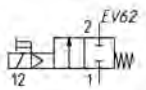
* add
- ELECTRICAL CONNECTION
- VOLTAGE
(see CODING EXAMPLE)

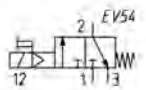


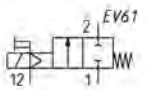


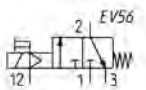












Mod.	Function	Ports	Orifice Ø (mm)	kv (l/min)	Qn (Nl/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
830C3106-K131Y-N00*	2/2 NC	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV62
830C3406-K131Y-N00*	3/2 NC	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV54
830C3106-K131Y-NPE*	2/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV61
830C3406-K131Y-NPE*	3/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV56

Series TC
shut-off micro-valves

2/2-way - Normally Closed (NC)

- Compact design
- High performance
- Ease of installation
- Compatibility between materials used and several gaseous fluids
- Suitable for applications with oxygen

The principle of the Series TC1-V shut-off micro-valves is based on the actuation of a poppet by means of an operating pressure applied above it.

The poppet, once actuated, moves away from the tightening seal, permitting the flow of the intercepted fluid.

By removing the actuation pressure, the poppet repositions itself on the tightening seal by means of a spring positioned below that closes the flow of the fluid.

For its realization the most suitable materials for contact with fluids were selected. The body in PPS and the FKM tightening seals guarantee full compatibility with a wide range of gaseous fluids.

GENERAL DATA

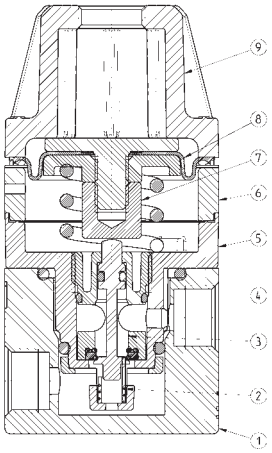
Construction	compact with pre-formed diaphragm
Materials	see the TABLE OF MATERIALS
Ports	cartridge construction in manifold - G1/8 or 1/8NPTF (only for aluminium body version)
Mounting	in-line or cartridge (any position)
Operating temperature	-5°C ÷ 50°C
Inlet pressure	0 ÷ 10 bar
Pilot pressure	0.6 ÷ 10 bar
Nominal flow	240 Nl/min (6 bar ΔP 1 bar)
Medium	air, inert/medical gases and oxygen

CODING EXAMPLE

TC	1	-	V	36	-	C	-	V	-	OX2

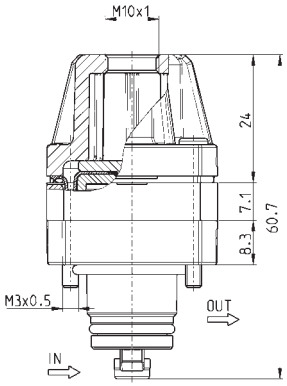
TC	SERIES
1	SIZE
V	VALVE
36	CONSTRUCTION: 36 = pneumatic command
C	PORTS: C = Cartridge 1/8 = G1/8 1/8TF = 1/8NPTF
V	SEALS MATERIAL: V = FKM
OX2	VERSIONS: OX1 = for oxygen (non-volatile residue lower than 550 mg/m^2) OX2 = for oxygen (non-volatile residue lower than 33 mg/m^2)

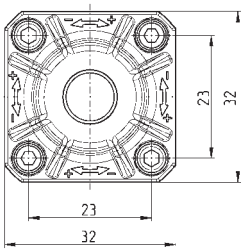
Series TC shut-off micro-valves - materials

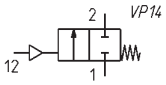


PARTS	MATERIALS
1. Base body	Anodized aluminium
2. Lower spring	Stainless steel
3. Insert	PPS
4. Poppet	Stainless steel
5. Body	PPS
6 Intermediate body	Anodized aluminium
7. Valve guide	Polyamide
8. Diaphragm	FKM
9. Bell	Polyamide
Seals	FKM

Series TC cartridge shut-off micro-valves



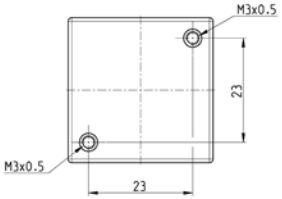


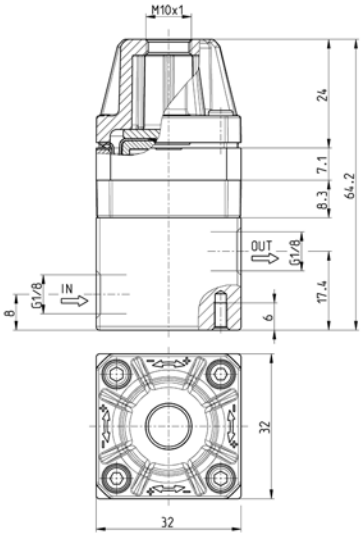


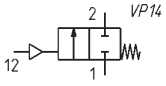
Mod.
TC1-V36-C-V-OX1
TC1-V36-C-V-OX2

Series TC shut-off micro-valves with aluminium body

* to choose the type of thread (G1/8 or 1/8 NPTF) see the Coding example

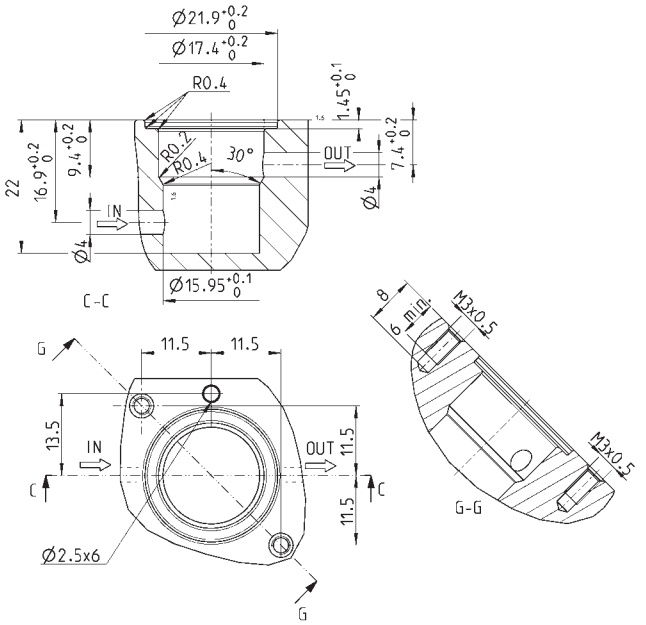






Mod.
TC1-V36-*-V-OX1
TC1-V36-*-V-OX2

Seat dimensions for Series TC cartridge valve



Series ASX
angle seat valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
2/2-way - Double Acting (DA)

- High flow
- Low resistance of the flow
- Anti-water hammer design
- Compliant with Directive PED 97/23/EC
- Compliant with Directive ATEX for Zones 1/21 - II 2G Ex h IIC T4 Gb and II 2D Ex h IIIC T135 °C Db -10≤ Ta ≤+80 °C

Angle seat valves are available in different versions with regard to nominal diameter, type of fluid and process connections.
They are able to manage media that are corrosive or contain suspended solid particulate matter and can be used in applications with high operating temperatures.

The operation is determined by the pneumatic drive of a single acting, guided piston actuator with spring return.
There are also models available with double acting actuators, without spring.
For liquid media we recommend the models with flow direction under the seat.
For gas or steam we recommend the models with flow direction above the seat.

GENERAL DATA

TECHNICAL FEATURES	
Function	2/2 NC - 2/2 NO - 2/2 Double Acting
Operation	pneumatic, poppet type
Pneumatic connections	1/4 ... 4" with BSP/BSPT/NPT threads, flanged, welding ends, tri-clamp
Nominal diameter	DN8 ... DN100
Flow coefficient Kv (m^3/h)	2.2 ... 132
Operating pressure	0 ÷ 2 ... 16 bar
Operating temperature	-10 ÷ 180 °C (standard seals) / 25 ÷ 220 °C (high temperature seals)
Media	water, air, steam, inert or corrosive liquids and gases (compatible with the materials in contact)
Viscosity	600 cSt. max
Installation	in any position
MATERIALS IN CONTACT WITH THE MEDIUM	
Body	316 stainless steel / 304 stainless steel for flanged version DN100
Seals	PTFE
Internal parts	316 stainless steel
SPECIFICATIONS PNEUMATIC ACTUATOR	
Actuator dimensions	Ø40 - Ø50 - Ø63 - Ø90 - Ø125 mm
Actuator material	304 stainless steel / aluminium (only for Ø125 mm)
Piston material	aluminium
Piston seal material	FKM
Piloting fluid	air or inert gases
Piloting pressure	10 bar max.
Actuator position	360° rotatable

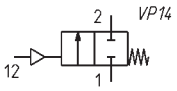
CODING EXAMPLE

AS	X	2	1	-	W	015	G1	-	040	1	2	-	

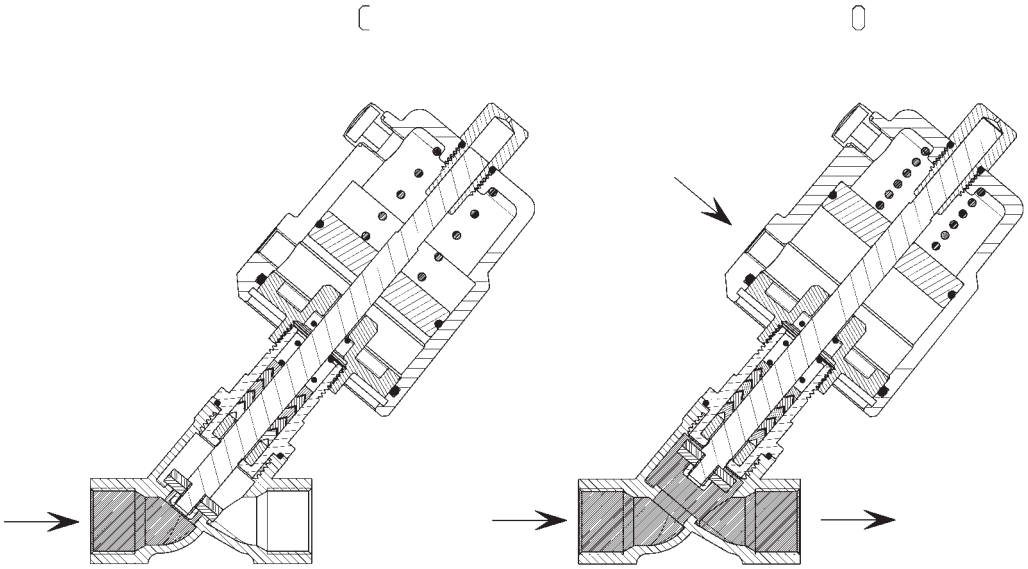
AS	SERIES
X	TYPE OF ACTUATOR X = metal actuator
2	BODY MATERIAL 1 = 304 stainless steel (DN 100 only) 2 = 316 stainless steel
1	NUMBER OF WAYS - FUNCTIONS 0 = 2/2-way NO 1 = 2/2-way NC 3 = 2/2-way DA (Double Acting)
W	FLOW DIRECTION W = under the seat (anti-water hammer) Y = above the seat
015	NOMINAL DIAMETER 008 = DN 8 010 = DN 10 015 = DN 15 020 = DN 20 025 = DN 25 032 = DN 32 040 = DN 40 050 = DN 50 065 = DN 65 080 = DN 80 100 = DN 100 - only for flanged version with NC and DA function and pressure under the seat
G1	BODY CONNECTION G1 = BSP thread DIN 228-1 T1 = BSPT thread DIN 2999-1 N1 = NPT thread ASME B1.20.1 H7 = welding ends DIN 11850-2 / DIN 11866-A H8 = welding ends DIN 11850-3 K7 = tri-clamp ISO 2852 F2 = flange DIN 2543
040	ACTUATOR DIMENSION 040 = Ø40 mm 050 = Ø50 mm 063 = Ø63 mm 090 = Ø90 mm 125 = Ø125 mm
1	ACTUATOR MATERIAL 1 = 304 stainless steel 8 = aluminium
2	SEALS 2 = for standard temperatures -10 ÷ 180 °C 3 = for high temperatures 25 ÷ 220 °C
	OPTIONS = none PS1 = NPN - NO proximity switch PS2 = NPN - NC proximity switch PS3 = PNP - NO proximity switch PS4 = PNP - NC proximity switch SL1 = stroke limiter for Ø50 - Ø63 mm actuators SL2 = stroke limiter for Ø90 mm actuators PI1 = position indicator for Ø40 - Ø50 - Ø63 - Ø90 mm actuators PI2 = position indicator for Ø125 mm actuators

Series ASX angle seat valve - 2/2-way NC - pressure under the seat

The valves with flow direction under the seat are suitable for uncompressible fluids. This function prevents the hydraulic water hammer effect.
NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.



DRAWING LEGEND:
C = valve in closed position
O = valve in open position

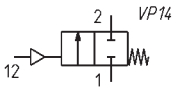


Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX21-W008*-04012	2/2 NC	8	1/4"	13	2.2	0 ÷ 13	≥ 4	40	304 stainless steel
ASX21-W008*-05012	2/2 NC	8	1/4"	13	2.2	0 ÷ 14	≥ 4.5	50	304 stainless steel
ASX21-W010*-04012	2/2 NC	10	3/8"	13	3.9	0 ÷ 13	≥ 4	40	304 stainless steel
ASX21-W010*-05012	2/2 NC	10	3/8"	13	3.9	0 ÷ 14	≥ 4.5	50	304 stainless steel
ASX21-W015*-04012	2/2 NC	15	1/2"	13	4.3	0 ÷ 13	≥ 4	40	304 stainless steel
ASX21-W015*-05012	2/2 NC	15	1/2"	13	4.3	0 ÷ 14	≥ 4.5	50	304 stainless steel
ASX21-W020*-05012	2/2 NC	20	3/4"	18	7.6	0 ÷ 14	≥ 4.5	50	304 stainless steel
ASX21-W025*-05012	2/2 NC	25	1"	24	15.8	0 ÷ 8	≥ 4.5	50	304 stainless steel
ASX21-W025*-06312	2/2 NC	25	1"	24	15.8	0 ÷ 13	≥ 5	63	304 stainless steel
ASX21-W032*-06312	2/2 NC	32	1 1/4"	31	26	0 ÷ 6	≥ 5	63	304 stainless steel
ASX21-W032*-09012	2/2 NC	32	1 1/4"	31	26	0 ÷ 16	≥ 6	90	304 stainless steel
ASX21-W040*-06312	2/2 NC	40	1 1/2"	35	32	0 ÷ 5	≥ 5	63	304 stainless steel
ASX21-W040*-09012	2/2 NC	40	1 1/2"	35	32	0 ÷ 16	≥ 6	90	304 stainless steel
ASX21-W050*-06312	2/2 NC	50	2"	45	52	0 ÷ 5	≥ 5	63	304 stainless steel
ASX21-W050*-09012	2/2 NC	50	2"	45	52	0 ÷ 10	≥ 6	90	304 stainless steel
ASX21-W050*-12582	2/2 NC	50	2"	45	52	0 ÷ 16	≥ 5.5	125	aluminium
ASX21-W065*-09012	2/2 NC	65	2 1/2"	61	83.2	0 ÷ 5	≥ 6	90	304 stainless steel
ASX21-W065*-12582	2/2 NC	65	2 1/2"	61	83.2	0 ÷ 9	≥ 5.5	125	aluminium
ASX21-W080*-12582	2/2 NC	80	3"	80	119	0 ÷ 5	≥ 5.5	125	aluminium
ASX11-W100F2-12582	2/2 NC	100	4"	90	132	0 ÷ 2.5	≥ 5.5	125	aluminium

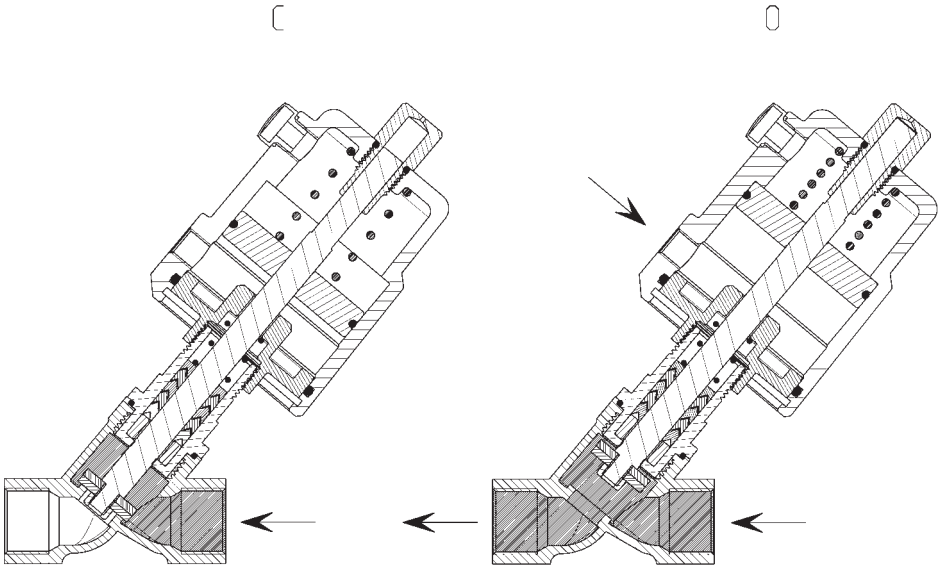
Series ASX angle seat valve - 2/2-way NC - pressure above the seat

The valves with flow direction above the seat are suitable for compressible fluids.

NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.



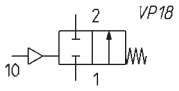
DRAWING LEGEND:
C = valve in closed position
O = valve in open position



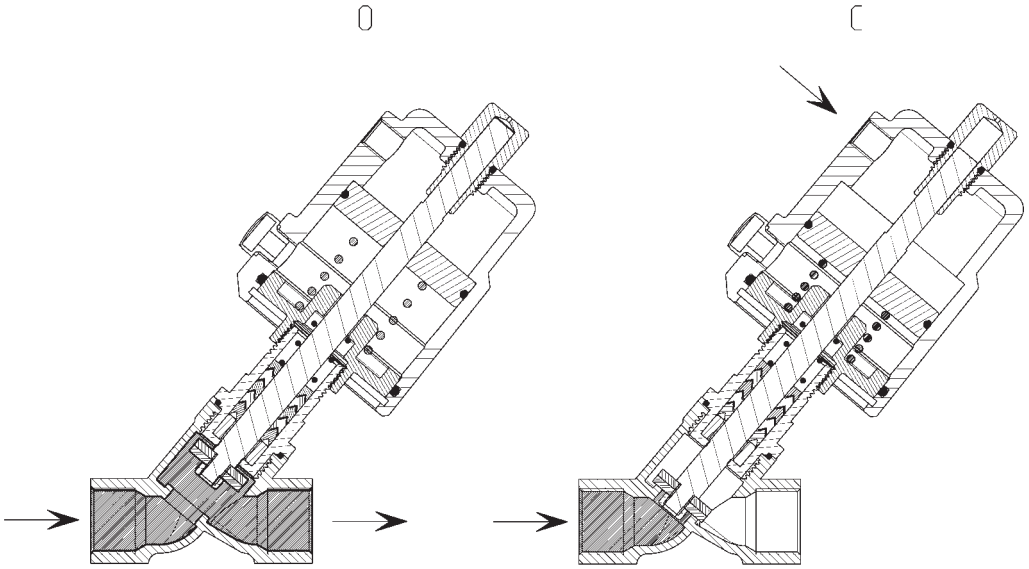
Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX21-Y008*-04012	2/2 NC	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX21-Y008*-05012	2/2 NC	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX21-Y010*-04012	2/2 NC	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX21-Y010*-05012	2/2 NC	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX21-Y015*-04012	2/2 NC	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX21-Y015*-05012	2/2 NC	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX21-Y020*-05012	2/2 NC	20	3/4"	18	7.6	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX21-Y025*-05012	2/2 NC	25	1"	24	15.8	0 ÷ 16	3 ÷ 4.5	50	304 stainless steel
ASX21-Y025*-06312	2/2 NC	25	1"	24	15.8	0 ÷ 16	3 ÷ 3.5	63	304 stainless steel
ASX21-Y032*-06312	2/2 NC	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 5.5	63	304 stainless steel
ASX21-Y032*-09012	2/2 NC	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 3.5	90	304 stainless steel
ASX21-Y040*-06312	2/2 NC	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 6.5	63	304 stainless steel
ASX21-Y040*-09012	2/2 NC	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 4	90	304 stainless steel
ASX21-Y050*-06312	2/2 NC	50	2"	45	52	0 ÷ 9	3 ÷ 7	63	304 stainless steel
ASX21-Y050*-09012	2/2 NC	50	2"	45	52	0 ÷ 16	3 ÷ 4.5	90	304 stainless steel
ASX21-Y050*-12582	2/2 NC	50	2"	45	52	0 ÷ 16	3 ÷ 4	125	aluminium
ASX21-Y065*-09012	2/2 NC	65	2 1/2"	61	83.2	0 ÷ 10	3 ÷ 6	90	304 stainless steel
ASX21-Y065*-12582	2/2 NC	65	2 1/2"	61	83.2	0 ÷ 16	3 ÷ 4	125	aluminium
ASX21-Y080*-12582	2/2 NC	80	3"	80	119	0 ÷ 12	3 ÷ 7	125	aluminium

Series ASX angle seat valve - 2/2-way NO - pressure under the seat

The valves with flow direction under the seat are suitable for uncompressible fluids. This function prevents the hydraulic water hammer effect.
NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.



DRAWING LEGEND:
C = valve in closed position
O = valve in open position

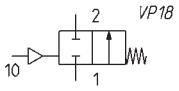


Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX20-W008*-04012	2/2 NO	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 5	40	304 stainless steel
ASX20-W008*-05012	2/2 NO	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX20-W010*-04012	2/2 NO	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 5	40	304 stainless steel
ASX20-W010*-05012	2/2 NO	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX20-W015*-04012	2/2 NO	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 5	40	304 stainless steel
ASX20-W015*-05012	2/2 NO	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX20-W020*-05012	2/2 NO	20	3/4"	18	7.6	0 ÷ 16	3 ÷ 6	50	304 stainless steel
ASX20-W025*-05012	2/2 NO	25	1"	24	15.8	0 ÷ 13	3 ÷ 6	50	304 stainless steel
ASX20-W025*-06312	2/2 NO	25	1"	24	15.8	0 ÷ 16	3 ÷ 5	63	304 stainless steel
ASX20-W032*-06312	2/2 NO	32	1 1/4"	31	26	0 ÷ 13	3 ÷ 6	63	304 stainless steel
ASX20-W040*-06312	2/2 NO	40	1 1/2"	35	32	0 ÷ 7	3 ÷ 6	63	304 stainless steel
ASX20-W040*-09012	2/2 NO	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 3.5	90	304 stainless steel
ASX20-W050*-06312	2/2 NO	50	2"	45	52	0 ÷ 5	3 ÷ 6	63	304 stainless steel
ASX20-W050*-09012	2/2 NO	50	2"	45	52	0 ÷ 12	3 ÷ 6	90	304 stainless steel
ASX20-W065*-09012	2/2 NO	65	2 1/2"	61	83.2	0 ÷ 7.5	3 ÷ 5	90	304 stainless steel
ASX20-W065*-12582	2/2 NO	65	2 1/2"	61	83.2	0 ÷ 14	3 ÷ 7	125	aluminium
ASX20-W080*-12582	2/2 NO	80	3"	80	119	0 ÷ 12	3 ÷ 7	125	aluminium

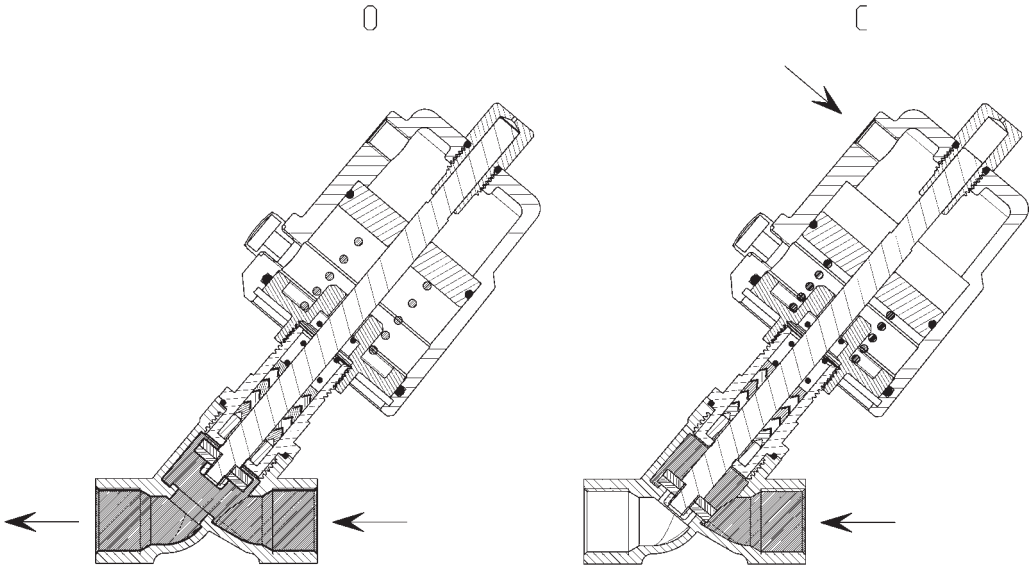
Series ASX angle seat valve - 2/2-way NO - pressure above the seat

The valves with flow direction above the seat are suitable for compressible fluids.

NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.



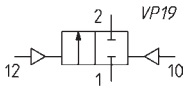
DRAWING LEGEND:
C = valve in closed position
O = valve in open position



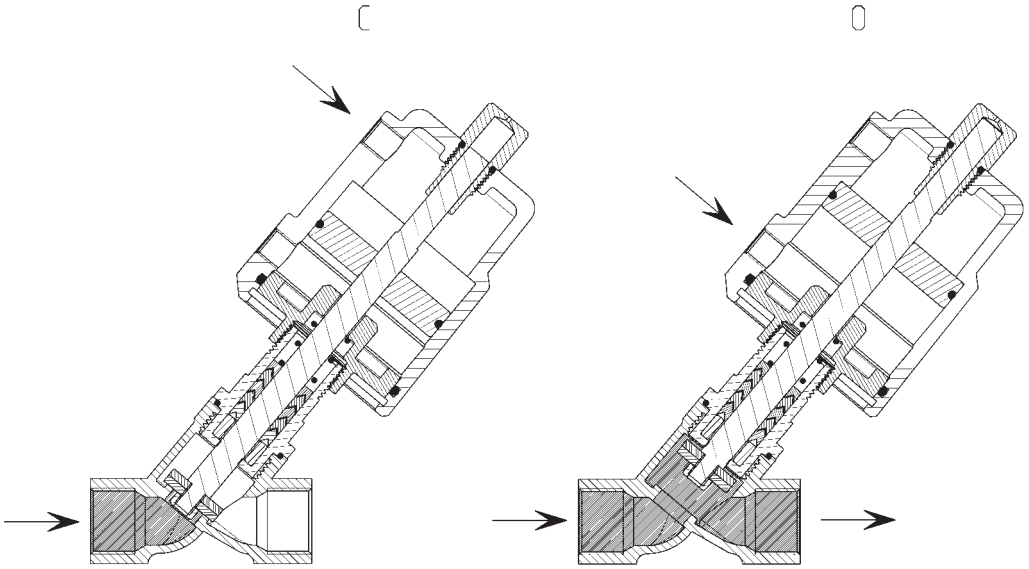
Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX20-Y008*-04012	2/2 NO	8	1/4"	13	2.2	0 ÷ 16	≥ 3	40	304 stainless steel
ASX20-Y008*-05012	2/2 NO	8	1/4"	13	2.2	0 ÷ 16	≥ 3	50	304 stainless steel
ASX20-Y010*-04012	2/2 NO	10	3/8"	13	3.9	0 ÷ 16	≥ 3	40	304 stainless steel
ASX20-Y010*-05012	2/2 NO	10	3/8"	13	3.9	0 ÷ 16	≥ 3	50	304 stainless steel
ASX20-Y015*-04012	2/2 NO	15	1/2"	13	4.3	0 ÷ 16	≥ 3	40	304 stainless steel
ASX20-Y015*-05012	2/2 NO	15	1/2"	13	4.3	0 ÷ 16	≥ 3	50	304 stainless steel
ASX20-Y020*-05012	2/2 NO	20	3/4"	18	7.6	0 ÷ 12	≥ 3	50	304 stainless steel
ASX20-Y025*-05012	2/2 NO	25	1"	24	15.8	0 ÷ 3	≥ 3	50	304 stainless steel
ASX20-Y025*-06312	2/2 NO	25	1"	24	15.8	0 ÷ 16	≥ 4.5	63	304 stainless steel
ASX20-Y032*-06312	2/2 NO	32	1 1/4"	31	26	0 ÷ 14	≥ 4.5	63	304 stainless steel
ASX20-Y040*-06312	2/2 NO	40	1 1/2"	35	32	0 ÷ 14	≥ 4.5	63	304 stainless steel
ASX20-Y050*-06312	2/2 NO	50	2"	45	52	0 ÷ 6	≥ 4.5	63	304 stainless steel

Series ASX angle seat valve - 2/2-way DA - pressure under the seat

The valves with flow direction under the seat are suitable for uncompressible fluids. This function prevents the hydraulic water hammer effect.
NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.



DRAWING LEGEND:
C = valve in closed position
O = valve in open position

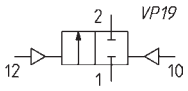


Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX23-W008*-04012	2/2 DE	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 4	40	304 stainless steel
ASX23-W008*-05012	2/2 DE	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX23-W010*-04012	2/2 DE	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 4	40	304 stainless steel
ASX23-W010*-05012	2/2 DE	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX23-W015*-04012	2/2 DE	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 4	40	304 stainless steel
ASX23-W015*-05012	2/2 DE	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX23-W020*-05012	2/2 DE	20	3/4"	18	7.6	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX23-W025*-05012	2/2 DE	25	1"	24	15.8	0 ÷ 16	3 ÷ 6.5	50	304 stainless steel
ASX23-W025*-06312	2/2 DE	25	1"	24	15.8	0 ÷ 16	3 ÷ 5.5	63	304 stainless steel
ASX23-W032*-06312	2/2 DE	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 7	63	304 stainless steel
ASX23-W032*-09012	2/2 DE	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 4.5	90	304 stainless steel
ASX23-W040*-06312	2/2 DE	40	1 1/2"	35	32	0 ÷ 12	3 ÷ 7.5	63	304 stainless steel
ASX23-W040*-09012	2/2 DE	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 5	90	304 stainless steel
ASX23-W050*-06312	2/2 DE	50	2"	45	52	0 ÷ 4	3 ÷ 7.5	63	304 stainless steel
ASX23-W050*-09012	2/2 DE	50	2"	45	52	0 ÷ 16	3 ÷ 6	90	304 stainless steel
ASX23-W050*-12582	2/2 DE	50	2"	45	52	0 ÷ 16	3 ÷ 4	125	aluminium
ASX23-W065*-09012	2/2 DE	65	2 1/2"	61	83.2	0 ÷ 10	3 ÷ 7.5	90	304 stainless steel
ASX23-W065*-12582	2/2 DE	65	2 1/2"	61	83.2	0 ÷ 16	3 ÷ 6	125	aluminium
ASX23-W080*-12582	2/2 DE	80	3"	80	119	0 ÷ 10	3 ÷ 7	125	aluminium
ASX13-W100F2-12582	2/2 DE	100	4"	90	132	0 ÷ 8	3 ÷ 7.5	125	aluminium

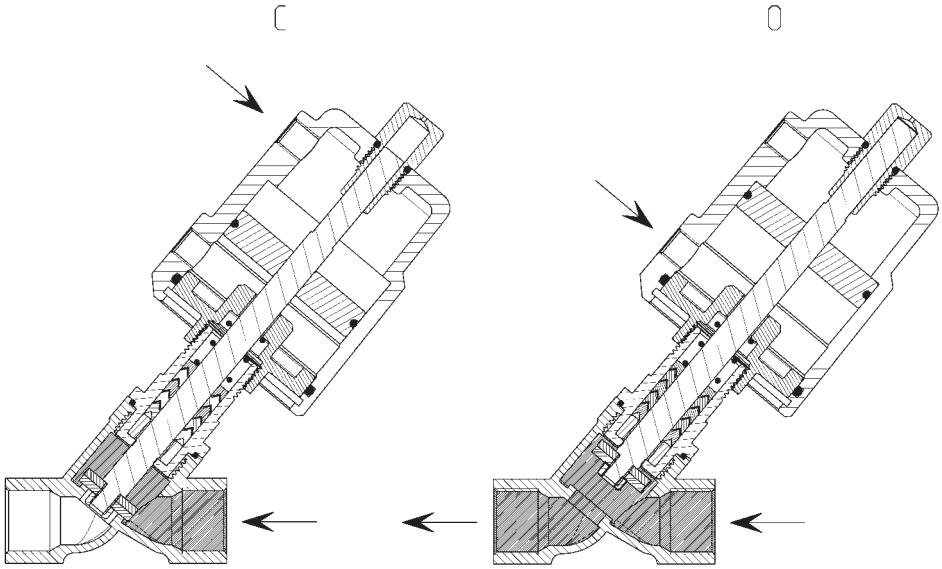
Series ASX angle seat valve - 2/2-way DA - pressure above the seat

The valves with flow direction above the seat are suitable for compressible fluids.

NOTE TO THE TABLE:
The indicated models are suitable for operating temperatures from -10 to +180 °C. For higher temperatures, please see the CODING EXAMPLE.
* to complete the code add BODY CONNECTION.

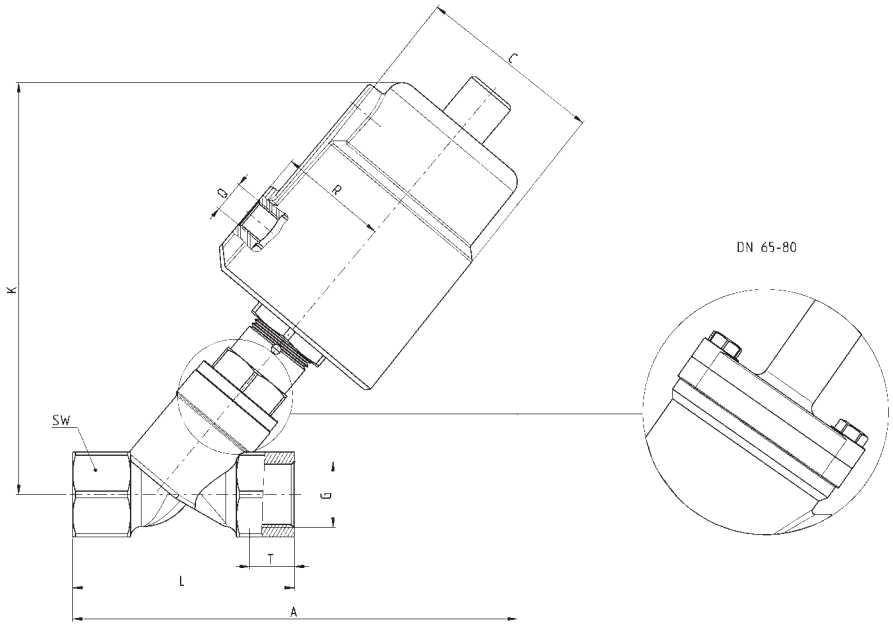


DRAWING LEGEND:
C = valve in closed position
O = valve in open position



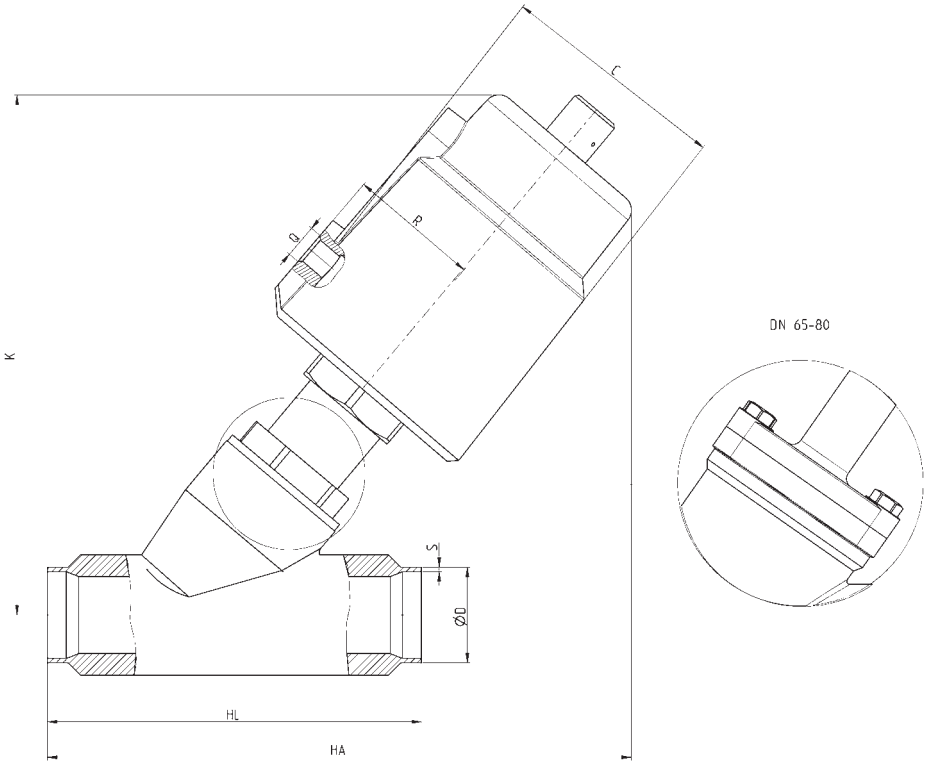
Mod.	Function	DN	Ports	Orifice Ø (mm)	Kv (m^3/h)	Differential pressure min ÷ max (bar)	Minimum piloting pressure (bar)	Actuator Ø (mm)	Actuator material
ASX23-Y008*-04012	2/2 DE	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX23-Y008*-05012	2/2 DE	8	1/4"	13	2.2	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX23-Y010*-04012	2/2 DE	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX23-Y010*-05012	2/2 DE	10	3/8"	13	3.9	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX23-Y015*-04012	2/2 DE	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 4.5	40	304 stainless steel
ASX23-Y015*-05012	2/2 DE	15	1/2"	13	4.3	0 ÷ 16	3 ÷ 3.5	50	304 stainless steel
ASX23-Y020*-05012	2/2 DE	20	3/4"	18	7.6	0 ÷ 16	3 ÷ 4	50	304 stainless steel
ASX23-Y025*-05012	2/2 DE	25	1"	24	15.8	0 ÷ 16	3 ÷ 4.5	50	304 stainless steel
ASX23-Y025*-06312	2/2 DE	25	1"	24	15.8	0 ÷ 16	3 ÷ 3.5	63	304 stainless steel
ASX23-Y032*-06312	2/2 DE	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 5.5	63	304 stainless steel
ASX23-Y032*-09012	2/2 DE	32	1 1/4"	31	26	0 ÷ 16	3 ÷ 4	90	304 stainless steel
ASX23-Y040*-06312	2/2 DE	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 6.5	63	304 stainless steel
ASX23-Y040*-09012	2/2 DE	40	1 1/2"	35	32	0 ÷ 16	3 ÷ 4	90	304 stainless steel
ASX23-Y050*-06312	2/2 DE	50	2"	45	52	0 ÷ 10	3 ÷ 7	63	304 stainless steel
ASX23-Y050*-09012	2/2 DE	50	2"	45	52	0 ÷ 16	3 ÷ 4.5	90	304 stainless steel
ASX23-Y050*-12582	2/2 DE	50	2"	45	52	0 ÷ 16	3 ÷ 4	125	aluminium
ASX23-Y065*-09012	2/2 DE	65	2 1/2"	61	83.2	0 ÷ 10	3 ÷ 6	90	304 stainless steel
ASX23-Y065*-12582	2/2 DE	65	2 1/2"	61	83.2	0 ÷ 16	3 ÷ 4	125	aluminium
ASX23-Y080*-12582	2/2 DE	80	3"	80	119	0 ÷ 12	3 ÷ 7	125	aluminium

Series ASX angle seat valve - dimensions - threaded version



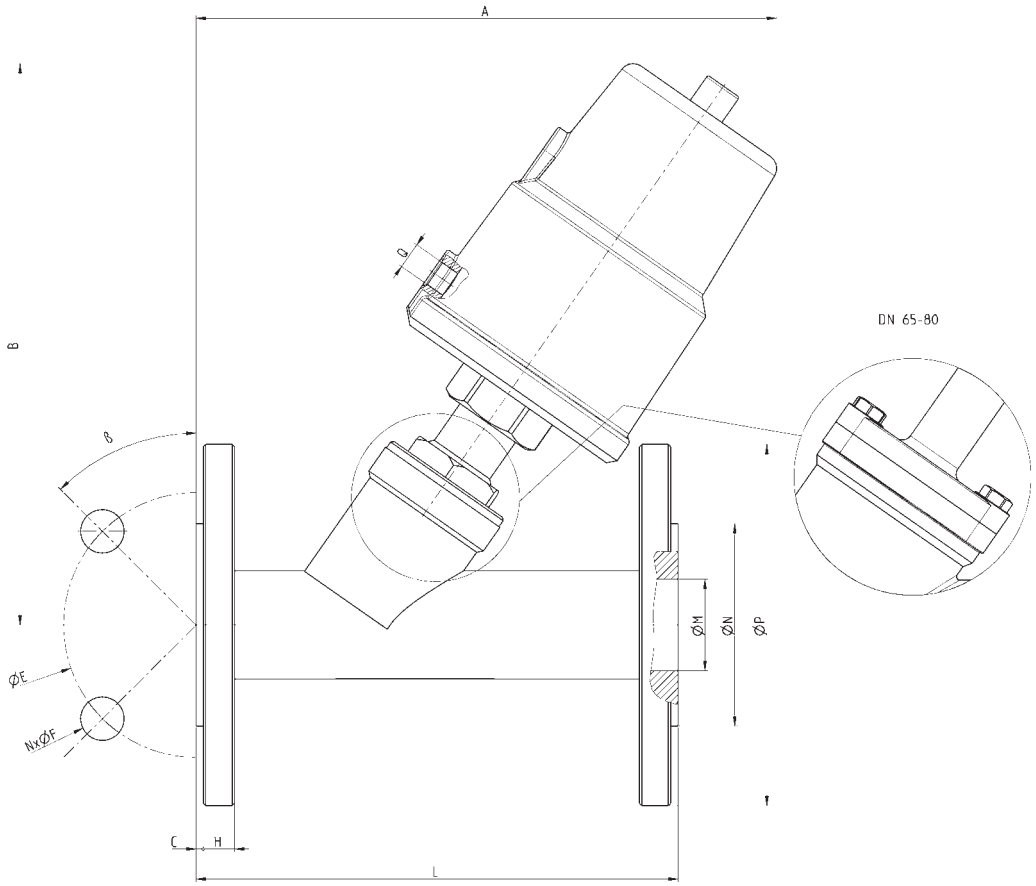
DN	Actuator Ø (mm)	G	T	A	L	SW	C	R	K	Q
8	40	1/4"	12	124	68	27	50.5	27	112	1/8"
8	50	1/4"	12	135	68	27	60	33	125	1/8"
10	40	3/8"	12	124	68	27	50.5	27	112	1/8"
10	50	3/8"	12	135	68	27	60	33	125	1/8"
15	40	1/2"	15	124	68	27	50.5	27	112	1/8"
15	50	1/2"	15	135	68	27	60	33	125	1/8"
20	50	3/4"	16	140	75	32	60	33	132	1/8"
25	50	1"	17	150	90	40	60	33	136	1/8"
25	63	1"	17	172	90	40	75	41	162	1/8"
32	63	1 1/4"	21	190	116	50	75	41	174	1/8"
32	90	1 1/4"	21	235	116	50	106	55	223	1/8"
40	63	1 1/2"	21	190	116	56	75	41	175	1/8"
40	90	1 1/2"	21	235	116	56	106	55	223	1/8"
50	63	2"	22	205	138	69	75	41	183	1/8"
50	90	2"	22	250	138	69	106	55	232	1/8"
50	125	2"	22	305	138	69	170	85	300	1/4"
65	90	2 1/2"	26	275	178	85	106	55	280	1/8"
65	125	2 1/2"	26	320	178	85	170	85	330	1/4"
80	125	3"	27	340	210	100	170	85	355	1/4"

Series ASX angle seat valve - dimensions - welding ends version



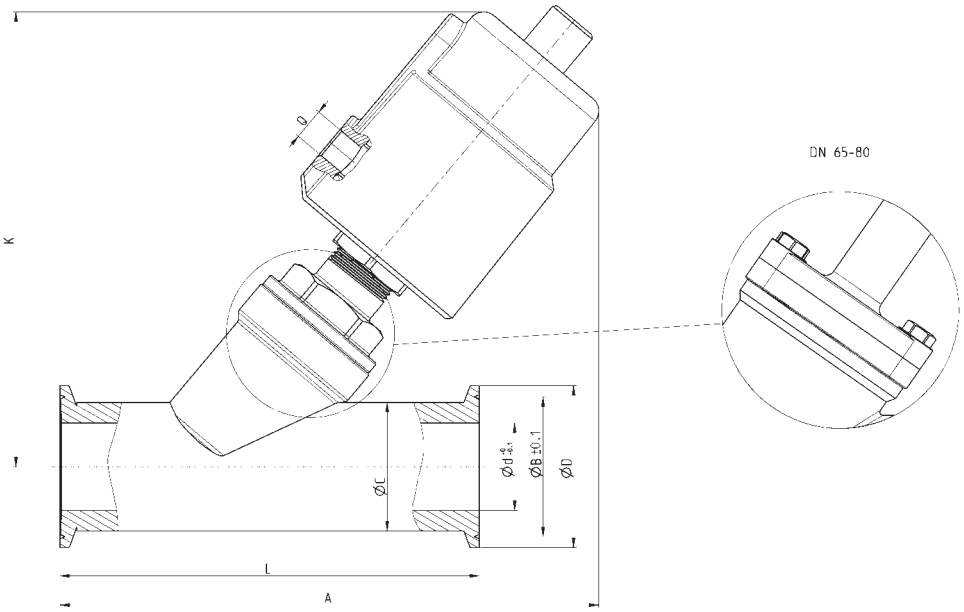
DN	Actuator Ø (mm)	DIN11850-2 ØD	DIN11850-2 S	DIN11850-3 ØD	DIN11850-3 S	HA	HL	C	R	K	Q
15	40	19	1.5	20	2	118	70	50.5	27	112	1/8"
15	50	19	1.5	20	2	128	70	60	33	125	1/8"
20	50	23	1.5	24	2	135	82	60	33	132	1/8"
25	50	29	1.5	30	2	150	100	60	33	136	1/8"
25	63	29	1.5	30	2	175	100	75	41	162	1/8"
32	63	35	1.5	36	2	186	125	75	41	174	1/8"
32	90	35	1.5	36	2	232	125	106	55	223	1/8"
40	63	41	1.5	42	2	190	130	75	41	175	1/8"
40	90	41	1.5	42	2	235	130	106	55	223	1/8"
50	63	53	1.5	54	2	206	155	75	41	183	1/8"
50	90	53	1.5	54	2	250	155	106	55	232	1/8"
50	125	53	1.5	54	2	307	155	170	85	300	1/4"
65	90	70	2	-	-	320	270	106	55	280	1/8"
65	125	70	2	-	-	360	270	170	85	330	1/4"
80	125	85	2	-	-	360	284	170	85	355	1/4"

Series ASX angle seat valve - dimensions - flanged version



DN	Actuator Ø (mm)	ØM	ØN	ØP	ØE	NxØF	ß	A	B	L	C	H	Q
15	40	16	45	95	65	4x14	45°	135	125	130	2	14	1/8"
15	50	16	45	95	65	4x14	45°	145	140	130	2	14	1/8"
20	50	19	56	105	75	4x14	45°	165	140	150	2	14	1/8"
25	50	26	65	115	85	4x14	45°	170	145	160	2	14	1/8"
25	63	26	65	115	85	4x14	45°	190	175	160	2	14	1/8"
32	63	31	78	140	100	4x18	45°	190	188	180	2	16	1/8"
32	90	31	78	140	100	4x18	45°	230	235	180	2	16	1/8"
40	63	38	84	150	110	4x18	45°	206	190	200	3	16	1/8"
40	90	38	84	150	110	4x18	45°	250	240	200	3	16	1/8"
50	63	49	100	165	125	4x18	45°	235	195	230	3	16	1/8"
50	90	49	100	165	125	4x18	45°	277	245	230	3	16	1/8"
50	125	49	100	165	125	4x18	45°	330	310	230	3	16	1/4"
65	90	66	120	185	145	4x18	45°	330	280	290	3	18	1/8"
65	125	66	120	185	145	4x18	45°	375	330	290	3	18	1/4"
80	125	78	135	200	160	8x18	22.5°	380	355	310	3	20	1/4"
100	125	96	155	215	180	8x18	22.5°	420	395	350	3	20	1/4"

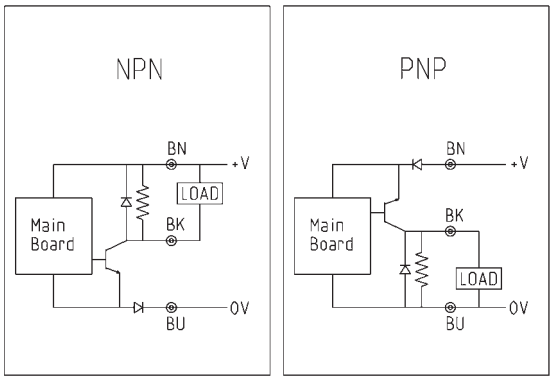
Series ASX angle seat valve - dimensions - tri-clamp version



DN	Actuator Ø (mm)	ØC	ØB	Ød	ØD	A	K	L	Q
15	40	19	27.5	15	34	130	115	80	1/8"
15	50	19	27.5	15	34	140	126	80	1/8"
20	50	25	43.5	19	50.5	158	148	130	1/8"
25	50	32	43.5	27	50.5	165	140	130	1/8"
25	63	32	43.5	27	50.5	188	166	130	1/8"
32	63	37	43.5	31	50.5	200	174	146	1/8"
32	90	37	43.5	31	50.5	245	223	146	1/8"
40	63	40	56.5	33	64	210	175	160	1/8"
40	90	40	56.5	33	64	255	223	160	1/8"
50	63	53	56.5	45	64	221	185	175	1/8"
50	90	53	56.5	45	64	265	235	175	1/8"
50	125	53	56.5	45	64	325	296	175	1/4"
65	90	75	83.5	66	91	325	280	278	1/8"
65	125	75	83.5	66	91	360	330	278	1/4"
80	125	89	97	78	106	360	352	290	1/4"

Series ASX angle seat valve - options - proximity switch

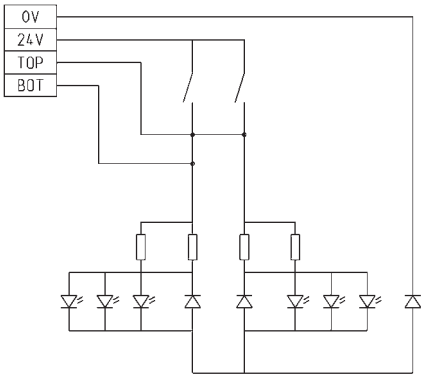
Available on all models of angle seat valves
to control the state of the open valve.
Type: NPN, NO or NC - PNP, NO or NC
Power supply: 10 ÷ 30 V DC
Switching distance: 3 mm ± 10%
Operating temperature: -25 ÷ 70 °C
Body material: nickel-plated brass
Sensor material: ABS
Protection class: IP67



PS1	NPN - NO proximity switch
PS2	NPN - NC proximity switch
PS3	PNP - NO proximity switch
PS4	PNP - NC proximity switch

Series ASX angle seat valve - options - position indicator

Available on all models of angle seat valves
to control the state of the open and closed valve.
Type of limit switch: mechanical micro-switch
Operating voltage: 12 ÷ 36 V DC
Operating current: 25 mA / 24 V DC
Adjustment range: 5 ÷ 30 mm
Operating temperature: -30 ÷ 80 °C
Housing material: PA6/GF30 + PC
Protection class: IP65



PI1	Position indicator for Ø40 - Ø50 - Ø63 - Ø90 mm actuators
PI2	Position indicator for Ø125 mm actuators

Series ASX angle seat valve - options - stroke limiter

Available only for Ø50 - Ø63 - Ø90 mm actuators
to limit the actuator's stroke from 0 to 100%
in order to adjust the maximum flow.

SL1	Stroke limiter for Ø50 - Ø63 mm actuators
SL2	Stroke limiter for Ø90 mm actuators

Solenoids
GP... - B7... - G93 - U7... - U7...EX - G7... - A8... - B8... - H8... - B9...

Version A and B
Connections according to industrial standard and to DIN EN 175 301-803 standards

The mechanical part of the tube in the solenoid valves Series A, 3, 4, 9 and NA allows the mounting of various types of solenoids.

- Mod. GP...: in compliance with industrial standard (9.4mm) and designed to be mounted only on Series AP proportional valves, size 16 mm.
- Mod. B...: to be used only with Series CFB solenoid valves (2/1.30).
- Mod. G93: special solenoids with incorporated memory for pulsed operation.
- Mod. U7...: standard solenoids are certified by UL as Recognized Component for USA and Canada. Solenoids Mod. U7 are available also with ATEX certification.
- Mod. H8...: explosion-proof solenoids suitable for potentially explosive ambients (ATEX, IECEx).

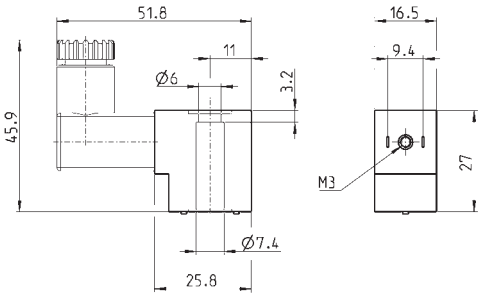
GENERAL DATA

	U7... / G7... / G93	A8...	B...	H8...
Wire insulation	class F (155° C)	class H (180° C)	class H (200° C)	class H (200° C)
Protection class	IP54 - DIN 40050 IP65 (with connector Mod. 122-800 and Mod. 122-800EX)	IP54 - DIN 40050 IP65 (with connector Mod. 124-800)	IP54 - DIN 40050 IP65 (with connector Mod. 124-800)	IP64
Operation	ED 100%	ED 100%	ED 100%	ED 100%
Tolerance V AC	-15% / +10%	-15% / +10%	±10%	-
Tolerance V DC	±10%	±10%	±5%	-

Solenoids Mod. GP...

Electrical connection: bipolar
Norm: industrial standard (9.4 mm)

Solenoid material: PA

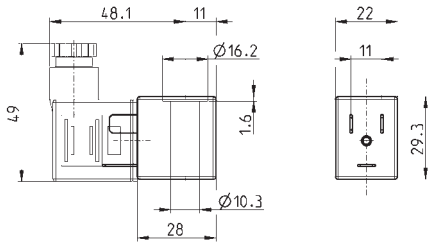


Mod.	Solenoid voltage	Power absorption
GPH	12 V DC	3 W
GP7	24 V DC	3 W

Solenoids Mod. B7...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-B

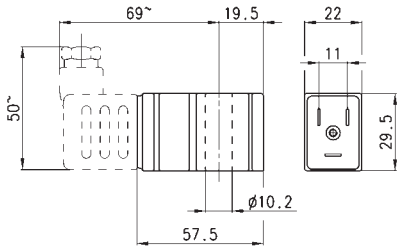
Solenoid material: PA-MXD6



Mod.	Solenoid voltage	Power absorption
B7B	24 V - 50/60 Hz	9 VA
B7D	110 V - 50/60 Hz	9 VA
B7E	230 V - 50/60 Hz	9 VA
B7H	24 V - 50/60 Hz	4 VA
B72	12 V - DC	10 W
B721	12 V - DC	14 W
B73	24 V - DC	10 W
B731	24 V - DC	14 W
B74	24 V - DC	7 W

Solenoids Mod. G93 (with memory)

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-B
Voltage tolerance: ±10%
Pulsed operation (see description)

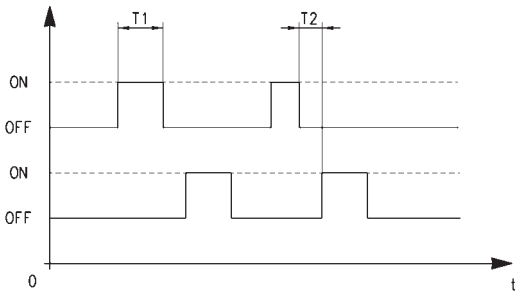


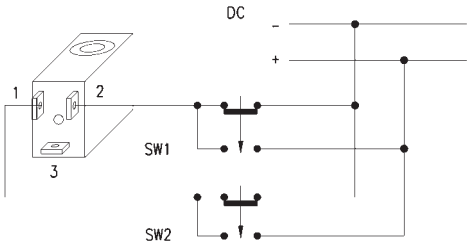
Mod.	Voltage	Minimum inpulse latch/release	Consumption latch/release
G92	12 V DC	18 ms - 10 ms	200 mA - 160 mA
G93	24 V DC	18 ms - 10 ms	100 mA - 80 mA

Description of solenoids Mod. G9...

Solenoids Mod. G9... can be replaced on all other Series A solenoid valves or pilots allowing to change the valve functioning from:
- unstable functioning system (spring return)
to:
- stable functioning system (memory)

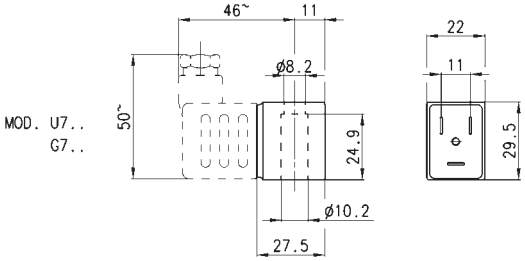
The stable functioning has the following advantages:
- with an impulse of about 20 ms after which the valve always remains in the controlled position.
- the valve remains in the controlled position (opened or closed) even if there is no power.
- when normally opened valves should be used, it is not necessary to use valves with special mechanical parts as a NC valve becomes a NO valve just by changing the control impulse sequence.
- The impulse control system facilitates the utilization with electronic circuits. The minimum required impulse for the function is 20 ms; if, for circuit reasons, the impulse last for a longer period, there is no danger of heating.
- magnet attraction command = Actuation SW1
- magnet release command = Actuation SW2
If the solenoids are mounted in batteries, a magnetic scheme type G90/L should be used.
To facilitate the cabling a special connector is available, which contains a circuit which realises the inversion of the power supply to the solenoid, indispensable for the PLC command, 122-892 P with common positive or 122-893 N with common negative.

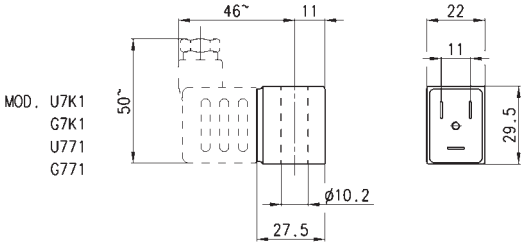




Solenoids Mod. U7... / U7*EX and Mod. G7...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-B
Solenoid material: U7* = PET; G7* = PA
To order the ATEX version of Mod. U7 (not available for Mod. U7F, U7K1 with voltage 125V 50/60Hz) it is necessary to add EX at the end of the code.
Mod. U7*EX marked:
II 3G Ex nA IIC T4 Gc X IP65
II 3D Ex tc IIIC 130°C Dc X





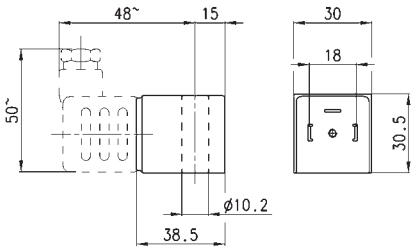
Mod.	Sol. volt. (1)	Pow. abs. (1)	Sol. volt. (2)	Pow. abs. (2)	Sol. volt. (3)	Pow. abs. (3)
U7H	12 V DC	3.1 W	24V - 50/60 Hz	3.5 VA		
G7H	12 V DC	3.1 W	24V - 50/60Hz	3.5 VA		
U7K	110V - 50/60Hz	3.8 VA	125V - 50/60Hz	5.5 VA	72 V DC	4.8 W
U7K1	110V - 50/60Hz	5.8 VA	125V - 50/60Hz	8.3 VA	72 V DC	5.6 W
G7K	110V - 50/60Hz	3.8 VA	125V - 50/60Hz	5.5 VA	72 V DC	4.8 W
G7K1	110V - 50/60Hz	5.8 VA	125V - 50/60Hz	8.3 VA	72 V DC	5.6 W
U7J	230V - 50/60Hz	3.5 VA	240V - 50/60Hz	4 VA		
G7J	230V - 50/60Hz	3.5 VA	240V - 50/60Hz	4 VA		
U79	48 V DC	3.1 W				
G79	48 V DC	3.1 W				
U710	110 V DC	3.2 W				
G710	110 V DC	3.2 W				
U77	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
U771	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
G77	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
G771	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
U7F	380V - 50/60Hz	7 VA				
U72	12 V DC	5 W				
G72	12 V DC	5 W				
U73	24 V DC	5 W				
G73	24 V DC	5 W				

Notes to the table:
Sol. volt. = Solenoid voltage
Pow. abs. = Power absorption

Mod. U7K1, G7K1, U771 and G771 are to be used only with sol. valves series A, NO in line.

Solenoids Mod. A8...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A

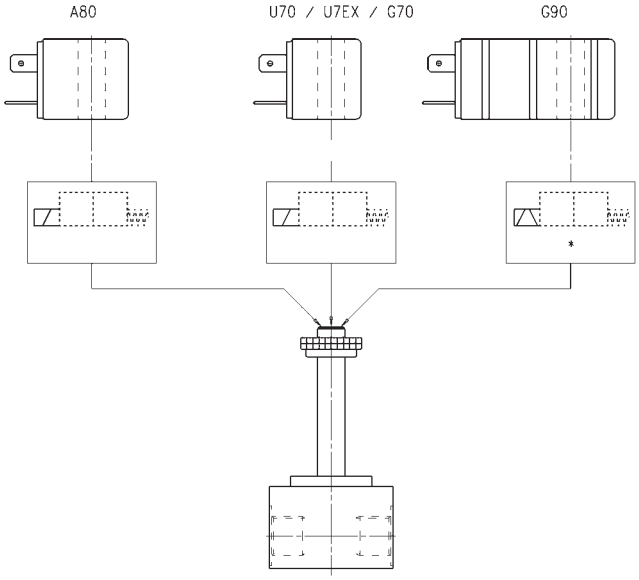


Mod.	Solenoid voltage	Power absorption
A8B	24V - 50/60Hz	5VA
A8D	110V - 50/60Hz	5VA
A8E	220V - 50/60Hz	5VA
A83	24V DC	4W

Solenoids for solenoid valves Series A, 3, 4, 9 and NA

All solenoids presented can be mounted on the following solenoid valves: Series A - 3 - 4 - 9 - NA

NB:
For the tightening of the solenoids' nut we recommend to do it manually, avoiding the use of any equipment.

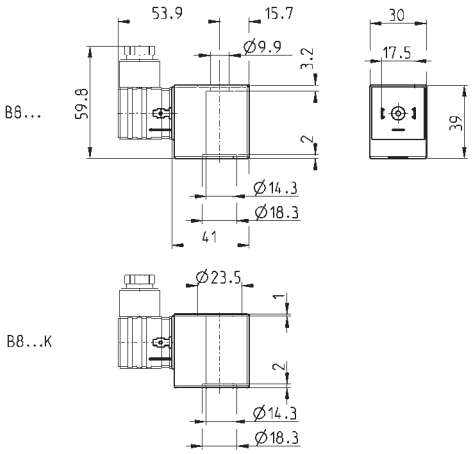


Solenoids Mod. B8...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A

Solenoid material: PA-MXD6

The B8*K models can be used only with some solenoid valves Series CFB
(Mod. CFB-D1..., 2/2 NO).
Further details in the dedicated section 1.30.



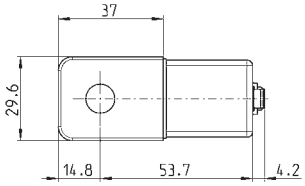
Mod.	Solenoid voltage	Power absorption
B8B	24 V - 50 Hz	15 VA
B8BK	24 V - 50 Hz	15 VA
B8D	110 V - 50/60 Hz	15 VA
B8DK	110 V - 50/60 Hz	15 VA
B8E	220/230 V - 50/60 Hz	15 VA
B8EK	230 V - 50/60 Hz	15 VA
B8F	220/230 V - 50/60 Hz	21 VA
B8FK	220/230 V - 50/60 Hz	21 VA
B82	12 V - DC	19 W
B82K	12 V - DC	19 W
B83	24 V - DC	19 W
B83K	24 V - DC	19 W

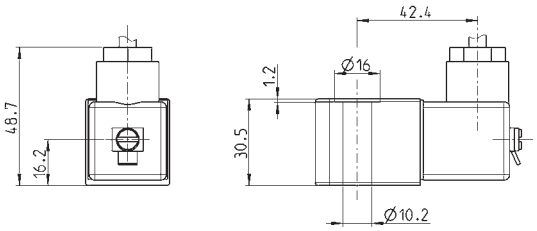
Solenoid Mod. H8.. for potentially explosive ambients

Certification in compliance with
EN 60079-0 EN 60079-18
ATEX :
II 2G Ex mb IIC T4 Gb
II 2D Ex mb IIIC T135°C Db
I M2 Ex mb I Mb
INERIS 06ATEX0002X

IECEx :
Ex mb IIC T4 Gb
Ex mb IIIC T135°C Db
Ex mb I Mb
IECEx INE 15.0053X

For Series NA use plate mod. NA54-PC.





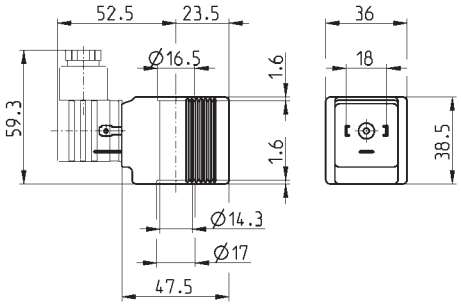
Mod.	Solenoid voltage	Power absorption
H83I	24 V - DC	5.3 W
H8BI	24 V - 50/60 Hz	5.3 W
H8CI	48 V - 50/60 Hz	5.3 W
H8DI	110 V - 50/60 Hz	5.3 W
H8EI	230 V - 50/60 Hz	5.3 W

Temperature class/Max surface temperature: T4/135°C
Environment temperature: -20°C + 40°C
Connection: tripolar cable 3 m (other lenghts on request)
Incapsulating material: self-extinguishing PA.

Solenoids Mod. B9...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A

Solenoid material: PA-MXD6

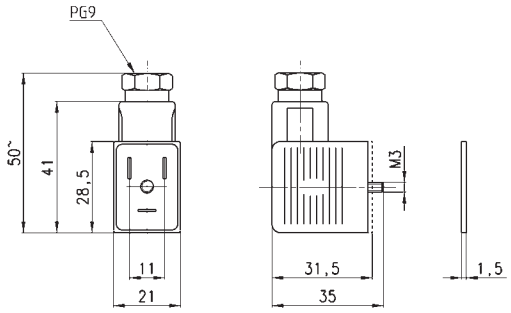


Mod.	Solenoid voltage	Power absorption
B9B	24 V - 50 Hz	29 VA
B9D	110 V - 50/60 Hz	29 VA
B9E	230 V - 50 Hz	29 VA
B93	24 V - DC	30 W

Connectors Mod. 122-... DIN EN 175 301-803-B

For solenoids Mod. U7/U7*EX, G7 and B7

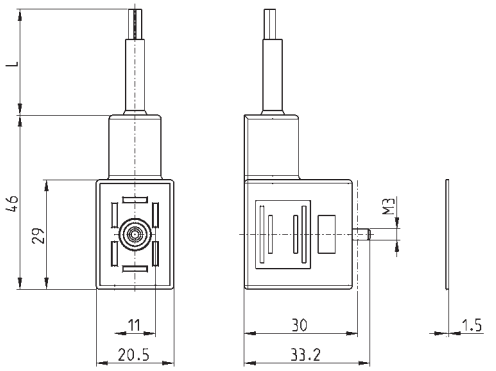
Mod. 122-800EX:
for ATEX certified solenoids mod. U7*EX, with anti-screwing off screw mod. TORX.



Mod.	description	colour	working voltage	cable gland	tightening torque
122-601	connector, diode + Led	transparent	10/50 V DC	PG9	0.5 Nm
122-701	connector, varistor + Led	transparent	24 V AC/DC	PG9	0.5 Nm
122-702	connector, varistor + Led	transparent	110 V AC/DC	PG9	0.5 Nm
122-703	connector, varistor + Led	transparent	230 V AC/DC	PG9	0.5 Nm
122-800	connector, without electronics	black	-	PG9	0.5 Nm
122-800EX	connector, without electronics	black	-	PG9	0.5 Nm

Connectors Mod. 122-571 DIN EN 175 301-803-B with cable

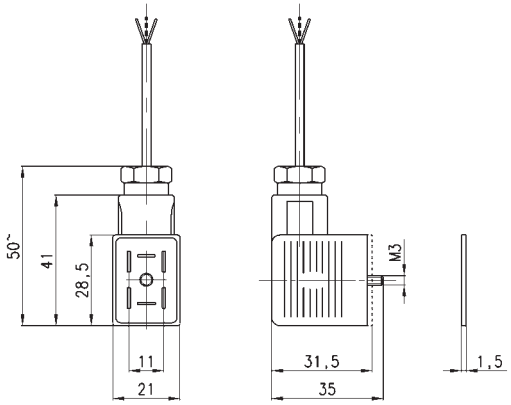
For solenoids Mod. U7/U7*EX, G7 and B7



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
122-571-1	moulded cable, varistor + Led	black	24 V AC/DC	1000 mm	-	0.5 Nm
122-571-2	moulded cable, varistor + Led	black	24 V AC/DC	2000 mm	-	0.5 Nm
122-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.5 Nm
122-571-5	moulded cable, varistor + Led	black	24 V AC/DC	5000 mm	-	0.5 Nm
122-571-10	moulded cable, varistor + Led	black	24 V AC/DC	10000 mm	-	0.5 Nm

Connectors Mod. 122-89*C DIN EN 175 301-803-B

For solenoids Mod. G9

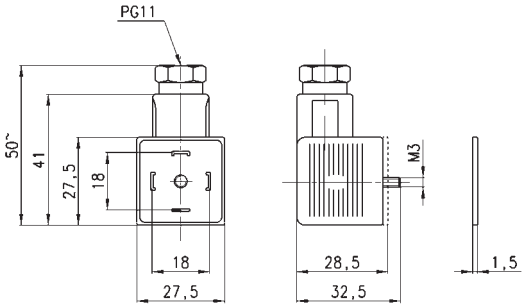


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
122-892C	pre-wired connector, positive common	transparent	12/24V DC	2000 mm	PG9	0.5 Nm
122-893C	pre-wired connector, negative common	transparent	12/24V DC	2000 mm	PG9	0.5 Nm

Connector Mod. 124-... DIN EN 175 301-803-A

For solenoids Mod. A8 and Mod. B8/B9

Protection class IP65



Mod.	description	colour	working voltage	cable gland	tightening torque
124-800	connector, without electronics	black	-	PG9/PG11	0.5 Nm
124-702	connector, varistor + Led	black	110 V AC/DC	PG9/PG11	0.5 Nm
124-701	connector, varistor + Led	black	24 V AC/DC	PG9/PG11	0.5 Nm
124-703	connector, varistor + Led	black	230 V AC/DC	PG9/PG11	0.5 Nm

Series VNR
Unidirectional valves

New model

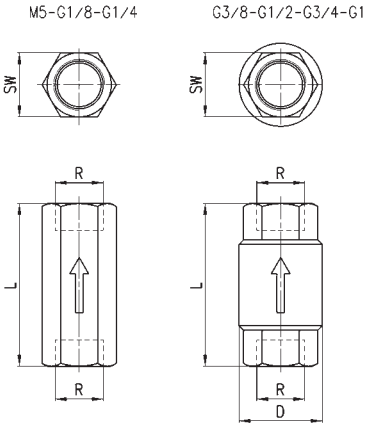
Ports of Thread version: M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1
Dimensions of Tube/Tube version: Ø4; Ø6; Ø8; Ø10; Ø12

- In-line mounting thanks to integrated fittings
- Low operating pressures
- Robust design, brass body
- Version 6580 and 6510 in FKM with a wide range of chemical compatibility and operating temperatures extended.
- Version for use with oxygen available

Series VNR unidirectional valves are available in the Thread or Integrated Fitting version. Thanks to their construction they operate at low pressures.

Valve group	automatic valves
Construction	poppet-type
Materials	brass body stainless steel spring NBR/FKM seals (for version 6580)
Mounting	in any position
Dimensions thread version	M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1
Dimensions tube version	Ø4; Ø6; Ø8
Operating temperature	0 °C ÷ 80 °C; NBR (with dry air -20 / +80 °C) FKM (with dry air - 20 / +200 °C)
Medium	filtered air without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Series VNR unidirectional valves



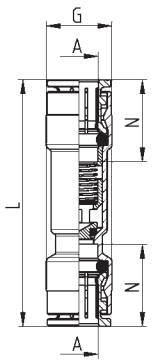
VNR1

DIMENSIONS

Mod.	R	L	SW	D	Flow (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
VNR-205-M5	M5	25	8	9	50	1	10
VNR-210-1/8	G1/8	34	13	15	600	0.2	10
VNR-843-07	G1/4	43	17	20	1400	0.2	10
VNR-238-3/8	G3/8	55	23	34.5	3000	0.02	25
VNR-212-1/2	G1/2	58.5	27	34.5	5800	0.02	25
VNR-234-3/4	G3/4	65	33	41.5	8000	0.06	25
VNR-201-01	G1	74.5	40	48	13000	0.06	25

Series VNR unidirectional valves

New

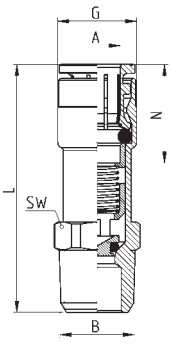


VNR1

Mod.	A	G	L	N	Flow 6 bar ΔP1(Nl/min)	Min. operating pressure (bar)	Max operating pressure (bar)	Weight (g)
6580 4-VNR	4	9	40	14	85	0,5	10	13
6580 6-VNR	6	12	48	16	450	0,2	10	20
6580 8-VNR	8	14	52.5	17.5	900	0,2	10	30
6580 10-VNR	10	16	57.5	17.7	-	0,2	10	40
6580 12-VNR	12	18	55.5	16.7	-	0,2	10	50
6580 4-VNR-OX1*	4	9	40	14	85	0,2	10	13
6580 6-VNR-OX1*	6	12	48	16	450	0,2	10	20
6580 8-VNR-OX1*	8	14	52.5	17.5	900	0,2	10	30
6580 10-VNR-OX1*	10	16	57.5	17.7	-	0,2	10	40
6580 12-VNR-OX1*	12	18	57.5	16.7	-	0,2	10	50

Series VNR unidirectional valves

New

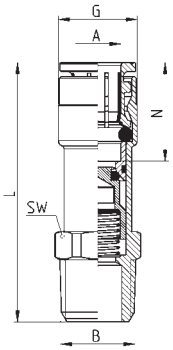


VNR1

Mod.	A	B	G	L	N	SW	Flow 6 bar ΔP1 (Nl/min)	Min. operating pressure (bar)	Max operating pressure (bar)	Weight (g)
VNR60 4-M5	4	M5	9	27.5	12	10	85	0.2	10	13
VNR60 6-1/8	6	R1/8	12	37.5	16	12	450	0.2	10	18
VNR60 6-1/4	6	R1/4	12	41	16	14	450	0.2	10	22
VNR60 8-1/8	8	R1/8	14	40.5	17.5	14	900	0.2	10	23
VNR60 8-1/4	8	R1/4	14	44	17.5	14	900	0.2	10	25
VNR60 4-M5-OX1*	4	M5	9	27.5	12	10	85	0.2	10	13
VNR60 6-1/8-OX1*	6	R1/8	12	37.5	16	12	450	0.2	10	18
VNR60 6-1/4-OX1*	6	R1/4	12	41	16	14	450	0.2	10	22
VNR60 8-1/8-OX1*	8	R1/8	14	40.5	17.5	14	900	0.2	10	23
VNR60 8-1/4-OX1*	8	R1/4	14	44	17.5	14	900	0.2	10	25

Series VNR unidirectional valves

New



VNR1

Mod.	A	B	G	L	N	SW	Flow 6 bar ΔP1 (Nl/min)	Min. operating pressure (bar)	Max operating pressure (bar)	Weight (g)
VNR60 m5-4	4	M5	9	29.5	12	10	85	0.2	10	14
VNR60 1/8-6	6	R1/8	12	39.5	16	12	450	0.2	10	19
VNR60 1/4-6	6	R1/4	12	43	16	14	450	0.2	10	23
VNR60 1/8-8	8	R1/8	14	42.5	17.5	14	900	0.2	10	24
VNR60 1/4-8	8	R1/4	14	46	17.5	14	900	0.2	10	26
VNR60 M5-4-OX1*	4	M5	9	29.5	12	10	85	0.2	10	14
VNR60 1/8-6-OX1*	6	R1/8	12	39.5	16	12	450	0.2	10	19
VNR60 1/4-6-OX1*	6	R1/4	12	43	16	14	450	0.2	10	23
VNR60 8-1/8-OX1*	8	R1/8	14	42.5	17.5	14	900	0.2	10	24
VNR60 1/4-8-OX1*	8	R1/4	14	46	17.5	14	900	0.2	10	26

Series VSO, VSC quick exhaust valves

Series VSO ports: M5, G1/8, cartridge ø4
Series VSC ports: G1/8, G1/4, G1/2

- Suitable to rapidly discharge air contained in tanks, systems or cylinder chambers.
- Threaded versions and with fitting

Series VSC and VSO quick exhaust valves are commonly used to increase the speed of cylinders or for rapid depressurisation of tanks containing compressed air.

Mod. VSO 425-M5, VSO 426-04: they are particularly suitable to be mounted on solenoid valves and valves incorporating a ø 4 cartridge.

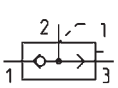
Mod. VSO 4-1/8: it is particularly suitable for direct mounting on the actuator connection. The air coming in from the jointed part (1) is used by the threaded side (2), whilst the exhaust (3) passes through the holes sideways to the valve body.

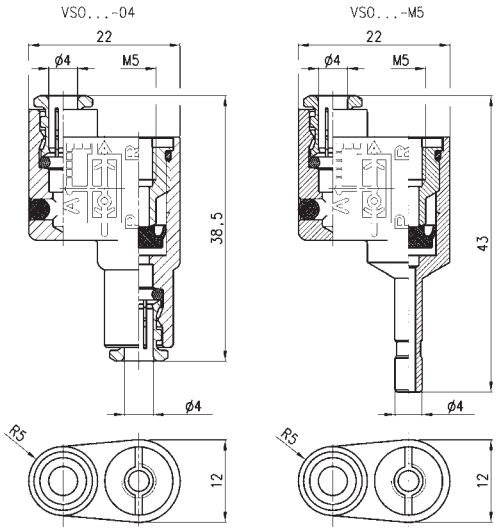
Mod. VSC: they are particularly suitable to be mounted directly on the cylinder mouth through the use of a nipple. It is recommended to mount a silencer on the outlet.

GENERAL DATA

Valve group	automatic valves
Construction	poppet-type
Materials	Series VSO: brass body - NBR seals Series VSC: brass body - Desmopan seal
Mounting	in any position
Ports	Series VSO: M5, G1/8, cartridge ø4 Serie VSC: G1/8, G1/4, G1/2
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

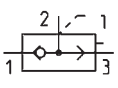
Quick exhaust valves Mod. VSO 425-M5, VSO 426-04

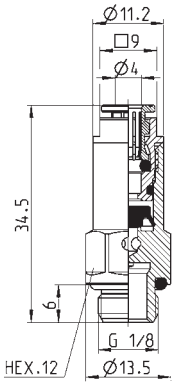




Mod.	Ports	Flow rate at 6 bar 1 > 2 (Nl/min)	Flow rate at 6 bar 2 > 3 (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 425-M5	M5	50 (ΔP = 1 bar)	100 (ΔP = 1 bar)	1	16
VSO 426-04	cartridge ø4	50 (ΔP = 1 bar)	100 (ΔP = 1 bar)	1	16

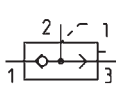
Quick exhaust valve Mod. VSO 4-1/8

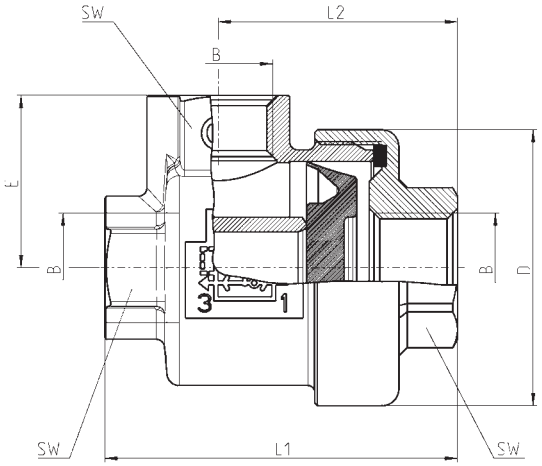




Mod.	Ports	Flow rate at 6 bar 1 > 2 (Nl/min)	Flow rate at 6 bar 2 > 3 (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 4-1/8	G1/8	50 (ΔP = 1 bar)	330 (free flow)	0.5	16

Series VSC quick exhaust valves





Mod.	B	D	E	L1	L2	SW	Ports	Medium inlet flow rate 1 > 2 [flow at 6 bar, ΔP 1 bar] (Nl/min)	Medium exhaust flow rate 2 > 3 [flow at 6 bar, ΔP 1 bar] (Nl/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSC 588-1/8	1/8	28	17.5	36.5	25	14	G1/8	630	940	0.5	12
VSC 544-1/4	1/4	33	20.5	42	28.5	17	G1/4	860	1600	0.3	12
VSC 522-1/2	1/2	43	27	57.5	39.5	24	G1/2	4700	6250	0.2	12

Adjustable overpressure exhaust valve Mod. VMR 1/8-B10

Ports: G1/8

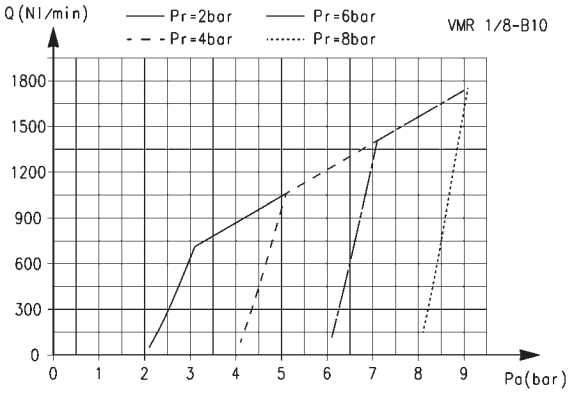
» Able to maintain pressure constant at a set value which allows the overpressure to exhaust

The adjustable valve Mod. VMR 1/8-B10 allows to discharge the overpressure that can be generated in a volume.

GENERAL DATA

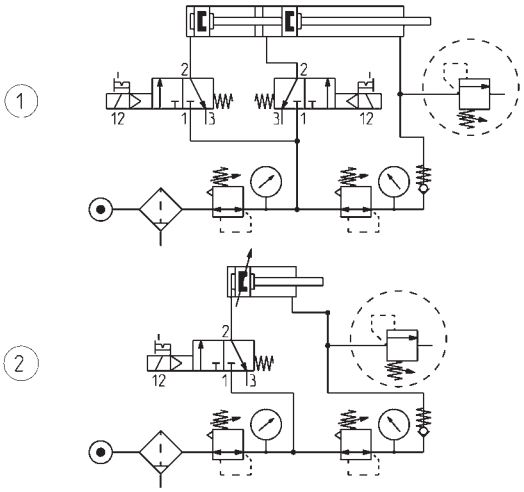
Valve group	automatic valves
Construction	diaphragm type
Materials	brass body zinc-plated steel spring NBR seals
Mounting	in any position
Ports	G1/8
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

FLOW DIAGRAM and FUNCTIONING SCHEMES



FLOW DIAGRAM

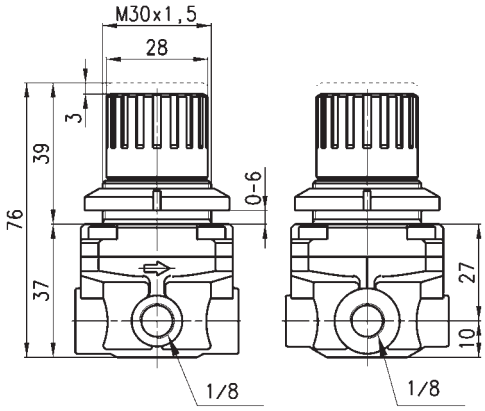
Pa = Inlet pressure
Pr = Regulated pressure
Q = Flow

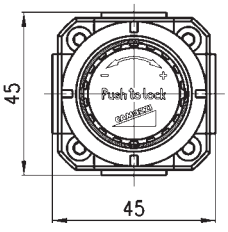


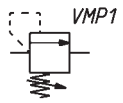
FUNCTIONING SCHEME 1: overpressure exhaust in a cylinder chamber or in a tank when the set value has been exceeded.

FUNCTIONING SCHEME 2: VMR valve with maximum adjustable pressure allows pressure in a cylinder chamber or in tank to exhaust in the atmosphere every time the set regulation value is exceeded.

Valve with maximum adjustable pressure Mod. VMR 1/8-B10







Mod.	Working pressure (bar)
VMR 1/8-B10	1 ÷ 8

Series VBO - VBU blocking valves

Unidirectional valves (VBU) and bidirectional valves (VBO)
Ports G1/8, G1/4, G3/8 and G1/2

- Series VBU: unidirectional valves with operating pressure from 0.3 to 10 bar
- Series VBO: bidirectional valves with operating pressure from 0 to 10 bar
- Direct mounting on cylinders or on distribution and fluid control blocks

These unidirectional and bidirectional blocking valves have been realised in order to enable mounting directly on cylinders.
They can be used as high flow valves for blows, cleaning of pieces, filling of volumes.
For these applications it is suggested to connect the supply to port 2 (having the mail thread).

These valves can be mounted directly also on distribution and fluid control blocks.

GENERAL DATA

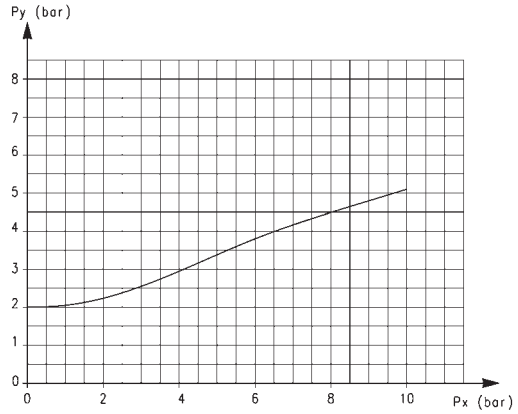
Construction	poppet type
Valve group	unidirectional and bidirectional blocking valve
Materials	Brass - NBR seals - stainless steel springs - PTFE
Mounting	by male thread
Ports	G1/8 - G1/4 - G3/8 - G1/2
Position	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	VBU: 0,3 ÷ 10 bar, VBO: 0 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diam.	G1/8 ø 5,5 mm - G1/4 ø 8 mm - G3/8 ø 11 mm - G1/2 ø 15 mm
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied, the lubrication should never be interrupted.

CODING EXAMPLE

VB	U		1/8

VB	SERIES: VB
U	VERSIONS: U = unidirectional O = bidirectional
1/8	PORTS: G1/8 G1/4 G3/8 G1/2

DIAGRAM OF THE PILOT PRESSURE



This diagram shows the relation between working pressure (Px) and pilot pressure required in order to operate the valve (Py).
The opening pressure of the unidirectional valve is 0,3 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

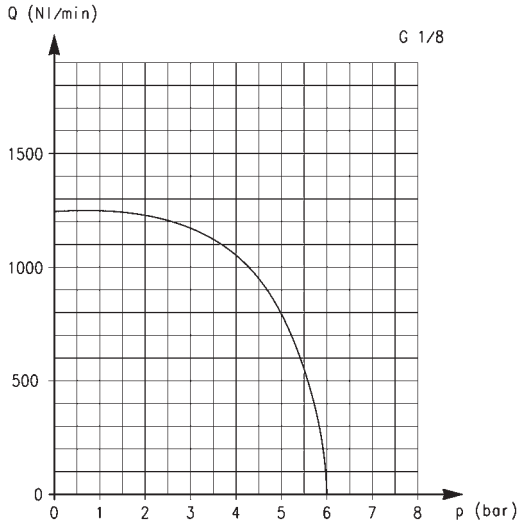


Diagram for valves VBU and VBO with G1/8 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

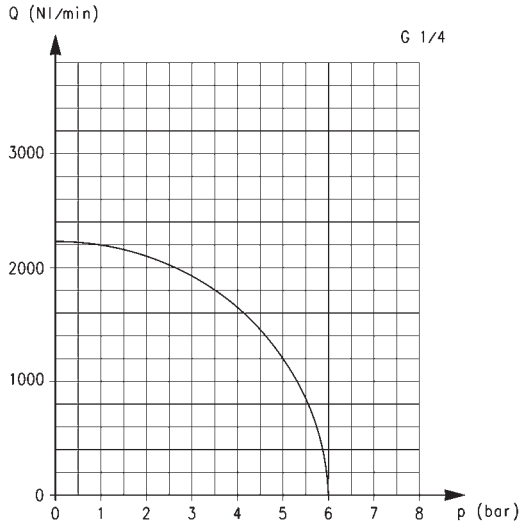


Diagram for valves VBU and VBO with G1/4 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

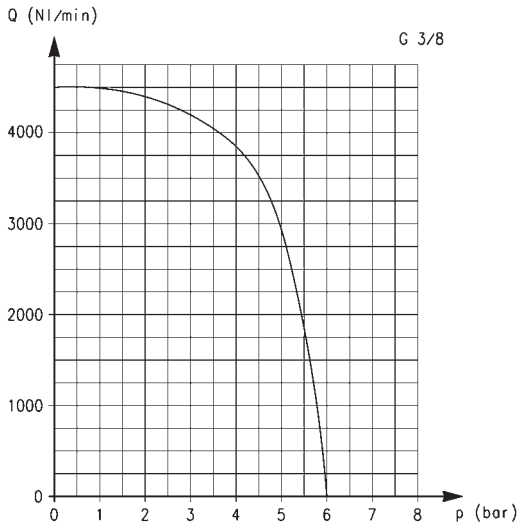


Diagram for valves VBU and VBO with G3/8 ports.

Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

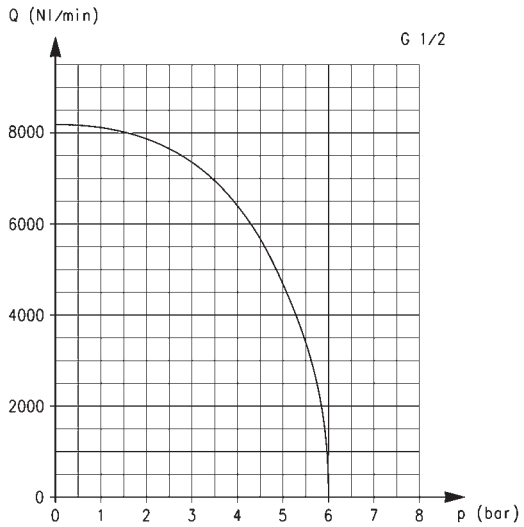
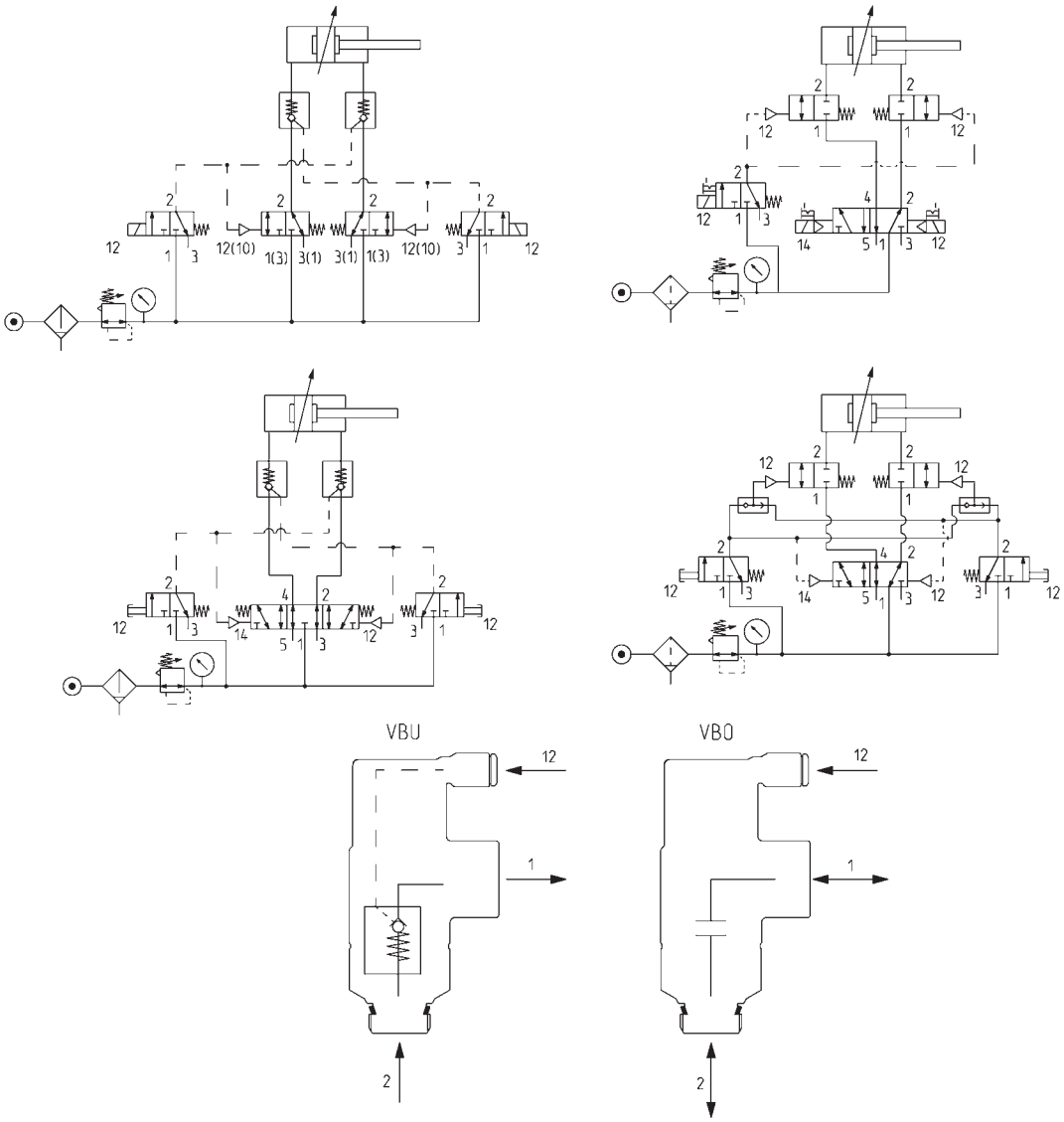


Diagram for valves VBU and VBO with G1/2 ports.

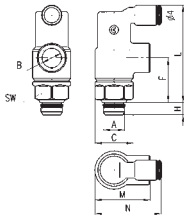
Q is the flow measured in Nl/min and determined with an inlet pressure of 6 bar.

APPLICATION SCHEMES

VBU = UNIDIRECTIONAL blocking valve
VBO = BIDIRECTIONAL blocking valve

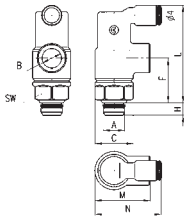


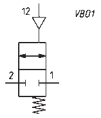
Unidirectional blocking valve



DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBU 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBU 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBU 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBU 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27

Bidirectional blocking valve





DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBO 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBO 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBO 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBO 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27

Series SCU, MCU, SVU, MVU, SCO, MCO flow control valves

Unidirectional and bidirectional banjo flow control regulators
Ports: M5, G1/8, G1/4, G3/8, G1/2

These unidirectional and bidirectional flow controllers have been designed as small as possible so as to be mounted directly on valves or cylinders.
The great variety of adjustable fittings makes it possible to complete the regulator with the most suitable system in relation to the available tube.

Only the G1/2 model is supplied complete with banjo flow controllers.
For the other models the banjo flow controller is to be requested separately.

GENERAL DATA

Construction	needle type
Valve group	unidirectional and bidirectional controller
Materials	body and regulation screw: M5 = stainless steel; 1/8 - 1/4 - 3/8 - 1/2 = OT; seals = NBR
Mounting	by male thread
Ports	M5 - G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1,5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm - G1/2 = 12 mm
Fluid	filtered air. If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

Series PSCU, PMCU, PSVU, PMVU, PSCO, PMCO flow control valves

Unidirectional and bidirectional flow regulators with banjo in brass (M5) or in technopolymer (G1/8, G1/4, G3/8)
Ports: M5, G1/8, G1/4, G3/8

These unidirectional and bidirectional flow controllers have been designed as small as possible so as to be mounted directly on valves or cylinders.
The great variety of adjustable fittings makes it possible to complete the regulator with the most suitable system in relation to the available tube.

All models are supplied complete with banjo flow controllers.

GENERAL DATA

Construction	needle type
Valve group	unidirectional and bidirectional controller
Materials	body, regulation screw: stainless steel (M5), brass (G1/8 - G1/4 - G3/8) collet and insert = brass banjo: brass (M5), technopolymer (G1/8 - G1/4 - G3/8) controller = technopolymer - seals = NBR
Mounting	by male thread
Ports	M5 - G1/8 - G1/4 - G3/8
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm
Fluid	filtered air. If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

Series TMCU, TMVU, TMCO flow control valves

Unidirectional and bidirectional banjo flow controllers with nominal diameter 2 - 3,8 - 5,8 - 8 mm
Ports: G1/8, G1/4, G3/8, G1/2

Series TMCU, TMVU, TMCO unidirectional and bidirectional flow controllers have been revised in order to decrease their dimensions and improve their flow rate characteristics. Their construction allows for easy assembly to cylinders and valves and allows the regulation adjustment to be precise and gradual.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	brass - technopolymer - NBR
Mounting	by male threaded
Threaded ports	G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	0,5 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal dia.	Tube 4 Ø2 - Tube 6 Ø3,8 - Tube 8 Ø5,8 - Tube 10 and 12 Ø8
Fluid	filtered air. If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

Series GSCU, GMCU, GSVU, GMVU, GSCO, GMCO flow control valves

Unidirectional and bidirectional banjo flow controllers with nominal diameter 1,5 - 3,5 - 5 mm
Ports: M5, G1/8 and G1/4

These unidirectional and bidirectional flow controllers have been designed as small as possible to enable mounting directly on valves or cylinders.
The flow regulation range is wide and gradual, allowing the regulation to be very accurate either at minimum or maximum flow.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	body and screws M5 inox; 1/8 - 1/4 - 3/8 - 1/2 OT58 seals NBR
Mounting	by male threaded
Installation	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm G3/8 = 7 mm - G1/2 = 12 mm
Fluid	filtered air. If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

Series AP directly operated proportional valves

2/2-way proportional valves, NC
Sizes: 16 - 22 mm

- PWM or current operation
- Open loop flow control
- Also suitable for use with vacuum

Several versions available:

- with body in PVDF (size 16mm only),
- with rear flanged bodies
- with lower flanged bodies,
- suitable for use with oxygen
- Seals in FKM, NBR and EPDM

Series AP directly operated 2/2-way proportional solenoid valves, NC, with nominal diameters range from 0.8 to 2.4 mm, can be used where an open loop flow control is required, with gas mixtures, to control free flows or blows, or emptying chambers using vacuum.

Series AP proportional valves have been manufactured to optimize and reduce friction and stick-slip effects. The output flow is proportional to the control signal. As they can work also in vacuum, a minimum working pressure is not required.

GENERAL DATA

Function	2/2 NC			
Operation	proportional directly operated			
Ports	M5 - G1/8 - with rear flanges - with lower flanges			
Hysteresis	Size 16mm: 12% FS - Size 22mm: 10% FS			
Repeatibility	Size 16mm: 7% FS - Size 22mm: 7% FS			
Operating temperature	0 ÷ 60°C			
Medium	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas. All the valves are suitable for use with oxygen.			
Installation	any position			
Materials	body = brass / PVDF (size 16mm only) seals = NBR, FKM, EPDM			
	GP7	GPH	U711	U712
Nominal resistance	193 ohm	48 ohm	85 ohm	22 ohm
Rated current	125 mA	250 mA	271 mA	542 mA

NOTE: Having a counterpressure on the outlet connection of at least 25% of the inlet pressure ensures the good functioning of the valve and improves its performance. Example: with inlet Pressure = 1 bar on the outlet connection, a min. counterpressure of 250 mbar is recommended.

CODING EXAMPLE

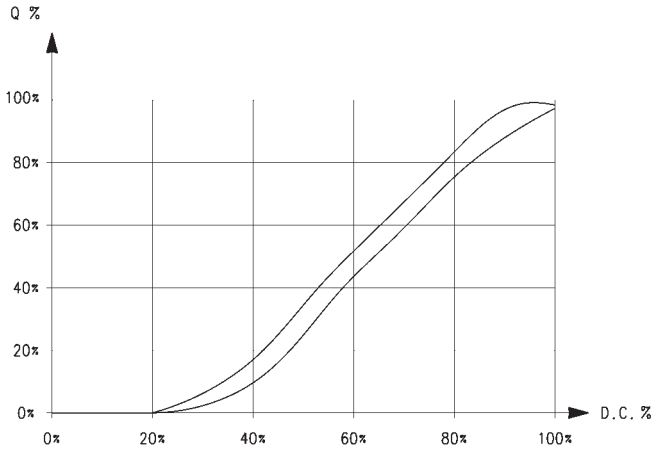
AP	-	7	2	1	1	-	L	R	2	-	U	7	11		OX2

AP	SERIES		
7	BODY: 6 = size 16mm	7 = size 22mm	
2	NUMBER OF WAYS: 2 = 2-way		
1	VALVE FUNCTION: 1 = NC		
1	PORTS: 0 = M5 (size 16mm only) 1 = G1/8 (size 22mm only)	4 = with rear flanges (size 16mm only) 5 = with lower flanges	L = male hose adaptor (for body in PVDF only, size 16mm)
L	ORIFICE: D = ø 0.8 mm (size 16mm only) F = ø 1 mm	H = ø 1.2 mm L = ø 1.6 mm	N = ø 2 mm (size 22mm only) Q = ø 2.4 mm (size 22mm only)
R	SEAL MATERIAL: R = NBR	W = FKM	E = EPDM
2	BODY MATERIAL: 2 = brass	3 = PVDF (size 16mm only)	
U	ENCAPSULATING MATERIAL: G = PA (size 16mm only)	U = PET (size 22mm only)	
7	SOLENOID DIMENSIONS: P = 16x26 DIN EN 175301-803-C (size 16mm only)	7 = 22x22 DIN 43650 B (size 22mm only)	
11	SOLENOID VOLTAGE: H = 12 V DC 3 W (size 16mm only) 7 = 24 V DC 3 W (size 16mm only)	11 = 24 V DC 6.5 W (size 22mm only) 12 = 12 V DC 6.5 W (size 22mm only)	
	COIL ORIENTATION: = fastons opposite to pneumatic ports/same side of the outlet 5 = fastons towards pneumatic ports/same side of the inlet		
OX2	VERSION: OX2 = version with ASTM G93-03 Certification Level B (FKM seals only) = non-certified version		

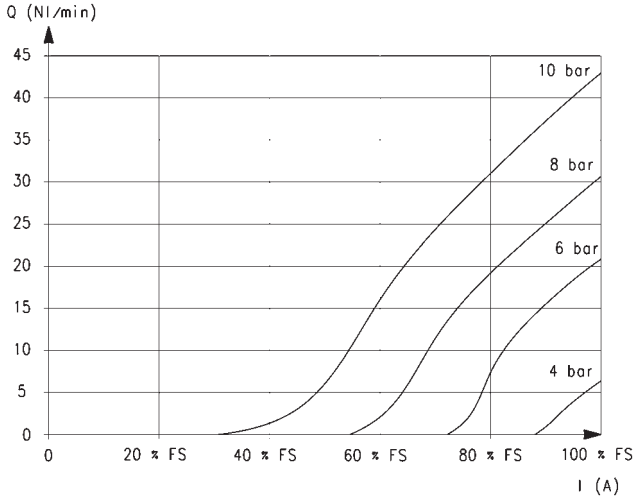
FLOW GRAPH

Flow characteristic curve of a proportional valve

Q = flow
D.C. = duty cycle

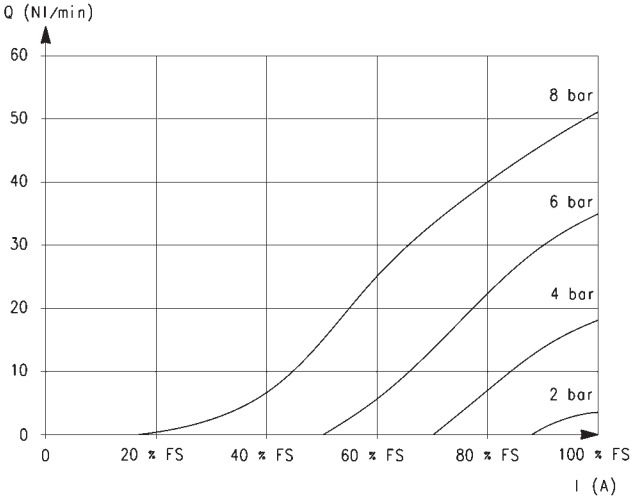


FLOW DIAGRAMS - size 16mm



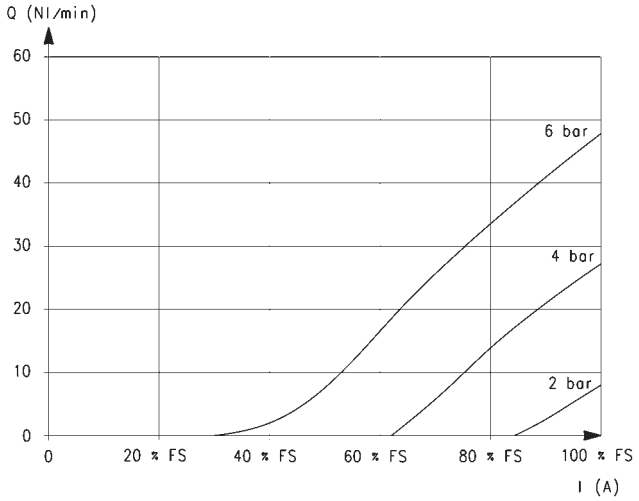
Nozzle 0.8mm

Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



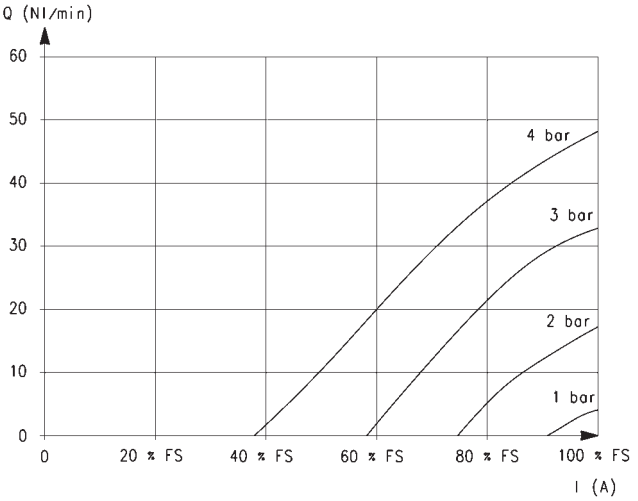
Nozzle 1mm

Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



Nozzle 1.2mm

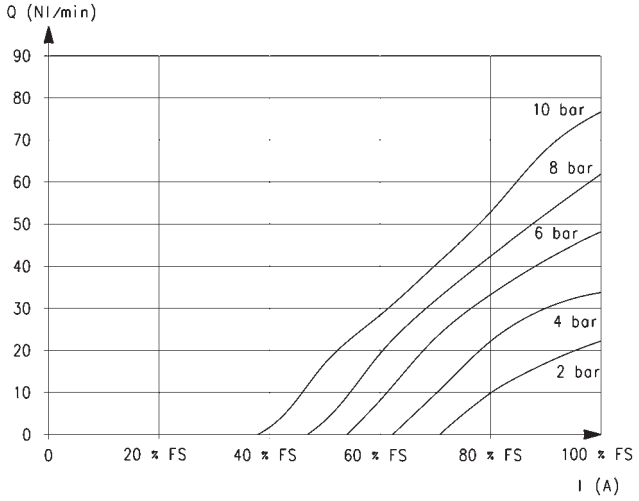
Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



Nozzle 1.6mm

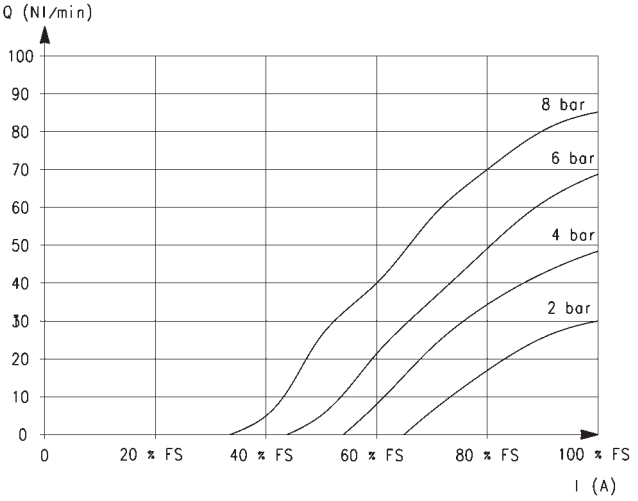
Q = Flow (Nl/min)
I = Current (A)
FS = Full scale

FLOW DIAGRAMS - size 22mm



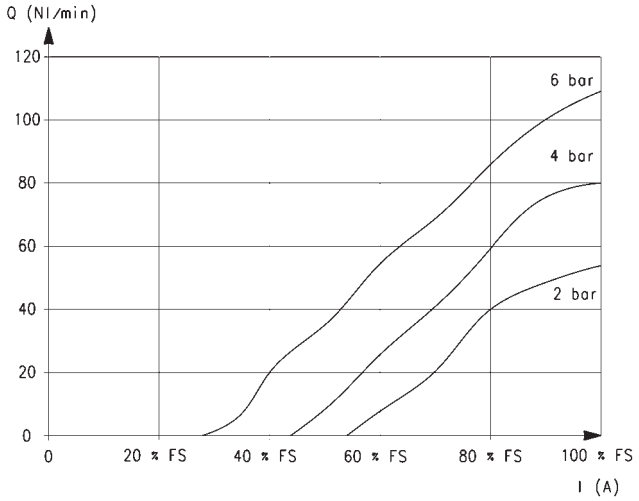
Nozzle 1mm

Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



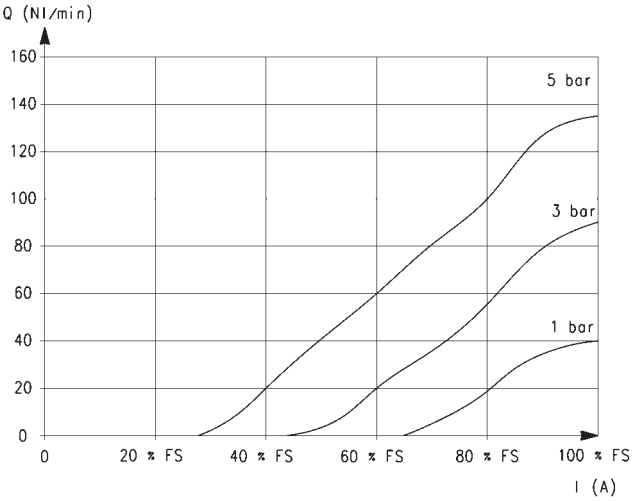
Nozzle 1.2mm

Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



Nozzle 1.6mm

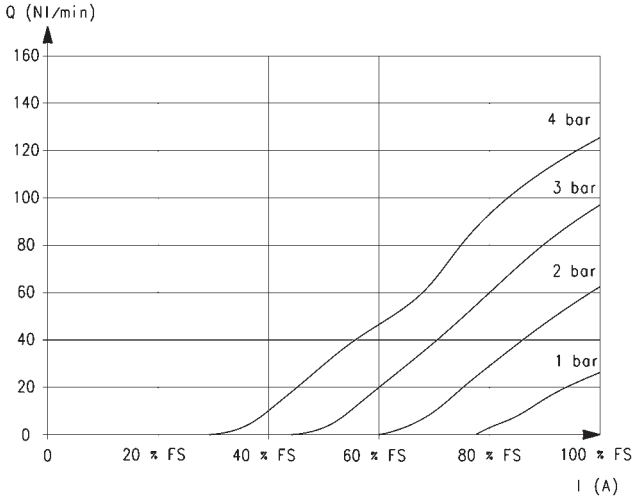
Q = Flow (Nl/min)
I = Current (A)
FS = Full scale



Nozzle 2mm

Q = Flow (Nl/min)
I = Current (A)
FS = Full scale

FLOW DIAGRAM - size 22mm



Nozzle 2.4mm

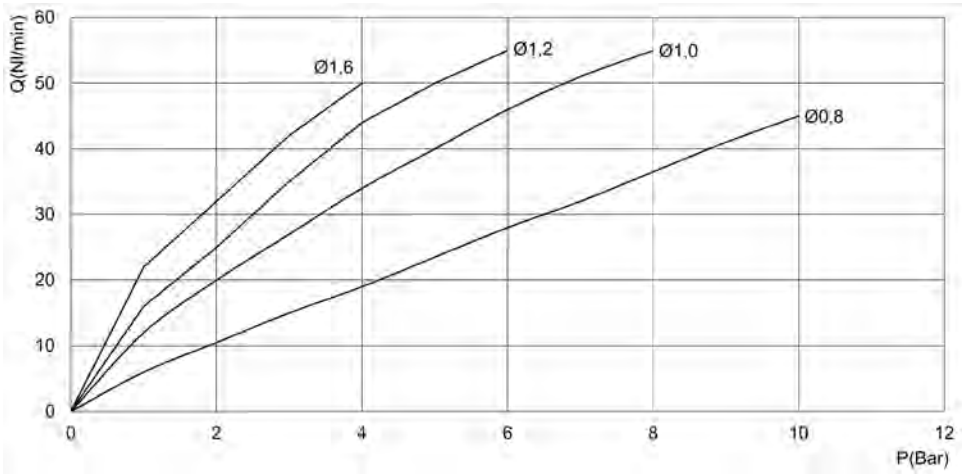
Q = Flow (Nl/min)
I = Current (A)
FS = Full scale

MAXIMUM FLOW AND RESPONSE TIMES - size 16mm

Maximum flow according to the set pressure, for each orifice.

DIAGRAM LEGEND:

Q = flow (Nl/min)
P = set pressure (bar)



RESPONSE TIMES calculated according to the maximum flow at each operating pressure. [Electromechanical response time: 10 ms]

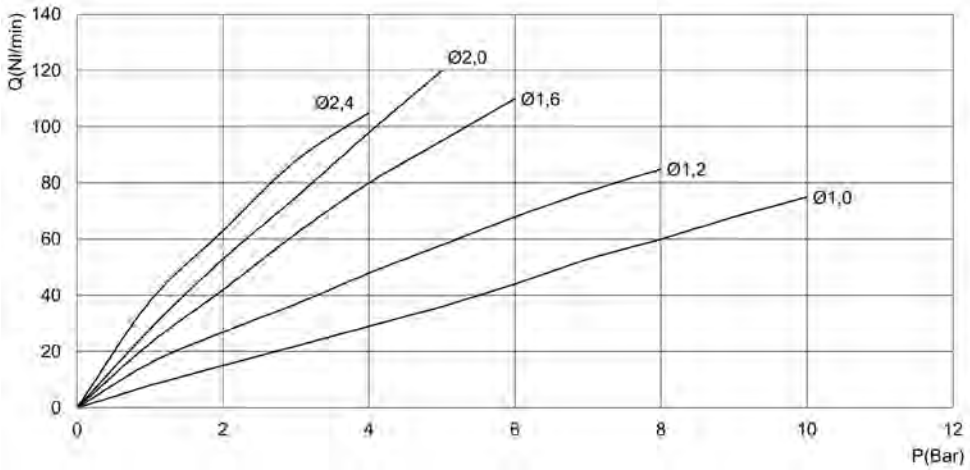
ø	Pin [bar]	Load response time [ms]			Exhaust response time [ms]		
		0% - 10%	0% - 90%	10% - 90%	100% - 90%	100% - 10%	90% - 10%
0.8 mm	10	12	43	31	11	39	28
1 mm	8	12	42	30	11	38	27
1.2 mm	6	10	41	31	11	41	30
1.6 mm	4	10	40	30	11	40	29

MAXIMUM FLOW AND RESPONSE TIMES - size 22mm

Maximum flow according to the set pressure, for each orifice.

DIAGRAM LEGEND:

Q = flow (Nl/min)
P = set pressure (bar)

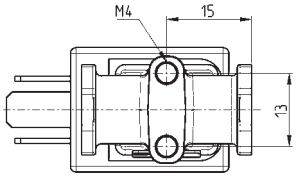


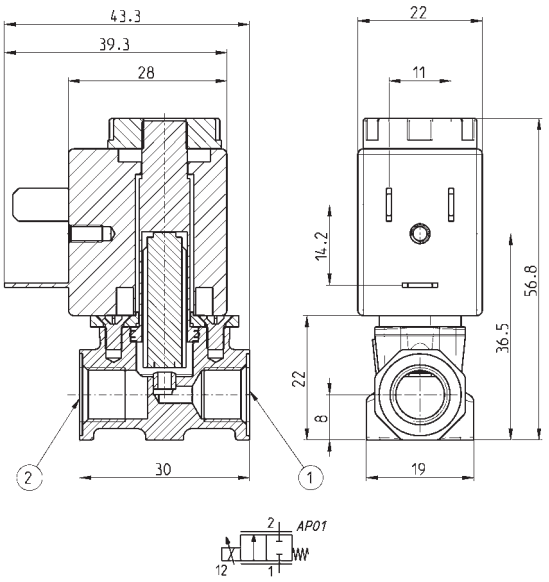
RESPONSE TIMES calculated according to the maximum flow at each operating pressure. [Electromechanical response time: 10 ms]

ø	Pin [bar]	Load response time [ms]			Exhaust response time [ms]		
		0% - 10%	0% - 90%	10% - 90%	100% - 90%	100% - 10%	90% - 10%
1 mm	10	10	36	26	10	36	26
1.2 mm	8	10	45	35	12	38	26
1.6 mm	6	12	45	33	12	40	28
2 mm	5	12	42	30	11	34	26
2.4 mm	4	11	45	34	12	44	32

Series AP proportional valves - 22mm, body with threaded ports

For the use with vacuum connect the line to port 2.



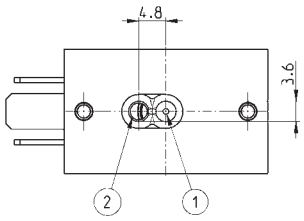


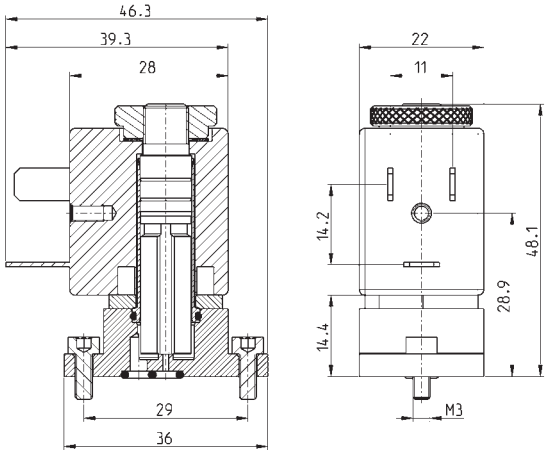
Mod.	Port 1	Port 2	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-7211-FR2-U7*	G1/8	G1/8	2/2 NC	1	0.5	10	75
AP-7211-HR2-U7*	G1/8	G1/8	2/2 NC	1.2	0.7	8	85
AP-7211-LR2-U7*	G1/8	G1/8	2/2 NC	1.6	1.2	6	110
AP-7211-NR2-U7*	G1/8	G1/8	2/2 NC	2	1.7	5	135
AP-7211-QR2-U7*	G1/8	G1/8	2/2 NC	2.4	1.7	4	113
AP-7211-FW2-U7*OX2	G1/8	G1/8	2/2 NC	1	0.5	10	75
AP-7211-HW2-U7*OX2	G1/8	G1/8	2/2 NC	1.2	0.7	8	85
AP-7211-LW2-U7*OX2	G1/8	G1/8	2/2 NC	1.6	1.2	6	110
AP-7211-NW2-U7*OX2	G1/8	G1/8	2/2 NC	2	1.7	5	135
AP-7211-QW2-U7*OX2	G1/8	G1/8	2/2 NC	2.4	1.7	4	113

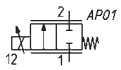
* choose the desired voltage

Series AP proportional valves - size 22mm, low flanged body

For the use with vacuum connect the line to port 2.





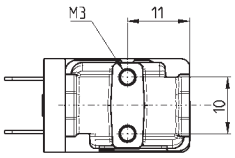


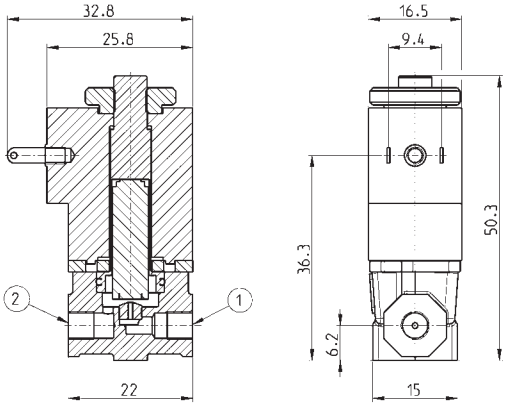
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-7215-FR2-U7*	2/2 NC	1	0.5	10	75
AP-7215-HR2-U7*	2/2 NC	1.2	0.7	8	85
AP-7215-LR2-U7*	2/2 NC	1.6	1.2	6	110
AP-7215-NR2-U7*	2/2 NC	2	1.7	5	135
AP-7215-QR2-U7*	2/2 NC	2.4	1.7	4	113
AP-7215-FW2-U7*OX2	2/2 NC	1	0.5	10	75
AP-7215-HW2-U7*OX2	2/2 NC	1.2	0.7	8	85
AP-7215-LW2-U7*OX2	2/2 NC	1.6	1.2	6	110
AP-7215-NW2-U7*OX2	2/2 NC	2	1.7	5	135
AP-7215-QW2-U7*OX2	2/2 NC	2.4	1.7	4	113

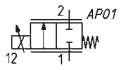
* choose the desired voltage

Series AP proportional valves - 16mm, body with threaded ports

For the use with vacuum connect the line to port 2.





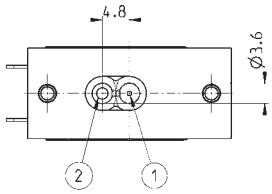


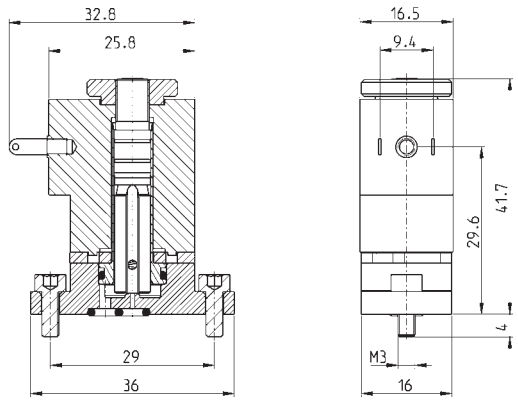
Mod.	Port 1	Port 2	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-6210-DR2-GP*	M5	M5	2/2 NC	0.8	0.3	10	43
AP-6210-FR2-GP*	M5	M5	2/2 NC	1	0.45	8	53
AP-6210-HR2-GP*	M5	M5	2/2 NC	1.2	0.57	6	53
AP-6210-LR2-GP*	M5	M5	2/2 NC	1.6	0.78	4	52
AP-6210-DW2-GP*OX2	M5	M5	2/2 NC	0.8	0.3	10	43
AP-6210-FW2-GP*OX2	M5	M5	2/2 NC	1	0.45	8	53
AP-6210-HW2-GP*OX2	M5	M5	2/2 NC	1.2	0.57	6	53
AP-6210-LW2-GP*OX2	M5	M5	2/2 NC	1.6	0.78	4	52

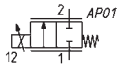
* choose the desired voltage

Series AP proportional valves - 16mm, low flanged body

For the use with vacuum connect the line to port 2.





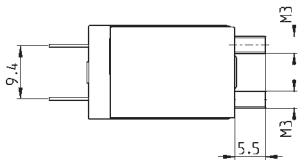


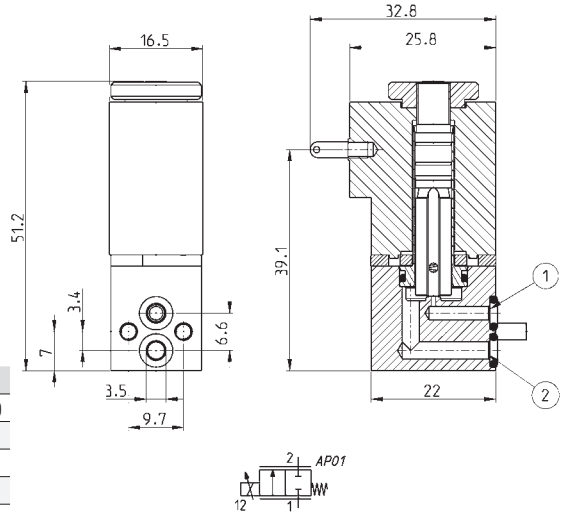
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-6215-DR2-GP*	2/2 NC	0.8	0.3	10	43
AP-6215-FR2-GP*	2/2 NC	1	0.45	8	53
AP-6215-HR2-GP*	2/2 NC	1.2	0.57	6	53
AP-6215-LR2-GP*	2/2 NC	1.6	0.78	4	52
AP-6215-DW2-GP*OX2	2/2 NC	0.8	0.3	10	43
AP-6215-FW2-GP*OX2	2/2 NC	1	0.45	8	53
AP-6215-HW2-GP*OX2	2/2 NC	1.2	0.57	6	53
AP-6215-LW2-GP*OX2	2/2 NC	1.6	0.78	4	52

* choose the desired voltage

Series AP proportional valves - 16mm, rear flanged body

For the use with vacuum connect the line to port 2.



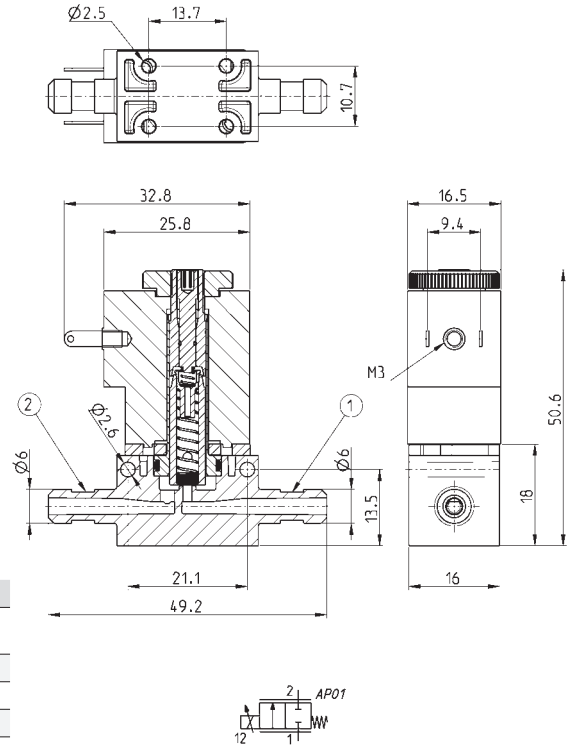


Mod.	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-6214-DR2-GP*	2/2 NC	0.8	0.3	10	43
AP-6214-FR2-GP*	2/2 NC	1	0.45	8	53
AP-6214-HR2-GP*	2/2 NC	1.2	0.57	6	53
AP-6214-LR2-GP*	2/2 NC	1.6	0.78	4	52
AP-6214-DW2-GP*OX2	2/2 NC	0.8	0.3	10	43
AP-6214-FW2-GP*OX2	2/2 NC	1	0.45	8	53
AP-6214-HW2-GP*OX2	2/2 NC	1.2	0.57	6	53
AP-6214-LW2-GP*OX2	2/2 NC	1.6	0.78	4	52

* choose the desired voltage

Series AP proportional valves, size 16mm - body in PVDF

For the use with vacuum connect the line to port 2.

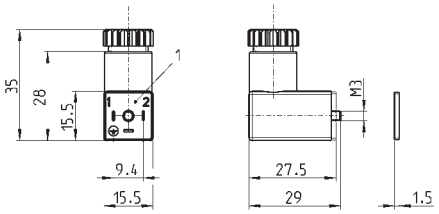


Mod.	Port 1	Port 2	Function	Orifice Ø (mm)	kv (l/min)	Max pressure (bar)	Max flow (Nl/min)
AP-621L-DR3-GP*	Ø6 **	Ø6 **	2/2 NC	0.8	0.3	10	43
AP-621L-FR3-GP*	Ø6 **	Ø6 **	2/2 NC	1	0.45	8	53
AP-621L-HR3-GP*	Ø6 **	Ø6 **	2/2 NC	1.2	0.57	6	53
AP-621L-LR3-GP*	Ø6 **	Ø6 **	2/2 NC	1.6	0.78	4	52
AP-621L-DW3-U7*OX2	Ø6 **	Ø6 **	2/2 NC	0.8	0.3	10	43
AP-621L-FW3-U7*OX2	Ø6 **	Ø6 **	2/2 NC	1	0.45	8	53
AP-621L-HW3-U7*OX2	Ø6 **	Ø6 **	2/2 NC	1.2	0.57	6	53
AP-621L-LW3-U7*OX2	Ø6 **	Ø6 **	2/2 NC	1.6	0.78	4	52

* choose the desired voltage
** pneumatic connection with tube and clamps

Connector Mod. 125-800 DIN 43650 pitch 9.4 mm

For size 16 mm only

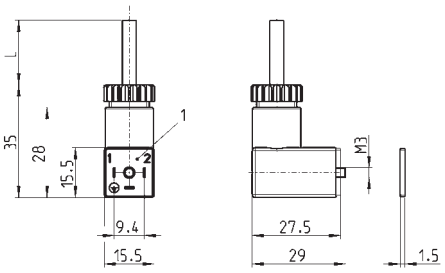


Mod.	description	colour	working voltage	cable gland	tightening torque
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-550- DIN 43650 pitch 9.4 mm with cable

For size 16 mm only

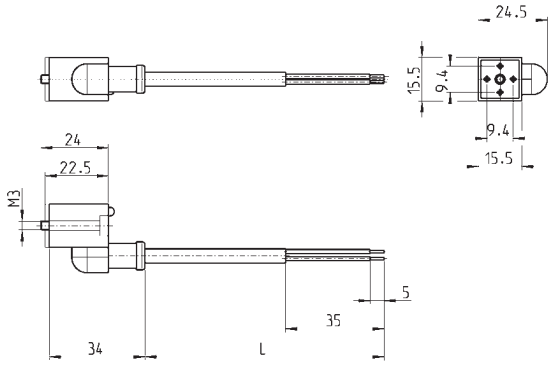


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm

1 = 90° adjustable connector

In-line connectors with cable Mod. 125-553

For size 16 mm only

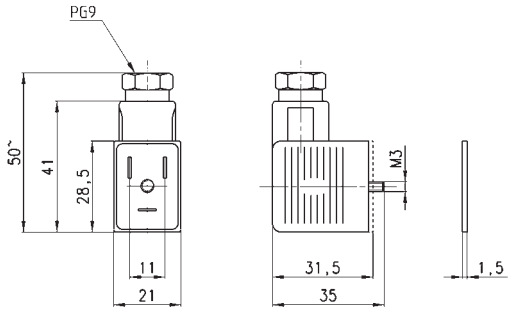


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Connectors Mod. 122-800 DIN 43650

For size 22 mm only

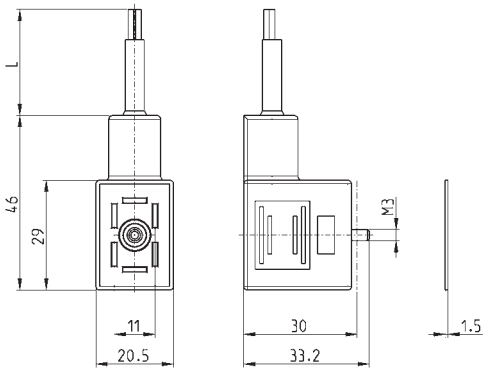
Mod. 122-800EX:
for ATEX certified solenoids Mod. U7*EX,
with anti-screwing off screw Mod. TORX.



Mod.	description	colour	working voltage	cable gland	tightening torque
122-800	connector, without electronics	black	-	PG9	0.5 Nm
122-800EX	connector, without electronics	black	-	PG9	0.5 Nm

Connectors Mod. 122-550 DIN 43650 with cable

For size 22 mm only



Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
122-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.5 Nm
122-550-5	moulded cable, without electronics	black	-	5000 mm	-	0.5 Nm

Series CP directly operated and pressure compensated proportional solenoid valves

New models

Function: 2/2-way NC
Sizes: 16 and 20 mm

- High flow and great precision
- Low hysteresis
- Cartridge body
- Pressure compensated version available
- Suitable to work also with oxygen

Series CP directly operated proportional solenoid valves can be used where an open loop flow control is required, with gas mixtures or to control flows.
Their cartridge design makes them particularly compact, thus they can be mounted directly near the workstation.

Series CP valves have been designed to optimize dimensions and reduce friction and stick-slip effects. The output flow is proportional to the control signal.
Apart from the pressure compensated version, these valves can work also in vacuum. A minimum working pressure is thus not required.

GENERAL DATA

TECHNICAL FEATURES	Size 16mm, 2/2 NC	Size 16mm, 2/2 NC pressure compensated	Size 20mm, 2/2 NC	Size 20mm, 2/2 NC pressure compensated
Operation	proportional directly operated	proportional pressure compensated	proportional directly operated	proportional pressure compensated
Pneumatic connections	cartridge	cartridge	cartridge	cartridge
Nominal diameters	1 mm - 1.5 mm - 2 mm	4.4 mm	3 mm - 3.5 mm	4.4 mm
Free flow capacity	70 Nl/min - 80 Nl/min - 90 Nl/min	120 l/min	145 Nl/min - 165 Nl/min	200 l/min
Operating pressure	3 bar - 5 bar - 8 bar	2 bar (max pressure 7 bar)	2.8 bar - 2 bar	2.8 bar (max pressure 6 bar)
Max overpressure	16 bar	10 bar	16 bar	16 bar
Linearity (5-95%)	3% FS	<7% FS	5% FS	2% FS
Hysteresis	10% FS	<20% FS	15% FS	15% FS
Repeatibility	5% FS	<5% FS	5% FS	5% FS
Operating temperature	10°C ÷ 50°C	10°C ÷ 50°C	10°C ÷ 50°C	10°C ÷ 50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, inert gas.	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, inert gas.	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, inert gas.	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, inert gas.
Installation	in any position	in any position	in any position	in any position
MATERIALS IN CONTACT WITH THE MEDIUM				
Body	brass, stainless steel, PPS	stainless steel, PPS	brass, stainless steel, PPS	brass, stainless steel, PPS
Seals	FKM	FKM FDA-conform, BAM-ability for oxygen	FKM	FKM
ELECTRICAL FEATURES				
Operation	PWM > 1000 Hz or current control	PWM > 1000 Hz or current control	PWM > 500 Hz or current control	PWM > 1000 Hz or current control
Operation voltage	6 V DC, 12 V DC, 24 V DC	6 V DC, 12 V DC, 24 V DC	6 V DC, 12 V DC, 24 V DC	6 V DC, 12 V DC, 24 V DC
Max power consumption	3.1 W	3 W (Nominal power 2 W)	5 W, 3.7 W	4.2 W
Nominal resistance	11.8 Ohm - 37.6 Ohm - 184.7 Ohm	11.8 Ohm - 47.7 Ohm - 184.7 Ohm	5.4 Ohm, 21.6 Ohm, 86.4 Ohm, 6.4 Ohm, 25.1 Ohm, 102.1 Ohm	6.4 Ohm, 25.1 Ohm, 102.1 Ohm
Rated current	410 mA, 238 mA, 103 mA	410 mA, 205 mA, 103 mA	820 mA, 410 mA, 205 mA	700 mA, 350 mA, 175 mA
Duty cycle	100% with air flow	100% with air flow	100% with air flow	100% with air flow
Electrical connection	cable 300mm AWG24	cable 300 mm AWG 24	cable 300mm AWG24	cable 300mm AWG24
Protection class	IP00 / IP40	IP00 / IP40	IP00 / IP40	IP00 / IP40
Average lifecycles	50000000	50000000	50000000	50000000
Command signal	recommended PWM: 1000 Hz	recommended PWM: 1000 Hz	recommended PWM: 500 Hz	recommended PWM: 1000 Hz

Versions available on demand base with 1/8, 1/4 ports

CODING EXAMPLE

CP	-	C	6	2	1	-	G	W	2	-	0	P	3

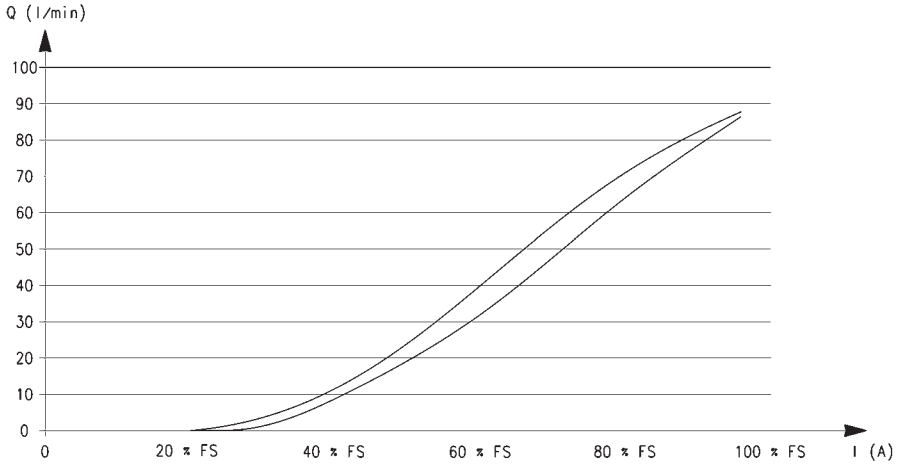
CP	SERIES		
C	PORTS: C = cartridge S = subbase		
6	BODY SIZE: 6 = size 16mm 7 = size 20mm	8 = size 16 pressure compensated 9 = size 20 pressure compensated	
2	NUMBER OF PORTS: 2 = 2-way		
1	FUNCTION: 1 = NC		
G	ORIFICE DIAMETRES: F = 1mm (size 16mm only) G = 1.5mm (size 16mm only)	N = 2mm (size 16mm only) M = ø 3 mm (solo taglia 20 mm)	P = ø 3.5 mm (solo taglia 20 mm) T = ø 4.4 mm (pressure compensated only)
W	SEAL MATERIAL: W = FKM		
2	BODY MATERIAL: 2 = BRASS		
0	OVERMOULDING MATERIAL OF COIL: 0 = cartridge		
P	COIL DIMENSIONS: P = ø 16 7 = ø 20		
3	VOLTAGE: 1 = 6 V DC 3.1 W (size 16 mm only) 2 = 12 V DC 4.3 W (solo taglia 20 mm) 3 = 24 V DC 3.1 W (size 16 mm only) 4 = 24 V DC 4.3 W (solo taglia 20 mm) 5 = 12 V DC 3.1 W (size 16 mm only)	6 = 6 V DC 4.3 W (solo taglia 20 mm) 7 = 6 V 4.8 W (solo Ø 3.5, taglia 20 mm) 8 = 12 V 4.8 W (solo Ø 3.5, taglia 20 mm) 9 = 24 V 4.8 W (solo Ø 3.5, taglia 20 mm) 10 = 6 V DC 4.2 W (size 20 mm only, pressure compensated)	11 = 24 V DC 4.2 W (size 20 mm only, pressure compensated) 12 = 12 V DC 4.2 W (size 20 mm only, pressure compensated) 13 = 6 V DC 3 W (size 16 mm only, pressure compensated) 14 = 12 V DC 3 W (size 16 mm only, pressure compensated) 15 = 24 V DC 3 W (size 16 mm only, pressure compensated)

HYSTERESIS AND RESPONSE TIMES

DIAGRAM LEGEND:

Q = flow (l/min)
I = current (A)
FS = full scale

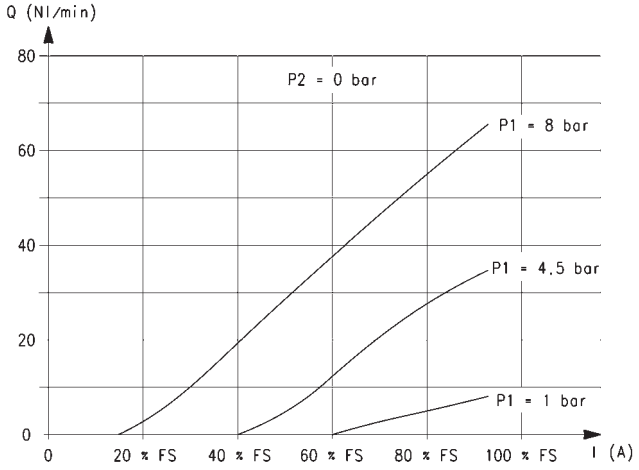
NOTE TO THE TABLE:
* in the pressure compensated version the counter pressure at the valve outlet must be always lower than 15-20% of the inlet pressure.



RESPONSE TIMES calculated according to the maximum flow at each operating pressure. [Electromechanical response time: 10 ms]

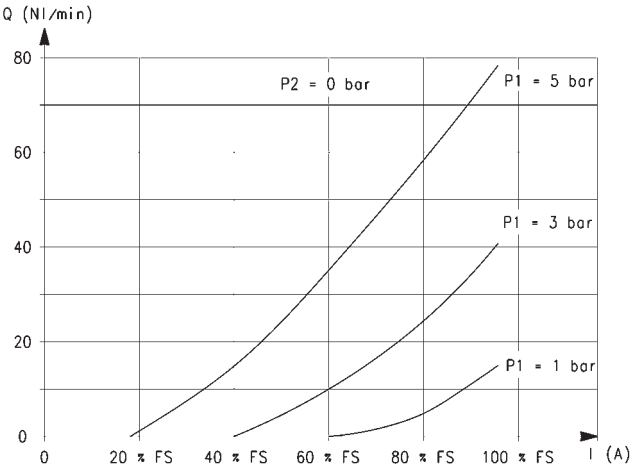
ø	Inlet pressure (bar)	Load response time (ms)			Exhaust response time (ms)		
		0% - 10%	0% - 90%	10% - 90%	100% - 90%	100% - 10%	90% - 10%
1 mm	8	12	42	30	9	33	24
1.5 mm	5	12	39	27	9	33	24
2 mm	3	11	39	28	9	33	26
3 mm	2.8	13	29	16	14	28.5	14.5
3.5 mm	2	15	31	16	12.5	27.5	15
4.4 mm *	2.8	13	52	49	10	37	27

FLOW DIAGRAMS - Size 16mm



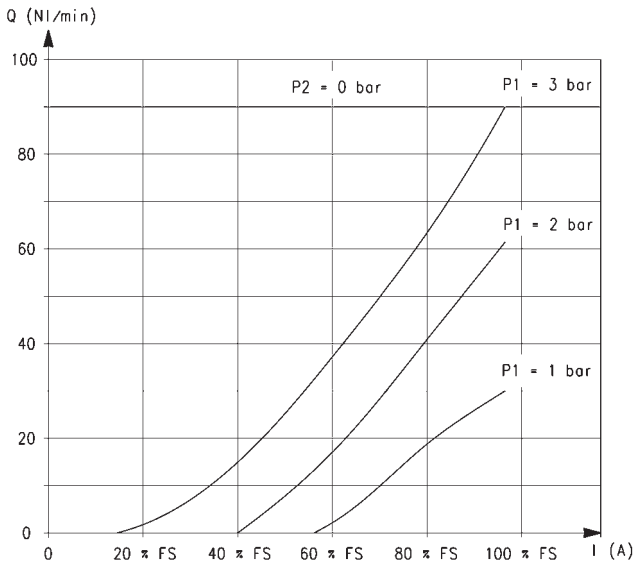
Nominal diameter 1mm

Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)



Nominal diameter 1.5mm

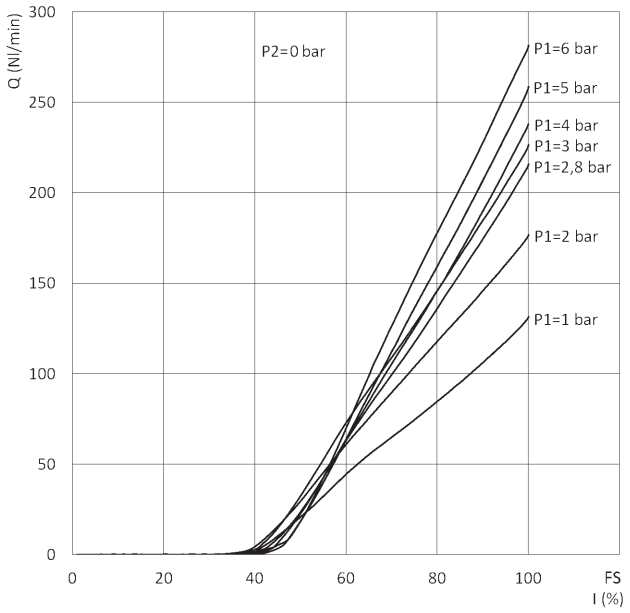
Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)



Nominal diameter 2mm

Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)

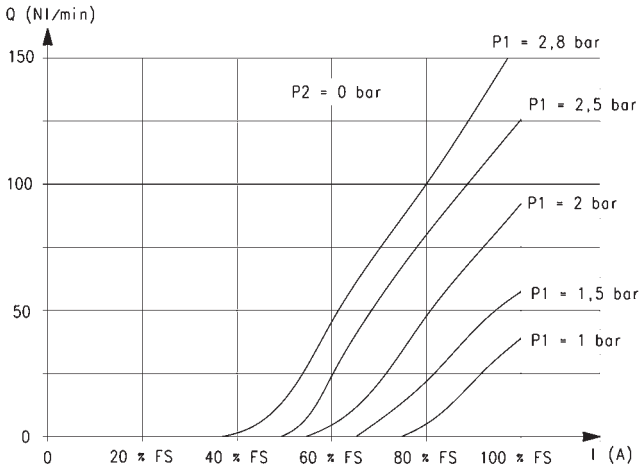
FLOW DIAGRAMS - Size 16mm pressure compensated



Nominal diameter 4.4mm

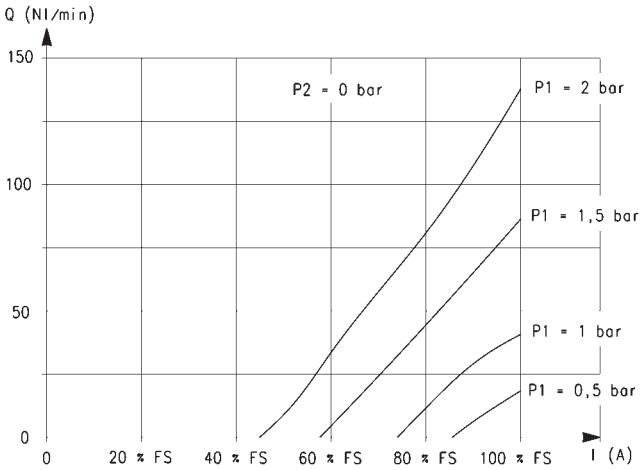
Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)
FS = full scale

FLOW DIAGRAMS - Size 20mm



Nominal diameter 3mm

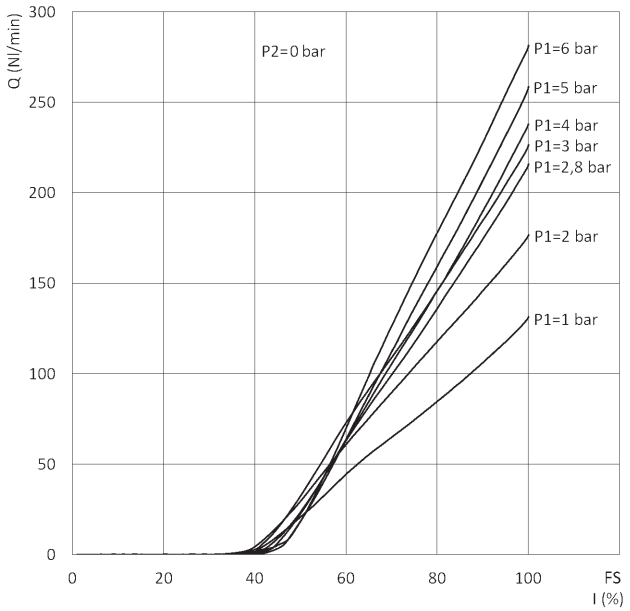
Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)



Nominal diameter 3.5mm

Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)

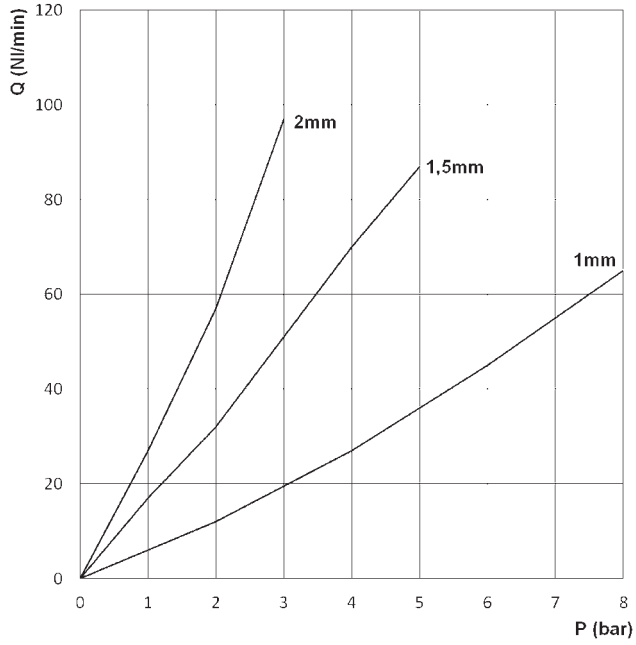
FLOW DIAGRAMS - Size 20mm pressure compensated



Nominal diameter 4.4mm

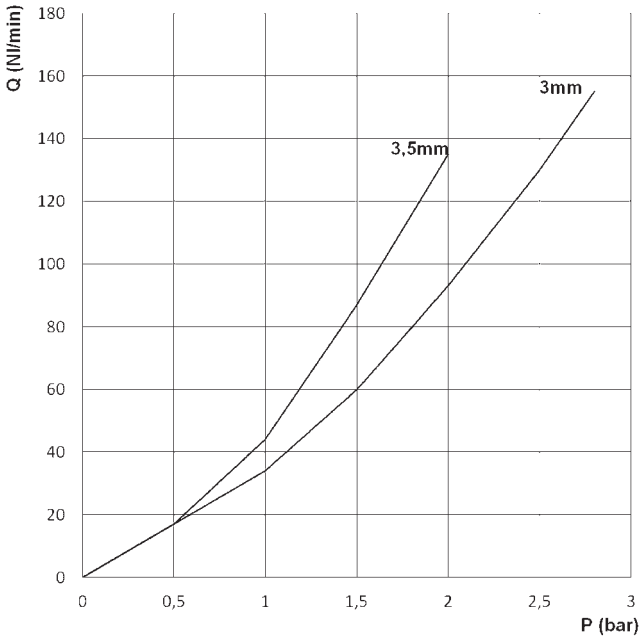
Q = flow (l/min)
I = current (A)
P1 = pressure in load (bar)
P2 = 0 [free flow pressure] (bar)
FS = full scale

MAXIMUM FLOW ACCORDING TO THE INLET PRESSURE



Size 16 mm

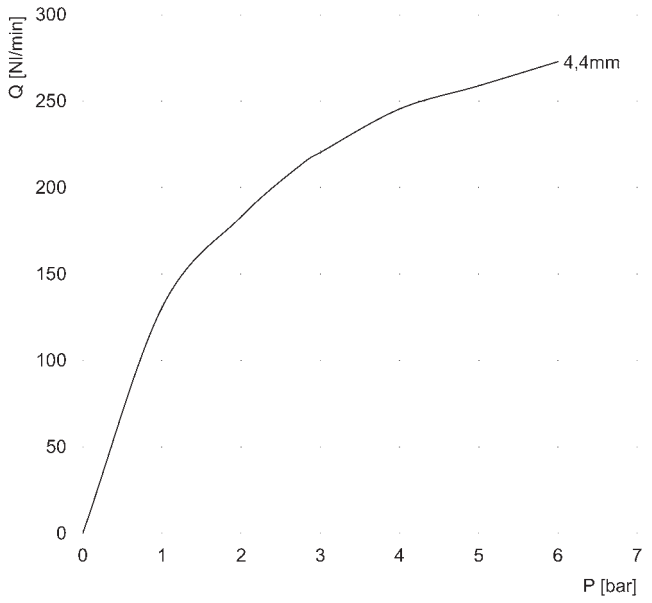
Q = Flow (Nl/min)
P = Inlet pressure (bar)



Size 20 mm

Q = Flow (Nl/min)
P = Inlet pressure (bar)

MAXIMUM FLOW ACCORDING TO THE INLET PRESSURE

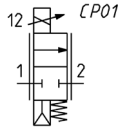


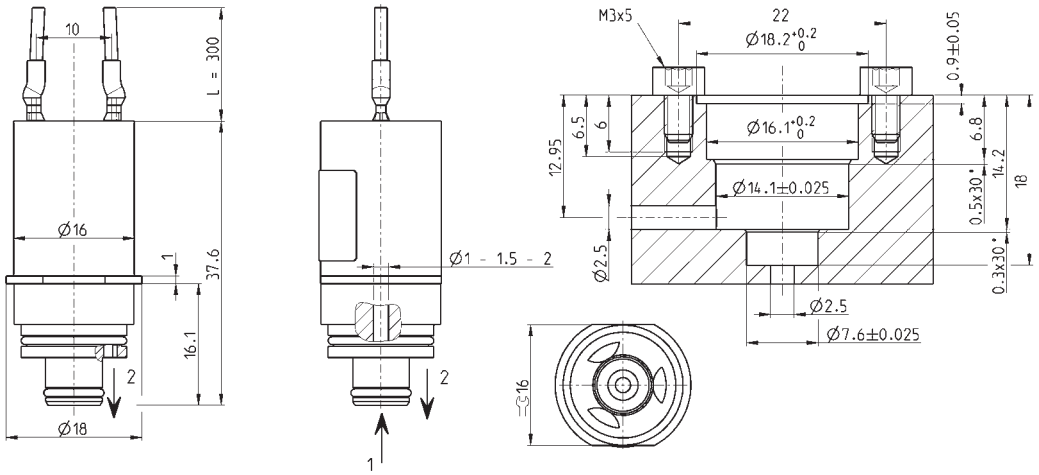
Size 20mm pressure compensated

Q = Flow (Nl/min)
P = Inlet pressure (bar)

Solenoid valves, size 16mm

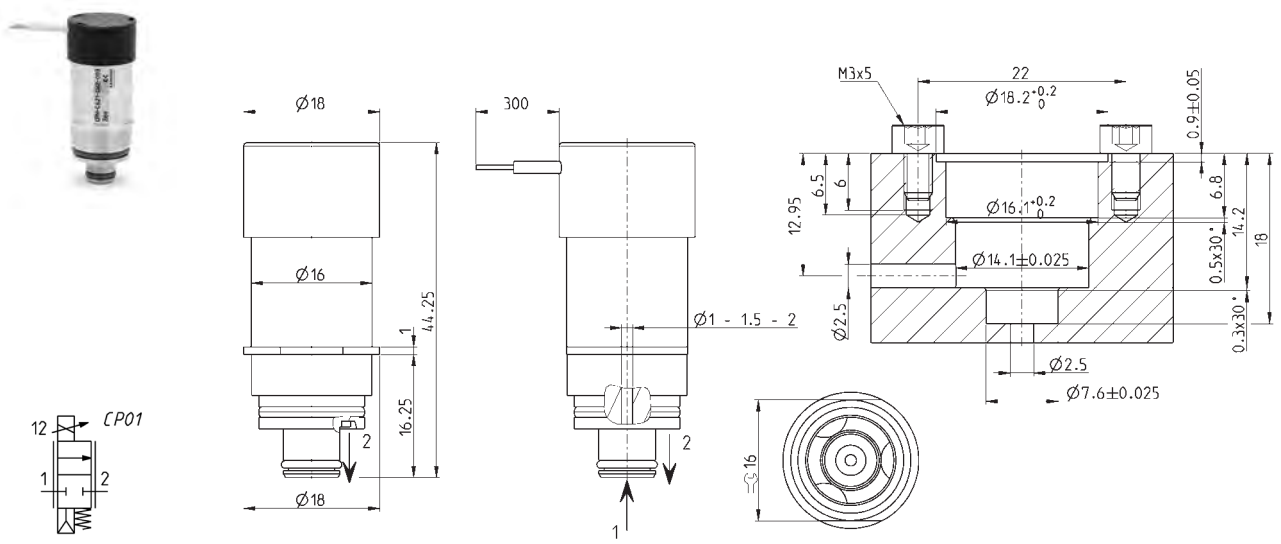
Out of stock version





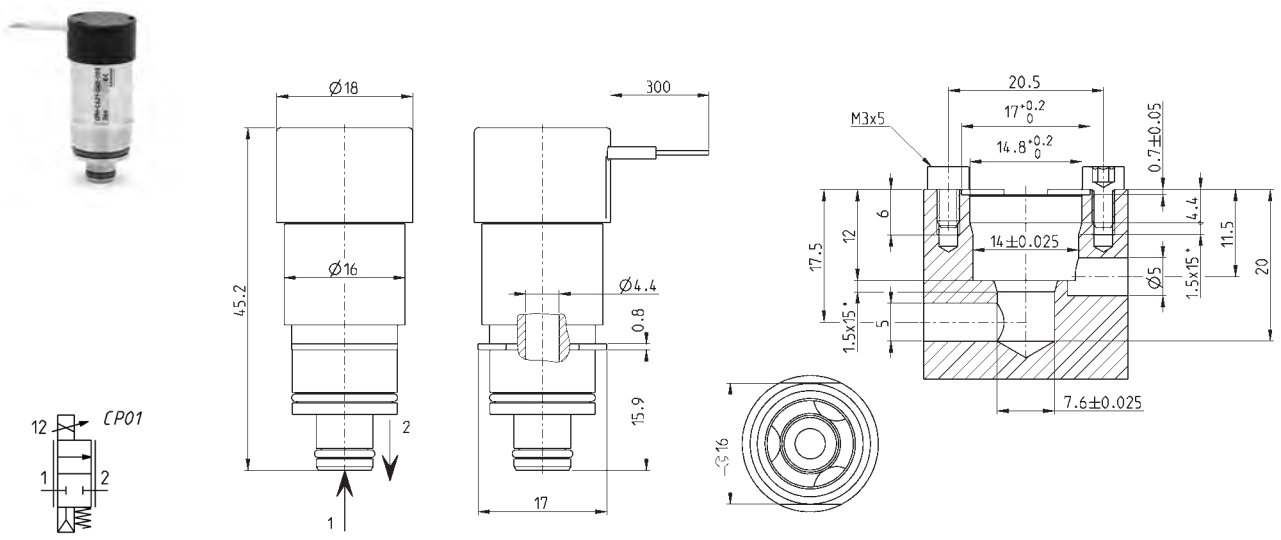
Mod.	Orifice Ø (mm)	Max operating pressure (bar)	Max flow (Nl/min)	Max flow kv (l/min)	Operation voltage (V DC)	Max current (mA)
CP-C621-FW2-OP1	1	8	70	0.55	6	410
CP-C621-GW2-OP1	1.5	5	80	0.88	6	410
CP-C621-NW2-OP1	2	3	90	1.42	6	410
CP-C621-FW2-OP3	1	8	70	0.55	24	103
CP-C621-GW2-OP3	1.5	5	80	0.88	24	103
CP-C621-NW2-OP3	2	3	90	1.42	24	103
CP-C621-FW2-OP5	1	8	70	0.55	12	238
CP-C621-GW2-OP5	1.5	5	80	0.88	12	238
CP-C621-NW2-OP5	2	3	90	1.42	12	238

Solenoid valves, size 16m



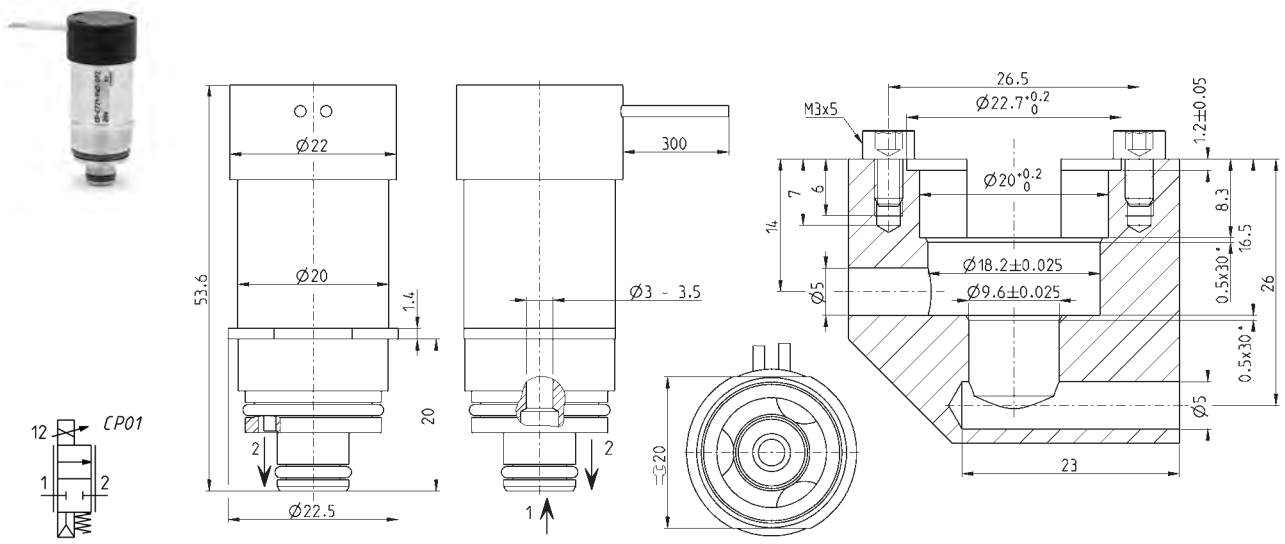
Mod.	Orifice Ø (mm)	Max operating pressure (bar)	Max flow (Nl/min)	Max flow kv (l/min)	Operation voltage (V DC)	Max current (mA)
CPN-C621-FW2-0P1	1	8	70	0.55	6	410
CPN-C621-GW2-0P1	1.5	5	80	0.88	6	410
CPN-C621-NW2-0P1	2	3	90	1.42	6	410
CPN-C621-FW2-0P3	1	8	70	0.55	24	103
CPN-C621-GW2-0P3	1.5	5	80	0.88	24	103
CPN-C621-NW2-0P3	2	3	90	1.42	24	103
CPN-C621-FW2-0P5	1	8	70	0.55	12	238
CPN-C621-GW2-0P5	1.5	5	80	0.88	12	238
CPN-C621-NW2-0P5	2	3	90	1.42	12	238

Solenoid valves, size 16m pressure compensated



Mod.	Orifice Ø (mm)	Max operating pressure (bar)	Max flow (Nl/min)	Max flow kv (l/min)	Operation voltage (V DC)	Max current (mA)
CP-C821-TW2-0P13	4.4	7	160	-	6	410
CP-C821-TW2-0P14	4.4	7	160	-	12	205
CP-C821-TW2-0P15	4.4	7	160	-	24	103

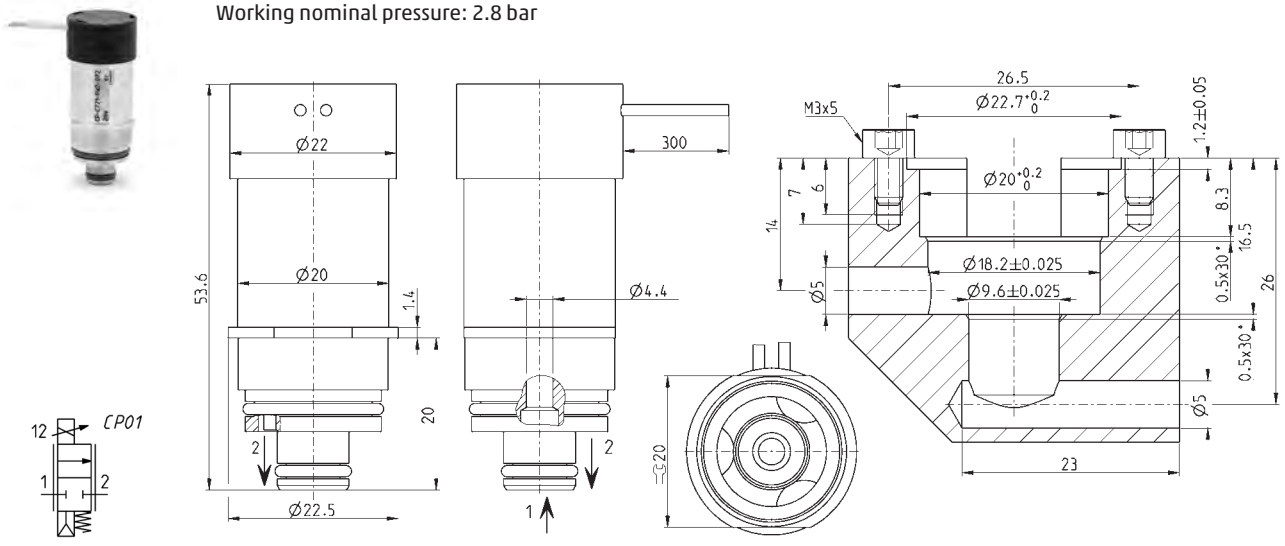
Solenoid valves, size 20mm



Mod.	Orifice Ø (mm)	Max operating pressure (bar)	Max flow (Nl/min)	Max flow kv (l/min)	Operation voltage (V DC)	Max current (mA)
CP-C721-MW2-072	3	2.8	150	2.8	12	313
CP-C721-MW2-074	3	2.8	150	2.8	24	154
CP-C721-MW2-076	3	2.8	150	2.8	6	615
CP-C721-PW2-072	3.5	2	130	3	12	313
CP-C721-PW2-074	3.5	2	130	3	24	154
CP-C721-PW2-076	3.5	2	130	3	6	615
CP-C721-PW2-077	3.5	2	180	4.5	6	820
CP-C721-PW2-078	3.5	2	180	4.5	12	410
CP-C721-PW2-079	3.5	2	180	4.5	24	205

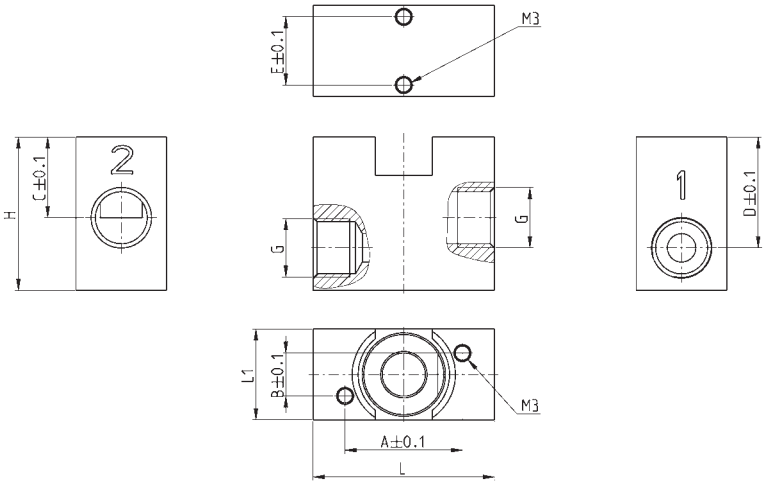
Solenoid valves, size 20mm pressure compensated

Working nominal pressure: 2.8 bar



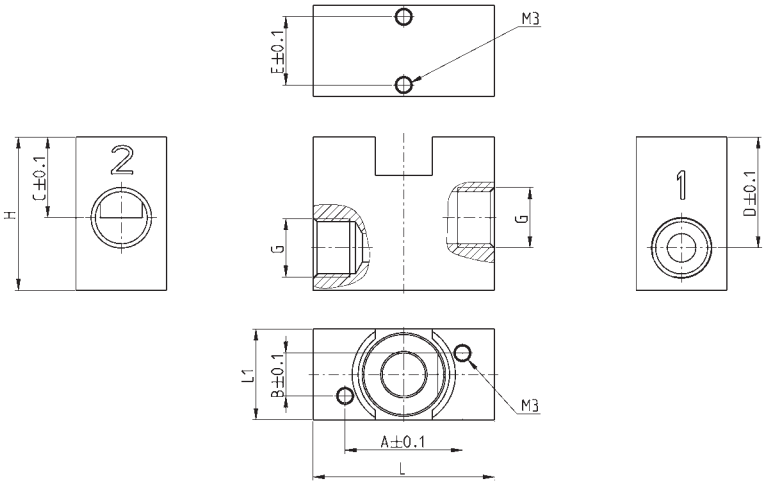
Mod.	Orifice Ø (mm)	Max operating pressure (bar)	Max flow (Nl/min)	Max flow kv (l/min)	Operation voltage (V DC)	Max current (mA)
CP-C921-TW2-0710	4.4	6	200	4	6	700
CP-C921-TW2-0711	4.4	6	200	4	24	175
CP-C921-TW2-0712	4.4	6	200	4	12	350

Sub-base



Mod.	Ø	A	B	C	D	E	G	H	L	L1
CP-S6	16	20.7	7.5	14.2	19.5	12	G1/8	27	32	16
CP-S7	20	25.2	8	14	22.5	15	G1/4	31.5	45	22
CP-S8	16	17.75	10.25	13.2	17.5	12	G1/8	27	32	16

Sub-base



Mod.	Ø	A	B	C	D	E	G	H	L	L1
CP-S6	16	20.7	7.5	14.2	19.5	12	G1/8	27	32	16
CP-S7	20	25.2	8	14	22.5	15	G1/4	31.5	45	22
CP-S8	16	17.75	10.25	13.2	17.5	12	G1/8	27	32	16

Series 130 electronic control device for proportional valves

PWM control device, with current control system for directly operated proportional valves

- Closed loop current control (max current that can be provided = 1A)
- Management of up and down ramp
- Command signal 0-10V and 4-20mA
- Regulation of min and max current (Span and Offset)

Series 130 electronic control device allows to pilot any proportional valve with a maximun current of 1 A.
It turns a standard inlet signal (0-10V or 4-20 mA) into a PWM signal to obtain at the solenoid outlet a current which is proportional to the inlet signal.

A control system of the provided current allows to compensate variations due to heating of the solenoid or to the variation of the supply voltage. It is possible to adjust the maximum and minimum current provided to the solenoid. The outlet signal can have a ramp progress that is adjustable between 0 and 5 s. The device has a firmware dedicated to the proportional valve to pilot in order to guarantee the best performance.

GENERAL DATA

Material of container	Polycarbonate
Electrical connections	screw
Environmental temperature	0 ÷ 50°C
Mounting	in any position
Power supply	6 V ÷ 24 V DC (± 10%)
Consumption	0.4 W (without valve)
Analogical input	0 ÷ 10 V 4 ÷ 20 mA
Input impedence	>30 Kohm with inlet under voltage <200 ohm with inlet under current
Output PWM	120 Hz ÷ 11.7 KHz (fixed, according to the valve chosen)
Maximum current (valve)	1 A
Protection	Polarity inversion, short circuit of the outlet
External diameter of cable jacket	5 ÷ 7.5 mm with seal only 4 ÷ 6 mm with reducer and seal
Conductor section	26 ÷ 16 AWG / 0,13 ÷ 1,5 mm2
Maximum length supply/signal cable	10 m
Maximum length valve cable	5 m
IP protection class according to EN 60529	IP 54
Ramp function	Adjustable time from 0 to 5 s
Regulation min. current (Offset)	0% ÷ 40% F.S.
Regulation maximum current	50% ÷ 100% F.S.

CODING EXAMPLE

130	-	2	2	2

130	SERIES
2	VOLTAGE: 2 = 24 V DC (max power 24 W) 3 = 12 V DC (max power 12 W) 4 = 6 V DC (max power 6 W) 5 = 11 V DC (max power 11 W)
2	POWER: 1 = 3 W 2 = 6.5 W 3 = 3.2 W 4 = 4.3 W 5 = 10 W 6 = 4.2 W 7 = 2.5 W
2	PWM FREQUENCY: 2 = 500 Hz 3 = 1 KHz

NOTE: it is possible to realize configurations with voltage, power and PWM frequency values that are not yet foreseen in the coding example.
For further information we suggest you to contact our technical department.

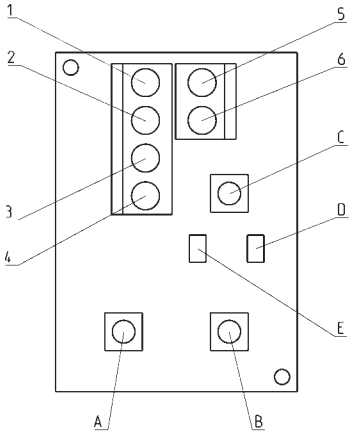
ELECTRICAL CONNECTIONS AND SETTINGS

DRAWING LEGEND:

1 = 6 ÷ 24 V DC (supply)
2 = 0 V (Ground) common also for the reference signal
3 = analogical reference signal 0 ÷ 10V DC
4 = analogical reference signal 4 ÷ 20 mA
A = regulation of min. current (OFFSET)
B = regulation of max. current (SPAN)
C = regulation of the PWM outlet up and down ramp
D = red LED
E = yellow LED

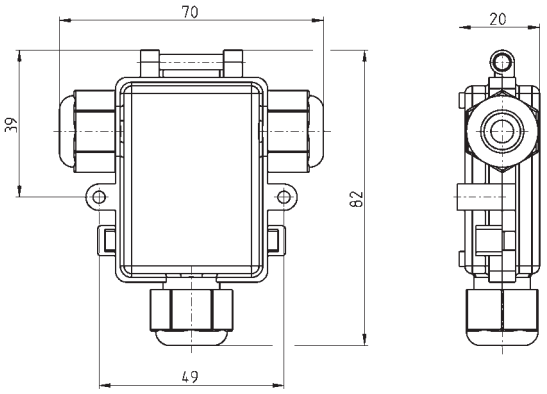
Note 1: the GND of the reference signal and the GND of supply have to be linked together.

Note 2: For the valve connection use a connector without protection - diodes, varistors, etc... - as these might alter the regulation of the device.



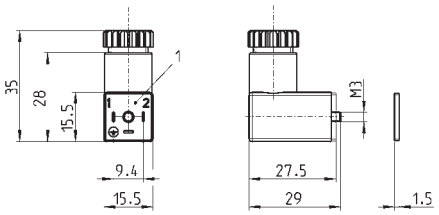
Series 130 electronic control device

NOTE: it is possible to realize configurations with voltage, power and PWM frequency values that are not shown in the table below. For further information we suggest you to contact our technical department.



Mod.	Matching valve family	Valve voltage (Output)	Adjusted power	Adjusted frequency
130-222	Series AP - size 22 mm	24 V DC	6.5 W	500 Hz
130-322	Series AP - size 22 mm	12 V DC	6.5 W	500 Hz
130-252	Series AP - size 22 mm	24 V DC	10 W	500 Hz
130-352	Series AP - size 22 mm	12 V DC	10 W	500 Hz
130-213	Series AP - size 16 mm	24 V DC	3 W	1000 Hz
130-313	Series AP - size 16 mm	12 V DC	3 W	1000 Hz
130-433	Series CP - size 16 mm	6 V DC	3.2 W	1000 Hz
130-533	Series CP - size 16 mm	11 V DC	3.2 W	1000 Hz
130-233	Series CP - size 16 mm	24 V DC	3.2 W	1000 Hz
130-442	Series CP - size 20 mm	6 V DC	4.3 W	500 Hz
130-342	Series CP - size 20 mm	12 V DC	4.3 W	500 Hz
130-242	Series CP - size 20 mm	24 V DC	4.3 W	500 Hz
130-463	Series CP pressure compensated - size 20 mm	6 V	4.2 W	1000 Hz
130-363	Series CP pressure compensated - size 20 mm	12 V	4.2 W	1000 Hz
130-263	Series CP pressure compensated - size 20 mm	24 V	4.2 W	1000 Hz
130-473	Series CP pressure compensated - size 16 mm	6 V	2.5 W	1000 Hz
130-373	Series CP pressure compensated - size 16 mm	12 V	2.5 W	1000 Hz
130-273	Series CP pressure compensated - size 16 mm	24 V	2.5 W	1000 Hz

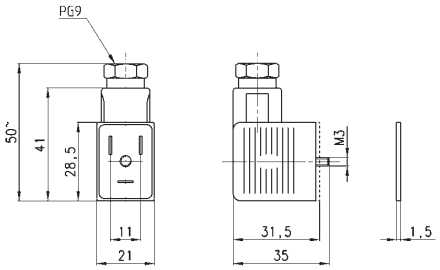
Connector Mod. 125-800 DIN 43650 pin spacing 9,4mm



Mod.
125-800

1 = 90° adjustable connector

Connector Mod. 122-800 DIN 43650 (PG)



Mod.	Torque (Nm)
122-800	0.5

Series LR
digital proportional servo valves

3/3-way directly operated servo valves for the flow (LRWD2), pressure (LRPD2) and position (LRXD2) control

- Digital version which is completely configurable through micro USB
- Rotating spool system with a metal to metal seal
- High flow rate
- Electronic control to ensure high precision in the flow control
- 3-way-function with 4 - 6 mm nominal diameters
- Compact version for cabinet mounting on DIN-rail
- Position control version

Series LR digital proportional servo valves are direct driven 3/3-way valves with a patented rotating spool system with closed loop control circuit. The electronic board is integrated into the valve's body ready to connect.

Series LR*D2 digital proportional servo valve has been designed to be as compact as possible in order to save space and to be mounted on a DIN-rail.
Thanks to this new digital version, the valve can be configurated through a USB connection according to different requirements.

GENERAL DATA

Power supply	24 V DC +/- 10%, max absorption 1.5 A
Command signal	+/- 10 V 0-10 V 4-20 mA
Hysteresis	1% FS LRWD2 - 0,2% FS LRPD2
Linearity	1% FS LRWD2 - 0.3% FS LRPD2
Switching time	see the following pages
Working temperature	from 0 to 50° C
Relative humidity of air	max. 90%
Direction of assembly	any
Maximum flow	see the diagrams on the following pages
Medium	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Supply pressure	-0.9 to 10 bar
Leakage	< 1% of maximum flow rate
Electrical connection	male connector M12 8 poles
Hardware configuration port	micro USB

CODING EXAMPLE

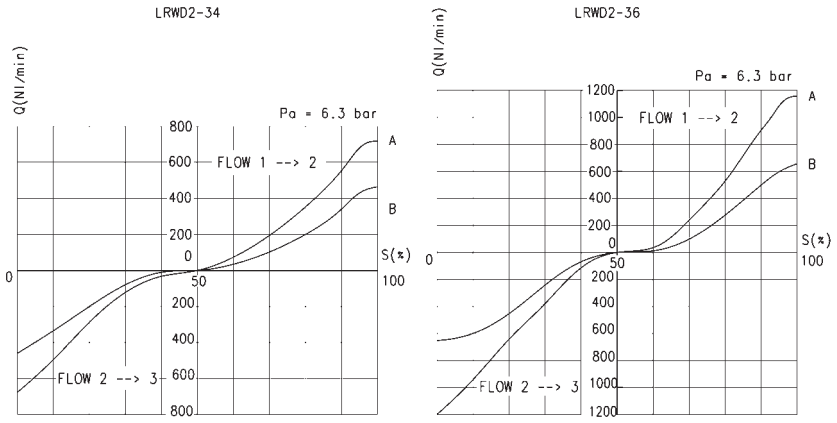
L	R	W	D	2	-	3	4	-	1	-	A	-	00

L	SERIES: L = proportional servo valves	
R	TECHNOLOGY: R = rotating spool	
W	VERSION: W = flow control P = pressure control X = position control	
D	ELECTRONICS: D = digital	
2	MODEL: 2 = compact DIN-RAIL	
3	FUNCTION: 3 = 3/3-way	
4	NOMINAL DIAMETER: 4 = 4 mm 6 = 6 mm	
1	COMMAND SIGNAL (Setpoint): 1 = +/- 10 V 2 = 0 - 10 V 5 = 4 - 20 mA	
A	INPUT SIGNAL: 2 = 0 - 10 V (LRPD2 and LRXD2 only) 4 = 0 - 5V (LRPD2 and LRXD2 only) 5 = 4 - 20mA (LRPD2 and LRXD2 only)	A = internal encoder (LRWD2 only) B = 1 bar (internal sensor - LRPD2 only) D = 10 bar (internal sensor - LRPD2 only) E = 250 mbar (internal sensor - LRPD2 only) F = +1/-1 bar (internal sensor - LRPD2 only)
00	CABLE: 00 = no cable	2F = straight cable of 2 m 2R = 90° cable of 2 m 5F = straight cable of 5 m 5R = 90° cable of 5 m

FLOW DIAGRAMS FOR VALVES LRWD2-34 AND LRWD2-36

LEGEND:

A = free flow
B = ΔP1
Q = flow (Nl/min)
S = set point (%)
Pa = inlet pressure (bar)

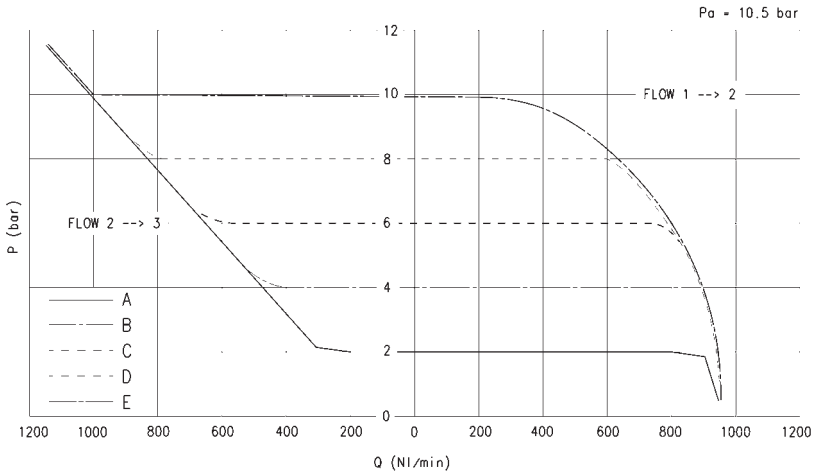


RESPONSE TIMES ACCORDING TO THE COMMAND SIGNAL IN COMPLIANCE WITH THE ISO 10094-2 STANDARD							
	COMMAND SIGNAL	-5% ÷ +5%	+5% ÷ -5%	-25% ÷ +25%	+25% ÷ -25%	-90% ÷ +90%	+90% ÷ -90%
	Time [ms] LRWD2-34	4	5	6	9	10	10
	Time [ms] LRWD2-36	5	5	6	6	10	10

*** closed valve with SET POINT = 0**
loaded valve with SET POINT = +
exhaust valve with SET POINT = -

FLOW DIAGRAMS FOR VALVE LRPD2-34

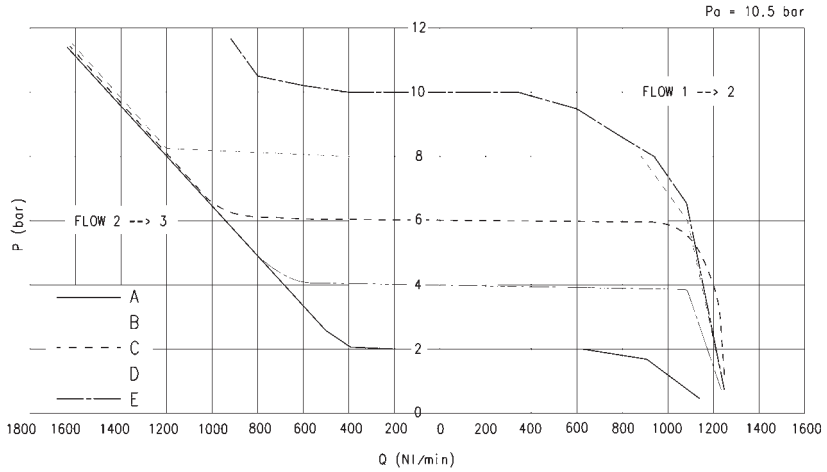
LEGEND:
P = regulated pressure (bar)
F = flow (Nl/min)
Pa = inlet pressure (bar)



RESPONSE TIMES WITH COMMAND SIGNAL BETWEEN 0% AND 100% IN COMPLIANCE WITH ISO 10094-2 STANDARD				
		Without volume	Volume 0,5 l	Volume 2 l
	Filling [ms]	24	313	1841
	Exhaust [ms]	35	663	3640
valve with SET POINT = 0% and regulated pressure = 0 bar				
valve with SET POINT = 100% and regulated pressure = maximum pressure (example: 10 - 1 bar or 250 mbar)				

FLOW DIAGRAMS FOR VALVE LRPD2-36

LEGEND:
P = regulated pressure (bar)
F = flow (Nl/min)
Pa = inlet pressure (bar)



RESPONSE TIMES WITH COMMAND SIGNAL BETWEEN 0% AND 100% IN COMPLIANCE WITH ISO 10094-2 STANDARD				
		Without volume	Volume 0,5 l	Volume 2 l
	Filling [ms]	20	263	1560
	Exhaust [ms]	32	357	1905
valve with SET POINT = 0% and regulated pressure = 0 bar				
valve with SET POINT = 100% and regulated pressure = maximum pressure (example: 10 - 1 bar or 250 mbar)				

Series LRXD2 - pneumatic and electrical schemes for the installation

The LRXD2 servo valves are proportional valves with a high-precision integrated control for the positioning of pneumatic cylinders. The valves include a patented 3-way system based on the rotating spool principle with electronic control of the spool position. The servo pneumatic closed loop system allows the control of the position through the feedback of the external positioning sensor or of the Camozzi 6PF cylinder with the integrated linear transducer.
The electronic board which is integrated in the valve body manages speed and acceleration directly.
The Master valve Mod. LRXD2 is equipped with a proper signal to command a LRWD2 valve that will work as a slave-valve.

Configuration for the position control with two valves (Fig. 1)
A = Slave LRWD2-3*-2-A-00 - B = Master LRXD2-3*-*-4-00 - C = 6PF cylinder...

Configuration for the position control with a LRXD2 valve (Fig. 2)
A = Master LRXD2-3*-*-4-00 - B = PR104-... - C = 6PF cylinder...

Fig.1

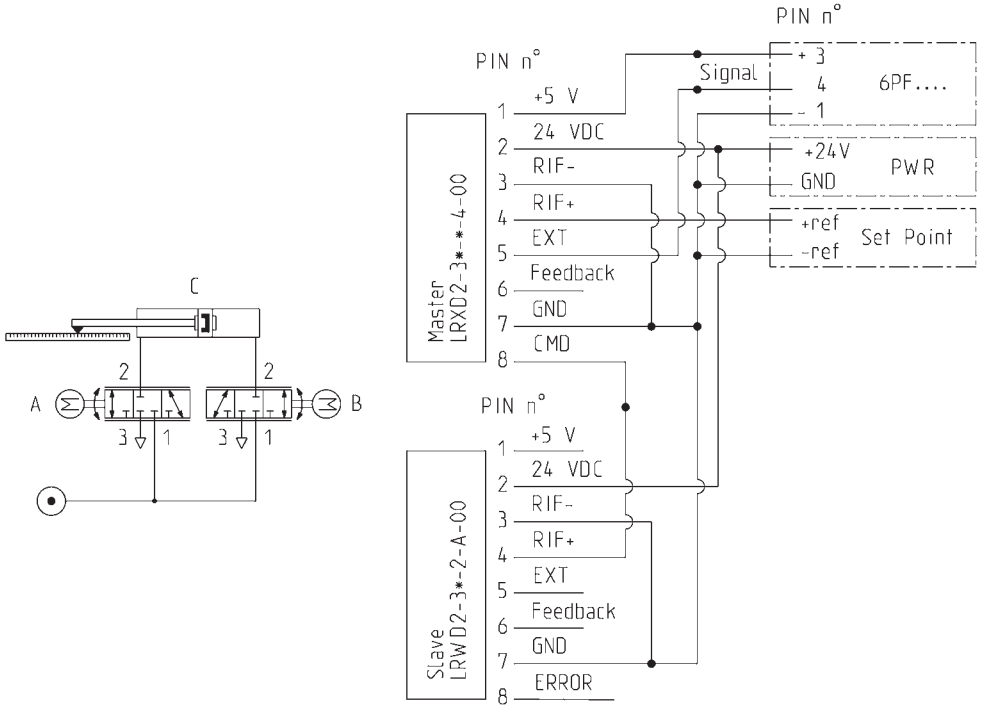
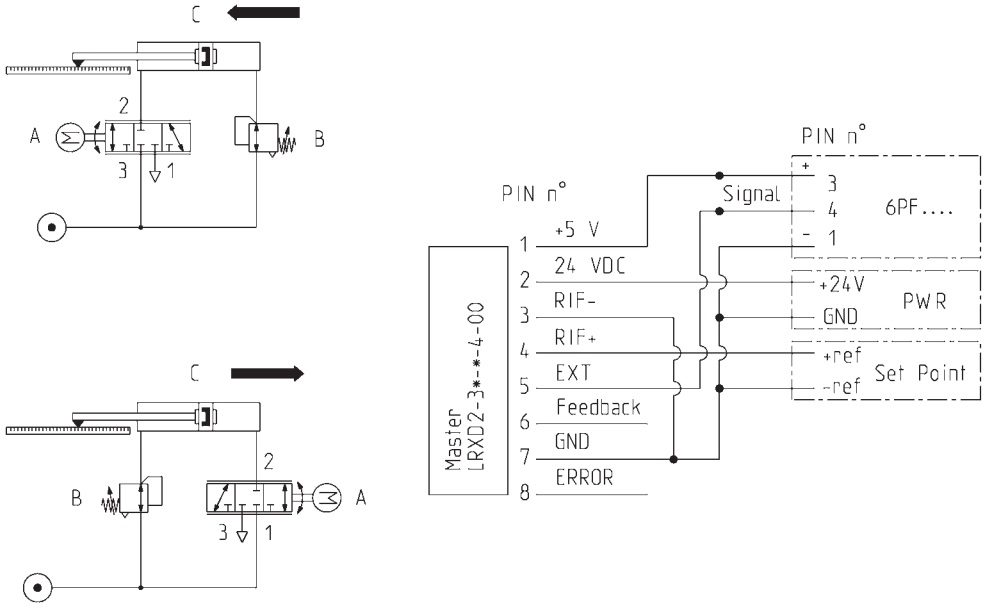
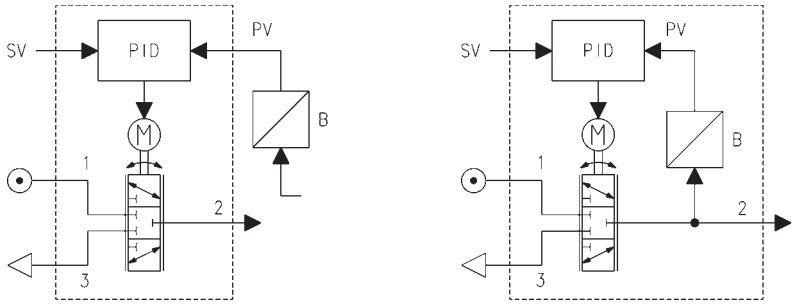


Fig.2

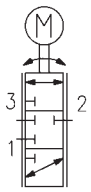


Series LRPD2 - pneumatic scheme for the installation

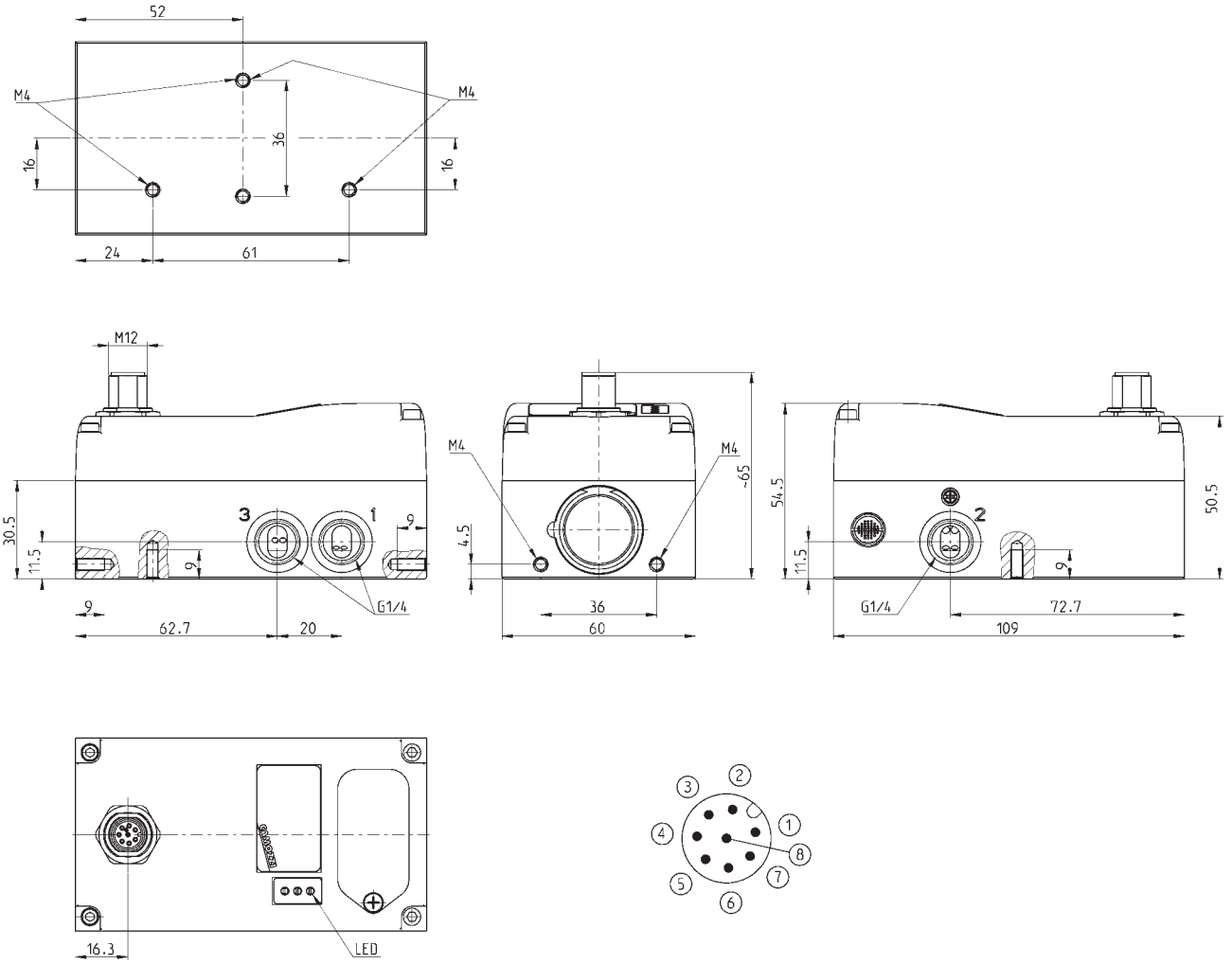
SV = setpoint value
PV = process value
B = sensor
PID = proportional control, integrative, derivative



Series LR digital proportional servo valves - dimensions



The detailed user and maintenance manual and the Hardware configuration Software of the valve is available online at http://catalogue.camozzi.com.



PIN	SIGNAL		DESCRIPTION
1	+5V		+5V power supply for external potentiometer transducer (ref. GND). If used, it is necessary to connect RIF- with GND.
2	24 V DC		24V DC power supply (logic and motor): connect to the positive pole of the 24V DC power supply (ref. GND)
3	RIF-		GND reference or NEGATIVE pole of the command signal (0-10V / 4-20mA / ±10V)
4	RIF+		POSITIVE reference of the command signal (0-10V / 4-20mA / ±10V)
5	EXT	for LRWD valve:	not used
		for LRXD valve:	feedback signal of the external transducer 0-5V / 0-10V / 4-20mA (ref. RIF-)
		for LRPD valve:	feedback signal of the external transducer 0-5V / 0-10V / 4-20mA (ref. RIF-). To be used only with LRPD2 valve versions with external sensor.
6	FBK		feedback signal 0-10V / 4-20mA (ref. GND)
7	GND		common (reference pin 1 and 2): connect to the negative pole of the 24V DC power supply (compulsory)
8	ERR	for LRWD and LRPD valve:	error signal (output) 0-24V (ref. GND)
		for LRXD valve:	command signal 0-10V for slave valve (ref. GND)

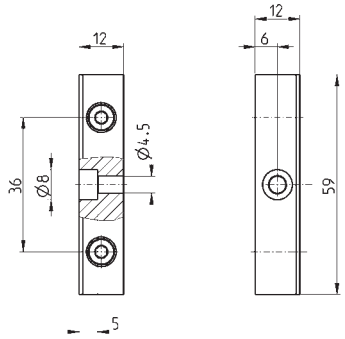
Series LR digital proportional servo valves - technical characteristics

* To order the complete code, please replace the asterisk with 4 or 6 according to the desired nominal diameter.

Mod.	Control	Command/Input signal	Sensor/External signal	
LRWD2-3*-1-A-00	flow	+/- 10 V	-	
LRWD2-3*-2-A-00	flow	0-10 V	-	
LRWD2-3*-5-A-00	flow	4..20 mA	-	
LRPD2-3*-1-2-00	pressure	+/- 10 V	0..10 V	
LRPD2-3*-2-2-00	pressure	0-10 V	0..10 V	
LRPD2-3*-5-2-00	pressure	4..20 mA	0..10 V	
LRPD2-3*-1-4-00	pressure	+/- 10 V	0 - 5 V	
LRPD2-3*-2-4-00	pressure	0-10 V	0 - 5 V	
LRPD2-3*-5-4-00	pressure	4..20 mA	0 - 5 V	
LRPD2-3*-1-5-00	pressure	+/- 10 V	4..20 mA	
LRPD2-3*-2-5-00	pressure	0-10 V	4..20 mA	
LRPD2-3*-5-5-00	pressure	4..20 mA	4..20 mA	
LRPD2-3*-1-B-00	pressure	+/- 10 V	1 bar internal	
LRPD2-3*-2-B-00	pressure	0-10 V	1 bar internal	
LRPD2-3*-5-B-00	pressure	4..20 mA	1 bar internal	
LRPD2-3*-1-D-00	pressure	+/- 10 V	10 bar internal	
LRPD2-3*-2-D-00	pressure	0-10 V	10 bar internal	
LRPD2-3*-5-D-00	pressure	4..20 mA	10 bar internal	
LRPD2-3*-1-E-00	pressure	+/- 10 V	250 mbar internal	
LRPD2-3*-2-E-00	pressure	0-10 V	250 mbar internal	
LRPD2-3*-5-E-00	pressure	4..20 mA	250 mbar internal	
LRPD2-3*-1-F-00	pressure	+/- 10 V	+1/-1 bar internal	
LRPD2-3*-2-F-00	pressure	0-10 V	+1/-1 bar internal	
LRPD2-3*-5-F-00	pressure	4..20 mA	+1/-1 bar internal	
LRXD2-3*-1-4-00	position	+/- 10 V	0-5 V	suitable to work with the 6PF cylinder (see the PNEUMATIC ACTUATION catalogue)
LRXD2-3*-2-4-00	position	0-10 V	0-5 V	suitable to work with the 6PF cylinder (see the PNEUMATIC ACTUATION catalogue)
LRXD2-3*-5-4-00	position	4..20 mA	0-5 V	suitable to work with the 6PF cylinder (see the PNEUMATIC ACTUATION catalogue)
LRXD2-3*-1-2-00	position	+/- 10 V	0-10 V	
LRXD2-3*-2-2-00	position	0-10 V	0-10 V	
LRXD2-3*-5-2-00	position	4..20 mA	0-10 V	
LRXD2-3*-1-5-00	position	+/- 10 V	4..20mA	
LRXD2-3*-2-5-00	position	0-10 V	4..20mA	
LRXD2-3*-5-5-00	position	4..20mA	4..20mA	

Fixing foot Mod. LRADB

Supplied with:
2x feet
4x screws

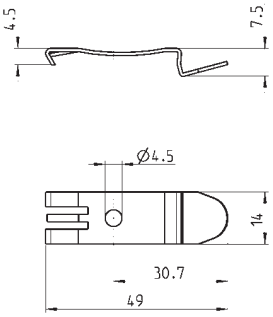


Mod.
LRADB

Mounting brackets for DIN-rail Mod. PCF-EN531

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

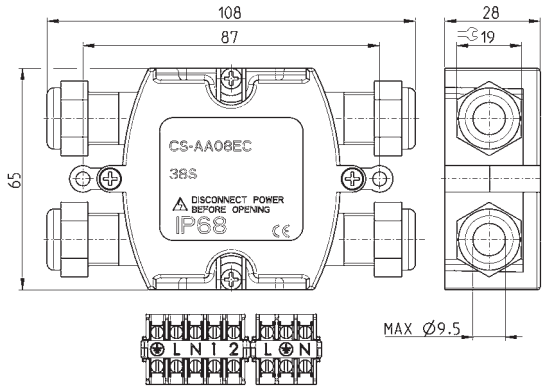
Supplied with:
2x mounting brackets
2x screws M4x6 UNI 5931
2x nuts



Mod.
PCF-EN531

Electrical tee box Mod. CS-AA08EC

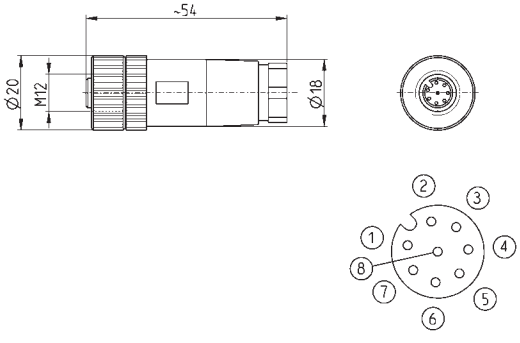
Connection valve-PLC-external transducer



CS-AA08EC

Straight female connector M12 8 poles

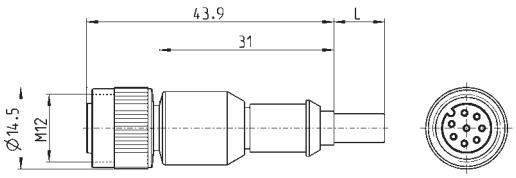
For electric supply and commands

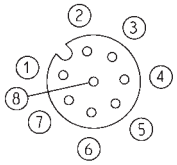


CS-LF08HC

Cable with straight female connector M12 8 poles

For electrical supply and commands

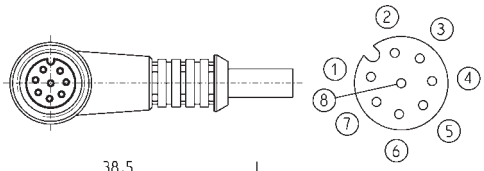


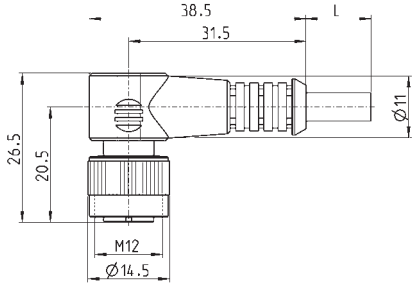


Mod.	Cable length (m)
CS-LF08HB-C200	2
CS-LF08HB-C500	5

Cable with angular (90°) female connector M12 8 poles

For electric supply and commands

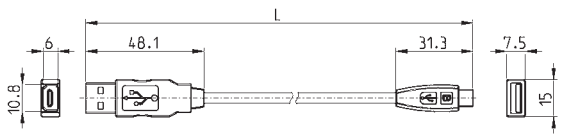




Mod.	Cable length (m)
CS-LR08HB-C200	2
CS-LR08HB-C500	5

USB to Micro USB cable Mod. G11W-G12W-2

For the hardware configuration
of the Camozzi products



Mod.	description	connections	material for outer sheath	cable length "L" (m)
G11W-G12W-2	black shielded cable 28 AWG	standard USB to Micro USB	PVC	2

Series K8P electronic proportional micro regulator

Proportional regulator for the pressure control

- High precision
- Reduced response times
- Minimum consumption
- Self-regulation function
- Flexibility of use
- Compact design
- Suitable for use with oxygen

Series K8P electronic proportional micro regulators have evolved from our Series K8 mini-solenoid valves. Series K8P regulators guarantee excellent pressure regulation, fast response times, self-regulation and low energy consumption.
Series K8P is a high performance proportional pressure regulator which is suitable for use in all applications where high precision, quick response times and low consumption are required.

The K8P regulator adjusts the outlet pressure through the operation of two K8 monostable valves according to the inlet signal and to the retroactivity of the internal pressure sensor. A self-adjusting function has been integrated into the regulator control algorithm to guarantee the highest levels of performance apart from the volume connected.

GENERAL DATA

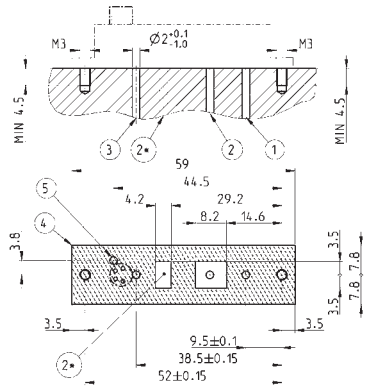
Fluids	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, oxygen, inert gases (argon, molecular nitrogen)	
Pressures	Regulated pressure 0.5 ÷ 10 bar 0.15 ÷ 3 bar 0.35 ÷ 7 bar 0.05 ÷ 1 bar	Max inlet pressure 11 bar 4 bar 8 bar 1.5 bar
Working temperature	0 ÷ 50°C	
Analogical input	0-10 V DC 4-20 mA Ripple ≤ 0,2%	
Analogical output	0.5 - 9.5 V [Feedback]	
Analog input impedance	20.000 Ω for versions 0-10 V 250 Ω for versions 4-20 mA	
Maximum flow	12 l/min with regulated pressure = 6 bar (IN Pres. 10 bar) 6 l/min with regulated pressure = 3 bar (IN Pres. 4 bar) 8 l/min with regulated pressure = 7 bar (IN Pres. 8 bar) 2 l/min with regulated pressure = 1 bar (IN Pres. 1.5 bar)	
Supply / Use	24 V - ~ 1 W	
Function	3/2 NC	
Linearity	≤ ±1% FS	
Hysteresis	±0.5% FS	
Resolution	±0.5% FS (referred to the command signal)	
Repeatability	±0.5% FS	
Minimal set point change	50 mV => 50 mB (10 bar) 100 mV => 30 mB (3 bar)	
Electrical connection	M8 4 Pin (Male)	
Protection class	IP65 (with standard sub-base or with single use) IP51 (with Light sub-base and Light Sub-base for the pressure remote reading)	
In compliance with the European Directive 2004/108/EC		

CODING EXAMPLE

K8P	-	0	-	D	5	2	2	-	0	

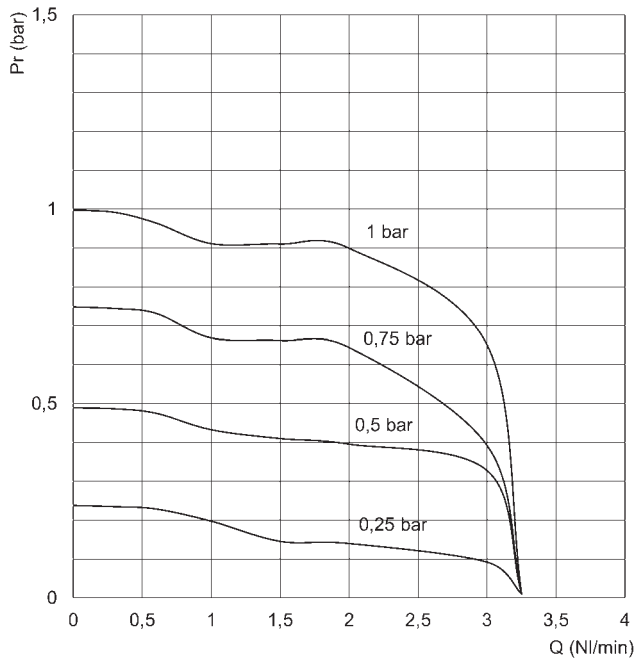
K8P	SERIES
0	BODY DESIGN: 0 = Stand alone S = Standard Sub-base L = Light Sub-base T = Light Sub-base for the pressure remote reading
D	WORKING PRESSURE: D = 0 - 10 bar E = 0 - 3 bar F = 0 - 7 bar B = 0 - 1 bar
5	VALVE FUNCTIONS: 5 = 3/2-way NC
2	COMMAND: 2 = 0-10 V DC 3 = 4-20 mA
2	OUTPUT SIGNAL: 2 = 0-10 V
0	CABLE LENGTH: 0 = without cable 2F = straight cable, 2 m 2R = right angle cable (90 degrees), 2 m 5F = straight cable, 5 m 5R = right angle cable (90 degrees), 5 m
OX1	VERSIONS: = standard OX1 = for use with oxygen (in compliance with ASTM G93-03 Level E)
	APPLICATIONS The K8P proportional regulator can be used as a pilot valve to control the opening of high flow valves or to check the high flow pressure regulators proportionally (version with sub-base for the pressure remote reading). It enables proportional control of power in lifting systems and can be used with inert gas to maintain a constant pressure in pneumatic cylinders or expansion valve chambers. It has also been designed to maintain a constant pressure during the pulling power applied to the wires in winding machines, to modulate pressure during the smoothing process in woodworking machines or to adjust the opening of diaphragm valves.

Interface for single use without sub-base



DRAWING LEGEND	
	Notes
1 = Inlet pressure	Pneumatic connection
2 = Outlet pressure	Pneumatic connection
2* = area for possible positioning of outlet port 2	Do not exceed the indicated outline
3 = Exhaust	Pneumatic connection
4 = OUTLET DIMENSION	
5 = VENT PORT FOR IP65	Optional when a OR seal is mounted

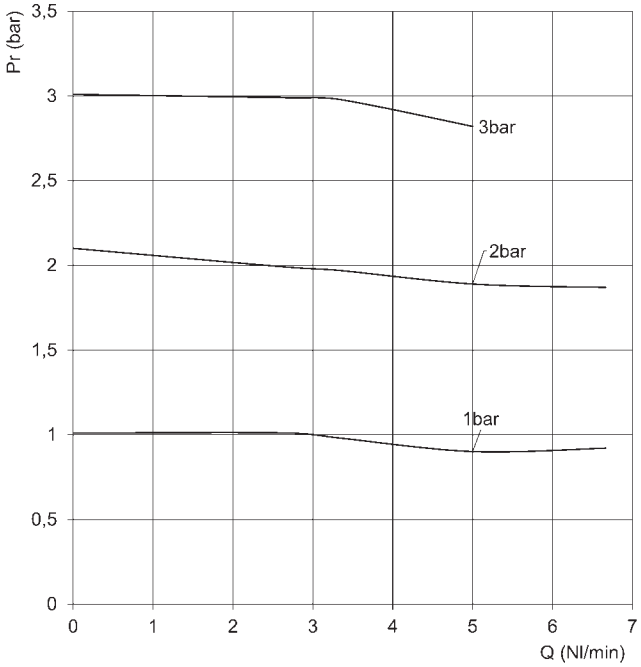
FLOW DIAGRAMS



0-1 bar version

Pr = Outlet pressure (bar)*
Q = Flow (Nl/min)*

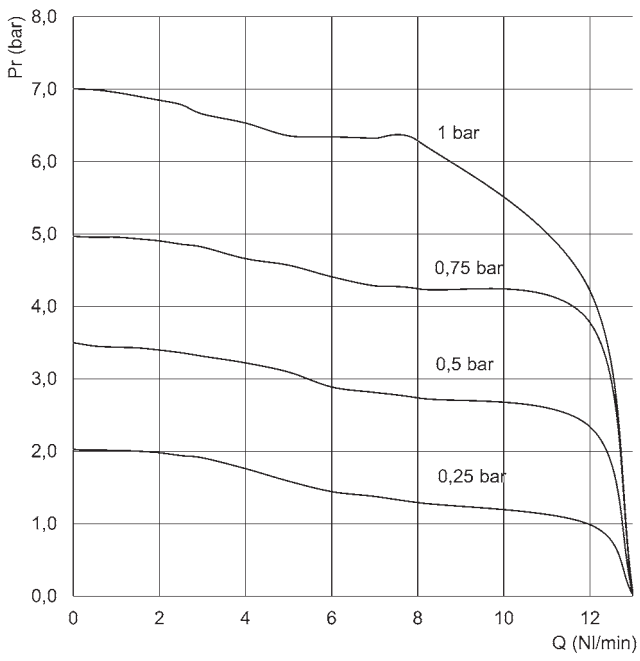
* = Inlet pressure 2 bar



0-3 bar version

Pr = Outlet pressure (bar)*
Q = Flow (Nl/min)*

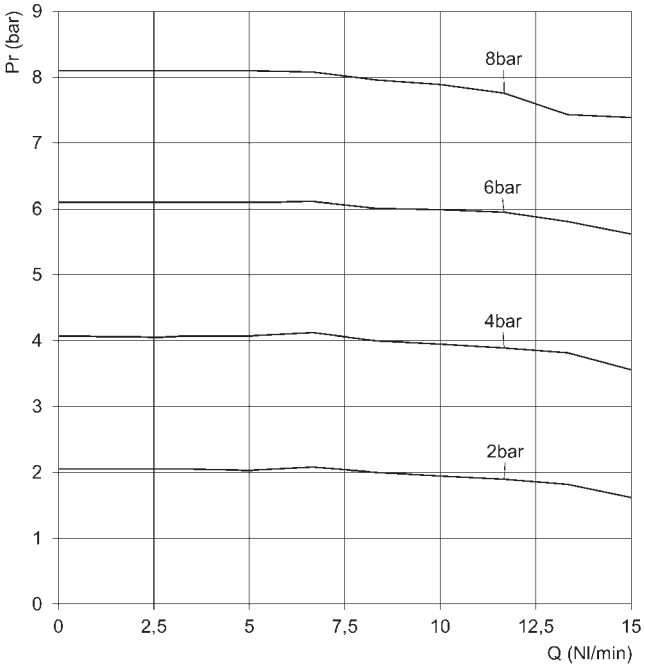
* = Inlet pressure 4 bar



0-7 bar version

Pr = Outlet pressure (bar)*
Q = Flow (Nl/min)*

* = Inlet pressure 8 bar



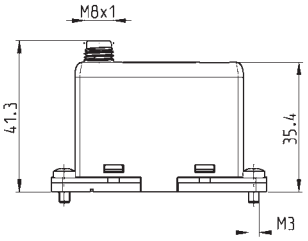
0-10 bar version

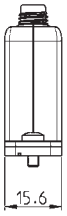
Pr = Outlet pressure (bar)*
Q = Flow (Nl/min)*

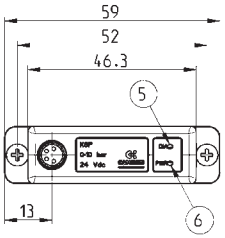
* = Inlet pressure 10 bar

Series K8P electronic proportional micro regulator

* = sub-bases and single use can be supplied for all versions.
** = all the cables can be supplied for all versions.



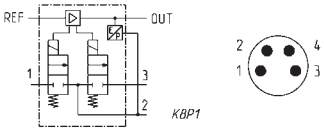




M8 4-pole male connector

Pin 1: +24 V DC (Power supply)
Pin 2: Command analogical signal 0-10 V DC or 4-20 mA
Pin 3: 0 V (Ground) common also for the command signal
Pin 4: Output analogical signal (according to the regulated pressure)

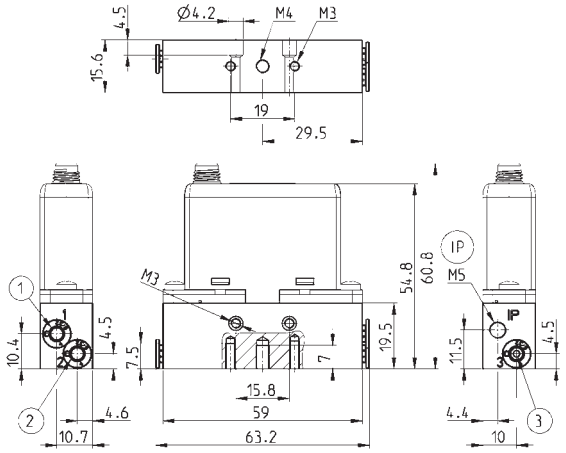
5 red LED
6 green LED



Mod.	Working pressure	Use with oyxgen	Command
K8P-*-D522-**	0-10 bar	no	0-10 V DC
K8P-*-E522-**	0-3 bar	no	0-10 V DC
K8P-*-D532-**	0-10 bar	no	4-20 mA
K8P-*-E532-**	0-3 bar	no	4-20 mA
K8P-*-B522-**	0-1 bar	no	0-10 V DC
K8P-*-F522-**	0-7 bar	no	0-10 V DC
K8P-*-B532-**	0-1 bar	no	4-20 mA
K8P-*-F532-**	0-7 bar	no	4-20 mA
K8P-*-B522-OX1**	0-1 bar	yes	0-10 V DC
K8P-*-F522-OX1**	0-7 bar	yes	0-10 V DC
K8P-*-E522-OX1**	0-3 bar	yes	0-10 V DC
K8P-*-B532-OX1**	0-1 bar	yes	4-20 mA
K8P-*-F532-OX1**	0-7 bar	yes	4-20 mA
K8P-*-E532-OX1**	0-3 bar	yes	4-20 mA

Standard Sub-base

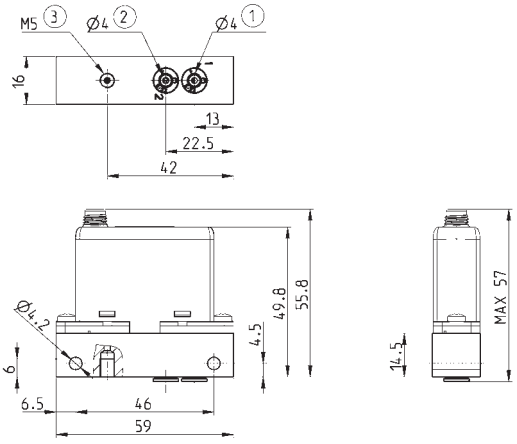
The use of a silencer (Mod. 2939 4) on the exhaust is recommended.



Mod.	
K8P-AS	1 = Inlet pressure 2 = Outlet pressure 3 = Exhaust IP = IP65 connection

Light Sub-base

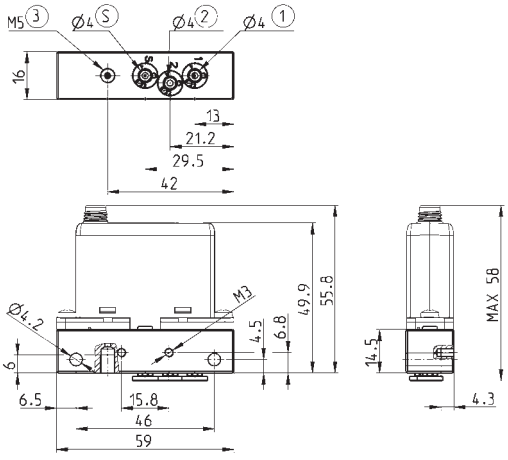
The use of a silencer (Mod. 2931 M5, 2938 M5, 2901 M5) on the exhaust is recommended.



Mod.	
K8P-AL	1 = Inlet pressure 2 = Outlet pressure 3 = Exhaust

Light Sub-base for the pressure remote reading

The use of a silencer (Mod. 2931 M5, 2938 M5, 2901 M5) on the exhaust is recommended.



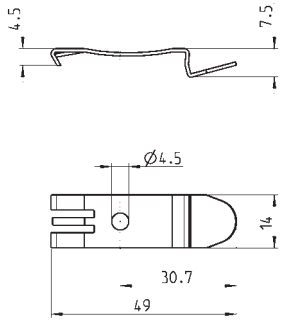
Mod.	
K8P-AT	1 = Inlet pressure 2 = Outlet pressure 3 = Exhaust S = remote-mounted sensor

Mounting bracket for DIN rail

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

Supplied with:
1x mounting bracket
1x screw M4x6 UNI 5931

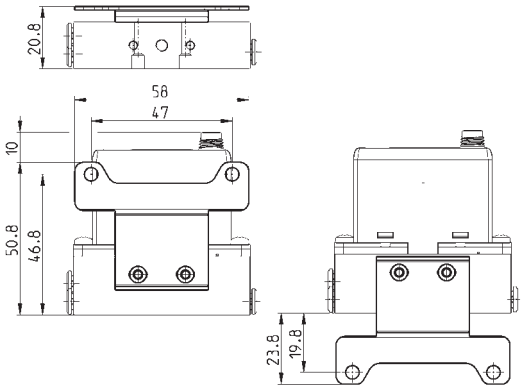
This accessory cannot be used
with the Light sub-base.



Mod.
PCF-K8P

Bracket for horizontal mounting, for standard sub-base

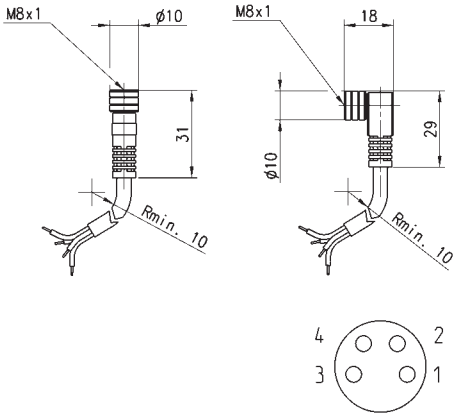
Supplied with:
1x mounting bracket
2x screws M3x8 UNI 5931



Mod.
K8P-B1

Circular M8 4-pole connectors, Female

With PU sheathing, non shielded cable.
Protection class: IP65



Mod.	Type of connector	Cable length (m)
CS-DF04EG-E200	straight	2
CS-DF04EG-E500	straight	5
CS-DR04EG-E200	right angle (90 degrees)	2
CS-DR04EG-E500	right angle (90 degrees)	5

Series MX-PRO proportional pressure regulator and proportional flow valve

Regulator and valve ports (standard and Manifold): G1/2
Regulator: with built-in pressure gauge or G1/8 threaded ports
Valve: without pressure gauge

**Series MX-PRO electronic proportional pressure regulator is the result of combining advanced technology of Series K8P electronic proportional micro regulator, with reliability and high performance of Series MX2 modular regulators.
This new regulator ensures high precision in pressure regulation, high flow rate and low consumption. Moreover, it can take the most of Series MX ease of assembly to provide particularly compact Manifolds.**

- High precision
- Low electric consumption
- High exhaust flow
- Modular with Series MX
- MANIFOLD and external servo pilot supply versions available
- Suitable for use with oxygen

GENERAL DATA

	PROPORTIONAL PRESSURE REGULATOR	PROPORTIONAL FLOW VALVE
Construction	modular, compact, diaphragm type	modular, piston type
Materials	see material tables on the following pages	see material tables on the following pages
Ports	G1/2	G1/2
Mounting	vertical in-line, wall-mounting (by means of clamps)	vertical in-line, wall-mounting (by means of clamps)
Working pressure	0°C ÷ 50°C	0°C ÷ 50°C
Max inlet pressure	11 bar (10 bar), 4 bar (3 bar), 1.5 bar (1 bar), 8 bar (7 bar)	6 bar
Regulated pressure	0.5 ÷ 10 bar, 0.15 ÷ 3 bar, 0.05 ÷ 1 bar, 0.35 ÷ 7	-
Max servo-pilot pressure	4 bar (3 bar), 11 bar (10 bar), 1.5 bar (1 bar), 8 bar (7 bar)	4 bar (essential for the proper functioning)
Overpressure exhaust	with Relieving (standard) or without Relieving	NO
Nominal flow	see flow diagrams on the following pages	see flow diagrams on the following pages
Air specifications	filtered compressed air, non lubricated, class 7.4.4 according to ISO 8573.1 standard. If lubrication is necessary, please use only oils with maximum viscosity of 32 Cst and the version with external servo-pilot supply. The servo-pilot supply air quality class must be 7.4.4 according to ISO 8573.1 standard.	filtered compressed air, non lubricated, class 7.4.4 according to ISO 8573.1 standard. If lubrication is necessary, please use only oils with maximum viscosity of 32 Cst and the version with external servo-pilot supply. The servo-pilot supply air quality class must be 7.4.4 according to ISO 8573.1 standard.
Pressure gauge	with built-in pressure gauge (standard) with G1/8 port	without pressure gauge
Analogical input	0-10 V DC Ripple ≤ 0.2%; 4 – 20 mA	0-10 V DC Ripple ≤ 0.2%; 4 – 20 mA
Analogical output	0.5 - 9.5 V DC [Feedback]	not relevant
Electrical supply	24 V DC ±10%	24 V DC ±10%
Electrical connection	M8 4 Pin (Male)	M8 4 Pin (Male)
Linearity	≤ ± 1% FS	±4% FS
Hysteresis	±0.5% FS	±8% FS
Repeatability	±0.5% FS	±0.35% FS
Sensibility	0.3% FS	5% FS
Protection class	IP51	IP51

CODING EXAMPLE

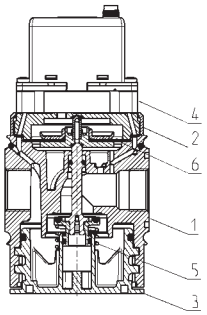
MX	2	-	1/2	-	R	CV	2	0	4	-	LH

MX	SERIES	
2	SIZE: 2 = G1/2	
1/2	PORTS: 1/2 = G1/2	
R	FUNCTIONING: R = pressure regulator M = Manifold pressure regulator	V = flow valve W = Manifold flow valve
CV	COMMAND: CV = electrical command 0-10 V DC (regulator only) CA = electrical command 4-20 mA (regulator only)	EV = electrical command 0-10 V DC with external servo pilot supply EA = electrical command 4-20 mA with external servo pilot supply
2	REGULATOR SETTING RANGE: 1 = working pressure 0 ÷ 3 bar 2 = working pressure 0 ÷ 10 bar 3 = working pressure 0 ÷ 1 bar 4 = working pressure 0 ÷ 7 bar	VALVE SETTING RANGE: 8 = low flow 9 = high flow
0	DESIGN TYPE: 0 = relieving (regulator only) 1 = without relieving	
4	PRESSURE GAUGE: 0 = without pressure gauge, with threaded port for gauges 2 = with built-in pressure gauge 0-6 bar (regulator only) 4 = with built-in pressure gauge 0-12 bar (regulator only)	
LH	FLOW DIRECTION: = from left to right (standard) LH = from right to left	
OX1	VERSIONS: = standard OX1 = for use with oxygen (in compliance with ASTM G93-03 Level E), FKM seals	

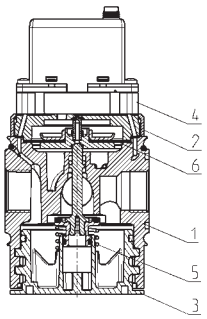
Further details about the assembly of a single component with fixing flanges or wall-mounting can be found in the AIR TREATMENT catalogue, section SERIES MX ASSEMBLED FRL.

Series MX-PRO proportional pressure regulator - materials

R = proportional pressure regulator
M = Manifold proportional pressure regulator



R

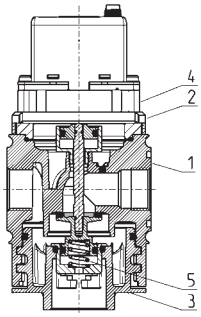


M

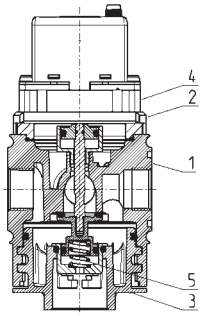
PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = Body	Aluminium	Aluminium
2 = Covering	Polyacetal	PBT
3 = Valve holder plug	Polyacetal	PBT
4 = Upper base	Aluminium	Aluminium
5 = Lower spring	Stainless steel	Stainless steel
6 = Diaphragm	NBR	FKM
Seals	NBR	FKM

Series MX-PRO proportional flow valve - materials

V = proportional flow valve
W = Manifold proportional flow valve



V



W

PARTS	MATERIALS, standard version	MATERIALS, oxygen version
1 = Body	Aluminium	Aluminium
2 = Covering	Polyacetal	PBT
3 = Valve holder plug	Polyacetal	PBT
4 = Upper base	Aluminium	Aluminium
5 = Lower spring	Stainless steel	Stainless steel
Seals	NBR	FKM

Series MX-PRO proportional pressure regulator

TABLE NOTES:

* = versions with or without external pilot supply

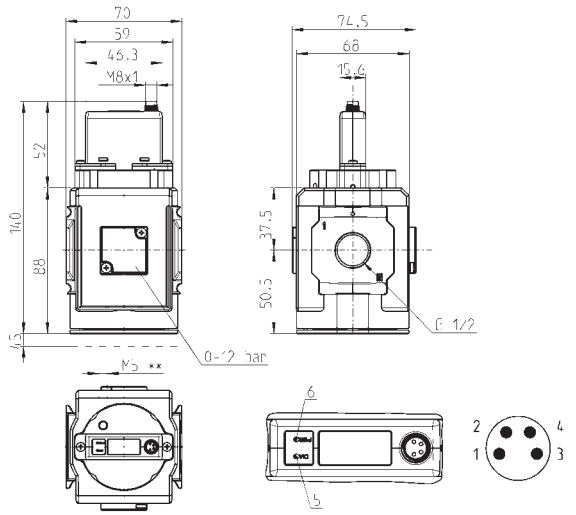
** = versions with our without relieving

LH = add LH at the end of the code for air inlet from the right to the left

Male connector M8 4 poles
Pin 1: +24 V DC (Power supply)
Pin 2: Command analogical signal 0-10 V DC or 4-20 mA
Pin 3: 0 V (Ground) common also for the command signal
Pin 4: Output analogical signal (according to the regulated pressure)

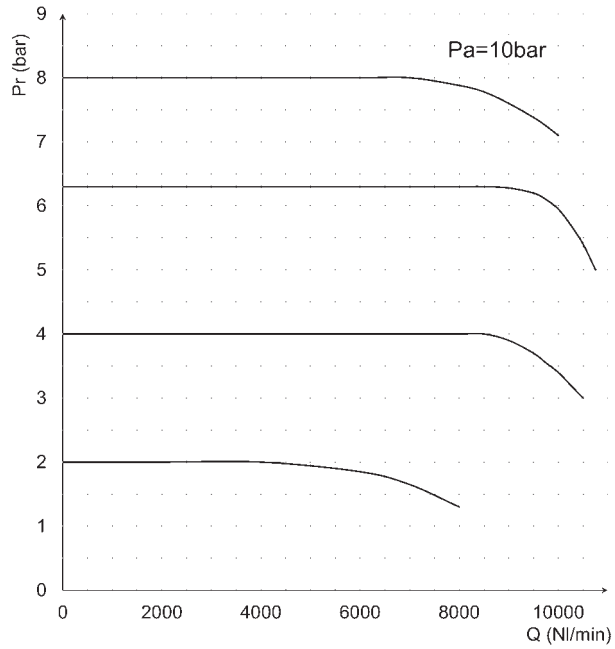
5 red LED
6 green LED

DRAWING NOTE:
** = in the versions with external servo pilot supply only (MX2-1/2-REV... and MX2-1/2-REA...)



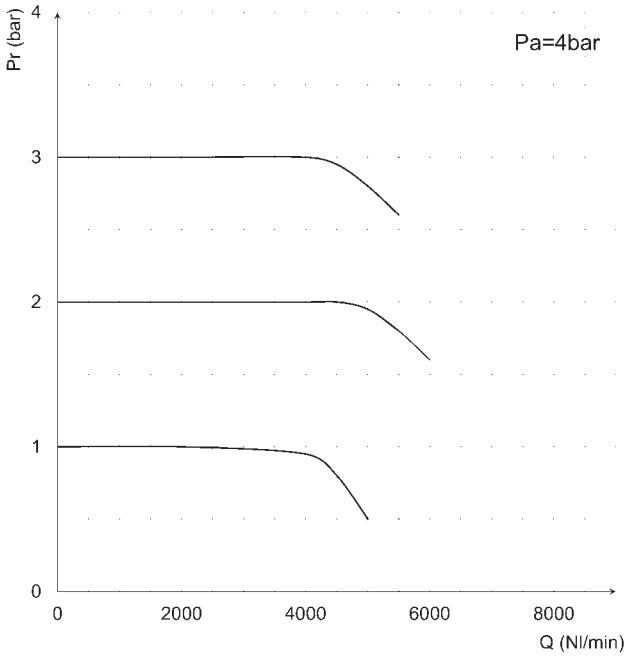
Mod.	Electrical command	Setting range	Pressure gauge
MX2-1/2-R*V10**	0-10 V DC	0 ÷ 3 bar	without pressure gauge
MX2-1/2-R*V12**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V14**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V20**	0-10 V DC	0 ÷ 10 bar	without pressure gauge
MX2-1/2-R*V22**	0-10 V DC	0 ÷ 10 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V24**	0-10 V DC	0 ÷ 10 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V30**	0-10 V DC	0 ÷ 1 bar	without pressure gauge
MX2-1/2-R*V32**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V34**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V40**	0-10 V DC	0 ÷ 7 bar	without pressure gauge
MX2-1/2-R*V42**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V44**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A10**	4-20 mA	0 ÷ 3 bar	without pressure gauge
MX2-1/2-R*A12**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A14**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A20**	4-20 mA	0 ÷ 10 bar	without pressure gauge
MX2-1/2-R*A22**	4-20 mA	0 ÷ 10 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A24**	4-20 mA	0 ÷ 10 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A30**	4-20 mA	0 ÷ 1 bar	without pressure gauge
MX2-1/2-R*A32**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A34**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A40**	4-20 mA	0 ÷ 7 bar	without pressure gauge
MX2-1/2-R*A42**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A44**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V10-OX1**	0-10 V DC	0 ÷ 3 bar	without pressure gauge
MX2-1/2-R*V12-OX1**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V14-OX1**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V30-OX1**	0-10 V DC	0 ÷ 1 bar	without pressure gauge
MX2-1/2-R*V32-OX1**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V34-OX1**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-R*V40-OX1**	0-10 V DC	0 ÷ 7 bar	without pressure gauge
MX2-1/2-R*V42-OX1**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-R*V44-OX1**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A10-OX1**	4-20 mA	0 ÷ 3 bar	without pressure gauge
MX2-1/2-R*A12-OX1**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A14-OX1**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A30-OX1**	4-20 mA	0 ÷ 1 bar	without pressure gauge
MX2-1/2-R*A32-OX1**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A34-OX1**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-R*A40-OX1**	4-20 mA	0 ÷ 7 bar	without pressure gauge
MX2-1/2-R*A42-OX1**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-R*A44-OX1**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-12

PRESSURE REGULATOR FLOW DIAGRAMS - STANDARD VERSION



Pr = Regulated pressure
Q = Flow

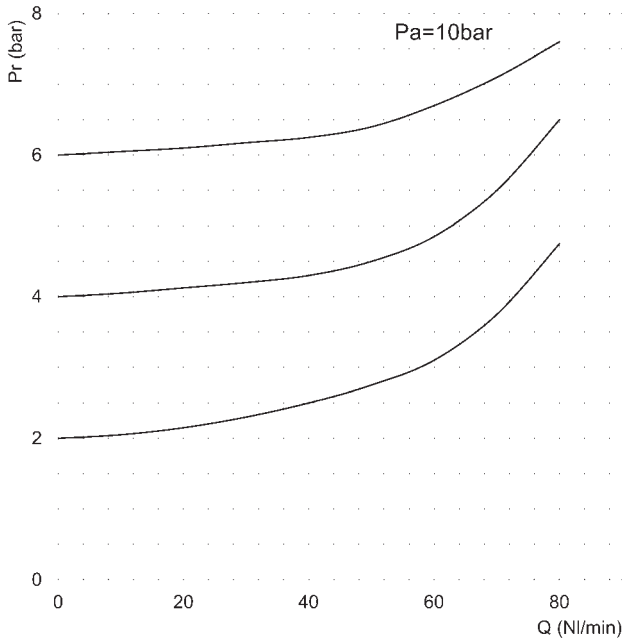
Pa = Inlet pressure



Pr = Regulated pressure
Q = Flow

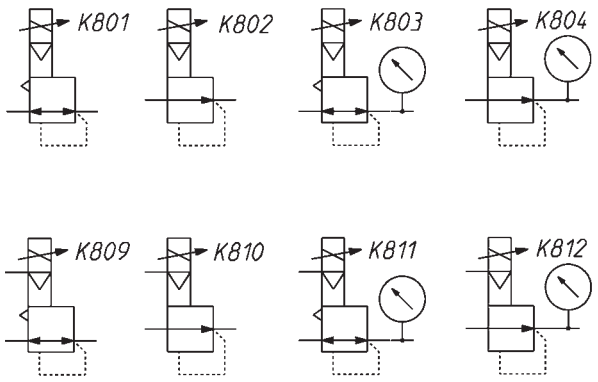
Pa = Inlet pressure

EXHAUST FLOW DIAGRAM AND PNEUMATIC SYMBOLS



Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure



K801 = relieving, electrical command
K802 = NO relieving, electrical command
K803 = relieving, electrical command, built-in pressure gauge
K804 = NO relieving, electrical command, built-in pressure gauge
K809 = relieving, electrical command, ext. servo pilot supply
K810 = NO reliev., electrical command, ext. servo pilot supply
K811 = reliev., el. com., built-in pr. gauge, ext. servo pilot supply
K812 = NO reliev., el. com., built-in pr. gauge, ext. servo pilot sup.

Series MX-PRO proportional pressure regulator

TABLE NOTES:

* = versions with or without external pilot supply

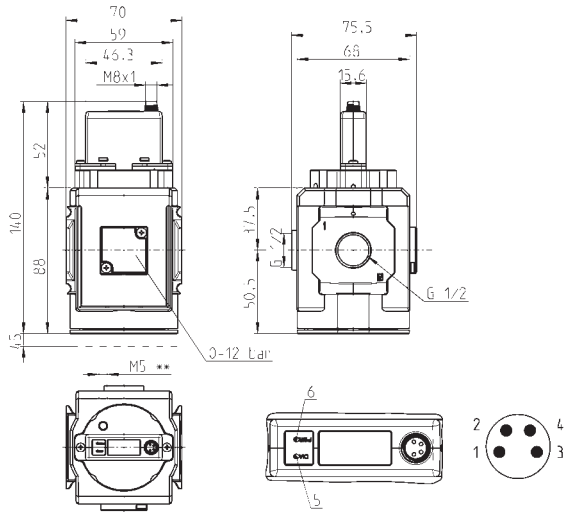
** = versions with our without relieving

LH = add LH at the end of the code for air inlet from the right to the left

Male connector M8 4 poles
Pin 1: +24 V DC (Power supply)
Pin 2: Command analogical signal 0-10 V DC or 4-20 mA
Pin 3: 0 V (Ground) common also for the command signal
Pin 4: Output analogical signal (according to the regulated pressure)

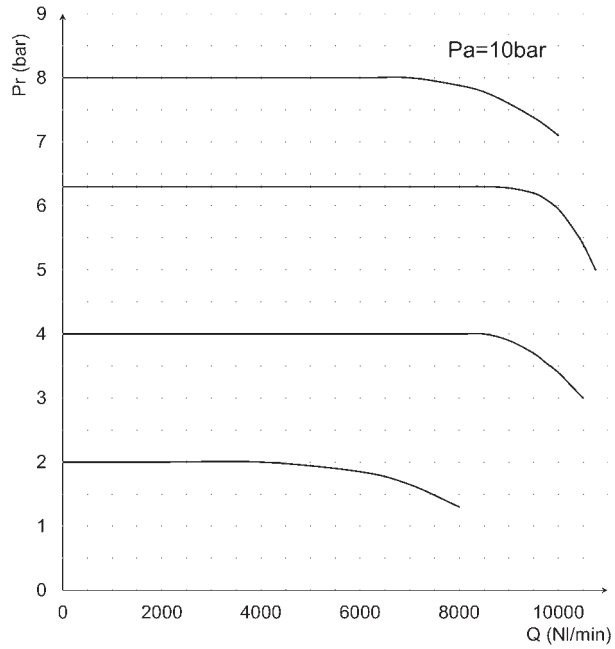
5 red LED
6 green LED

DRAWING NOTE:
** = in the versions with external servo pilot supply only (MX2-1/2-REV... and MX2-1/2-REA...)



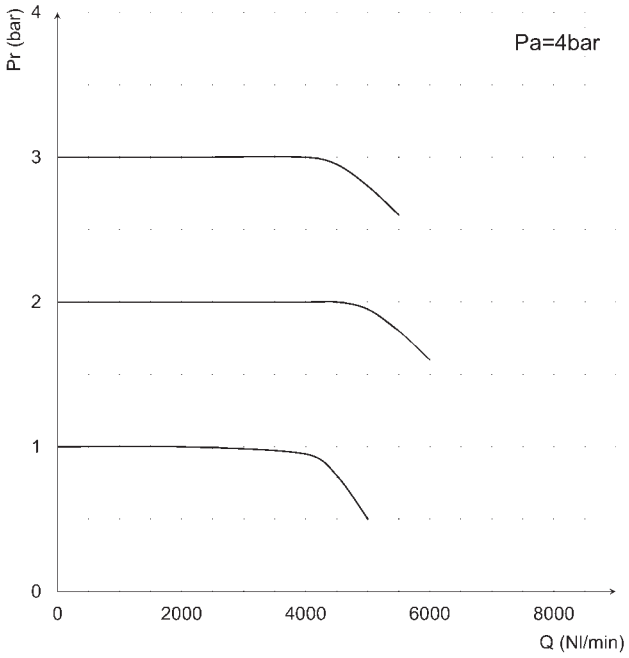
Mod.	Electrical command	Setting range	Pressure gauge
MX2-1/2-M*V10**	0-10 V DC	0 ÷ 3 bar	without pressure gauge
MX2-1/2-M*V12**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V14**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V20**	0-10 V DC	0 ÷ 10 bar	without pressure gauge
MX2-1/2-M*V22**	0-10 V DC	0 ÷ 10 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V24**	0-10 V DC	0 ÷ 10 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V30**	0-10 V DC	0 ÷ 1 bar	without pressure gauge
MX2-1/2-M*V32**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V34**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V40**	0-10 V DC	0 ÷ 7 bar	without pressure gauge
MX2-1/2-M*V42**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V44**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A10**	4-20 mA	0 ÷ 3 bar	without pressure gauge
MX2-1/2-M*A12**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A14**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A20**	4-20 mA	0 ÷ 10 bar	without pressure gauge
MX2-1/2-M*A22**	4-20 mA	0 ÷ 10 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A24**	4-20 mA	0 ÷ 10 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A30**	4-20 mA	0 ÷ 1 bar	without pressure gauge
MX2-1/2-M*A32**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A34**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A40**	4-20 mA	0 ÷ 7 bar	without pressure gauge
MX2-1/2-M*A42**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A44**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V10-OX1**	0-10 V DC	0 ÷ 3 bar	without pressure gauge
MX2-1/2-M*V12-OX1**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V14-OX1**	0-10 V DC	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V30-OX1**	0-10 V DC	0 ÷ 1 bar	without pressure gauge
MX2-1/2-M*V32-OX1**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V34-OX1**	0-10 V DC	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-M*V40-OX1**	0-10 V DC	0 ÷ 7 bar	without pressure gauge
MX2-1/2-M*V42-OX1**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-M*V44-OX1**	0-10 V DC	0 ÷ 7 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A10-OX1**	4-20 mA	0 ÷ 3 bar	without pressure gauge
MX2-1/2-M*A12-OX1**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A14-OX1**	4-20 mA	0 ÷ 3 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A30-OX1**	4-20 mA	0 ÷ 1 bar	without pressure gauge
MX2-1/2-M*A32-OX1**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A34-OX1**	4-20 mA	0 ÷ 1 bar	with built-in pressure gauge 0-12
MX2-1/2-M*A40-OX1**	4-20 mA	0 ÷ 7 bar	without pressure gauge
MX2-1/2-M*A42-OX1**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-6
MX2-1/2-M*A44-OX1**	4-20 mA	0 ÷ 7 bar	with built-in pressure gauge 0-12

PRESSURE REGULATOR FLOW DIAGRAMS - MANIFOLD VERSION



Pr = Regulated pressure
Q = Flow

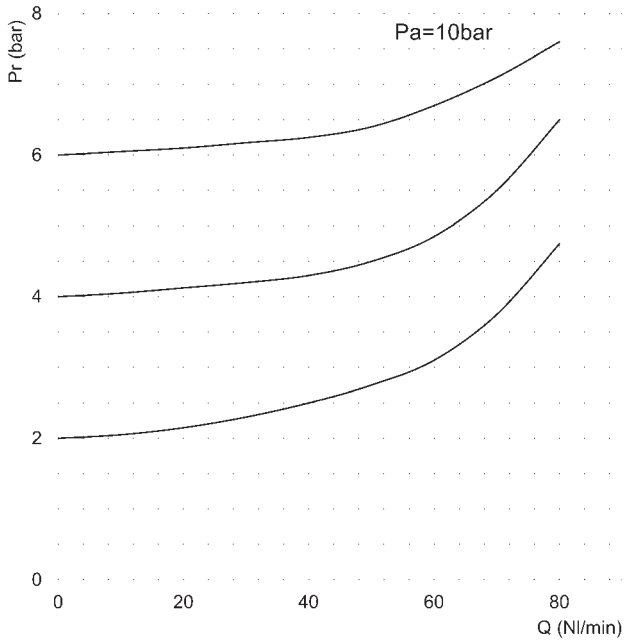
Pa = Inlet pressure



Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

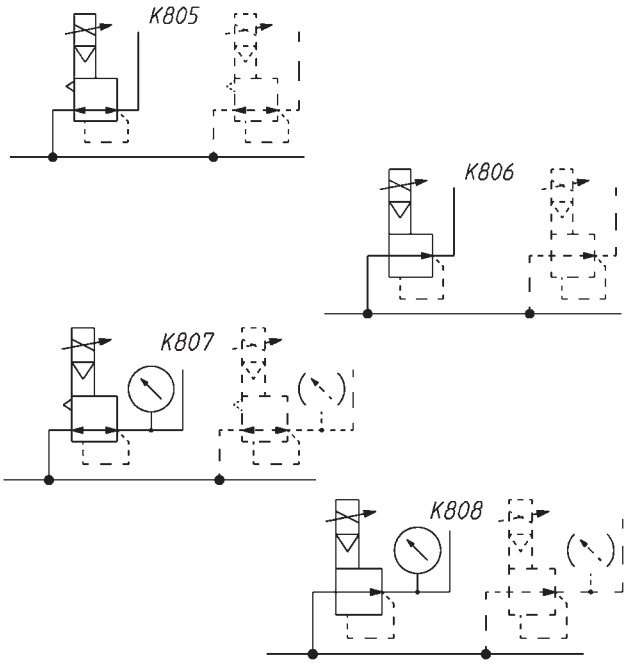
EXHAUST FLOW DIAGRAM - MANIFOLD VERSION



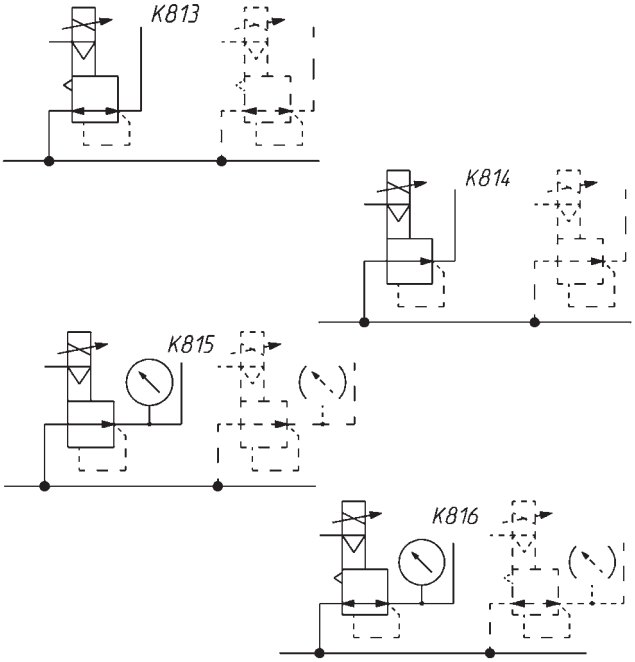
Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

PNEUMATIC SYMBOLS - MANIFOLD VERSION



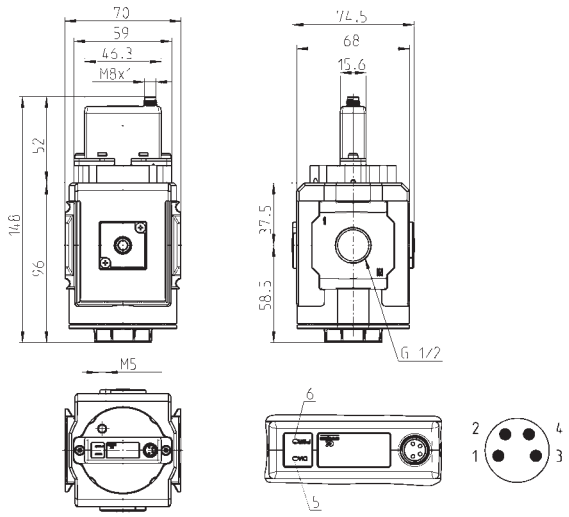
K805 = MANIFOLD reg., relieving, electrical command
K806 = MANIFOLD reg., NO relieving, electrical command
K807 = MANIFOLD reg., relieving, electrical command and built-in pressure gauge
K808 = MANIFOLD reg., NO relieving, electrical command and built-in pressure gauge

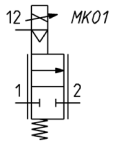


K813 = MANIFOLD reg., relieving, electrical command, and external servo pilot supply
K814 = MANIFOLD reg., NO relieving, electrical command, and external servo pilot supply
K815 = MANIFOLD reg., relieving, electrical command, built-in pressure gauge and external servo pilot supply
K816 = MANIFOLD reg., NO relieving, electrical command, built-in pressure gauge and external servo pilot supply

Series MX-PRO proportional flow valve

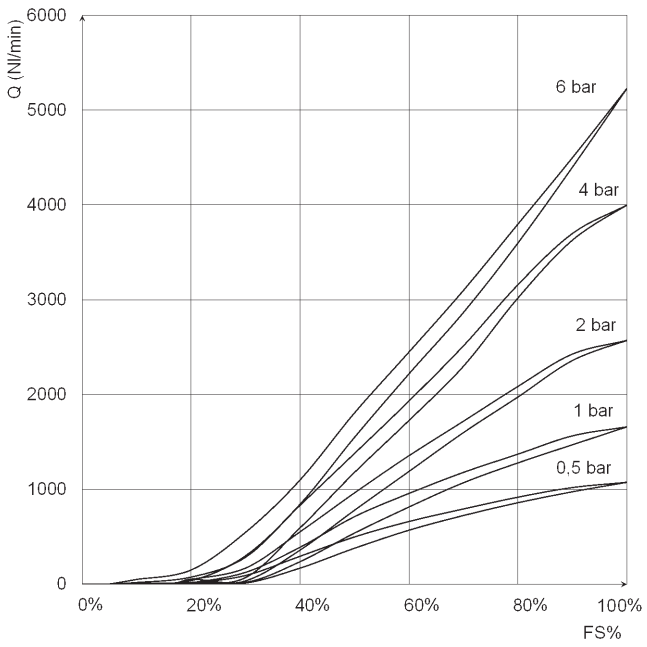
Male connector M8 4 poles
Pin 1: +24 V DC (Power supply)
Pin 2: Command analogical signal
0-10 V DC or 4-20 mA
Pin 3: 0 V (Ground) common also
for the command signal
Pin 4: Output analogical signal
(according to the
regulated pressure)
5 red LED
6 green LED





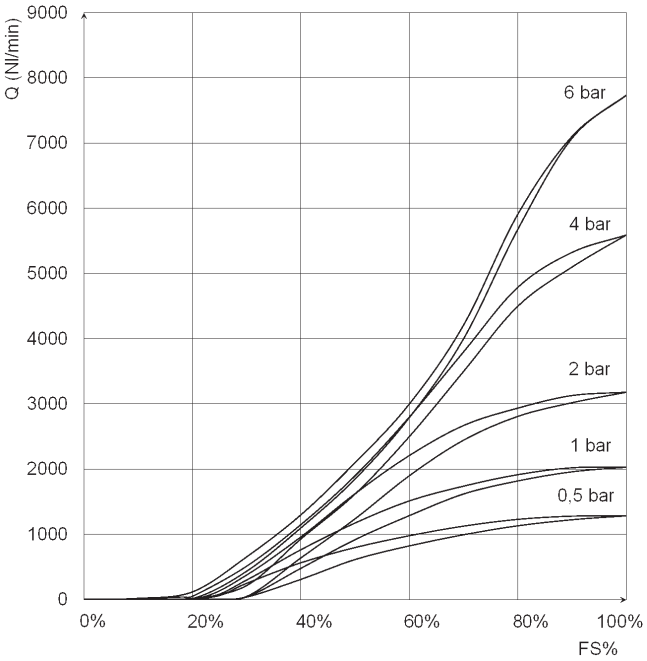
Mod.	Electrical command	Setting range
MX2-1/2-VEV810	0-10 V DC	low flow
MX2-1/2-VEA810	4-20 mA	low flow
MX2-1/2-VEV910	0-10 V DC	high flow
MX2-1/2-VEA910	4-20 mA	high flow
MX2-1/2-VEV810-LH	0-10 V DC	low flow
MX2-1/2-VEA810-LH	4-20 mA	low flow
MX2-1/2-VEV910-LH	0-10 V DC	high flow
MX2-1/2-VEA910-LH	4-20 mA	high flow
MX2-1/2-VEV810OX1	0-10 V DC	low flow
MX2-1/2-VEA810OX1	4-20 mA	low flow
MX2-1/2-VEV910OX1	0-10 V DC	high flow
MX2-1/2-VEA910OX1	4-20 mA	high flow
MX2-1/2-VEV810-LHOX1	0-10 V DC	low flow
MX2-1/2-VEA810-LHOX1	4-20 mA	low flow
MX2-1/2-VEV910-LHOX1	0-10 V DC	high flow
MX2-1/2-VEA910-LHOX1	4-20 mA	high flow

VALVE FLOW DIAGRAMS



Low flow version

Q (Nl/min) = flow
FS% = full scale command signal

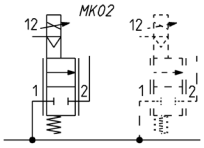


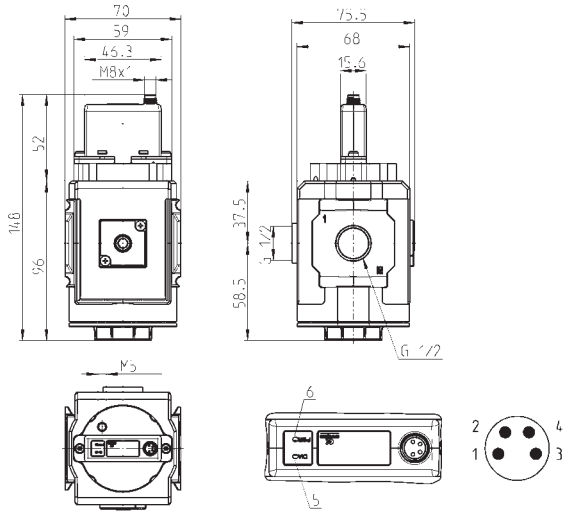
High flow

Q (Nl/min) = flow
FS% = full scale command signal

Series MX-PRO Manifold proportional flow valve

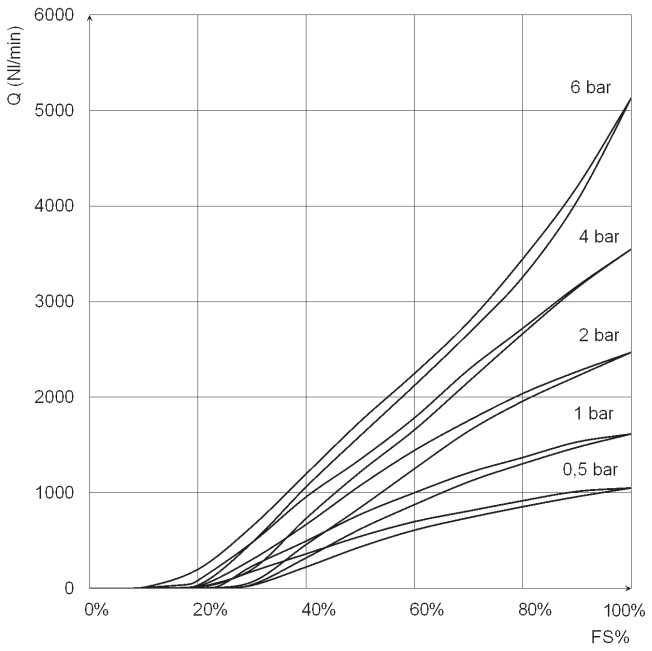
Male connector M8 4 poles
Pin 1: +24 V DC (Power supply)
Pin 2: Command analogical signal
0-10 V DC or 4-20 mA
Pin 3: 0 V (Ground) common also
for the command signal
Pin 4: Output analogical signal
(according to the
regulated pressure)
5 red LED
6 green LED





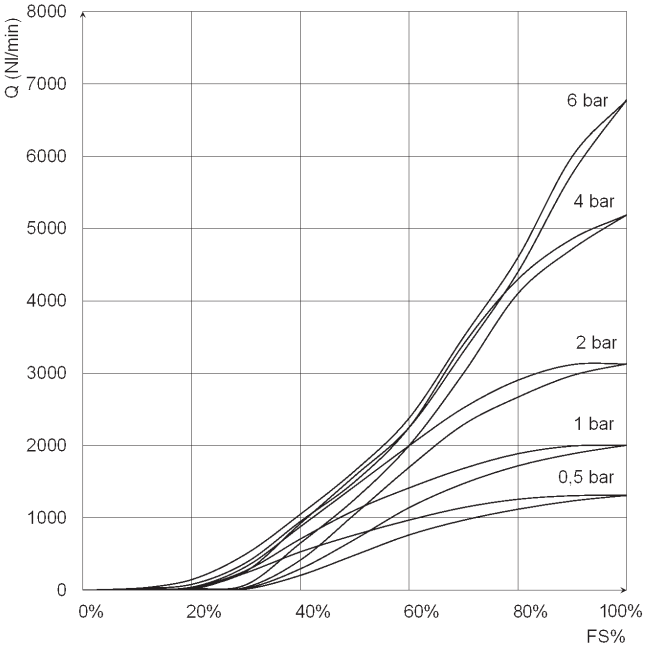
Mod.	Electrical command	Setting range
MX2-1/2-WEV810	0-10 V DC	low flow
MX2-1/2-WEA810	4-20 mA	low flow
MX2-1/2-WEV910	0-10 V DC	high flow
MX2-1/2-WEA910	4-20 mA	high flow
MX2-1/2-WEV810-LH	0-10 V DC	low flow
MX2-1/2-WEA810-LH	4-20 mA	low flow
MX2-1/2-WEV910-LH	0-10 V DC	high flow
MX2-1/2-WEA910-LH	4-20 mA	high flow
MX2-1/2-WEV810OX1	0-10 V DC	low flow
MX2-1/2-WEA810OX1	4-20 mA	low flow
MX2-1/2-WEV910OX1	0-10 V DC	high flow
MX2-1/2-WEA910OX1	4-20 mA	high flow
MX2-1/2-WEV810-LHOX1	0-10 V DC	low flow
MX2-1/2-WEA810-LHOX1	4-20 mA	low flow
MX2-1/2-WEV910-LHOX1	0-10 V DC	high flow
MX2-1/2-WEA910-LHOX1	4-20 mA	high flow

VALVE FLOW DIAGRAMS - MANIFOLD VERSION



Low flow version

Q (Nl/min) = flow
FS% = full scale command signal

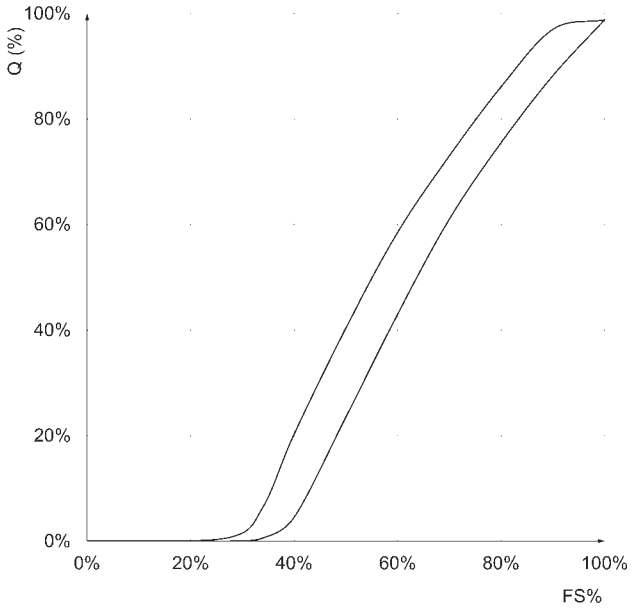


High flow version

Q (Nl/min) = flow
FS% = full scale command signal

Flow characteristic curve of a proportional valve

Q% = flow
FS% = full scale command signal

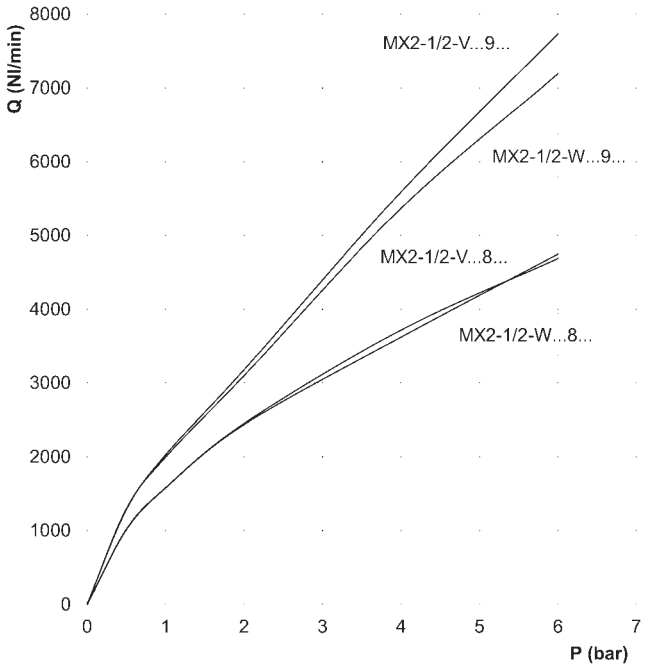


Valve maximum flow and response times

Maximum flow according to the inlet pressure

DIAGRAM LEGEND:

Q = flow (Nl/min)
P = inlet pressure (bar)



Pin	Type		Flow at steady speed [Nl/min]	Command [V]	Load response time (ms)				Exhaust réponse time (ms)			
					0-10%	0-50%	0-90%	0-99%	0-10%	0-50%	0-90%	0-99%
2 bar	Low flow	Standard	915	6	351	452.4	967.2	6240	171.6	284.7	487.5	624
		Manifold	1000	6.3	327.6	421.2	951.6	6162	249.6	366.6	577.2	780
	High flow	Standard	960	4.7	331.5	444.6	1279.2	6942	245.7	329.16	526.5	702
		Manifold	960	4.2	313	420	1156	9700	200	340	540	800
4 bar	Low flow	Standard	952	5.4	319.8	436.8	1029.6	7410	187.2	304.2	491.4	624
		Manifold	925	5.3	284.7	408.72	1474.2	6240	237.9	370.5	557.7	897
	High flow	Standard	970	4.4	279.24	429	1177.8	7878	225	351	526.5	741
		Manifold	940	3.8	230	400	1680	8500	175	360	580	900

Set flow: about 1000 Nl/min

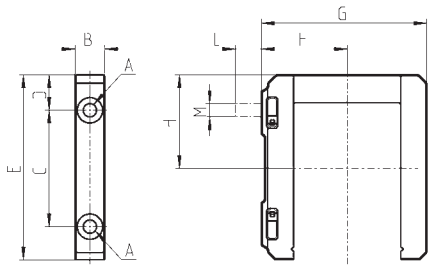
Rapid clamp kit

The kit MX2-X is supplied with:
1 rapid clamp, 1 O-ring OR 3125 *,
2 exagonal nuts M5, 2 screws M5x69.

The kit MX2-Z is supplied with:
1 rapid clamp, 1 O-ring OR 3125 *,
1 exagonal nut M5, 1 screw M5x69,
1 screw M5x85 for wall fixing.

* it can be ordered separately (cod. 160-39-11/19)

Materials: technopolymer clamp, NBR O-ring,
zinc-plated steel nuts and screws.



DIMENSIONS

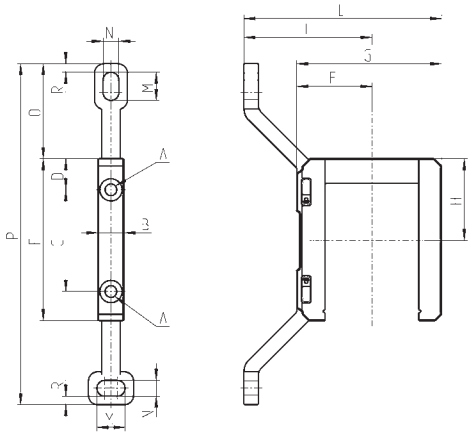
Mod.	A	B	C	D	E	F	G	H	L	M	Notes
MX2-X	5.2	12	46	14	73.5	37.5	70.5	37	-	-	
MX2-Z	5.2	12	46	14	73.5	37.5	70.5	37	14	M5	kit with wall fixing screw

Rapid clamp kit with wall fixing brackets

The kit MX2-Y is supplied with:
1 wall rapid clamp, 1 O-ring OR 3125 **, 2 exagonal nuts, 2 screws M5x69.

** it can be separately ordered (cod. 160-39-11/19)

Materials: technopolymer clamp, NBR O-ring,
zinc-plated steel nuts and screws.

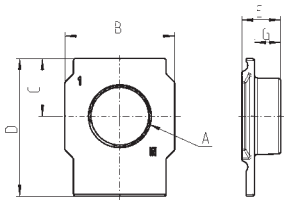


Mod.	A	B	C	D	E	F	G	H	I	L	M	N	O	P	R
MX2-Y	5,2	12	46	14	73,5	32,5	70,5	37	70,5	103	12	6,5	42	152	4

Terminal flanges (IN/OUT)

The kit is supplied with:
- 1 flange INLET side
- 1 flange OUTLET side

Materials: painted aluminium flanges.



Mod.	A	B	C	D	E	G
MX2-1/2-FL	G1/2	50	26,5	63,5	17	11

Rapid clamps kit + flanges

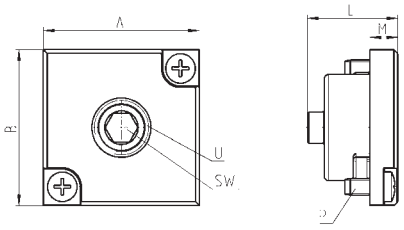
Mod.	The kit is supplied with:
MX2-1/2-HH	1x MX2-1/2-FL + 2x MX2-X
MX2-1/2-JJ	1x MX2-1/2-FL + 2x MX2-Z

Rapid clamps kit with wall fixing brackets + flanges

Mod.	The kit is supplied with:
MX2-1/2-KK	1x MX2-1/2-FL + 2x MX2-Y

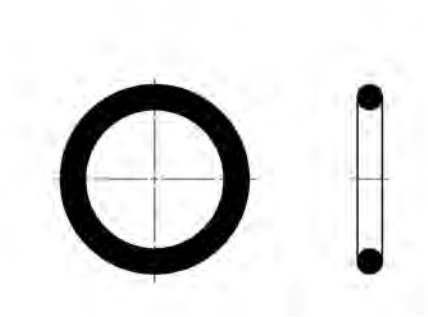
Block for pressure gauge fixing

The kit is supplied with:
1 block
1 grain
2 screws
1 seal



DIMENSIONS							
Mod.	A	B	L	M	P	U	SW
MX2-R26/1-P	28	28	16.5	5	M3X7	1/8	5

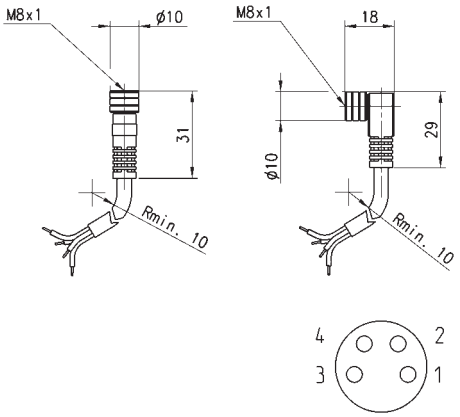
O-ring for assembling



Mod.	O-ring	For assembly
160-39-11/19	OR 3125	MX2

Circular M8 4-pole connectors, Female

With PU sheathing, non shielded cable.
Protection class: IP65



Mod.	Type of connector	Cable length (m)
CS-DF04EG-E200	straight	2
CS-DF04EG-E500	straight	5
CS-DR04EG-E200	right angle (90 degrees)	2
CS-DR04EG-E500	right angle (90 degrees)	5

Series PRE proportional pressure regulator with CoilVision technology

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

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 IOLink 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
- » ATEX - 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; ATEX; UL-CSA
Controlled quantity	Pressure
Number of ways	3
Flow (Qn)	PRE104 - 1100 Nl/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)
Maximum inlet pressure	2 bar (B)
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
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 Serie 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

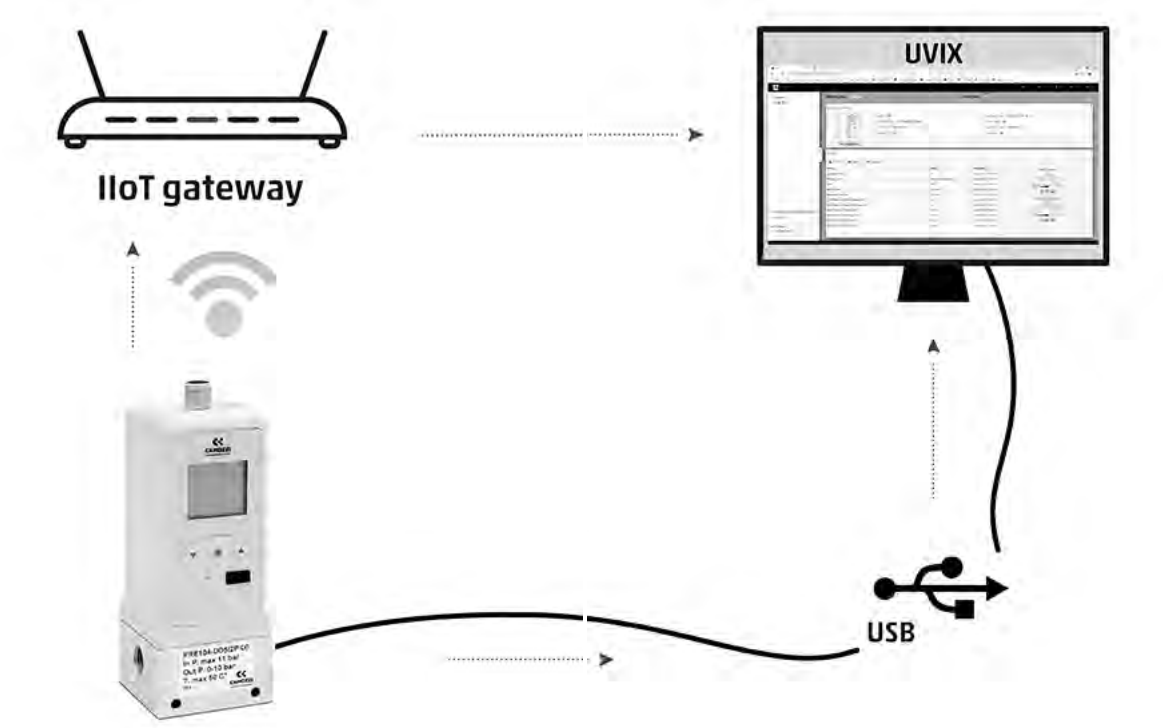
PRE	1	04	-	D	D	5	I	2	E	-	00		

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°
	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 EX = ATEX version

SERIES PRE - COILVISION DIAGNOSTICS

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.

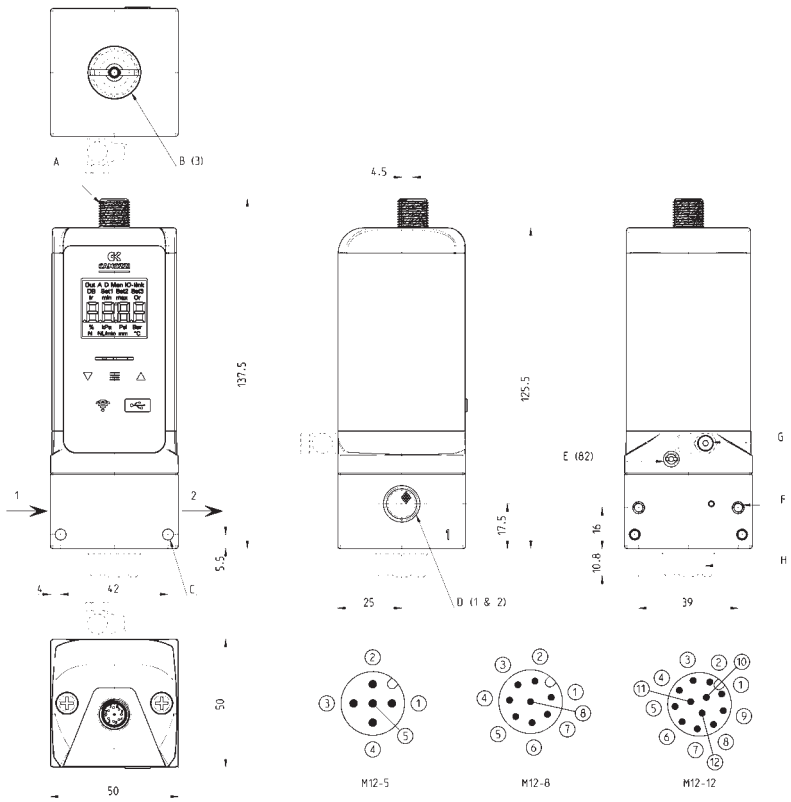
This option allows to monitor the health and operating status of the pilot solenoids, indicating any discrepancies compared to the ideal operating conditions. The information obtained allows the user to plan, in advance, any interventions on the most essential devices.



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.

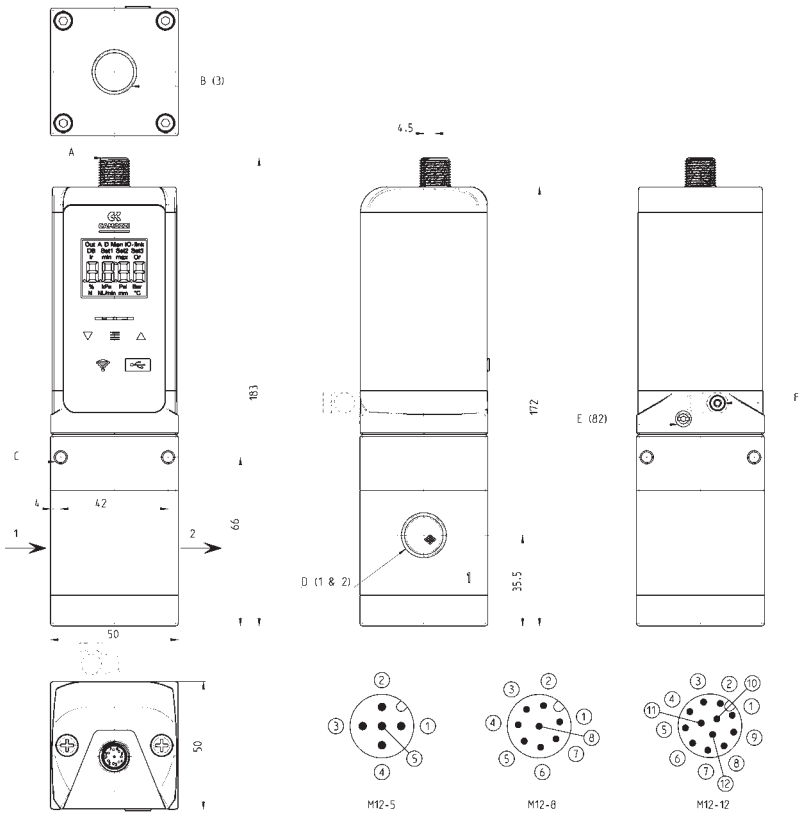
DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1



Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 1	Electrical connection M12	Regulator exhaust	Fixing holes Ø4,3	Port 1/4 (GAS or NPTF)	Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

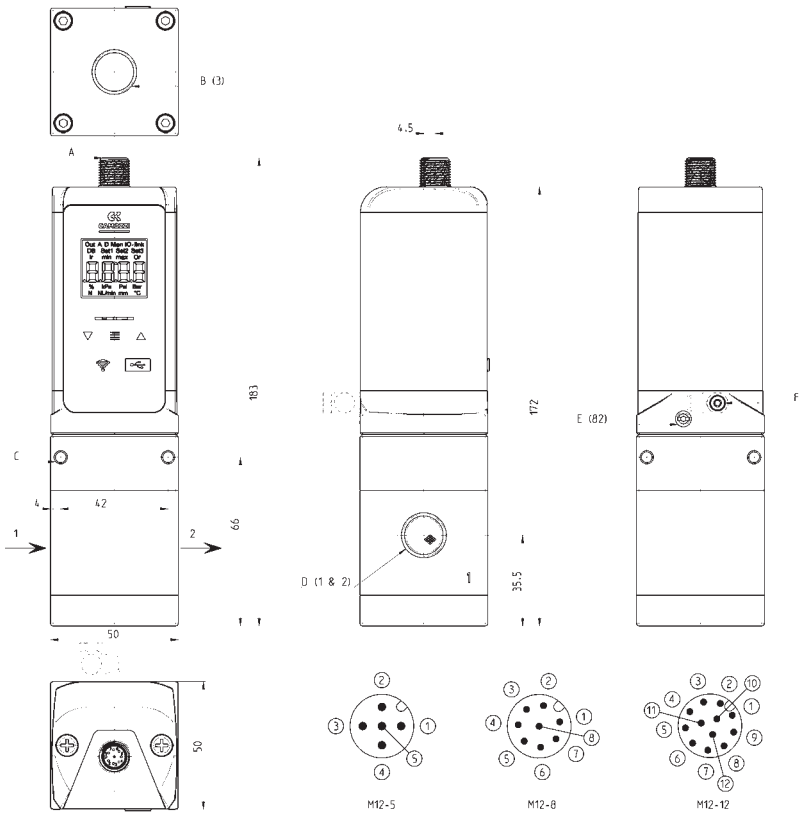
DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2



Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 2	Electrical connection M12	Regulator exhaust	Fixing holes Ø4,3	Port 1/4 (GAS or NPTF)	Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

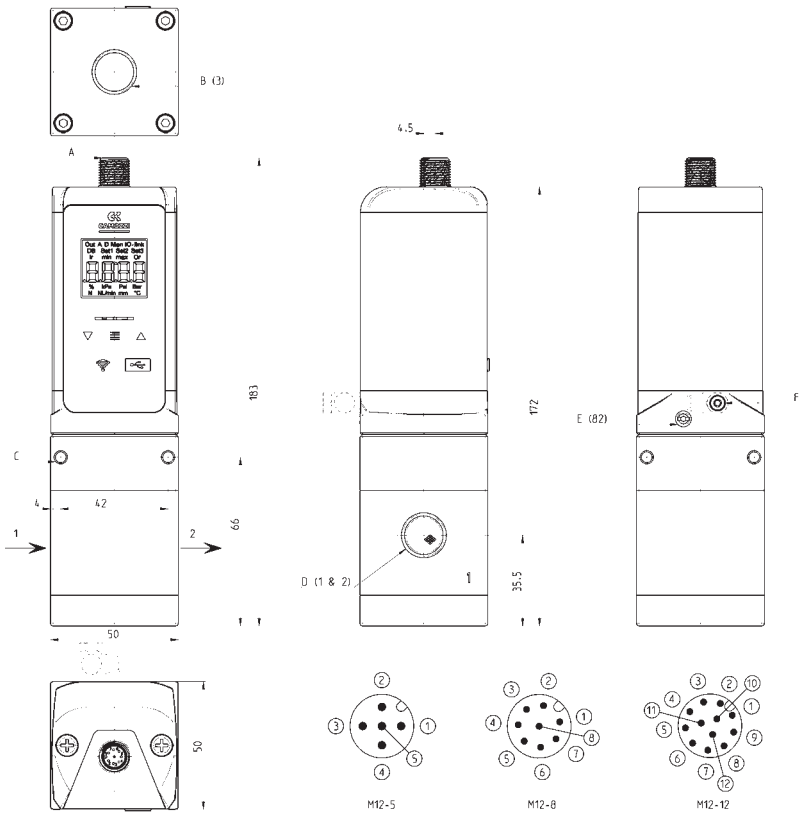
DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 1 MANIFOLD



Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 1	Electrical connection M12	Regulator exhaust	Fixing holes Ø4,3	Port 1/4 (GAS or NPTF)	Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

DIMENSIONAL CHARACTERISTICS SERIES PRE SIZE 2 MANIFOLD

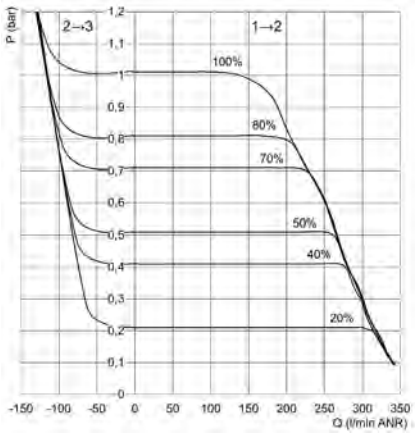


Mod.	A	B (3)	C	D (1 & 2)	E (82)	F	G	H
PRE 2	Electrical connection M12	Regulator exhaust	Fixing holes Ø4,3	Port 1/4 (GAS or NPTF)	Exhaust of pilot solenoids M5	Fixing holes M4	External servo-pilot M5	Valve function (7 - 8) G 1/4

M12 - 5 (pin male)	M12 - 8 (pin male)	M12 - 12 (pin male)
for I/O Link version	for analog version	for version with external sensor connection

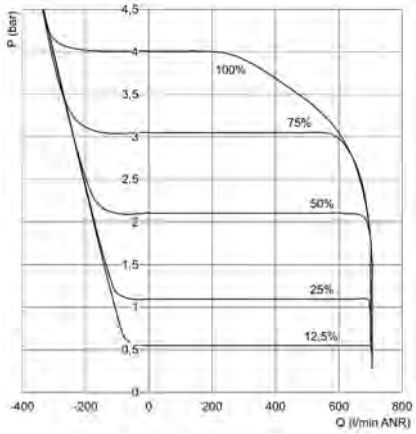
FLOW CHARTS SIZE 2 - Standard version (1/4G)

Working pressure 1 bar



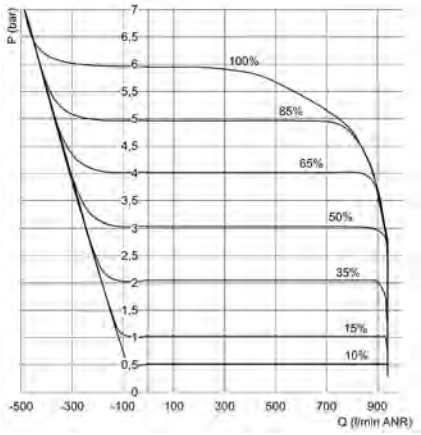
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



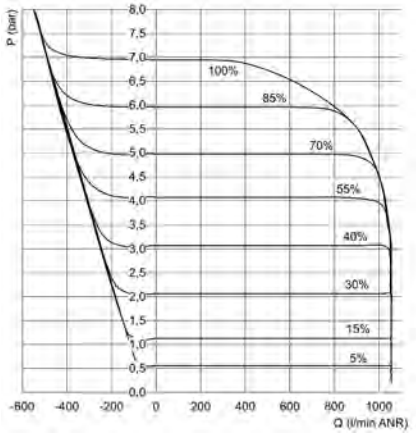
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



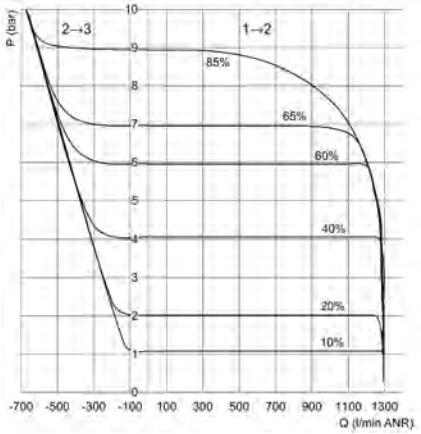
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



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

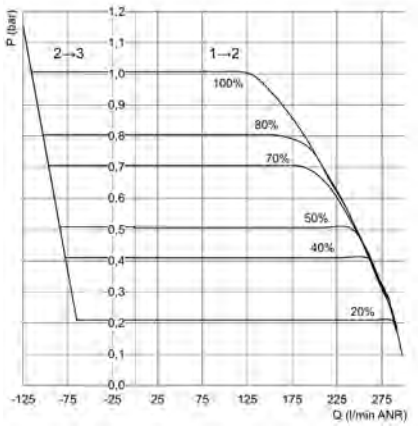
Working pressure 10.3 bar



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

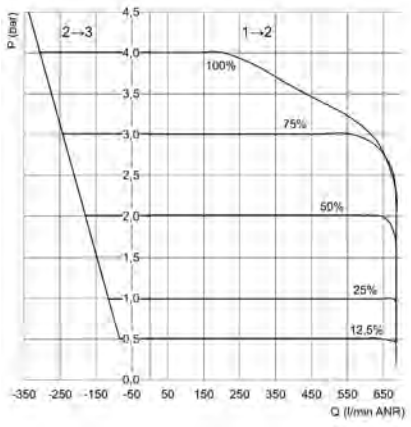
FLOW CHARTS SIZE 2 - Standard version (1/4G)

Working pressure 1 bar



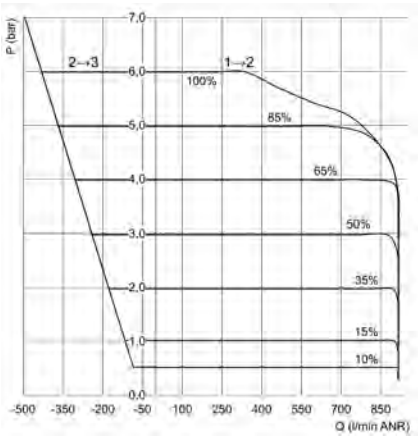
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



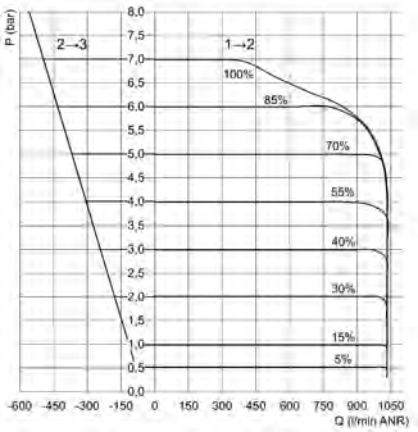
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



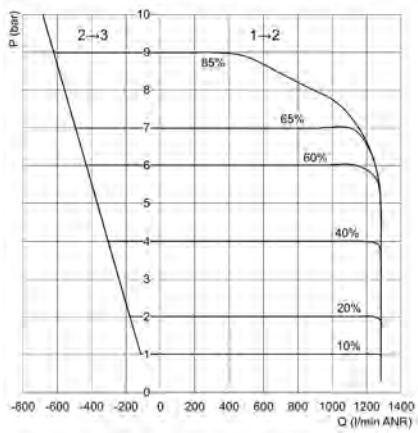
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



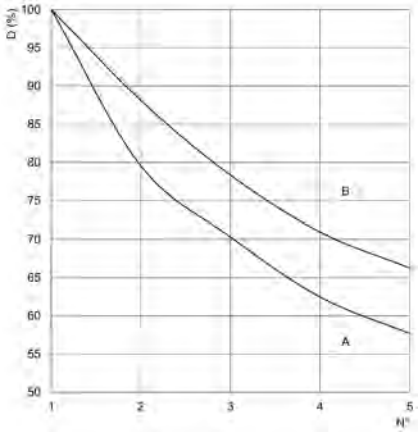
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 10.3 bar



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

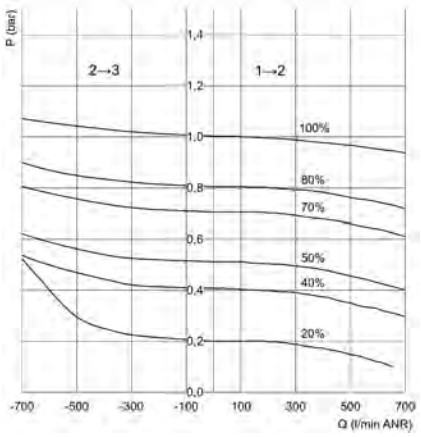
DECAY FACTOR FOR REGULATORS IN MANIFOLD VERSION SIZE 1



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.

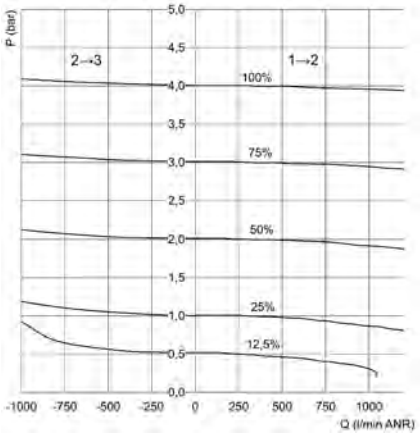
FLOW CHARTS SIZE 2 - Standard version (1/4G)

Working pressure 1 bar



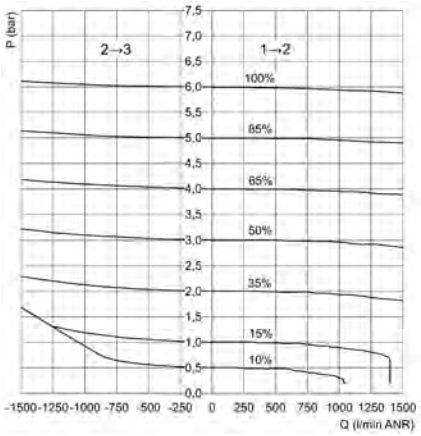
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



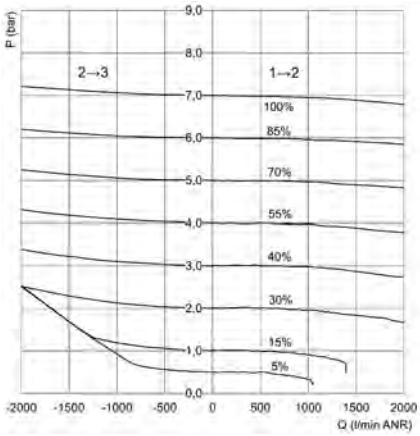
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



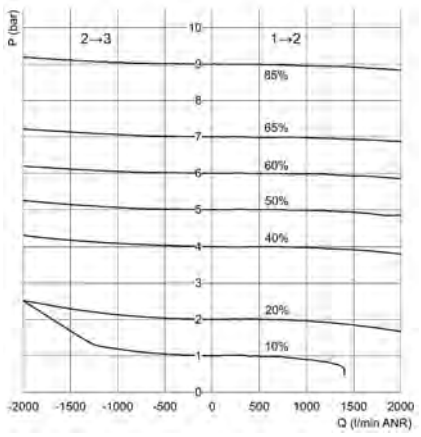
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



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

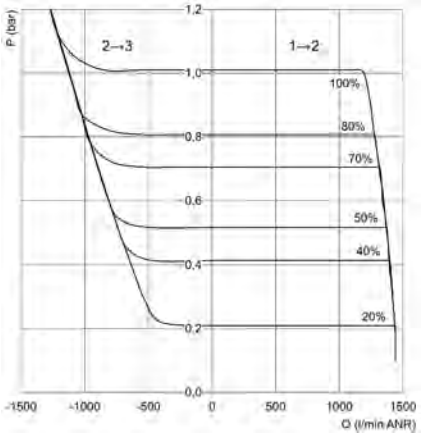
Working pressure 10.3 bar



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

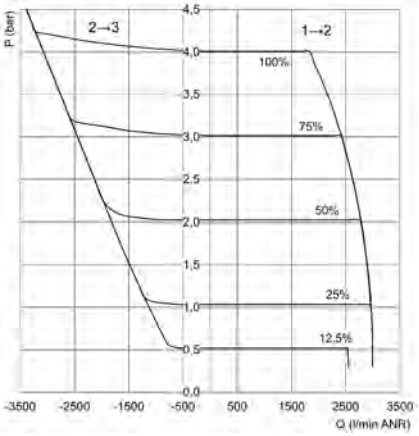
FLOW CHARTS SIZE 2 - Standard version (3/8G)

Working pressure 1 bar



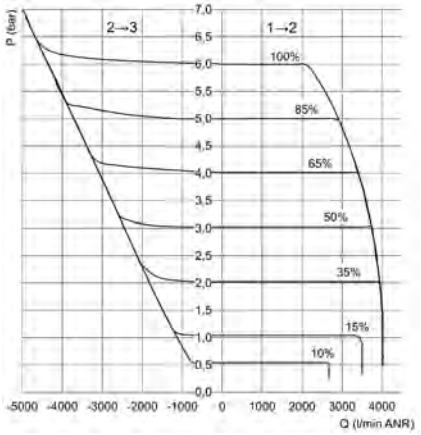
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 4 bar



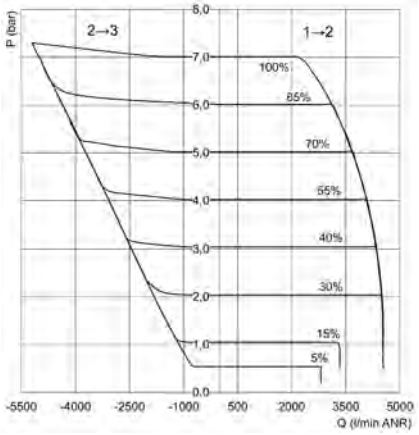
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 6 bar



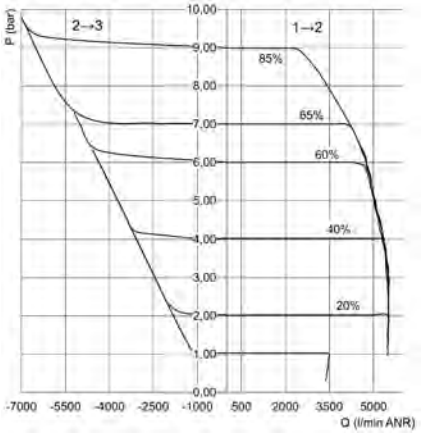
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 7 bar



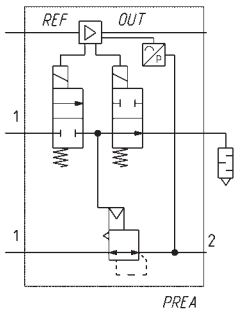
P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

Working pressure 10.3 bar

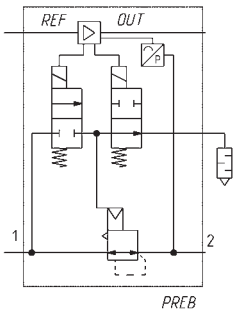


P = Regulated outlet pressure and exhaust pressure
Q = Flow
% = Percentage of the command signal

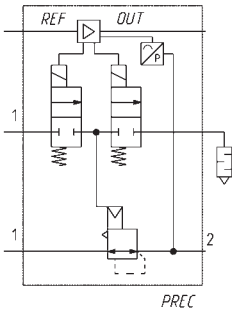
PNEUMATIC SYMBOLS



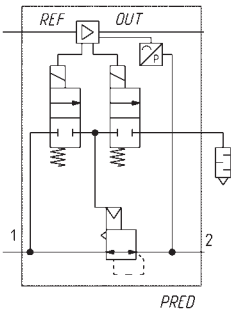
Version with integrated exhaust valve and external servo-pilot supply



Version with integrated exhaust valve and internal servo- pilot supply



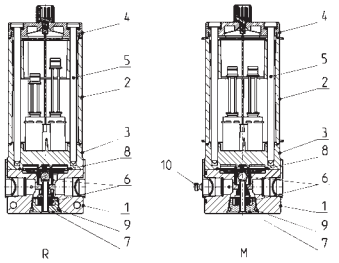
3 ways N.C. version with external servo-pilot supply



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

SIZE 1 - MATERIALS

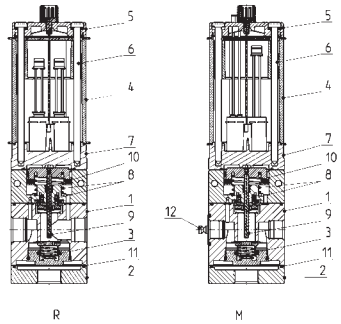
R = Proportional regulator
M = Proportional regulator - manifold verision



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	NBR
9 = seals and O-Ring	NBR	NBR
10 = pin for manifold version	stainless steel only for manifold version	stainless steel only for manifold version

SIZE 2 - MATERIALS

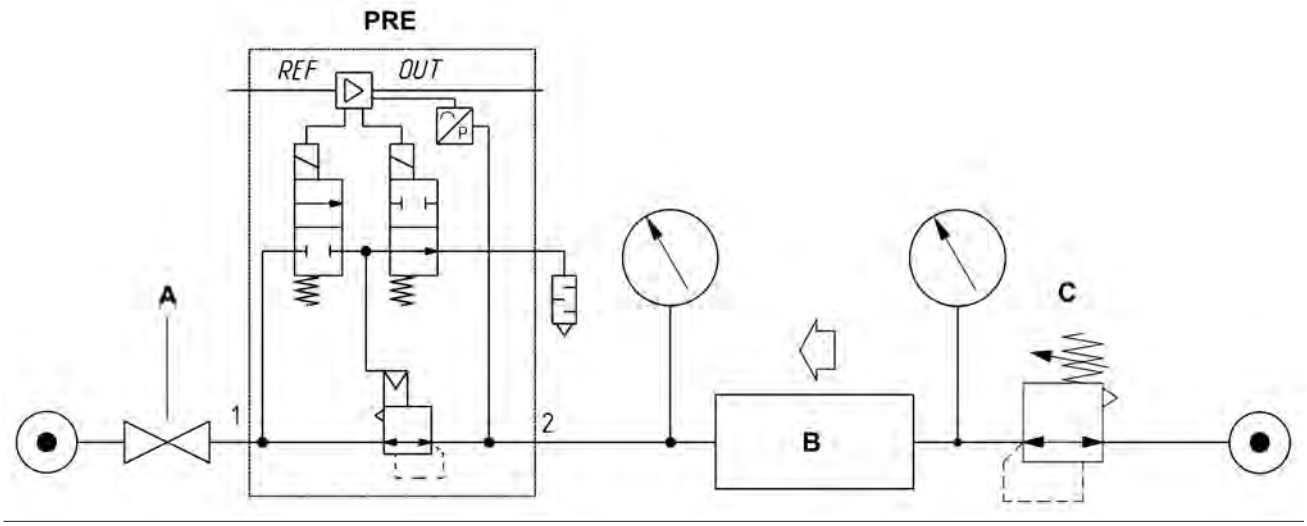
R = Proportional regulator
M = Proportional regulator - manifold verision



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	NBR
9 = seals and O-Ring	NBR	NBR
10 = pin for manifold version	stainless steel only for manifold version	stainless steel only for manifold version

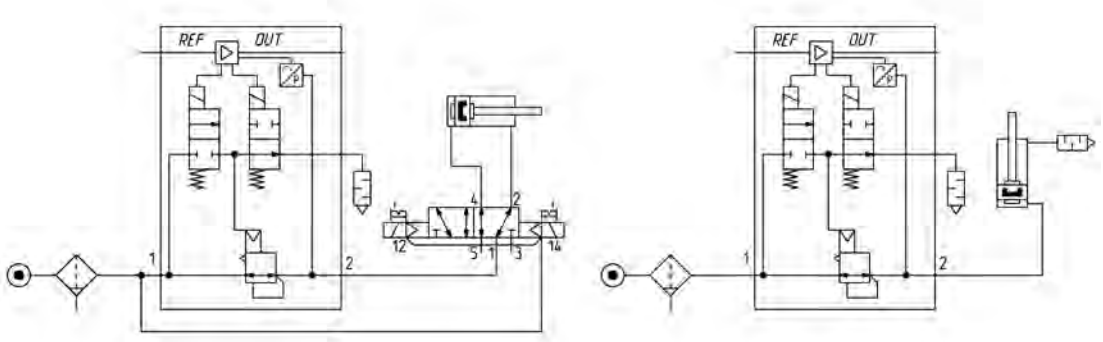
MEASURING THE EXHAUST FLOW RATE OF SERIES PRE REGULATOR

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



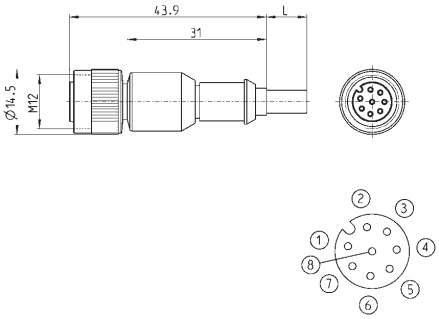
PNEUMATIC DIAGRAM FOR INSTALLATION

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, not shielded

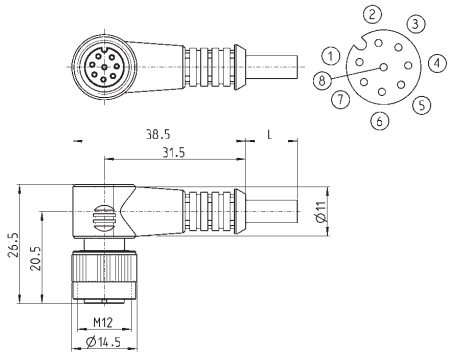
For power supply, analog
command signal and PreSet



Mod.	Cable length (m)
CS-LF08HB-C200	2
CS-LF08HB-C500	5

Cable with M12 8 pin connnector, 90°, female, not shielded

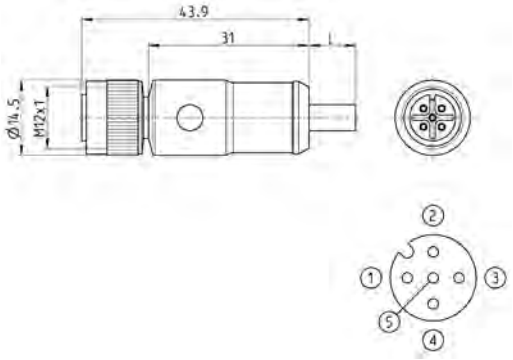
For power supply, analog
command signal and PreSet



Mod.	Cable length (m)
CS-LR08HB-C200	2
CS-LR08HB-C500	5

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

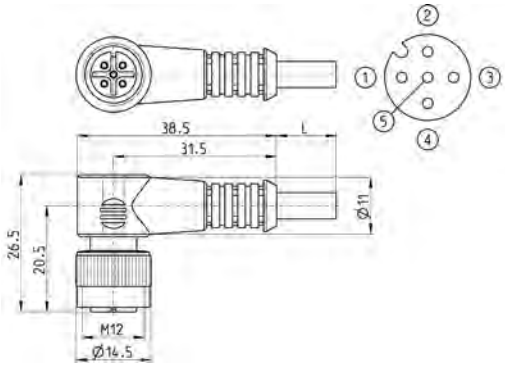
For power supply and
IO-Link command signal



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

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

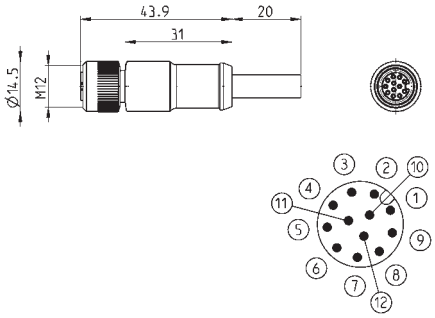
For power supply and
IO-Link command signal



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

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

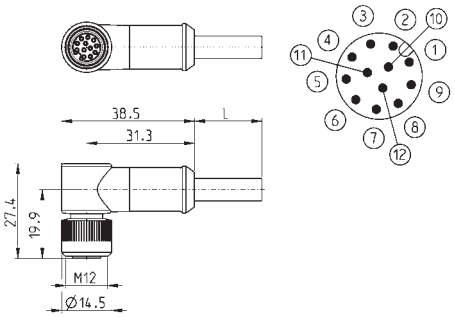
For power supply and analog command signal with external sensor



Mod.	Cable length (m)
CS-LF12HB-D200	2
CS-LF12HB-D500	5

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

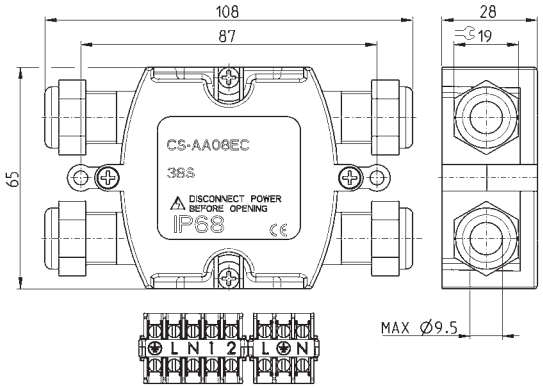
For electric supply and commands



Mod.	Cable length (m)
CS-LR12HB-D200	2
CS-LR12HB-D500	5

Electrical tee box Mod. CS-AA08EC

To connect the external transducer, power supply and command signal

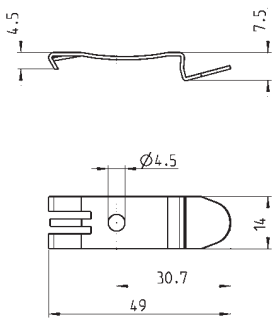


CS-AA08EC

Mounting brackets for DIN-rail Mod. PCF-EN531

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

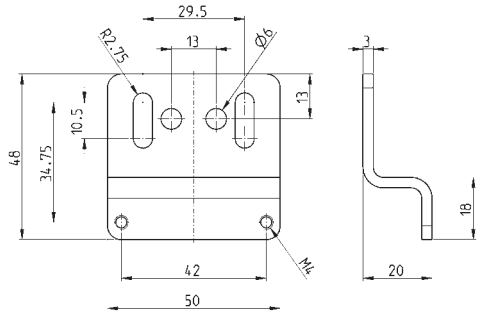
Supplied with:
2x mounting brackets
2x screws M4x6 UNI 5931
2x nuts



Mod.
PCF-EN531

Rear bracket Mod. PRE-ST

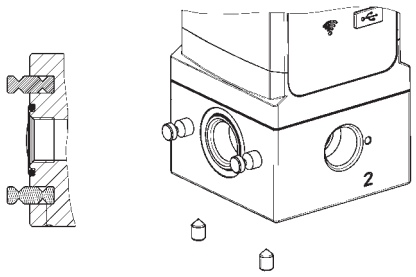
The kit includes
1 zinc-plated bracket
2 M4x55 white zinc-plated screws



PRE-ST

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

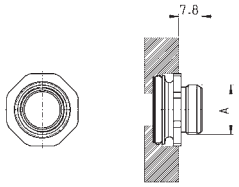
The kit includes:
2 shaped steel pins
4 steel grub screws
1 O-Ring



PRE-M-PIN-1-2

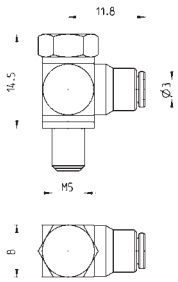
Fixing kit for Series MD: PRE

The kit includes:
1 bushing
1 O-Ring
2 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

NOTES

Series N filter-regulators

Ports G1/8, G1/4

» Available with: transparent PA12 bowl or nickel-plated brass bowl for the small version (N1)

The version with metal bowl is particularly suitable for applications subject to impacts or in the presence of aggressive agents that could damage the PA12 bowl.

**Series N filter-regulator is available with G1/4 and G1/8 ports.
Its design incorporates a self relieving diaphragm. The transparent filter bowl allows an easy monitoring of the condensate level. The semi-automatic manual drain makes both the manual and automatic condensate exhaust easier when there is no pressure.**

GENERAL DATA

Construction	HDPE and coalescing filtering element
Materials	brass body and poppet stainless steel spring NBR O-ring HDPE filtering element transparent PA12 or nickel-plated bowl others: PA
Ports	G1/8 - G1/4
Max. condensate capacity	11 cm^3 (bowl size = 1) 28 cm^3 (bowl size = 2)
Weight	0.370 Kg
Pressure gauge ports	G1/8
Mounting	vertical, in-line
Operating temperature	-5°C ÷ 50°C a 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)
Quality of delivered air according to ISO 8573-1 2010	Class 7.8.4 with 25 µm filtering element Class 6.8.4 with 5 µm filtering element
Draining of condensate	see the coding example
Inlet pressure	with standard drain and protected depressurisation 0.3 ÷ 16 bar
Outlet pressure	with depressurisation drain 0.3 ÷ 10 bar
Nominal flow	see FLOW DIAGRAMS on the following pages
Secondary pressure relieving	with relieving (standard) without relieving
Fluid	compressed air

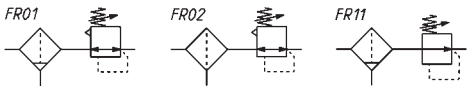
CODING EXAMPLE

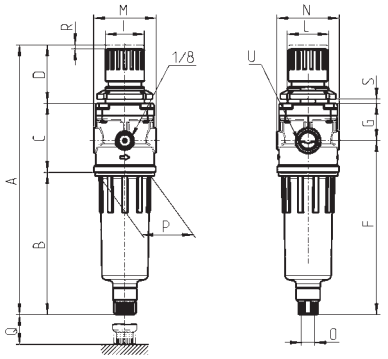
N	2	04	-	D	0	0	-	4	-	

N	SERIES
2	SIZE: 1 = small bowl (11 cm³) 2 = normal bowl (28 cm³)
04	PORTS: 08 = G1/8 04= G1/4
D	D = FILTER-REGULATOR
0	FILTERING ELEMENT: 0 = 25µm (standard) 1 = 5µm
0	DRAINING OF CONDENSATE (further details in the dedicated section) AND DESIGN TYPE: 0 = semi-automatic manual drain with self-relieving 1 = semi-automatic manual drain without relieving 4 = depressurisation with self-relieving (with normal bowl only) 5 = protected depressurisation with self-relieving (with normal bowl only) 8 = no drain (direct port 1/8), with self-relieving
4	OPERATING PRESSURE: = 0.5 ÷ 10 bar (standard) 2 = 0 ÷ 2 bar 4 = 0 ÷ 4 bar 7 = 0.5 ÷ 7 bar
	BOWL MATERIAL: = transparent PA12 (standard) TM = nickel-plated brass (only in the small size with semi-automatic manual drain or without drain)

Series N filter-regulators

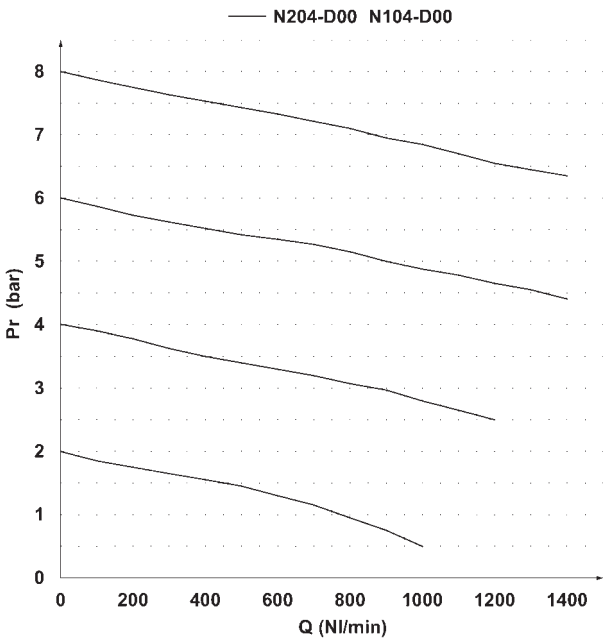
FR01 = filter-regulator with relieving and manual drain
FR02 = FR with relieving and without drain
FR11 = FR with manual drain and wiithout relieving





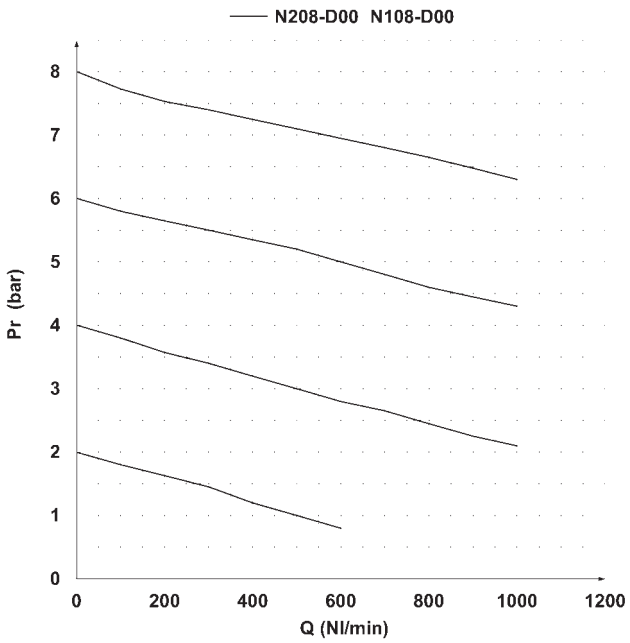
Mod.	A	B	C	D	F	G	I	L	M	N	O	P	Q	R	S	U
N108-D00	167	78	50	39	101	27	28	M30x1,5	45	45	G1/8	38	40	3	0 ÷ 6	G1/8
N104-D00	167	78	50	39	101	27	28	M30x1,5	45	45	G1/8	38	40	3	0 ÷ 6	G1/4
N208-D00	191	102	50	39	125	27	28	M30x1,5	45	45	G1/8	38	40	3	0 ÷ 6	G1/8
N204-D00	191	102	50	39	125	27	28	M30x1,5	45	45	G1/8	38	40	3	0 ÷ 6	G1/4
N104-D19-OX1	147	59	50	39	82	27	28	M30x1,5	45	45		38	40	3	0 ÷ 6	G1/4
N108-D19-OX1	147	59	50	39	82	27	28	M30x1,5	45	45		38	40	3	0 ÷ 6	G1/8

FLOW DIAGRAMS



Flow diagrams for models: N204-D00 - N104-D00

Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Qn = Flow (Nl/min)



Flow diagrams for models: N208-D00 - N108-D00

Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Qn = Flow (Nl/min)

Series TC
pressure microregulators

For applications with oxygen, without relieving
Ports: cartridge construction, G1/8 and 1/8 NPTF

- Compact design
- High performance
- Easy to install
- Materials suitable with several gases

The Series TC pressure regulator has been designed to be used for all the applications and equipment where it is needed to insert the single component in customized integrated pneumatic circuits (manifolds) or collectors.

The cartridge design and the compact size allow the regulator to be plugged in a proper seat, making the installation easier and reducing the assembly time. To produce the new TC regulator, materials have been analized and chosen on the basis of their suitability with the contact medium. The body in PPS and the seals in FKM ensure thus full compatibility with a wide range of gaseous fluids.

GENERAL DATA

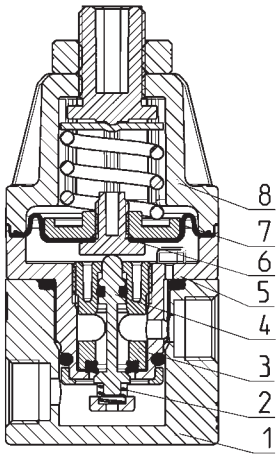
Construction	compact with pre-formed diaphragm
Materials	see the TABLE OF MATERIALS on the following page
Ports	cartridge construction in manifold - G1/8 or 1/8NPTF (aluminium body version only)
Mounting	in-line or cartridge (any position)
Operating temperature	-5°C ÷ 50°C
Inlet pressure	0 ÷ 10 bar
Outlet pressure	0 ÷ 0.5 bar; 0 ÷ 2 bar; 0 ÷ 3 bar; 0 ÷ 4 bar
Overpressure exhaust	without relieving
Nominal flow	see FLOW DIAGRAMS on the following pages
Medium	air, inert and medical gases, OXYGEN
Repeatability	±0.2% FS

CODING EXAMPLE

TC	1	-	R	3	1	-	C	-	V	-	OX2

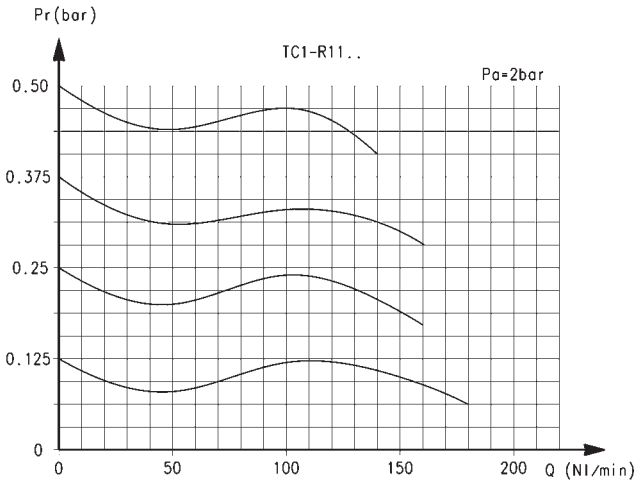
TC	SERIES
1	SIZE
R	REGULATOR
3	WORKING PRESSURE: 1 = 0 ÷ 0.5 bar 2 = 0 ÷ 2 bar 3 = 0 ÷ 3 bar 4 = 0 ÷ 4 bar
1	TYPE OF CONSTRUCTION: 1 = without relieving
C	PORTS: C = Cartridge 1/8 = G1/8 1/8TF = 1/8NPTF
V	SEALS MATERIAL: V = FKM
OX2	VERSIONS: OX1 = for oxygen (non-volatile residue lower than 550 mg/m²) OX2 = for oxygen (non-volatile residue lower than 33 mg/m²)

Series TC pressure microregulators - materials



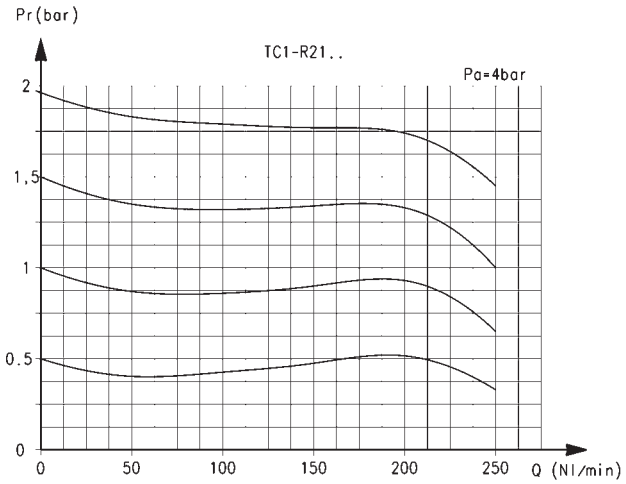
PARTS	MATERIALS
1. Base body	Anodized aluminium
2. Lower spring	Stainless steel
3. Insert	PPS
4. Poppet	Stainless steel
5. Body	PPS
6. Valve guide	PPS
7. Diaphragm	FKM
8. Bell	Polyamide
Seals	FKM

FLOW DIAGRAMS - 0.5 and 2 bar working pressure



Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

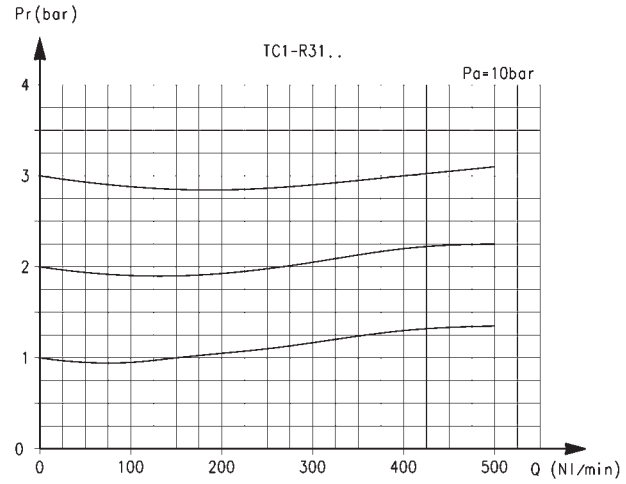
Pa = Inlet pressure (bar)



Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

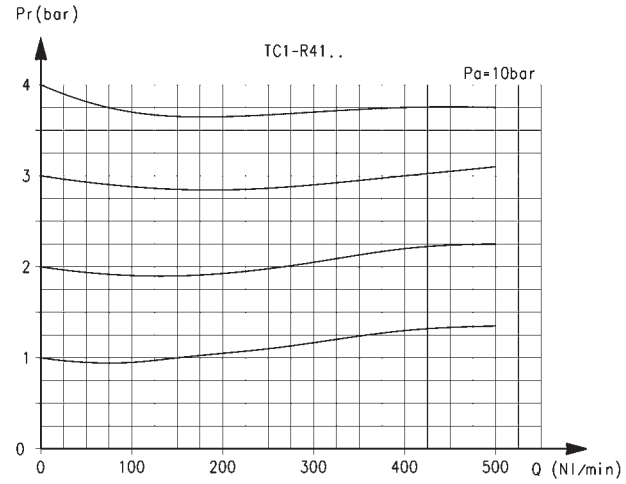
Pa = Inlet pressure (bar)

FLOW DIAGRAMS - 3 and 4 bar working pressure



Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

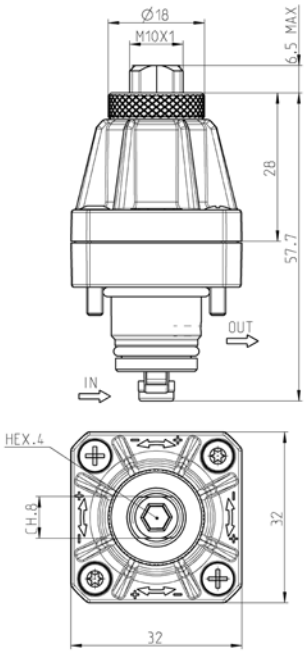
Pa = Inlet pressure (bar)



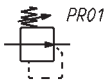
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

Pa = Inlet pressure (bar)

Series TC cartridge pressure microregulators



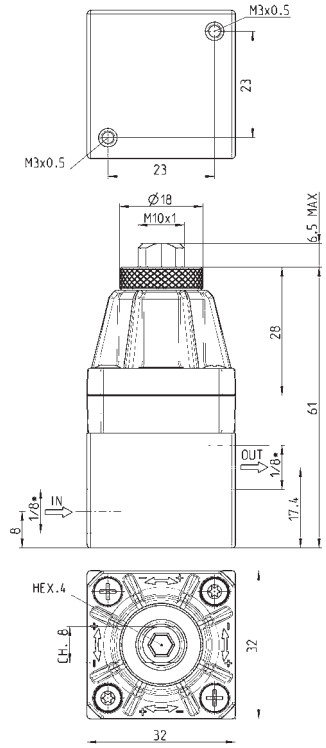
Mod.
TC1-R11-C-V-OX1
TC1-R11-C-V-OX2
TC1-R21-C-V-OX1
TC1-R21-C-V-OX2
TC1-R31-C-V-OX1
TC1-R31-C-V-OX2
TC1-R41-C-V-OX1
TC1-R41-C-V-OX2



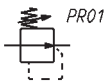
PR01 = regulator without relieving

Series TC pressure microregulators with aluminium body

* to choose the type of thread (G1/8 or 1/8 NPTF) see the Coding example

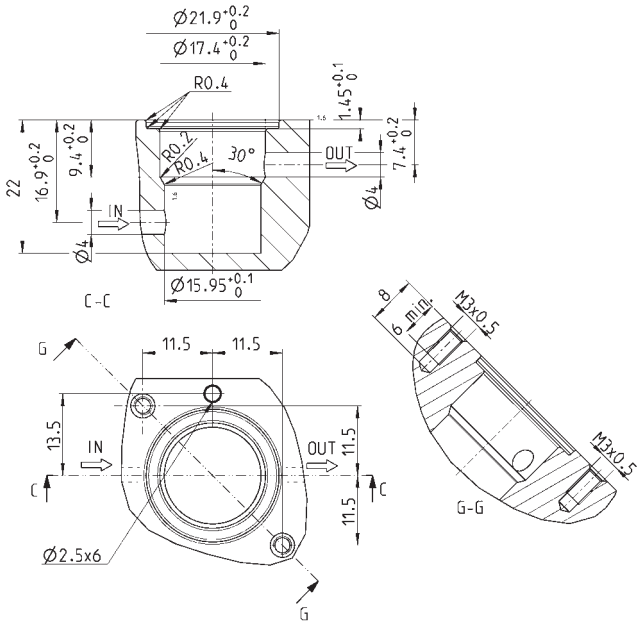


Mod.
TC1-R11-*-V-OX1
TC1-R11-*-V-OX2
TC1-R21-*-V-OX1
TC1-R21-*-V-OX2
TC1-R31-*-V-OX1
TC1-R31-*-V-OX2
TC1-R41-*-V-OX1
TC1-R41-*-V-OX2



PR01 = regulator without relieving

Seat dimensions for cartridge version



Series PR precision regulators with manual override

Size 1 ports: G1/4
Size 2 ports: G1/4, G3/8

- High precision adjustment
- Multi-diaphragm construction to reach the highest stability
- Adjustment lock
- Compact dimensions
- Removable adjustment knob

The Series PR precision pressure regulators are ideal for applications that require a precise and stable air pressure control. The operating principle using multiple diaphragms allows the Series PR to react to even the smallest pressure variations that may occur during use.

GENERAL DATA

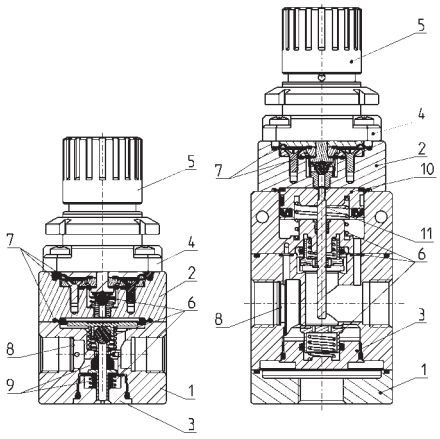
Construction	compact, multi-diaphragm type
Materials	see the following page
Ports	Size 1: G1/4 Size 2: G1/4, G3/8
Mounting	vertical in-line, wall or panel mounting (in any position)
Working temperature	0°C ÷ 50°C
Inlet pressure	0.1 ÷ 12 bar
Outlet pressure	0.05 ÷ 2 bar 0.05 ÷ 4 bar 0.05 ÷ 7 bar 0.05 ÷ 10 bar
Overpressure exhaust	with relieving (standard)
Nominal flow	see FLOW DIAGRAMS on the following pages
Media	filtered and not lubricated compressed air according to DIN ISO 8573-1 Classes 1-3-2
Hysteresis	20mbar
Repeatability	±0.2% FS
Bleed air consumption	≤ 5 l/min

CODING EXAMPLE

PR	1	04	-	M	07

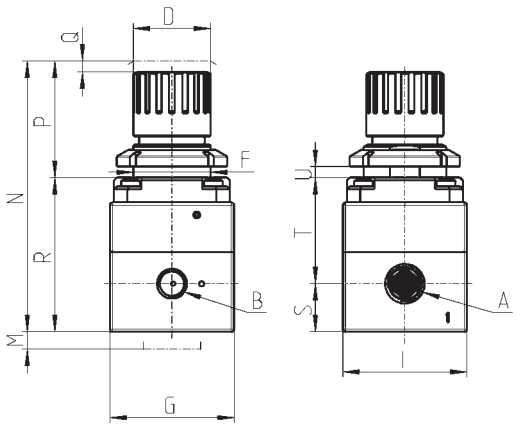
PR	SERIES
1	SIZE: 1 = size 1 2 = size 2
04	PORTS: 04 = G1/4 38 = G3/8 (size 2 only)
M	TYPE OF ADJUSTMENT: M = manual
07	OPERATING PRESSURE (1 bar = 14,5 psi): 02 = 0.05 ÷ 2 bar 04 = 0.05 ÷ 4 bar 07 = 0.05 ÷ 7 bar 00 = 0.05 ÷ 10 bar

Series PR precision regulators - materials



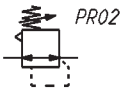
PARTS	MATERIALS
1 = Body	Anodized aluminium
2 = Intermediate body	Aluminium
3 = Valve holder plug	Brass
4 = Bell	Polyamide
5 = Regulator knob	Polyamide
6 = Springs	Stainless steel
7 = Diaphragms	NBR
8= Filters	Stainless steel
9 = Seals	NBR
10 = Piston	Aluminium
11 = Rod	Stainless steel
O-ring	NBR

Series PR precision regulators - size 1



* to complete the code, add the OPERATING PRESSURE (see the CODING EXAMPLE)

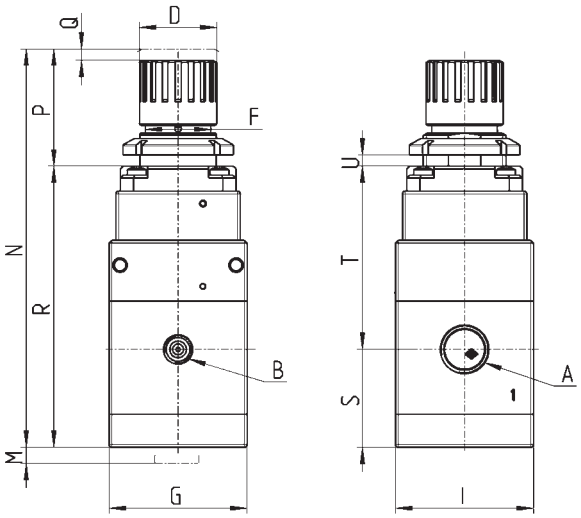
PR02 = Regulator with relieving



DIMENSIONS

Mod.	A	B	D	F	G	I	M	N	P	Q	R	S	T	U	Weight (Kg)
PR104-M*	G1/4	G1/8	28	30	45	45	25	96	40	2	56	17.5	38.5	0-6	0.35

Series PR precision regulators - size 2



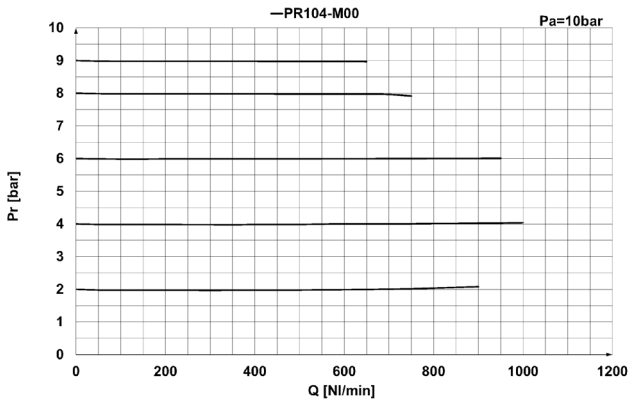
* to complete the code, add the OPERATING PRESSURE (see the CODING EXAMPLE)

PR02 = Regulator with relieving

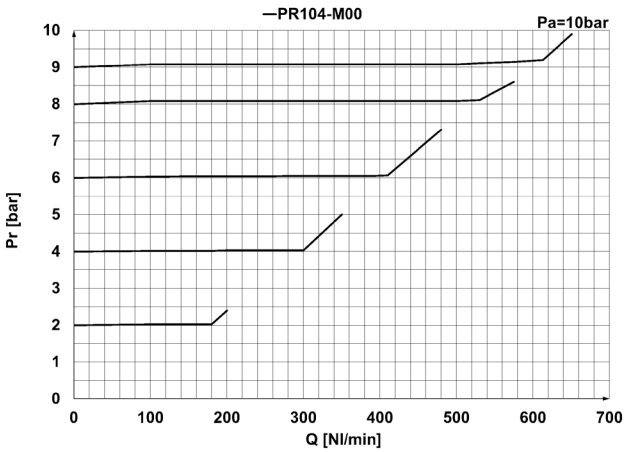
DIMENSIONS

Mod.	A	B	D	F	G	I	M	N	P	Q	R	S	T	U	Weight (Kg)
PR204-M*	G1/4	G1/8	28	30	50	50	25	140	40	2	101.8	35.5	66.3	0-6	0.645
PR238-M*	G3/8	G1/8	28	30	50	50	25	140	40	2	101.8	35.5	66.3	0-6	0.645

FLOW DIAGRAMS Mod. PR104-M00

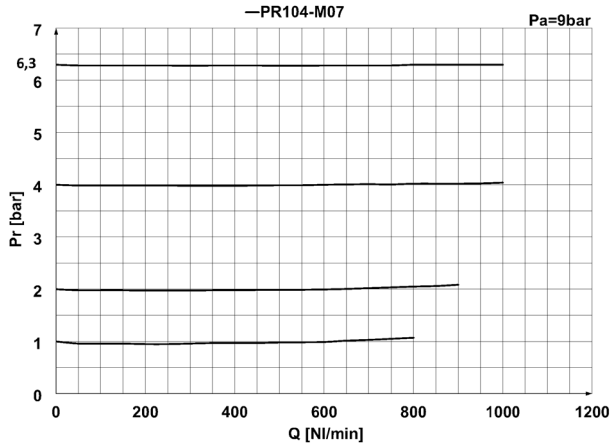


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

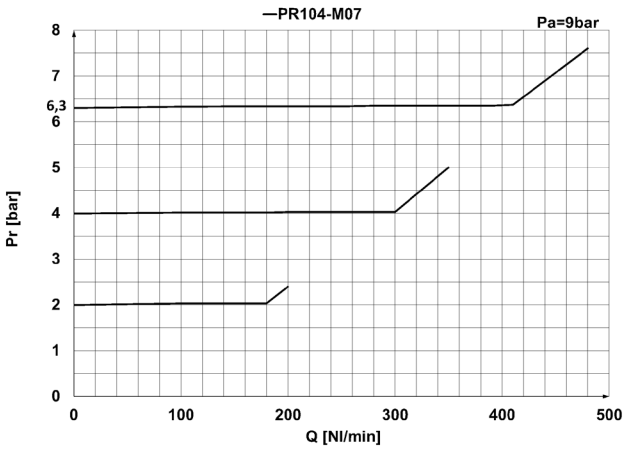


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR104-M07

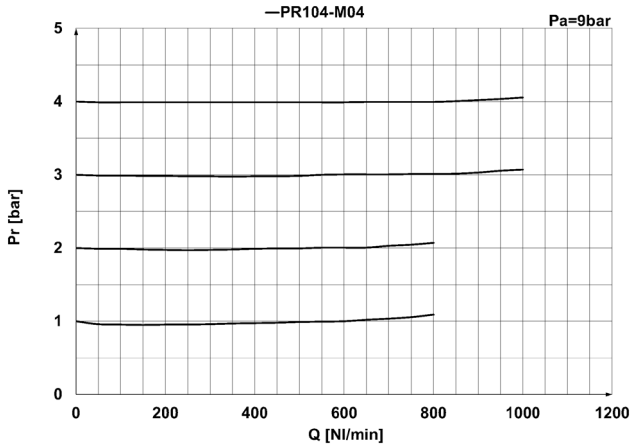


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

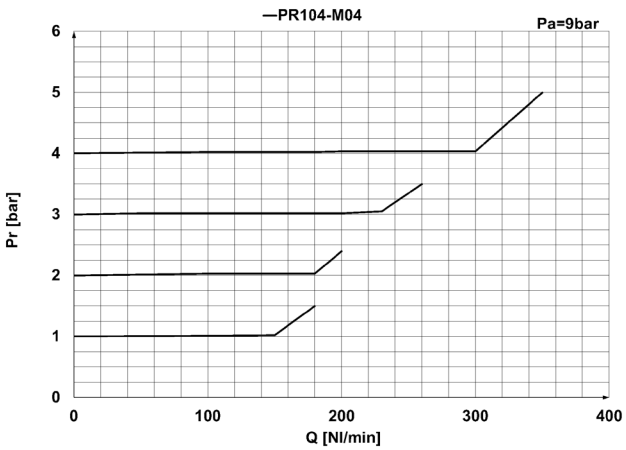


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR104-M04

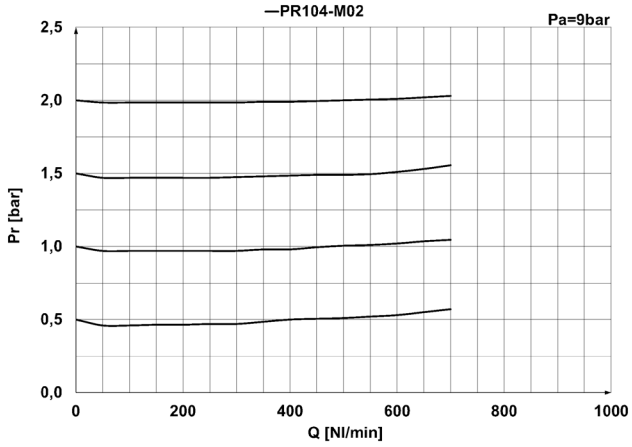


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

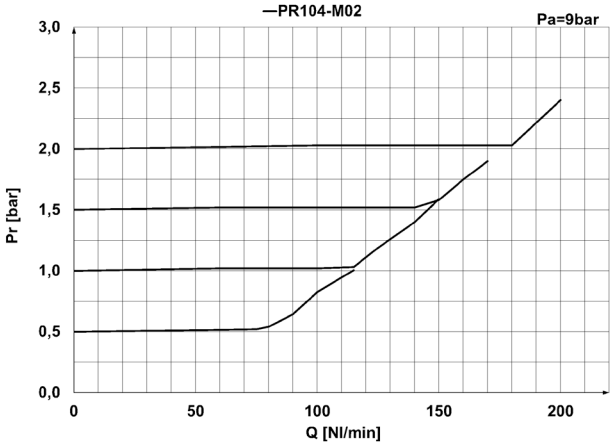


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR104-M02

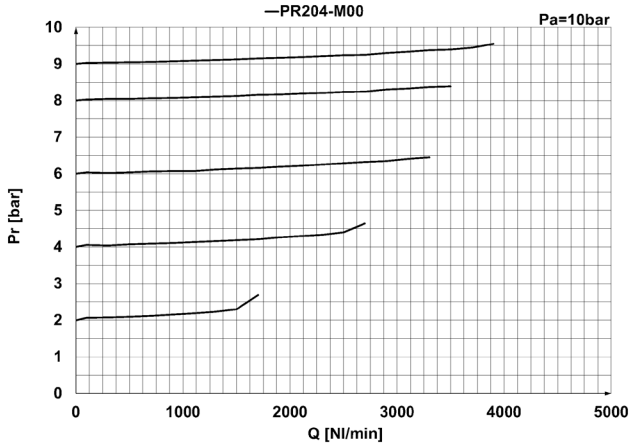


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

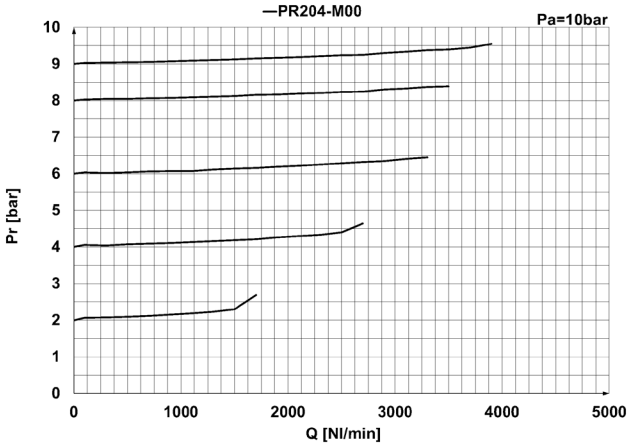


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR204-M00

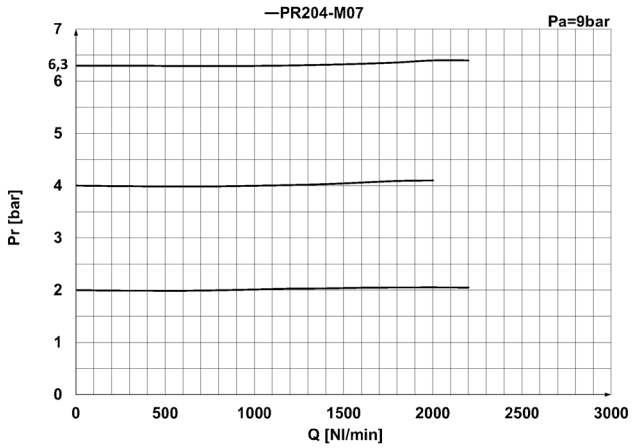


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

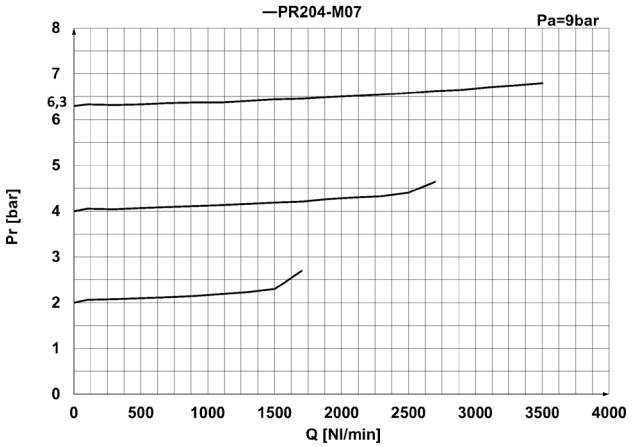


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR204-M07

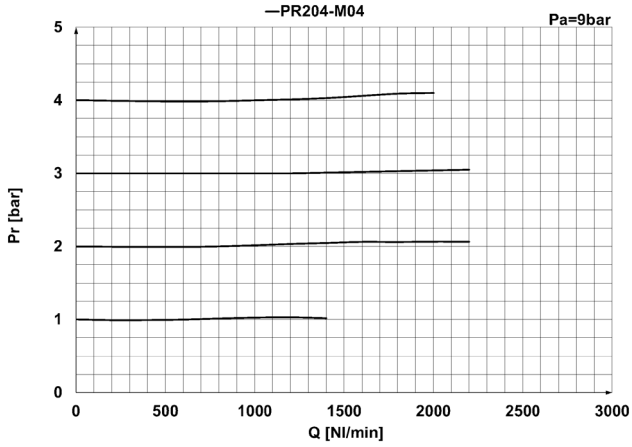


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

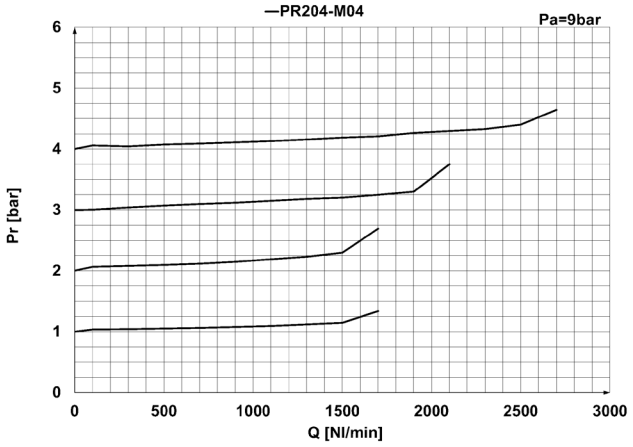


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR204-M04

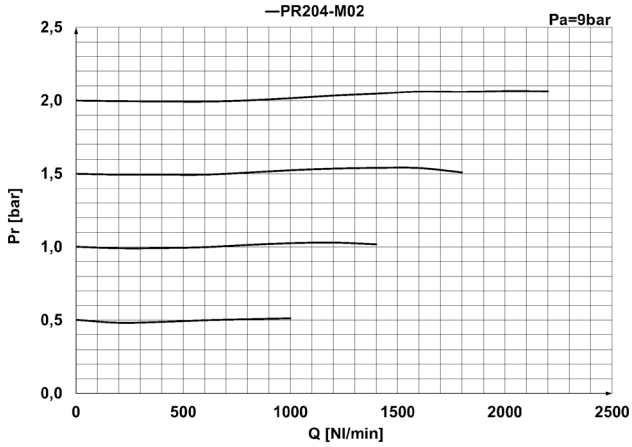


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

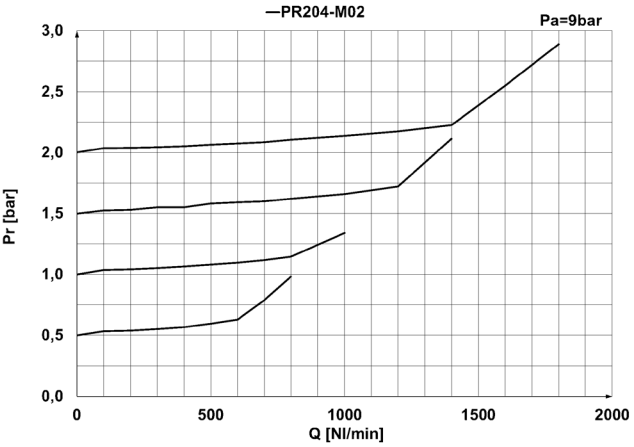


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR204-M02

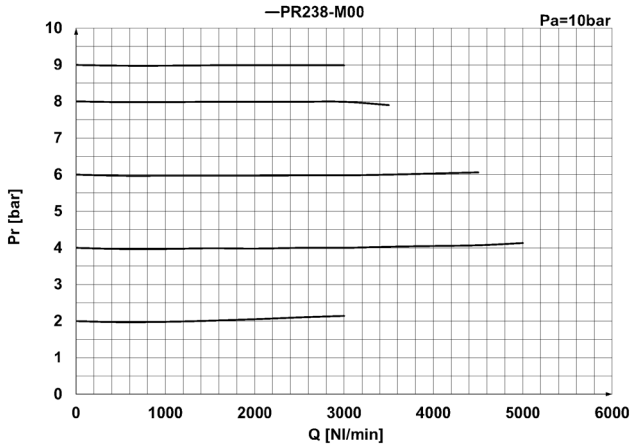


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

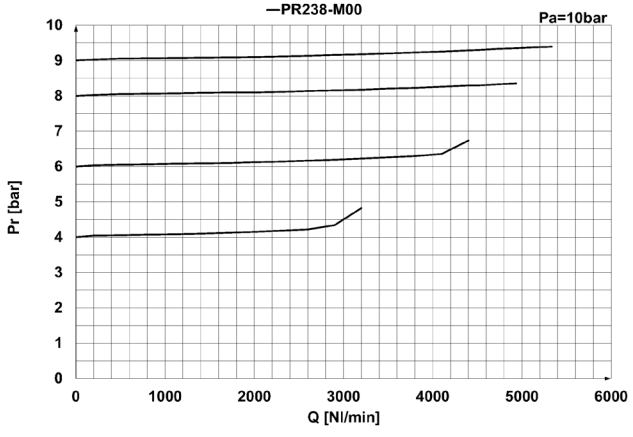


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR238-M00

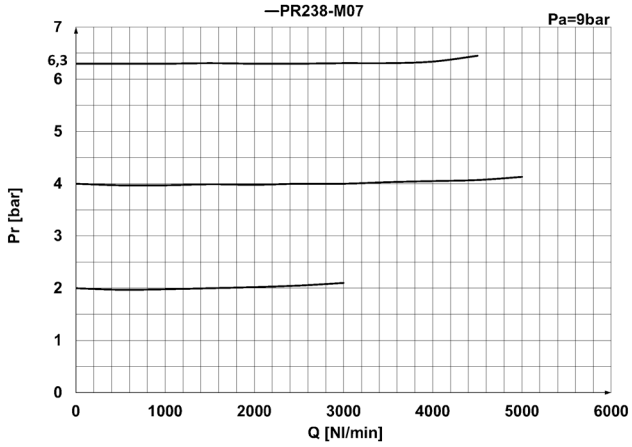


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

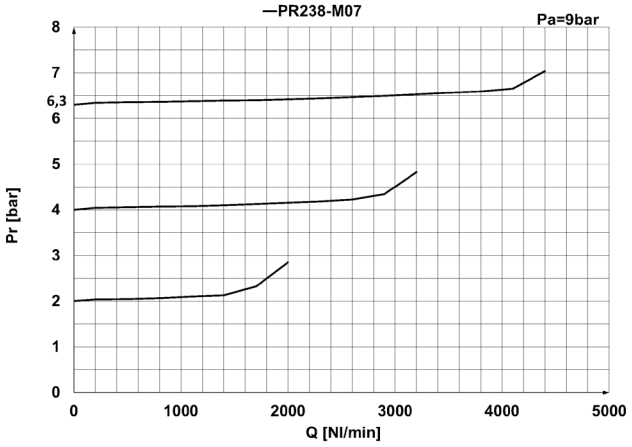


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR238-M07

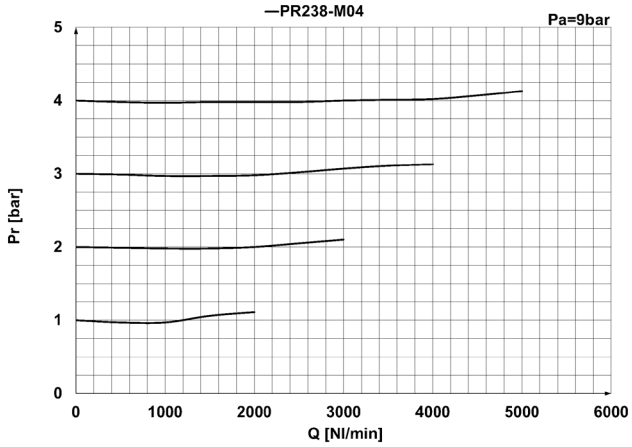


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

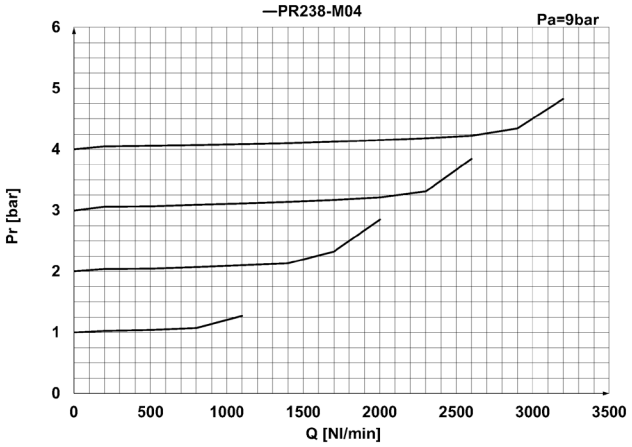


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR238-M04

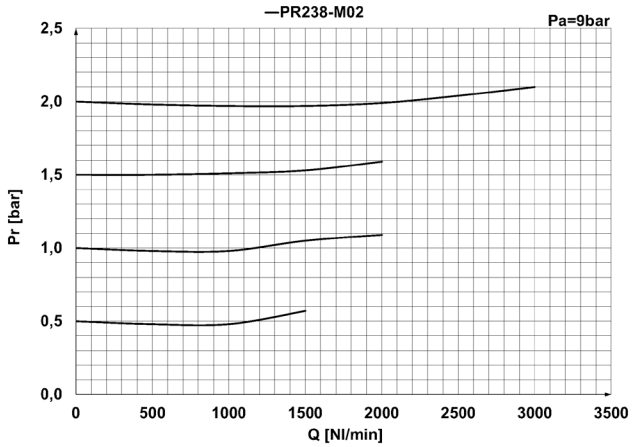


Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

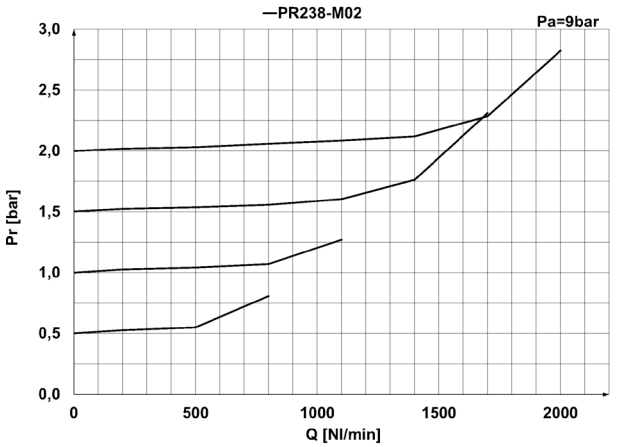


EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

FLOW DIAGRAMS Mod. PR238-M02



Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)



EXHAUST FLOW
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)
Pa = Inlet pressure (bar)

Series CLR micro pressure regulators

Ports G1/4, G1/8
With banjo stem with or without relieving
Available with or without banjo

Series CLR micro pressure regulators are available with G1/8 and G1/4 connections. A piston with or without relieving and VS function (by-pass valve) has been incorporated into its design.
The body is in brass, while the connection fitting is in technopolymer which guarantees maximum lightness.
They can be supplied with or without banjo and can be console mounted.

With a threaded top part of the body both direct mounting to a valve outlet (1/8 and 1/4 threads) and console mounting are easily facilitated.
The pressure is precisely regulated simply by turning the polymer knob with a locking nut available to set the desired output.

- Extremely lightweight
- Compact
- In-line or console mounting

GENERAL DATA

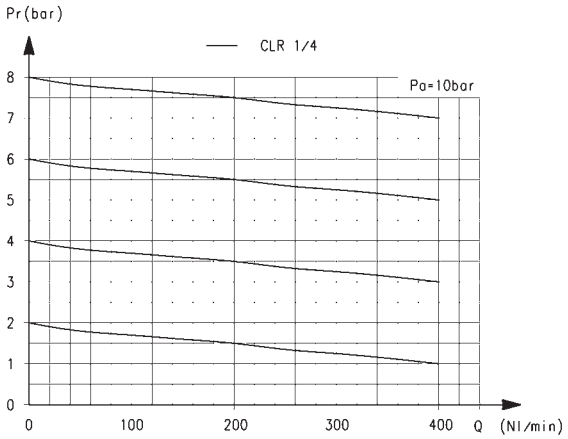
Construction	piston
Materials	brass body, technopolymer banjo, stainless steel spring; NBR O-ring
Ports	G1/8 - G1/4
Weight	Kg 0,035
Mounting	in-line or panel mounting (in any position)
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Inlet pressure	2 ÷ 10 bar
Outlet pressure	0,5 ÷ 10 bar
Nominal flow	see FLOW DIAGRAMS on the following pages
Secondary pressure (relieving)	with relieving (standard) without relieving (all regulators are provided with high relief flow VS function)

CODING EXAMPLE

CL	R		1/8	-	01	-	4

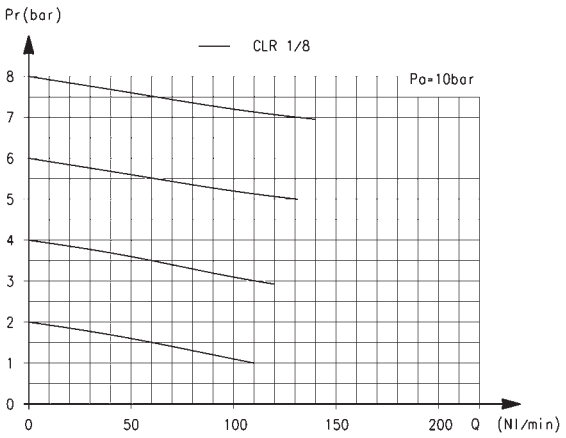
CL	SERIES:
R	R = REGULATOR
1/8	PORTS: 1/8 = G1/8 1/4 = G1/4
01	DESIGN TYPE: = with relieving 01 = without relieving
4	TUBE: = without banjo 4 = single technopolymer banjo with tube diameter Ø4 mm (only CLR 1/8) 6 = single technopolymer banjo with tube diameter Ø6 mm 8 = single technopolymer banjo with tube diameter Ø8 mm 1/8L = single metal banjo with thread G1/8 (only CLR 1/8) 1/8D = double metal banjo with double thread G1/8 (only CLR 1/8)

FLOW DIAGRAMS at 6 bar with ΔP1



Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

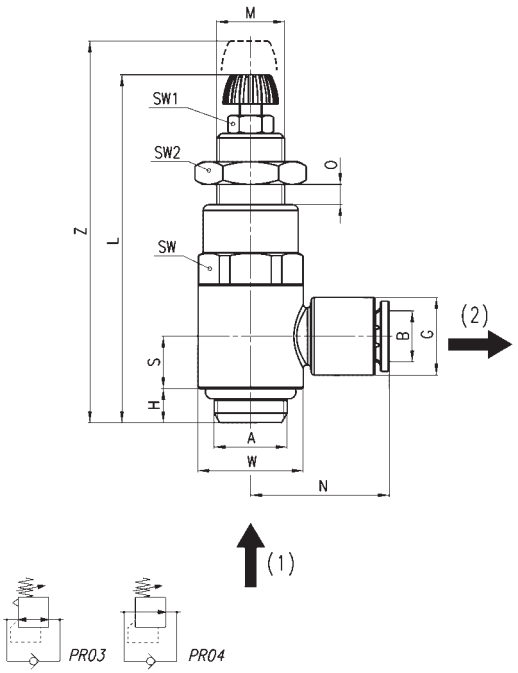
CLR 1/4-6 = 209 Nl/min
CLR 1/4-8 = 310 Nl/min



Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

CLR 1/8-4 = 90 Nl/min
CLR 1/8-6 = 120 Nl/min
CLR 1/8-8 = 120 Nl/min

Series CLR Micro pressure regulators with banjo

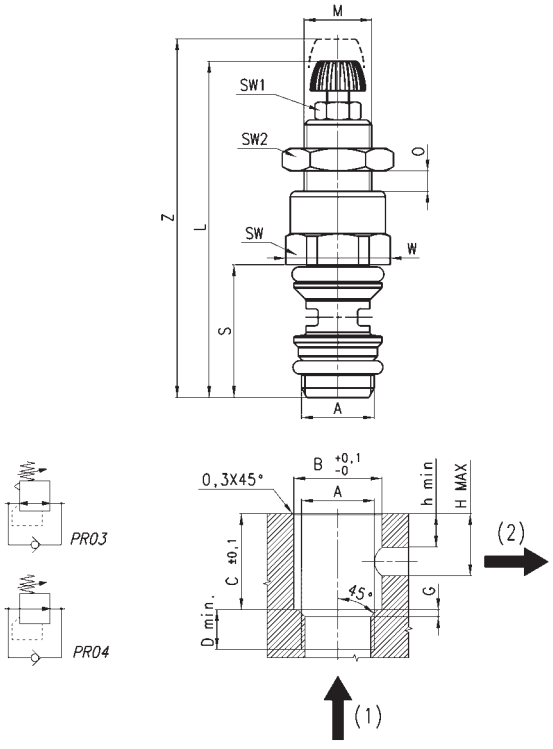


Mod.	A	B	G	H	L	M	N	O	S	W	SW	SW1	SW2	Z
CLR 1/8-4	G1/8	4	11.6	5	52	M11x1	21	0 ÷ 6.5	7.75	14	14	7	14	59
CLR 1/8-6	G1/8	6	11.6	5	52	M11x1	21	0 ÷ 6.5	7.75	14	14	7	14	59
CLR 1/8-8	G1/8	8	13.9	5	52	M11x1	22.5	0 ÷ 6.5	7.75	14	14	7	14	59
CLR 1/4-6	G1/4	6	13.9	6	59.5	M12x1	24.5	0 ÷ 8	9.25	18.6	17	7	17	68
CLR 1/4-8	G1/4	8	13.9	6	59.5	M12x1	24.5	0 ÷ 8	9.25	18.6	17	7	17	68

DRAWING NOTE
(1) = inlet pressure
(2) = regulated pressure

PR03 = Regulator with relieving and by-pass valve
PR04 = Regulator without relieving and with by-pass valve

Series CLR Micro pressure regulators without banjo



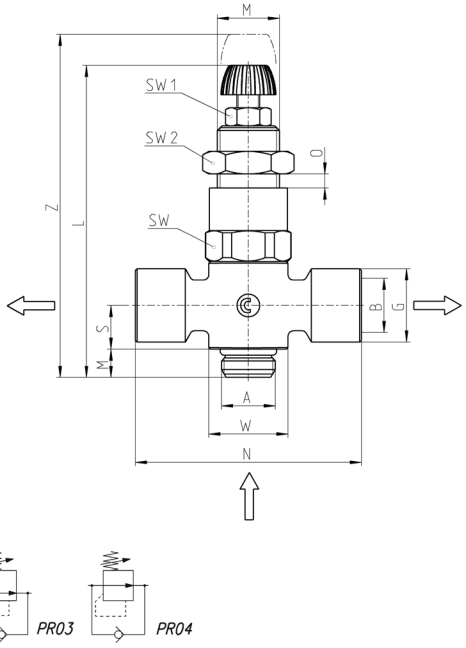
DIMENSIONS

Mod.	A	B	C	D min	G	h min	H MAX	L	M	O	S	W	SW	SW1	SW2	Z
CLR 1/8	G1/8	11	15.5	6	1	5.5	10	52	M11x1	0÷6.5	20.5	15.2	14	7	14	59
CLR 1/4	G1/4	15.65	18.5	7	1.25	7	12	59.5	M12x1	0÷8	24.5	18.5	17	7	17	68

DRAWING NOTE
(1) = inlet pressure
(2) = regulated pressure

PR03 = Regulator with relieving and by-pass valve
PR04 = Regulator without relieving and with by-pass valve

Series CLR Micro pressure regulators with double banjo

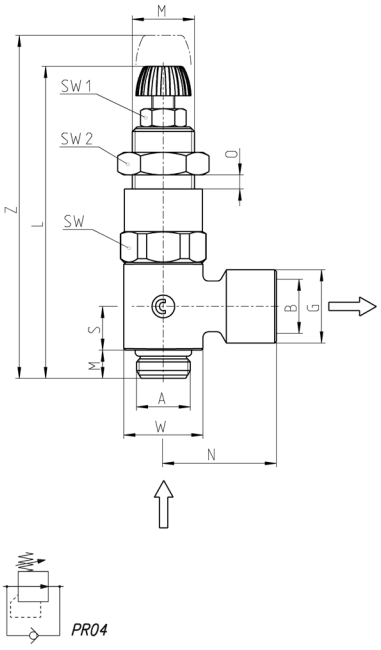


Mod.	A	B	G	H	L	M	N	O	S	W	SW	SW1	SW2	Z
CLR 1/8-1/8D	G1/8	G1/8	13	5	52	M11x1	40	0 ÷ 6.5	7.75	14	14	7	14	59

DRAWING NOTE
(1) = inlet pressure
(2) = regulated pressure

PR03 = Regulator with relieving and by-pass valve
PR04 = Regulator without relieving and with by-pass valve

Series CLR Micro pressure regulators with banjo



Mod.	A	B	G	H	L	M	N	O	S	W	SW	SW1	SW2	Z
CLR 1/8-1/8L	G1/8	G1/8	13	5	52	M11x1	20	0 ÷ 6.5	7.75	14	14	7	14	59

DRAWING NOTE
(1) = inlet pressure
(2) = regulated pressure

PR03 = Regulator with relieving and by-pass valve
PR04 = Regulator without relieving and with by-pass valve

Series M pressure microregulators

Ports G1/8, G1/4

» Versions with certified diaphragms and seals materials available

» Version with non nickelplated body for applications with water or fluids (gaseous or liquid) available

Series M pressure regulator is available with G1/8 and G1/4 ports.

The versions with non nickel-plated body are equipped with KTW certified seals and can be thus used with water or non aggressive fluids.

GENERAL DATA

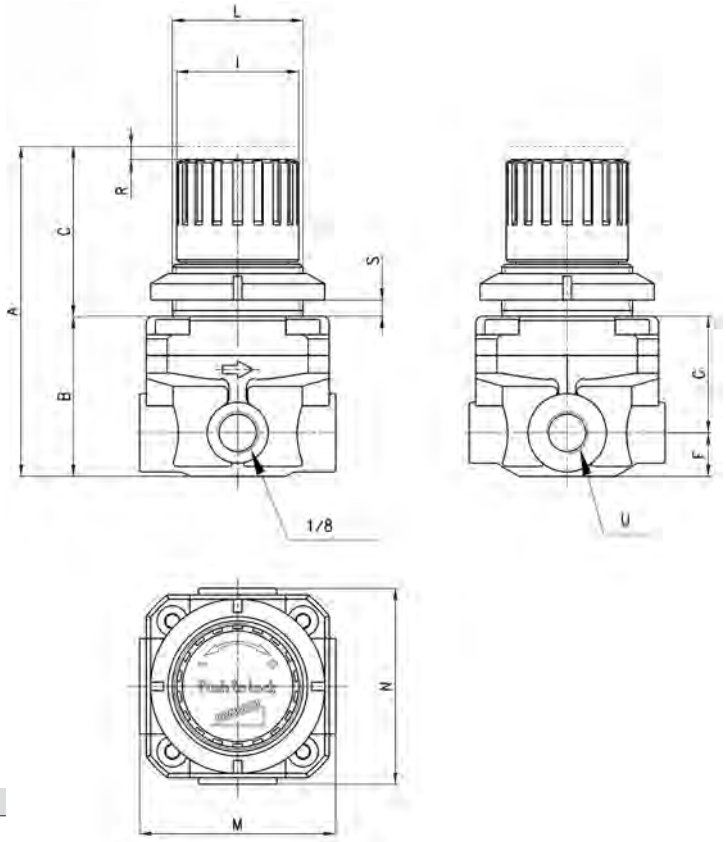
Construction	diaphragm type
Materials	body: non nickel-plated brass spring: stainless steel seals: diaphragm in EPDM (H versions only)
Ports	G1/8 - G1/4
Weight	Kg 0.235
Pressure gauge ports	G1/8
Mounting	in-line or panel mounting (in any position)
Operating temperature	10 °C ÷ 50 °C with water
Inlet pressure	0 ÷ 16 bar
Outlet pressure	0.5 ÷ 10 bar
Nominal flow	air: Qn 480 (Nl/min) water: Kv 0.42 (N3h)

CODING EXAMPLE

M	0	04	-	R	0	1	-	H

M	SERIES
0	SIZE
04	PORTS: 08 = G1/8 04 = G1/4
R	REGULATOR
0	OPERATING PRESSURE: 0 = 0.5 ÷ 10 bar
1	DESIGN TYPE: 1 = non relieving
H	VERSION: H = for use with water F = for use with various fluids

Series M pressure microregulator



DIMENSIONS												
Mod.	A	B	C	F	G	I	L	M	N	R	S	U
M008-R00	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/8
M004-R00	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/4
M008-R01-E-OX1	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/8
M004-R01-E-OX1	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/4

Series M pressure microregulators for use with water and fluids

Ports G1/8, G1/4

- Versions with certified diaphragms and seals materials available
- Version with non nickel-plated body for applications with water or fluids (gaseous or liquid) available

Series M pressure regulator is available with G1/8 and G1/4 ports.

The versions with non nickel-plated body are equipped with KTW certified seals and can be thus used with water or non aggressive fluids.

GENERAL DATA

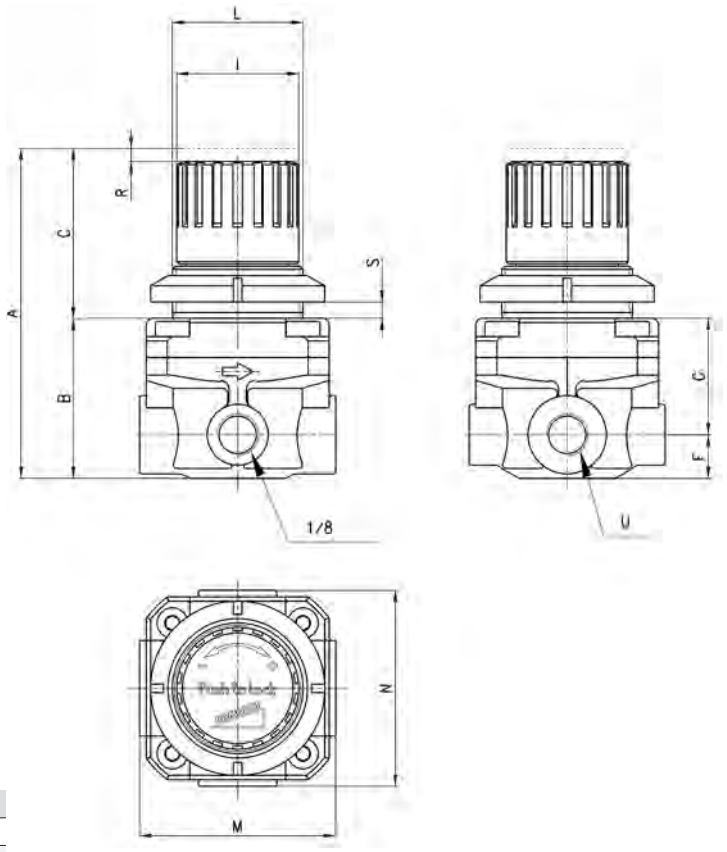
Construction	diaphragm type
Materials	body: non nickel-plated brass spring: stainless steel seals: diaphragm in EPDM (H versions only)
Ports	G1/8 - G1/4
Weight	Kg 0.235
Pressure gauge ports	G1/8
Mounting	in-line or panel mounting (in any position)
Operating temperature	10°C ÷ 50°C with water
Inlet pressure	0 ÷ 16 bar
Outlet pressure	0.5 ÷ 10 bar
Nominal flow	air: Qn 480 (Nl/min) water: Kv 0.42 (N3h)

CODING EXAMPLE

M	0	04	-	R	0	1	-	H

M	SERIES
0	SIZE
04	PORTS: 08 = G1/8 04 = G1/4
R	REGULATOR
0	OPERATING PRESSURE: 0 = 0.5 ÷ 10 bar
1	DESIGN TYPE: 1 = non relieving
H	VERSION: H = for use with water F = for use with various fluids

Series M pressure microregulator



DIMENSIONS

Mod.	A	B	C	F	G	I	L	M	N	R	S	U
M008-R01-H	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/8
M008-R01-F	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/8
M004-R01-H	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/4
M004-R01-F	76	37	39	10	27	28	M30x1,5	45	45	3	0 ÷ 6	G1/4

Series T pressure microregulators

Ports G1/8 and G1/4

- Extremely lightweight
- Compact
- In-line or console mounting

Series T pressure regulators are available with G1/8 and G1/4 brass connections. A self-relieving piston has been incorporated into the design to allow decreasing adjustments. Non-relieving versions are also available.

All models are equipped with a by-pass valve which is useful when a regulator should be inserted between the valve and cylinder (or capacity) without any negative influence on the exhaust.

GENERAL DATA

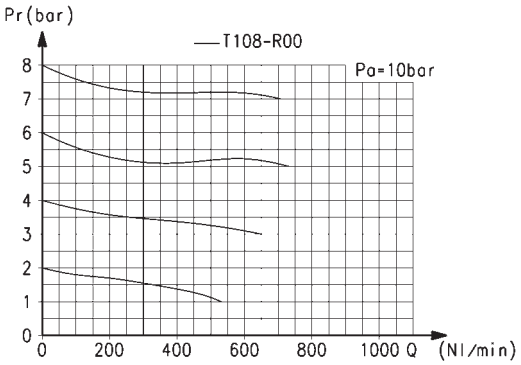
Construction	piston
Materials	technopolymer body and piston, stainless steel spring, brass inserts, NBR O-ring and poppet
Ports	G1/8 - G1/4
Weight	g 95
Pressure gauge ports	G1/8
Mounting	in-line or panel mounting (in any position)
Operating temperature	-5 °C ÷ 50 °C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Inlet pressure	0 ÷ 12 bar
Outlet pressure	0.5 ÷ 10 bar
Nominal flow	see graphs
Secondary pressure relieving	standard
Type of fluid	air and water. Special versions for other types of gas are available upon request.

CODING EXAMPLE

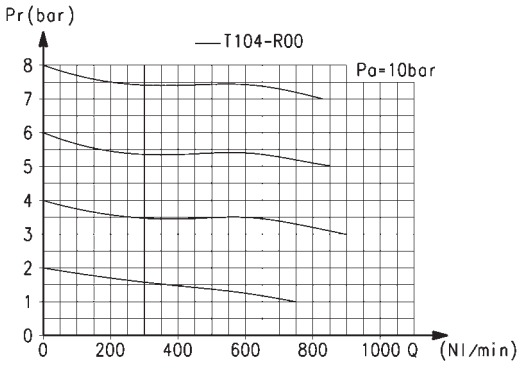
T	1	08	-	R	0	0

T	SERIES
1	SIZE
08	PORTS: 08 = G1/8 04 = G1/4
R	REGULATOR
0	OPERATING PRESSURE: 0 = 0,5 ÷ 10 1 = 0 ÷ 4 2 = 0 ÷ 2 7 = 0 ÷ 7 (standard)
0	DESIGN TYPE: 0 = self-relieving 1 = non relieving

FLOW DIAGRAMS



Flow diagram for model: T108-R00
Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)



Flow diagram for model: T104-R00
Pa = Inlet pressure (bar)
Pr = Regulated pressure (bar)
Q = Flow (Nl/min)

Series PG digital pressure gauges

Possibility of a direct mounting with rear or panel connection

- Pressure unit on display
- Battery-powered / with cable
- Easy and fast read out with digital display
- 4 user programmable pressure units available
- Power saving mode
- Back light
- Dust-proof and splash-proof (IP65 protection class)

The new Series PG digital pressure gauges meet the need of an even more precise pressure adjustment, above all in proportional control.
Thanks to the IP65 protection class these pressure gauges are particularly suitable for applications where the highest environmental protection is required.

TECHNICAL DATA

CHARACTERISTICS		
	Vacuum PG...-VB...	Pressure PG...-PB...
Pressure units	psi, bar, mmHg, kPa programmable by the user	psi, bar, kgf/cm², MPa programmable by the user
Rated pressure range	0 ÷ -1 bar	0 ÷ 10 bar
Display pressure range	0.1 ÷ -1 bar	-0.1 ÷ 10 bar
Withstand pressure	3 bar	15 bar
Repeatability	≤ ± 1% F.S. ± 1 digit	≤ ± 0,2% F.S. ± 1 digit
Resolution: kPa	1	-
MPa	-	0.001
kgf/cm²	0.01	0.01
bar	0.01	0.01
psi	0.1	0.1
Indicator accuracy	≤ ± 2% F.S. ± 1 digit (ambient temperature: 25 ± 3°C)	
Medium	Filtered air, incombustible and non-corrosive gases	
Back light	Yes	
Sample rate	2 Hz (2 times/second)	
LCD display	3 ½ digit, 7 segment	
Environment: Protection class	IP65 (an air tube must be installed to maintain this grade)	
Temperature	Operation: 0 ÷ 50°C Storage: -10 ÷ 60°C (no condensation or freezing)	
Relative humidity	Operation/storage: 35 ÷ 85% RH (no condensation)	
Vibrations	Total amplitude 1.5mm or 10G 10Hz-55Hz-10Hz scan for 1 minute 2 hours for each direction of X, Y and Z	
Shock	100 m/s² (10G) 3 times for each direction of X, Y and Z	
Changes due to temperature	≤ ± 2% F.S. of detected pressure (25°C) within the operating temperature range	
Pneumatic connections ports	G1/4 - M5 or G1/8 - M5	

FOR BATTERY-POWERED PRESSURE GAUGES ONLY	
Battery: Type	CR 2032 lithium
Life	1 year (5 times/day)
Low-power indicator	Yes
Replacement	Yes
Turn-on interval	Display turns off after 60 seconds

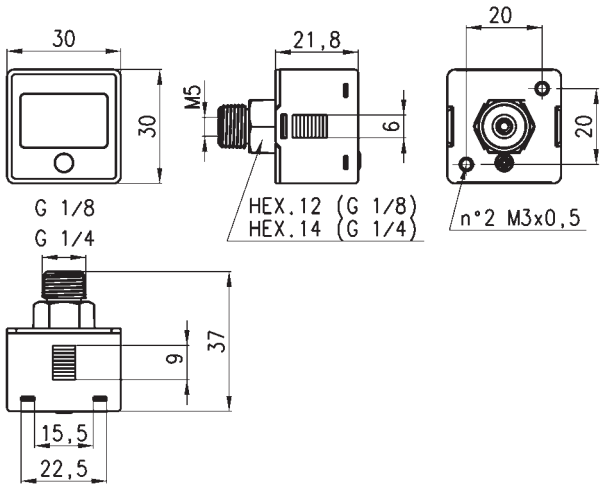
FOR PRESSURE GAUGES WITH POWER SUPPLY CABLE ONLY	
Supply voltage	from 12 to 28 V DC±10% Ripple
Power consumption	10 mA
Maximum voltage	1000V AC in 1-min (between the casing and the cables)
Isolation resistance	50 Mohm min (at 500 V DC, between the casing and the cables)
Electrical connection: for pressure gauges PG...-2	Unshielded 2-pole cable, length 2 m
for pressure gauges PG...-M	Connection with M8 4-pole connector

CODING EXAMPLE

PG	010	-	P	B	-	1/8	-	2

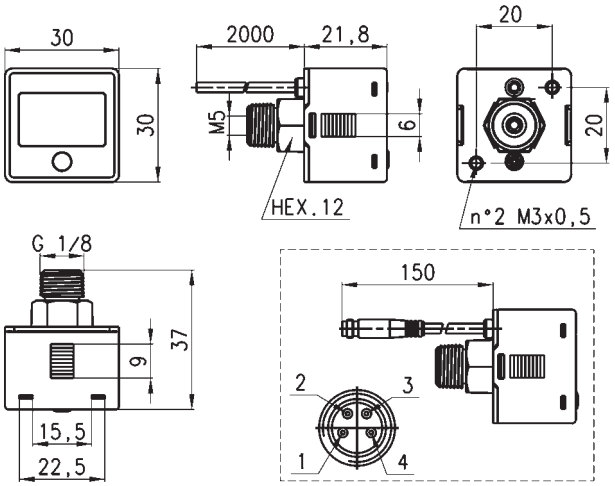
PG	SERIES
010	BOTTOM SCALE: 010 = 10 bar 001 = -1 bar
P	PRESSURE RANGE: P = pressure V = vacuum
B	LIGHTING: B = back light
1/8	PNEUMATIC CONNECTIONS: 1/8 = G 1/8 BSPP; M5 1/4 = G 1/4 BSPP; M5 (for battery-powered version only)
2	ELECTRICAL CONNECTION (for version with cable only): 2 = with unshielded 2-pole cable of 2 m M = with cable of 150 mm and M8 4-pole connector

Series PG digital pressure gauges - battery-powered



Mod.
PG010-PB-1/8
PG001-VB-1/8
PG010-PB-1/4
PG001-VB-1/4

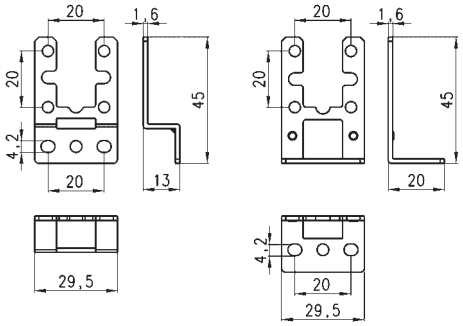
Series PG digital pressure gauges - with cable



Mod.
PG010-PB-1/8-2
PG001-VB-1/8-2
PG010-PB-1/8-M
PG001-VB-1/8-M

Mounting brackets Mod. PG-B

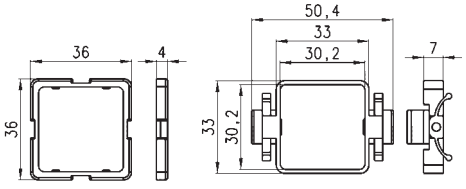
Supplied with:
1x bracket type A
1x bracket type B
2x screws M3x6



Mod.
PG-B

Panel mounting adapter Mod. PG-F

Supplied with:
1x adapter type A
1x adapter type B



Mod.
PG-F

OX1 fittings and accessories for applications of medical gases

New

Tube external diameters: 4, 6 and 8 mm
Fittings threads: metric (M5), BSP (G1/8, G1/4), BSPT (R1/8, R1/4)

OX1 fittings are designed for the Life Science market, particularly for medical and analytical applications.
Equipment manufacturers of Ventilators, Anaesthesia devices, Oxygen Concentrators, Mass Spectrometry or Bio Medical analysers have qualified the Series OX1 fittings for many years.

OX1 Products Cleanliness level:
Non volatile residue equal to or less than 550 mg/m2
Level OX1 : ultrasonic cleaning of components, inspection with UV black light, lubrication with a specific grease suitable to be used with oxygen.

- Ultrasonic cleaning
- Oxygen suitable grease
- Approved Collet technology
- Long life service
- Use with PA, PU, PE or Fluoropolymer Tubings

Serie 6000 OX1 push in fittings:
Series 6000 OX1 super-rapid fittings have been designed with a special collet which provides an homogeneous tight on the whole surface of plastic tubes, thus ensuring high reliability and a long service life, also after connections and disconnections of the tube are repeated several times.

Series VNR OX1 unidirectional valves:
They are available with Integrated Push-in Fittings. Thanks to their construction they operate at low pressure.

Series 2000 OX1 brass pipe fittings:
The wide range of Camozzi pipe fittings, which includes straight, L and Tee, male or female couplings, guarantees the necessary support during the design of medical and analytical systems.

GENERAL CHARACTERISTICS

Series 6000	
Diameters	ø 4, 6 and 8mm
Threads	GAS cylindrical ISO 228 (BSP); M5
Temperature	-15 °C ÷ 80 °C (see the technical data of tubing used)
Tube to connect	Polyamide (PA) 6 - 11 - 12, Polyurethane (PU), Fluoropolymer (FEP)
Fluid	Oxygen, Medical Gazes, Compressed Air or Other low pressure fluids
Materials	Standard models: body and collet in nickel-plated brass, O-ring with FKM with Oxygen suitable grease.
Working pressure	Standard models: min -0,9 bar - max 16 bar (see tubing)

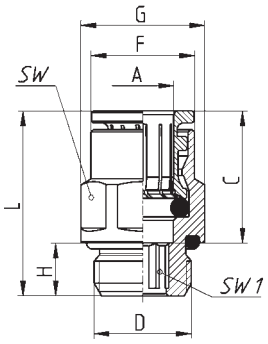
Series VNR	
Valve group	automatic valves
Construction	poppet-type
Materials	brass body stainless steel spring FKM seals
Mounting	in any position
Dimensions tube version	Ø4; Ø6; Ø8
Operating temperature	0 °C ÷ 80 °C
Fluid	Oxygen, Medical Gases, Compressed Air or Other low pressure fluids

Series 2000	
Threads	GAS conical ISO 7 (BSPT) GAS cylindrical ISO 228 (BSP)
Temperature	-40 °C ÷ 120 °C
Fluid	Oxygen, Medical Gases, Compressed Air or Other low pressure fluids
Materials	nickel-plated brass
Working pressure	80 bar

Fittings Mod. 6512-OX1

New

Metric-BSP Male Connector



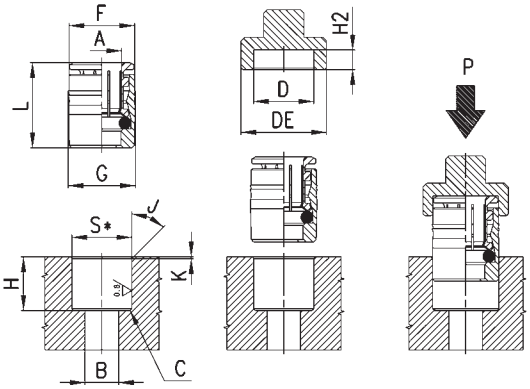
DIMENSIONS										
Mod.	A	D	C	F	G	H	L	SW	SW1	Weight (g)
6512 4-M5-OX1	4	M5	14.0	7.8	8.8	4	20	8	2	4
6512 4-1/8-OX1	4	G1/8	14.0	8.8	13.5	6	19	12	2.5	10
6512 6-M5-OX1	6	M5	16.0	11.7	13.2	4	22	12	2	8
6512 6-1/8-OX1	6	G1/8	16.0	11.7	13.5	6	21	12	4	10
6512 6-1/4-OX1	6	G1/4	16.0	11.7	16.4	7	22	15	4	13
6512 8-1/8-OX1	8	G1/8	17.5	13.7	15.2	6	26	14	5	15
6512 8-1/4-OX1	8	G1/4	17.5	13.7	16.4	7	24.5	15	6	17

Fittings Mod. 6700-OX1

New

Cartridge

S* = for both metallic and synthetic seat

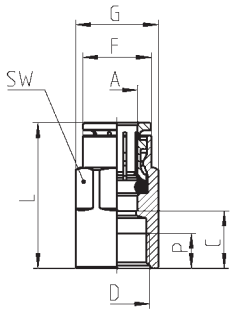


Mod.	A	B	C	D	DE	F	G	H	H2 (+0,1/0)	J	K	L	P min (Kg)	P max (Kg)	S (+0,01/-0,04)	Weight (g)
6700 4-OX1	4	3.5	0.5x45°	8.8	14	8.6	9	11	3.3	15°	0.5	14.5	200	360	8.75	4
6700 6-OX1	6	4	0.5x45°	12	17	11.8	12.2	12	3.8	15°	0.5	16.5	160	570	11.95	8

Fittings Mod. 6463-OX1

New

Metric-BSP Female Connector

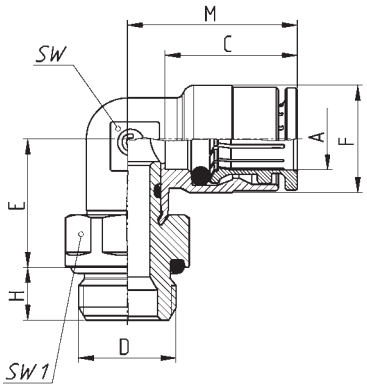


DIMENSIONS									
Mod.	A	D	C	F	G	L	P (min)	SW	Weight (g)
6463 4-1/8-OX1	4	G1/8	10	9	13	24	6	12	14
6463 6-1/8-OX1	6	G1/8	10	11.7	13	26	6	12	14
6463 6-1/4-OX1	6	G1/4	11.5	11.9	16.5	27.5	7	15	23

Fittings Mod. 6522-OX1

New

Metric-BSP Swivel Male Elbow

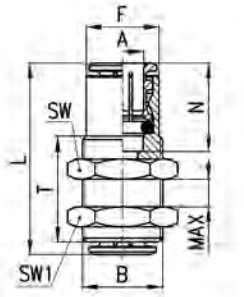


DIMENSIONS										
Mod.	A	D	C	E	F	H	M	SW	SW1	Weight (g)
6522 4-M5-OX1	4	M5	14.0	12.5	9	4	17.5	8	8	12
6522 4-1/8-OX1	4	G1/8	14.0	14.5	9	6	17.5	8	12	15
6522 6-M5-OX1	6	M5	16.0	13	12.7	4	20	9	10	14
6522 6-1/8-OX1	6	G1/8	16.0	15	12.7	6	20	9	12	19
6522 6-1/4-OX1	6	G1/4	16.0	16	12.7	7	20	9	15	27
6522 8-1/8-OX1	8	G1/8	17.5	16	14.2	6	22.5	11	12	22
6522 8-1/4-OX1	8	G1/4	17.5	17	14.2	7	22.5	11	15	28

Fittings Mod. 6590-OX1

New

Bulkhead Connector



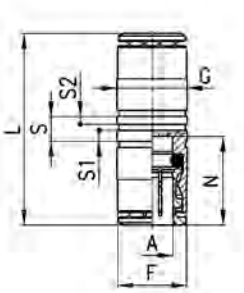
DIMENSIONS

Mod.	A	B	F	L	N	MAX	SW	SW1	T	Weight (g)
6590 4-OX1	4	M10x1	8.8	29	14	10.5	14	14	20	16
6590 6-OX1	6	M14x1	12.5	33	16	10.5	17	17	20	28

Fittings Mod. 6580-OX1

New

Union Connector



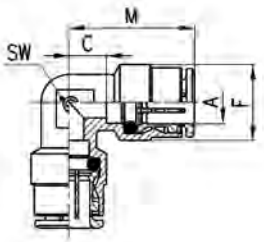
DIMENSIONS

Mod.	A	F	G	L	N	S	S1	S2	Weight (g)
6580 4-OX1	4	8.4	9	29	14	5	2.2	1.6	11
6580 6-OX1	6	11.7	12	34	16	5	2.2	1.6	16
6580 8-OX1	8	13.7	14	37	17.5	5	2.2	1.6	23

Fittings Mod. 6550-OX1

New

Elbow connector

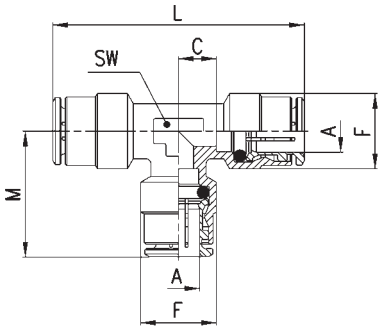


DIMENSIONS						
Mod.	A	C	F	M	SW	Weight (g)
6550 4-OX1	4	3.5	9	17.5	8	8
6550 6-OX1	6	4	12.7	20	9	17

Fittings Mod. 6540-OX1

New

Tee Connector

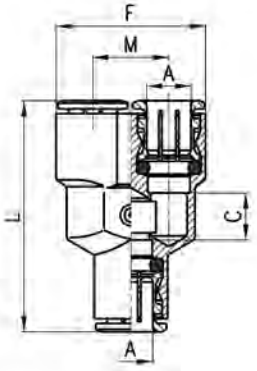


DIMENSIONS							
Mod.	A	C	F	L	M	SW	Weight (g)
6540 4-OX1	4	3.5	9	35	17.5	8	14
6540 6-OX1	6	4	12.7	40	20	9	24

Fittings Mod. 6560-OX1

New

Y Union

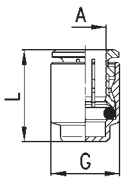


DIMENSIONS						
Mod.	A	C	F	L	M	Weight (g)
6560 4-OX1	4	5	18	33	9	19
6560 6-OX1	6	7	24.5	39	12.5	30

Fittings Mod. 6750-OX1

New

Female Plug

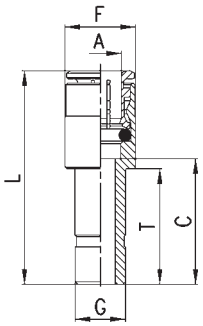


DIMENSIONS				
Mod.	A	G	L	Weight (g)
6750 4-OX1	4	8.8	15	4
6750 6-OX1	6	11.8	17	7

Fittings Mod. 6800-OX1

New

Reducer Junction

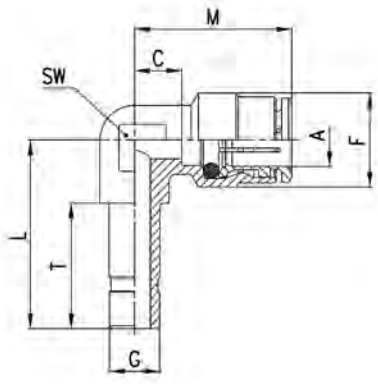


DIMENSIONS							
Mod.	A	G	C	F	L	T	Weight (g)
6800 4-6-OX1	4	6	15.5	9	29.5	18	9
6800 4-8-OX1	4	8	18	9	32	20.5	10
6800 6-8-OX1	6	8	18	12.7	34	20.5	12

Fittings Mod. 6555-OX1

New

Junction Elbow

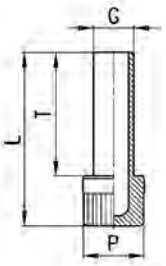


DIMENSIONS									
Mod.	A	G	C	L	F	T	M	SW	Weight (g)
6555 6-6-OX1	6	6	4	24.5	12.7	18	20	9	14

Accessory Mod. 6900-OX1

New

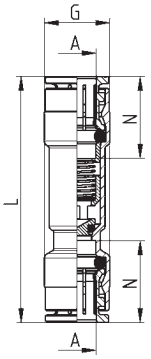
Plastic Male Plug



DIMENSIONS					
Mod.	G	L	P	T	Weight (g)
6900 4-OX1	4	29	8	20	1
6900 6-OX1	6	31.5	8	22.5	1

Series VNR unidirectional valves

New



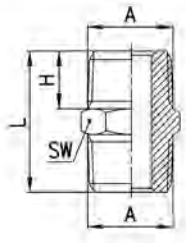
VNR1

Mod.	A	G	L	N	Flow 6 bar ΔP1(Nl/min)	Min. operating pressure (bar)	Max operating pressure (bar)	Weight (g)
6580 4-VNR-OX1	4	9	40	14	85	0,2	10	13
6580 6-VNR-OX1	6	12	48	16	450	0,2	10	20
6580 8-VNR-OX1	8	14	52.5	17.5	900	0,2	10	30

Fittings Mod. 2500-OX1

New

BSPT Nipple

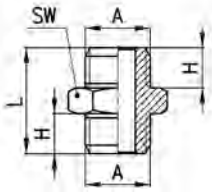


DIMENSIONS					
Mod.	A	H	L	SW	Weight (g)
2500 1/8-OX1	R1/8	7,5	19,5	12	9
2500 1/4-OX1	R1/4	11	27	14	16

Fittings Mod. 2501-OX1

New

Metric-BSP Nipple

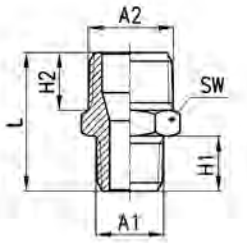


DIMENSIONS					
Mod.	A	H	L	SW	Weight (g)
2501 1/8-OX1	G1/8	6	16,5	13	9
2501 1/4-OX1	G1/4	8	21	17	15

Fittings Mod. 2510-OX1

New

BSPT Reducing Nipple

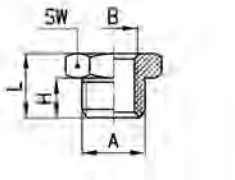


DIMENSIONS							
Mod.	A1	A2	H2	H1	L	SW	Weight (g)
2510 1/8-1/4-OX1	R1/8	R1/4	11	7,5	23,5	14	14

Fittings Mod. 2531-OX1

New

BSP Reducing



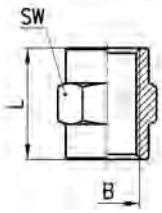
DIMENSIONS							
Mod.	A	B	H	L	SW	Weight (g)	
2531 1/8-M5-OX1	G1/8	M5	6	10,5	13	8	*
2531 1/4-1/8-OX1	G1/4	G1/8	8	13	17	11	*

* = with through-out thread

Fittings Mod. 2543-OX1

New

Sleeve

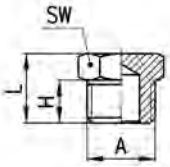


DIMENSIONS				
Mod.	B	L	SW	Weight (g)
2543 M5-OX1	M5	11	8	3
2543 1/8-OX1	G1/8	15	13	8
2543 1/4-OX1	G1/4	22	17	19

Fittings Mod. 2611-OX1

New

BSP Male Plug

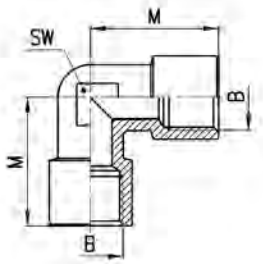


DIMENSIONS					
Mod.	A	H	L	SW	Weight (g)
2611 M5-OX1	M5	4	7,5	8	2
2611 1/8-OX1	G1/8	6	10,5	13	7
2611 1/4-OX1	G1/4	8	13	17	13

Fittings Mod. 2013-OX1

New

BSPT Female Elbow

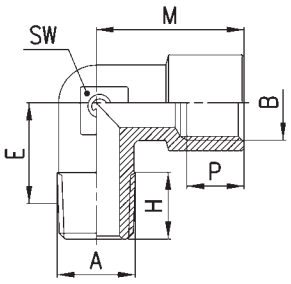


DIMENSIONS				
Mod.	B	M	SW	Weight (g)
2013 1/8-OX1	G1/8	19	11	16
2013 1/4-OX1	G1/4	23	14	28

Fittings Mod. 2021-OX1 and 2020-OX1

New

Mod. 2021-OX1: Metric Male Female Elbow
Mod. 2020-OX1: BSPT Male Female Elbow

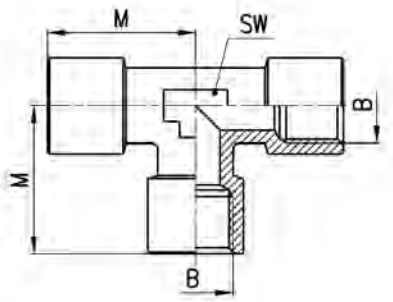


DIMENSIONS								
Mod.	A	B	E	H	M	P (min)	SW	Weight (g)
2020 1/8-1/8-OX1	R1/8	G1/8	11,5	8,5	19	6	11	17
2020 1/4-1/4-OX1	R1/4	G1/4	15	11	23	7	13	27

Fittings Mod. 2003-OX1

New

Female Tee

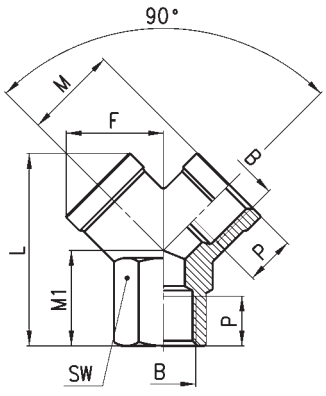


DIMENSIONS				
Mod.	B	M	SW	Weight (g)
2003 1/8-OX1	G1/8	19	12	23
2003 1/4-OX1	G1/4	23	13	39

Fittings Mod. 2043-OX1

New

Female Y



DIMENSIONS								
Mod.	B	F	L	M	M1	P	SW	Weight (g)
2043 1/8-OX1	G1/8	14,5	26,5	14	12	8	13	18
2043 1/4-OX1	G1/4	18	32	17,5	14	11	17	32

MIX COMUNICAZIONE - MI

Contacts

For further information about our products and conditions of sale,
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11/2020

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