ATEX CE ⟨Ex⟩
II 3G Ex nA IIC T6 Gc (X)
II 3D Ex tc IIIC T=80°C Dc (X) IP65

Pneumatic symbol
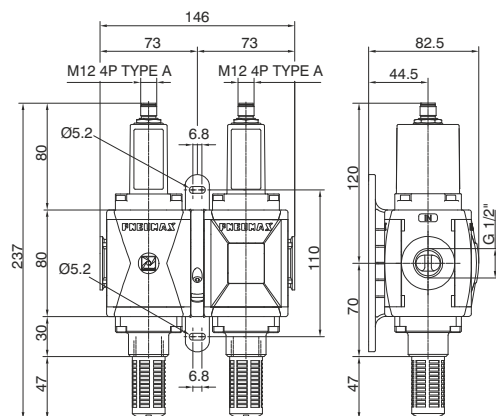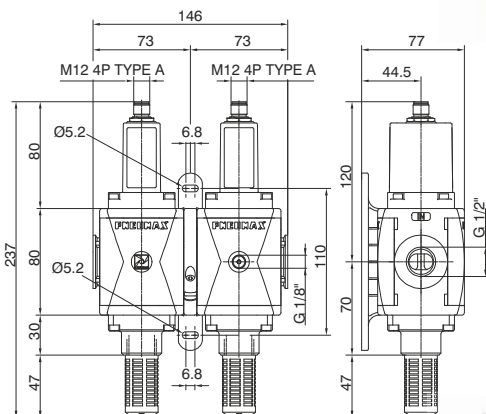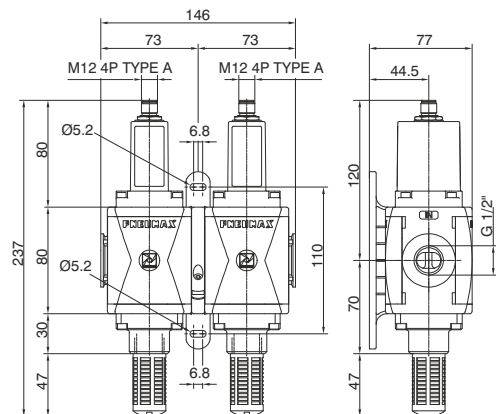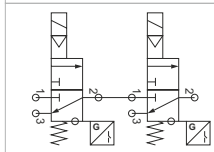
Electrical Connection

PIN	DESCRIPTION
1	+ 24 VDC (Sensor)
2	+ 24 VDC (EV)
3	GND (Sensor + EV)
4	SENSOR OUTPUT

Electrical Features

Electrical Connection	Male M12 4 PIN TYPE A Connector
Coil Features	24VDC, 1 Watt +1 Watt
Suppressor diode for coil reverse voltage spike	Present
Supply Voltage Allowance	-5% ÷ +10%

Electrical features of sensor

Sensor Features	10 ÷ 30V DC
Operating Principle	Hall effect
Contact Type	N.A.
Output Type	PNP
Permanent Maximum Current	100 mA + 100 mA
Permanent Maximum Power	3 Watt + 3 Watt
Voltage Drop, MAX	2 V + 2 V

Safety features

Regulatory Compliance	EN ISO 13849-1
Safety Function Fulfiled	Interruption of supply and unloading of the downstream pneumatic circuit
Performance Level (PL)	e
UNI EN 13849 Category	4
Safety Integrity Level (SIL)	3
PFH_D	$4,7*10^{-8}$
CE Marking	In accordance with the EU Machinery Directive, annex V

Technical Features

Connections	G1/2" UNI-ISO 228/1
Fluid	filtered and lubricated or non-lubricated air; if lubricated it must be continuous
Function	3/2 NC monostable
Working Pressure, MIN	2,5 bar
Working Pressure, MAX	10 bar
Working Temperature	-10°C ÷ +50°C
Flow rate at 6bar Δp1 (from 1 to 2)	2500 NL/min
Flow rate at 6bar Δp1 (from 2 to 3)	2000 NL/min
Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min
Type of Installation	In line
Mounting Position	Indifferent
Noise Level	90 dB
Response Time ON ISO 12238	68 ms
Response Time OFF ISO 12238	79 ms
Protection degree	Ip65 (with connector installed)

Ordering code

N173BV2S V F D

	VERSIONS	
V	= Standard*(without connections)	
	M= Incorporated pressure gauge	
	G= G1/8" pressure gauge Connection	
F	FIXING	
	X= "X" Flange	
	Y= "Y" Flange	
	K= "Y" Aluminium flange	
D	FLOW RATE DIRECTION	
	= Standard (Left-Right)*	
	W= (Right-Left)	

*no additional letter required

Please note: the safety valve is not sufficient alone to guarantee the safety function.
Its setup requires the use of a monitoring device.

In this setup, the SIEMENS 3SK2112 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key.
Said monitoring device, by means of the readings of the sensors placed inside the double valve, operates the activation of the valve itself.
The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to providin the safety function.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-F-IN1 and T2-F-IN2 of 3SK2112.
- The start /reset pushbutton is connected between +24 V and the F-IN10 clamp of 3SK2112.

The double valve, for notation simplicity, is indicated as consisting of 2 valves: EV1 and Ev2

Ev1
- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q1 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device´s F-IN3 clamp.

Ev2
- The valve is supplied between 0 V (Pin 3 of the supply connector) and the F-Q2 clamp of 3SK2112 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor is attached (Pin 4 of the supply connector) to the monitoring device´s F-IN4 clamp.

The circuit diagram of the **suggested** configuration is provided.
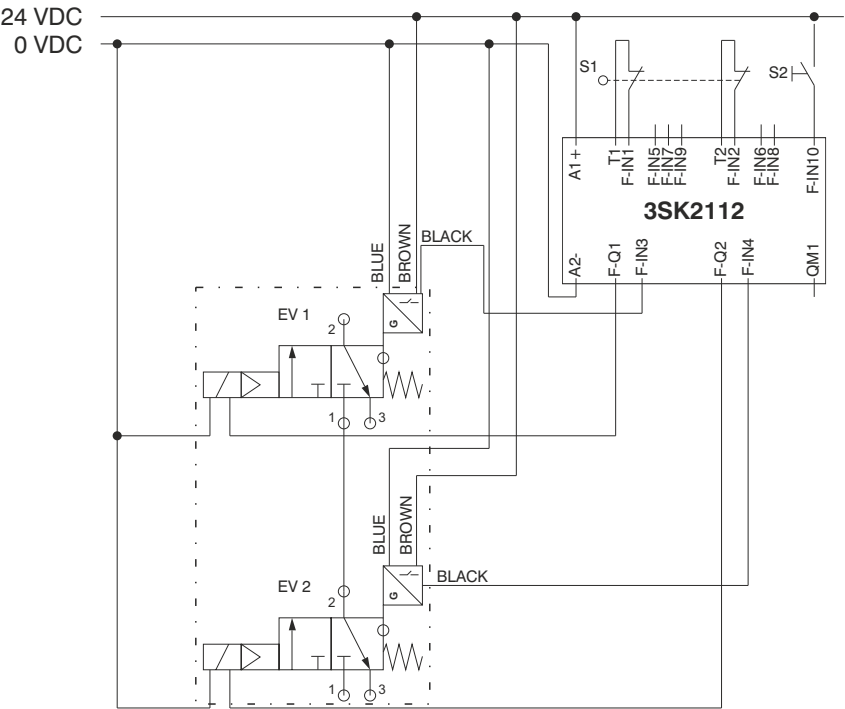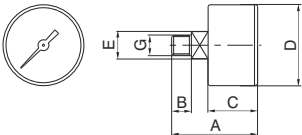

Analysis of malfunctions

The diagnostic system (monitoring device plus sensors) has the purpose of verifying the appearance of malfunctions within the valves, which undermine the safety function. In particular, the monitoring device must be appropriately programmed to avoid the system´s reset by means of S2 when both coils are de-energised and at least one sensor remains in an OFF position.

Accessories

Pressure gauge

Ordering code			
17070Ⓥ.Ⓢ			
Ⓥ	VERSION	A = Dial Ø40	
		B = Dial Ø50	
Ⓢ	SCALE	A = Scale 0-4 bar	
		B = Scale 0-6 bar	
		C = Scale 0-12 bar	

DIMENSIONS

CODE	A	B	C	D	E	G	Weight g.
17070A	44	10	26	41	14	1/8"	60
17070B	45	10	27	49	14	1/8"	80