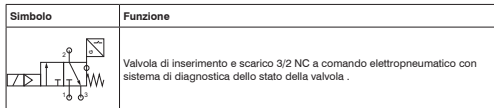


AIRPLUS SAFELINE

Descrizione prodotto :
Valvola di inserimento a scarico 3/2 NC a comando elettropneumatico con sistema di diagnostica dello stato della valvola. Consente l'alimentazione e lo scarico rapido e sicuro del ramo di circuito collegato alla bocca 2 nei sistemi pneumatici e nei terminali industriali. Il sistema di diagnostica legge la posizione della spoletta e di conseguenza rende noto lo stato della valvola.



Caratteristiche tecniche ed elettriche :

| Caratteristiche TECNICHE generali | |
|---|--|
| Connessioni | G1/2" UNI-ISO 228/1 |
| Fluido | Aria filtrata. Non è necessaria lubrificazione, se applicata deve essere continua. |
| Funzione | 3/2 NC monostabile |
| Pressione di esercizio MIN | 2,5 bar |
| Pressione di esercizio MAX | 10 bar |
| Temperatura di esercizio | -10°C ... +50°C |
| Portata a 6 bar Δp1 (da 1 a 2) | 3500 NL/min |
| Portata a 6 bar Δp1 (da 2 a 3) | 2000 NL/min |
| Portata a 6 bar (da 2 a 3) in scarico libero | 3800 NL/min |
| Tipo di installazione | In linea |
| Posizione di montaggio | Indifferente |
| Livello di rumorosità | 90 dB |
| Tempi di risposta secondo ISO 12238 in eccitazione | 36 ms |
| Tempi di risposta secondo ISO 12238 in diseccitazione | 76 ms |
| Grado di protezione | IP65 (con connettore montato) |

| Caratteristiche ELETTRICHE generali | |
|--|--------------------------------------|
| Connessione elettrica | Connettore M12 4 POLI maschio TIPO A |
| Caratteristiche bobina | 24V DC, 1 Watt |
| Diode di soppressione del picco inverso della bobina | Presente |
| Tolleranza sulla tensione di alimentazione | -5% ... +10% |

| Caratteristiche ELETTRICHE SENSORE | |
|------------------------------------|-----------------|
| Caratteristiche sensore | 10 ... 30V DC |
| Principio di funzionamento | Ad effetto Hall |
| Tipo di contatto | N.A. |
| Tipo di uscita | PNP |
| Corrente massima permanente | 100 mA |
| Potenza massima permanente | 3 W |
| Caduta di tensione MAX | 2 V |

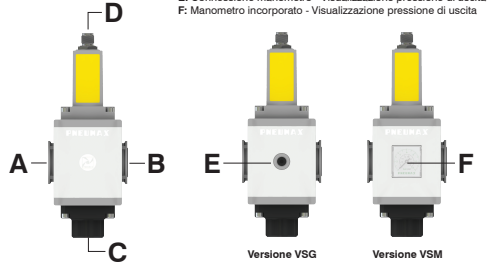
| Caratteristiche di sicurezza | |
|---------------------------------------|--|
| Conformità alla normativa | EN ISO 13849 |
| Funzione di sicurezza svolta | Interruzione dell'alimentazione e messa in scarico del circuito pneumatico a valle |
| Performance level (PL) | fino a c |
| Categoria EN ISO 13849 | fino a 1 |
| Safety integrity level (SIL) EN 62061 | fino a 1 |
| BT04* | 7.000.000 cicli |
| Marchatura CE | Direttiva 2006/42/CE - Direttiva 2014/34/UE - Direttiva 2011/65/UE |

*Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2. Pneumatic fluid power-Assessment of component reliability by testing - Part 2: Directional control valves.

Utilizzo:
Utilizzare i prodotti rispettando i campi di impiego di pressioni, temperatura e tensioni elettriche indicate. Garantire una adeguata preparazione dell'aria compressa, in termini di filtrazione e lubrificazione. Se presente la lubrificazione deve essere continua. Rimuovere in modo adeguato le particelle solide presenti nel circuito di alimentazione in modo tale da proteggere il dispositivo da guasti precoci e maggiore usura. È consigliabile alimentare l'impianto in modo graduale per evitare movimenti improvvisi e non controllati. Utilizzare il dispositivo senza apportare modifiche. Qualunque modifica non autorizzata comporta il decadimento di qualsiasi garanzia e/o certificazione di idoneità del dispositivo. Attenersi alle avvertenze e indicazioni riportate all'interno del presente documento di istruzioni.

Elementi operativi e attacchi:

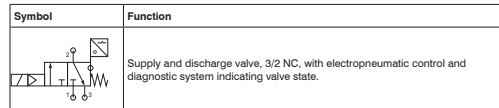
- A: Connessione 1 - **INGRESSO** (scritta IN su corpo)
- B: Connessione 2 - **USCITA** (scritta OUT su corpo)
- C: Connessione 3 - **SCARICO**
- D: Connettore M12 - **ALIMENTAZIONE ELETTRICA**
- E: Connettore manometro - Visualizzazione pressione di uscita
- F: Manometro incorporato - Visualizzazione pressione di uscita



Montaggio e installazione:
Effettuare l'installazione rispettando i requisiti di sicurezza relativi ai sistemi e ai loro componenti per trasmissioni oleodrauliche e pneumatiche. Installare il dispositivo il più vicino possibile al punto di impiego. Il montaggio è possibile in qualsiasi posizione. Porre attenzione alla direzione del flusso, indicata sul corpo principale dalle scritte IN e OUT. Durante la messa in scarico dell'impianto si creano livelli di rumorosità elevati. Si raccomanda l'utilizzo di un silenziatore sulla bocca di scarico. Prevedere durante l'installazione lo spazio sufficiente per il montaggio dello stesso. Accertarsi che lo scarico sia sempre

AIRPLUS SAFELINE

Product description:
Supply and discharge valve, 3/2 NC with electropneumatic control and diagnostic system indicating valve state. Allows a quick and secure supply and discharge of the circuit connected to port 2, for pneumatic system and industrial terminals. The diagnostic system reads the position of the spool and consequently takes note of the valve's state.



Technical and electrical features:

| General TECHNICAL features | |
|---|---|
| Connections | G1/2" UNI-ISO 228/1 |
| Fluid | Filtered air. No lubrication needed, if applied it shall 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 6 bar Δp1 (from 1 to 2) | 3500 NL/min |
| Flow rate at 6 bar Δp1 (from 2 to 3) | 2000 NL/min |
| Flow rate at 6 bar (from 2 to 3) with free discharge | 3800 NL/min |
| Type of installation | In line |
| Mounting position | Indifferent |
| Noise level | 90 dB |
| Response time according to ISO 12238, activation time | 36 ms |
| Response time according to ISO 12238, deactivation time | 76 ms |
| IP rating | IP65 (with connector installed) |

| General ELECTRICAL features | |
|---|---------------------------------|
| Electrical connection | Male M12 4 PIN TYPE A connector |
| Coil features | 24V DC, 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.O. |
| Output type | PNP |
| Permanent maximum current | 100 mA |
| Permanent maximum power | 3 W |
| Voltage drop MAX | 2 V |

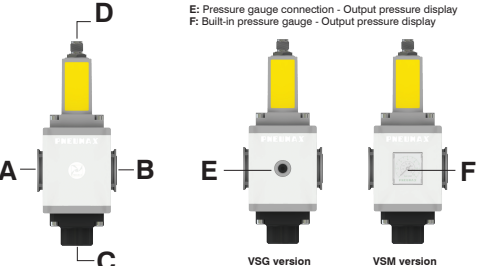
| SAFETY features | |
|---------------------------------------|--|
| Regulatory compliance | EN ISO 13849 |
| Safety function fulfilled | Interruption of supply and unloading of the downstream pneumatic circuit |
| Performance level (PL) | up to c |
| EN ISO 13849 category | up to 1 |
| Safety integrity level (SIL) EN 62061 | up to 1 |
| BT04* | 7.000.000 cycles |
| CE marking | Directive 2006/42/CE - Directive 2014/34/UE - Directive 2011/65/UE |

*Reliability and lifetime of pneumatic valves assessed in accordance with ISO 19973-2. Pneumatic fluid power-Assessment of component reliability by testing - Part 2: Directional control valves.

Usage :
Use the products respecting the application areas of pressures, temperature and electrical voltage indicated. Ensure an adequate preparation of the compressed air, in terms of filtration and lubrication. If lubrication is used, it must be used continuously. Adequately remove any solid particles present in the air supply, so as to protect the device from premature failure and increased wear. It is advisable to apply the air supply gradually, in order to avoid unexpected and uncontrolled movements. Use the device without making any changes to it. Any unauthorised change will void the device's warranty and/or certification of suitability. Observe the warnings and indications contained within this instruction document.

Operating elements and couplings:

- A: Connection 1 - **INPUT** (indicated as IN on the body)
- B: Connection 2 - **OUTPUT** (indicated as OUT on the body)
- C: Connection 3 - **DISCHARGE**
- D: M12 connector - **ELECTRICAL SUPPLY**
- E: Pressure gauge connection - Output pressure display
- F: Built-in pressure gauge - Output pressure display



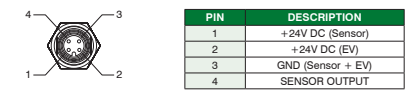
Assembly and Installation:
Undertake the installation respecting the safety requirements with regards to the system and components for hydraulic and pneumatic transmissions. Install the device as close as possible to the point of use. Its assembly is possible in any position. Pay attention to the flow direction, indicated on the main body with the labels IN and OUT. During the components discharge, high levels of noise occur. The use of a silencer on the discharge port is recommended. Ensure there is sufficient space for assembly during the installation process. Please ensure that the discharge area is always clear, and in case a silencer is used, periodically verify that it is not obstructed. It is possible to integrate and install the device in an existing

AIRPLUS group or in a new installation, or else to use the device individually attaching it by aligning the assembled unit with the relevant fastening flange.

WARNING!
Particular attention to external factors such as the nearness of live wires, magnetic fields, metallic objects providing magnetic conduction very close to the device, which may influence and disturb the diagnostic system.

Electrical Connection:
WARNING!
The electrical connection must be made exclusively by specialized personnel, using components that have no isolation present. Only use power supplies which can guarantee a safe electrical isolation of the working voltage in accordance to IEC/EN 60204-1. Additionally, observe the requirements anticipated by the PELV circuits in accordance to IEC/EN 60204-1.

The electrical connection is made by a male M12 4 PIN TYPE A connector placed on the technopolymer cover of the device. Wiring of the male M12 4 PIN TYPE A supply connector:



WARNING!
Incorrect connections may damage the device.

Startup:
Connect the valve to the pneumatic line with appropriate pneumatic fittings, paying attention to the flow indicators which appear on the body (engraved as IN and OUT). If necessary, install the silencer on the discharge port. Electrically connect the valve using the M12 connector. Pneumatically connect the valve providing pressure to the IN connection. Verify the correct operation of the valve and the diagnostic system:
- with a de-energised coil, the sensor in ON status, OUT connection not under pressure
- with a energised coil, the sensor in OFF status, OUT connection under pressure
Upon installation, before any use and periodically, determine the control of the signal correlations which compare the input and output states:
STATE 0: pneumatic supply/electrical signal missing
STATE 1: pneumatic supply/electrical signal present
When the valve is in a safe state (resting valve condition), the sensor is in ON=1 state.

| Table of signal correlations: | | | | | |
|-------------------------------|----------------|---|---|---|---|
| INPUTS | Solenoid valve | 0 | 0 | 1 | 1 |
| | Pressure IN | 0 | 1 | 0 | 1 |
| OUTPUT | Pressure OUT | 0 | 0 | 0 | 1 |
| | Sensor | 1 | 1 | 1 | 0 |

Test the control of the safety functions and the correct operation of the diagnostic system during installation or before any use and periodically test in the case of occasional usage.

Care and maintenance:
WARNING!
Do not connect or disconnect the device when energised! Do not open and/or disassemble the parts that are included in the energised valve. Once the power supply is disconnected, wait for a few minutes before opening or disassembling parts of the valve as the result in its disassembly.

Before carrying out any operation, it is essential to remove the pneumatic and power supply to the device and wait for the residual pressure to be completely discharged. Please ensure that the discharge is always clear, and in case a silencer is used, periodically verify that it is not obstructed. Periodically remove any dust deposits from the valve using a damp cloth. For maintenance operations on internal components, please consult with PNEUMAX SPA.

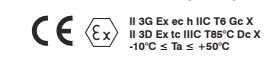
2014/34/UE ATEX DIRECTIVE - Notes for use in POTENTIALLY EXPLOSIVE environments

The installation must be performed in accordance with the EN 60079-14 standard. The exhaust port must be connected so that the exhaust air can be evacuated to an area outside of a potentially explosive atmosphere (particularly in the presence of dust). Avoid striking the metal parts of the valve with metallic objects that could generate mechanical sparks. Ground the metallic parts. Verify that there are no isolated metallic parts. The grounding of the solenoid valve must always be guaranteed and ensured over time. Verify that the product characteristics, such as the electrical construction group, temperature class, and surface temperature, are suitable for the installation area. The product must not be used in the presence of: flames and hot gases, stray electrical currents, electromagnetic waves, ionizing radiation, high-frequency radiation, ultrasound, adiabatic compression, and chemical reactions.

WARNING!
Do not connect or disconnect the 4-pin connector while energised. Alternatively, perform this operation only when there is no explosive atmosphere to be detected by an explosimeter. The product contains plastic parts exposed to the atmosphere, resulting in the risk of electrostatic discharge. Do not connect to power systems with fault currents exceeding 10 kA.

Special conditions of use (G):
The switching frequency must be a maximum of 1 Hz. Use the product in environments with a pollution degree no higher than 2 according to IEC 60664-1. Protect the product from impacts with force greater than 4J. Avoid the formation of layers of dust on the product. Avoid the formation of dust clouds during cleaning. Use an antistatic cloth or a damp cloth to clean the product.

AIRPLUS SAFELINE valves have been assessed according to Annex II of Directive 2014/34/UE - ATEX and according to the standards EN IEC 60079-0:2018, EN IEC 60079-7:2015/A1:2018, EN IEC 60079-31:2024, EN ISO 80079-36:2016 and EN ISO 80079-37:2016 for use in areas with risk of explosion due to the presence of flammable gases, vapours or mists and/or combustible dusts, classified as Zone 2 and Zone 22 and bear the following marking:



- | | | | |
|---------|---|-------|--|
| II | = Group II | IIC | = Group of gas |
| 3 | = Category 3 (zone 2/22) | IIC | = Group of dust |
| G | = Explosive atmosphere for gas, vapour, flammable mist | T6 | = Temperature class |
| D | = Explosive atmosphere for dust | T85°C | = Max surface temperature |
| Ex ec h | = "Increased safety" and "Constructive safety" protection modes | Gc | = EPL (gas) |
| Ex tc | = "Dust protection by enclosure" protection mode | Dc | = EPL (dust) |
| | | X | = Special condition for use |
| | | Ta | = Ambient or process temperature range |

Disposal: Dispose of the device and its packaging in accordance with local regulations. Do not dispose of in the environment