

# A Series

Poppet valves



ISO 9001  
BUREAU VERITAS  
Certification

N° IT275286



**Bonesi**  
Pneumatik





## Poppet valves - A series

Ports: 1/8" - 1/4" - 1/2" - 3/4" - 1"

### A SERIES



|  |
|--|
| High flow rate valves  |
| Fast switching times   |
| Not effected by fluid impurities                                     |
| High mechanical strength   |
| Body and top cover in anodized aluminium or stainless steel AISI 316 |
| Available with ports Gas and NPT                                     |
| 2/2 NO/NC - 3/2 NO/NC - 5/2 pilot-spring                             |
| Version for low temperature  |
| Version for high temperature   |
| Version for vacuum   |
| Possibility of manifold mounting                                     |
| Available certificated ATEX 2014/34/EU                               |

### TECHNICAL FEATURES

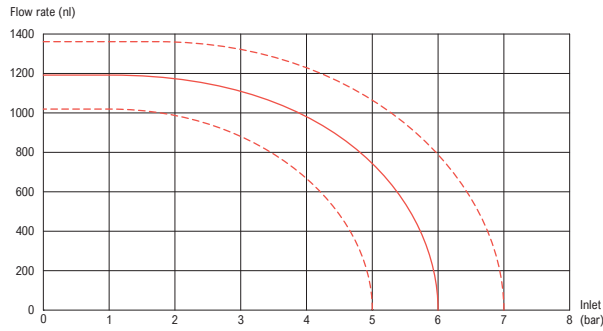
|                                    |  |              |              |       |       |
|------------------------------------|--|--------------|--------------|-------|-------|
| <b>Function</b>                    | 2/2 NO - 2/2 NC - 3/2 NO - 3/2 NC - 5/2 pilot-spring   |              |              |       |       |
| <b>Operation</b>                   | Electropneumatic: with solenoid size 22 and 30 mm, internal or external servopiloting and return by mechanical spring<br>Pneumatic: with external piloting and return by mechanical spring   |              |              |       |       |
| <b>Materials</b>                   | Standard: Body in aluminium alloy neuter anodized, top cover in aluminium alloy, fumè anodized, internal components in - aluminium - brass, seals NBR/FKM/PUR.<br>Version X: Body in stainless steel AISI 316, top cover in stainless steel AISI 316 , internal components in steel - aluminium - brass, seals NBR/FKM/PUR.<br>Version XX: Body in stainless steel AISI 316, top cover in stainless steel AISI 316 , internal components in stainless steel AISI 316, seals NBR/FKM/PUR. |              |              |       |       |
| <b>Note about the materials</b>    | According to Directive REACH (1907/2006/CE and s.a.s.)   |              |              |       |       |
| <b>Ports</b>                       | 1/8", 1/4", 1/2", 3/4", 1"   |              |              |       |       |
| <b>Threads</b>                     | BSPP (Gas parallel thread), NPT  |              |              |       |       |
| <b>Operating temperature range</b> | Standard: 0°C ÷ +60°C (-10°C with dry air to avoid ice formation)<br>High temperature (VT): -10°C ÷ +150°C<br>Low temperature (BT): -50°C ÷ +110°C   |              |              |       |       |
| <b>Operating pressure range</b>    | 1,5 ÷ 10 bar (available version for pressure up to 16 bar)   |              |              |       |       |
| <b>Pilot pressure</b>              | See piloting diagram   |              |              |       |       |
| <b>Flow rate</b>                   | 1/8"   | 1/4"         | 1/2"         | 3/4"  | 1"    |
| Inlet pressure (with ΔP 1 bar)     | 5  | 6            | 7            |       |       |
|                                    | 650 NI/min   | 700 NI/min   | 800 NI/min   |       |       |
|                                    | 1500 NI/min  | 1600 NI/min  | 1800 NI/min  |       |       |
|                                    | 2800 NI/min  | 3000 NI/min  | 3400 NI/min  |       |       |
|                                    | 6100 NI/min  | 6500 NI/min  | 7300 NI/min  |       |       |
|                                    | 11000 NI/min   | 12000 NI/min | 13500 NI/min |       |       |
| <b>Nominal orifice</b>             | 6 mm   | 9 mm         | 12 mm        | 19 mm | 23 mm |
| <b>Fluid</b>                       | Filtered air, without lubrication, according to ISO 8573-1:2010 [7:4:4]  |              |              |       |       |

### ATEX CERTIFICATION

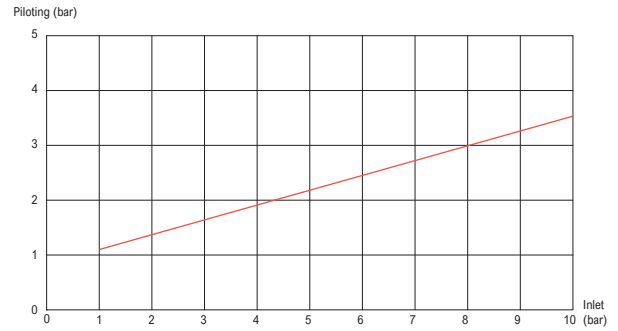
|   |   |
|---|---|
| <b>Valve marking (coil excluded)</b>          | CE EX II 2 GD c T6  |
| <b>Operating pressure in ATEX environment</b> | 1,5 ÷ 10 bar  |
| <b>Temperature in ATEX environment</b>        | -20°C ≤ Ta ≤ +60°C  |
| <b>CE marking</b>                             | According to Directive 2014/34/EU (see declaration of conformity) |

**FLOW RATE AND PILOTING DIAGRAMS**

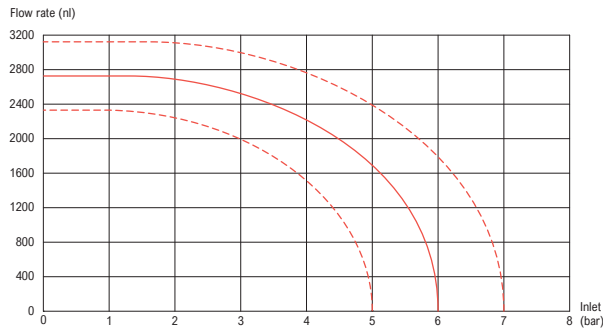
**FLOW RATE DIAGRAM – VALVE 1/8"**



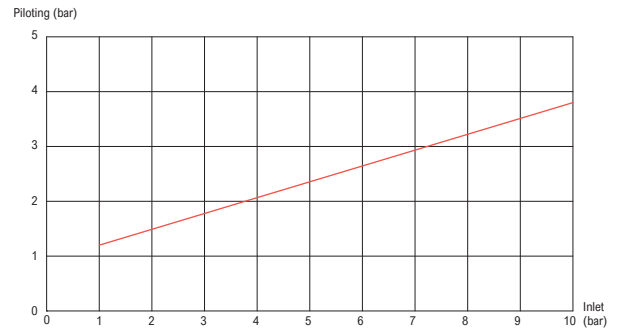
**PILOTING DIAGRAM – VALVE 1/8"**



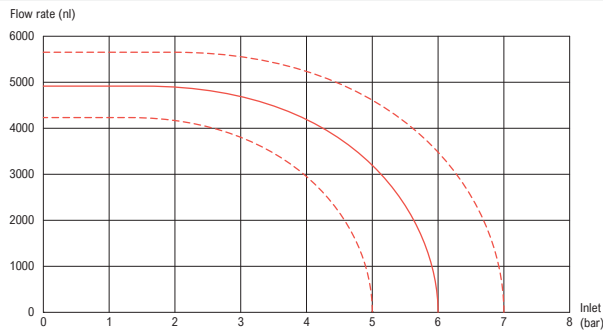
**FLOW RATE DIAGRAM – VALVE 1/4"**



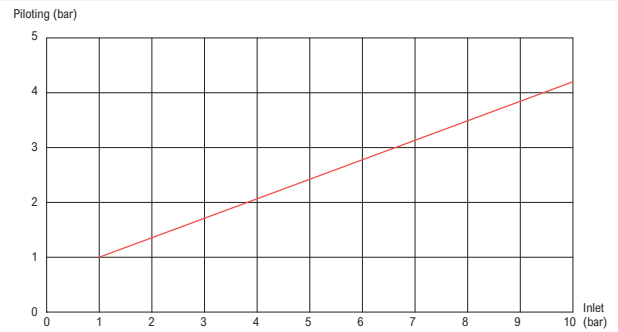
**PILOTING DIAGRAM – VALVE 1/4"**



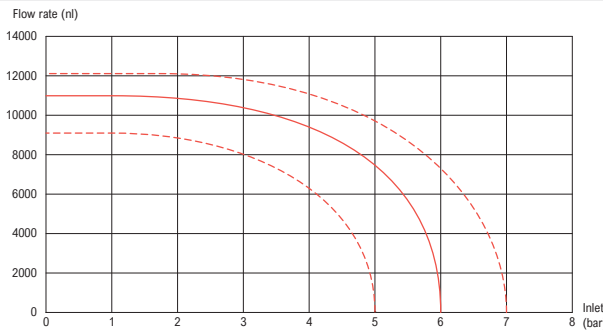
**FLOW RATE DIAGRAM – VALVE 1/2"**



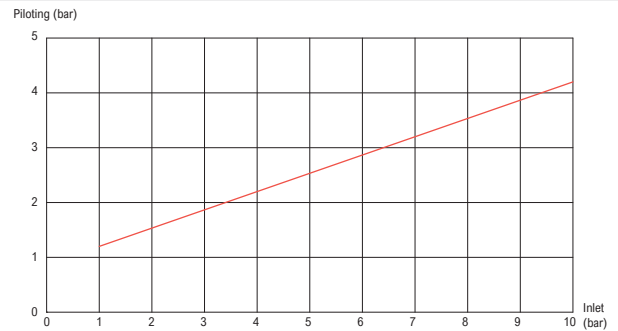
**PILOTING DIAGRAM – VALVE 1/2"**



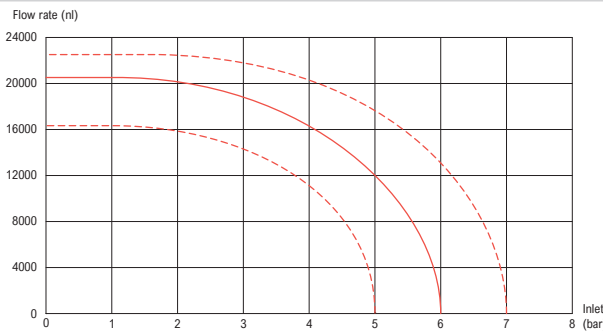
**FLOW RATE DIAGRAM – VALVE 3/4"**



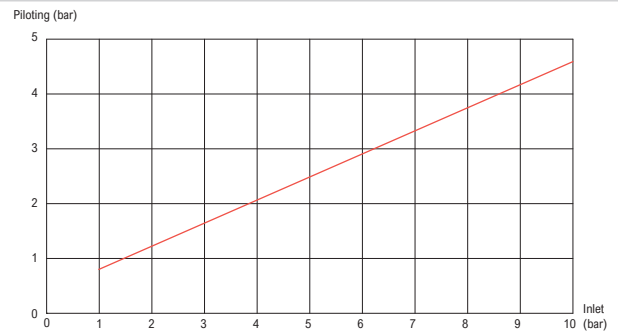
**PILOTING DIAGRAM – VALVE 3/4"**



**FLOW RATE DIAGRAM – VALVE 1"**



**PILOTING DIAGRAM – VALVE 1"**





**ORDERING CODE**

(Example of code)

|   |   |   |   |   |   |  |   |   |     |
|---|---|---|---|---|---|--|---|---|-----|
| S | 1 | A | / | 8 | / |  | / | E | NPT |
|---|---|---|---|---|---|--|---|---|-----|

**OPERATION**

- S = Pneumatic, external piloting
- E = Electropneumatic, internal piloting

**FUNCTION**

- H1 = 2/2 Normally closed
- H3 = 2/2 Normally open
- 1 = 3/2 Normally closed
- 3 = 3/2 Normally open
- 13 = 5/2 Pilot-spring

**SERIES**

- A = Poppet valve

**PNEUMATIC PORTS**

- 8 = 1/8"
- 4 = 1/4"
- 2 = 1/2"
- 33 = 3/4"
- 1 = 1"

**VERSION**

- NULL = For compressed air
- V = For vacuum
- PS = Electropneumatic, external piloting <sup>(2)</sup>
- EX = For compressed air potentially explosive environment (ATEX)

**MOUNTING**

- NULL = In line mounting
- B1 = Manifold mounting / Collector

**MATERIALS**

- NULL = Body and top cover in aluminium – Internal components in various materials
- X = Body and top cover in AISI 316 – Internal components in various materials
- XX = Totally in stainless steel AISI 316

**SEALS**

- NULL = Seals in NBR -10°C ÷ +60°C
- VT = Seals in FKM for high temperature -10°C ÷ +150°C
- BT = Seals in PUR for low temperature -50°C ÷ +110°C

**PILOT OPERATOR**

- E = Ø 8 for coil type "E" (22 mm x solenoid valves size 1/8" - 1/4" - 1/2")
- D = Ø 13 for coil type "D" (30 mm x solenoid valves size 1/2"<sup>(3)</sup>- 3/4" - 1")

**THREAD**

- NULL = BSPP (Gas parallel thread)
- NPT = NPT <sup>(1)</sup>

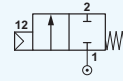
(1) NPT thread available only for in-line mounting - (2) External servo-piloting version PS only for compressed air - (3) Pilot operator type D available also for solenoid valve 1/2"

**PNEUMATIC ACTUATED VALVES - IN ALUMINIUM**

**COMPRESSED AIR**



2/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH1A/8  
SH1A/4  
SH1A/2  
SH1A/33/B1  
SH1A/1/B1

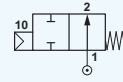
Manifold mounting  
SH1A/8/B1  
SH1A/4/B1  
SH1A/2/B1  
SH1A/33/B1  
SH1A/1/B1

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



2/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH3A/8  
SH3A/4  
SH3A/2  
SH3A/33  
SH3A/1

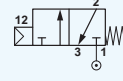
Manifold mounting  
n.a.  
n.a.  
n.a.  
SH3A/33/B1  
SH3A/1/B1

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



3/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S1A/8  
S1A/4  
S1A/2  
S1A/33  
S1A/1

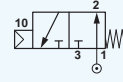
Manifold mounting  
S1A/8/B1  
S1A/4/B1  
S1A/2/B1  
S1A/33/B1  
S1A/1/B1

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



3/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S3A/8  
S3A/4  
S3A/2  
S3A/33  
S3A/1

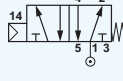
Manifold mounting  
n.a.  
n.a.  
n.a.  
S3A/33/B1  
S3A/1/B1

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



5/2 ways  
Pilot-spring



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S13A/8  
S13A/4  
S13A/2  
S13A/33  
S13A/1

Manifold mounting  
S13A/8/B1  
S13A/4/B1  
S13A/2/B1  
S13A/33/B1  
S13A/1/B1

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)

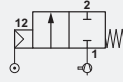
3

**PNEUMATIC VALVES**

**VACUUM**



2/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH1A/8V  
SH1A/4V  
SH1A/2V  
SH1A/33V  
SH1A/1V

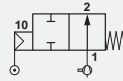
Manifold mounting  
n.a.  
n.a.  
n.a.  
n.a.  
n.a.

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS  
GAS  
GAS  
GAS  
GAS



2/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH3A/8V  
SH3A/4V  
SH3A/2V  
SH3A/33V  
SH3A/1V

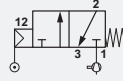
Manifold mounting  
n.a.  
n.a.  
n.a.  
n.a.  
n.a.

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS  
GAS  
GAS  
GAS  
GAS



3/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S1A/8V  
S1A/4V  
S1A/2V  
S1A/33V  
S1A/1V

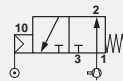
Manifold mounting  
n.a.  
n.a.  
n.a.  
n.a.  
n.a.

Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS  
GAS  
GAS  
GAS  
GAS



3/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S3A/8V  
S3A/4V  
S3A/2V  
S3A/33V  
S3A/1V

Manifold mounting  
n.a.  
n.a.  
n.a.  
n.a.  
n.a.

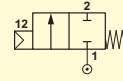
Seals  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT  
STD / VT / BT

Thread  
GAS  
GAS  
GAS  
GAS  
GAS

**ATEX**



2/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH1A/8EX  
SH1A/4EX  
SH1A/2EX  
SH1A/33EX  
SH1A/1EX

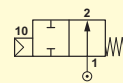
Manifold mounting  
n.a.  
n.a.  
n.a.  
SH1A/33EX/B1  
SH1A/1EX/B1

Seals  
STD  
STD  
STD  
STD  
STD

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



2/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
SH3A/8EX  
SH3A/4EX  
SH3A/2EX  
SH3A/33EX  
SH3A/1EX

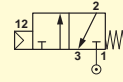
Manifold mounting  
SH3A/8EX/B1  
SH3A/4EX/B1  
SH3A/2EX/B1  
SH3A/33EX/B1  
SH3A/1EX/B1

Seals  
STD  
STD  
STD  
STD  
STD

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



3/2 ways  
Pilot-spring  
Normally closed



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S1A/8EX  
S1A/4EX  
S1A/2EX  
S1A/33EX  
S1A/1EX

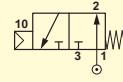
Manifold mounting  
n.a.  
n.a.  
n.a.  
S1A/33EX/B1  
S1A/1EX/B1

Seals  
STD  
STD  
STD  
STD  
STD

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



3/2 ways  
Pilot-spring  
Normally open



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S3A/8EX  
S3A/4EX  
S3A/2EX  
S3A/33EX  
S3A/1EX

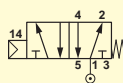
Manifold mounting  
S3A/8EX/B1  
S3A/4EX/B1  
S3A/2EX/B1  
S3A/33EX/B1  
S3A/1EX/B1

Seals  
STD  
STD  
STD  
STD  
STD

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)



5/2 ways  
Pilot-spring



1/8"  
1/4"  
1/2"  
3/4"  
1"

In line mounting  
S13A/8EX  
S13A/4EX  
S13A/2EX  
S13A/33EX  
S13A/1EX

Manifold mounting  
S13A/8EX/B1  
S13A/4EX/B1  
S13A/2EX/B1  
S13A/33EX/B1  
S13A/1EX/B1

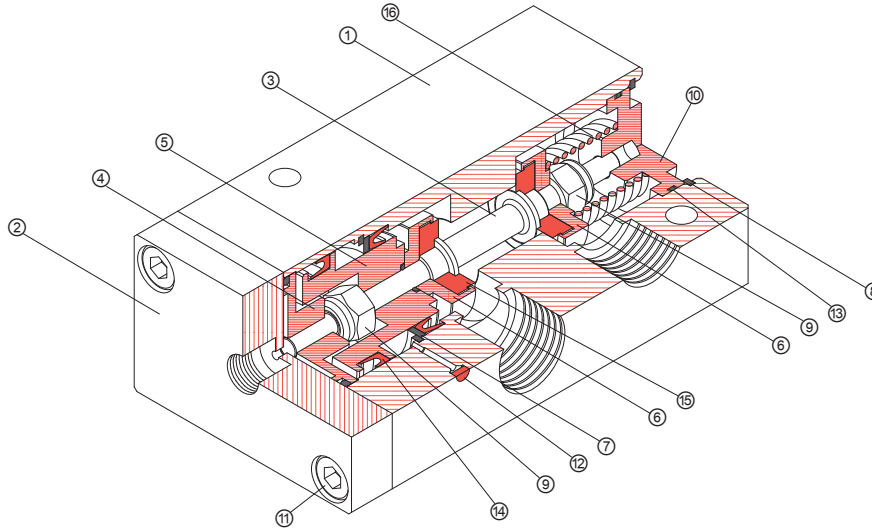
Seals  
STD  
STD  
STD  
STD  
STD

Thread  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)  
GAS / NPT (1)

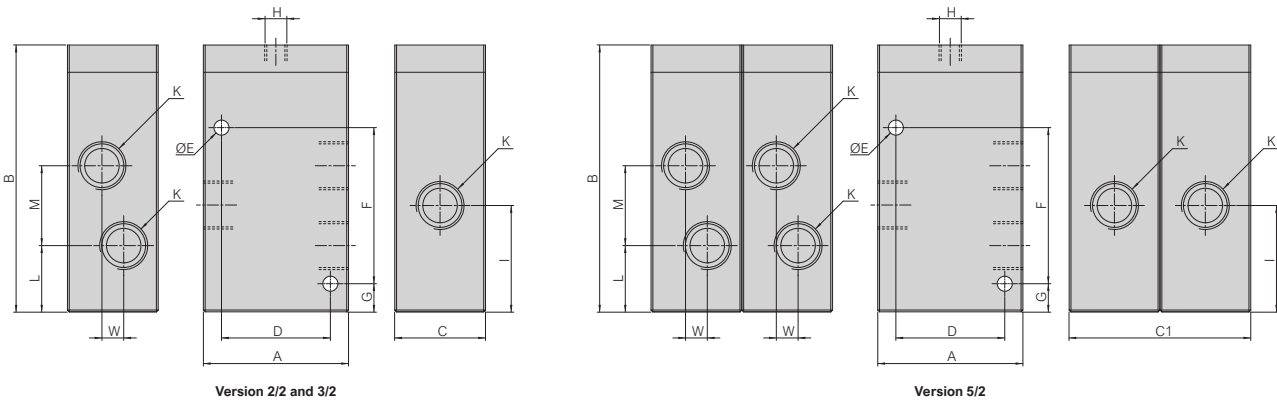
(1) NPT thread available only for in-line mounting - (n.a.) Not available

**STANDARD MATERIALS**

| ITEM | DESCRIPTION           | MATERIAL                               | ITEM | DESCRIPTION      | MATERIAL                               |
|------|-----------------------|--|------|------------------|--|
| ①    | Body                  | Anodized profiled / extruded aluminium | ⑨    | Self-locking nut | Zinc plated steel                      |
| ②    | Top cover             | Anodized profiled / extruded aluminium | ⑩    | End cover        | Anodized aluminium                     |
| ③    | Poppet rod            | Zinc plated steel                      | ⑪    | Screw            | Zinc plated steel                      |
| ④    | Guide rod             | Anodized aluminium                     | ⑫    | Silencer         | Sintered bronze                        |
| ⑤    | Piston                | Anodized aluminium                     | ⑬    | O-ring           | NBR / FKM / PUR                        |
| ⑥    | Poppet holder         | Zinc plated steel                      | ⑭    | Tightness seal   | NBR / FKM / PUR                        |
| ⑦    | Anti-extrusion washer | Hostaform                              | ⑮    | Poppet seal      | NBR / FKM / PUR                        |
| ⑧    | Seeger ring           | Spring steel                           | ⑯    | Spring           | Stainless steel AISI 304 (X5CrNi18-10) |



**STANDARD DIMENSIONS**



| K          | A             | B         | C             | C1            | D         | ØE   | F         | G         | H          | I         | L         | M         | W         |
|------------|---------------|-----------|---------------|---------------|-----------|------|-----------|-----------|------------|-----------|-----------|-----------|-----------|
| BSPP / NPT | $0$<br>$-0,2$ | $\pm 0,3$ | $0$<br>$-0,2$ | $0$<br>$-0,5$ | $\pm 0,3$ |      | $\pm 0,3$ | $\pm 0,2$ | BSPP / NPT | $\pm 0,2$ | $\pm 0,2$ | $\pm 0,3$ | $\pm 0,3$ |
| 1/8"       | 40            | 70        | 20            | 40            | 29        | 4,25 | 33,5      | 11,5      | 1/8"       | 26        | 16        | 20        | 0         |
| 1/4"       | 50            | 80,5      | 25            | 50            | 34        | 5,25 | 39        | 14,5      | 1/8"       | 29,5      | 17,5      | 24        | 0         |
| 1/2"       | 70            | 99,5      | 35            | 70            | 50        | 6,25 | 54,5      | 15        | 1/8"       | 37        | 21        | 32        | 0         |
| 3/4"       | 79            | 147       | 50            | 100           | 60        | 8,25 | 86        | 15,5      | 1/4"       | 58,5      | 36,5      | 44        | 12        |
| 1"         | 100           | 166       | 60            | 120           | 82        | 10,5 | 85        | 33        | 1/4"       | 64,5      | 30        | 61        | 0         |

**SOLENOID ACTUATED VALVES - IN ALUMINIUM**

**COMPRESSED AIR**



| Function   | Symbol | Port | In line mounting | Manifold mounting | Seals | Thread        |
|--|--------|------|------------------|-------------------|-------|---------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | EH1A/8/E         | EH1A/8/B1/E       | STD   | GAS / NPT (1) |
|  |        | 1/4" | EH1A/4/E         | EH1A/4/B1/E       | STD   | GAS / NPT (1) |
|  |        | 1/2" | EH1A/2/E(3)      | EH1A/2/B1/E(3)    | STD   | GAS / NPT (1) |
|  |        | 3/4" | EH1A/33/D        | EH1A/33/B1/D      | STD   | GAS / NPT (1) |
|  |        | 1"   | EH1A/1/D         | EH1A/1/B1/D       | STD   | GAS / NPT (1) |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | EH3A/8/E         | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/4" | EH3A/4/E         | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/2" | EH3A/2/E(3)      | n.a.              | STD   | GAS / NPT (1) |
|  |        | 3/4" | EH3A/33/D        | EH3A/33/B1/D      | STD   | GAS / NPT (1) |
|  |        | 1"   | EH3A/1/D         | EH3A/1/B1/D       | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | E1A/8/E          | E1A/8/B1/E        | STD   | GAS / NPT (1) |
|  |        | 1/4" | E1A/4/E          | E1A/4/B1/E        | STD   | GAS / NPT (1) |
|  |        | 1/2" | E1A/2/E(3)       | E1A/2/B1/E(3)     | STD   | GAS / NPT (1) |
|  |        | 3/4" | E1A/33/D         | E1A/33/B1/D       | STD   | GAS / NPT (1) |
|  |        | 1"   | E1A/1/D          | E1A/1/B1/D        | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | E3A/8/E          | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/4" | E3A/4/E          | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/2" | E3A/2/E(3)       | n.a.              | STD   | GAS / NPT (1) |
|  |        | 3/4" | E3A/33/D         | E3A/33/B1/D       | STD   | GAS / NPT (1) |
|  |        | 1"   | E3A/1/D          | E3A/1/B1/D        | STD   | GAS / NPT (1) |
| 5/2 ways<br>Pilot-spring<br>Internal piloting (2)                    |        | 1/8" | E13A/8/E         | E13A/8/B1/E       | STD   | GAS / NPT (1) |
|  |        | 1/4" | E13A/4/E         | E13A/4/B1/E       | STD   | GAS / NPT (1) |
|  |        | 1/2" | E13A/2/E(3)      | E13A/2/B1/E(3)    | STD   | GAS / NPT (1) |
|  |        | 3/4" | E13A/33/D        | E13A/33/B1/D      | STD   | GAS / NPT (1) |
|  |        | 1"   | E13A/1/D         | E13A/1/B1/D       | STD   | GAS / NPT (1) |

**3**

**PNEUMATIC VALVES**

**VACUUM**



| Function   | Symbol | Port | In line mounting | Manifold mounting | Seals | Thread |
|--|--------|------|------------------|-------------------|-------|--------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | EH1A/8V/E        | n.a.              | STD   | GAS    |
|  |        | 1/4" | EH1A/4V/E        | n.a.              | STD   | GAS    |
|  |        | 1/2" | EH1A/2V/E(3)     | n.a.              | STD   | GAS    |
|  |        | 3/4" | EH1A/33V/D       | n.a.              | STD   | GAS    |
|  |        | 1"   | EH1A/1V/D        | n.a.              | STD   | GAS    |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | EH3A/8V/E        | n.a.              | STD   | GAS    |
|  |        | 1/4" | EH3A/4V/E        | n.a.              | STD   | GAS    |
|  |        | 1/2" | EH3A/2V/E(3)     | n.a.              | STD   | GAS    |
|  |        | 3/4" | EH3A/33V/D       | n.a.              | STD   | GAS    |
|  |        | 1"   | EH3A/1V/D        | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | E1A/8V/E         | n.a.              | STD   | GAS    |
|  |        | 1/4" | E1A/4V/E         | n.a.              | STD   | GAS    |
|  |        | 1/2" | E1A/2V/E(3)      | n.a.              | STD   | GAS    |
|  |        | 3/4" | E1A/33V/D        | n.a.              | STD   | GAS    |
|  |        | 1"   | E1A/1V/D         | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | E3A/8V/E         | n.a.              | STD   | GAS    |
|  |        | 1/4" | E3A/4V/E         | n.a.              | STD   | GAS    |
|  |        | 1/2" | E3A/2V/E(3)      | n.a.              | STD   | GAS    |
|  |        | 3/4" | E3A/33V/D        | n.a.              | STD   | GAS    |
|  |        | 1"   | E3A/1V/D         | n.a.              | STD   | GAS    |

**ATEX**



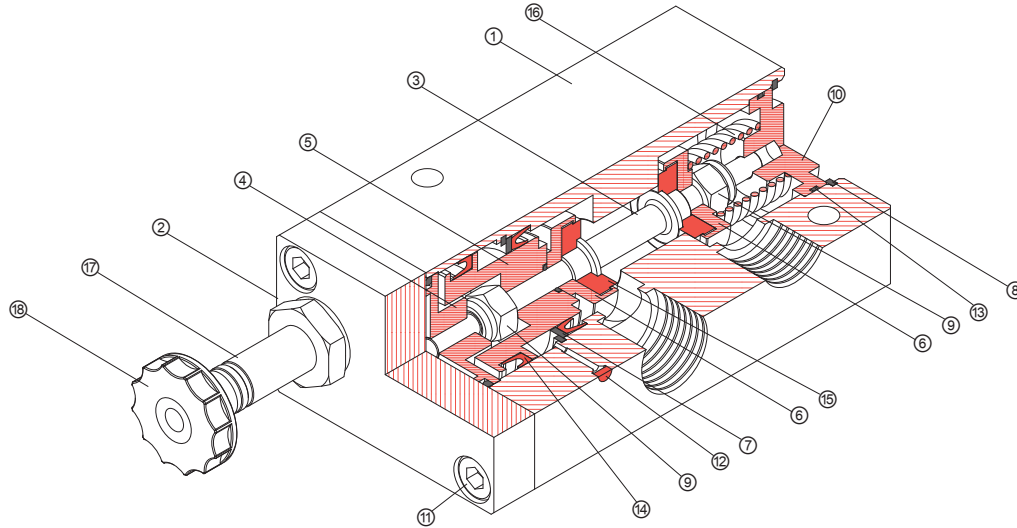
| Function   | Symbol | Port | In line mounting | Manifold mounting | Seals | Thread        |
|--|--------|------|------------------|-------------------|-------|---------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | EH1A/8EX/E       | EH1A/8EX/B1/E     | STD   | GAS / NPT (1) |
|  |        | 1/4" | EH1A/4EX/E       | EH1A/4EX/B1/E     | STD   | GAS / NPT (1) |
|  |        | 1/2" | EH1A/2EX/E(3)    | EH1A/2EX/B1/E(3)  | STD   | GAS / NPT (1) |
|  |        | 3/4" | EH1A/33EX/D      | EH1A/33EX/B1/D    | STD   | GAS / NPT (1) |
|  |        | 1"   | EH1A/1EX/D       | EH1A/1EX/B1/D     | STD   | GAS / NPT (1) |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | EH3A/8EX/E       | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/4" | EH3A/4EX/E       | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/2" | EH3A/2EX/E(3)    | n.a.              | STD   | GAS / NPT (1) |
|  |        | 3/4" | EH3A/33EX/D      | EH3A/33EX/B1/D    | STD   | GAS / NPT (1) |
|  |        | 1"   | EH3A/1EX/D       | EH3A/1EX/B1/D     | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting (2) |        | 1/8" | E1A/8EX/E        | E1A/8EX/B1/E      | STD   | GAS / NPT (1) |
|  |        | 1/4" | E1A/4EX/E        | E1A/4EX/B1/E      | STD   | GAS / NPT (1) |
|  |        | 1/2" | E1A/2EX/E(3)     | E1A/2EX/B1/E(3)   | STD   | GAS / NPT (1) |
|  |        | 3/4" | E1A/33EX/D       | E1A/33EX/B1/D     | STD   | GAS / NPT (1) |
|  |        | 1"   | E1A/1EX/D        | E1A/1EX/B1/D      | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting (2)   |        | 1/8" | E3A/8EX/E        | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/4" | E3A/4EX/E        | n.a.              | STD   | GAS / NPT (1) |
|  |        | 1/2" | E3A/2EX/E(3)     | n.a.              | STD   | GAS / NPT (1) |
|  |        | 3/4" | E3A/33EX/D       | E3A/33EX/B1/D     | STD   | GAS / NPT (1) |
|  |        | 1"   | E3A/1EX/D        | E3A/1EX/B1/D      | STD   | GAS / NPT (1) |
| 5/2 ways<br>Pilot-spring<br>Internal piloting (2)                    |        | 1/8" | E13A/8EX/E       | E13A/8EX/B1/E     | STD   | GAS / NPT (1) |
|  |        | 1/4" | E13A/4EX/E       | E13A/4EX/B1/E     | STD   | GAS / NPT (1) |
|  |        | 1/2" | E13A/2EX/E(3)    | E13A/2EX/B1/E(3)  | STD   | GAS / NPT (1) |
|  |        | 3/4" | E13A/33EX/D      | E13A/33EX/B1/D    | STD   | GAS / NPT (1) |
|  |        | 1"   | E13A/1EX/D       | E13A/1EX/B1/D     | STD   | GAS / NPT (1) |

(1) NPT thread available only for in-line mounting - (2) External servo-piloting version PS only for compressed air - (3) Pilot operator type D available also for solenoid valve 1/2" - (n.a.) Not available

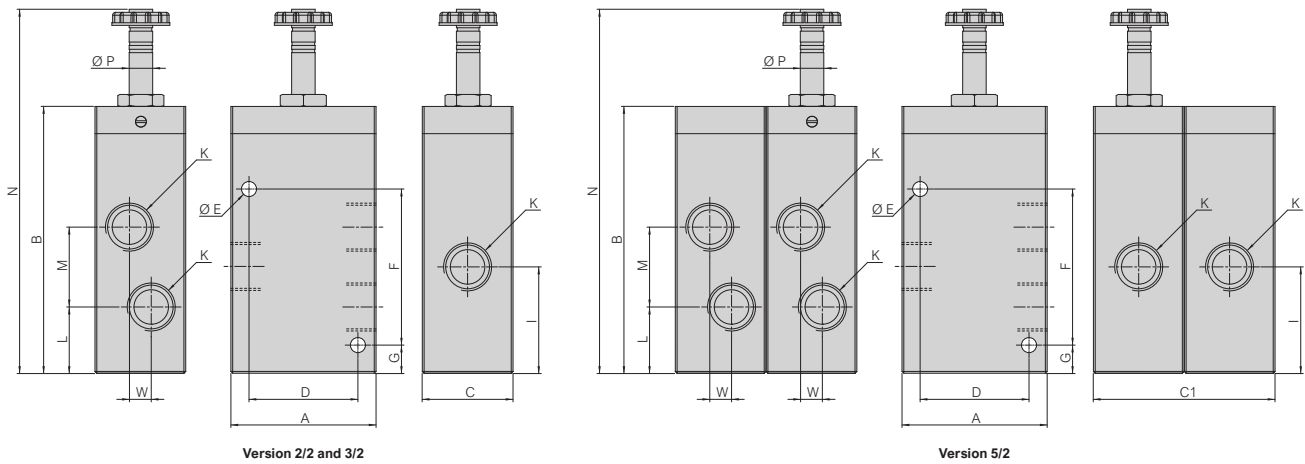


STANDARD MATERIALS

| ITEM | DESCRIPTION           | MATERIAL                               | ITEM | DESCRIPTION    | MATERIAL                               |
|------|-----------------------|--|------|----------------|--|
| ①    | Body                  | Anodized profiled / extruded aluminium | ⑩    | End cover      | Anodized aluminium                     |
| ②    | Top cover             | Anodized profiled / extruded aluminium | ⑪    | Screw          | Zinc plated steel                      |
| ③    | Poppet rod            | Zinc plated steel                      | ⑫    | Silencer       | Sintered bronze                        |
| ④    | Guide rod             | Anodized aluminium                     | ⑬    | O-ring         | NBR / FKM / PUR                        |
| ⑤    | Piston                | Anodized aluminium                     | ⑭    | Tightness seal | NBR / FKM / PUR                        |
| ⑥    | Poppet holder         | Zinc plated steel                      | ⑮    | Poppet seal    | NBR / FKM / PUR                        |
| ⑦    | Anti-extrusion washer | Hostaform                              | ⑯    | Spring         | Stainless steel AISI 304 (X5CrNi18-10) |
| ⑧    | Seeger ring           | Spring steel                           | ⑰    | Operator       | Brass - Magnetic stainless steel       |
| ⑨    | Self-looking nut      | Zinc plated steel                      | ⑱    | Knurled nut    | Plastic material / Aluminium           |



STANDARD DIMENSIONS



| K          | A          | B     | C          | C1         | D     | Ø E  | F     | G     | I     | L     | M     | N                            | Ø P    | W     |
|------------|------------|-------|------------|------------|-------|------|-------|-------|-------|-------|-------|------------------------------|--------|-------|
| BSPP / NPT | 0<br>- 0,2 | ± 0,3 | 0<br>- 0,2 | 0<br>- 0,5 | ± 0,3 |      | ± 0,3 | ± 0,2 | ± 0,2 | ± 0,2 | ± 0,3 | ± 0,3                        |        | ± 0,3 |
| 1/8"       | 40         | 70    | 20         | 40         | 29    | 4,25 | 33,5  | 11,5  | 26    | 16    | 20    | 105                          | 8      | 0     |
| 1/4"       | 50         | 80,5  | 25         | 50         | 34    | 5,25 | 39    | 14,5  | 29,5  | 17,5  | 24    | 115,5                        | 8      | 0     |
| 1/2"       | 70         | 99,5  | 35         | 70         | 50    | 6,25 | 54,5  | 15    | 37    | 21    | 32    | 134,5 / 153,5 <sup>(3)</sup> | 8 / 13 | 0     |
| 3/4"       | 79         | 147   | 50         | 100        | 60    | 8,25 | 86    | 15,5  | 58,5  | 36,5  | 44    | 201                          | 13     | 12    |
| 1"         | 100        | 166   | 60         | 120        | 82    | 10,5 | 85    | 33    | 64,5  | 30    | 61    | 220                          | 13     | 0     |

**PNEUMATIC ACTUATED VALVES - VERSION X (only body and top cover in AISI 316)**

|   | Function                                    | Symbol | Port          | In line mounting | Manifold mounting | Seals         | Thread        |
|---|---|--------|---------------|------------------|-------------------|---------------|---------------|
| <b>COMPRESSED AIR</b>                     | 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"          | SH1A/8/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1/4"          | SH1A/4/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1/2"          | SH1A/2/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 3/4"          | SH1A/33/X        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1"            | SH1A/1/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   | 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8"          | SH3A/8/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1/4"          | SH3A/4/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1/2"          | SH3A/2/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 3/4"          | SH3A/33/X        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1"            | SH3A/1/X         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   | 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"          | S1A/8/X          | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |   |        | 1/4"          | S1A/4/X          | n.a.              | STD / VT / BT | GAS / NPT (1) |
| 1/2"                                      |   |        | S1A/2/X       | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
| 3/4"                                      |   |        | S1A/33/X      | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
| 3/2 ways<br>Pilot-spring<br>Normally open |   | 1/8"   | S3A/8/X       | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 1/4"   | S3A/4/X       | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 1/2"   | S3A/2/X       | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 3/4"   | S3A/33/X      | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
| 5/2 ways<br>Pilot-spring                  |   | 1/8"   | S13A/8/X      | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 1/4"   | S13A/4/X      | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 1/2"   | S13A/2/X      | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
|   |   | 3/4"   | S13A/33/X     | n.a.             | STD / VT / BT     | GAS / NPT (1) |               |
| 1"  | S13A/1/X                                    | n.a.   | STD / VT / BT | GAS / NPT (1)    |                   |               |               |

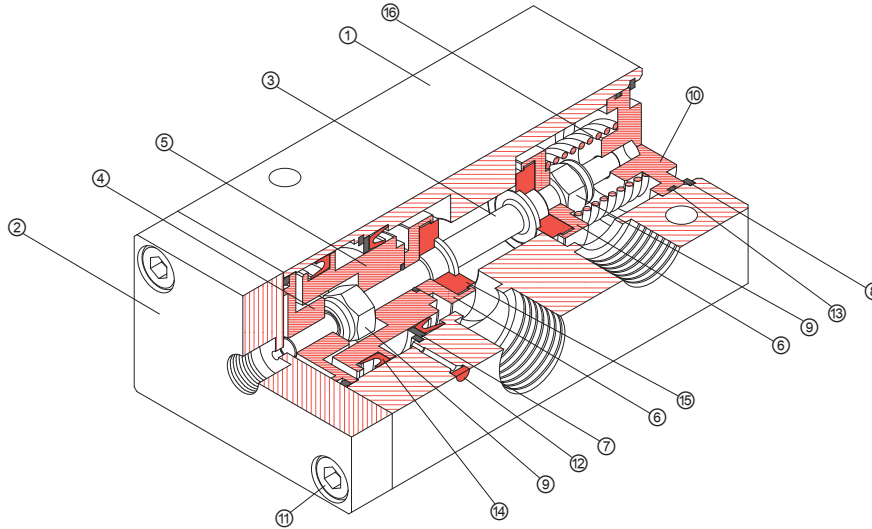
|   | Function                                    | Symbol | Port          | In line mounting | Manifold mounting | Seals         | Thread |
|---|---|--------|---------------|------------------|-------------------|---------------|--------|
| <b>VACUUM</b>                             | 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"          | SH1A/8V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1/4"          | SH1A/4V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1/2"          | SH1A/2V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 3/4"          | SH1A/33V/X       | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1"            | SH1A/1V/X        | n.a.              | STD / VT / BT | GAS    |
|   | 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8"          | SH3A/8V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1/4"          | SH3A/4V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1/2"          | SH3A/2V/X        | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 3/4"          | SH3A/33V/X       | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1"            | SH3A/1V/X        | n.a.              | STD / VT / BT | GAS    |
|   | 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"          | S1A/8V/X         | n.a.              | STD / VT / BT | GAS    |
|   |   |        | 1/4"          | S1A/4V/X         | n.a.              | STD / VT / BT | GAS    |
| 1/2"                                      |   |        | S1A/2V/X      | n.a.             | STD / VT / BT     | GAS           |        |
| 3/4"                                      |   |        | S1A/33V/X     | n.a.             | STD / VT / BT     | GAS           |        |
| 3/2 ways<br>Pilot-spring<br>Normally open |   | 1/8"   | S3A/8V/X      | n.a.             | STD / VT / BT     | GAS           |        |
|   |   | 1/4"   | S3A/4V/X      | n.a.             | STD / VT / BT     | GAS           |        |
|   |   | 1/2"   | S3A/2V/X      | n.a.             | STD / VT / BT     | GAS           |        |
|   |   | 3/4"   | S3A/33V/X     | n.a.             | STD / VT / BT     | GAS           |        |
| 1"  | S3A/1V/X                                    | n.a.   | STD / VT / BT | GAS              |                   |               |        |

|   | Function                                    | Symbol | Port        | In line mounting | Manifold mounting | Seals         | Thread        |
|---|---|--------|-------------|------------------|-------------------|---------------|---------------|
| <b>ATEX</b>                               | 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"        | SH1A/8EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1/4"        | SH1A/4EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1/2"        | SH1A/2EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 3/4"        | SH1A/33EX/X      | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1"          | SH1A/1EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   | 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8"        | SH3A/8EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1/4"        | SH3A/4EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1/2"        | SH3A/2EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 3/4"        | SH3A/33EX/X      | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1"          | SH3A/1EX/X       | n.a.              | STD           | GAS / NPT (1) |
|   | 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8"        | S1A/8EX/X        | n.a.              | STD           | GAS / NPT (1) |
|   |   |        | 1/4"        | S1A/4EX/X        | n.a.              | STD           | GAS / NPT (1) |
| 1/2"                                      |   |        | S1A/2EX/X   | n.a.             | STD               | GAS / NPT (1) |               |
| 3/4"                                      |   |        | S1A/33EX/X  | n.a.             | STD               | GAS / NPT (1) |               |
| 3/2 ways<br>Pilot-spring<br>Normally open |   | 1/8"   | S3A/8EX/X   | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 1/4"   | S3A/4EX/X   | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 1/2"   | S3A/2EX/X   | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 3/4"   | S3A/33EX/X  | n.a.             | STD               | GAS / NPT (1) |               |
| 1"  | S3A/1EX/X                                   | n.a.   | STD         | GAS / NPT (1)    |                   |               |               |
| 5/2 ways<br>Pilot-spring                  |   | 1/8"   | S13A/8EX/X  | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 1/4"   | S13A/4EX/X  | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 1/2"   | S13A/2EX/X  | n.a.             | STD               | GAS / NPT (1) |               |
|   |   | 3/4"   | S13A/33EX/X | n.a.             | STD               | GAS / NPT (1) |               |
| 1"  | S13A/1EX/X                                  | n.a.   | STD         | GAS / NPT (1)    |                   |               |               |

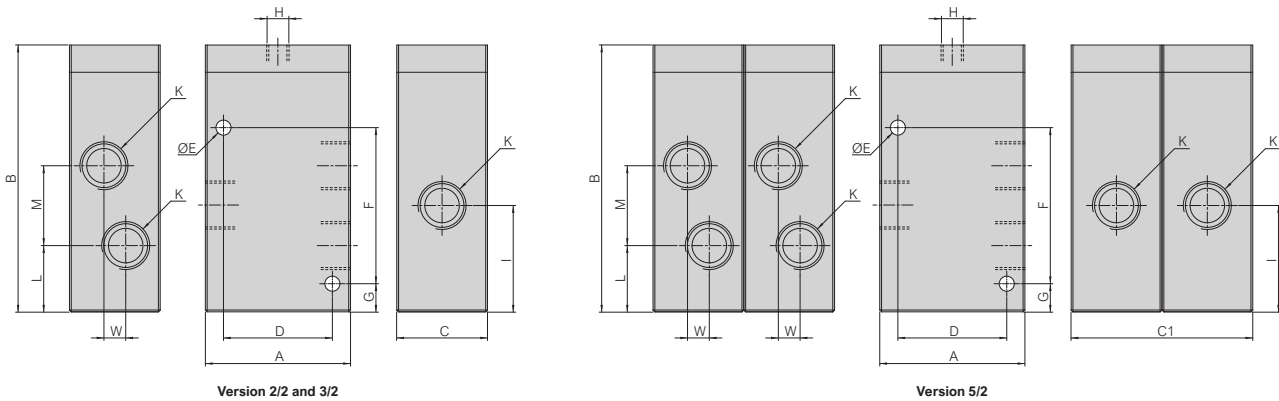
(1) NPT thread available only for in-line mounting - (n.a.) Not available

**STANDARD MATERIALS**

| ITEM | DESCRIPTION           | MATERIAL                                   | ITEM | DESCRIPTION      | MATERIAL                                   |
|------|-----------------------|--|------|------------------|--|
| ①    | Body                  | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑨    | Self-looking nut | Zinc plated steel                          |
| ②    | Top cover             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑩    | End cover        | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ③    | Poppet rod            | Zinc plated steel                          | ⑪    | Screw            | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ④    | Guide rod             | Anodized aluminium                         | ⑫    | Silencer         | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ⑤    | Piston                | Anodized aluminium                         | ⑬    | O-ring           | NBR / FKM / PUR                            |
| ⑥    | Poppet holder         | Zinc plated steel                          | ⑭    | Tightness seal   | NBR / FKM / PUR                            |
| ⑦    | Anti-extrusion washer | Hostaform                                  | ⑮    | Poppet seal      | NBR / FKM / PUR                            |
| ⑧    | Seeger ring           | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑯    | Spring           | Stainless steel AISI 304 (X5CrNi18-10)     |



**STANDARD DIMENSIONS**



| K          | A         | B     | C         | C1        | D     | ØE   | F     | G     | H          | I     | L     | M     | W     |
|------------|-----------|-------|-----------|-----------|-------|------|-------|-------|------------|-------|-------|-------|-------|
| BSPP / NPT | 0<br>-0,2 | ± 0,3 | 0<br>-0,2 | 0<br>-0,5 | ± 0,3 |      | ± 0,3 | ± 0,2 | BSPP / NPT | ± 0,2 | ± 0,2 | ± 0,3 | ± 0,3 |
| 1/8"       | 40        | 70    | 20        | 40        | 29    | 4,25 | 33,5  | 11,5  | 1/8"       | 26    | 16    | 20    | 0     |
| 1/4"       | 50        | 80,5  | 25        | 50        | 34    | 5,25 | 39    | 14,5  | 1/8"       | 29,5  | 17,5  | 24    | 0     |
| 1/2"       | 70        | 99,5  | 35        | 70        | 50    | 6,25 | 54,5  | 15    | 1/8"       | 37    | 21    | 32    | 0     |
| 3/4"       | 79        | 147   | 50        | 100       | 60    | 8,25 | 86    | 15,5  | 1/4"       | 58,5  | 36,5  | 44    | 12    |
| 1"         | 100       | 166   | 60        | 120       | 82    | 10,5 | 85    | 33    | 1/4"       | 64,5  | 30    | 61    | 0     |

**SOLENOID ACTUATED VALVES - VERSION X (only body and top cover in AISI 316)**

**COMPRESSED AIR**



| Function  | Symbol | Port | In line mounting          | Manifold mounting | Seals | Thread                   |
|---|--------|------|---------------------------|-------------------|-------|--------------------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH1A/4/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH1A/2/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH1A/33/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH1A/1/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH3A/4/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH3A/2/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH3A/33/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH3A/1/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E1A/4/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E1A/2/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E1A/33/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E1A/1/X/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E3A/4/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E3A/2/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E3A/33/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E3A/1/X/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 5/2 ways<br>Pilot-spring<br>Internal piloting <sup>(2)</sup>                    |        | 1/8" | E13A/8/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E13A/4/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E13A/2/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E13A/33/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E13A/1/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |

**3**

**PNEUMATIC VALVES**

**VACUUM**



| Function  | Symbol | Port | In line mounting           | Manifold mounting | Seals | Thread |
|---|--------|------|----------------------------|-------------------|-------|--------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8V/X/E                | n.a.              | STD   | GAS    |
|   |        | 1/4" | EH1A/4V/X/E                | n.a.              | STD   | GAS    |
|   |        | 1/2" | EH1A/2V/X/E <sup>(3)</sup> | n.a.              | STD   | GAS    |
|   |        | 3/4" | EH1A/33V/X/D               | n.a.              | STD   | GAS    |
|   |        | 1"   | EH1A/1V/X/D                | n.a.              | STD   | GAS    |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8V/X/E                | n.a.              | STD   | GAS    |
|   |        | 1/4" | EH3A/4V/X/E                | n.a.              | STD   | GAS    |
|   |        | 1/2" | EH3A/2V/X/E <sup>(3)</sup> | n.a.              | STD   | GAS    |
|   |        | 3/4" | EH3A/33V/X/D               | n.a.              | STD   | GAS    |
|   |        | 1"   | EH3A/1V/X/D                | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8V/X/E                 | n.a.              | STD   | GAS    |
|   |        | 1/4" | E1A/4V/X/E                 | n.a.              | STD   | GAS    |
|   |        | 1/2" | E1A/2V/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS    |
|   |        | 3/4" | E1A/33V/X/D                | n.a.              | STD   | GAS    |
|   |        | 1"   | E1A/1V/X/D                 | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8V/X/E                 | n.a.              | STD   | GAS    |
|   |        | 1/4" | E3A/4V/X/E                 | n.a.              | STD   | GAS    |
|   |        | 1/2" | E3A/2V/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS    |
|   |        | 3/4" | E3A/33V/X/D                | n.a.              | STD   | GAS    |
|   |        | 1"   | E3A/1V/X/D                 | n.a.              | STD   | GAS    |

**ATEX**



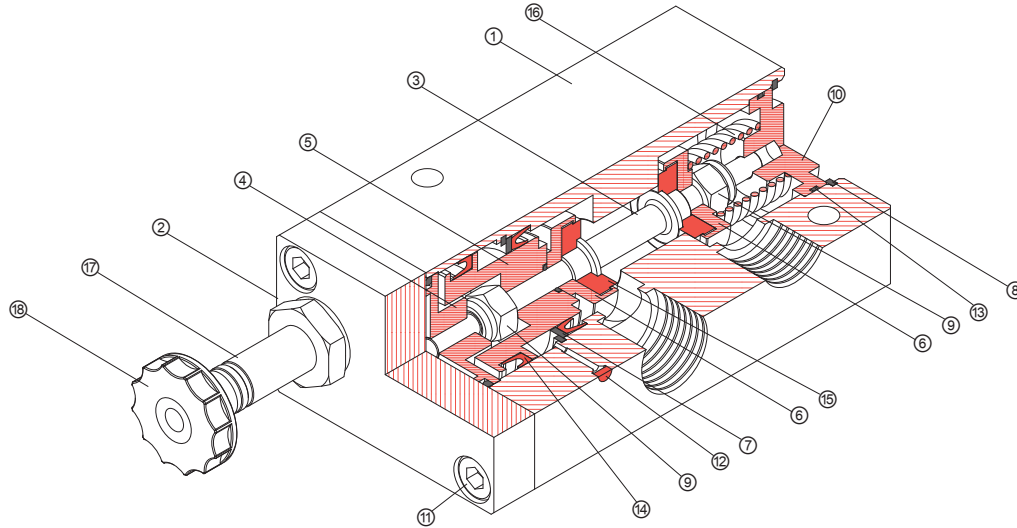
| Function  | Symbol | Port | In line mounting            | Manifold mounting | Seals | Thread                   |
|---|--------|------|-----------------------------|-------------------|-------|--------------------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH1A/4EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH1A/2EX/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH1A/33EX/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH1A/1EX/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH3A/4EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH3A/2EX/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH3A/33EX/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH3A/1EX/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8EX/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E1A/4EX/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E1A/2EX/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E1A/33EX/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E1A/1EX/X/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8EX/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E3A/4EX/X/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E3A/2EX/X/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E3A/33EX/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E3A/1EX/X/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 5/2 ways<br>Pilot-spring<br>Internal piloting <sup>(2)</sup>                    |        | 1/8" | E13A/8EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E13A/4EX/X/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E13A/2EX/X/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E13A/33EX/X/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E13A/1EX/X/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |

(1) NPT thread available only for in-line mounting - (2) External servo-piloting version PS only for compressed air - (3) Pilot operator type D available also for solenoid valve 1/2" - (n.a.) Not available

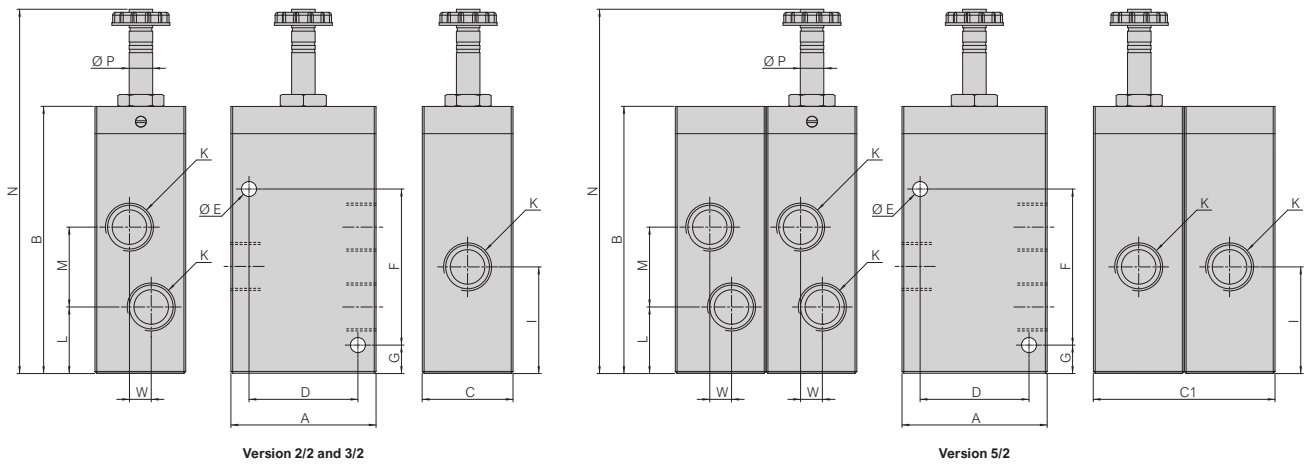


STANDARD MATERIALS

| ITEM | DESCRIPTION           | MATERIAL                                   | ITEM | DESCRIPTION    | MATERIAL                                   |
|------|-----------------------|--|------|----------------|--|
| ①    | Body                  | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑩    | End cover      | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ②    | Top cover             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑪    | Screw          | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ③    | Poppet rod            | Zinc plated steel                          | ⑫    | Silencer       | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ④    | Guide rod             | Anodized aluminium                         | ⑬    | O-ring         | NBR / FKM / PUR                            |
| ⑤    | Piston                | Anodized aluminium                         | ⑭    | Tightness seal | NBR / FKM / PUR                            |
| ⑥    | Poppet holder         | Zinc plated steel                          | ⑮    | Poppet seal    | NBR / FKM / PUR                            |
| ⑦    | Anti-extrusion washer | Hostaform                                  | ⑯    | Spring         | Stainless steel AISI 304 (X5CrNi18-10)     |
| ⑧    | Seeger ring           | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑰    | Operator       | Magnetic stainless steel                   |
| ⑨    | Self-looking nut      | Zinc plated steel                          | ⑱    | Knurled nut    | Stainless steel                            |



STANDARD DIMENSIONS



| K         | A         | B     | C         | C1        | D     | Ø E  | F     | G     | I     | L     | M     | N                            | Ø P    | W     |
|-----------|-----------|-------|-----------|-----------|-------|------|-------|-------|-------|-------|-------|------------------------------|--------|-------|
| BSP / NPT | 0<br>-0,2 | ± 0,3 | 0<br>-0,2 | 0<br>-0,5 | ± 0,3 |      | ± 0,3 | ± 0,2 | ± 0,2 | ± 0,2 | ± 0,3 | ± 0,3                        |        | ± 0,3 |
| 1/8"      | 40        | 70    | 20        | 40        | 29    | 4,25 | 33,5  | 11,5  | 26    | 16    | 20    | 105                          | 8      | 0     |
| 1/4"      | 50        | 80,5  | 25        | 50        | 34    | 5,25 | 39    | 14,5  | 29,5  | 17,5  | 24    | 115,5                        | 8      | 0     |
| 1/2"      | 70        | 99,5  | 35        | 70        | 50    | 6,25 | 54,5  | 15    | 37    | 21    | 32    | 134,5 / 153,5 <sup>(3)</sup> | 8 / 13 | 0     |
| 3/4"      | 79        | 147   | 50        | 100       | 60    | 8,25 | 86    | 15,5  | 58,5  | 36,5  | 44    | 201                          | 13     | 12    |
| 1"        | 100       | 166   | 60        | 120       | 82    | 10,5 | 85    | 33    | 64,5  | 30    | 61    | 220                          | 13     | 0     |

PNEUMATIC ACTUATED VALVES - VERSION XX (totally in AISI 316)

COMPRESSED AIR

| Function                                    | Symbol | Port | In line mounting | Manifold mounting | Seals         | Thread        |
|---|--------|------|------------------|-------------------|---------------|---------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | SH1A/8/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/4" | SH1A/4/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/2" | SH1A/2/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 3/4" | SH1A/33/XX       | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1"   | SH1A/1/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
| 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | SH3A/8/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/4" | SH3A/4/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/2" | SH3A/2/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 3/4" | SH3A/33/XX       | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1"   | SH3A/1/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | S1A/8/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/4" | S1A/4/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/2" | S1A/2/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 3/4" | S1A/33/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1"   | S1A/1/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | S3A/8/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/4" | S3A/4/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/2" | S3A/2/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 3/4" | S3A/33/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1"   | S3A/1/XX         | n.a.              | STD / VT / BT | GAS / NPT (1) |
| 5/2 ways<br>Pilot-spring                    |        | 1/8" | S13A/8/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/4" | S13A/4/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1/2" | S13A/2/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 3/4" | S13A/33/XX       | n.a.              | STD / VT / BT | GAS / NPT (1) |
|   |        | 1"   | S13A/1/XX        | n.a.              | STD / VT / BT | GAS / NPT (1) |



3

PNEUMATIC VALVES

VACUUM

| Function                                    | Symbol | Port | In line mounting | Manifold mounting | Seals         | Thread |
|---|--------|------|------------------|-------------------|---------------|--------|
| 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | SH1A/8V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/4" | SH1A/4V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/2" | SH1A/2V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 3/4" | SH1A/33V/XX      | n.a.              | STD / VT / BT | GAS    |
|   |        | 1"   | SH1A/1V/XX       | n.a.              | STD / VT / BT | GAS    |
| 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | SH3A/8V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/4" | SH3A/4V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/2" | SH3A/2V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 3/4" | SH3A/33V/XX      | n.a.              | STD / VT / BT | GAS    |
|   |        | 1"   | SH3A/1V/XX       | n.a.              | STD / VT / BT | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | S1A/8V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/4" | S1A/4V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/2" | S1A/2V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 3/4" | S1A/33V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1"   | S1A/1V/XX        | n.a.              | STD / VT / BT | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | S3A/8V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/4" | S3A/4V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 1/2" | S3A/2V/XX        | n.a.              | STD / VT / BT | GAS    |
|   |        | 3/4" | S3A/33V/XX       | n.a.              | STD / VT / BT | GAS    |
|   |        | 1"   | S3A/1V/XX        | n.a.              | STD / VT / BT | GAS    |



ATEX

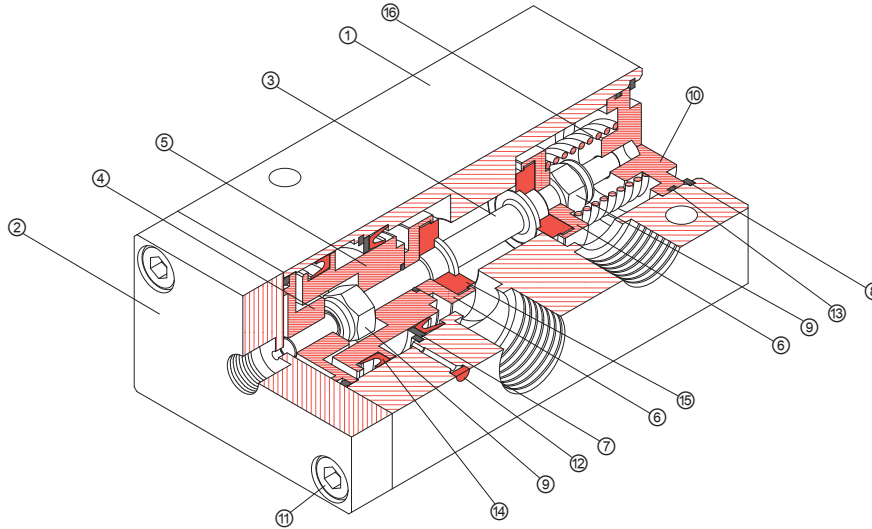
| Function                                    | Symbol | Port | In line mounting | Manifold mounting | Seals | Thread        |
|---|--------|------|------------------|-------------------|-------|---------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | SH1A/8EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/4" | SH1A/4EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/2" | SH1A/2EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 3/4" | SH1A/33EX/XX     | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1"   | SH1A/1EX/XX      | n.a.              | STD   | GAS / NPT (1) |
| 2/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | SH3A/8EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/4" | SH3A/4EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/2" | SH3A/2EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 3/4" | SH3A/33EX/XX     | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1"   | SH3A/1EX/XX      | n.a.              | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally closed |        | 1/8" | S1A/8EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/4" | S1A/4EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/2" | S1A/2EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 3/4" | S1A/33EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1"   | S1A/1EX/XX       | n.a.              | STD   | GAS / NPT (1) |
| 3/2 ways<br>Pilot-spring<br>Normally open   |        | 1/8" | S3A/8EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/4" | S3A/4EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/2" | S3A/2EX/XX       | n.a.              | STD   | GAS / NPT (1) |
|   |        | 3/4" | S3A/33EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1"   | S3A/1EX/XX       | n.a.              | STD   | GAS / NPT (1) |
| 5/2 ways<br>Pilot-spring                    |        | 1/8" | S13A/8EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/4" | S13A/4EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1/2" | S13A/2EX/XX      | n.a.              | STD   | GAS / NPT (1) |
|   |        | 3/4" | S13A/33EX/XX     | n.a.              | STD   | GAS / NPT (1) |
|   |        | 1"   | S13A/1EX/XX      | n.a.              | STD   | GAS / NPT (1) |



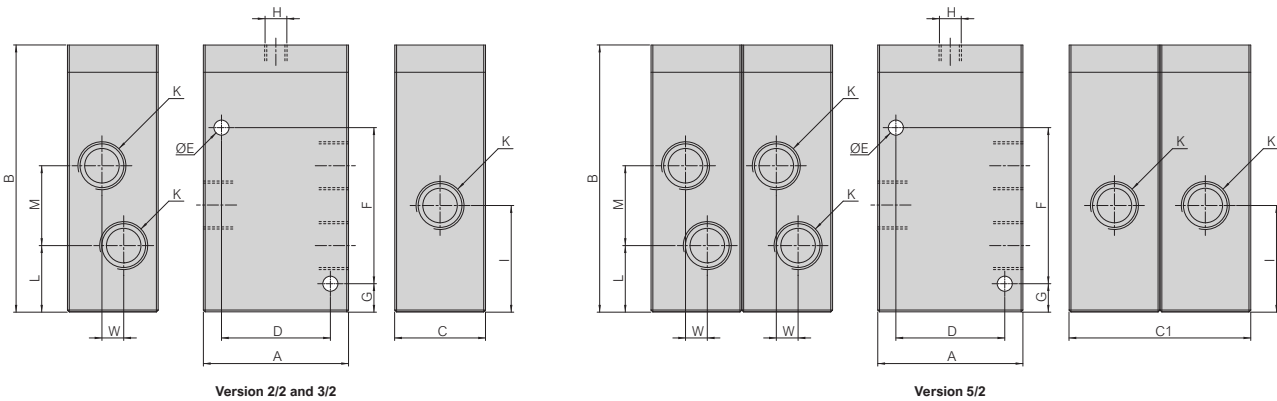
(1) NPT thread available only for in-line mounting - (n.a.) Not available

**STANDARD MATERIALS**

| ITEM | DESCRIPTION           | MATERIAL                                   | ITEM | DESCRIPTION      | MATERIAL                                   |
|------|-----------------------|--|------|------------------|--|
| ①    | Body                  | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑨    | Self-looking nut | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ②    | Top cover             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑩    | End cover        | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ③    | Poppet rod            | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑪    | Screw            | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ④    | Guide rod             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑫    | Silencer         | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ⑤    | Piston                | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑬    | O-ring           | NBR / FKM / PUR                            |
| ⑥    | Poppet holder         | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑭    | Tightness seal   | NBR / FKM / PUR                            |
| ⑦    | Anti-extrusion washer | Hostaform                                  | ⑮    | Poppet seal      | NBR / FKM / PUR                            |
| ⑧    | Seeger ring           | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑯    | Spring           | Stainless steel AISI 316 (X5CrNiMo17-12-2) |



**STANDARD DIMENSIONS**



| K          | A          | B     | C          | C1         | D     | Ø E  | F     | G     | H          | I     | L     | M     | W     |
|------------|------------|-------|------------|------------|-------|------|-------|-------|------------|-------|-------|-------|-------|
| BSPP / NPT | 0<br>- 0,2 | ± 0,3 | 0<br>- 0,2 | 0<br>- 0,5 | ± 0,3 |      | ± 0,3 | ± 0,2 | BSPP / NPT | ± 0,2 | ± 0,2 | ± 0,3 | ± 0,3 |
| 1/8"       | 40         | 70    | 20         | 40         | 29    | 4,25 | 33,5  | 11,5  | 1/8"       | 26    | 16    | 20    | 0     |
| 1/4"       | 50         | 80,5  | 25         | 50         | 34    | 5,25 | 39    | 14,5  | 1/8"       | 29,5  | 17,5  | 24    | 0     |
| 1/2"       | 70         | 99,5  | 35         | 70         | 50    | 6,25 | 54,5  | 15    | 1/8"       | 37    | 21    | 32    | 0     |
| 3/4"       | 79         | 147   | 50         | 100        | 60    | 8,25 | 86    | 15,5  | 1/4"       | 58,5  | 36,5  | 44    | 12    |
| 1"         | 100        | 166   | 60         | 120        | 82    | 10,5 | 85    | 33    | 1/4"       | 64,5  | 30    | 61    | 0     |

**SOLENOID ACTUATED VALVES - VERSION XX (totally in AISI 316)**

**COMPRESSED AIR**



| Function  | Symbol | Port | In line mounting           | Manifold mounting | Seals | Thread                   |
|---|--------|------|----------------------------|-------------------|-------|--------------------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH1A/4/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH1A/2/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH1A/33/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH1A/1/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH3A/4/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH3A/2/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH3A/33/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH3A/1/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E1A/4/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E1A/2/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E1A/33/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E1A/1/XX/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E3A/4/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E3A/2/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E3A/33/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E3A/1/XX/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 5/2 ways<br>Pilot-spring<br>Internal piloting <sup>(2)</sup>                    |        | 1/8" | E13A/8/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E13A/4/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E13A/2/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E13A/33/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E13A/1/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |

**3**

**PNEUMATIC VALVES**

**VACUUM**



| Function  | Symbol | Port | In line mounting            | Manifold mounting | Seals | Thread |
|---|--------|------|-----------------------------|-------------------|-------|--------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8V/XX/E                | n.a.              | STD   | GAS    |
|   |        | 1/4" | EH1A/4V/XX/E                | n.a.              | STD   | GAS    |
|   |        | 1/2" | EH1A/2V/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS    |
|   |        | 3/4" | EH1A/33V/XX/D               | n.a.              | STD   | GAS    |
|   |        | 1"   | EH1A/1V/XX/D                | n.a.              | STD   | GAS    |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8V/XX/E                | n.a.              | STD   | GAS    |
|   |        | 1/4" | EH3A/4V/XX/E                | n.a.              | STD   | GAS    |
|   |        | 1/2" | EH3A/2V/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS    |
|   |        | 3/4" | EH3A/33V/XX/D               | n.a.              | STD   | GAS    |
|   |        | 1"   | EH3A/1V/XX/D                | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8V/XX/E                 | n.a.              | STD   | GAS    |
|   |        | 1/4" | E1A/4V/XX/E                 | n.a.              | STD   | GAS    |
|   |        | 1/2" | E1A/2V/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS    |
|   |        | 3/4" | E1A/33V/XX/D                | n.a.              | STD   | GAS    |
|   |        | 1"   | E1A/1V/XX/D                 | n.a.              | STD   | GAS    |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8V/XX/E                 | n.a.              | STD   | GAS    |
|   |        | 1/4" | E3A/4V/XX/E                 | n.a.              | STD   | GAS    |
|   |        | 1/2" | E3A/2V/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS    |
|   |        | 3/4" | E3A/33V/XX/D                | n.a.              | STD   | GAS    |
|   |        | 1"   | E3A/1V/XX/D                 | n.a.              | STD   | GAS    |

**ATEX**



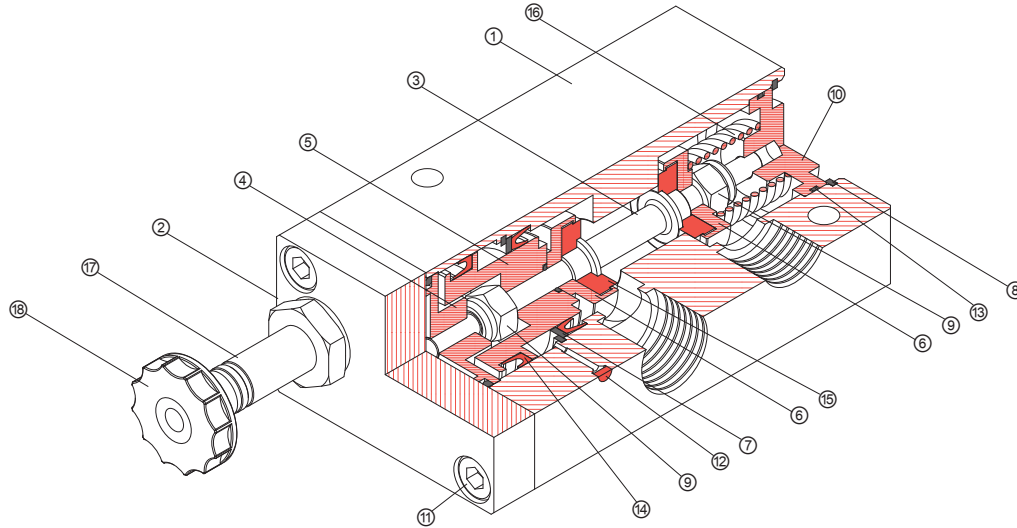
| Function  | Symbol | Port | In line mounting             | Manifold mounting | Seals | Thread                   |
|---|--------|------|------------------------------|-------------------|-------|--------------------------|
| 2/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | EH1A/8EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH1A/4EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH1A/2EX/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH1A/33EX/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH1A/1EX/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 2/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | EH3A/8EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | EH3A/4EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | EH3A/2EX/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | EH3A/33EX/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | EH3A/1EX/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally closed<br>Internal piloting <sup>(2)</sup> |        | 1/8" | E1A/8EX/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E1A/4EX/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E1A/2EX/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E1A/33EX/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E1A/1EX/XX/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 3/2 ways<br>Pilot-spring<br>Normally open<br>Internal piloting <sup>(2)</sup>   |        | 1/8" | E3A/8EX/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E3A/4EX/XX/E                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E3A/2EX/XX/E <sup>(3)</sup>  | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E3A/33EX/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E3A/1EX/XX/D                 | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
| 5/2 ways<br>Pilot-spring<br>Internal piloting <sup>(2)</sup>                    |        | 1/8" | E13A/8EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/4" | E13A/4EX/XX/E                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1/2" | E13A/2EX/XX/E <sup>(3)</sup> | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 3/4" | E13A/33EX/XX/D               | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |
|   |        | 1"   | E13A/1EX/XX/D                | n.a.              | STD   | GAS / NPT <sup>(1)</sup> |

(1) NPT thread available only for in-line mounting - (2) External servo-piloting version PS only for compressed air - (3) Pilot operator type D available also for solenoid valve 1/2" - (n.a.) Not available

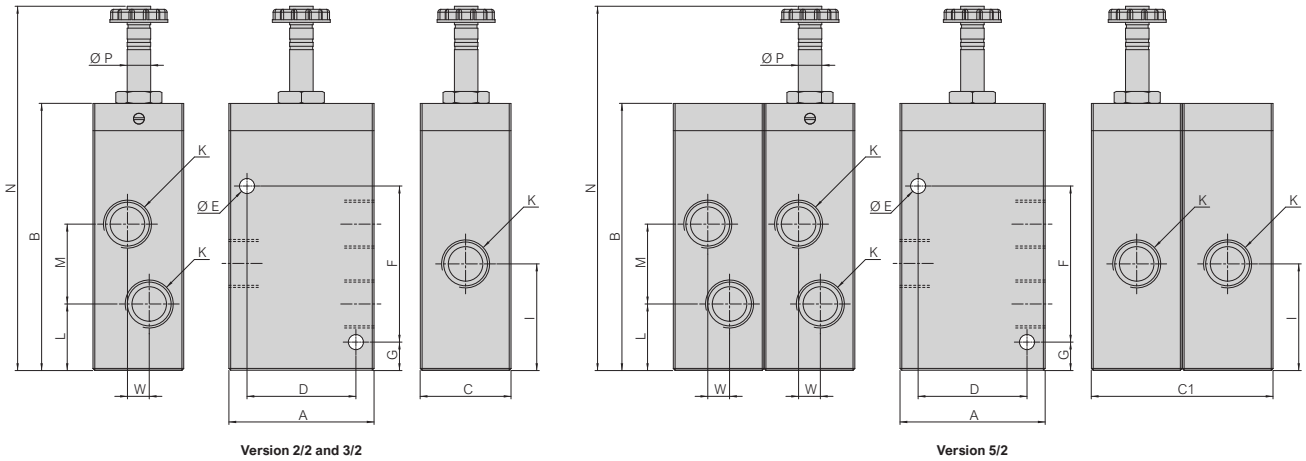


STANDARD MATERIALS

| ITEM | DESCRIPTION           | MATERIAL                                   | ITEM | DESCRIPTION    | MATERIAL                                   |
|------|-----------------------|--|------|----------------|--|
| ①    | Body                  | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑩    | End cover      | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ②    | Top cover             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑪    | Screw          | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ③    | Poppet rod            | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑫    | Silencer       | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ④    | Guide rod             | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑬    | O-ring         | NBR / FKM / PUR                            |
| ⑤    | Piston                | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑭    | Tightness seal | NBR / FKM / PUR                            |
| ⑥    | Poppet holder         | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑮    | Poppet seal    | NBR / FKM / PUR                            |
| ⑦    | Anti-extrusion washer | Hostaform                                  | ⑯    | Spring         | Stainless steel AISI 316 (X5CrNiMo17-12-2) |
| ⑧    | Seeger ring           | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑰    | Operator       | Magnetic stainless steel                   |
| ⑨    | Self-looking nut      | Stainless steel AISI 316 (X5CrNiMo17-12-2) | ⑱    | Knurled nut    | Stainless steel                            |

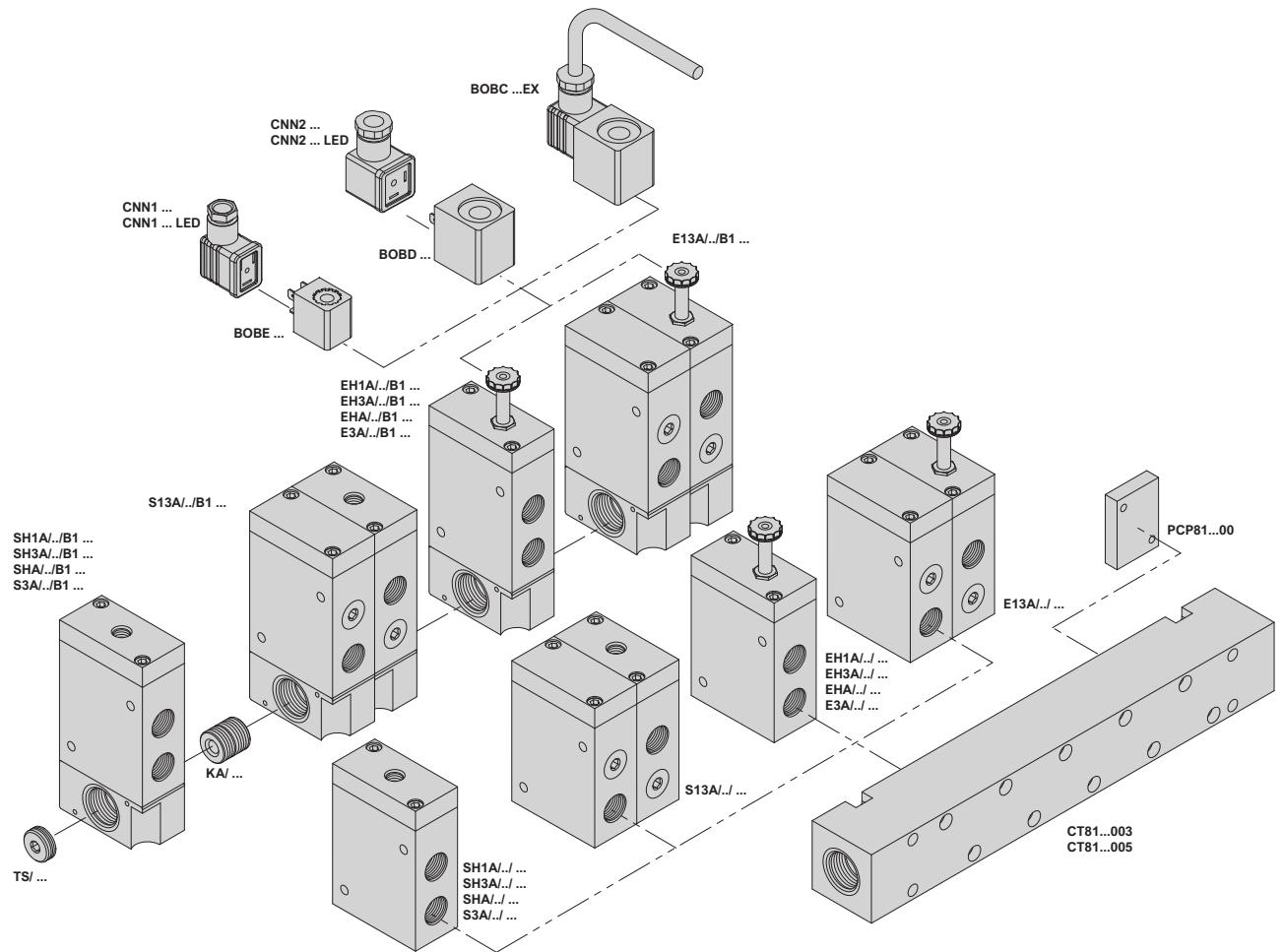


STANDARD DIMENSIONS



| K           | A         | B     | C         | C1        | D     | Ø E  | F     | G     | I     | L     | M     | N                            | Ø P    | W     |
|-------------|-----------|-------|-----------|-----------|-------|------|-------|-------|-------|-------|-------|------------------------------|--------|-------|
| BSPPT / NPT | 0<br>-0,2 | ± 0,3 | 0<br>-0,2 | 0<br>-0,5 | ± 0,3 |      | ± 0,3 | ± 0,2 | ± 0,2 | ± 0,2 | ± 0,3 | ± 0,3                        |        | ± 0,3 |
| 1/8"        | 40        | 70    | 20        | 40        | 29    | 4,25 | 33,5  | 11,5  | 26    | 16    | 20    | 105                          | 8      | 0     |
| 1/4"        | 50        | 80,5  | 25        | 50        | 34    | 5,25 | 39    | 14,5  | 29,5  | 17,5  | 24    | 115,5                        | 8      | 0     |
| 1/2"        | 70        | 99,5  | 35        | 70        | 50    | 6,25 | 54,5  | 15    | 37    | 21    | 32    | 134,5 / 153,5 <sup>(3)</sup> | 8 / 13 | 0     |
| 3/4"        | 79        | 147   | 50        | 100       | 60    | 8,25 | 86    | 15,5  | 58,5  | 36,5  | 44    | 201                          | 13     | 12    |
| 1"          | 100       | 166   | 60        | 120       | 82    | 10,5 | 85    | 33    | 64,5  | 30    | 61    | 220                          | 13     | 0     |

ACCESSORIES



3

PNEUMATIC VALVES

|             | <b>BOBE ...</b><br>Coils type "E"<br>AC / DC | <b>BOBD ...</b><br>Coils type "D"<br>AC / DC | <b>BOBC ... EX</b><br>Coils ATEX<br>AC / DC           | <b>CNN1 ...</b><br>Connectors for<br>coils type "E"   | <b>CNN1 ... LED</b><br>Connectors for<br>coils type "E" | <b>CNN2 ...</b><br>Connectors for<br>coils type "D" | <b>CNN2 ... LED</b><br>Connectors for<br>coils type "D" |
|-------------|--|--|---|---|---|---|---|
|             |  |  |   |   |   |   |   |
|             | Page 3.4.05.17                               | Page 3.4.05.17                               | Page 3.4.05.18  | Page 3.4.05.19  | Page 3.4.05.19  | Page 3.4.05.19                                      | Page 3.4.05.19  |
| <b>1/8"</b> | ✓  | X  | ✓   | X   | X   | X   | X   |
| <b>1/4"</b> | ✓  | X  | ✓   | X   | X   | X   | X   |
| <b>1/2"</b> | ✓  | ✓  | ✓   | ✓   | ✓   | ✓   | ✓   |
| <b>3/4"</b> | X  | ✓  | ✓   | ✓   | ✓   | ✓   | ✓   |
| <b>1"</b>   | X  | ✓  | ✓   | ✓   | ✓   | ✓   | ✓   |
|             | Encapsulated<br>NYLON +<br>GLASS FIBER       | Encapsulated<br>PA 6.6 +<br>GLASS FIBER      | Encapsulated<br>PA self-extinguish +<br>GLASS FIBER   | PA6 GF  | PA6 GF - PA12   | PA6 GF  | PA6 GF - PA12   |
|             | <b>TS/...</b><br>Closing cap                 | <b>KA/...</b><br>Connection nipple           | <b>CT81...003</b><br>In line connector<br>3 positions | <b>CT81...005</b><br>In line connector<br>5 positions | <b>PCP81...00</b><br>Closing plate                      |   |   |
|             |  |  |   |   |   |   |   |
| <b>1/8"</b> | TS/4   | KA/8   | X   | X   | X   |   |   |
| <b>1/4"</b> | TS/3   | KA/4   | X   | X   | X   |   |   |
| <b>1/2"</b> | TS/34  | KA/2   | X   | X   | X   |   |   |
| <b>3/4"</b> | X  | X  | CT8134003   | CT8134005   | PCP813400   |   |   |
| <b>1"</b>   | X  | X  | CT8101003   | CT8101005   | PCP810100   |   |   |
|             | Passivated brass                             | Passivated brass                             | Aluminium   | Aluminium   | Aluminium   |   |   |

**COILS type "E" (22 mm)**

|   |                                 |   |           |  |
|---|---------------------------------|---|-----------|--|
| <b>BOBE ...</b><br>Direct current coils | <b>Technical features</b>       |   |           |  |
|   | <b>Code</b>                     | BOBE012DC   | BOBE024DC |  |
|   | <b>Operating voltage</b>        | 12 VDC  | 24 VDC    |  |
|   | <b>Power consumption (max.)</b> | 5,5 W   |           |  |
|   | <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)                                     |           |  |
|   | <b>Encapsulation class</b>      | 155°C (F)   |           |  |
|   | <b>Wire insulation class</b>    | 200°C (H)   |           |  |
|   | <b>Energising duration</b>      | 100% (a 20°C)   |           |  |
|   | <b>Temperature range</b>        | -40 ÷ +50 °C  |           |  |
|   | <b>Electrical connection</b>    | Type B - INDUSTRIAL   |           |  |
|   | <b>Protection class</b>         | IP54 (with connector)<br>IP65 (with connector and suitable seals) |           |  |
|   | <b>Material</b>                 | Encapsulated NYLON + Glass fiber                                  |           |  |
|   | BOBE... / 1 piece each package  |   |           |  |

|  |                                 |   |           |           |           |
|--|---------------------------------|---|-----------|-----------|-----------|
| <b>BOBE ...</b><br>Alternate current coils | <b>Technical features</b>       |   |           |           |           |
|  | <b>Code</b>                     | BOBE024AC   | BOBE048AC | BOBE110AC | BOBE220AC |
|  | <b>Operating voltage</b>        | 24 VAC  | 48 VAC    | 110 VAC   | 220 VAC   |
|  | <b>Power consumption (max.)</b> | 6,5 VA  |           |           |           |
|  | <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)                                     |           |           |           |
|  | <b>Encapsulation class</b>      | 155°C (F)   |           |           |           |
|  | <b>Wire insulation class</b>    | 200°C (H)   |           |           |           |
|  | <b>Energising duration</b>      | 100% (a 20°C)   |           |           |           |
|  | <b>Temperature range</b>        | -40 ÷ +50 °C  |           |           |           |
|  | <b>Electrical connection</b>    | Type B - INDUSTRIAL   |           |           |           |
|  | <b>Protection class</b>         | IP54 (with connector)<br>IP65 (with connector and suitable seals) |           |           |           |
|  | <b>Material</b>                 | Encapsulated NYLON + Glass fiber                                  |           |           |           |
|  | BOBE... / 1 piece each package  |   |           |           |           |

**COILS type "D" (30 mm)**

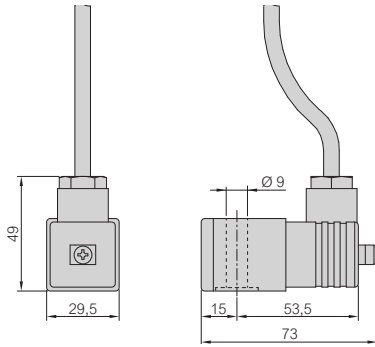
|   |                                 |   |           |  |
|---|---------------------------------|---|-----------|--|
| <b>BOBD ...</b><br>Direct current coils | <b>Technical features</b>       |   |           |  |
|   | <b>Code</b>                     | BOBD012DC   | BOBD024DC |  |
|   | <b>Operating voltage</b>        | 12 VDC  | 24 VDC    |  |
|   | <b>Power consumption (max.)</b> | 10 W  |           |  |
|   | <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)                                     |           |  |
|   | <b>Encapsulation class</b>      | 155°C (F)   |           |  |
|   | <b>Wire insulation class</b>    | 200°C (H)   |           |  |
|   | <b>Energising duration</b>      | 100% (a 20°C)   |           |  |
|   | <b>Temperature range</b>        | -40 ÷ +50 °C  |           |  |
|   | <b>Electrical connection</b>    | EN175301-803 type A   |           |  |
|   | <b>Protection class</b>         | IP54 (with connector)<br>IP65 (with connector and suitable seals) |           |  |
|   | <b>Material</b>                 | Encapsulated PA 6.6 + Glass fiber                                 |           |  |
|   | BOBD... / 1 piece each package  |   |           |  |

|  |                                 |   |           |           |           |
|--|---------------------------------|---|-----------|-----------|-----------|
| <b>BOBD ...</b><br>Alternate current coils | <b>Technical features</b>       |   |           |           |           |
|  | <b>Code</b>                     | BOBD024AC   | BOBD048AC | BOBD110AC | BOBD220AC |
|  | <b>Operating voltage</b>        | 24 VAC  | 48 VAC    | 110 VAC   | 220 VAC   |
|  | <b>Power consumption (max.)</b> | 13 VA   |           |           |           |
|  | <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)                                     |           |           |           |
|  | <b>Encapsulation class</b>      | 155°C (F)   |           |           |           |
|  | <b>Wire insulation class</b>    | 200°C (H)   |           |           |           |
|  | <b>Energising duration</b>      | 100% (a 20°C)   |           |           |           |
|  | <b>Temperature range</b>        | -40 ÷ +50 °C  |           |           |           |
|  | <b>Electrical connection</b>    | EN175301-803 type A   |           |           |           |
|  | <b>Protection class</b>         | IP54 (with connector)<br>IP65 (with connector and suitable seals) |           |           |           |
|  | <b>Material</b>                 | Encapsulated PA 6.6 + Glass fiber                                 |           |           |           |
|  | BOBD... / 1 piece each package  |   |           |           |           |

## COILS "ATEX"

**BOBC ... EX**

ATEX direct current coils

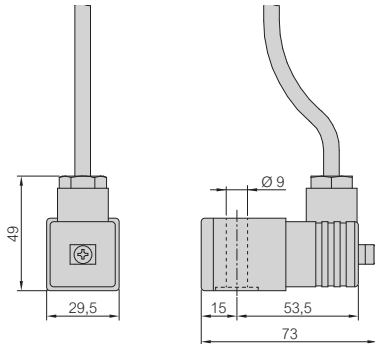

**Technical features**


|                                 |   |  |  |  |
|---------------------------------|---|--|--|--|
| <b>Code</b>                     | BOBC024DCEX   |  |  |  |
| <b>Operating voltage</b>        | 24 VDC  |  |  |  |
| <b>Power consumption (max.)</b> | 5,3 W   |  |  |  |
| <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)   |  |  |  |
| <b>Wire insulation class</b>    | 200°C (H)   |  |  |  |
| <b>Energising duration</b>      | 100% (at the showed power and temperature)  |  |  |  |
| <b>Temperature range</b>        | -20 ÷ +40 °C (at the showed power)  |  |  |  |
| <b>ATEX marking (*)</b>         | II 2G Ex mb IIC T4 Gb<br>II 2D Ex mb IIIC T135°C Db                                     |  |  |  |
| <b>Electrical connection</b>    | Tripolar cable 3x0,75 mm <sup>2</sup> - Lenght 3000 mm (available on request : 5000 mm) |  |  |  |
| <b>Protection class</b>         | IP65 (with suitable seals)  |  |  |  |
| <b>Material</b>                 | Encapsulated PA self-extinguish + Glass fiber   |  |  |  |
| <b>Visual indicator</b>         | None  |  |  |  |
| <b>Color</b>                    | Black   |  |  |  |
| <b>Protection circuit</b>       | Internal fuse   |  |  |  |

BOBC ... EX / 1 piece each package

**BOBC ... EX**

ATEX alternate current coils


**Technical features**


|                                 |   |             |             |             |
|---------------------------------|---|-------------|-------------|-------------|
| <b>Code</b>                     | BOBC024ACEX   | BOBC048ACEX | BOBC110ACEX | BOBC220ACEX |
| <b>Operating voltage</b>        | 24 VAC  | 48 VAC      | 110 VAC     | 220 VAC     |
| <b>Power consumption (max.)</b> | 5,3 W (voltage rectifier inside the coil)   |             |             |             |
| <b>Voltage tolerance</b>        | ±10% (of the nominal voltage)   |             |             |             |
| <b>Wire insulation class</b>    | 200°C (H)   |             |             |             |
| <b>Energising duration</b>      | 100% (at the showed power and temperature)  |             |             |             |
| <b>Temperature range</b>        | -20 ÷ +40 °C (at the showed power)  |             |             |             |
| <b>ATEX marking (*)</b>         | II 2G Ex mb IIC T4 Gb<br>II 2D Ex mb IIIC T135°C Db                                     |             |             |             |
| <b>Electrical connection</b>    | Tripolar cable 3x0,75 mm <sup>2</sup> - Lenght 3000 mm (available on request : 5000 mm) |             |             |             |
| <b>Protection class</b>         | IP65 (with suitable seals)  |             |             |             |
| <b>Material</b>                 | Encapsulated PA self-extinguish + Glass fiber   |             |             |             |
| <b>Visual indicator</b>         | None  |             |             |             |
| <b>Color</b>                    | Black   |             |             |             |
| <b>Protection circuit</b>       | Internal fuse   |             |             |             |

BOBC ... EX / 1 piece each package

(\*) T6 temperature class ATEX coils available on request - For the assembly of ATEX coils the valve will be equipped with an Ø 9 electropilot



**CONNECTORS for coils type "E" (22 mm)**

| CNN1...<br>Connectors for coils type "E"  |            | Technical features               |   |                  |                  |                  |
|---|------------|----------------------------------|---|------------------|------------------|------------------|
|   |            | <b>Code</b>                      | CNN1                                    | CNN1 2 LED       | CNN1 3 LED       | CNN1 4 LED       |
|   |            | <b>Operating voltage (max.)</b>  | 0 ÷ 250 VDC / VAC                       | 12/24 VDC / VAC  | 115 VDC / VAC    | 230 VDC / VAC    |
|   |            | <b>Power consumption (max.)</b>  | 10 A                                    | 5 A              | 5 A              | 5 A              |
|   |            | <b>Contact resistance (max.)</b> | 15 mΩ                                   |                  |                  |                  |
|   |            | <b>Overvoltage category</b>      | III                                     |                  |                  |                  |
|   |            | <b>Conductor size (max.)</b>     | 1,5 mm <sup>2</sup> (without terminals) |                  |                  |                  |
|   |            | <b>Cable gland</b>               | PG9                                     |                  |                  |                  |
|   |            | <b>Temperature range</b>         | -40 ÷ +100 °C                           | -20 ÷ +80 °C     | -20 ÷ +80 °C     | -20 ÷ +80 °C     |
|   |            | <b>Electrical connection</b>     | Type B - INDUSTRIAL                     |                  |                  |                  |
|   |            | <b>Protection class</b>          | IP65 (correctly assembled)              |                  |                  |                  |
| CNN1  | CNN1...LED | <b>Materials</b>                 | PA6 GF - PA6 GF                         | PA6 GF - PA12    | PA6 GF - PA12    | PA6 GF - PA12    |
|   |            | <b>Visual indicator</b>          | None                                    | LED yellow diode | LED yellow diode | LED yellow diode |
|   |            | <b>Color</b>                     | Black                                   | Trasparent       | Trasparent       | Trasparent       |
|   |            | <b>Protection circuit</b>        | None                                    | VDR circuit      | VDR circuit      | VDR circuit      |
|   |            | <b>Mounting system</b>           | Screw M3x32,5                           |                  |                  |                  |
| CNN1... / Contact holder, housing, seal and mounting screw - 1 piece each package |            |                                  |   |                  |                  |                  |

**CONNECTORS for coils type "D" (30 mm)**

| CNN2...<br>Connectors for coils type "D"  |            | Technical features               |   |                  |                  |                  |
|---|------------|----------------------------------|---|------------------|------------------|------------------|
|   |            | <b>Code</b>                      | CNN2                                    | CNN2 2 LED       | CNN2 3 LED       | CNN2 4 LED       |
|   |            | <b>Operating voltage (max.)</b>  | 0 ÷ 250 VDC / VAC                       | 12/24 VDC / VAC  | 115 VDC / VAC    | 230 VDC / VAC    |
|   |            | <b>Power consumption (max.)</b>  | 10 A                                    | 5 A              | 5 A              | 5 A              |
|   |            | <b>Contact resistance (max.)</b> | 15 mΩ                                   |                  |                  |                  |
|   |            | <b>Overvoltage category</b>      | III                                     |                  |                  |                  |
|   |            | <b>Conductor size (max.)</b>     | 1,5 mm <sup>2</sup> (without terminals) |                  |                  |                  |
|   |            | <b>Cable gland</b>               | PG9                                     |                  |                  |                  |
|   |            | <b>Temperature range</b>         | -40 ÷ +100 °C                           | -20 ÷ +80 °C     | -20 ÷ +80 °C     | -20 ÷ +80 °C     |
|   |            | <b>Electrical connection</b>     | EN175301-803 type A                     |                  |                  |                  |
|   |            | <b>Protection class</b>          | IP65 (correctly assembled)              |                  |                  |                  |
| CNN2  | CNN2...LED | <b>Materials</b>                 | PA6 GF - PA6 GF                         | PA6 GF - PA12    | PA6 GF - PA12    | PA6 GF - PA12    |
|   |            | <b>Visual indicator</b>          | None                                    | LED yellow diode | LED yellow diode | LED yellow diode |
|   |            | <b>Color</b>                     | Black                                   | Trasparent       | Trasparent       | Trasparent       |
|   |            | <b>Protection circuit</b>        | None                                    | VDR circuit      | VDR circuit      | VDR circuit      |
|   |            | <b>Mounting system</b>           | Screw M3x32,5                           |                  |                  |                  |
| CNN2... / Contact holder, housing, seal and mounting screw - 1 piece each package |            |                                  |   |                  |                  |                  |





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**BONESI PNEUMATIK** manufactures all its own products in Italy

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