



ESV Series Solenoid Valve



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**Explosion proof solenoid valve
for a confident control under
rough working environments**

Features

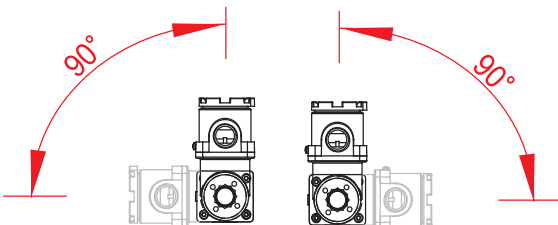
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Direct NAMUR mounting or screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
- ▶ KCs - certified flameproof Ex d IIC , Ex tb IIC
- ▶ CCC - certified flameproof Ex d IIC , Ex tb IIC
- ▶ IECEX - certified flameproof Ex d IIC , Ex tb IIC
- ▶ ATEX - certified flameproof Ex d IIC , Ex tb IIC
- ▶ TRCU - certified flameproof Ex d IIC , Ex tb IIC

Specifications

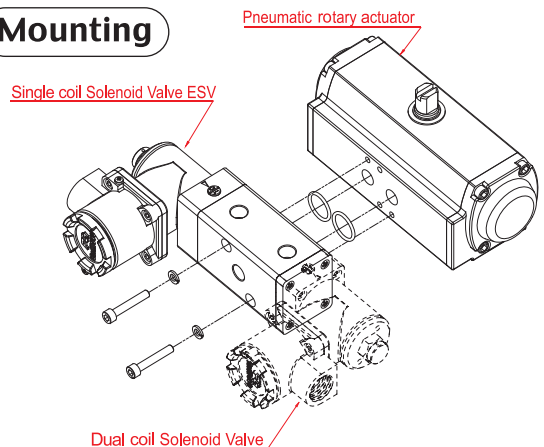
| Model | ESV-S | ESV-D |
|---------------------------------------|---|---|
| Operating Air Pressure | 1.5 - 10 bar | |
| Air Supply (Max.) | 15 bar | |
| Operating Voltage / Power | AC110V : 6.8W / AC220V : 6.4W / DC 24V : 3.4W | |
| Voltage Tolerance | 10% | |
| Frequency | 50Hz / 60Hz | |
| Explosion Proof Class | Ex d IIC T6 / T5 / T4, Ex tb IIIC T85 / T100 / T135, IP66 | |
| Operating Ambient Temperature | T6 : -30 - +50 T5 : -30 - +65 , T4 : -30 - +80 | |
| Flow Capacity(Cv) | 0.9 | |
| Mounting Configuration | NAMUR or screw interface | |
| Pneumatic Connections | PT(Rc) 1/4 or NPT 1/4 | |
| Electrical Connection | PF(G) 1/2 , NPT 1/2 , M20 x 1.5 | |
| Coil Insulation Grade | Class F / Class H | |
| Operating type | Single coil | Dual coil |
| Duty Cycle | 100% | |
| Valve body material | Aluminum die-cast or Stainless steel 316 | |
| Coil housing material | Aluminum die-cast or Stainless steel 316 | |
| Weight (Valve body / Coil housing) | Aluminum / Aluminum : 0.9 kg Aluminum / SS316 : 1.9 kg SS316 / SS316 : 2.3 kg | Aluminum / Aluminum : 1.4 kg Aluminum / SS316 : 2.5 kg SS316 / SS316 : 3.3 kg |

Rotatable Valve Head

The ESV valve head can be rotated by 90° to the right or to the left for an optimal mounting as shown below



Mounting





Explosion proof solenoid valve for a confident control under rough working environments

Features

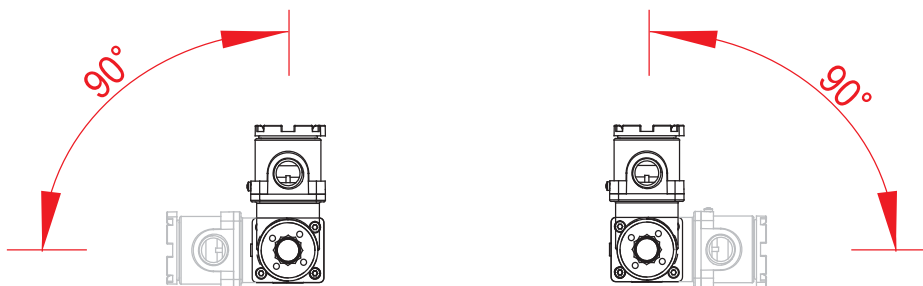
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
 - Ⓚ^s KCs - certified flameproof Ex d IIC , Ex tb IIC
 - Ⓞ CCC - certified flameproof Ex d IIC , Ex tb IIC
 - Ⓜ IECEX - certified flameproof Ex d IIC , Ex tb IIC
 - Ⓧ ATEX - certified flameproof Ex d IIC , Ex tb IIC
 - Ⓜ EAC TRCU - certified flameproof Ex d IIC , Ex tb IIC

Specifications

| Model | ESV-31 | ESV-32 |
|---------------------------------------|---|----------------|
| Operating Air Pressure | 1.5 - 10 bar | |
| Air Supply (Max.) | 15 bar | |
| Operating Voltage / Power | AC110V : 6.8W / AC220V : 6.4W / DC 24V : 3.4W | |
| Voltage Tolerance | 10% | |
| Frequency | 50Hz / 60Hz | |
| Explosion Proof Class | Ex d IIC T6 / T5 / T4 , Ex tb IIC T85 / T100 / T135, IP66 | |
| Operating Ambient Temperature | T6 : -30 - +50 T5 : -30 - +65 , T4 : -30 - +80 | |
| Flow Capacity(Cv) | 0.9 | |
| Mounting Configuration | Screw interface | |
| Pneumatic Connections | PT(Rc) 1/4 or NPT 1/4 | |
| Electrical Connection | PF(G) 1/2 , NPT 1/2 , M20 x 1.5 | |
| Coil Insulation Grade | Class F / Class H | |
| Operating type | Nomally - Closed | Nomally - Open |
| Duty Cycle | 100% | |
| Valve body material | Aluminum die-cast or Stainless steel 316 | |
| Coil housing material | Aluminum die-cast or Stainless steel 316 | |
| Weight (Valve body / Coil housing) | Aluminum / Aluminum : 0.8 kg Aluminum / SS316 : 1.8 kg SS316 / SS316 : 2.1 kg | |

Rotatable Valve Head

The ESV valve head can be rotated by 90° to the right or to the left for an optimal mounting as shown below





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Features

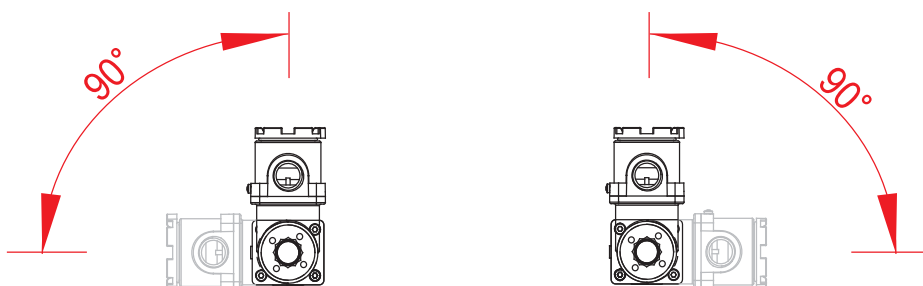
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
 - Ⓚ_{Cs} KCs - certified flameproof Ex d IIC , Ex tb IIC
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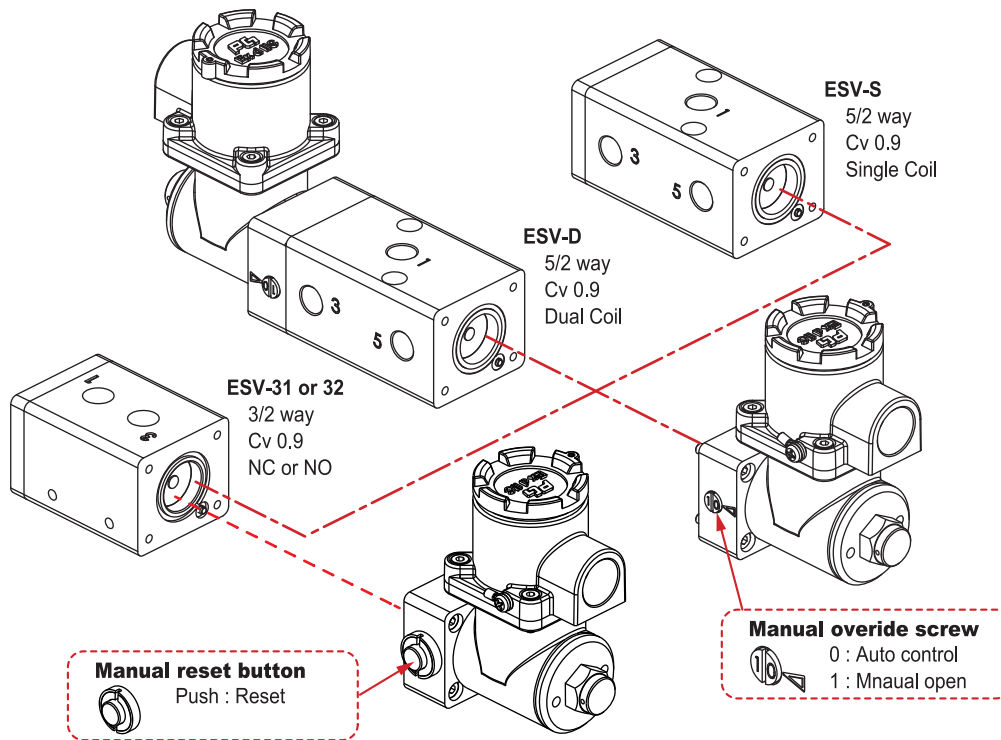
Specifications

| Model | ESV-31 ... R | ESV-32 ... R |
|---------------------------------------|---|----------------|
| Operating Air Pressure | 1.5 - 10 bar | |
| Air Supply (Max.) | 15 bar | |
| Operating Voltage / Power | DC 24V : 3.4W | |
| Voltage Tolerance | 10% | |
| Frequency | 50Hz / 60Hz | |
| Explosion Proof Class | Ex d IIC T6 / T5 / T4 , Ex tb IIIC T85 / T100 / T135, IP66 | |
| Operating Ambient Temperature | T6 : -30 - +50 T5 : -30 - +65 , T4 : -30 - +80 | |
| Flow Capacity(Cv) | 0.9 | |
| Mounting Configuration | Screw interface | |
| Pneumatic Connections | PT(Rc) 1/4 or NPT 1/4 | |
| Electrical Connection | PF(G) 1/2 , NPT 1/2 , M20 x 1.5 | |
| Coil Insulation Grade | Class F / Class H | |
| Operating type | Nomally - Closed | Nomally - Open |
| Duty Cycle | 100% | |
| Valve body material | Aluminum die-cast or Stainless steel 316 | |
| Coil housing material | Aluminum die-cast or Stainless steel 316 | |
| Weight (Valve body / Coil housing) | Aluminum / Aluminum : 0.8 kg Aluminum / SS316 : 1.8 kg SS316 / SS316 : 2.1 kg | |

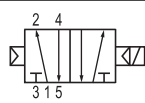






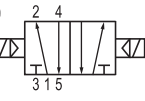
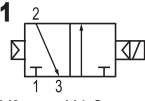
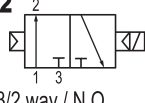
Rotatable Valve Head

The ESV valve head can be rotated by 90° to the right or to the left for an optimal mounting as shown below





Ordering Guide

| ESV Series | Operating Type | Body Material (valve body - coil housing) | Operating Voltage | Connections (pneumatic - electrical) | Protection & SIL Class | Coil Class | Manual Option |
|------------|--|--|---|---|--|--|---|
| ESV | S  5/2 way / Single Coil Cv 0.9 | Blank Aluminum - Aluminum die-cast S SS316 - Aluminum die-cast (only NPT 1/4 pneumatic connections) C SS316 - SS316 (Pneumatic : NPT 1/4) (Electrical : NPT 1/4, M20) | A220 220VAC A110 110VAC D24 24VDC | P PT 1/4 - PF 1/2 M PT 1/4 - M20x1.5 N NPT 1/4 - NPT 1/2 K NPT 1/4 - M20x1.5 | Blank KCs - Ex d IIC T6..T4 - Ex tb IIIC T85/T100/T135 Up to SIL3 F KCs / CCC IECEx / ATEX - Ex d IIC T6..T4 - Ex tb IIIC T85/T100/T135 Up to SIL3       | Blank Class F H Class H | Blank Manual override screw R Manual reset button (Only 3/2way) (Only 24Vdc) |
| | D  5/2 way / Dual Coil Cv 0.9 | | | | | | |
| | 31  3/2 way / N.C. Cv 0.9 | | | | | | |
| | 32  3/2 way / N.O. Cv 0.9 | | | | | | |

Ex) **ESV - S - A220P - F** : 5/2 way single coil , Aluminum - aluminum die-cast , 220VAC , PT1/4-PF1/2 , KC Ex d IIC , Class F coil



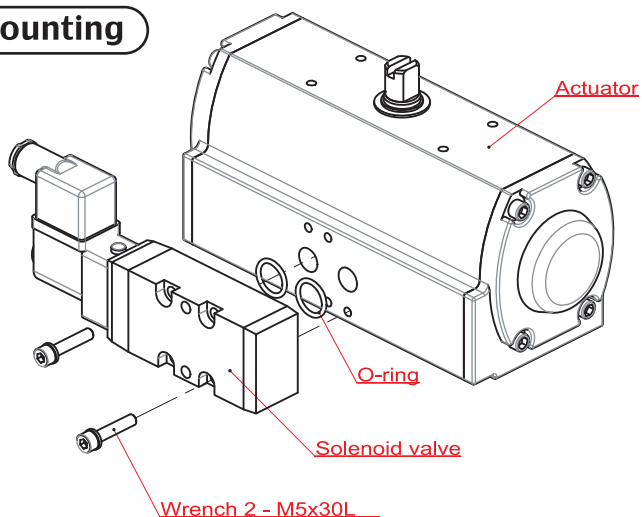
Weatherproof to IP65

- ▶ 5 port pilot / no lubrication
- ▶ Excellent durability
- ▶ Suitable for operation of even large-sized actuators with large effective section area of valve
- ▶ Suitable for PLC control system and computerized system due to a low power consumption
- ▶ Direct NAMUR mounting type

Specifications

| Model | | ESV10 - S | ESV10 - D |
|--|----|---|-----------|
| Fluid | | Air, Inert Gas | |
| Pneumatic Connections | | PT(Rc) 1/4 / NPT 1/4 / PF(G) 1/4 | |
| Electrical Connection(s) | | PG9 | |
| Effective Sectional Area(Cv) | | 31.2 mm ² (1.7) | |
| Operating Pressure Range | | 1.5 - 9 bar | |
| Maximum Operating Frequency | | 5 cycle / sec. | |
| Operating (Response) Time | | Less than 30ms | |
| Lubrication | | Non-lubricant (if necessary, turbine oil ISO VG32 or equivalent recommended) | |
| Manual Operation | | Non-lock push type | |
| Power | DC | 2.8 W | |
| Consumption | AC | 4.5 / 3.6VA (50 / 60Hz) | |
| Voltage Fluctuation Tolerance | | ± 10% of applicable voltage | |
| Operating Temperature | | +5°C - +60°C | |
| Coil Insulation Class | | Class F | |
| Protection Class | | IP65 | |
| Applicable Cylinder Size for Reference | | Ø32 - Ø125 | |
| Weight | | 330g | 410g |

Mounting



How to Order

ESV10

Coil
Type

Pneumatic
Connections

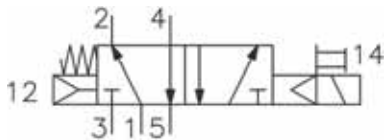
Operating
Voltage

Wiring
Method

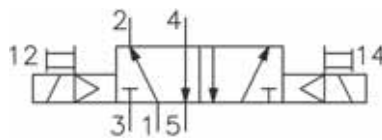
| Description | Code | Description | Code |
|--------------------------|--|----------------------|--|
| Coil type : | S : Single coil (return type) D : Dual coil (hold type) | Operating Volatage : | 1 : AC 100/110V 50/60Hz 2 : AC 200/220V 50/60Hz 3 : DC 24V 4 : DC 12V 5 : DC 24V |
| Pneumatic Connecitions : | R : PT(Rc) 1/4 N : NPT 1/4 G : PF(G) 1/4 | Wiring Method : | D : DIN connector Z : DIN connector with lamp and surge killer |

Symbol of Operation

Single Coil (return type)

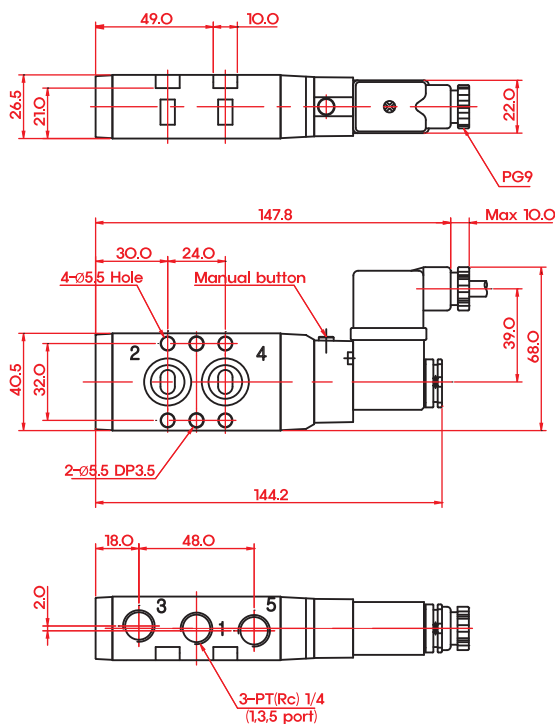


Dual Coil (hold type)



Dimensions

Single Coil Type



Dual Coil Type

