



# ESV Series Solenoid Valve



All innovation  
on driving your valve automation

[www.powergenex.com](http://www.powergenex.com)





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

### Features

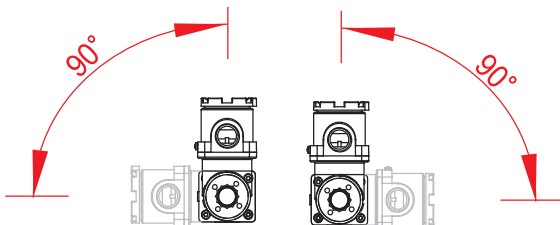
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Direct NAMUR mounting or screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
- Ⓚ<sup>s</sup> KCs - certified flameproof Ex d IIC , Ex tb IIC
- Ⓞ CCC - certified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

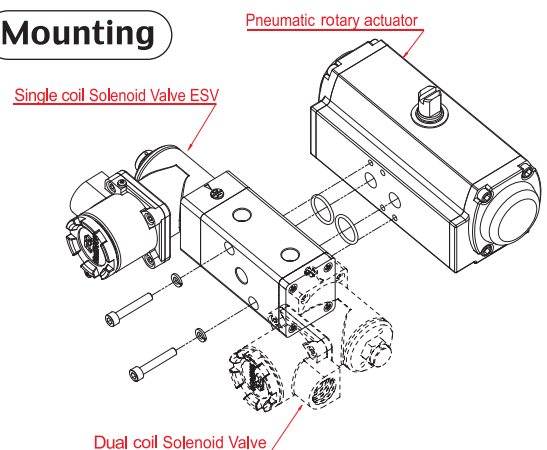
Model	ESV-S	ESV-D
Operating Air Pressure	1.5 - 10 bar	
Air Supply (Max.)	15 bar	
Operating Voltage / Power	AC110V : 6.8W / AC220V : 6.4W / DC 24V : 3.4W	
Voltage Tolerance	10%	
Frequency	50Hz / 60Hz	
Explosion Proof Class	Ex d IIC T6 / T5 / T4, Ex tb IIIC T85 / T100 / T135, IP66	
Operating Ambient Temperature	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

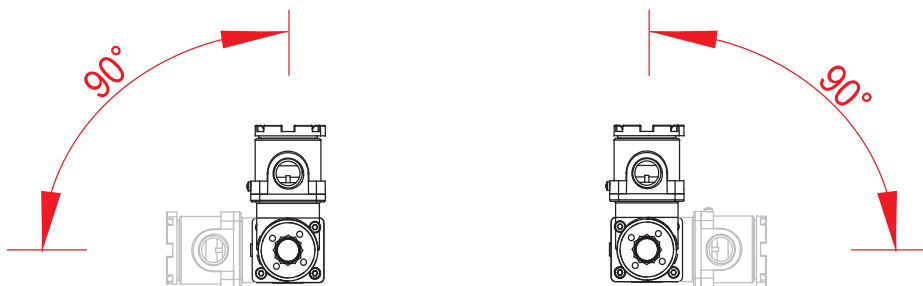
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
  - Ⓚ<sup>s</sup> KCs - certified flameproof Ex d IIC , Ex tb IIC
  - Ⓞ CCC - certified flameproof Ex d IIC , 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 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





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

### Features

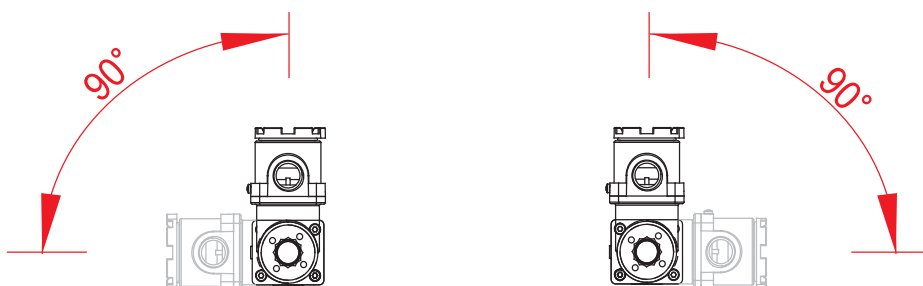
- ▶ Rugged aluminum die-cast housing or Stainless steel 316
- ▶ Rotatable valve head for optimal mounting
- ▶ Screw mounting
- ▶ Usable up to SIL3 acc. to IEC 61508
- ▶ Surge protection diode
  - Ⓚ KCs - certified flameproof Ex d IIC , Ex tb IIC
  - Ⓞ CCC - certified flameproof Ex d IIC , Ex tb IIC
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

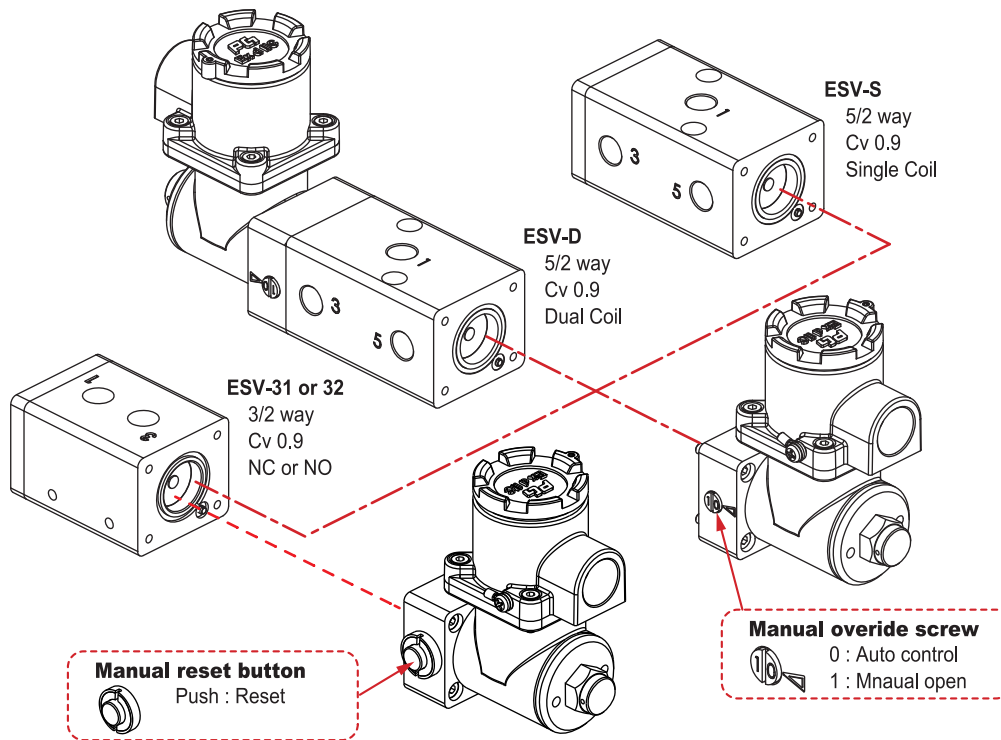
### Specifications

Model	ESV-31 ... 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	

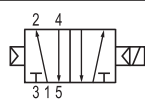
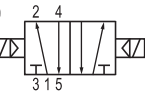
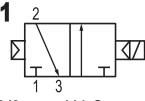
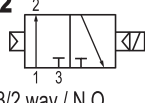
### Rotatable Valve Head

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



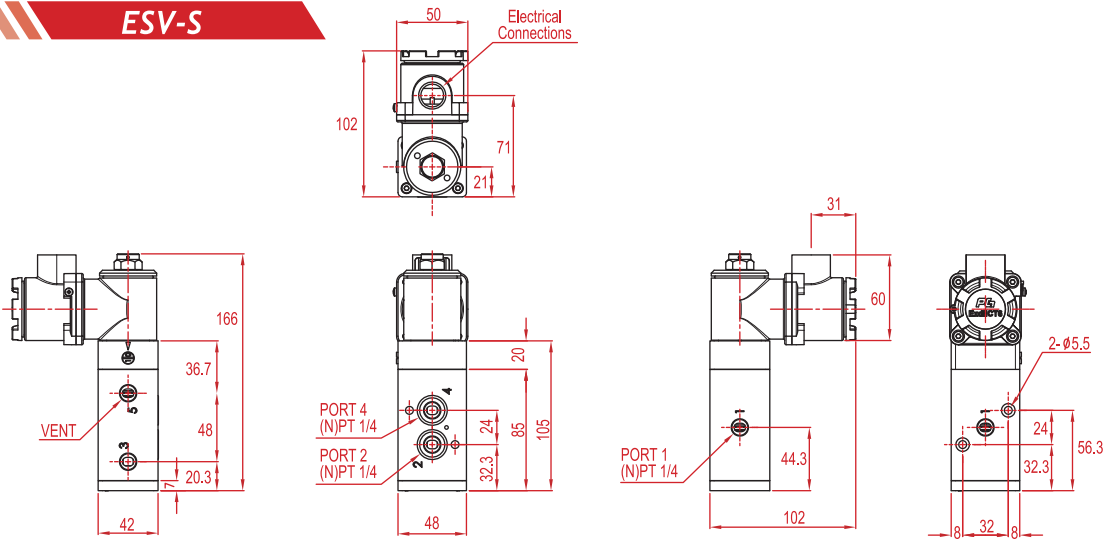


## Ordering Guide

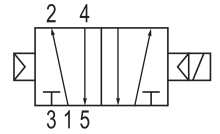
ESV Series	Operating Type	Body Material (valve body - coil housing)	Operating Voltage	Connections (pneumatic - electrical)	Protection & SIL Class	Coil Class	Manual Option
<b>ESV</b>	<b>S</b>  5/2 way / Single Coil Cv 0.9	<b>Blank</b> Aluminum - Aluminum die-cast  <b>S</b> SS316 - Aluminum die-cast (only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

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

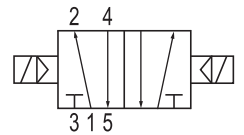
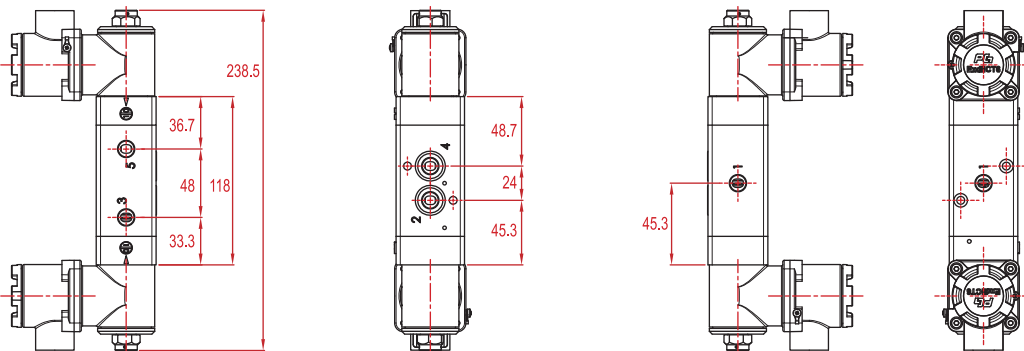
## ESV-S



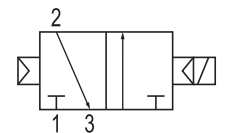
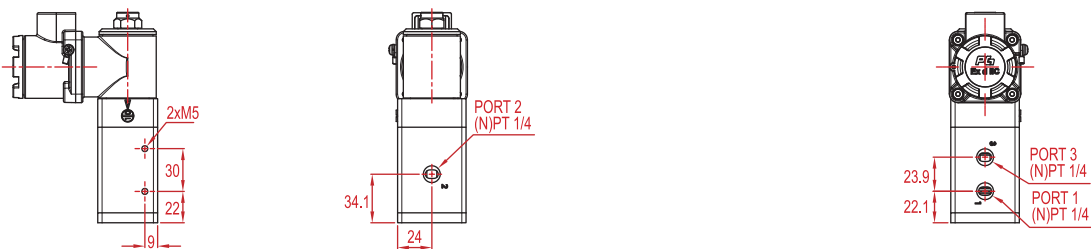
## Symbol



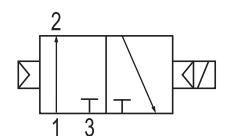
## ESV-D



## ESV-31 / 32



ESV-31  
< Normally - closed >



ESV-32  
< Normally - open >



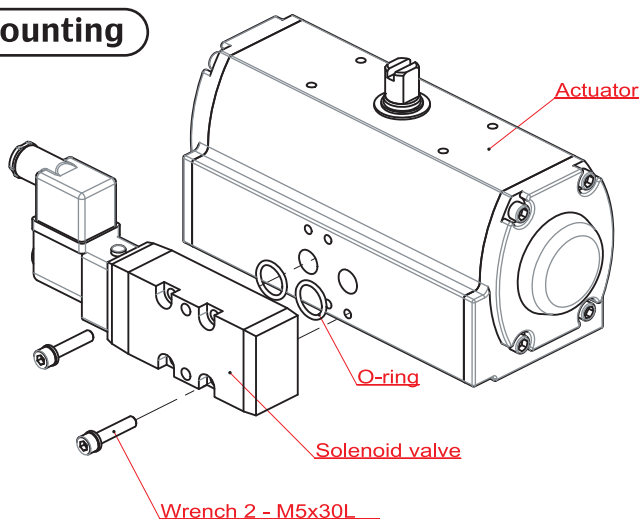
### Weatherproof to IP65

- ▶ 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 <sup>2</sup> (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

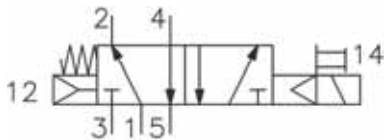
Operating  
Voltage

Wiring  
Method

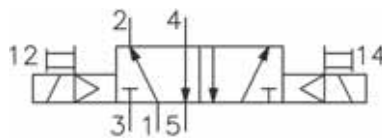
Description	Code	Description	Code
Coil type :	S : Single coil (return type) D : Dual coil (hold type)	Operating Volatage :	1 : AC 100/110V 50/60Hz 2 : AC 200/220V 50/60Hz 3 : DC 24V 4 : DC 12V 5 : DC 24V
Pneumatic Connecitions :	R : PT(Rc) 1/4 N : NPT 1/4 G : PF(G) 1/4	Wiring Method :	D : DIN connector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

## Symbol of Operation

Single Coil (return type)

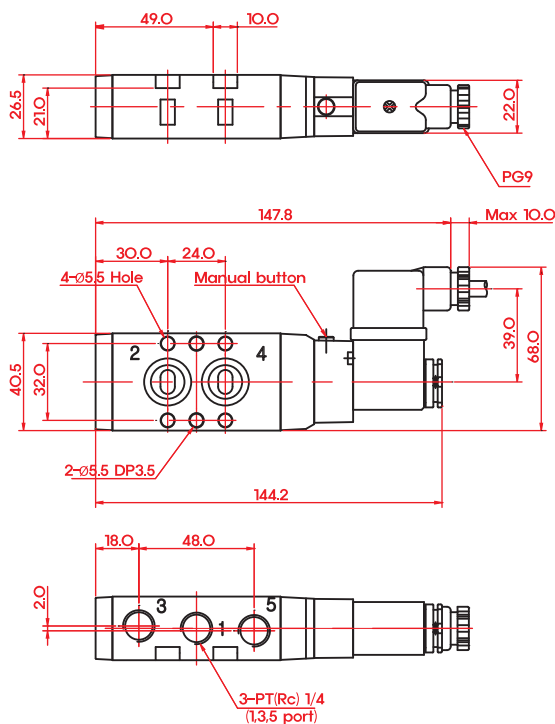


Dual Coil (hold type)



## Dimensions

### Single Coil Type



### Dual Coil Type

