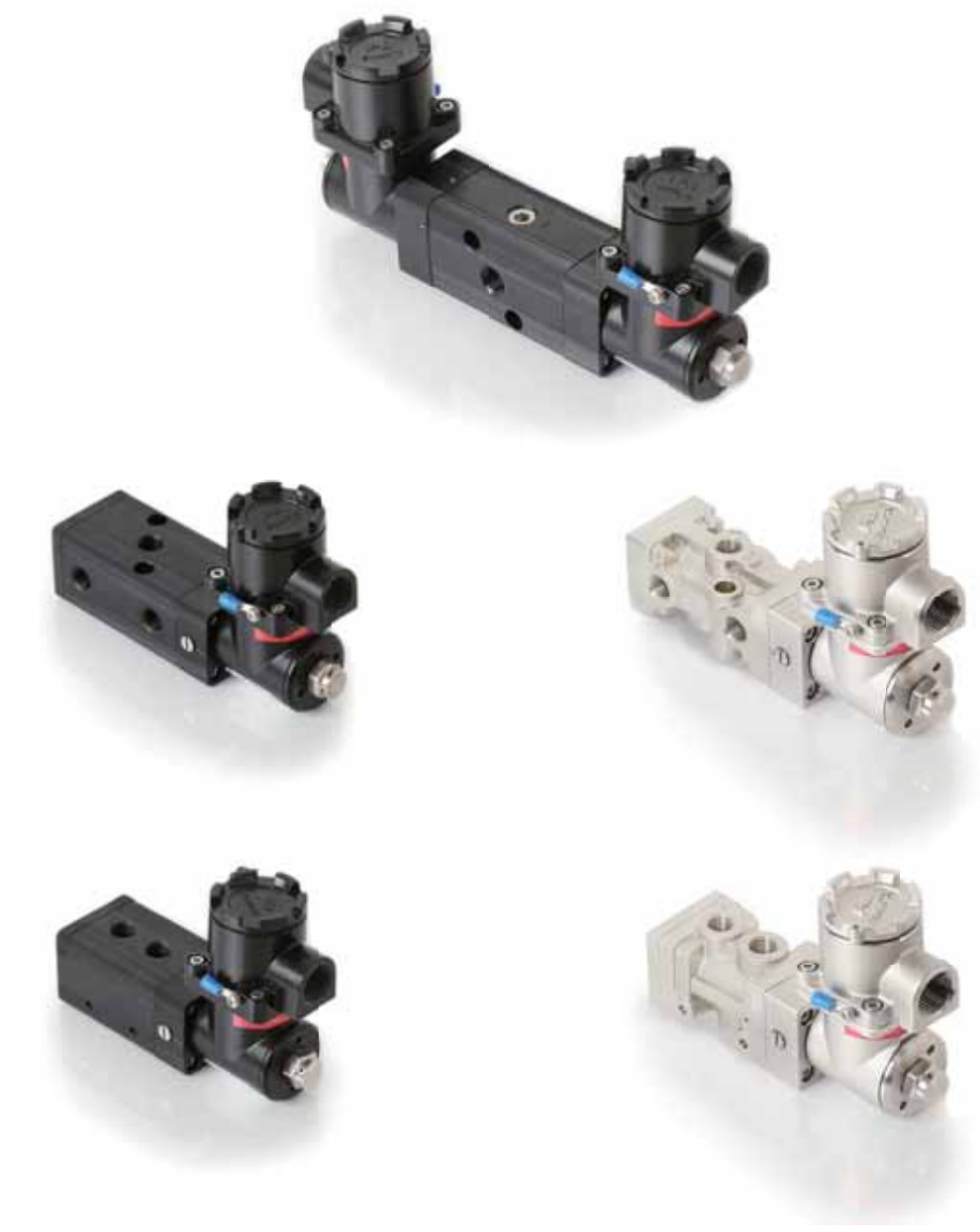
POWER-GENEX®

ESV Series

Solenoid Valve



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SIL3
IEC 61508 / IEC 61511

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

Features

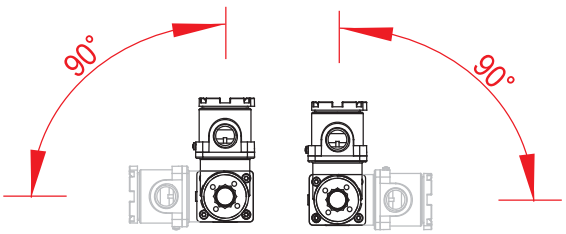
- Rugged aluminum die-cast housing or Stainless steel 316
- Rotatable valve head for optimal mounting
- Direct NAMUR mounting or screw mounting
- Usable up to SIL3 acc. to IEC 61508
- Surge protection diedo
  - KCs - certified flameproof Ex d IIC , Ex tb IIC
  - CCC - certified flameproof Ex d IIC ,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

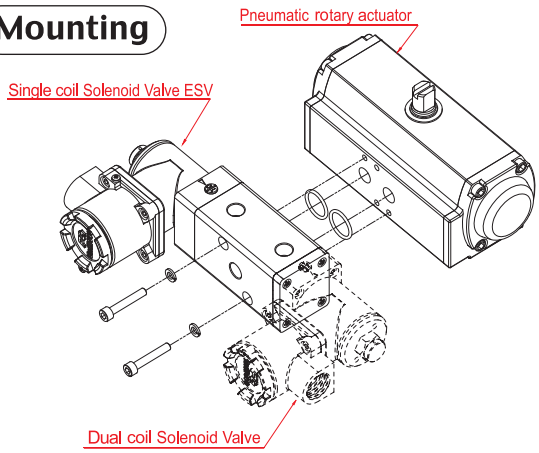
Model	ESV-S	ESV-D
Operating Air Pressure	1.5 - 10 bar	
Air Supply (Max.)	15 bar	
Operating Voltage / Power	AC110V : 6.8W / AC220V : 6.4W / DC 24V : 3.4W	
Voltage Tolerance	10%	
Frequency	60Hz	
Explosion Proof Class	Ex d IIC T6 / T5 / T4, Ex tb IIIC T85 / T100 / T135, IP66	
Operating Ambient Temperature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



Solenoid Valve
(3/2 way, Cv 0.9)

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

Features

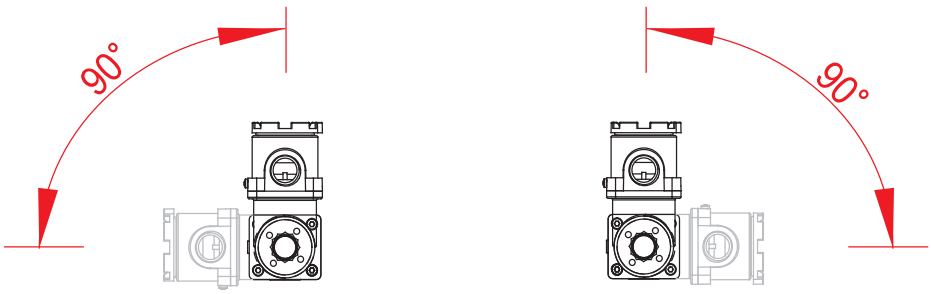
- Rugged aluminum die-cast housing or Stainless steel 316
- Rotatable valve head for optimal mounting
- Screw mounting
- Usable up to SIL3 acc. to IEC 61508
- Surge protection diedo
- KCs - certified flameproof Ex d IIC , Ex tb IIC
- CCC - certified flameproof Ex d IIC , Ex tb IIC
- IECEx - certified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

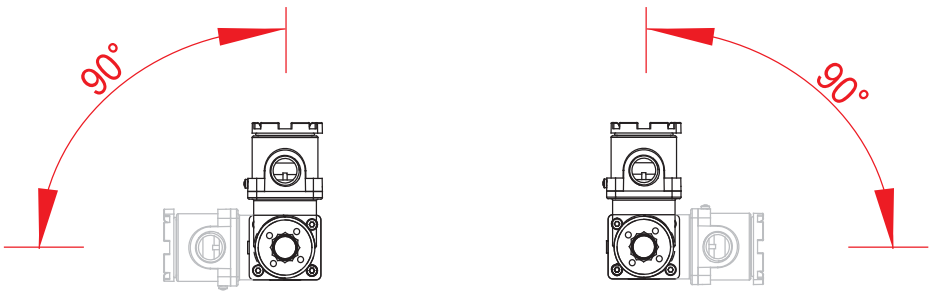
- Rugged aluminum die-cast housing or Stainless steel 316
- Rotatable valve head for optimal mounting
- Screw mounting
- Usable up to SIL3 acc. to IEC 61508
- Surge protection diedo
- KCs - certified flameproof Ex d IIC , Ex tb IIC
- CCC - certified flameproof Ex d IIC , Ex tb IIC
- IECEx - certified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

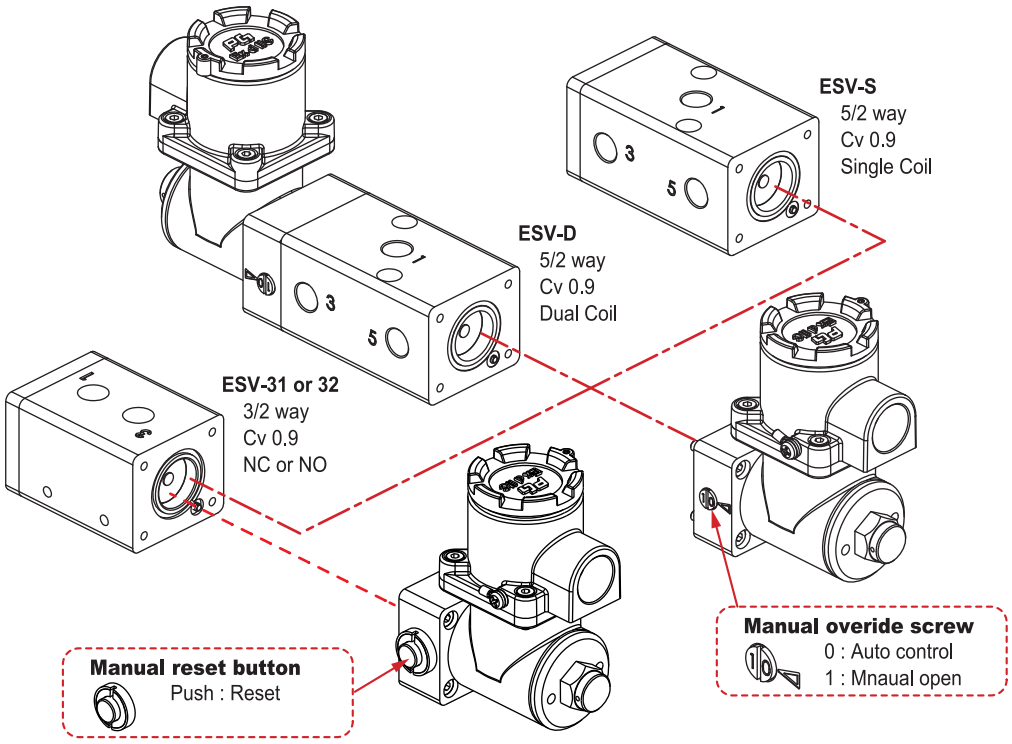
Specifications

Model	ESV-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	Only for DC	
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	

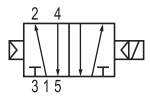
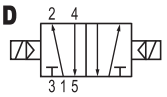
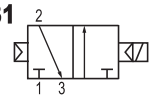
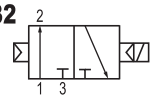
Rotatable Valve Head

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



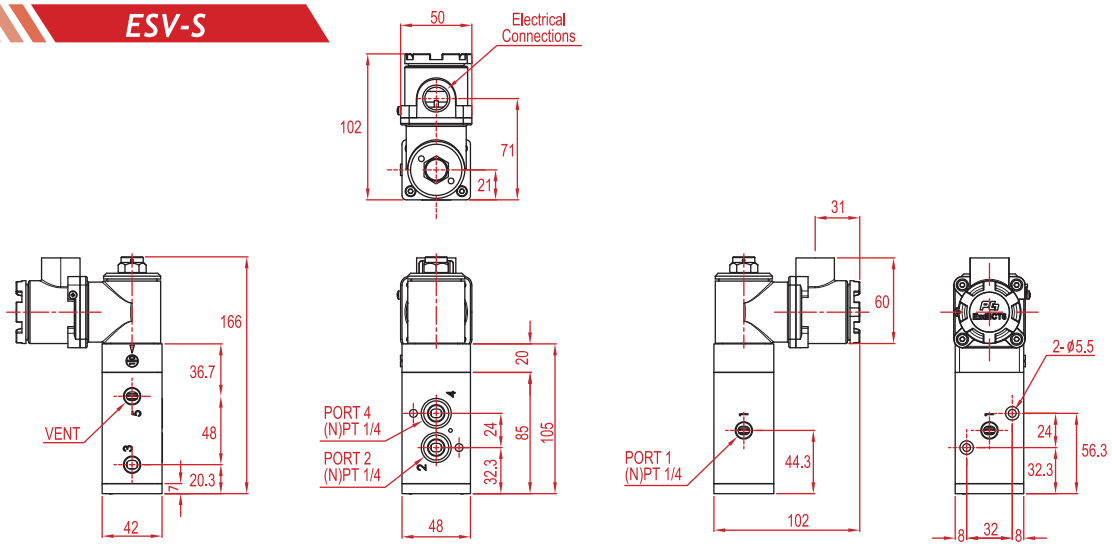


Ordering Guide

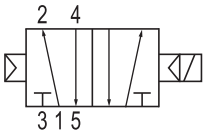
ESV Series	Operating Type	Body Material (valve body - coil housing)	Operating Voltage	Connections (pneumaitc - electrical)	Protection & SIL Class	Coil Class	Manual Option
ESV	**S**  5/2 way / Single Coil Cv 0.9 **D**  5/2 way / Dual Coil Cv 0.9 **31**  3/2 way / N.C. Cv 0.9 **32**  3/2 way / N.O. Cv 0.9	**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 overide screw **R** Manual reset button (Only 3/2way) (Only 24Vdc)

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

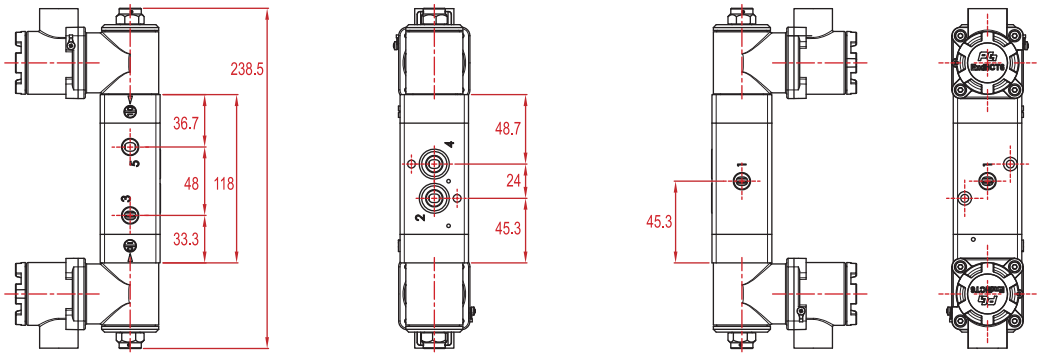
ESV-S

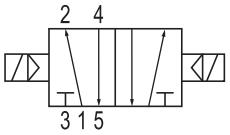


Symbol

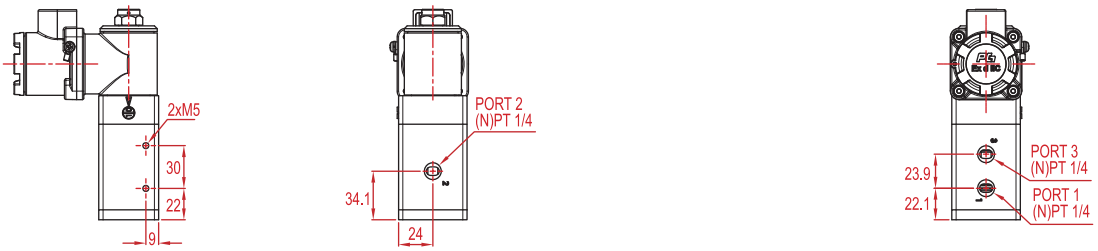


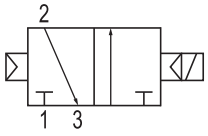
ESV-D



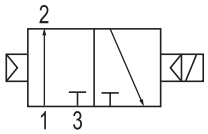


ESV-31 / 32





ESV-31
< Normally - closed >



ESV-32
< Normally - open >

< ESV10-S >

< ESV10-D >

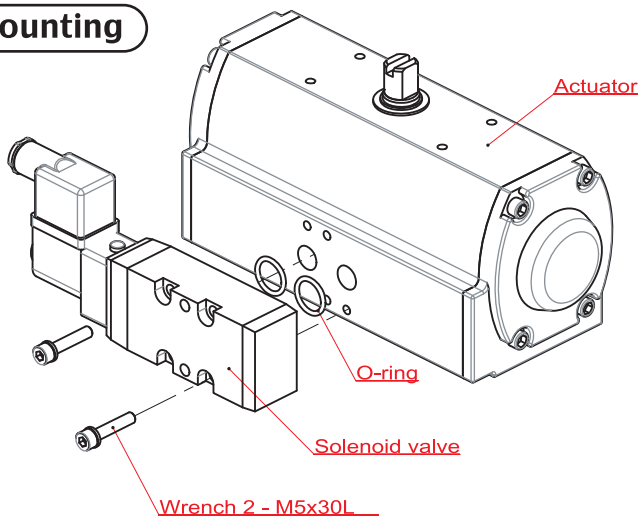
Weatherproof to IP65

- 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	
Pneumaitc 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)	
Opeerating 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 Consumption	DC	2.8 W	
	AC	4.5 / 3.6VA (50 / 60Hz)	
Voltage Fluctuation Tolerance		± 10% of applicable voltage	
Operating Temperature		+5℃ - +60℃	
Coil Insulation Class		Class F	
Protection Class		IP65	
Applicable Cylinder Size for Reference		Ø32 - Ø125	
Weight		330g	410g

Mounting



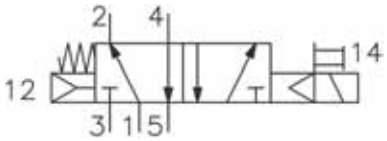
How to Order

ESV10 — Coil Type | Pneumatic Connections | Operating Voltage | Wiring Method

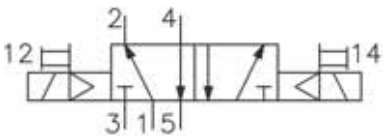
Description	Code	Description	Code
Coil type :	S : Single coil (return type) D : Dual coil (hold type)	**Operating Volatage :**	1 : AC 100/110V 50/60Hz 2 : AC 200/220V 50/60Hz 3 : DC 24V 4 : DC 12V 5 : DC 24V
Pneumatic Connecitions :	R : PT(Rc) 1/4 N : NPT 1/4 G : PF(G) 1/4	**Wiring Method :**	D : DIN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

Symbol of Operation

Single Coil (return type)

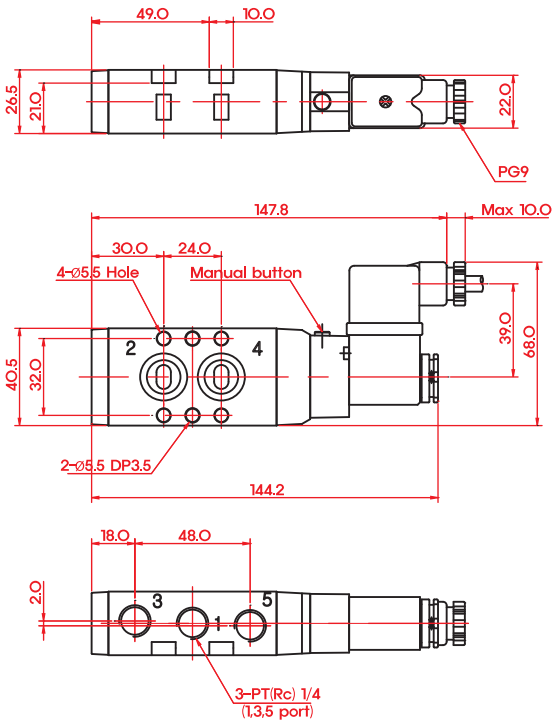
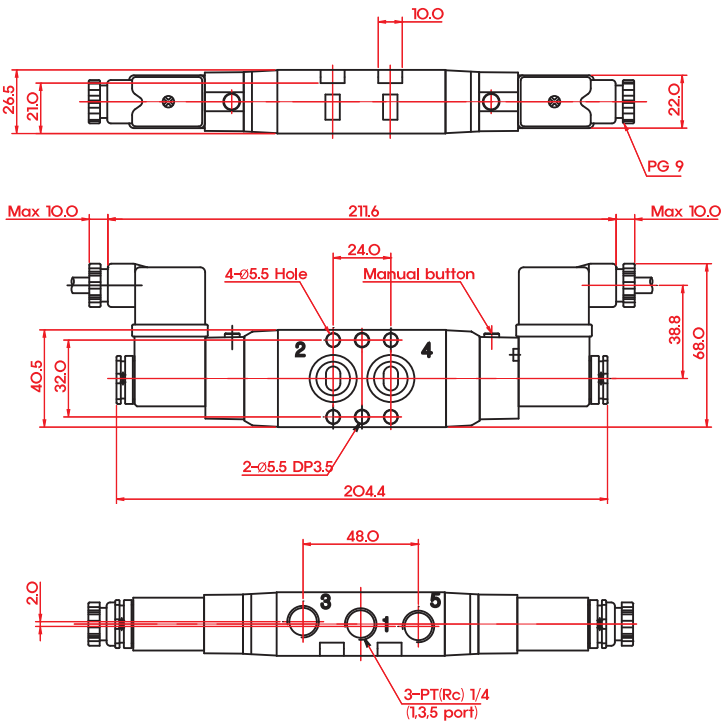


Dual Coil (hold type)



Dimensions

Single Coil Type



Dual Coil Type