


E-Type

Eco Power-Saving

Under the wave of Industry 4.0, various industries are investing in automation to improve production speed, flexibility, and cost-effectiveness, but another major problem has arisen! In the automation process, regardless of the compressed air driven by pneumatic or the power consumption of electric drive, **it will cause a lot of energy consumption.**

 launched the **E-Type** series products, which not only reduce the power consumption of the solenoid valve by more than **75%** but also **reduce the temperature of the** solenoid valve coil to extend the service life of the solenoid valve.

E-TYPE Eco Power-Saving Solenoid Valve

Features

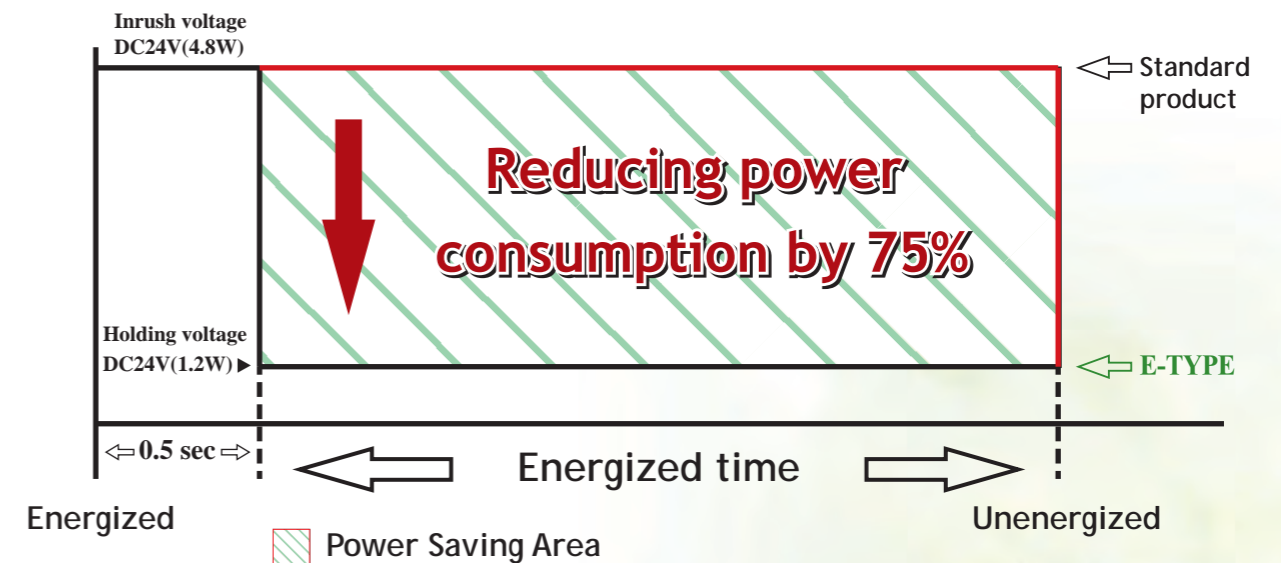
- (1) Power savings by reducing current consumption.
- (2) Also can reduce the temperature of the solenoid's coil to improve the performance and extend the service life While saving power.

Operating Principle

When the solenoid valve is actuated, the starting voltage (Inrush voltage) is first applied to switch the valve. After the valve switching is completed, the solenoid valve at this time only needs a small current (and voltage) to maintain the current state of the valve, which is called As the holding voltage, **SHAKO** uses this feature to make "**energy-saving**" solenoid valves.

Generally, the pulse width modulation method (PWM) is commonly used as an energy-saving control method. The energy-saving efficiency of this method is limited. Therefore, **SHAKO** adopts the "**smart IC chip + special process**" to directly reduce the current to achieve energy-saving control.

The example for calculation method of energy saving



Test condition:

Coil: 24VDC (4.8W), Operating time: 12 hrs /day, 22 days/month

(1) Coil with Standard connector/pcs :4.8W *12 hrs * 22 days =1267.2W/month

(2) Coil with E-type connector/pcs:1.2W * 12 hrs * 22 days =316.8W/month

You can save energy of 950.4 W per month by 1pcs.

Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Lockable manual override for easy operation.
4. Anodized aluminum body and strict quality control provide a long durability.
5. Coil nut is available, please refer to page 5-1.
6. For power save connector, please refer to page 5-5.



How to order

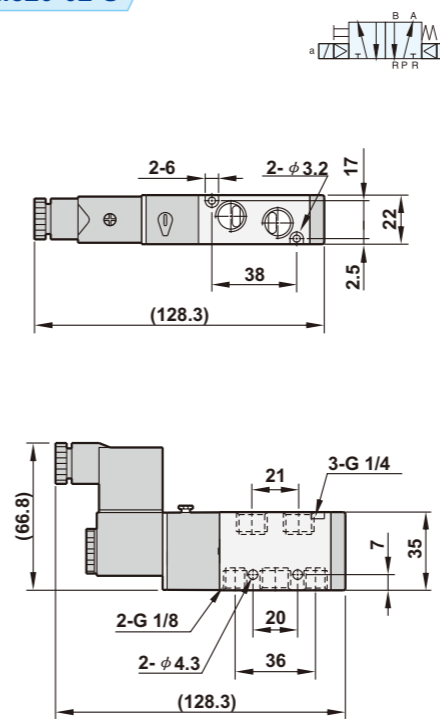
E-BM520	X	-	02	N	-	S	7
520:5/2 Way	Acting style		Port size	Thread		Solenoid	Voltage
530:5/3 Way	Blank:Standard		02:1/4"	Blank:G		S:Single solenoid	7:12VDC
	5/3 Way		03:3/8"	N:NPT		D:Double solenoid	9:24VDC
	Blank:Closed center		04:1/2"	R:Rc			
	X:Exhaust center						
	Y:Pressurized center						

Specifications

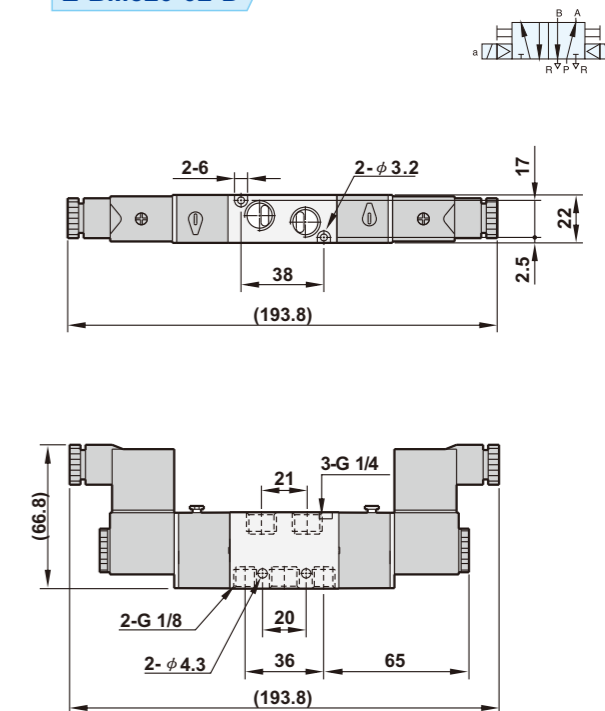
Model	E-BM520-02-S E-BM520-02-D	E-BM530-02-D	E-BM520-03-S E-BM520-03-D	E-BM530-03-D	E-BM520-04-S E-BM520-04-D	E-BM530-04-D
Port size	1/4", 1/8" (Exhaust ports)		3/8", 1/4" (Exhaust ports)		1/2"	
Body material	Aluminum alloy					
Fluid	Compressed air					
Acting	Internal pilot					
Effective area	18mm ²	14mm ²	30mm ²	18mm ²	50mm ²	30mm ²
Operating pressure range	2~8 kgf/cm ²					
Proof pressure	9.9 kgf/cm ²					
Ambient temperature	-10℃ ~ 60℃					
Duty cycle	100% ED					
Coil type	DIN (Standard)					
Protection class	IP65 (DIN 40 050)					
Insulation class	F					
Voltage tolerance	±10%					
Standard voltage	12VDC, 24VDC					
Net weight	235g(335g)	445g	410g(500g)	700g	590g(720g)	770g

Dimensions

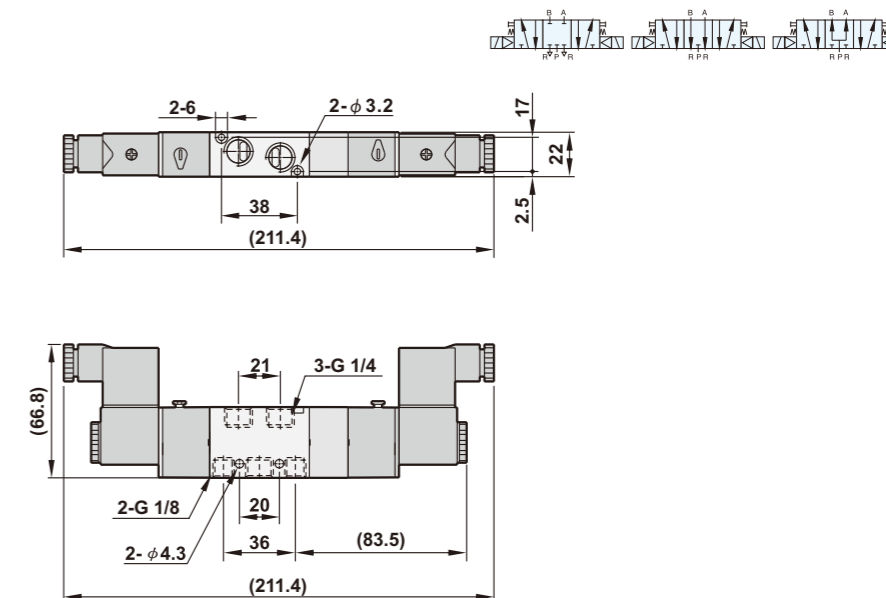
E-BM520-02-S



E-BM520-02-D

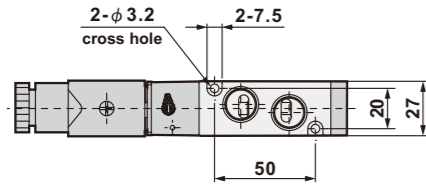


E-BM530(X)(Y)-02-D

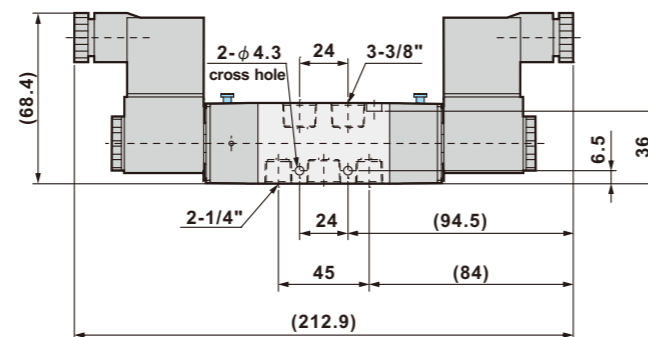
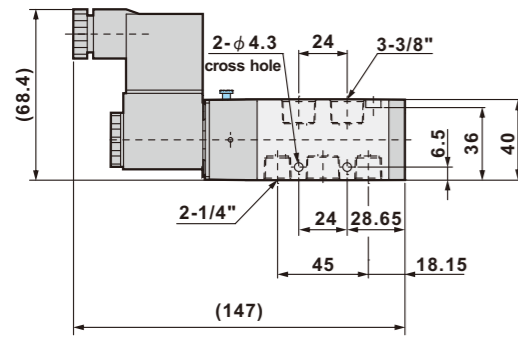
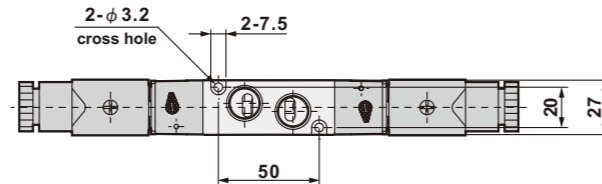
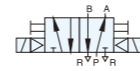


■ Dimensions

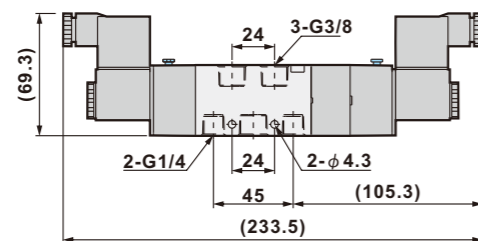
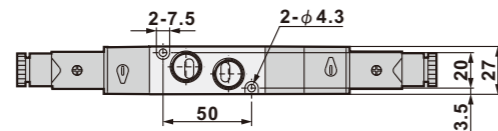
E-BM520-03-S



E-BM520-03-D

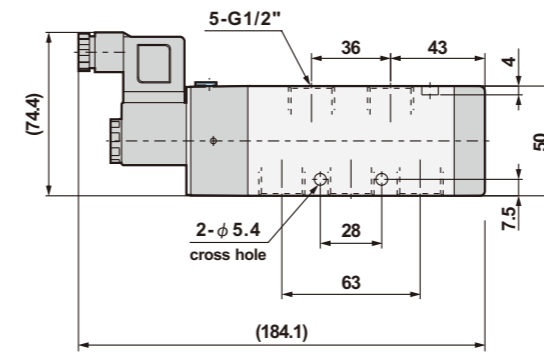
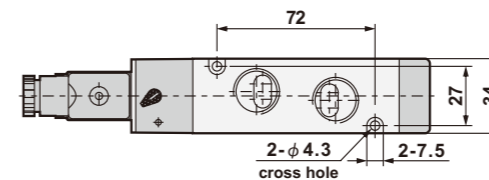
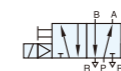


E-BM530(X)(Y)-03-D

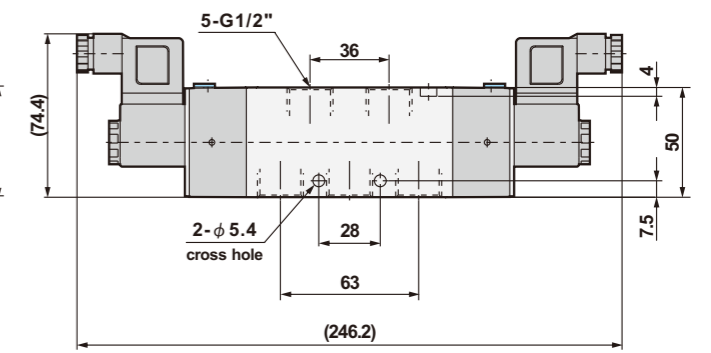
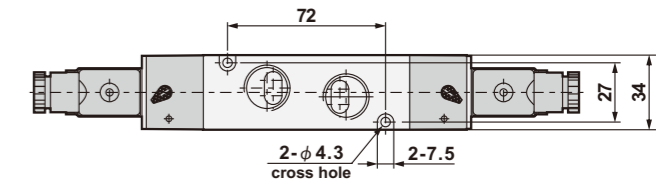


■ Dimensions

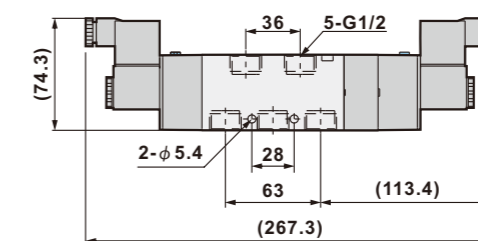
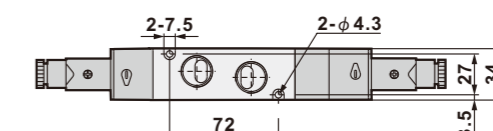
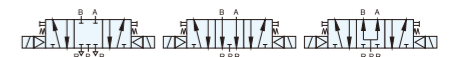
E-BM520-04-S



E-BM520-04-D



E-BM530(X)(Y)-04-D



Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Manual override with lock design for easy operation.
4. Anodized aluminum body with special machining inner slot, low friction, strict quality control provides a long durability.
5. Coil nut is available, please refer to page 5-1, 5-2.
6. For power save connector, please refer to page 5-5.



How to order

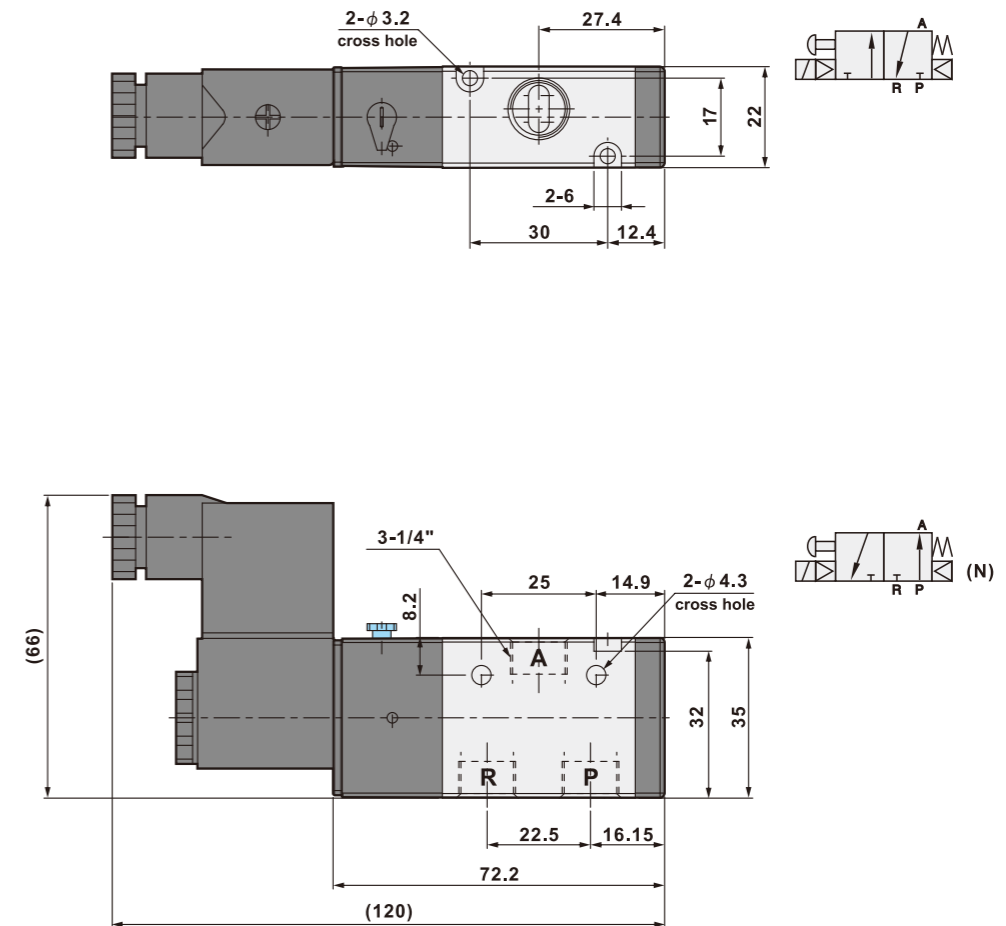
E-BM320	N	-	02	N	-	S	7
3/2 Way	Acting style		Port size	Thread	Solenoid		Voltage
	Blank :Normally closed N:Normally open		02 :1/4"	Blank :G N:NPT R:Rc	S:Single solenoid		7:12VDC 9:24VDC

Specifications

Model	E-BM320(N)-02
Port size	1/4"
Body material	Aluminum alloy
Fluid	Compressed air
Effective area	16mm ²
Acting	Internal pilot
Operating pressure range	1.5 ~ 8 kgf/cm ²
Proof pressure	9.9 kgf/cm ²
Ambient temperature	-10°C ~ 60°C
Duty cycle	100% ED
Coil type	DIN (Standard)
Protection class	IP65 (DIN 40 050)
Insulation class	F
Voltage tolerance	±10%
Standard voltage	12VDC, 24VDC
Net weight	180g

Dimensions

E-BM320(N)-02



Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Lockable manual override for easy operation.
4. Aluminum body with surface anodizing treatment and strict quality control for long durability.
5. Coil nut is available, please refer to page 5-1.
6. For power save connector, please refer to page 5-5.



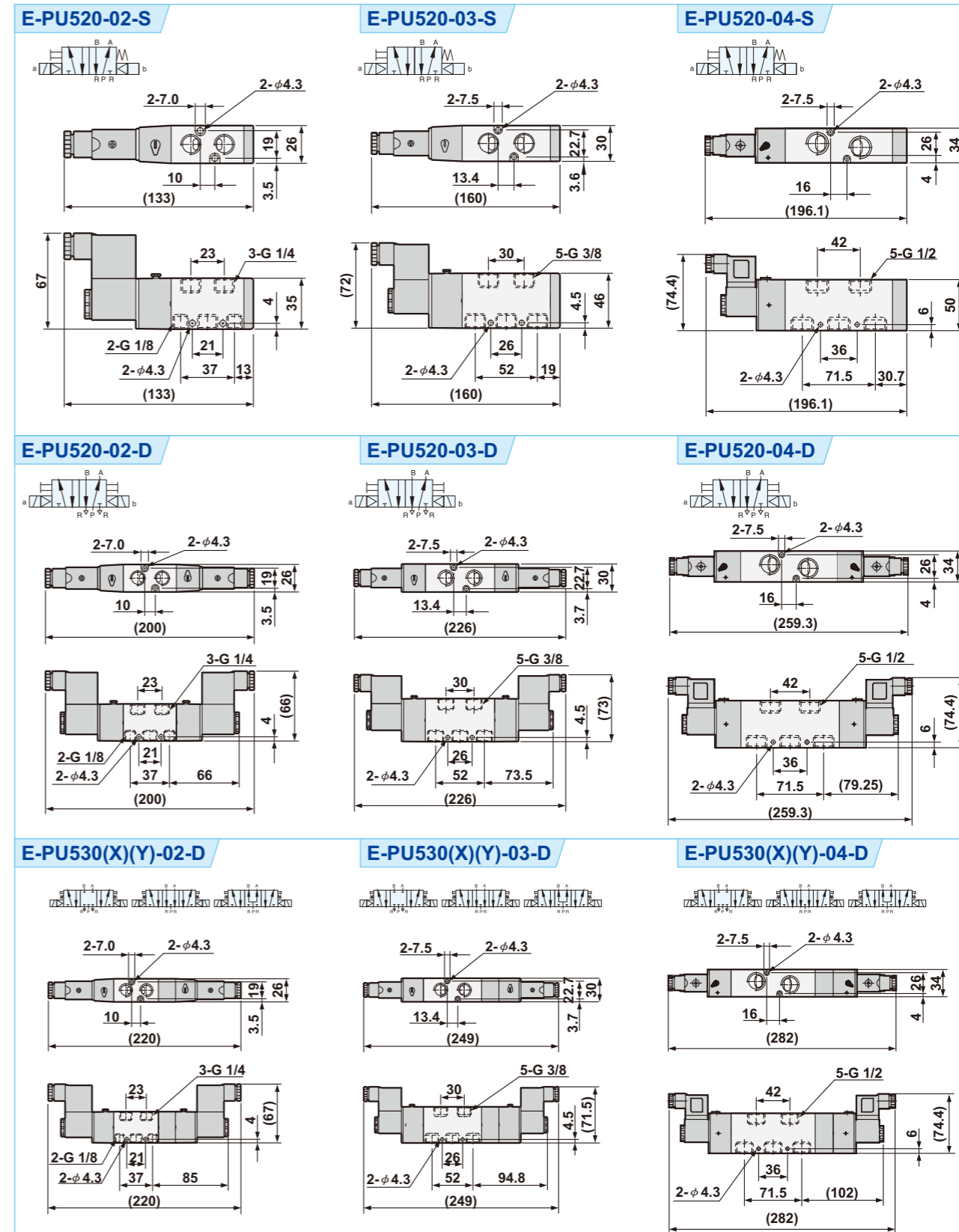
How to order

E-PU520	X	-	02	N	-	S	7	
520:5/2 Way	Acting style		Port size	Thread		Solenoid		Voltage
530:5/3 Way	Blank:Standard		01:1/8" (option)	Blank:G		S:Single solenoid		7:12VDC
	5/3 Way		02:1/4"	N:NPT		D:Double solenoid		9:24VDC
	Blank:Closed center		03:3/8"	R:Rc				
	X:Exhaust center		04:1/2"					
	Y:Pressurized center							

Specifications

Model	EPU520-02-S EPU520-02-D	EPU530-02-D	EPU520-03-S EPU520-03-D	EPU530-03-D	EPU520-04-S EPU520-04-D	EPU530-04-D
Port size	1/4", 1/8" (Exhaust ports)		3/8"		1/2"	
Body material	Aluminum alloy					
Fluid	Compressed air					
Effective area	18mm ²	14mm ²	35mm ²	32mm ²	70mm ²	54mm ²
Acting	Internal pilot					
Operating pressure range	1.5~8 kgf/cm ²	2~8 kgf/cm ²	1.5~8 kgf/cm ²		2~8 kgf/cm ²	
Proof pressure	9.9 kgf/cm ²					
Ambient temperature	-10°C ~ 60°C					
Duty cycle	100% ED					
Coil type	DIN (Standard)					
Protection class	IP65 (DIN 40 050)					
Insulation class	F					
Voltage tolerance	±10%					
Standard voltage	12VDC, 24VDC					
Net weight	270g / 335g	475g	430g / 525g	715g	665g / 770g	1045g

Dimensions



Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Lockable manual override for easy operation.
4. Anodized aluminum body and strict quality control provide a long durability.
5. External pilot is available for vacuum equipments.
6. Coil nut is available, please refer to page 5-1.
7. For power save connector, please refer to page 5-5.



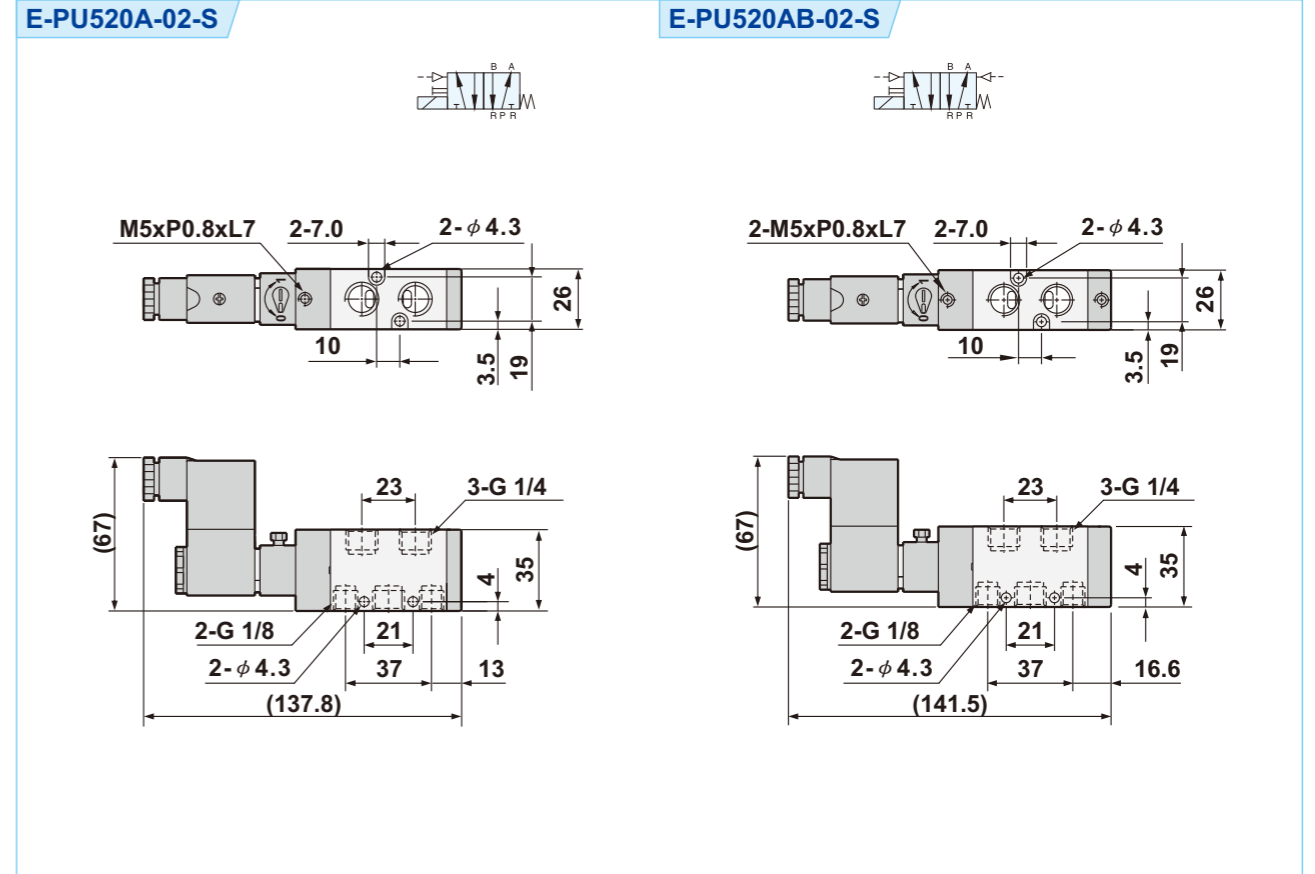
How to order

E-PU520	A	-	02	N	-	S	7
5/2 Way	Acting		Port size	Thread		Solenoid	Voltage
	A:Front pilot		01 :1/8" (Option)	Blank :G		S:Single solenoid	7:12VDC
	AB:Front & Rear pilot		02 :1/4"	N:NPT			9:24VDC
				R:Rc			

Specifications

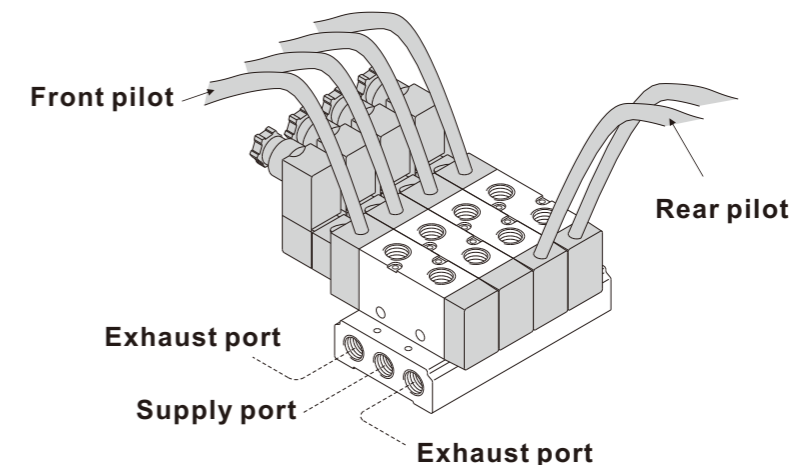
Model	E-PU520A-02-S	E-PU520AB-02-S
Port size	1/4", Pilot port. (M5)	
Body material	Aluminum alloy	
Fluid	Compressed air	
Effective area	18mm ²	
Acting	External pilot (1.5 ~ 8 kgf/cm ²)	
Operating pressure range	0 ~ 8 kgf/cm ²	
Proof pressure	9.9 kgf/cm ²	
Ambient temperature	-10°C ~ 60°C	
Duty cycle	100% ED	
Coil type	DIN (Standard)	
Protection class	IP65 (DIN 40 050)	
Insulation class	F	
Voltage tolerance	±10%	
Standard voltage	12VDC, 24VDC	
Net weight	240g	260g

Dimensions



5/2 way external pilot solenoid valve

- * Pilot specifications: 1.Front pilot, 2.Rear pilot
- * Orifice: M5
- * Manifold part number: MF520-02XX Inlet pilot at least 1.5kg higher than external pilot pressure.



Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Lockable manual override for easy operation.
4. Anodized aluminum body and strict quality control provide a long durability.
5. Coil nut is available, please refer to page 5-1.
6. For power save connector, please refer to page 5-5.



How to order

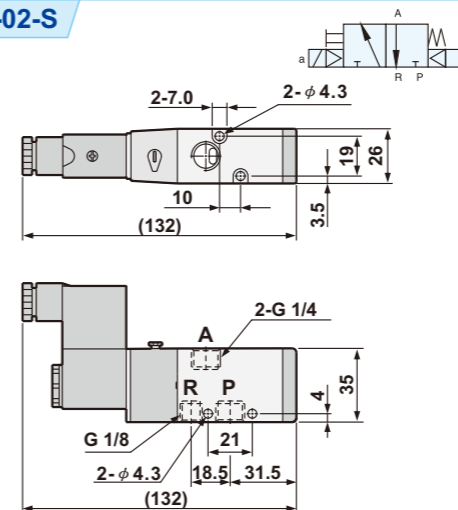
E-PU322	N	-	02	N	-	S	7
3/2 Way	Acting style		Port size	Thread		Solenoid	Voltage
	Blank : Normally closed N : Normally open		02 : 1/4" 03 : 3/8" 04 : 1/2"	Blank : G N : NPT R : Rc		S : Single solenoid	7 : 12VDC 9 : 24VDC

Specifications

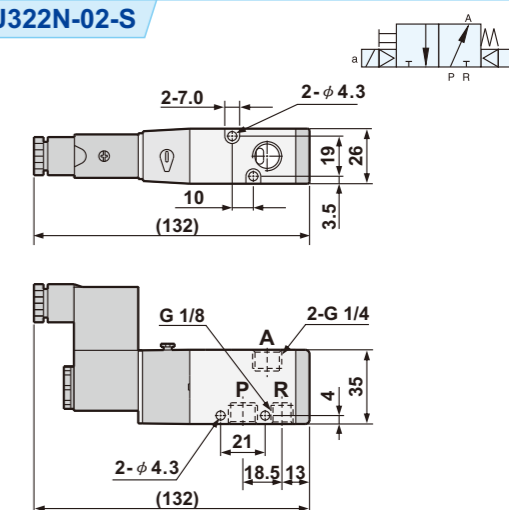
Model	E-PU322(N)-02-S	E-PU322(N)-03-S	E-PU322(N)-04-S
Port size	1/4"	3/8"	1/2"
Body material	Aluminum alloy		
Fluid	Compressed air		
Effective area	18mm ²	35mm ²	70mm ²
Acting	Internal pilot		
Operating pressure range	2 ~ 8 kgf/cm ²		
Proof pressure	9.9 kgf/cm ²		
Ambient temperature	-10°C ~ 50°C		
Duty cycle	100% ED		
Coil type	DIN (Standard)		
Protection class	IP65 (DIN 40 050)		
Insulation class	F		
Voltage tolerance	± 10%		
Standard voltage	12VDC, 24VDC		
Net weight	280g	450g	685g

Dimensions

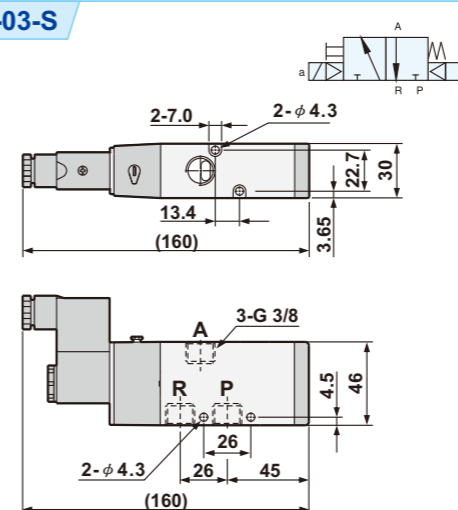
E-PU322-02-S



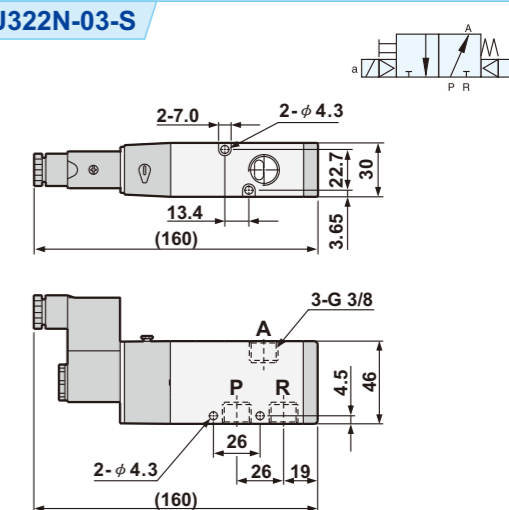
E-PU322N-02-S



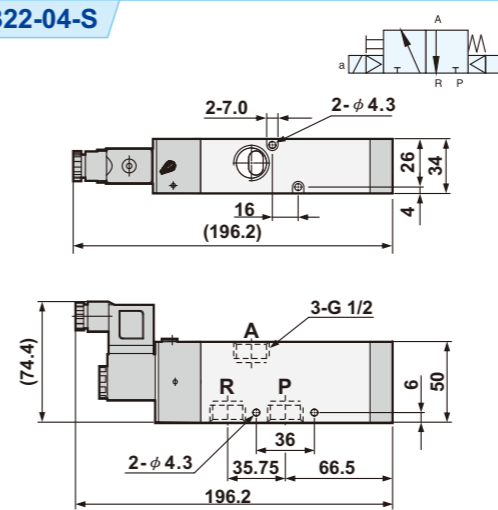
E-PU322-03-S



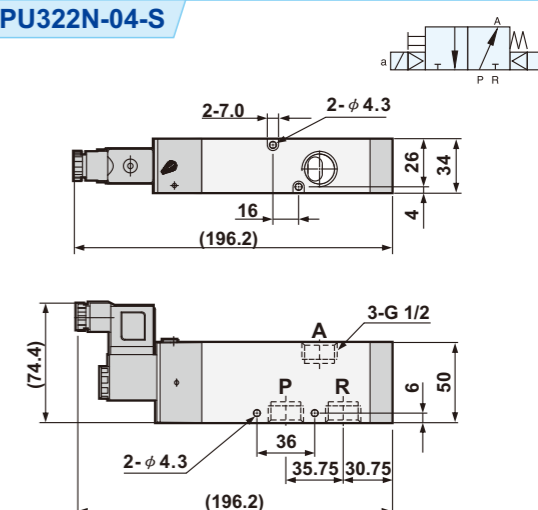
E-PU322N-03-S



E-PU322-04-S



E-PU322N-04-S



■ **Features**

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. 3/2 way solenoid valve. The valve is easy to be stacked.
4. To stack the valve, assembly kit is necessary.
5. Assembly kit includes O-ring x 1, bolt x 2, screw x 2, nut x 2.
6. Coil nut is available, please refer to page 5-1.
7. For power save connector, please refer to page 5-5.



■ **How to order**

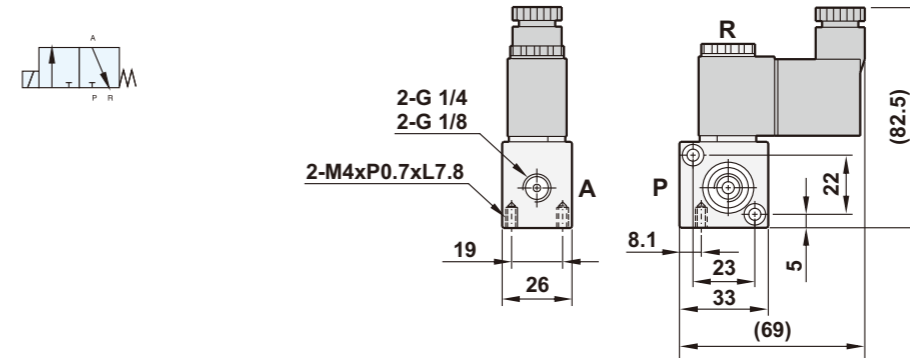
E-PU320	N	M02	-	02	N - S	7
3/2 Way	Acting style	Number of stack	Port size	Thread	Solenoid	Voltage
	Blank : Normally closed N : Normally open	Blan : W/O stack M02 : 2 valves stack M03 : 3 valves stack Mxx : xx valves stack	01 : 1/8" 02 : 1/4"	Blank : G N : NPT R : Rc	S : Single solenoid	7 : 12VDC 9 : 24VDC

■ **Specifications**

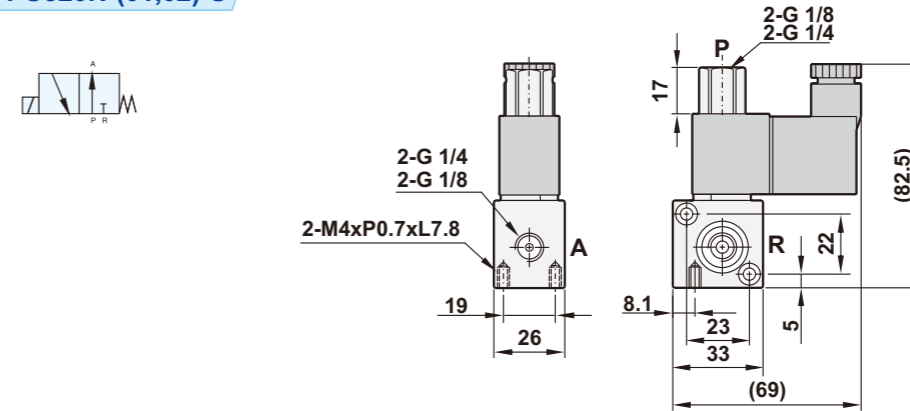
Model	E-PU320(N)-01-S	E-PU320(N)-02-S
Port size	1/8"	1/4"
Body material	Aluminum alloy	
Effective area	1.5mm ²	
Fluid	Compressed air	
Acting	Direct acting with spring return	
Operating pressure range	0 ~ 8 kgf/cm ²	
Proof pressure	9.9 kgf/cm ²	
Ambient temperature	-10°C ~ 60°C	
Duty cycle	100% ED	
Coil type	DIN	
Protection class	IP65 (DIN 40 050)	
Insulation class	F	
Voltage tolerance	±10%	
Standard voltage	12VDC, 24VDC	
Net weight	180g	160g

■ **Dimensions**

E-PU320-(01,02)-S

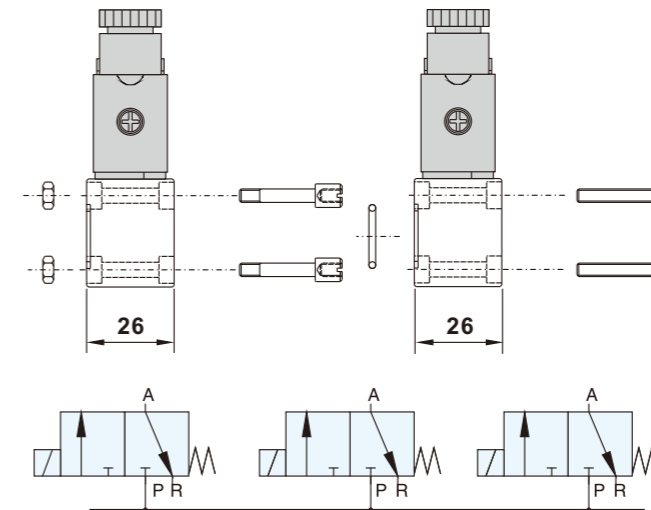


E-PU320N-(01,02)-S



■ **How to stack valve**

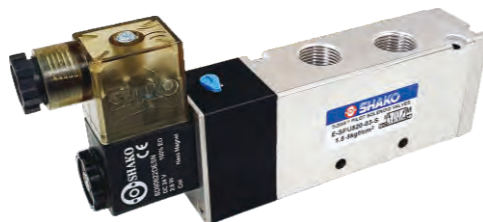
E-PU320Mxx



Mounting kit includes	
Description	Qty.
O-ring	1
Bolts	2
Screws	2
Hex nuts	2

Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Stainless steel SUS316 body for corrosion resistance.
4. Coil nut is available, please refer to page 5-1.
5. For power save connector, please refer to page 5-5.



How to order

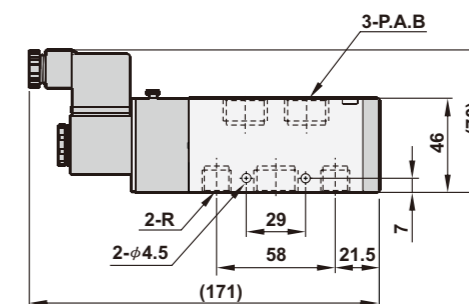
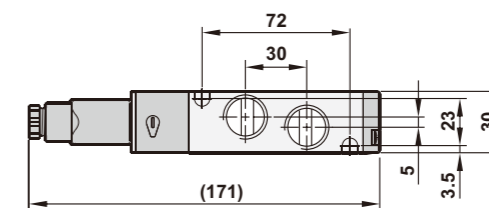
E-SPU520	-	02	N	-	S	7
5/2 Way	Port size	Thread	Solenoid	Voltage		
	02 :1/4"	Blank :G	S :Single solenoid	7 :12VDC		
	03 :3/8"	N :NPT	D :Double solenoid	9 :24VDC		
	04 :1/2"	R :Rc				

Specifications

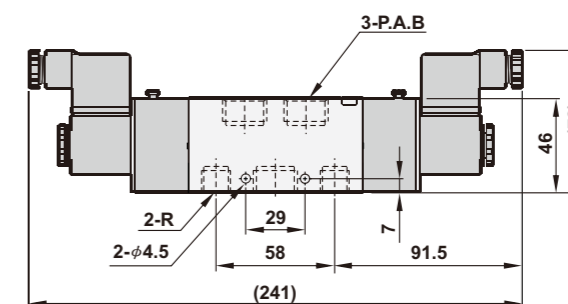
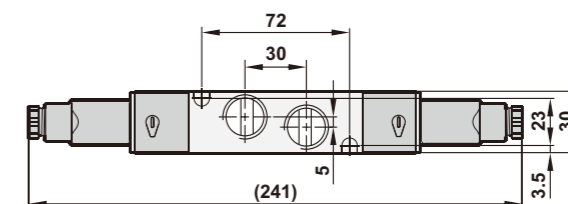
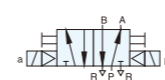
Model	E-SPU520-02-S	E-SPU520-03-S	E-SPU520-04-S	E-SPU520-02-D	E-SPU520-03-D	E-SPU520-04-D
Port size	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"
Body material	SUS316					
Effective area	35mm ²	65mm ²		35mm ²	65mm ²	
Fluid	Compressed air					
Acting	Internal pilot					
Operating pressure range	1.5~8 kgf/cm ²					
Proof pressure	9.99 kgf/cm ²					
Ambient temperature	-10℃ ~ 60℃					
Insulation class	F					
Temperature class	EEXmIIT4					
Duty cycle	100% ED					
Voltage tolerance	±10%					
Protection class	IP65 (EN 60529)					
Standard voltage	12VDC, 24VDC					
Net weight	1000g			1200g		

Dimensions

E-SPU520-02,03,04-S



E-SPU520-02,03,04-D



Model	A	B	P	R
E-SPU520-02	1/4	1/4	1/4	1/4
E-SPU520-03	3/8	3/8	3/8	3/8
E-SPU520-04	1/2	1/2	1/2	3/8

Features

1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. ISO 1, ISO 2 solenoid valve.
4. Aluminum alloy body.
5. With single sub base and manifold sub-base which are identical to ISO 1 & ISO 2 standard.
6. Coil nut is available, please refer to page 5-1.
7. For power save connector, please refer to page 5-5.



How to order

E-PS520	F	-	02	N	-	S	7
5/2 Way	Sub-Base		Port size	Thread		Solenoid	Voltage
	Blank :W/O base		02 :ISO 1	Blank :G		S :Single solenoid	7 :12VDC
	F :W/I single sub-base		03 :ISO 2	N :NPT		D :Double solenoid	9 :24VDC
	M02 :2 Valves stack		04 :ISO 2	R :Rc			
	M03 :3 Valves stack						
	Mxx :xx Valves stack						

How to order manifold

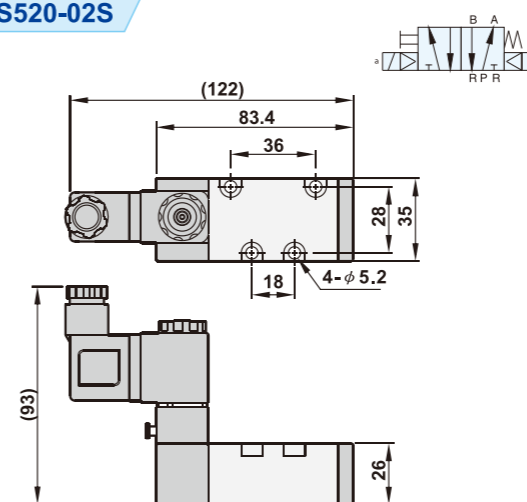
ZESF - 02	ZEPS520B - 02	ZEPS520E - 02
Single sub-base	Manifold sub-base	End plate
Port size	Port size	Port size
02 : 1/4" (ISO 1)	02 : 1/4" (ISO 1)	02 : 3/8" (ISO 1)
03 : 3/8" (ISO 2)	03 : 3/8" (ISO 2)	03 : 1/2" (ISO 2)
04 : 1/2" (ISO 2)		

Specifications

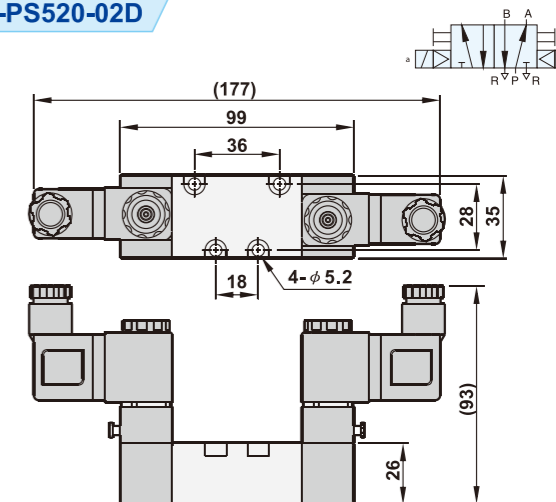
Model	E-PS520-02-S	E-PS520-02-D	E-PS520-03-S	E-PS520-03-D
Port size	1/4"		3/8" (1/2")	
Body material	Aluminum alloy			
Effective area	29mm ²		62mm ²	
Fluid	Compressed air			
Acting	Internal pilot			
Operating pressure range	1.5 ~ 8 kgf/cm ²			
Proof pressure	9.9 kgf/cm ²			
Ambient temperature	-10°C ~ 60°C			
Duty cycle	100% ED			
Coil type	DIN			
Protection class	IP65 (DIN 40 050)			
Insulation class	F			
Voltage tolerance	±10%			
Standard voltage	12VDC, 24VDC			
Net weight (W/I base)	320g (500g)	460g (640g)	700g (980g)	840g (1120g)

Dimensions

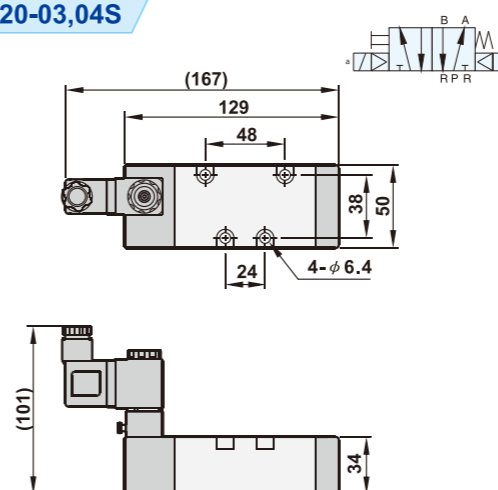
E-PS520-02S



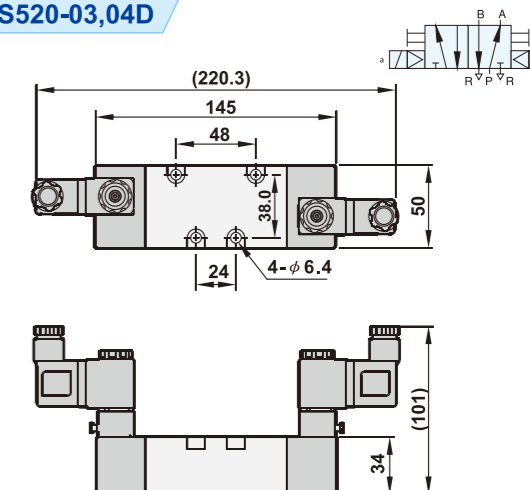
E-PS520-02D



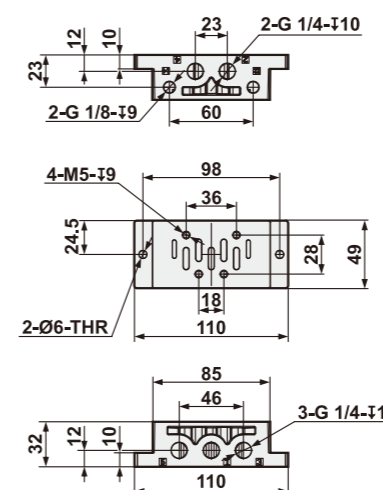
E-PS520-03,04S



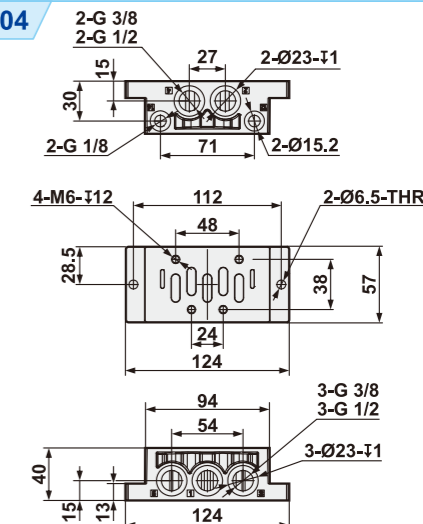
E-PS520-03,04D



ZESF-02

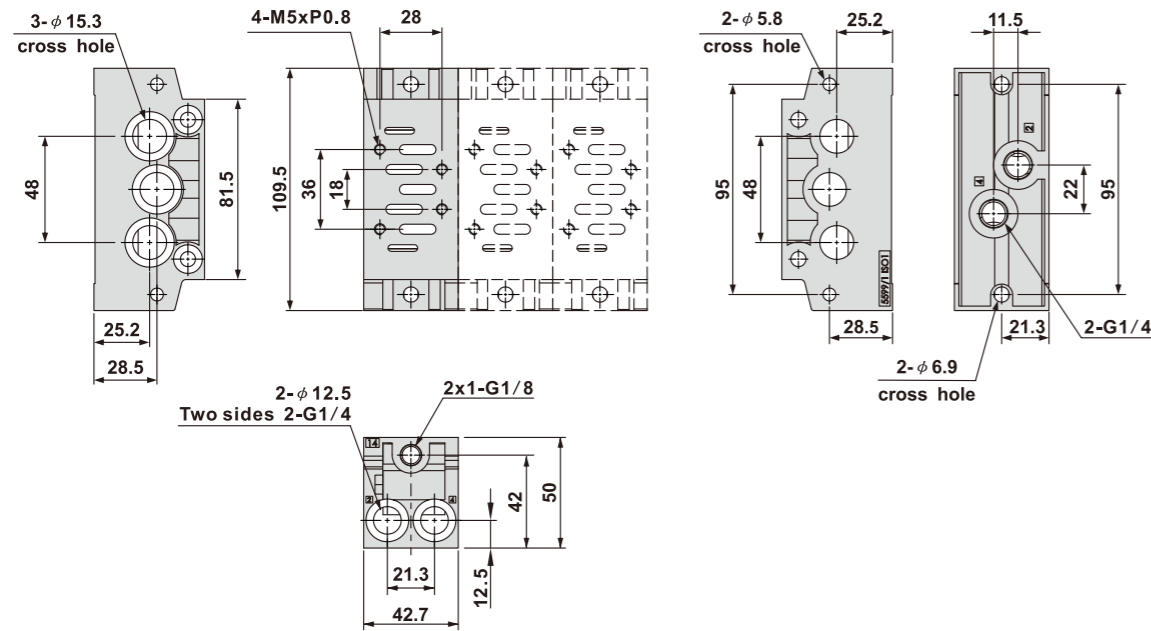


ZESF-03, 04

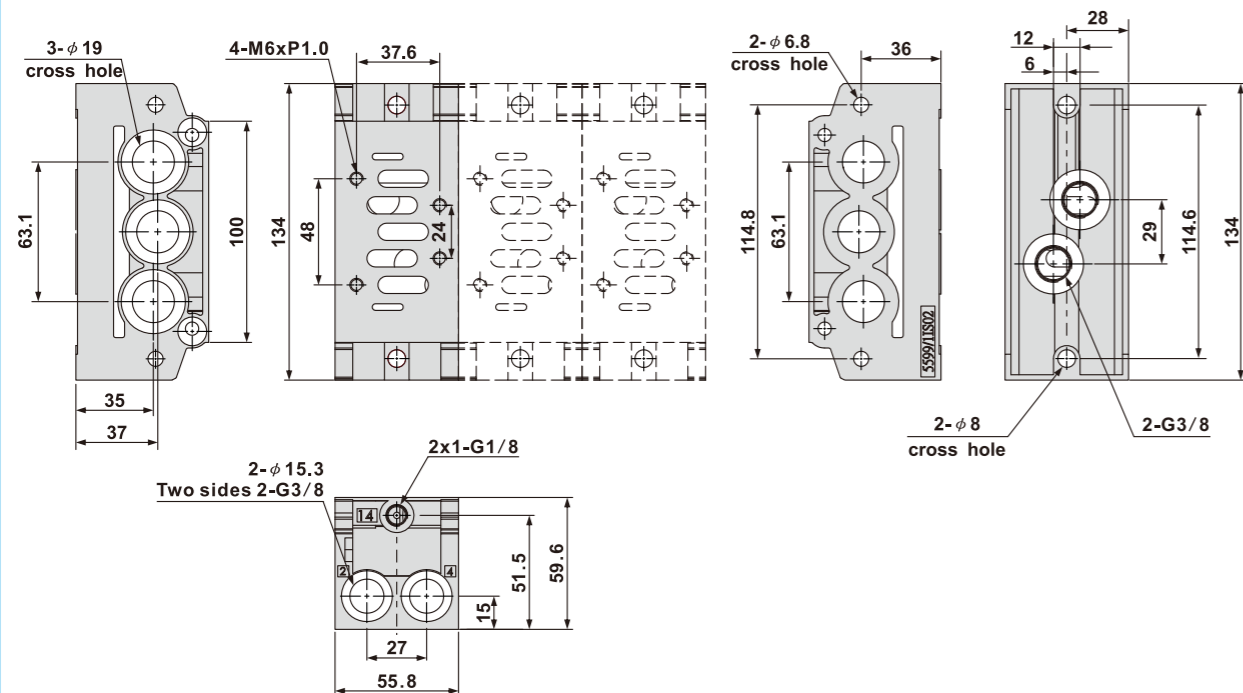


■ Dimensions

ZEPS520B-02 (ISO1 Manifold sub-base)

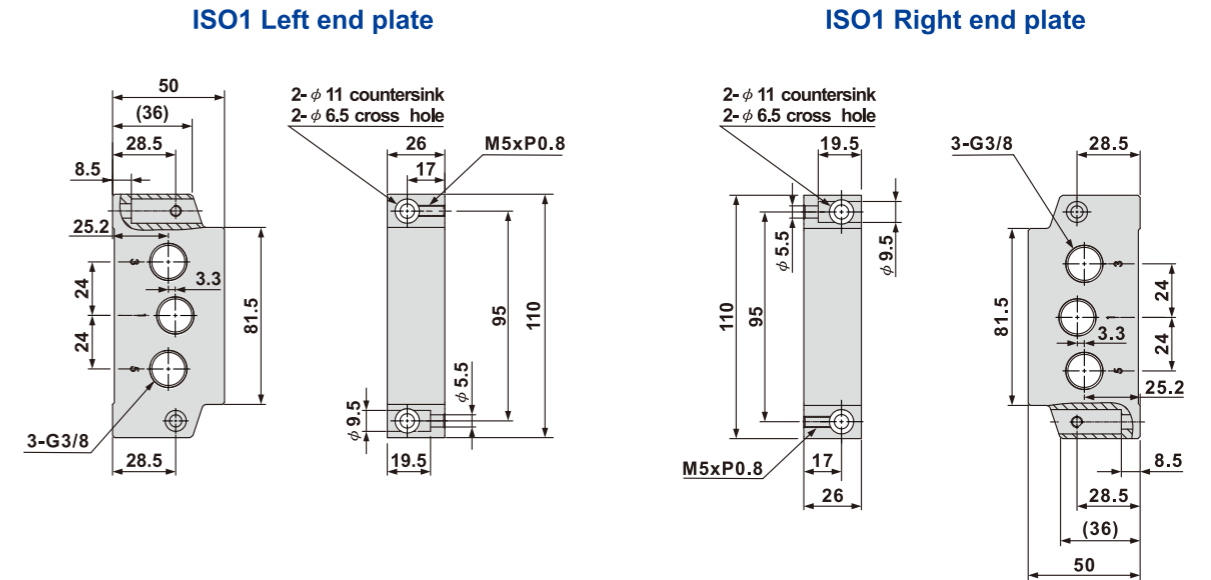


ZEPS520B-03 (ISO2 Manifold sub-base)

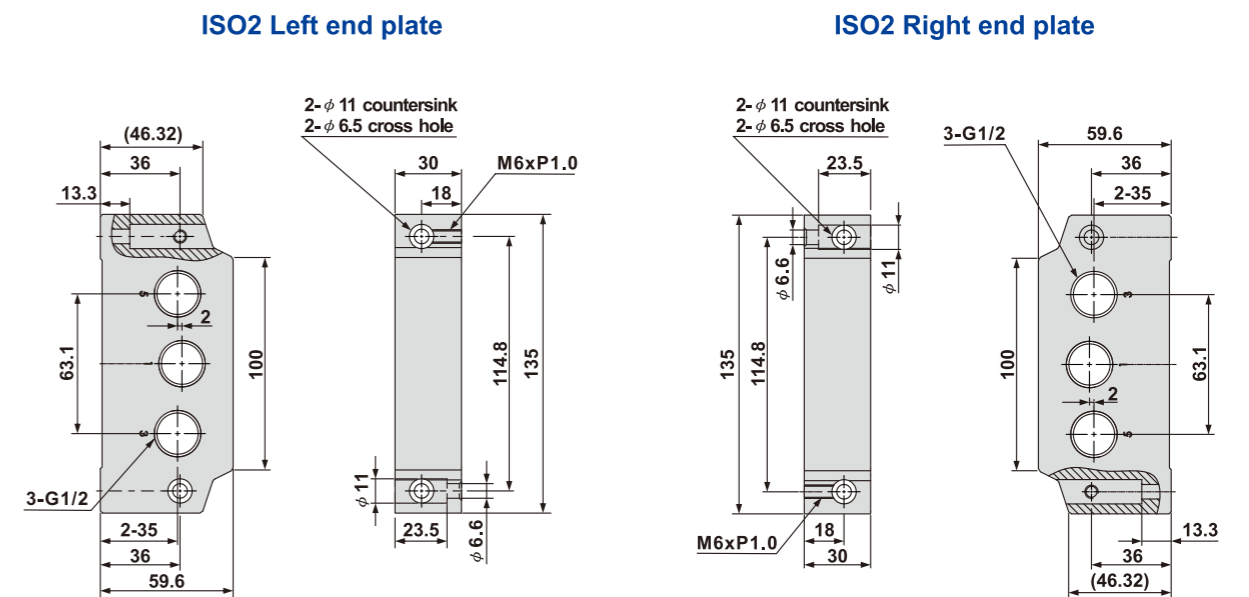


■ Dimensions

ZEPS520E-02 (ISO1 End plate)



ZEPS520E-03 (ISO2 End plate)



Features

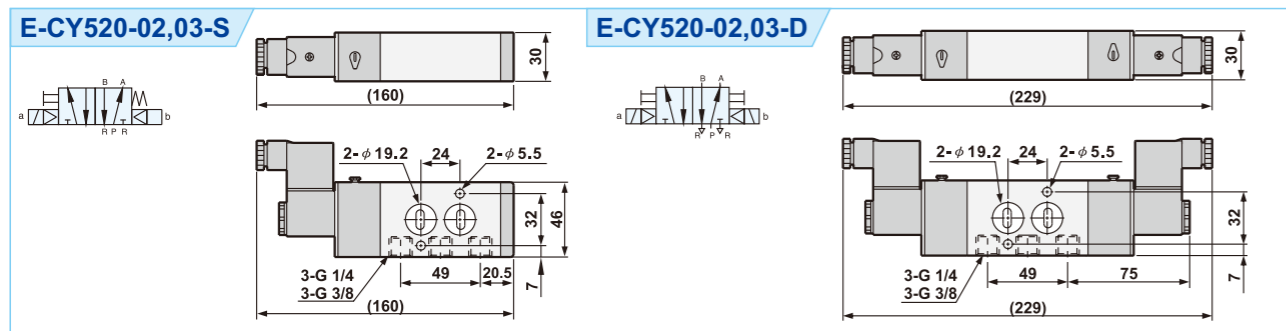
1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. Lockable manual override for easy operation.
4. Anodized aluminum body and strict quality control provide a long durability.
6. Coil nut is available, please refer to page 5-1.
7. For power save connector, please refer to page 5-5.



How to order

E-CY520	-	02	N	-	S	7
5/2 Way	Port size	Thread	Solenoid		Voltage	
	02 :1/4"	Blank :G	S:Single solenoid		7:12VDC	
	03 :3/8"	N:NPT	D:Double solenoid		9:24VDC	
		R:Rc				

Dimensions

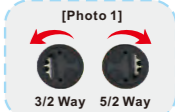


Specifications

Model	E-CY520-02-S	E-CY520-02-D	E-CY520-03-S	E-CY520-03-D
Port size	1/4"		3/8"	
Body material	Aluminum alloy			
Fluid	Compressed air			
Effective area	35mm ²			
Acting	Internal pilot			
Operating pressure range	1.5~8 kgf/cm ²			
Proof pressure	9.9 kgf/cm ²			
Ambient temperature	-10°C ~ 50°C			
Duty cycle	100% ED			
Coil type	DIN (Standard)			
Protection class	IP65 (DIN 40 050)			
Insulation class	F			
Voltage tolerance	±10%			
Standard voltage	12VDC, 24VDC			
Net weight	420.5g	503.6g	412g	495g

Features

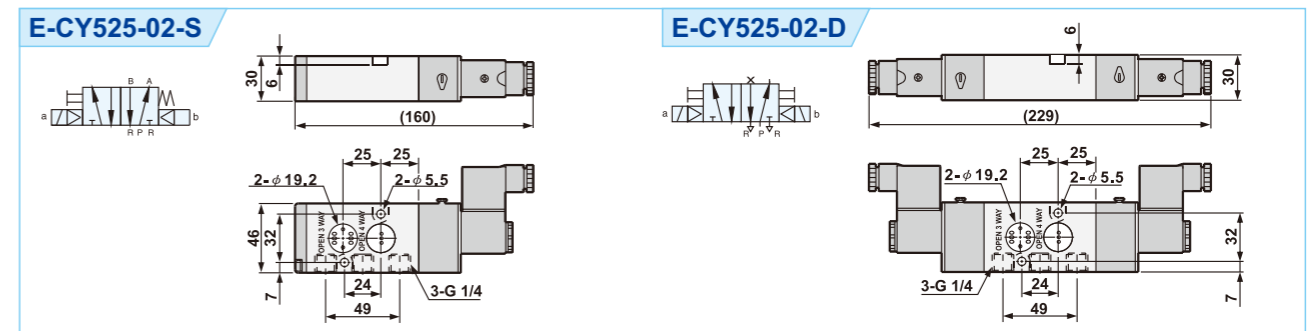
1. Maximum reduction of power consumption is up to 75%.
2. Effectively reduce the temperature rise of coil and extend service life of solenoid valve.
3. The switch gasket attached on the valve for 5/2 way and 3/2 way convertible.
4. The mounting holes on the valve is identical to ISO standard for easy installation on the single or double acting cylinder actuated ball valve.
5. Lockable manual override for easy operation.
6. Anodized aluminum body and strict quality control provide a long durability.
7. Coil nut is available, please refer to page 5-1.
8. For power save connector, please refer to page 5-5.



How to order

E-CY525	-	02	N	-	S	7
5/2 Way	Port size	Thread	Solenoid		Voltage	
**Attaching with a switch gasket for 5/2 way and 3/2 way convertible.	02 :1/4"	Blank :G	S:Single solenoid		7:12VDC	
		N:NPT	D:Double solenoid		9:24VDC	
		R:Rc				

Dimensions



Specifications

Model	E-CY525-02-S	E-CY525-02-D
Port size	1/4"	
Body material	Aluminum alloy	
Fluid	Compressed air	
Effective area	35mm ²	
Acting	Internal pilot	
Operating pressure range	1.5~8 kgf/cm ²	
Proof pressure	9.9 kgf/cm ²	
Ambient temperature	-10°C ~ 50°C	
Duty cycle	100% ED	
Coil type	DIN (Standard)	
Protection class	IP65 (DIN 40 050)	
Insulation class	F	
Voltage tolerance	±10%	
Standard voltage	12VDC, 24VDC	
Net weight	305g	390g