



GENERAL KNOWLEDGE

General Instruction for Solenoid

For your own safety, please read the instruction below before you inquiring / using our products.

Application

- Fluid in the pipeline MUST BE same as instruction shows on a solenoid.
- The fluid's temperature needs to be lower than valve's standard temperature.
- Our products normally allowed fluid's viscosity under 20 CST.
- If the highest working pressure difference lower than 0.05 MPa, please select Direct-Acting type. If the difference higher than 0.05 Mpa, please select Pilot-Operated type (Diaphragm type).
- Originally our products are working ONE DIRECTION, please install by fluid flow direction to avoid the reverse pressure. Could install stop-check valve if the counter current shows.
- Please install filter before installing Solenoid valve if the fluid isn't clean, to reduce any wastes and impurities from the pipeline.
- Please check your available flow aperture and nozzle diameter.
- Normally our products only have ON / OFF two switches, if its available, please install side-manual switch for your maintenance convenience.
- When there's water hammer phenomenon, please aware of valve switching time adjustment and choose the suitable product.
- Be aware of the effect caused by environmental temperature.

- Power voltage can allowed about $\pm 10\%$ fluctuation, volt-ampere is higher while using AC starts.
- The solenoid valve can be divided into two types. N.C. (Normal Closed) and N.O. (Normal Open), please select your suitable type.

Security

- Solenoids are not suitable for power on for a long time because of its design principles. If it powered on too long, metal coil will overheat cause shortened life and malfunction.
- Regular-type solenoid is not waterproof, please select waterproof type if the environment not allowed.
- Solenoid's highest standard pressure must exceed the highest pressure in the pipeline or it will cause shortened life and other malfunction.
- Please select full-stainless steel type if its corrosive fluid. High acid and alkaline fluids are suitable for PTFE valve body style.
- Dangerous environment that may cause explosion needs to select corresponding explosion-proof products.

Install Caution

- Clean the pipeline with fluids, make sure it already removed any dusts, impurities, rust and stop tapes.
- Please keep 1.5~2 turns screw thread while wrapping stop tapes.
- Sealant might be easily flow into the product, and may cause malfunction if using too much sealant while installing.

- It's better install with horizontal direction and coil face up.
- Make sure you have enough space for maintenance.
- Do not press coil parts while installing.
- Check the pipeline direction, leak or not, wire connection after the installment.

(Aluminum alloy)

Caliber	Tightening torque suggest
Rc 1/8	7~9 N•m
Rc 1/4	12~14 N•m
Rc 3/8	22~24 N•m
Rc 1/2	28~30 N•m
Rc 3/4	31~33 N•m
Rc 1	36~38 N•m
Rc 1-1/4	40~42 N•m
Rc 1-1/2	48~50 N•m
Rc 2	57~56 N•m

(Brass, Stainless steel)

Caliber	Tightening torque suggest
Rc 1/8	18~20 N•m
Rc 1/4	23~25 N•m
Rc 3/8	31~33 N•m
Rc 1/2	41~43 N•m
Rc 3/4	62~65 N•m
Rc 1	83~86 N•m
Rc 1-1/4	97~100 N•m
Rc 1-1/2	104~108 N•m
Rc 2	132~136 N•m

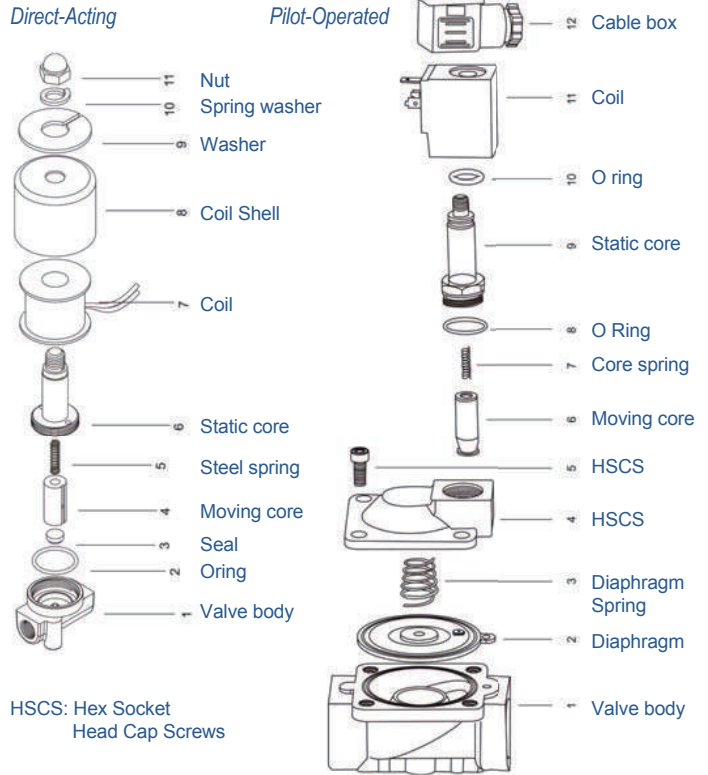


GENERAL KNOWLEDGE

Precautions in maintenance

- Solenoid coil and its drive element will heat after power on, please **DO NOT** touch or it will cause scald.
- If you need to decompose our product to inspect, please remove the power, and release the rest of the pressure in the pipeline. Make sure you are safe then continue the progress.
- To avoid rubber parts in the valve expansion or deformation, Please use neutral cleaner when you are cleaning the parts of valve.
- If you are not going to use our product of a long time after you used, please completely remove the rest of the fluid in the valve. If there's any fluid residue, it will get rusty in the next time you use and cause poor product performance.
- To keep its best situation, please arrange regular inspect and change parts by its usage frequency.

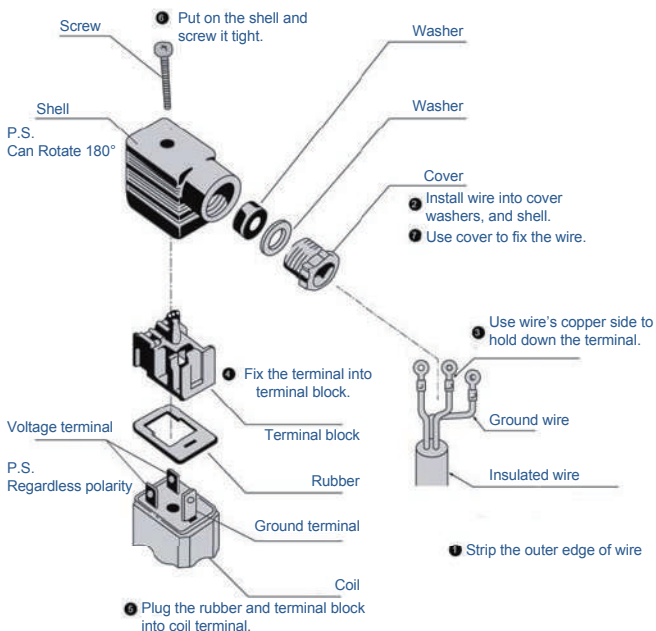
Exploded view



Cable box connection

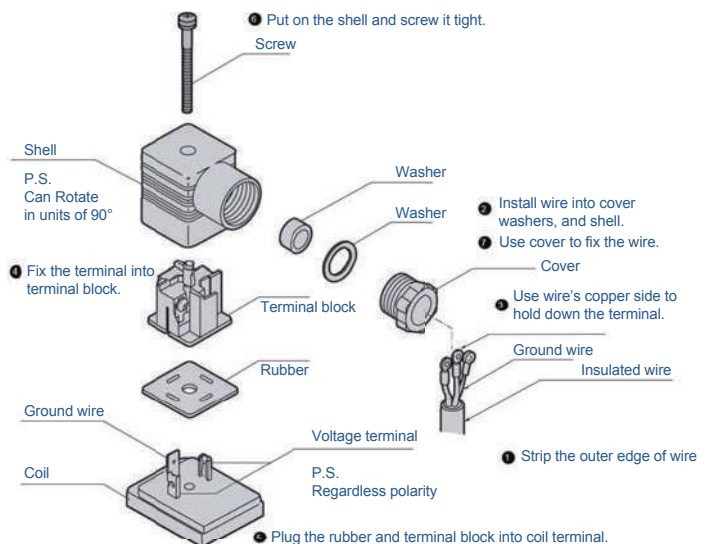
DIN Cable box (Pg9)

1. Please use insulated wire, Outer diameter $\varnothing 6 \sim \varnothing 10$ mm, section area $0.5 \sim 1.5 \text{ mm}^2$.
2. Tightening torque suggest $0.5 \text{ N} \cdot \text{m}$
3. If you need to change wire direction, take out cable box from shell, rotate 180 degrees then press into shell again.
4. Follow instruction from step 1 to step 7.



DIN Cable box (Pg11)

1. Please use insulated wire, Outer diameter $\varnothing 6 \sim \varnothing 10$ mm, section area $0.5 \sim 1.5 \text{ mm}^2$.
2. Tightening torque suggest $0.5 \text{ N} \cdot \text{m}$
3. If you need to change wire direction, take out cable box from shell, rotate 90 degrees then press into shell again.
4. Follow instruction from step 1 to step 7.





PRODUCT/ SOLENOID VALVE

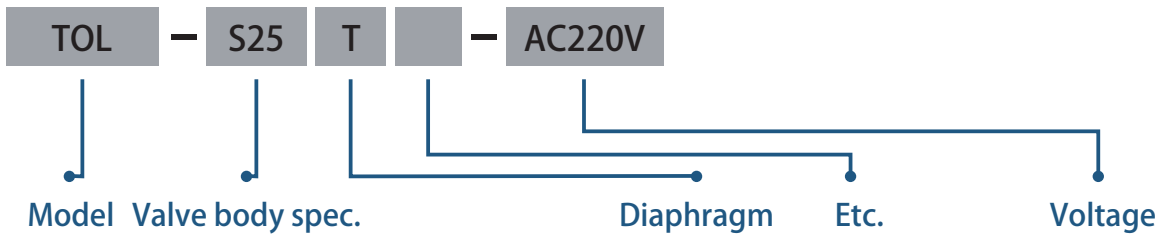
TOL Series 2 Port Solenoid Valve



Specifications Characteristics

Model	TOL Series
Structure	Diaphragm, 2/2 way N. C. (Normal Close)
Fluid	Steam
Temperature	5°C - 180°C (Sealed Teflon+)
Caliber	Thread 1/4" - 2" G / PT / NPT / Flange DN25 - 50
Pressure	1 - 10 kgf/cm ²
Material	BRASS / SUS304
Diaphragm	PTFE
Voltage	Reference below, Allowed voltage flow range ± 10%
Coil Level	High Temperature H Level coil (Metal shell, Direct Cable)
Install	According to the fluid flow direction. Horizontal installation

How to select model



Diameter	Flow Path (mm)	BRASS Thread	SUS304	
			Thread	Flange
3/8"	15	10	S10	
1/2"	15	15	S15	
3/4"	20	20	S20	
1"	25	25	S25	S25F
1-1/4"	35	35	S35	S35F
1-1/2"	40	40	S40	S40F
2"	50	50	S50	S50F

Diaphragm	Code
PTFE	T

Spec.	Code
G	/
PT	
NPT	

Voltage
AC110V
AC220V
AC24V
DC24V

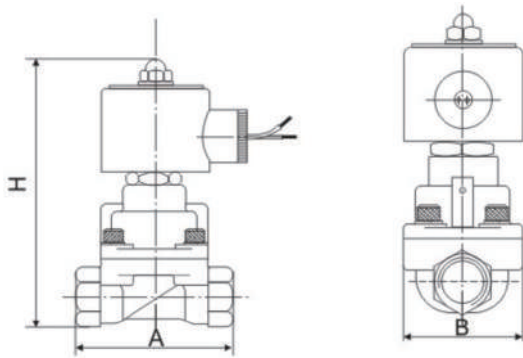


PRODUCT/ SOLENOID VALVE

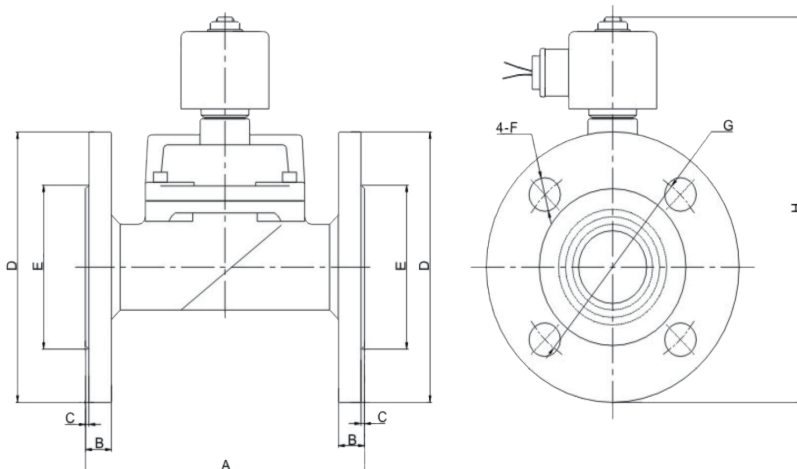
Specifications List

Spec.	Flow path mm	CV	Pressure Range (kgf/ cm ²)			Power		Max Temp. °C	Weight		
			Min. Pressure	Maximum Pressure		AC110V - 220V VA	DC 24V W		BRASS Thread Kg	SUS304 Thread Kg	SUS304 Flange Kg
				Steam							
				AC	DC						
DN15	15	4.5	1	10	10	30	25	185	1.2	1.2	
DN20	20	9	1	10	10	30	25	185	1.5	1.5	
DN25	25	13	1	10	10	30	25	185	1.5	1.9	
DN32	35	26	1	10	10	30	25	185	3.6	3.6	
DN40	50	26	1	10	10	30	25	185	3.5	4.2	
DN50	50	45	1	10	10	30	25	185	4.5	4.5	
Flange25	25	13	1	10	10	30	25	185			3.4
Flange32	35	26	1	10	10	30	25	185			6
Flange40	40	26	1	10	10	30	25	185			6.5
Flange50	50	45	1	10	10	30	25	185			7.3

Dimensions (mm)



Thread Spec.	A	B	H
DN15	75	52	129
DN20	85	60	141
DN25	100	70	148
DN32	120	90	168
DN40	120	90	168
DN50	150	110	190



Flange Spec.	A	B	C	ΦD
Flange25	134	13	2	110
Flange32	160	15	2	135
Flange40	160	15	2	145
Flange50	200	16	2	155
Flange Spec.	ΦE	ΦF	ΦG	H
Flange25	58	4-14	85	185
Flange32	76	4-18	100	200
Flange40	84	4-18	110	205
Flange50	88	4-18	125	250