



# GENERAL KNOWLEDGE

## General Instruction for Pneumatic Actuator

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

### Precautions in piping / installment

- According to the required driving torque and select corresponding actuator specifications by the output torque standard data in the 4Bar air pressure when install the valve. Actuator's torque should be more than 25% of the valve's torque requirement.

- The correct installation is directly affect the integral performance. The central axis of actuator MUST BE coaxial with the valve pole. Please notice the valve and the actuator needs to turn off the connection, examine the valve, after fix by using the right screw, opening and closing should not be any phenomenon about suddenly fast, suddenly slow, or stop.

- When piping with the large pneumatic valve, because of the weight of the valve, please install the support frame to avoid deformation of pipeline and valve body.

- Please confirm there's enough space for maintenance or manual operation.

- Actuator contains fine adjustment screw to ensure the opening and closing positions correct.

- To keep its best situation, please arrange regular inspect and change parts by its usage frequency. The air source should be kept dry and clean, and also drainage and sewage regularly for air filter components at the front end.

- Actuator's switch can be controlled by Single-acting or Double-acting 5 ports 2 ways solenoid valve.

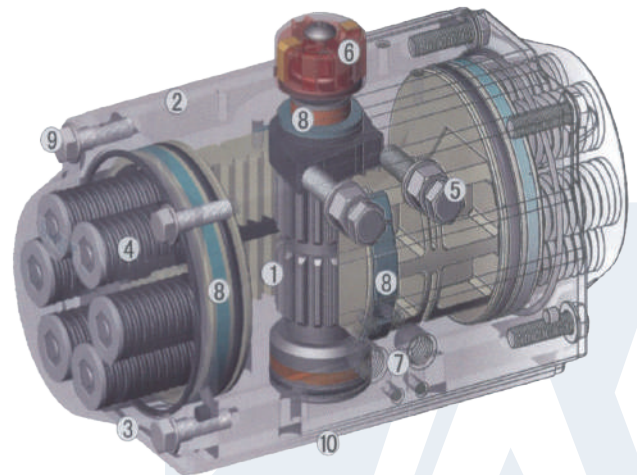
- Please double check the pipeline direction, any leak wire connection before using the valve.

### Malfunction detection and elimination

Situation	Check item	Solution
Valve unable to move	Check the solenoid valve, coil, and the core are malfunction or not.	Exchange solenoid, coil, clean impurities.
	Examine the pneumatic acuator, check sealing parts and cylinder.	Exchange sealing parts and cylinder.
	Impurities stuck the piston inside the actuator.	Clean impurities, and replace broken parts.
	If there's extra manual mechanism, its handle in the manual position.	Switch the handle to pneumatic control.
Valve works slow, inching	Insufficient pneumatic pressure.	Increase pressure.
	Spool and other parts assembly uneven or too tight.	Increase actuator model spec.
	Actuator output torque too small.	Reassemble parts.
	Pneumatic pipeline block or flow too small.	Remove clog, replace filter.
Limit switch no signal feedback	Power circuit error or break.	Overhaul circuit.
	Cam incorrect position in the switch.	Adjust Cam to the correct position.
	Micro switch damaged.	Replace limit switch

### Main parts & Material

No.	Part name	Material
1	Gear output shaft	Carbon steel
2	Valve body	Extrude aluminum alloy
3	Cover	Die-cast aluminum alloy
4	Spring component	Alloy steel
5	Fine adjustment screw	Stainless steel
6	Position indicator	PP
7	Piston	Die-cast aluminum alloy
8	Wear ring	NYLON 46
9	Cover screw	Stainless steel
10	O-ring	NBR

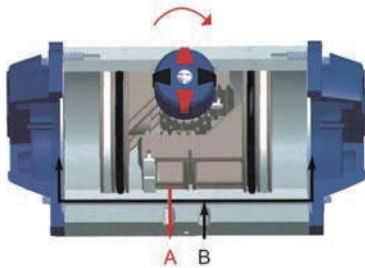




# GENERAL KNOWLEDGE

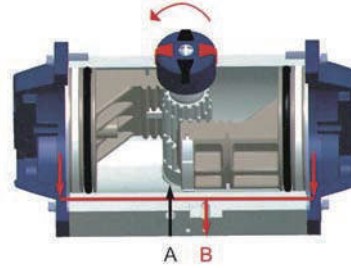
## Principle of operation for Double acting torque.

Valve OFF



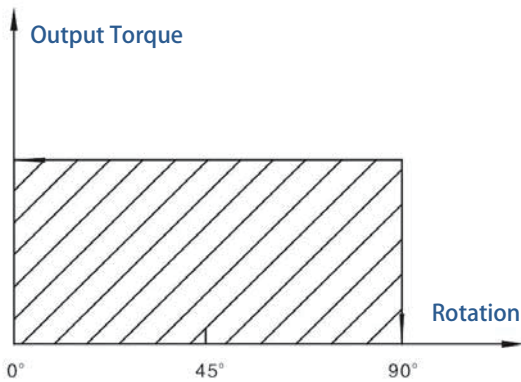
Compressed air input by **B Port**, make the piston and output shaft turn clockwise. Close the valve. Expel the air in the piston by **A port**.

Valve ON



Compressed air input by **A Port**, make the piston and output shaft turn counterclockwise. Open the valve. Expel the air in the piston by **B port**.

## Double acting torque reference

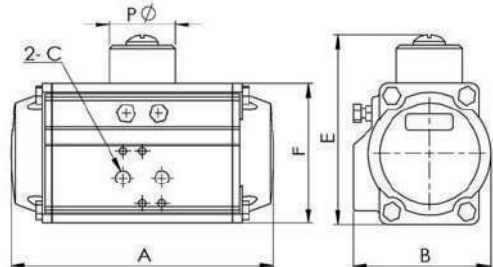
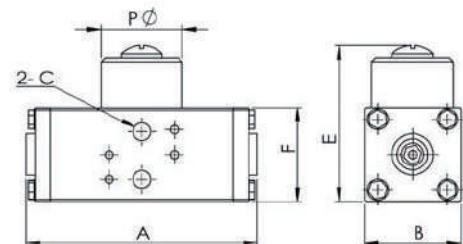
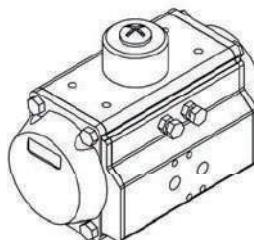
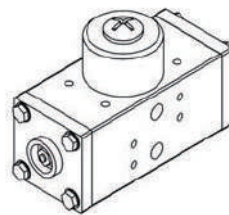


Model	Input pneumatic pressure ( Torqure unit : Nm )							
	3.5 Bar	4 Bar	4.5 Bar	5 Bar	5.5 Bar	6 Bar	7 Bar	8 Bar
AT32D	5	5.7	6.5	7.3	8	8.7	10	11.6
AT50D	11.7	13.5	15.1	16.7	18.4	20	23.4	26.7
AT63D	20.6	23.6	26.5	29.4	32.3	35.3	41.1	47
AT75D	40.8	46.6	52.5	58.3	64.1	69.9	81.5	93.2
AT88D	64.2	73.3	82.5	91.6	101.1	110.1	128.1	146.1
AT100D	93.4	106.3	120.3	133.3	146.3	160.3	186.3	213.3
AT115D	150	172	193	215	236	258	301	344
AT125D	195	223	250	278	303	333	389	444

## AT Series Overall Dimension ( mm )

Model	A	B	C	E	F	P
AT32D	118	45	1/8"	77	47	40

Model	A	B	C	E	F	P
AT50D	144	70.5	1/4"	99	69	40
AT63D	163	83.5	1/4"	115	85	40
AT75D	214	94	1/4"	132	102	40
AT88D	252	105	1/4"	145	115	40
AT100D	270	120	1/4"	157	127	40
AT115D	316	138	1/4"	185	145	62
AT125D	354	147	1/4"	197	157	62





TXMC



# PRODUCT/ PNEUMATIC VALVE

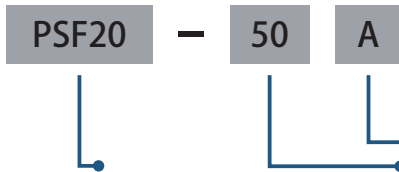
## PSF Series Full-Metal Pneumatic Flange Angle Valve



## Specifications Characteristics

Model	PSF Series
Structure	External pneumatic guidance, piston type.
Fluid	Air, Inert gas, Water, Light oil, Steam, Organic solvents
Medium Temp.	-5°C - 180°C
Environment	Temp. -10 - 60°C ; Humidity. 10 - 90% RH
Caliber	DIN16 Flange DN15 - DN65
Pressure	0 - 10 kgf/cm <sup>2</sup>
Material	Stainless steel 316
Valve rod Mat.	Stainless steel 316
Gasket Mat.	PTFE
Actuator Mat.	Stainless steel 316
Signal press.	0.4 - 0.8 Mpa
Installation	According to the flow direction.

## How to select model



### Valve body spec.

Spec	Diameter	Code
1/2	DN15	PSF15
3/4	DN20	PSF20
1	DN25	PSF25
1-1/4	DN32	PSF32
1-1/2	DN40	PSF40
2	DN50	PSF50
2-1/2	DN65	PSF65

### Actuator spec.

Spec	Diameter	Actuator
1/2	DN15	50
3/4	DN20	50
1	DN25	63
1-1/4	DN32	63
1-1/2	DN40	63
2	DN50	80
2-1/2	DN65	80

### Acting method

Acting method	Code
Single acting N.C.	A
Single acting N.O.	B
Double acting	D





# PRODUCT/ PNEUMATIC VALVE

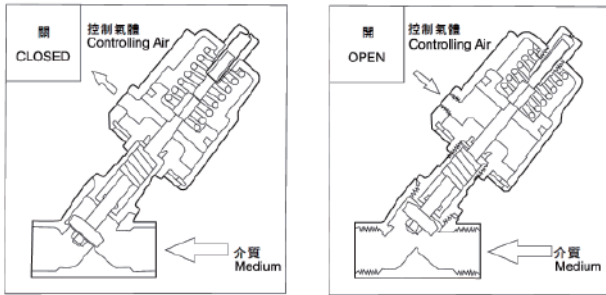
## Actuator parameters

Pressure unit : Mpa

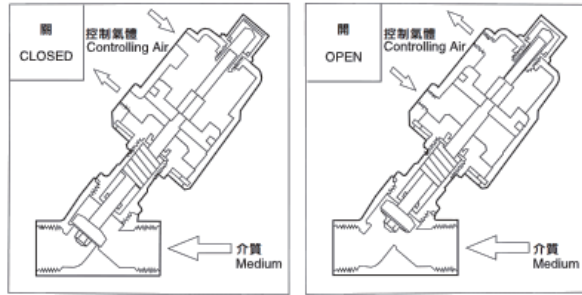
Specification	Diameter	KV (m3/h)	Actuator Spec.	Minimum pressure	Maximum pressure	Minimum signal pressure	Maximum signal pressure
1/2	DN15	50	50	0	1.0	0.4	0.8
3/4	DN20	50	50	0	1.0	0.4	0.8
1	DN25	63	63	0	1.0	0.4	0.8
1-1/4	DN32	63	63	0	1.0	0.4	0.8
1-1/2	DN40	63	63	0	1.0	0.4	0.8
2	DN50	80	80	0	1.0	0.4	0.8
2-1/2	DN65	80	80	0	1.0	0.4	0.8

## Flow direction

流向：閥座上方 單作用常閉/常開  
Flow direction:UP the seat,single acting normal close /open



流向：閥座上方 雙作用常閉/常開  
Flow direction:UP the seat, double action N.C/N.O



## Dimensions

Unit : MM

Model	Actuator	D	ΦD1	n-Φd	H	B	L	L1
PSF15	50	95	65	4-14	143	1/8"G	180	130
PSF20	50	105	75	4-14	149	1/8"G	205	130
PSF25	63	115	85	4-14	175	1/8"G	220	140
PSF32	63	135	100	4-18	182	1/8"G	226	150
PSF40	63	145	110	4-18	183	1/8"G	243	180
PSF50	80	160	125	4-18	217	1/8"G	278	195
PSF65	80	180	145	4-18	245	1/8"G	318	235

