General Instruction for Pneumatic Actuator

For your own safty, 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 toruqe 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.

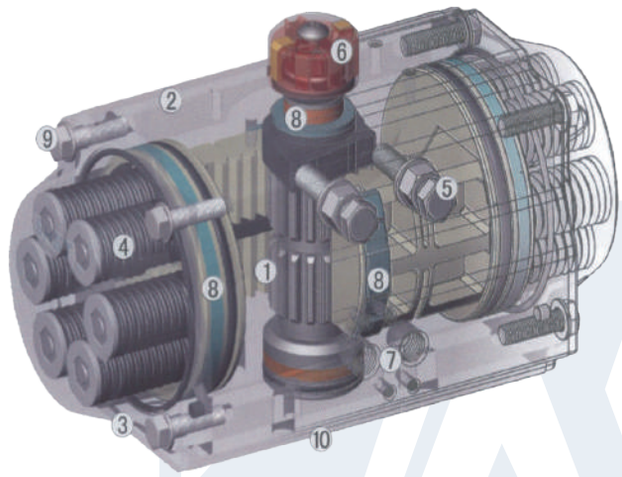
- Please double check the pipeline direction, any leak wire connection before using the valve.

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 componment	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



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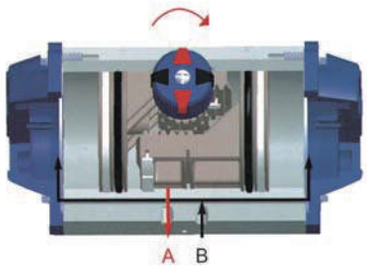
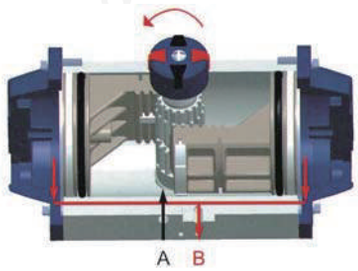
Principle of operation for Double acting torque.

Valve OFF



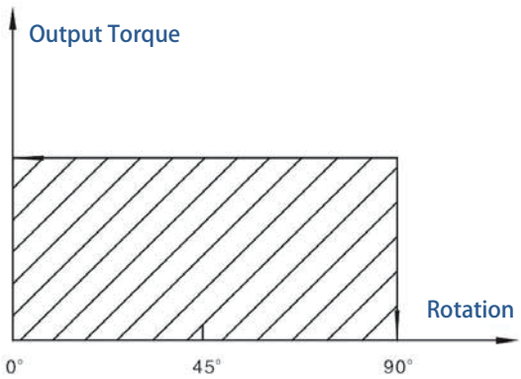
Compressed air input by **B Port**, make the piston and output shaft turn clockwise. Close the valve. Expel the air in the piston by **A port**.

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

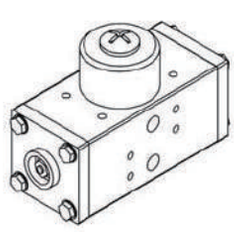


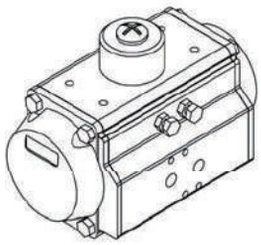
Model	Input pneumatic pressure (Torqure unit : Nm)							
	3.5 Bar	4 Bar	4.5 Bar	5 Bar	5.5 Bar	6 Bar	7 Bar	8 Bar
AT32D	5	5.7	6.5	7.3	8	8.7	10	11.6
AT50D	11.7	13.5	15.1	16.7	18.4	20	23.4	26.7
AT63D	20.6	23.6	26.5	29.4	32.3	35.3	41.1	47
AT75D	40.8	46.6	52.5	58.3	64.1	69.9	81.5	93.2
AT88D	64.2	73.3	82.5	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

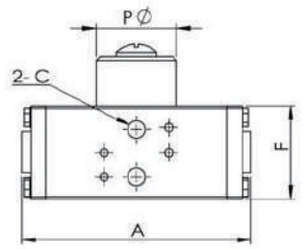
AT Series Overall Dimension (mm)

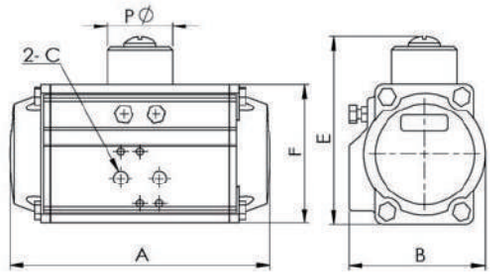
Model	A	B	C	E	F	P
AT32D	118	45	1/8"	77	47	40

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









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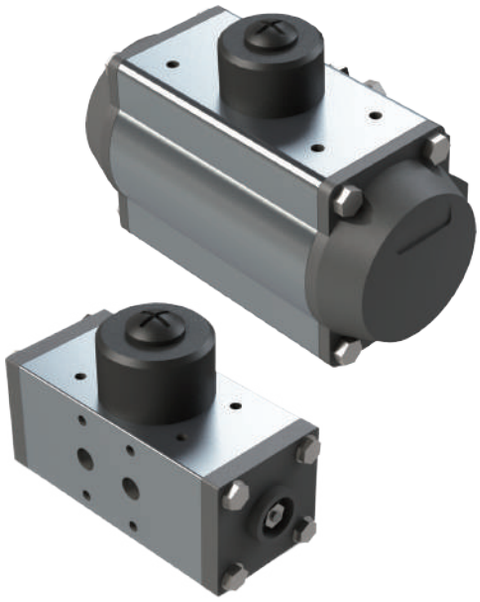
PRODUCT/ PNEUMATIC VALVE

Pneumatic Valve Actuator



Specifications Characteristics

Model	AT32	AT50	AT63	AT75	AT88	AT100	AT115	AT125
Power voltage	3 - 8 Bar							
Acting range	0 - 90° ± 5°							
Acting time	0.25 - 3 Sec.							
Internal structure	Rack drive							
3 Bar Air pressure torque (Nm)	4.5	10.0	17.6	34.9	54.9	79.8	129	168
5 Bar Air pressure torque (Nm)	7.5	16.6	29.3	58.2	91.5	133	215	277
7 Bar Air pressure torque (Nm)	10.5	23.3	41.0	81.4	128	186	301	388
Environment	Temperature : -20 - 85℃ ; Humidity : 10 - 90%RH							
Body Material	Aluminium							
Install direction	360 degrees omni-directional							

APL Series Actuator Limit Switches

Specifications Characteristics

Model	APL-210	APL-410
ON / OFF Checking	Full open : Yellow ; Full close : Red	
Protect level	IP67	
Explosive-proof grade		Exd II CT6
Terminals	8 points (0.8 - 2.5 m m²)	
Output signal	Switch * 2	
Electriad connection	2 * 1/2" NPT	
Body material	Aluminium die-casting	

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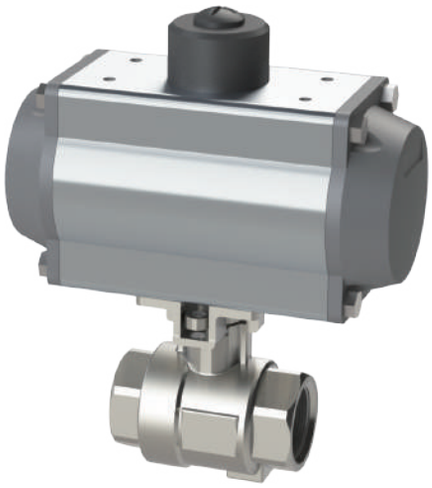
PRODUCT/ PNEUMATIC VALVE

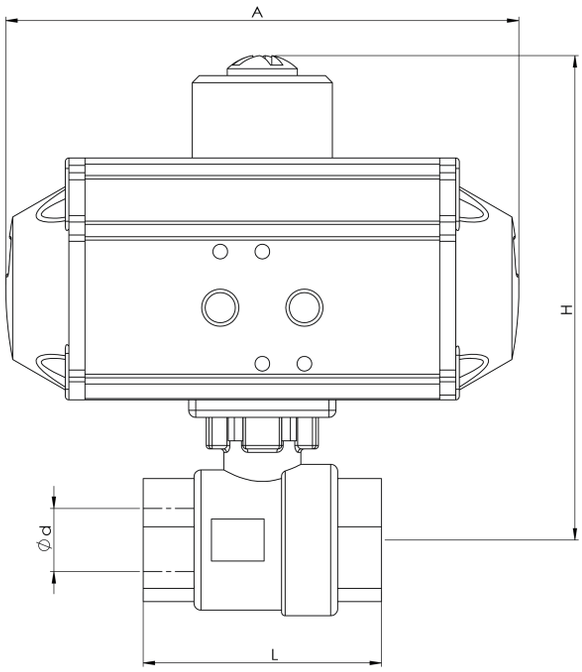
Pneumatic 2-PC Thread Ball Valve



Specifications Characteristics

Model	1C Series
Medium Temp.	-20℃ - 150℃
ENV Temp.	-20℃ - 60℃
Pressure	0 - 10 Kgf/cm2
Actuator Mat.	Aluminium alloy (Double / Single-acting)
Actuator pressure	0.3 - 0.8 Mpa
Valve body Mat.	Stainless steel 316
Valve seat Mat.	PTFE
Valve rod Mat.	Stainless steel 316
Thread	PT / NPT

Dimensions (mm)



Body Dimension	A	d	H	L	Actuator Suggest
1/4"	118	11	113	63.5	AT32D
3/8"	118	12.5	113	63.5	AT32D
1/2"	144	15	136	63.5	AT50D
3/4"	144	20	140	74	AT50D
1"	144	25	149	84	AT50D
1-1/4"	163	32	171	100.5	AT63D
1-1/2"	163	38	185	108.5	AT63D
2"	214	50	210	125	AT75D

* Actuators above the valve are divided into High torque and Low torque, size are different.
Actual actuator dimension based on the real product.

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PRODUCT/ PNEUMATIC VALVE

Accessories for selection

- NAMUR Solenoid Valve -

Single Coil / Twin Coil
AC110V / 220V ; DC24V

- Hand Wheel -

Body material : Die-casting steel
Wheel material : Aluminium alloy
Rotation angle : 180˚

- Limit Switch -

8-Points terminal
Body material : Die-cast aluminum
C/W Active bracket
Protect level : IP-67

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PRODUCT/ PNEUMATIC VALVE

How to select model

AT	63	D	–	1C	25	S	N	X
Actuator Model		Function		Dimension		Body material	Thread spec	Other parts

Model
32
50
63
75

Function	Code
Double-Acting	D
Single-Acting	S

Dimension	Code
1/4"	08
3/8"	10
1/2"	15
3/4"	20
1"	25
1-1/4"	32
1-1/2"	40
2"	50

Material	Code
CF8M	S

Thread	Code
PT	
NPT	N

Material	Code
TFM4215	X
V-Port ball	V

* Gasket in the valve is PTFE in the factory setting.
Suggest working temperature:
-5˚C ~ 150˚C

TFM4215 is the special PTFE for high temperature.
Suggest working temperature:
-5˚C ~ 200˚C

Full-flow ball valve (Right)
Unable to precisely control the flow.

V- port ball valve (Left)
Available to precisely control the flow.
Recommend to C/W proportional actuator.

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