

Advanced technology  
High quality material

01-08 Pneumatic Actuator  
Siłowniki Pneumatyczne

09-12 Ball Valve  
Zawory kulowe

14-15 Butterfly Valve  
Zawory Motylowe

16 Plastic ball Valve  
Zawory kulowe z tworzywa

17 Positioner  
Pozycjonery

18 Limit Switch Box  
Przystawki styków krańcowych

19 Clutch Handwheel  
Przystawki ręcznego otwarcia

20-21 Angle Bavel Valve  
Zawory Pneumatyczne kątowe

# › Pneumatic Actuator / Siłownik Pneumatyczny AT

AT Series Pneumatic Actuator was designed and developed based on the advanced technology and new material.

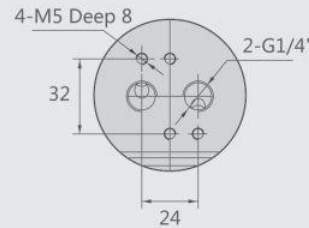
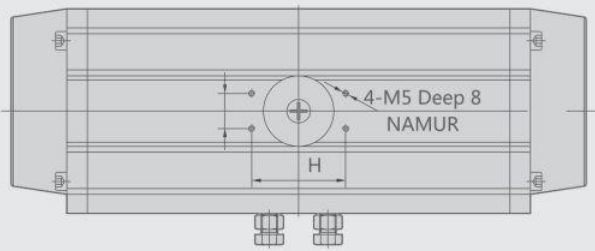
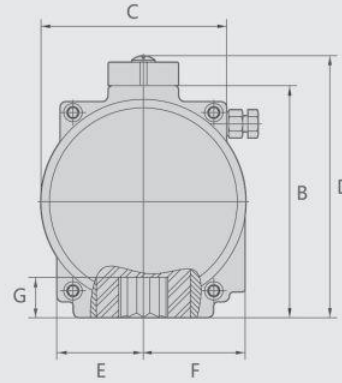
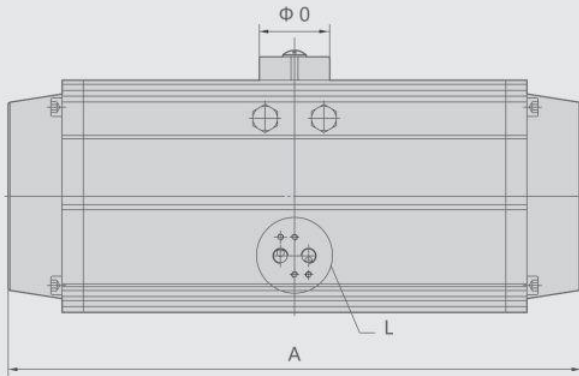
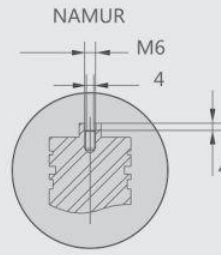
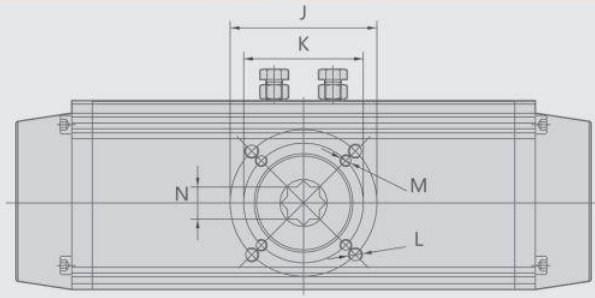


## Order Code / kod zamawiania

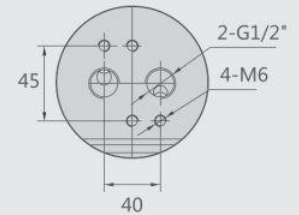


## Features / Cechy

- Conform to the latest international standard: ISO5211, DIN3337, VD/VDE3845 and NAMUR.
- Excellent, compact and modernized design as well as complete specifications is good for your selection.
- All acting surfaces adopt high quality bearings, resulting in low friction, long cycle life and no noise.
- The two independent stroke adjusting devices can easily and precisely adjust at  $\pm 5^\circ$  open or close.
- Double acting type and single acting type (spring return) are with the same external structure, which is easy to install the accessories.
- NAMUR standard multifunction position indicator indicates visually.
- Pre-compressed load spring is convenient for safe mounting and teardown procedures.
- Pistons and end caps are made from die-casting aluminum which has high intensity and light weight.
- Different seal materials are available for high or low temperature
- We can offer Multi-travel rotations (e.g. 120° 135° 180° ) and three position actuators.
- Solenoid valves can be easily mounted without connecting plank.



AT40-AT240



AT270-AT350

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	A120	A180	Airconnection
AT32	109	45	45	65	22.5	22.5	12	50	25		F03 Φ36	M6 X 9	M5 X 5	9	Φ40			G1/8"
AT40	124	59.5	45	85.3	28.5	36.4	14	80	30	F05 Φ50	F03 Φ36	M6 X 9	M5X8	11				G1/4"
AT52	163.5	72	65	97.5	25	42	14	80	30	F05 Φ50	F03 Φ36	M8 X 10	M5×8	11	Φ40	158	200	G1/4"
AT63	181	82.6	70	113	35.5	45.5	18	80	30	F07 Φ70	F05 Φ50	M8 X 12	M6 X 9	14	Φ40	184	233	G1/4"
AT75	207	99.5	80.2	125	38.7	52.5	20.5	80	30	F07 Φ70	F05 Φ50	M8 X 12	M6 X 9	14	Φ40	103	243	G1/4"
AT83	212	109	88	134.5	46	56.5	21	80	30	F07 Φ70	F05 Φ50	M8 X 12	M6 X 9	17	Φ40	221	280	G1/4"
AT92	258	117	98.5	142.5	42	61	21	80	30	F07 Φ70	F05 Φ50	M8×12	M6 X 10	17	Φ40	280	274	G1/4"
AT105	287	132.5	109.5	158	52	64	24.5	80	30	F10 Φ102	F07 Φ70	M10 X 15	M8 X 12	22	Φ40	304	388	G1/4"
AT125	312.5	154.4	127	180	60	73.5	29	80	30	F10 Φ102	F07 Φ70	M10 X 15	M8 X 12	22	Φ50	365	470	G1/4"
AT140	411	173.3	138	199	65	77	32	80	30	F12 Φ125	F10 Φ102	M12×20	M10 X 15	27	Φ60	442	568	G1/4"
AT160	488	198	158.2	223.8	73.8	86.7	34.5	80	30	F12 Φ125	F10 Φ102	M12×20	M10 X 15	27	Φ60	507	654	G1/4"
AT190	544	232.3	187	257.8	85.3	102.7	40	130	30	F14 Φ140		M16×22		36	Φ80	575	742	G1/4"
AT210	610	257.6	210.5	283	96.5	113	41	130	30	F14 Φ140		M16×24		36	Φ80	642	831	G1/4"
AT240	622	291	245	314.5	115	130	50	130	30	F16 Φ165		M20×26		46	Φ80	739	965	G3/8"(1/4")
AT270	766	330	273	355.5	126	147	50	130	30	F16 Φ165		M20×26		46	Φ80	823	1075	G1/2"(1/4")
AT300	794	354	312	379.5	140	173	57	130	30	Φ165		M20×26		46	Φ80			G1/2"
AT350	880	410	362	435.5	164	195	60	130	30	Φ165		M20×26		46	Φ80			G1/2"
AT400	1076	466	450	491.5	145	145	60	130	30	Φ254		M20×26		55	Φ80			G3/4"

Note: A120 and A180 means the acting length of 120° and 180° of rotary respectively.

## The weight of actuator / Waga siłowników

Model	Similar weight	Model	Similar weight
AT032	0.55	AT160	22
AT052	1.3	AT190	32
AT063	2.3	AT210	44
AT075	3.05	AT240	53.2
AT083	3.5	AT270	83
AT092	4.8	AT300	104.4
AT105	6.05	AT350	150.3
AT125	9.5	AT400	272.2
AT140	15		

## Output torque in Nm of AT actuator / Moment siły Nm siłowników AT

Model	Air pressure (bar)						
	2	3	4	5	6	7	8
AT32	2.78	4.20	6.00	7.50	9.00	10.00	11.50
AT40	4.44	6.56	9.83	11.72	14.06	15.63	17.97
AT52	8.32	12.48	16.64	20.8	24.96	29.12	33.28
AT63	14.64	21.96	29.28	36.6	43.92	51.24	58.56
AT75	23.5	35.3	47	58.8	70.5	82.3	94
AT83	29.7	44.5	59.4	74.2	89.1	103.9	118.8
AT92	45.5	68.2	91.1	113.7	136.4	159.2	181.9
AT105	67.88	101.82	136.76	169.7	203.64	237.58	271.52
AT125	116.6	174.9	233.2	291.5	349.8	408.1	466.4
AT140	175.48	263.22	350.96	438.7	526.44	614.18	701.92
AT160	267.4	401.1	534.8	668.5	802.2	935.9	1069.6
AT190	430.96	646.44	861.9	1077.4	1292.9	1508.4	1723.8
AT210	592.2	888.4	1184.5	1480.6	1776.7	2072.8	2369
AT240	831.9	1220.8	1627.8	2030.7	2444.6	2848.6	3255.5
AT270	1305.4	1958.2	2610.9	3263.6	3916.3	4569	5221.8
AT300	1602	2403	3205	4006	4807	5608	6409
AT350	2399	3598	4798	5998	7197	8397	9596
AT400	3418	5127	6837	8546	10255	11964	13673

## Operating conditions / Warunki Eksploatacji

### Working medium

- Dry or lubricated air or inert gas, as long as the medium is compatible with the inside parts and lubricant of the actuator.
- The dew-point temperature of the operating media is  $-20^{\circ}\text{C}$ . The dimension of the impurity particle cannot be larger than  $30\mu$ .
- If the positioner is needed, the dimension of impurity particle cannot be larger than  $5\mu$ .

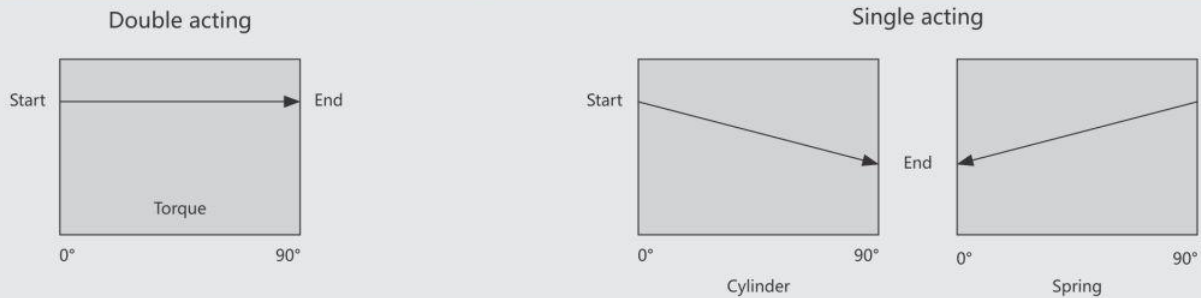
### Air pressure

- 3bar to 8bar

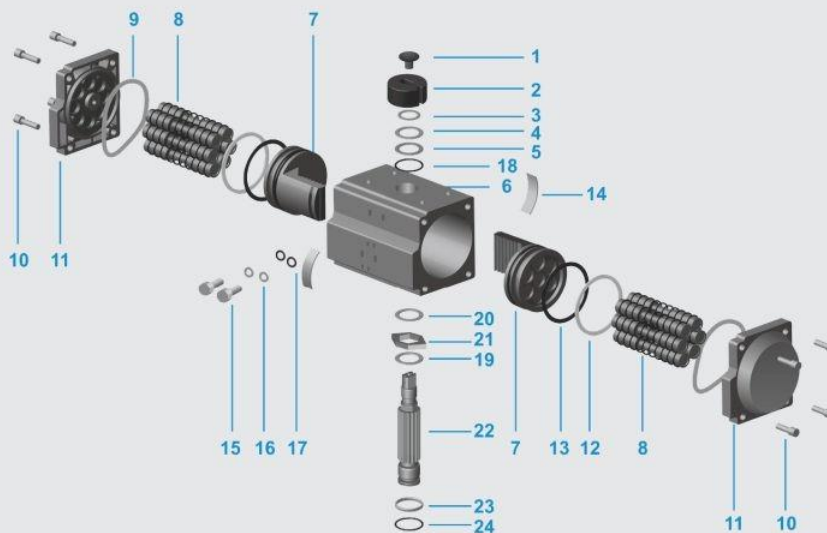
### Working temperature

- Standard:  $-5^{\circ}\text{C} \sim +80^{\circ}\text{C}$
- Low temperature type:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

# Torque diagram of actuator / Wykres momentu siły



## Parts and Material / Budowa i materiały siłowników



No	Description	Qty	Material	Anti-corrode treatment	Optional Material	Wearing parts
1	Indicator screw	1	PA66+PA3			
2	Indicator	1	POM			
3	Spring clip	1	Circlip			
4	Washer	1	Stainless steel			
5	Outside washer	1	PTFE			
6	Body	1	Aluminum alloy	Hard anodized etc.		
7	Piston	2	Cast aluminum	Hard anodized	Stainless steel	
8	Spring assembly	*	60Si2Mn2 + PA66	Dip coating		
9	End cap O-ring	2	NBR		Viton / Silicone	X
10	Cap screw	8	Stainless steel			
11	End cap	2	Cast aluminum	powder spraying etc		
12	Bearing (Piston)	2	PTFE			
13	O-ring(Piston)	2	NBR		Viton / Silicone	X
14	Guide (Piston)	2	POM		PTFE	
15	Adjusting bolt	2	Stainless steel			
16	Adjusting screw nut	2	Stainless steel			
17	O-ring (adjusting nut)	2	NBR		Viton / Silicone	
18	O-ring (pinion top)	1	NBR		Viton / Silicone	X
19	Bearing(pinion top)	1	PTFE			X
20	Inside washer	1	PTFE			
21	Cam	1	SUS304			
22	Pinion	1	Alloy steel	Nickel plated	Stainless steel	
23	Bearing(pinion bottom)	1	PTFE			
24	O-ring (pinion bottom)	1	NBR		Viton / Silicone	X

## The function and usage of the actuator and the parts

- Double action actuator: open and close the valve
- Single action actuator (spring return): when the air is cut off, it will close (normal close type)
- Double control solenoid valve: the valve open when one solenoid coil power on and close when another coil power on, it has memory function. (Ex-proof type is available)
- Single control solenoid valve: the valve open or close when power on, and close or open when power off. (Ex-proof type is available).
- Limit switch box: transmit the signal of open or close of the valve remotely. (Ex-proof type is available)
- Pneumatic positioner: control the medium flow rate of the valve according to air pressure (0.2~1bar) (Ex-proof type is available)
- Electric positioner: control the medium flow rate of the valve according to electric current (4-20mA) (Ex-proof type is available)
- Electric-pneumatic transducer: transduce current signal to air pressure signal for compatibility with positioner.
- FRL: includes filter, regulation and lubrication which can clean and lubricate the connection parts
- Manual equipments: manual operate on the valve in case of the cut off or stoppage of the air or power.

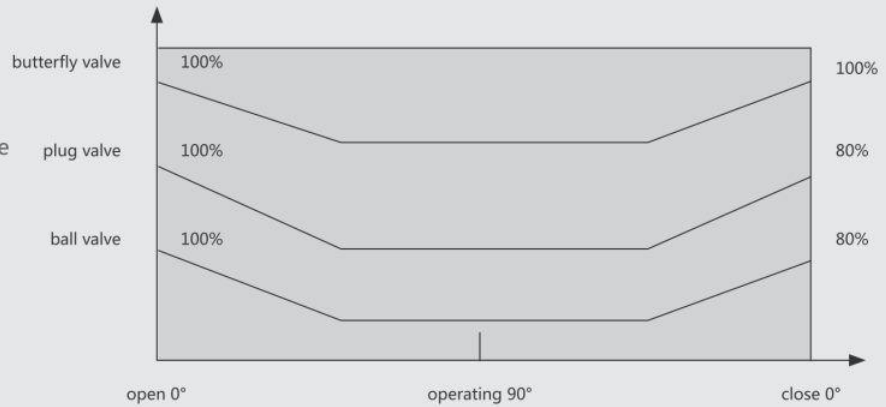
## How to choose / Zasady doboru

Firstly, confirm the torque that will need during the open or close of the valve. Normally the safety factor is 15~20%. If the medium is steam or non-lubricated liquid, then set it to 25%. The safety factor for non-lubricated slurry liquid is 40% and for non-lubricated granule powder is 80%. Then check output torque table form of double action or single action, you can get a right model. On the output torque table of single action actuator, the torque on the line of spring stroke is the torque of closing the valve.

### Example

- A ball valve need torque= 280N.m
- Medium: water
- Safety factor (20%) =  $280 (1+20\%) = 336\text{N.m}$
- Air pressure= 4 bar
- According to the output torque table of double action actuator, the right model is AT140DA, the output torque is 350.96N.m when the pressure is 4bar.

During the selecting of the spring return actuators, we can choose a more reasonable and economical actuator if we know the different torque of valve on opening, operation and closing.



## Example

A butterfly valve need torque=80N.m

The max torque needed by the butterfly valve  $80(1+30\%) = 104\text{N.m}$

The torque after opened (operating)  $104 \times 30\% = 32\text{N.m}$

Air supply=4bar

We can select AT125 SA K10

- Air stroke 0° = 114.4N.m > 104N.m
- Air stroke 90° = 59.4N.m > 32N.m
- Spring stroke 90° = 173.8N.m > 32N.m
- Spring stroke 0° = 118.8N.m > 104N.m
- The above data shows the actuator's torque can satisfy the requirement of the butterfly valve.

Attention: During the restoration, the spring return actuator's torque will not be affected by inputting air from port B. On the contrary, it will help restoration of springs.

## Air consumption / Zużycie powietrza

### Air volume opening & closing

Model	Air volume opening	Air volume closing	Model	Air volume opening	Air volume closing
AT32	0.035 L	0.045 L	AT160	2.6 L	3.7 L
AT52	0.09 L	0.12 L	AT190	4.2 L	5.9 L
AT63	0.14 L	0.2 L	AT210	5.7 L	8.2 L
AT75	0.21 L	0.3 L	AT240	9 L	12.8 L
AT083	0.29 L	0.41 L	AT270	12.6 L	17.9 L
AT092	0.49 L	0.71 L	AT300	21.4 L	30 L
AT105	0.7 L	0.99 L	AT350	31.2 L	43.7 L
AT140	1.7 L	2.4 L	AT400	47.9 L	67.1 L

Air consumption of double action actuator (L/min) = air volume (air volume opening + air volume closing) x (air supply (kpa) + 101.3) ÷ 101.3 x action cycle time (/min).

Air consumption of single action actuator (L/min) = air volume opening x (air supply (kpa) + 101.3) ÷ 101.3 x action cycle time (/min).

## > Ball Valve / Zawór kulowy

# RBV

Unique design and high platform structure.  
ISO5211 connection, easy to be installed.



### Order Code / kod zamawiania

<b>R</b>	<b>BV</b>	□	□	□	-	□	-	□□	□
Actuated	Ball valve	Type	Connection	Structure	Tandem structure	Nominal diameter	Valve body material		
		P pneumatic L Lever	1 Female thread connection 2 Male thread connection 4 flanged connection 7 Wafer type	1 Straight bore 2.Y 3-way Y type 4.L 3-way L type 5.T 3-way T type	1 1PCS type 2 2PCS type 3 3PCS type Blank Other	08 : 1/4" 10 : 3/8" 15 : 1/2" 20 : 3/4" 25 : 1" 32 : 1-1/4" 40:1-1/2" 50 : 2" 65 : 2-1/2" 80 : 3" 100 : 4" 125 : 5" 150 : 6"	Z CI Q DI ss304 Stainless steel 304 ss316 Stainless steel 316 C Carbon steel		

### Features / Cechy

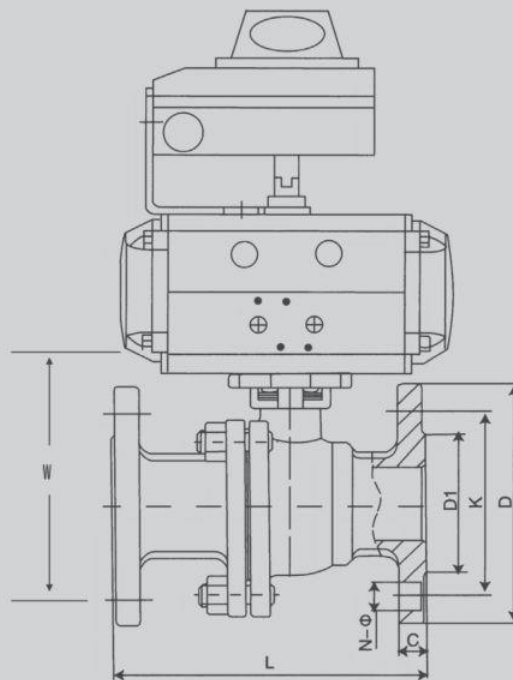
- Unique design and beautiful appearance.
- High platform structure and ISO5211 connection, makes the installation of electric or pneumatic actuator to be more professional.
- Valve body is overlaid with reinforced bar, which can be permanently used in corrosion medium, and keep away from the cracking and failure during the installation.
- Grinding process of the valve stem reduces the torque of electric or pneumatic valve during the installation.
- The valve body of carbon steel is phosphate coated, which won't be discolored and rusty. It is durable and beautiful.



# Pneumatic Din Flange Ball Valve

## Features

- The nominal pressure : PN 1.6, 2.5MPa
- Strength test pressure: PT2.4/3.8MPa.
- Seal test pressure ( low pressure ): 0.6MPa
- Suitable medium:water.oil.gas.nitric acid.acetic acid
- Suitable temperature: -40~180 °C  
( WCB, CF8, Cf8M, Ti, Ni )



MODEL	INCH	DN	L	D	K	D1	N-Ø	C	W	ACTUATOR
RBVP41-2-15-GB	1/2 "	15	130	95	65	45	4-14	14	97	AT040
RBVP41-2-20-GB	3/4 "	20	140	105	75	45	4-14	14	110	AT052
RBVP41-2-25-GB	1"	25	150	105	85	65	4-14	14	115	AT063
RBVP41-2-32-GB	1-1/4 "	32	165	135	100	78	4-18	16	140	AT063
RBVP41-2-40-GB	1-1/2 "	40	180	145	110	85	4-18	16	170	AT075
RBVP41-2-50-GB	2"	50	200	160	125	100	4-18	16	165	AT083
RBVP41-2-65-GB	2-1/2 "	65	220	180	145	120	4-18	18	195	AT092
RBVP41-2-80-GB	3"	80	250	196	160	137	8-18	20	220	AT105
RBVP41-2-100-GB	4"	100	280	217	180	156	8-18	20	250	AT125
RBVP41-2-125-GB	5"	125	320	245	210	185	8-18	22	380	AT140
RBVP41-2-150-GB	6"	150	340	280	240	210	8-23	24	470	AT190
RBVP41-2-200-GB	8"	200	400	335	295	265	12-23	26	626	AT210

# Pneumatic Female Thread 2-part Ball Valve

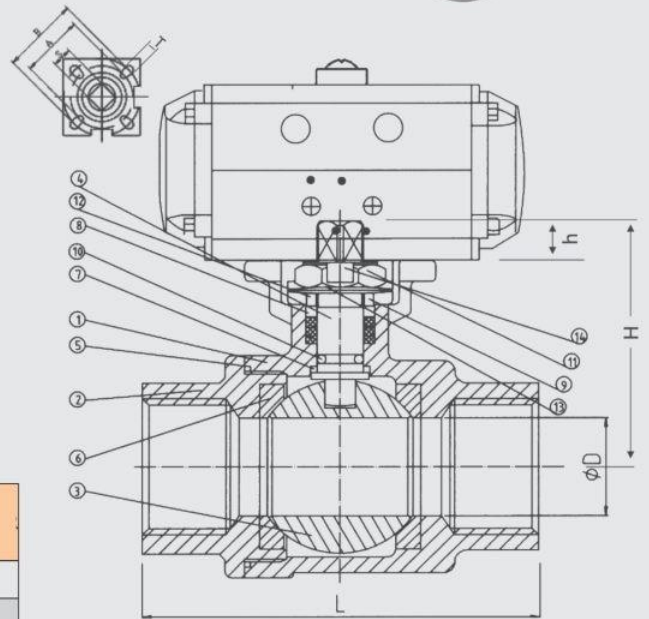
## Features

- Screw type: NPT, BSPT, BSP  
ISO-228 Class A Thread
- Temperature range: PTFE: -20°C ~180 °C  
TFM: -50°C ~270 °C  
RPTFE: -35°C ~210 °C
- Suitable medium: water, oil, air and some corrosive liquid
- Nominal pressure : I000PSI ( PN63 ) For 1/2 "to 3"
- Anti roll stem
- Locking device
- Material: CF8M ( DIN I.4408 ),  
CF8 ( DIN I.4308 ),  
WCB ( DIN I.0619 )

( WCB. CF8. CF8M/I. Ti. Ni )



No.	Component	Material	No.
1	Valve body	AISI 316 or 304	1
2	The sealing ring of the valve body	PTFE	2
3	Bolt washer	AISI 304	4
4	Screw cap	AISI 316 or 304	2
5	The sealing ring of the valve body	PTFE	2
6	Stem washer	Poly PTFE	1
7	Stem packing	PTFE	1
8	Packing gland	AISI 304	1
9	Valve stem	AISI 316 or 304	1



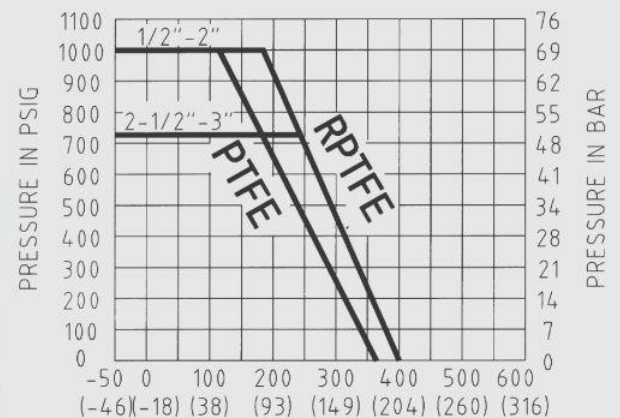
## 2 WAY BALL VALVE

MODEL	Size/Dime	D	H	h	T	L	ISO-5211		S	
							A	B		
RBVP11-2-15	1/2"	15	39.5	6	5.6	39.5	F03	F04	9	AT052
RBVP11-2-20	3/4"	20	44	11.6	5.6	44	F03	F04	9	AT052
RBVP11-2-25	1"	25	56	10	7.5	56	F04	F05	11	AT052
RBVP11-2-32	1-1/4"	32	62	12.7	5.7	62	F04	F06	11	AT063
RBVP11-2-40	1-1/2"	40	78.5	12	7	78.5	F05	F07	14	AT075
RBVP11-2-50	2"	50	91	11.7	7.85	91	F05	F07	14	AT083
RBVP11-2-65	2-1/2"	65	105	21	8.8	105	F07	F10	17	AT092
RBVP11-2-80	3"	80	116.5	18.7	9	116.5	F07	F10	17	AT105

## 3 WAY BALL VALVE

MODEL	d	L	H	h	B	A	S	T	DN	G	A1	ACTUATOR
RBVP14-15	11.0	73.3	37	8.5	F04	F03	9.0	5	15	1/2"	69.5	AT052
RBVP14-20	15.0	83.4	30	11.8	F04	F03	9.0	5.36	20	3/4"	74	AT052
RBVP14-25	20.0	88.6	45	14.3	F05	F04	11.0	5.1	25	1"	85.5	AT052
RBVP14-32	25.0	127	55	14.5	F05	F04	11.0	5.4	32	1-1/4"	105	AT063
RBVP14-40	32.0	137.3	68	17.5	F07	F05	14.0	7.8	40	1-1/2"	126	AT075
RBVP14-50	40.0	154	72.7	18.8	F07	F05	14.0	7.6	50	2"	137.8	AT083

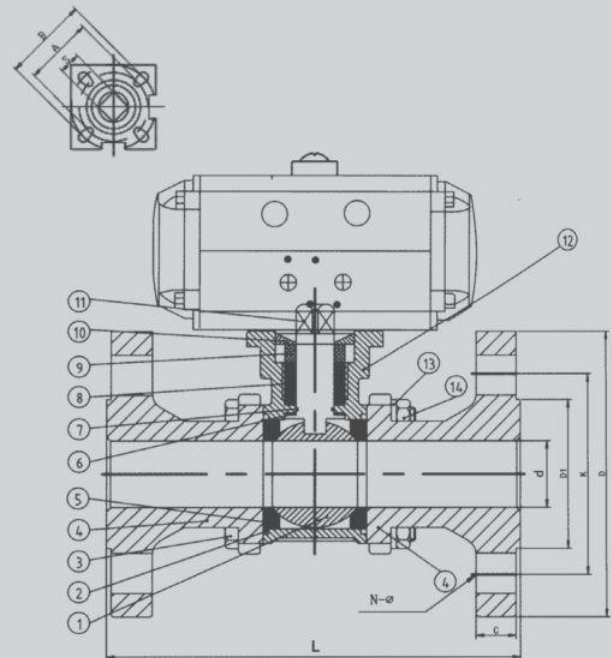
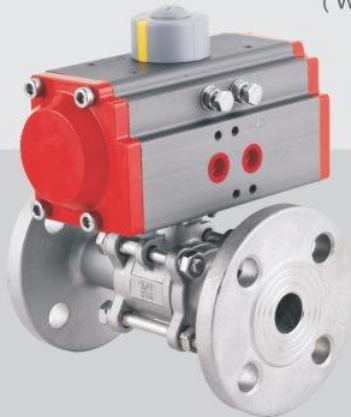
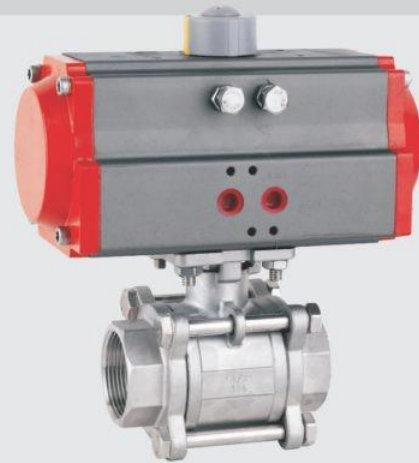
Pressure temperature analysis diagram



# Pneumatic Female Thread 3-part Ball Valve

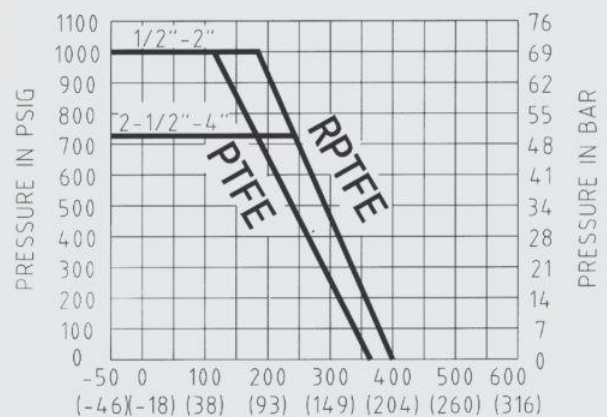
## Features

- Screw type: NPT, BSPT, BSP  
ISO-228 Class A Thread
- Temperature range: PTFE: -20°C ~180 °C  
TFM: -50°C ~270 °C  
RPTFE: -35°C ~210 °C
- Suitable medium: water, oil, air and some corrosive liquid
- Nominal pressure : I000PSI ( PN63 ) For 1/2" to 4"
- Blowout proof stem
- Locking device
- Material: CF8M ( DIN I.4408 ),  
CF8 ( DIN I.4308 ),  
WCB ( DIN I.0619 )  
( WCB, CF8, Cf8M/I, Ti, Ni )



No.	Component	Material	No.
1	Valve body	AISI 316	1
2	The sealing ring of the valve body	PTFE	2
3	Bolt washer	AISI 304	4
4	Screw cap	AISI 316	2
5	The sealing ring of the valve body	PTFE	2
6	Stem washer	Poly PTFE	1
7	Stem packing	PTFE	1
8	Packing gland	AISI 304	1
9	Valve stem	AISI 316	1
10	Valve body	AISI 316	1
11	Bolt washer	AISI 304	4
12	Six corner	V AISI 304	4

MODEL	Size/Dime	D	H	h	T	L	ISO-5211		S	Actuator
							A	B		
RBVP11-3-15	1/2"	15	38.8	5.5	5.7	70.6	F03	F04	9	AT040
RBVP11-3-20	3/4"	20	46	10	5.6	77.2	F03	F04	9	AT052
RBVP11-3-25	1"	25	55.6	11	6	86.7	F04	F05	11	AT052
RBVP11-3-32	1-1/4"	32	60.7	11.6	6	105	F04	F05	11	AT063
RBVP11-3-40	1-1/2"	40	71.7	14.5	7	115	F05	F07	14	AT063
RBVP11-3-50	2"	50	79	14	8	137	F05	F07	14	AT075
RBVP11-3-65	2-1/2"	65	106.5	21.3	9.5	188.5	F07	F10	17	AT083
RBVP11-3-80	3"	80	119.5	18	10	206.5	F07	F10	17	AT105
RBVP11-3-100	4"	100	125	22	10	266	F10	F12	22	AT125



## ➤ Pneumatic butterfly valve / Zawory motylowe

# R D V

Specialized manufacture, Specialized service, RFS valve devote to satisfy user' s expectation, improving service quality continuously.keeping improving.



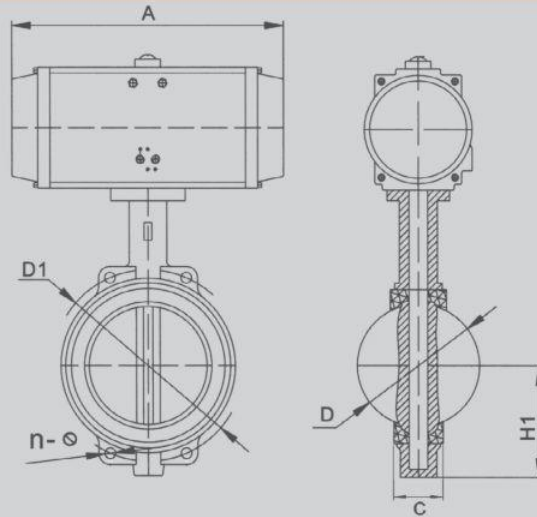
### Ordering Code / kod zamawiania

<b>R</b>	<b>DV</b>	<b>P</b>	□	□	-	□	-	□	-	□
ACTUATED	Butterfly valve	Type	Connection type	Body material		Disc material		Seal material		Orifice
		<b>P</b> Pneumatic control <b>L</b> Lever control <b>W</b> Wheel type	<b>4</b> Flange type <b>7</b> Wafer type	<b>Z</b> CI <b>Q</b> DI <b>P</b> Stainless steel 304 <b>R</b> Stainless steel 316 <b>C</b> Carbon steel <b>T</b> Aluminum bronze		<b>B1</b> Plated DI <b>B2</b> Aluminum bronze <b>B3</b> Stainless steel 304 <b>B4</b> Titanium steel <b>B5</b> Stainless steel 316 <b>B6</b> Carbon steel		<b>H</b> Stainless steel <b>1</b> Natural rubber <b>2</b> Hypalon seal <b>3</b> EPDM <b>5</b> Neoprene <b>6</b> NBR <b>7</b> Abrasion resistant rubber <b>8</b> Viton <b>9</b> Heat-resistant EPDM <b>F4</b> PTFE		<b>50-1000</b>

### Pneumatic wafer type soft seal butterfly valve / Zawory motylowe Wafer Soft

#### Features / Cechy

- Small and light, easy for installation and repair, and can be installed in any position.
- Simple structure, compact, prompt 90 degree turn round, open and close.
- Small operating torque
- Flow rate characteristic tend to straight, well regulate.
- Open and close test over 10,000 times, long life.
- Complete seal, no leakage during air testing.
- Choose different material as parts, fit for kinds of medium.



Model	Orifice	D	D1	H1	A	C	n-d	Actuator
RDVP7PB3-7-50	2	52.9	125	80	181	42	4-18	AT063
RDVP7PB3-7-65	2.5	64.5	145	89	223	44.7	4-18	AT075
RDVP7PB3-7-80	3	78.8	160	95	212	45.2	8-18	AT083
RDVP7PB3-7-100	4	104	180	114	258	52.1	8-18	AT092
RDVP7PB3-7-125	5	123.3	210	127	287	54.4	8-18	AT105
RDVP7PB3-7-150	6	155.6	240	139	342.5	55.8	8-22	AT125
RDVP7PB3-7-200	8	202.5	295	175	342.5	60.6	8-22	AT125
RDVP7PB3-7-250	10	250.5	350	203	412	65.6	12-22	AT140
RDVP7PB3-7-300	12	301.6	400	242	490	76.9	12-22	AT160
RDVP7PB3-7-350	14	333.3	460	267	490	76.5	16-22	AT160
RDVP7PB3-7-400	16	389.6	515	309	544	85.7	16-26	AT190
RDVP7PB3-7-450	18	440.51	565	328	580	105.6	20-26	AT210
RDVP7PB3-7-500	20	491.5	620	361	622	130.3	20-26	AT240
RDVP7PB3-7-600	24	592.5	725	459	766	151.4	20-30	AT270
RDVP7PB3-7-700	28	695	840	520	766	163	24-30	AT270
RDVP7PB3-7-800	32	794.7	950	591	794	188	24-33	AT300
RDVP7PB3-7-900	36	864.7	1050	656	880	203	28-33	AT350
RDVP7PB3-7-1000	40	965	1160	721	1076	213	28-36	AT400

Valve body		Disc		Rotating shaft	Liner bushing	Seal material		
Material item	Code	Material item	Code	Material item	Material item	Material item	Code	Suitable temperature
CI	Z	Plated DI	B1	Stainless steel	Lubrication bronze	Natural rubber	1	-20~+85°C
DI	Q	Aluminum bronze	B2			Hypalon seal	2	-18~+135°C Short time -18~+149°C
Aluminum bronze	T	Stainless steel 304	B3			EPDM	3	-45~+135°C Short time -50~+150°C
						Neoprene	5	-7~+93°C Short time -7~107°C
Stainless steel 304	P	Titanium steel	B4	Carbon steel	PTFE	NBR	6	-12~+82°C Short time -12~+93°C
Stainless steel 316	R	Stainless steel 316	B5			Abrasion resistant rubber	7	-10~+50°C
						Viton	8	-23~+150°C
Carbon steel	C	Carbon steel	B6			Heat-resistant EPDM rubber	9	-20~+150°C
						PTFE	F4	-10~+150°C

# Eccentric metal seated butterfly valve

## Features

Because this butterfly valve adopt three-dimensional eccentric to design. Making the movement track on facing space reach to idealization, and there are no attrition and on intervene between hermetical components. Furthermore, the hermetical material has been selected reasonably, there by it ensure hermetic,10 antisepsis, wearable capability of valve.

The main characteristic as below

- Tiny moment for starting, flexible and convenient, save labor and energy.
- Three-dimensional eccentric configuration forces disc close tighter, and reach to reliable hermetic capability and without leakage.
- High temperature resistant, high pressure resistant, long service life etc.



## Main technology parameter

Orifice	DN(mm)	50 - 200				50 - 500
		0.6	1.0	1.6	2.5	
Nominal pressure	PN ( MPa )	0.6	1.0	1.6	2.5	4.0
PS(MPa) Test Pressure	Shell test	0.9	1.5	2.4	3.75	6.0
	Seal tesse	0.66	1.1	1.76	2.75	4.4
	Gas seal test	0.6	0.6	0.6	0.6	0.6
Leakage	<0.1xDNmm <sup>3</sup> /s ( accordance GB/T13927-92 standard )					
Appropriat#temperature	Carbon steel: -29°C ~4 25°C / Stainless steel: -40°C ~6 00°C					
Appropriate medium	Air, water, steam, gas, oil, acid, alkali, salt and weak corrosion medium etc.					
Drive modality	Worm wheel drive / gas drive / electric drive					

## Material for main parts

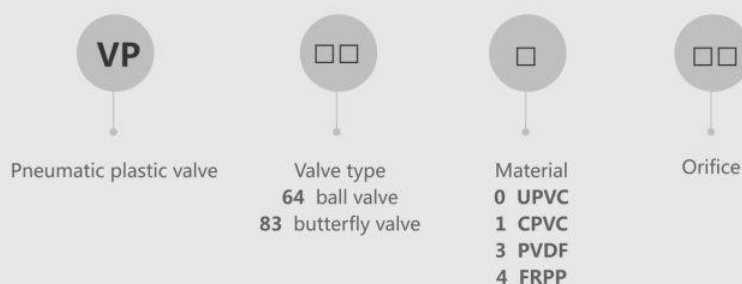
Parts item	Material
Valve body	Cast iron, stainless steel, Cr.MO.Steel, alloy steel
Disc	Cast steel, alloy steel, stainless steel, Cr.MO.Steel
Seal	Stainless steel and Graphite
Stem	2Cr13,1Cr13 stainless steel, Cr.MO.Steel
Bearing	Stainless steel,304 nitrifier
Filler	Flexible graphite

## ➤ Pneumatic plastic Ball Valve / Zawory kulowe z tworzywa

# VP

Plastic ball valve dopt special auxiliary formula material, ensure its acid resistance and alkali resistance for having higher machinery Strength. Applying many scopes water pipe line system widely.

### Ordering Code / Kod Zamawiania



### Pneumatic plastic ball valve / Zawory kulowe z tworzywa

#### Features / Cechy

- Working pressure : 150 psi
- Easy to disassemble by handle for cushion elasticity
- Can be assemble quickly without any special tool
- Actuator can be installed with inserted nut



Model	Size	Standard	Material	Seat	Seat	Port
VP-640	1/2"~4"	ANSI,JIS,DIN,BS	UPVC	PTFE	EPDM,FPM	Socket,Threaded,Flanged
VP-641	1/2"~4"	ANSI,JIS,DIN,BS	CPVC	PTFE	EPDM,FPM	Socket,Threaded,Flanged
VP-643	1/2"~4"	ANSI,JIS,DIN,BS	PVDF	PTFE	EPDM,FPM	Socket,Threaded,Flanged
VP-644	1/2"~4"	ANSI,JIS,DIN,BS	FRPP	PTFE	EPDM,FPM	Socket,Threaded,Flanged

## ➤ Positioner / Pozycjonery - Ustawniki

# EP

The positioner is used for operation of pneumatic rotary valve actuators by means of electrical controller or control systems with a similar output signal of DC4 to 20mA or split ranges.



### Ordering Code / Kody zamawiania

**EP-1000R**

Item number  
EP-1000R ( Rotary type )  
EP-1000L ( Linear type )



Action type  
S single acting  
D double acting



Ex-proof rate  
m Exd m11BT5  
n non ex-proof



Feedback pole  
1 M6×40L  
2 M6×63L  
3 M8×40L  
4 M8×63L  
5 NAMUR



Throttle pole  
1 Φ1  
2 Φ2  
3 NONE



Connection type  
1 1PT  
2 2NPT



Environment temperature  
S -20°C ~60°C  
H -20°C ~120°C  
L -40°C ~70°C



Select accessories  
1 +PTM(Intrnal)  
2 +PTM(External)  
3 +L/S(Intrnal)  
4 +L/S(External)  
5 +PTM+L/S(Intrnal)

### Parameter

Item / Type	Single action	Double action
Input Signal	4-20mA DC	
Impedance	250±15 Ohm	
Supply Pressure	1.4-7kgf/cm2(20-100psi)	
Stroke	0 ~ 90°C	
Air Connection	PT(NPT)1/4"	
Gauge Connection	PT(NPT)1/8"	
Conduit	PF1/2"(G1/2")	
Explosion Proof	ExiallB T6	
Protection	IP66	
Ambient Temp	Operating -20°C ~ 70°C	
	Explosion -20°C ~ 60°C	
Linearity	±1%F.S.	±2%F.S.
Hysteresis	±1%F.S.	
Sensitivity	±0.2%F.S.	±0.5%F.S.
Repeatability	±0.5%F.S.	
Air Consumption	3LPM(Sup=1.4kgf/cm2, 20psi)	
Flow Capacity	80LPM(Sup=1.4kgf/cm2, 20psi)	
Material	Aluminum Diecasting	
Weight	2.8kg(6.2lb)	



## ➤ Limit switch Box / Przystawka ze stykami krańcowymi



### Ordering Code / Kody zamawiania

LSB

Model

2

Size  
2  
3  
4

10

Machinery jiggle switch

N

The shell is fixed by screw

EX

Ex-proof

### Limit switch box ,ex-proof limit switch box

#### Features / Cechy

Limit switch box is designed based on advanced technology which are solid beautiful, high-level quality and with the following characteristic:

1. Visual position indicator and waterproof type.
2. Easy to set without tool based on spring loaded plined cam
3. There are many connection terminal and 8pcs of points, easy to connect and safety.
4. Standard dual cable connections.
5. No worry to loose bolts while cover opens.
6. Namur standard stainless steel shaft and bracket.

Model	LSB-210N / RFS-310N	LSB-410N-EX
Explosion Proof	IP 65	ExdII BT4
Ambient Temp	-25°C ~ 85°C	
Cable Entry	G1/2" G3/4"	
Terminal Stripe	8	
Position Indicator	0 ~ 90°C	
Switches	Mechanical Type	
Potentiometer	1 KΩ	
Current	4~20mA	



# Clutch Handwheel / Przystawki ręcznego otwarcia

## Features

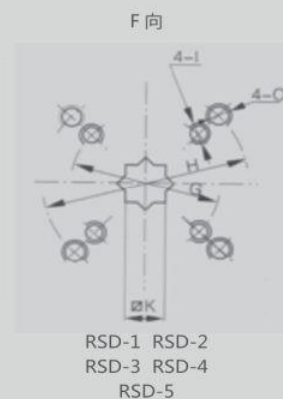
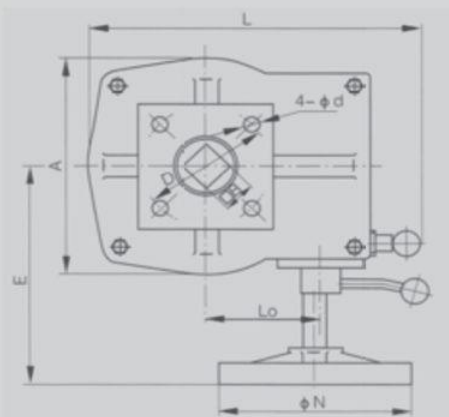
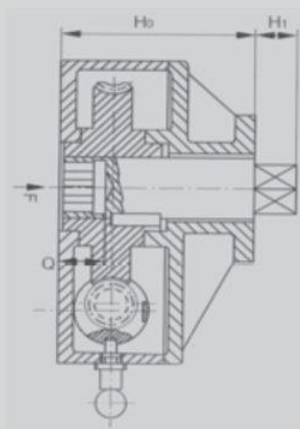
The pneumatic butterfly valve and ball valve with handle mechanism, as long as by the simple switching, then can achieve the handle operation of valve. Handle mechanism installed between pneumatic actuator and valve, quite convenience for operation.



## Structure character and using method

<b>Transmission type</b>	RSD1~8	Stem and wheel transmit	
<b>Stroke</b>	90° ±5°		
<b>Special design</b>	The bearing of the stem are two pcs of eccentric body, using the connection stem for turning into integrative, at the same time, also can run 180 degree for combine and disconnection between stem and wheel, combine condition is by handle, disconnection condition is by pneumatic.		
<b>Installation</b>	The upper end	The standard size hole is connecting with pneumatic actuator. The square body is in the middle which hold out extracorporeal, connecting with the inner eight-square of pneumatic actuator directly.	
	The lower end	The standard screw hole on the shell is connecting with the valve or bracket. The middle output shaft is a standard inner eight-square.	
<b>Usage</b>	Handle		Pulling the side round handle, then can turn spanner. When the spanner is at the appointed place, the round handle reset fastness eccentric bearing. Warning: It can not be operated by pneumatic when at the handle position, otherwise the parts will be damaged.
	Pneumatic		

## Dimensions



Model	H0	H1	□B	□K	Q	A	L	N	LO	D	d	H	O	G	I	E	Applicability range	Drive ratio	Output Torque
RSD-1	91	15	14	14	16	88	147	140	42	50	7	70	4-M8	50	M6		DA SR 50 65	15:1	150 N.m
RSD-2	108	19	17	17	19	106	170	160	53	70	9	102	4-M10	70	M8		DA SR 75 85 95 110	42:1	300 N.m
RSD-3	128	25	22 27	22 27	25	136	210	295	74	102	12	125	4-M12	102	M10		DA SR 125 140 160	50:1	800 N.m
RSD-4	159	38	36	36	40	200	254	340	97	140	18	140	4-M16				DA SR 190 210	79:1	3500 N.m
RSD-5	181	48	46	46	50	256	348	450	126	165	22	165	4-M20				DA SR 150 280 300	80:1	5000 N.m
RSD-6	228	50	46 55	46 55	46 55	372	430	450	186	165 254	22 8-18	165 254	4-M20 4-M16				DA SR 350 DA 400 450	61:1	10000 N.m

## ➤ Angle seat / Bavel Valve/ Zawory pneumatyczne kątowe

### PGK

There is automatic adjustable seal gland bush between overflow outlet and slide block.

The bevel structure have big flow rate, no water hammer, no noise and credible seal performance.



### Ordering Code / Kody zamawiania

PGK

Angle seat valve code

□

Connection size

10  
15  
25  
32  
40  
50  
65

□

Actuator material code

**S** stainless steel  
**Blank** aluminium  
**P** Plastic

□

**Blank** single acting type

**D** double acting type  
**K** normally open

□

Select actuator size

Φ40  
Φ50  
Φ63  
Φ80  
Φ100

### Angle seat valve



### Specification

Orifice: DN15-DN50

Thread: G3/8" -G2 1/2"

Valve material: stainless steel 304 / 316

Actuator material: aluminium or stainless steel

Valve core seal: PTFE

Valve stem seal: PTFE / FKM

Applicable medium: water, liquid, natural gas, water steam, slight corrosive gas.

Medium temperature: -10°C ~180°C

Environment temperature: -10°C ~60°C

Viscosity: max. 600 mm<sup>2</sup> / S

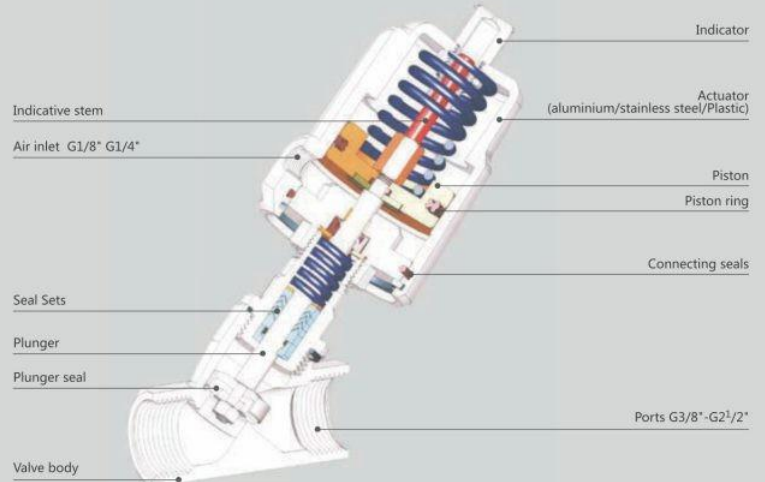
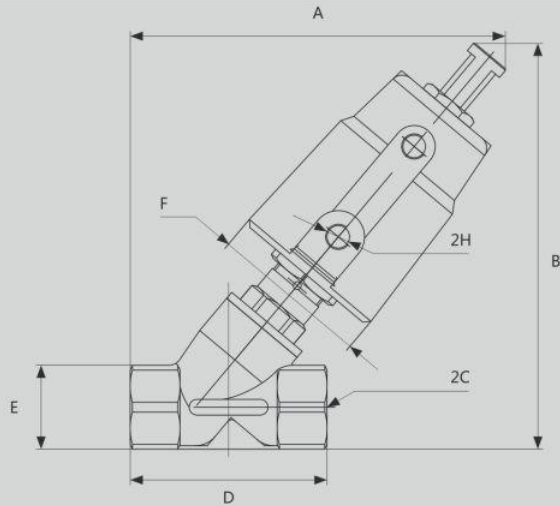
Installation: any position

Controlling medium: air or neutral gas

Controlling pressure range: 0.3~1Mpa

Liquid working pressure: 0~1.6Mpa

## Overall dimension



Model	Actuator size	A	B	C	D	E	F	H
PGK15	50mm	140	150	G1/2"	68.5	27	60.5	G1/8"
PGK20	50mm	143	155	G3/4"	75	32	60.5	G1/8"
PGK25	50mm	163.5	176	G1	90	39	60.5	G1/8"
PGK25	63mm	174.5	189.5	G1	90	39	77	G1/8"
PGK32	63mm	190.5	207.5	G1-1/4"	117	50	77	G1/8"
PGK40	63mm	190.5	207.5	G1-1/2"	117	55	77	G1/8"
PGK50	63mm	219.5	232.5	G2"	145	70	77	G1/4"
PGK50	80mm	233	253	G2"	145	70	98	G1/4"
PGK65	100mm	270	290.5	G2-1/2"	170	85	116	G1/4"

## Technical specification

Model	Working pressure	Orifice (mm)	Actuator size (mm)	Kv value (m <sup>3</sup> /k)	180°C Max. pressure	Single action normal close (MPa)		Double action normal close (MPa)		Double acting control pressure (MPa)	
						Pressure range	Control pressure	Pressure range	Control pressure	Double acting assistant	Liberty state
PGK15	1.6MPa	13mm	50mm	4.2	1.6MPa	0-1.6	≥ 0.3	0-1.6	0.3	≥ 0.4	0-0.1
PGK20		18mm	50mm	9.0		0-1.6	0.3-0.4	0-1.6	0.3	0.3-0.4	0-0.2
PGK25		22mm	50mm	18.5		0-1.6	0.3-0.55			0.3-0.55	0-0.35
PGK25		22mm	63mm	18.5		0-1.6	0.3-0.35	0-1.6	0.35	0.3-0.35	0-0.2
PGK32		31mm	63mm	36.5		0-1.6	0.3-0.5	0-1.4	0.4	0.3-0.5	0-0.4
PGK40		35mm	63mm	42		0-1.6	0.3-0.6	0-1.1	0.4	0.3-0.6	0-0.5
PGK50		45mm	63mm	54.6		0-1.0	0.3-0.65	0-1.6	0.4	0.3-0.65	0-0.8
PGK50		45mm	80mm	54.6		0-1.6	0.3-0.65	0-1.2	0.4	0.3-0.65	0-0.5
PGK65		58mm	100mm	90		0-1.6	0.3-0.65	0-1.2	0.4	0.3-0.65	0-0.4