V405 Series Diaphragm Valve

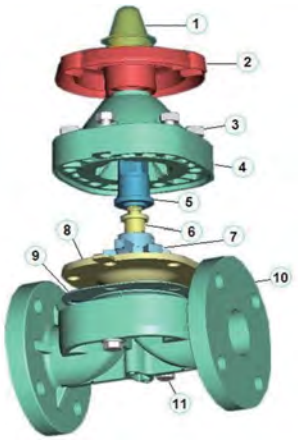
V405 is a weir type diaphragm valve design and develop according to international standard, the body and main parts which touch medium are made from plastic and rubber,in this case it is suitable for corrosive working conditions. 5 different materials optional for different applications.

Basic specification

Size range:	DN15~DN100 (1/2 inch ~ 4 inch)
Body materials:	PVC-U;PVC-C;PVDF;PP-GF;PP-H
Diaphragm material:	PTFE with EPDM cushion
Flange connection:	DIN PN10; ANSI CL150; JIS 10K
Design pressure:	1.0Mpa (PN10 bar)

Feature of valve

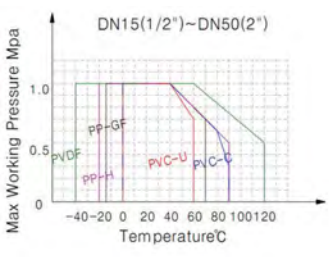
Body and diaphragm that touch medium are made from plastic and rubber.
Stop device protect the diaphragm from over tighten, extend the diaphragm working life.
EPDM cushion protect the PTFE diaphragm from over tighten, make sealing better.
Strengthen design of bonnet and body make the valve stronger and sealing better.
PTFE diaphragm is designed hiding inside the bonnet, extend the diaphragm working life.
Molded bottom stand for simple mounting to the supportor.
Pneumatic actuator mounting is available.

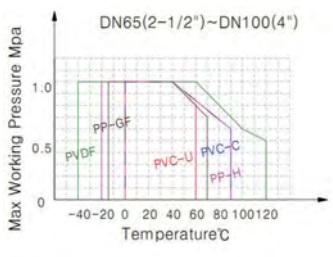


No.	Part Name	Main part&material Material Optional	Part code
1	Cap	AS	P111-1
2	Handwheel	PP	P111-2
3	Nut	Steel	P111-3A
		Stainless steel	P111-3B
4	Bonnet	PVC-U;PVC-C;PVDF;PP-GF;PP-H	P111-4
5	Stem Nut	Copperized steel	P111-5A
		Steel	P111-5B
6	Stem	Steel#40	P111-6A
		Stainless steel	P111-6B
7	Disc	PVDF	P111-7
8	Cushion	EPDM	P111-8
9	Diaphragm	PTFE	P111-9
10	Body	PVC-U;PVC-C;PVDF;PP-GF;PP-H	P111-10
11	Bolt	Steel	P111-11A
		Stainless steel	P111-11B

Note: Some inner parts are not shown on this picture, please refer to drawing for accurate information.

Temperature VS pressure

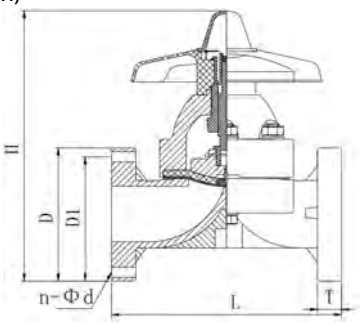




Working temperature of material

PVC-U	0~60℃
PVC-C	0~90℃
PVDF	-40~120℃
PP-H	-20~90℃
PP-G	-14~70℃
EPDM	-40~130℃
FPM	-40~250℃
PTFE	-70~250℃

Dimension(Unit:mm)



Norminal Size	DIN PN10			ANSI CL150			JIS 10K			D	L	H	T
DN(Inch)	D1	n	Φd	D1	n	Φd	D1	n	Φd				
15(1/2")	65	4	14	60.5	4	15.8	70	4	15	105	135	193	16
20(3/4")	75	4	14	70	4	15.8	75	4	15	105	135	193	16
25(1")	85	4	14	79.5	4	15.8	90	4	19	115	150	200	16
32(1-1/4")	100	4	18	89	4	15.8	100	4	19	135	165	210	16
40(1-1/2")	110	4	18	98.5	4	15.8	105	4	19	145	190	258	18
50(2")	125	4	18	120.5	4	19	120	4	19	160	215	275	25
65(2-1/2")	145	4	18	139.5	4	19	140	4	19	180	255	325	25
80(3")	160	8	18	152.5	4	19	150	8	19	195	305	345	30
100(4")	180	8	18	190.5	8	19	175	8	19	215	355	400	30

Dimension "D","L" of valves made by different materials may not be exactly same, please refer to drawings for accurate dimensions

Referenced Weight (unit:kg)

Material	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
PVC-U	1.1	1.1	1.3	1.6	2.6	3.3	5.8	7.4	11.4
PVC-C	1.1	1.1	1.3	1.6	2.6	3.4	6.1	7.6	12
PVDF	1.2	1.2	1.4	1.7	2.8	3.7	6.2	8	13
PP-G	0.9	0.9	1	1.3	1.9	2.6	4.5	5.7	9.1
PP-H	0.9	0.9	1	1.3	1.9	2.6	4.5	5.7	9.1

Note:Weight in this sheet for reference only, please refer to drawing for accurate data.

Main steps of diaphragm replacement

1.Take off the cap(P111-1), remove the clip and gasket, then remove the handwheel(P111-2).
2.Remove nuts(P111-3), and seperate the bonnet from body.
3.Screw off the diaphragm and EPDM cushion from the stem.
4.Replace new diaphragm and cushion and connect to the stem.
5.Connect the bonnet with body by bolts and nuts, tighten the bolts proportionately.
6.Assemble the handwheel on bonnet, put on clip ring,gasket and cap.

Note:
Never remove the valve from pipeline under pressure.
Valve should take pressure test after replace diaphragm

Trouble shoot and solve

Trouble	Trouble shoot	Solve
Leaking to the atmosphere	1.Bonnet bolts not properly tightened. 2.Line pressure exceeds maximum recommended line pressure. 3.Diaphragm has ruptured or has been chemically attached.	1.Tighten the bonnet bolt. 2.Reduce the pressure of pipeline. 3.Replace diaphragm.
Fluid leaks when valve is fully closed	1.Stop device not set correctly 2.Solid build up inside 3.Diaphragm or weir are worn or damaged	1. Set stop device correctly. 2. Clean inside 3. Replace diaphragm.
Valve can not be fully opened	1. Diaphragm is not properly engaged with disc.	1.Engaged diaphragm with disc properly.

V405 Series Diaphragm Valve

PV114 is pneumatic operation diaphragm valve, spring return, double acting type actuator available. Diaphragm valve have different model and materials for optional.

Basic specification

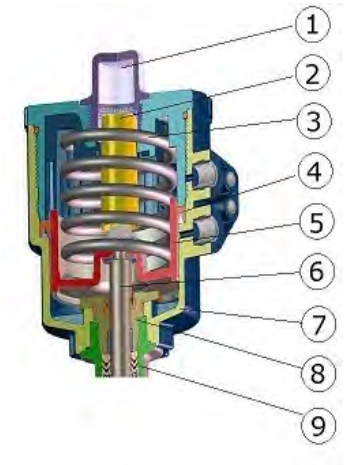
Size: DN15~DN150 (1/2 inch ~ 6 inch)
Connection: Flange; Socket
Operating: Pneumatic
Type: Spring return, double acting
Air supply: 3~8 bar

Feature of valve

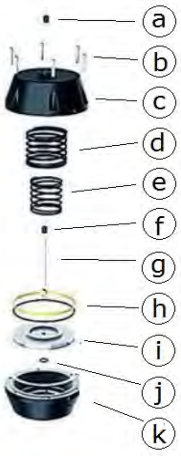
Spring return and double acting type actuator for optional.

Limit switch and solenoid valve are optional if request.

Actuator Model P2



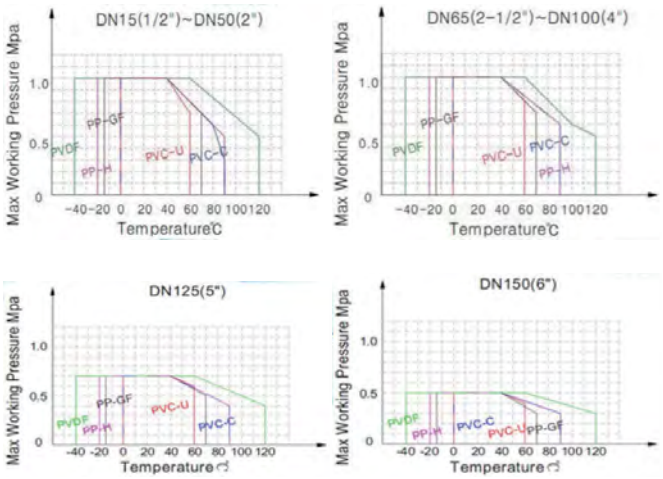
Actuator Model P3



Main part&material		
No.	Part Name	Material Optional
a	Indicator	AS
b	Screw	Stainless steel
c	Cylinder	Aluminium Alloy
d	Spring	Stainless steel
e	Spring	Stainless steel
f	Connector	Steel
g	Stem	Steel
h	Seal ring	EPDM
i	Piston	Stainless steel
j	Seal cushion	PTFE
k	Cylinder	Aluminium Alloy

1	Cap	PC
2	Indicator	PA6
3	Spring	65Mn
4	Seal ring	FKM
5	Piston	Stainless steel
6	Stem	Stainless steel
7	Shell	Plastic alloy
8	Connector	Stainless steel
9	Sleeve	Stainless steel

Temperature VS pressure

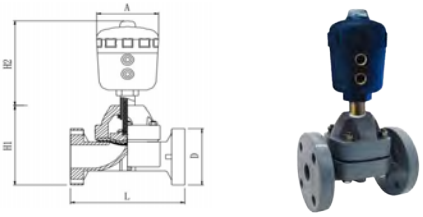


Working temperature of material

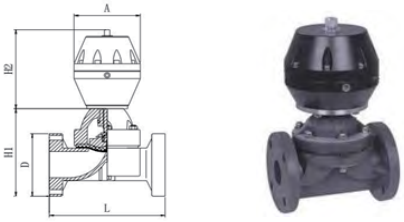
PVC-U	0~60℃
PVC-C	0~90℃
PVDF	-40~120℃
PP-H	-20~90℃
PP-G	-14~70℃
EPDM	-40~130℃
FPM	-40~250℃
PTFE	-70~250℃

Dimension(Unit:mm)

Size: DN15~DN80(1/2"~3")



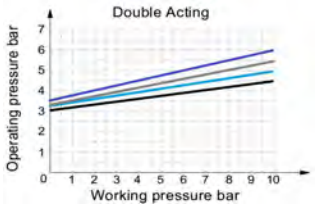
Size: DN100~DN150(4"~6")

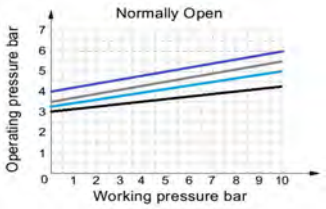


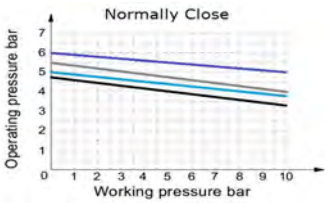
Norminal Size DN(Inch)	Actuator Model	A	D	L	H1	H2
15(1/2")	P2-50	63	105	135	150	120
20(3/4")	P2-50	63	105	135	150	120
25(1")	P2-63	80	115	150	155	130
32(1-1/4")	P2-80	100	135	165	165	140
40(1-1/2")	P2-100	126	145	190	190	160
50(2")	P2-100	126	160	215	205	160
65(2-1/2")	P3-160	195	180	255	220	210
80(3")	P3-190	230	195	305	265	250
100(4")	P3-220	260	215	355	310	310
125(5")	P3-250	300	245	405	420	380
150(6")	P3-300	360	280	450	500	450

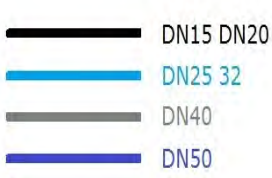
Dimension above is for reference only, please ask for drawings for accurate dimension

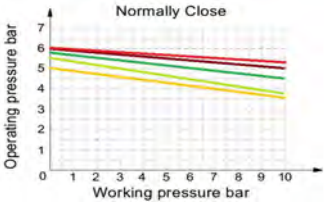
Working pressure VS operating pressure











Trouble shoot and solve

Trouble	Trouble shoot	Solve
Valve can not be open or closed.	1. Air pressure supply not big enough. 2. The actuator model not correct. 3. The actuator seal ring broken	1.Use higher air supply 2.Choose a correct actuator model 3.Replace the seal ring