Threaded Type
Series LVA

How to Order Valves (Single Type)

LVA 2 0 – 02 □ – A □

Body class

Symbol	Body class	Orifice dia
1	1	ø2
2	2	ø4
3	3	ø8
4	4	ø12
5	5	ø20
6	6	ø22

Valve type

0	N.C.
1	N.O.
2	Double acting

Note) Refer to "Variations" in the table below for valve type combinations.

Port size

Symbol	Port size	Body class
01	1/8	1
02	1/4	
01	1/8	2
02	1/4	
02	1/4	3
03	3/8	
03	3/8	4
04	1/2	
04	1/2	5
06	3/4	
10	1	6

Thread type

Symbol	Thread type
Nil	Rc
N	NPT

Option

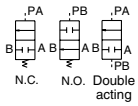
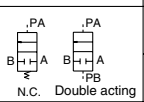
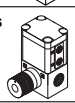
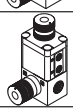
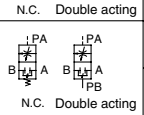
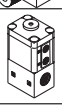
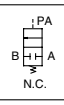
Nil	None
1	With flow rate adjustment
2	With by-pass
3	With flow rate adjustment & by-pass
4	With indicator

Note) Refer to "Variations" in the table below for option combinations. Options can not be combined each other.

Material

Symbol	Body	Actuator section: End plate	Dia-phragm	Applicable option: 1	2	3	4	Note
A	Stainless steel	PPS / —	PTFE	●			●	—
B	PPS	PPS	PTFE	●			●	Except LVA60
C	PFA	PPS	PTFE	●	●	●	●	Except LVA10
D	Stainless steel	PPS / —	NBR	●			●	Except LVA60
E	Stainless steel	PPS / —	EPR	●			●	Except LVA60
F	PFA	PVDF	PTFE					Hydrofluoric acid compatible (Only LVA40, 50 type)
G	PPS	PPS	NBR	●			●	Except LVA60
H	PPS	PPS	EPR	●			●	Except LVA60
N	PFA	PPS	PTFE	●	●	●	●	Ammonium hydroxide compatible Except LVA10

Variations

Type	Symbol	Model	LVA10		LVA20		LVA30		LVA40		LVA50		LVA60
		Orifice diameter	ø2		ø4		ø8		ø12		ø20		ø22
		Body material Note 1) / Port size	1/8	1/4	1/8	1/4	1/4	3/8	3/8	1/2	1/2	3/4	1
		Stainless steel (SUS316)	○	○	○	○	○	○	○	○	○	○	○
		PPS	○	○	—	○	—	○	—	○	—	○	—
		PFA	—	—	—	○	—	○	—	○	—	○	○
Basic type	  N.C. N.O. Double acting	N.C.	○	○	○	○	○	○	○	○	○	○	○
		N.O.	—	—	○	○	○	○	○	○	○	○	○
		Double acting	○	○	○	○	○	○	○	○	○	○	○
With flow rate adjustment	  N.C. Double acting	N.C.	—	—	○	○	○	○	○	○	○	○	○
		Double acting	—	—	○	○	○	○	○	○	○	○	○
With by-pass	  N.C. Double acting	N.C.	—	—	—	—	—	○	—	○	—	○	—
		Double acting	—	—	—	—	—	○	—	○	—	○	—
With flow rate adjustment & by-pass	  N.C. Double acting	N.C.	—	—	—	—	—	○	—	○	—	○	—
		Double acting	—	—	—	—	—	○	—	○	—	○	—
With indicator	  N.C.	N.C.	—	—	○	○	○	○	○	○	○	○	○

Note) Refer to the "Material" table for the applicable optional body materials.

Basic type

With flow rate adjustment

Standard Specifications

Model		LVA10	LVA20	LVA30	LVA40	LVA50	LVA60
Orifice diameter		ø2	ø4	ø8	ø12	ø20	ø22
Port size		1/8, 1/4	1/8, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4	1
Flow characteristics	Av x 10^{-6}m²	1.7	8.4	40.8	79.2	144	192
	Cv	0.07	0.35	1.7	3.3	6	8
Withstand pressure (MPa)		1					
Operating pressure (MPa)		0 to 0.5				0 to 0.4	
Back pressure (MPa)	N.C./N.O. Note 2)	0.15 or less	0.3 or less			0.2 or less	
	Double acting	0.3 or less	0.4 or less			0.3 or less	
Valve leakage (cm³/min)		0 (with water pressure)					
Pilot air pressure (MPa)		0.3 to 0.5					
Pilot port size		M5		Rc 1/8, NPT 1/8			
Fluid temperature (°C)		0 to 100 Note 1)					
Ambient temperature (°C)		0 to 60					
Weight (kg)	Stainless steel (SUS)	0.12	0.18	0.44	0.86	1.67	1.96
	PPS	0.05	0.08	0.18	0.32	0.73	—
	PFA	—	0.09	0.20	0.35	0.78	0.90

Note 1) 0 to 60°C when the diaphragm is NBR or EPR.
Note 2) The N.O. type is not available for LVA10.
Note 3) Contact SMC if the valve will be used with vacuum and B → A flow.

⚠Specific Product Precautions

Be sure to read before handling. Refer to page 17-6-3 for Safety Instructions and 17-5-41 to 17-5-42 for High Purity Chemical Valve Precautions.

Piping

⚠Caution

1. Avoid using metal fittings with a resin body (taper threads).

This can cause damage to the valve body.

Options

■ With flow rate adjustment

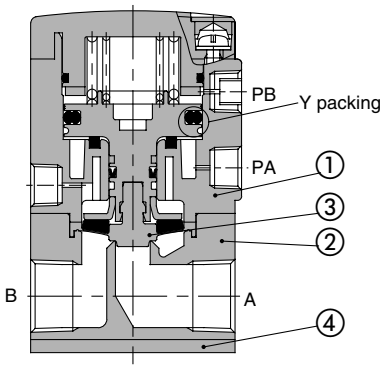
Adjusts the flow rate by controlling the diaphragm stroke.

Adjustment knob
Adjusts the flow rate.

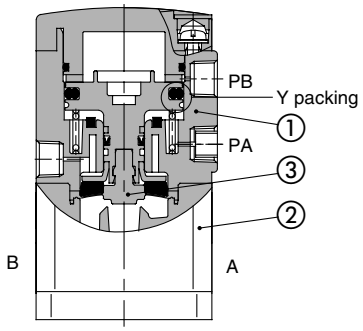
Lock nut
Locks the adjustment knob position.

Construction

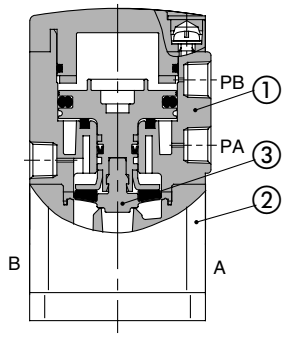
Standard type
N.C. type



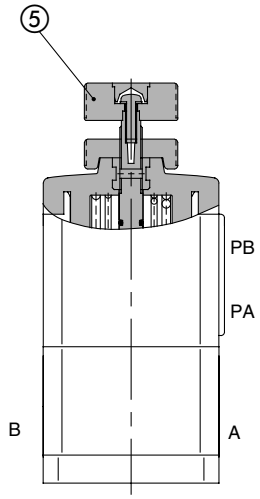
N.O. type



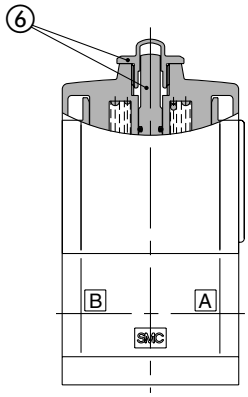
Double acting type



With flow rate adjustment



With indicator

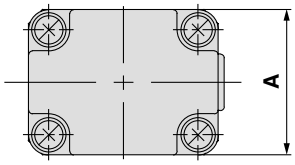


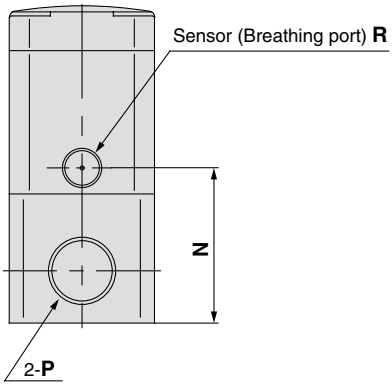
Parts list

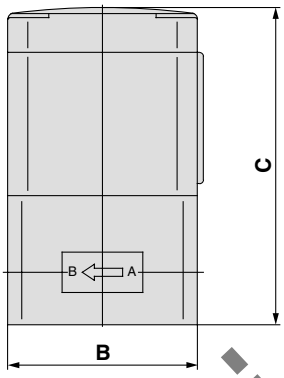
No.	Description	Material	Option
1	**Actuator section**	PPS	PVDF
2	**Body**	Stainless steel	—
		PPS	
		PFA	
3	**Diaphragm**	PTFE	—
		NBR	
		EPR	
4	**End plate** (PFA body only)	PPS	PVDF
5	**Flow rate adjuster section**	PPS	—
6	**Indicator**	PP	—

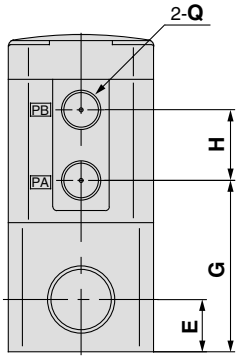
Dimensions

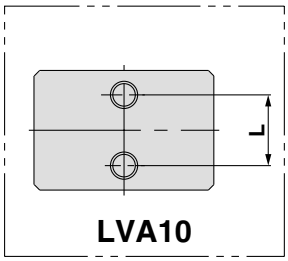
Body material: Stainless steel
Basic type

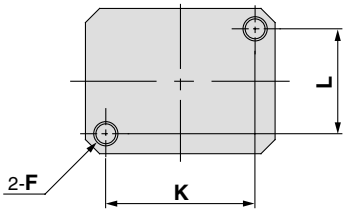


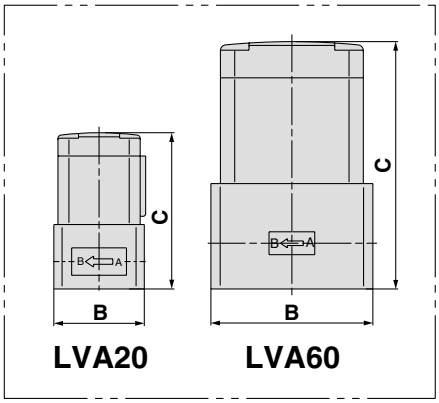




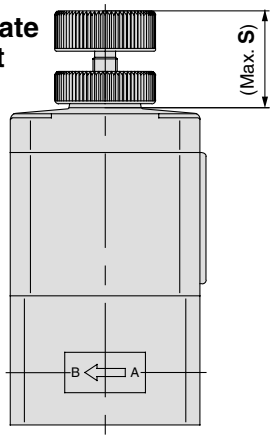








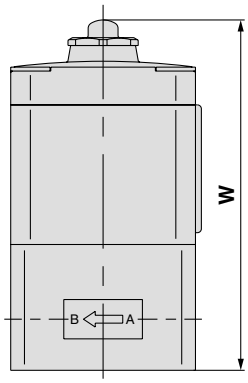
With flow rate adjustment



Dimensions (mm)

Model	S
LVA2□	11.5
LVA3□	24
LVA4□	29
LVA5□	34.5
LVA6□	36

With indicator



Dimensions (mm)

Model	W
LVA20	66.5
LVA30	89.5
LVA40	110
LVA50	140.5
LVA60	148

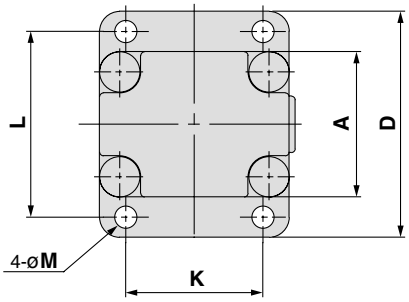
Dimensions (mm)

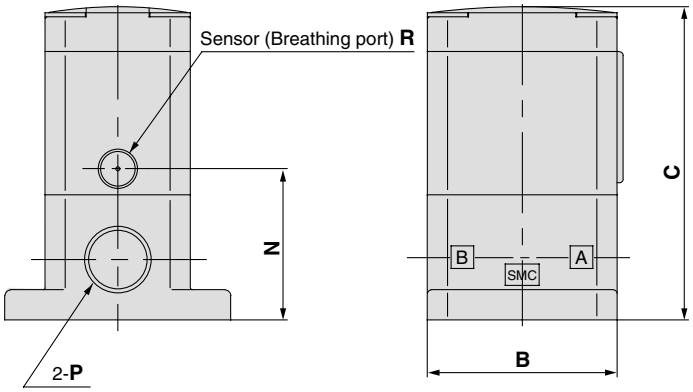
Model	A	B	C	E	F	G	H	K	L	N	P	Q	R
LVA1□	20	33	49.5	10	M5 x 0.8	27.5	11	—	13	27.5	Rc 1/8, 1/4 NPT 1/8, 1/4	M5 x 0.8	4.2
LVA2□	30	33	57	10	M5 x 0.8	31	13	22	22	26			M3 x 0.5
LVA3□	36	47	78.5	13	M6 x 1.0	42.5	17.5	37	26	38.5	Rc 1/4, 3/8 NPT 1/4, 3/8	Rc 1/8 NPT 1/8	Rc 1/8 NPT 1/8
LVA4□	46	60	95.5	16	M8 x 1.25	54.5	18	47.5	33.5	47.5	Rc 3/8, 1/2 NPT 3/8, 1/2		
LVA5□	58	75	122.5	19	M8 x 1.25	61.5	27.5	60	43	55.5	Rc 1/2, 3/4 NPT 1/2, 3/4		
LVA6□	58	85	130	24	M8 x 1.25	69	27.5	60	43	63	Rc 1 NPT 1		

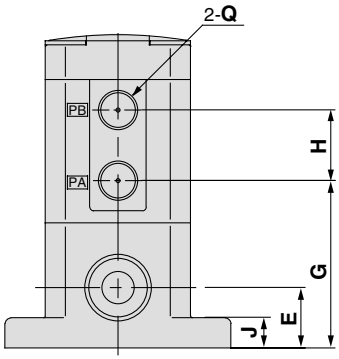
Dimensions

Body material: PPS

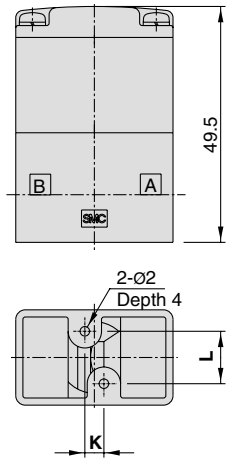
Basic type



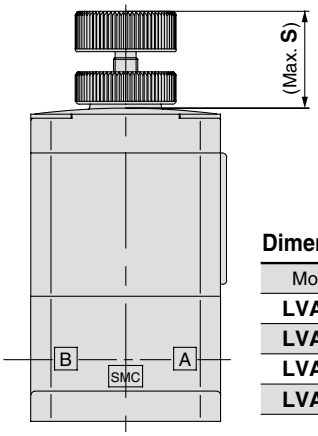




LVA10



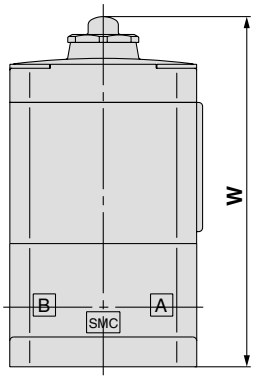
With flow rate adjustment



Dimensions (mm)

Model	S
LVA2□	11.5
LVA3□	24
LVA4□	29
LVA5□	34.5

With indicator



Dimensions (mm)

Model	W
LVA20	67
LVA30	88.5
LVA40	110.5
LVA50	147
LVA60	–

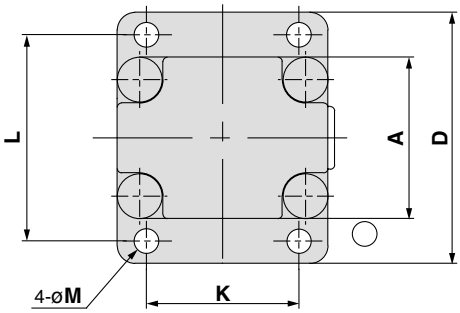
Dimensions (mm)

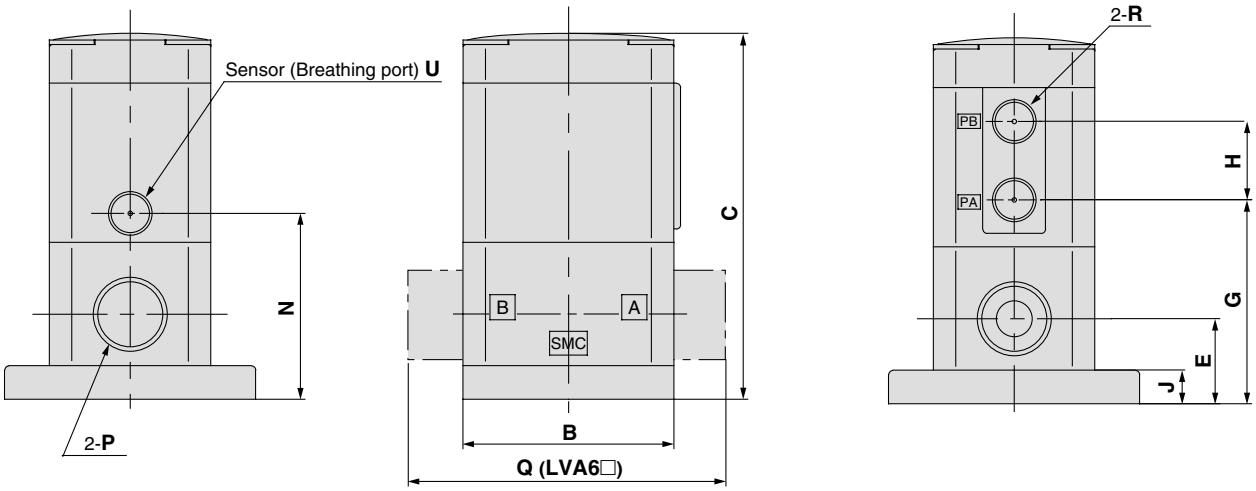
Model	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R
LVA1□	20	33	49.5	—	10	27.5	11	—	4	11	—	27.5	Rc 1/8, 1/4 NPT 1/8, 1/4	M5 x 0.8	4.2
LVA2□	30	36	57.5	44	11	31.5	13	4	20	37	3.5	26.5	Rc 1/4 NPT 1/4		M3 x 0.5
LVA3□	36	47	77.5	56	15	41.5	17.5	7.5	34	46	5.5	37.5	Rc 3/8 NPT 3/8	Rc 1/8 NPT 1/8	Rc 1/8 NPT 1/8
LVA4□	46	60	96	68	22	55	18	8	42	57	5.5	48	Rc 1/2 NPT 1/2		
LVA5□	58	75	129	84	26	68	27.5	8	56	71	6.5	62	Rc 3/4 NPT 3/4		

Dimensions

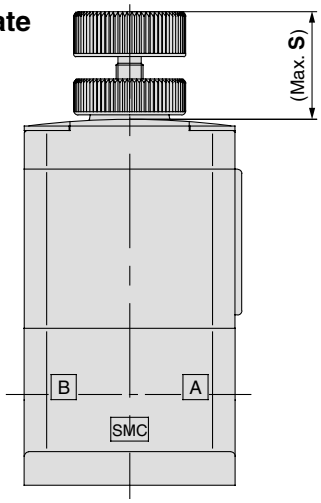
Body material: PFA

Basic type





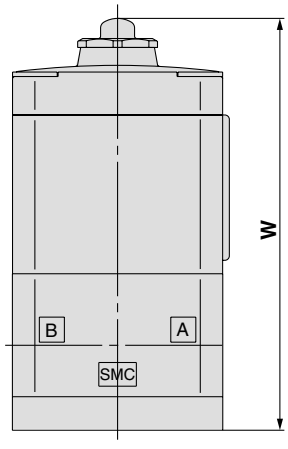
With flow rate adjustment



Dimensions (mm)

Model	S
LVA2□	11.5
LVA3□	24
LVA4□	29
LVA5□	34.5
LVA6□	36

With indicator



Dimensions (mm)

Model	W
LVA20	70.5
LVA30	92.5
LVA40	110.5
LVA50	147
LVA60	156

Dimensions (mm)

Model	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R	U
LVA2□	30	36	61	44	14.5	35	13	4	20	37	3.5	30	Rc 1/4 NPT 1/4	—	M5 x 0.8	M3 x 0.5
LVA3□	36	47	81.5	56	19	45.5	17.5	7.5	34	46	5.5	41.5	Rc 3/8 NPT 3/8	—	Rc 1/8 NPT 1/8	Rc 1/8 NPT 1/8
LVA4□	46	60	96	68	22	55	18	8	42	57	5.5	48	Rc 1/2 NPT 1/2	—		
LVA5□	58	75	129	84	26	68	27.5	8	56	71	6.5	62	Rc 3/4 NPT 3/4	—		
LVA6□	58	75	138	84	32	77	27.5	8	56	71	6.5	71	Rc 1 NPT 1	117		

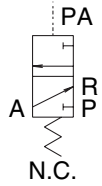
Series LVA
3 Port

Standard Specifications

Model		LVA200
Orifice diameter		ø4
Port size		1/4
Flow characteristics	Av x 10^{-6}m²	7.2
	Cv	0.3
Withstand pressure (MPa)		1
Operating pressure (MPa)		0 to 0.5
Valve leakage (cm³/min)		0 (with water pressure)
Pilot air pressure (MPa)		0.4 to 0.5
Pilot port size		M5 x 0.8
Fluid temperature (°C)		0 to 100
Ambient temperature (°C)		0 to 60
Weight (kg)		0.162

How to Order Valve

LVA 2 0 0 – 02 □ – C



Body class

Symbol	Body class	Orifice dia.
2	2	ø4

Valve type

0	N.C

Port size

Symbol	Port size
02	1/4

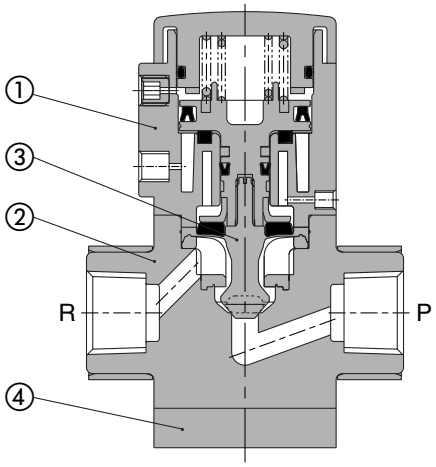
Thread type

Symbol	Thread type
Nil	Rc
N	NPT

Material

Symbol	Body	Actuator section	Diaphragm
C	PFA	PPS	PTFE

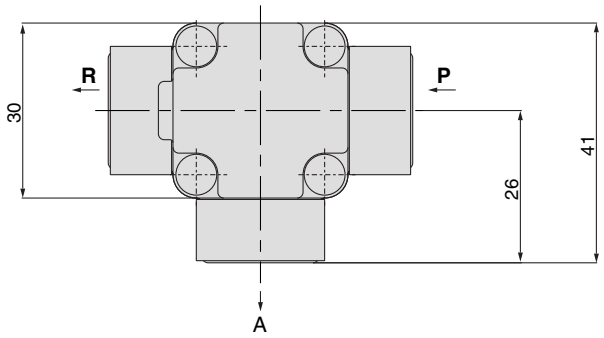
Construction

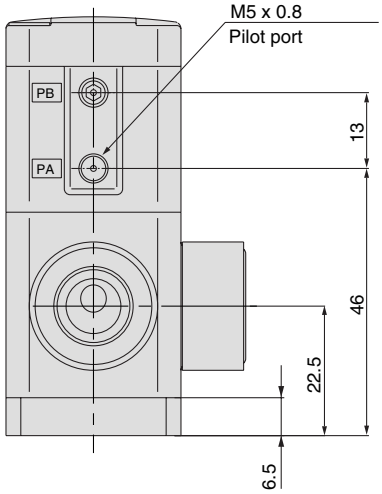


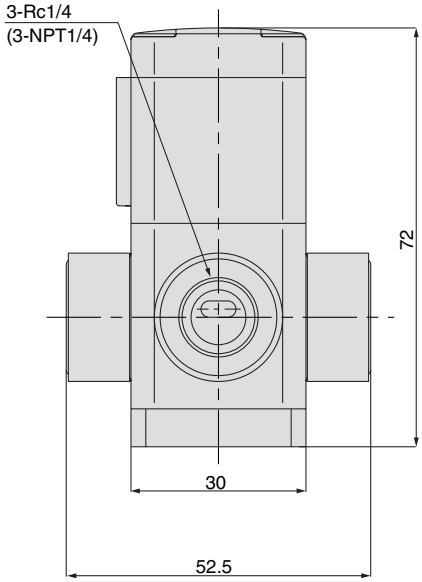
Parts list

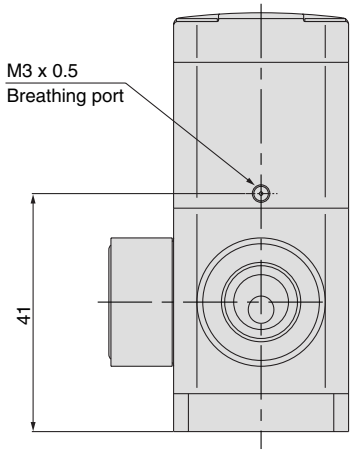
No.	Description	Material
1	**Actuator section**	PPS
2	**Body**	PFA
3	**Diaphragm**	PTFE
4	**End plate**	Stainless steel

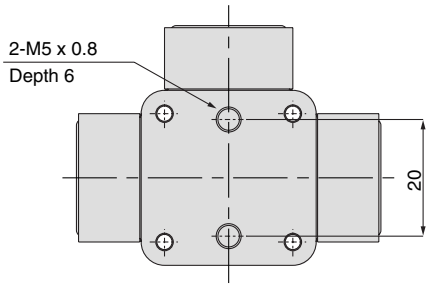
Dimensions


R
P
30
41
26
A


M5 x 0.8
Pilot port
PB
PA
13
46
22.5
6.5


3-Rc1/4
(3-NPT1/4)
72
30
52.5


M3 x 0.5
Breathing port
41


2-M5 x 0.8
Depth 6
20