

ATEX Compliant

High Purity Chemical Valve Series 55-LVA



55-LVA10 and 55-LVA12
II2G Ex h IIB T5..T4 Gb
0°C ≤ Ta ≤ +60°C

55-LVA2□, 55-LVA3□, 55-LVA4□, 55-LVA5□,
55-LVA6□ and 55-LVA200
II2D Ex h IIB T85..T125°C Db
0°C ≤ Ta ≤ +60°C

Note) The manifold type is not available with ATEX certification

How to Order Valves (Single Type)

55-LVA 2 0 - 02 - A

Body class

Symbol	Body class	Orifice diam.
1	1	Ø 2
2	2	Ø 4
3	3	Ø 8
4	4	Ø 12
5	5	Ø 20
6	6	Ø 22

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	
03	3/8	3
03	3/8	
04	1/2	4
04	1/2	
06	3/4	5
06	3/4	
10	1	6

Option

-	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				Note
				1	2	3	4	
A	SUS	PPS	PTFE	●			●	—
B	PPS	PPS	PTFE	●			●	Except 55-LVA50/60
C	PFA	PPS	PTFE	●	●	●	●	Except 55-LVA10/50/60
D	SUS	PPS	NBR	●			●	Except 55-LVA60
E	SUS	PPS	EPR	●			●	Except 55-LVA60
F	PFA	PVDF	PTFE					Hydrofluoric acid compatible (Only 55-LVA40)
G	PPS	PPS	NBR	●			●	Except 55-LVA50/60
H	PPS	PPS	EPR	●			●	Except 55-LVA50/60
N	PFA	PPS	PTFE	●	●	●	●	Ammonium hydroxide compatible Except 55-LVA10/50/60

Specifications

Model		55-LVA10	55-LVA20	55-LVA30	55-LVA40	55-LVA50	55-LVA60
Fluid temperature (°C)	Temperature class T6	0 to 50					
	Temperature class TX	0 to 100					
Ambient temperature (°C)	Temperature class T6	0 to 50					
	Temperature class TX	0 to 60					

Thread type

Symbol	Thread type
-	Rc
N	NPT
F	G

Variations

Type	Symbol	Model	Orifice diameter		Port size		Body material (Note 1)		Valve type										
			55-LVA10	55-LVA20	55-LVA30	55-LVA40	55-LVA50	55-LVA60	55-LVA10	55-LVA20	55-LVA30	55-LVA40	55-LVA50	55-LVA60					
			Ø 2	Ø 4	Ø 8	Ø 12	Ø 20	Ø 22	1/8	1/4	1/8	1/4	1/4	3/8	3/8	1/2	1/2	3/4	1
Basic type		N.C.	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			N.O.	—	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○
				Double acting	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
With flow rate adjustment		N.C.	—	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			Double acting	—	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○
With by-pass		N.C.	—	—	—	—	○	—	○	—	○	—	○	—	○	—	○		
			Double acting	—	—	—	—	○	—	○	—	○	—	○	—	○	—	○	
With flow rate adjustment & by-pass		N.C.	—	—	—	—	○	—	○	—	○	—	○	—	○	—	○		
			Double acting	—	—	—	—	○	—	○	—	○	—	○	—	○	—	○	
With indicator		N.C.	—	—	○	○	○	○	○	○	○	○	○	○	○	○	○		

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

High Purity Chemical Valve *Series 55-LVA*

Standard Specifications



Basic type



With flow rate adjustment

Model	55-LVA10	55-LVA20	55-LVA30	55-LVA40	55-LVA50	55-LVA60	
Orifice diameter	Ø 2	Ø 4	Ø 8	Ø 12	Ø 20	Ø 22	
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	$Av \times 10^{-6} m^2$	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 [cm ³ /min]	0 (with water pressure)						
Pilot air pressure [MPa]	0.3 to 0.5						
Pilot port size	M5 X 0.8		Rc 1/8, NPT 1/8, G 1/8				
Fluid temperature [°C]	Temperature class T6	0 to 50					
	Temperature class TX	0 to 100 ^{Note 1)}					
Ambient temperature [°C]	Temperature class T6	0 to 50					
	Temperature class TX	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	—	—
	PFA	—	0.09	0.20	0.35	—	—

Note 1) 0 to 60 °C when the diaphragm is NBR or EPR.

Note 2) The N.O. type is not available for 55-LVA10.

Note 3) Contact SMC if the valve will be used with vacuum and B → A flow.

Piping

⚠ Caution

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

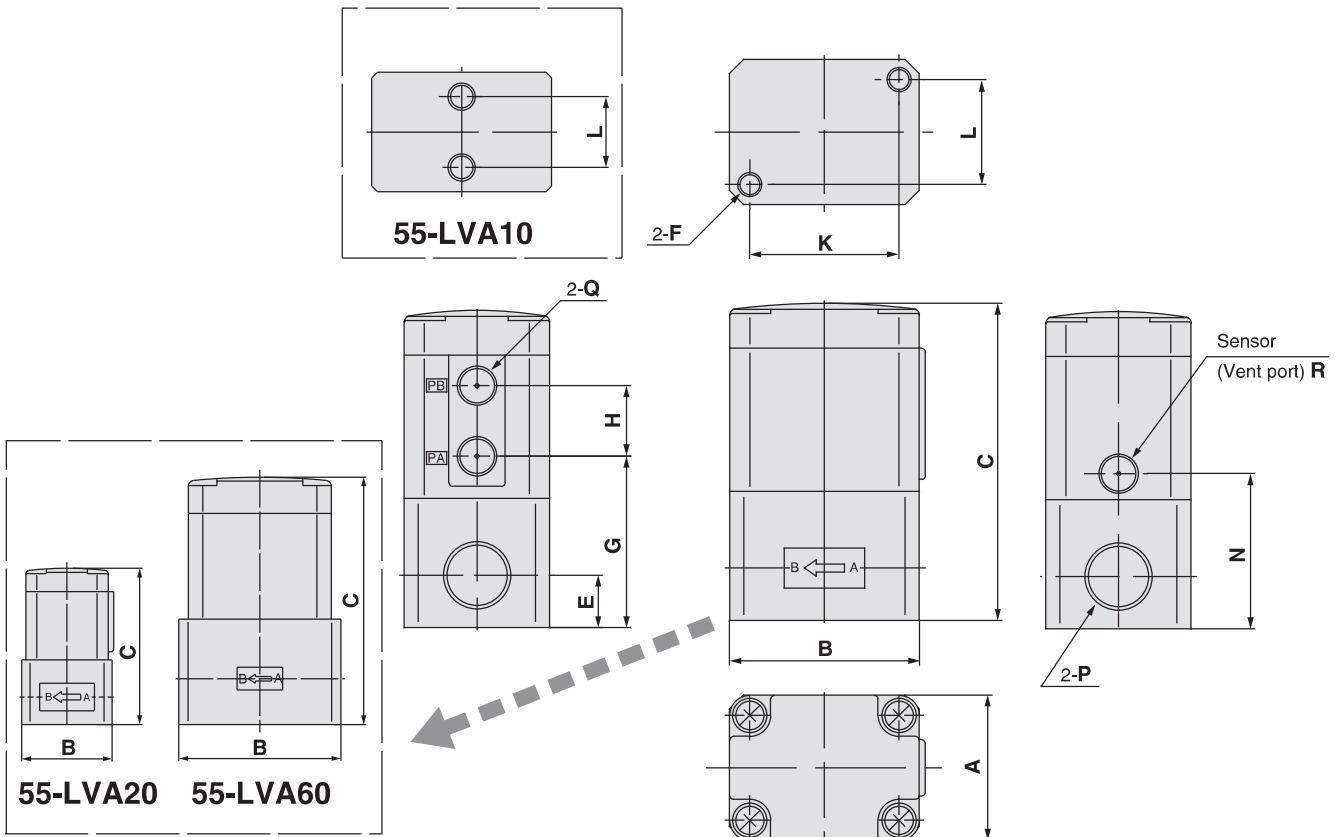
This can cause damage to the valve body.

Series 55-LVA

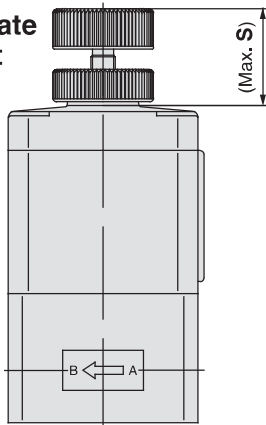
Dimensions

Body material: Stainless steel

Basic type



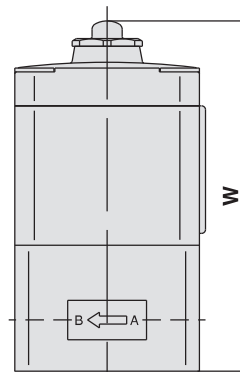
With flow rate adjustment



Dimensions (mm)

Model	S
55-LVA2□	14.5
55-LVA3□	24.4
55-LVA4□	29
55-LVA5□	34.5
55-LVA6□	36

With indicator



Dimensions (mm)

Model	W
55-LVA20	63.7
55-LVA30	89.1
55-LVA40	109.9
55-LVA50	140.5
55-LVA60	147.8

Dimensions

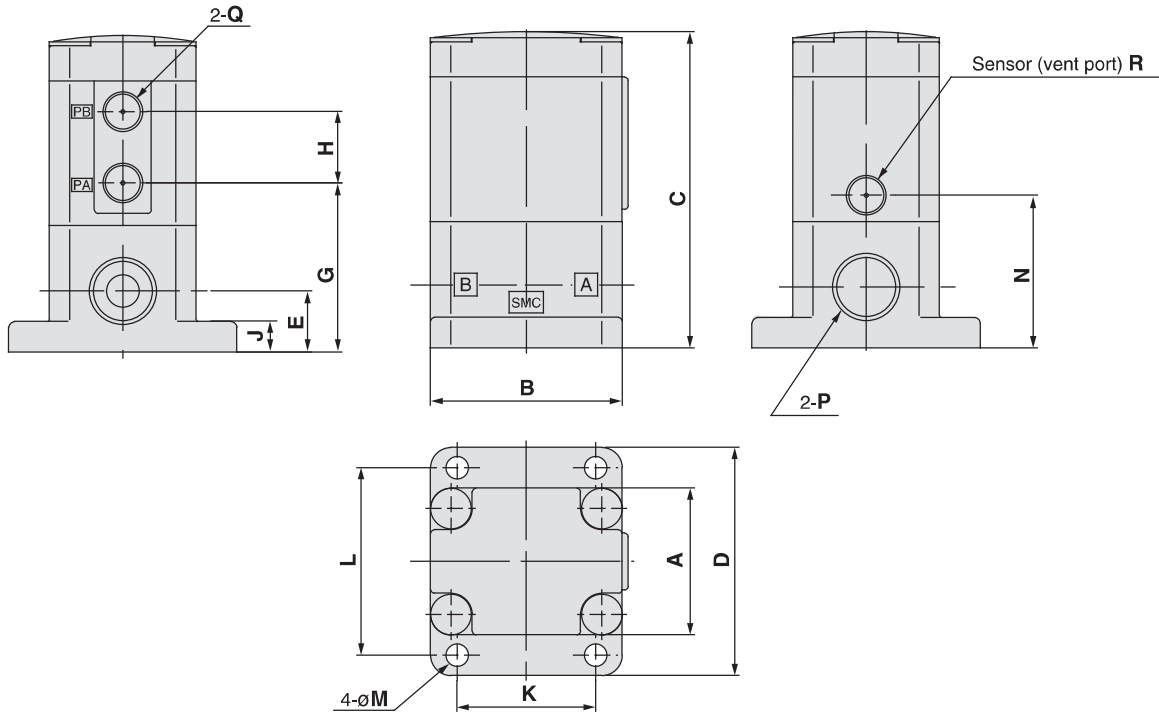
(mm)

Model	A	B	C	E	F	G	H	K	L	N	P	Q	R
55-LVA1□	20	33	49.5	10	M5 X 0.8 X 4	27.5	11	—	13	27.5	Rc 1/8, 1/4 NPT 1/8, 1/4 G 1/8, 1/4	M5 X 0.8	Ø 4.2
55-LVA2□	30	33	57	10	M X 0.8 X 5	31	13	22	22	26			M3 x 0.5
55-LVA3□	36	47	78.6	13	M6 X 1.0 X 8	42.5	17.5	37	26	38.5	Rc 1/4, 3/8 NPT 1/4, 3/8 G 1/4, 3/8		
55-LVA4□	46	60	95.4	16	M8 X 1.25 X 10	54.5	18	47.5	33.5	47.5	Rc 3/8, 1/2 NPT 3/8, 1/2 G 3/8, 1/2	Rc 1/8 NPT 1/8 G 1/8	Rc 1/8 NPT 1/8 G 1/8
55-LVA5□	58	75	122.5	19	M8 X 1.25 X 10	61.5	27.5	60	43	55.5	Rc 1/2, 3/4 NPT 1/2, 3/4 G 1/2, 3/4		
55-LVA6□	58	85	129.8	24	M8 X 1.25 X 10	69	27.5	60	43	62.8	Rc 1 NPT 1 G1		

Dimensions

Body material: PPS

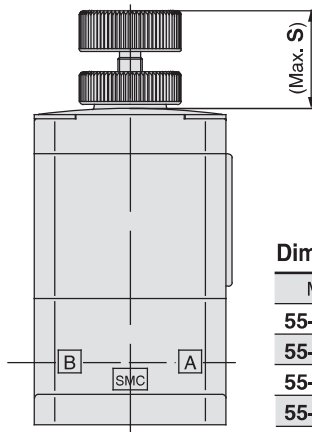
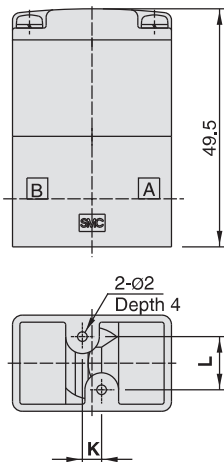
Basic type



55-LVA10

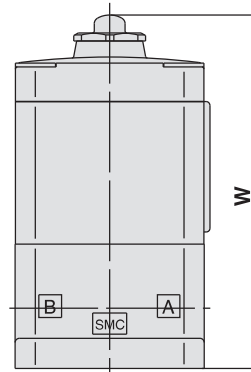
With flow rate adjustment

With indicator



Dimensions (mm)

Model	S
55-LVA2□	14.5
55-LVA3□	24.4
55-LVA4□	29
55-LVA5□	34.5



Dimensions (mm)

Model	W
55-LVA20	64.2
55-LVA30	88.1
55-LVA40	110.4
55-LVA50	147

Dimensions

(mm)

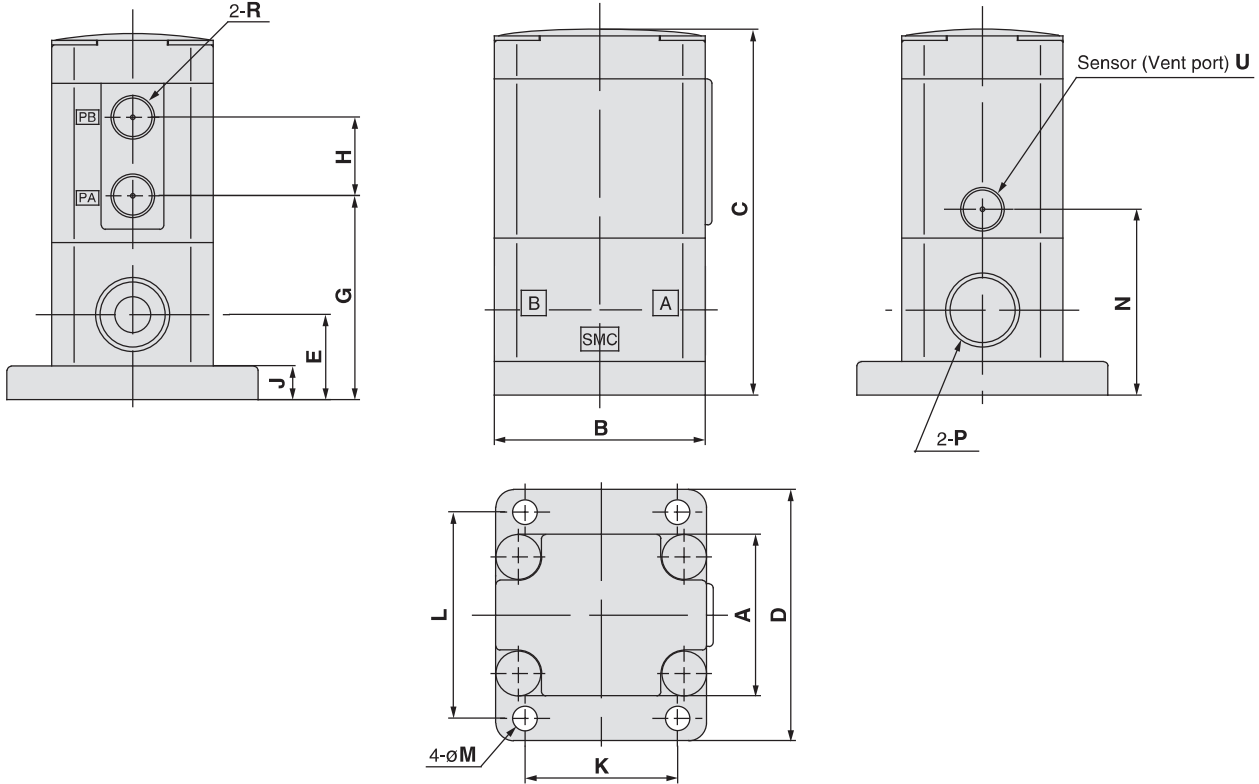
Model	A	B	C	D	E	G	H	J	K	L	M	N	O	P	Q	R
55-LVA1□	20	33	49.5	—	10	27.5	11	—	4	11	—	27.5	—	Rc 1/8, 1/4 NPT 1/8, 1/4 G 1/8, 1/4	M5 X 0.8	Ø 4.2
55-LVA20	30	36	54.7	44	11	32	—	4	20	37	3.5	27	14.8	Rc 1/4 NPT 1/4 G 1/4	Rc 1/8 NPT 1/8 G 1/8	Ø 2.4
55-LVA2 ₁ 2	30	36	57.5	44	11	31.5	13	4	20	37	3.5	26.5	—		M5 X 0.8	M3 X 0.5
55-LVA3□	36	47	77.6	56	15	41.5	17.5	7.5	34	46	5.5	37.5	—	Rc 3/8 NPT 3/8 G 3/8	Rc 1/8 NPT 1/8 G 1/8	Rc 1/8 NPT 1/8 G 1/8
55-LVA4□	46	60	95.9	68	22	55	18	8	42	57	5.5	48	—	Rc 1/2 NPT 1/2 G 1/2		
55-LVA5□	58	75	129	84	26	68	27.5	8	56	71	6.5	62	—	Rc 3/4 NPT 3/4 G 3/4		

Series 55-LVA

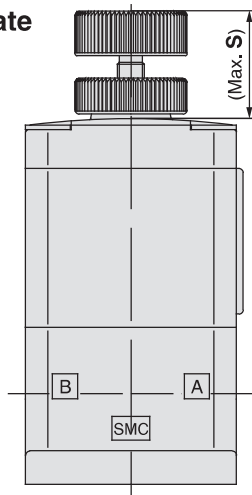
Dimensions

Body material: PFA

Basic type



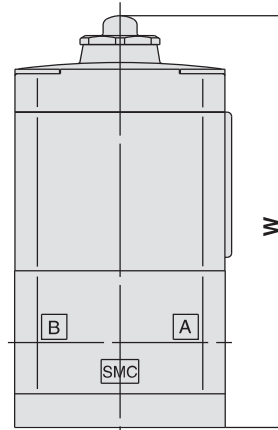
With flow rate adjustment



Dimensions (mm)

Model	S
55-LVA2□	14.5
55-LVA3□	24.4
55-LVA4□	29

With indicator



Dimensions (mm)

Model	W
55-LVA20	67.7
55-LVA30	92.1
55-LVA40	110.4

Dimensions

(mm)

Model	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R	U
55-LVA2□	30	36	61	44	14.5	35	13	4	20	37	3.5	30	Rc 1/4 NPT 1/4 G 1/4	—	M5 X 0.8	M3 X 0.5
55-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 G 3/8	—	Rc 1/8 NPT 1/8 G 1/8	Rc 1/8 NPT 1/8 G 1/8
55-LVA4□	46	60	95.9	68	22	55	18	8	42	57	5.5	48	Rc 1/2 NPT 1/2 G 1/2	—		

ATEX Compliant

Air Operated Type Series 55-LVA



55-LVA10 and 55-LVA12
II2G Ex h IIB T5..T4 Gb
0°C ≤ Ta ≤ +60°C

55-LVA2□, 55-LVA3□, 55-LVA4□, 55-LVA5□,
55-LVA6□ and 55-LVA200
II2G Ex h IIB T5..T4 Gb
II2D Ex h IIIB T85..T125°C Db
0°C ≤ Ta ≤ +60°C

Note) The manifold type is not available with ATEX certification

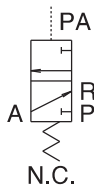


Standard Specifications

Model		55-LVA200
Orifice diameter		Ø 4
Port size		1/4
Flow characteristics	Av x 10 ⁻⁶ m ²	7.2
	Cv	0.3
Withstand pressure [MPa]		1
Operating pressure [MPa]		0 to 0.5
Valve leakage [cm ³ /min]		0 (with water pressure)
Pilot air pressure [MPa]		0.4 to 0.5
Pilot port size		M5 X 0.8
Max. operating frequency [Hz]		1.0
Fluid temperature [°C]	Temperature class T6	0 to +50
	Temperature class TX	0 to +100
Ambient temperature [°C]	Temperature class T6	0 to +50
	Temperature class TX	0 to +60
Weight [kg]		0.162

How to Order Valve

55-LVA 2 0 0 - 02 □ - C



Body class		
Symbol	Body class	Orifice dia.
2	2	Ø 4

Valve type	
0	N.C

Thread type	
Symbol	Thread type
-	Rc
N	NPT

Port size	
Symbol	Port size
02	1/4

Material

Symbol	Body	Actuator section	Diaphragm
C	PFA	PPS	PTFE

Series 55-LVA

Dimensions

