



Diaphragm cylinder valve

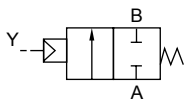
LAD Series

- NC, NO, double acting
- Port size: Rc3/8, Rc1/2, Rc3/4, Rc1
- Working fluid: Pure water, water, air, N₂ gas

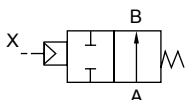


JIS symbol

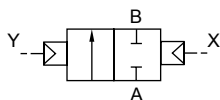
● NC



● NO



● Double acting



Common specifications (PTFE diaphragm)

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	LAD1	LAD2	LAD3
Actuation	NC	NO	Double acting
Working fluid	Water, pure water, air, N ₂ gas, non-corrosive/non-absorbable fluid (*1)		
Fluid temperature	°C 5 (41°F) to 90 (194°F) (*2)		
Proof pressure (water pressure)	MPa 0.9 (≈130 psi, 9 bar)		
Working pressure (A→B)	MPa 0 (≈0 psi, 0 bar) to 0.3 (≈44 psi, 3 bar)		
Valve seat leakage	cm ³ /min 0 (water pressure), 1 or less (pneumatic pressure)		
Back pressure	MPa 0 (≈0 psi, 0 bar) to 0.1 (≈15 psi, 1 bar)		
Ambient temperature	°C 0 (32°F) to 60 (140°F)		
Mounting orientation	Unrestricted		
Operating section	Pilot fluid	Air	
	Pilot pressure	MPa 0.3 (≈44 psi, 3 bar) to 0.5 (≈73 psi, 5 bar)	0.3 to 0.4
	Pilot port size	Rc1/8 (*3)	

*1 : Check the compatibility of product component materials, working fluids and atmosphere.

Strong acids and highly absorbable fluids cannot be used.

*2 : 5 to 100°C for stainless steel body (SCS13).

*3 : With stainless steel stiffening ring.

Individual specifications (PTFE diaphragm)

Item	Port size	Orifice size	Cv	Frequency	Weight	
Model No.		mm		cycle/min.	PPS body	SCS13 body
LAD*-10A	Rc3/8	8	1.7	30 or less	0.15	0.3
LAD*-15A	Rc1/2	12	3.3	20 or less	0.28	0.6
LAD*-20A	Rc3/4	20	8.5	20 or less	0.55	1.1
LAD*-25A	Rc1	20	8.5	20 or less	0.60	1.2

Common specifications (EPDM diaphragm)

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	LAD1	LAD2	LAD3
Actuation	NC	NO	Double acting
Working fluid	Water, air, N ₂ gas, non-corrosive/non-absorbable fluid (*1)		
Fluid temperature	°C 0 (32°F) to 60 (140°F) (no freezing)		
Proof pressure (water pressure)	MPa 1.5 (≈220 psi, 15 bar) (refer to the proof pressure in the individual specifications.)		
Working pressure (A→B)	MPa 0 (≈0 psi, 0 bar) to 0.5 (≈73 psi, 5 bar) (refer to the working pressure range in the individual specifications.)		
Valve seat leakage	cm ³ /min 0 (water pressure), 0.12 or less (pneumatic pressure)		
Back pressure	MPa 0 (≈0 psi, 0 bar) to 0.1 (≈15 psi, 1 bar)		
Ambient temperature	°C 0 (32°F) to 60 (140°F)		
Mounting orientation	Unrestricted		
Operating section	Pilot fluid	Air	
	Pilot pressure	MPa 0.3 (≈44 psi, 3 bar) to 0.5 (≈73 psi, 5 bar)	0.3 to 0.4
	Pilot port size	Rc1/8 (*2)	

*1 : Check the compatibility of product component materials, working fluids and atmosphere.

Strong acids and highly absorbable fluids cannot be used.

*2 : With stainless steel stiffening ring.

Individual specifications (EPDM diaphragm)

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	Port size	Proof pressure	Working	Orifice	Cv	Frequency	Weight	
Model No.		(water pressure) MPa	pressure (A→B) MPa	size mm		cycle/min.	PPS body	SCS13 body
LAD*-10A	Rc3/8	1.5	0.5	8	1.7	30 or less	0.15	0.3
LAD*-15A	Rc1/2	1.5	0.5	12	3.3	20 or less	0.28	0.6
LAD*-20A	Rc3/4	1.2	0.4	20	8.5	20 or less	0.55	1.1
LAD*-25A	Rc1	1.2	0.4	20	8.5	20 or less	0.60	1.2

How to order

LAD 1 - 15A - C B

Model No.

A Actuation

B Port size

C Material combination

D Other options

[Example of model No.]

LAD1-15A-CB

Model: Diaphragm cylinder valve LAD

- A** Actuation : NC
- B** Port size : Rc1/2
- C** Material combination : Body - PPS, diaphragm - PTFE
- D** Other options : With mounting plate

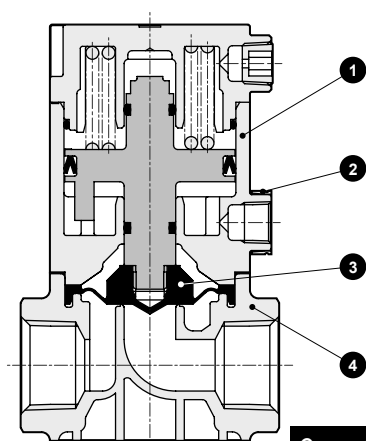
Code	Description	
A Actuation		
1	NC	
2	NO	
3	Double acting	
B Port size		
10A	Rc3/8	
15A	Rc1/2	
20A	Rc3/4	
25A	Rc1	
C Material combination		
	Body	Diaphragm
P	PPS	EPDM
C	PPS	PTFE
R	SCS13	EPDM
F	SCS13	PTFE
D Other options		
Blank	No option	
1	With flow rate adjustment	
B	Mounting plate	

*1 : To add both the flow rate adjustment and mounting plate,specify as "1B".

*2 : For the "indicator" option, contact CKD.

Internal structure and parts list

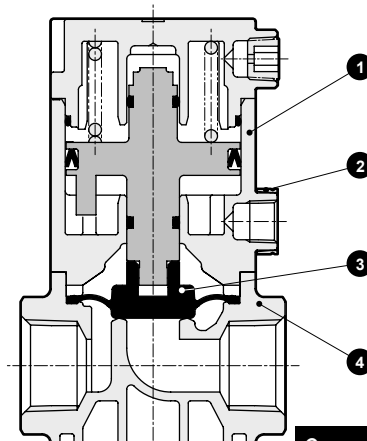
● PTFE diaphragm



No.	Part name	Material	
1	Actuator assembly	PPS	Polyphenylene sulfide
		FKM	Fluoro rubber
2	Reinforcement ring	SUS 304	Stainless steel
3	Diaphragm	PTFE	Tetrafluoroethylene resin
4	Body	PPS	Polyphenylene sulfide
		(SCS13)	(Stainless steel casting)

() shows options.

● EPDM diaphragm



No.	Part name	Material	
1	Actuator assembly	PPS	Polyphenylene sulfide
		FKM	Fluoro rubber
2	Reinforcement ring	SUS 304	Stainless steel
3	Diaphragm	EPDM,SUS303	Ethylene propylene rubber/stainless steel
4	Body	PPS	Polyphenylene sulfide
		(SCS13)	(Stainless steel casting)

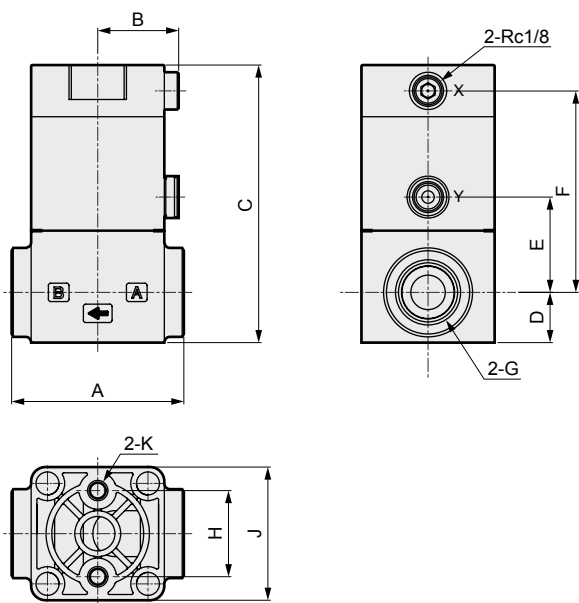
() shows options.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S&B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

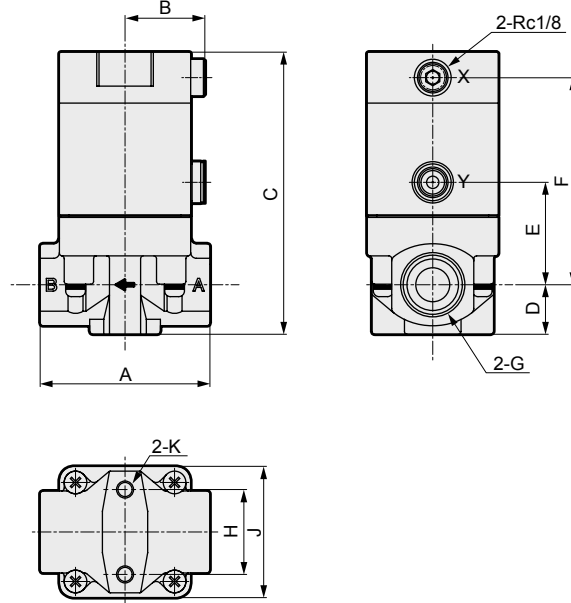
Dimensions



● PPS body



● Stainless steel body

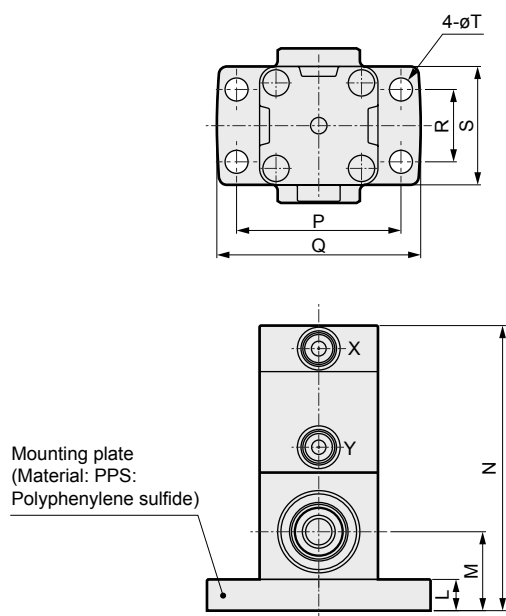


Model No.	A	B	C	D	E	F	G	H	J	K
LAD*-10A	47	23	77	14.5	25.5	55.5	Rc3/8	20	36	M5 depth 7
LAD*-15A	60	28	96.5	17.5	33	70	Rc1/2	30	46.5	M6 depth 8
LAD*-20A	75	35	114.5	22	40.5	83	Rc3/4	38	60	M6 depth 10
LAD*-25A	85	35	121.5	25.5	44	86.5	Rc1	38	60	M6 depth 10

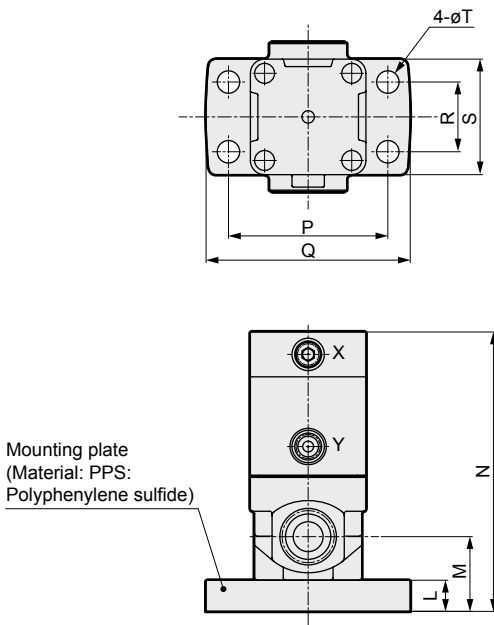
Model No.	A	B	C	D	E	F	G	H	J	K
LAD*-10A	47	23	80	14.5	28.5	58.5	Rc3/8	20	36	M5 depth 7
LAD*-15A	60	28	99.5	17.5	36	73	Rc1/2	30	46.5	M6 depth 8
LAD*-20A	75	35	117.5	22	43.5	86	Rc3/4	38	60	M6 depth 10
LAD*-25A	85	35	121.5	25.5	44	86.5	Rc1	38	60	M6 depth 10

Optional dimensions

● Mounting plate (PPS body)



● Mounting plate (stainless steel body)

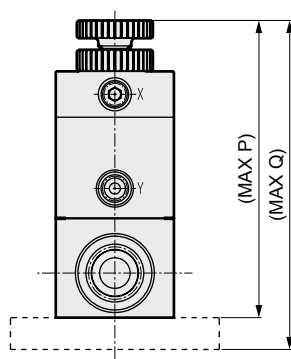


Model No.	L	M	N	P	Q	R	S	T
LAD*-10A	9.5	24	86.5	50	62	22	36	7
LAD*-15A	12.5	30	109	64	82	28	46.5	9
LAD*-20A	13	35	127.5	78	96	40	60	9
LAD*-25A	13	38.5	134.5	78	96	40	60	9

Model No.	L	M	N	P	Q	R	S	T
LAD*-10A	9.5	24	89.5	50	62	22	36	7
LAD*-15A	12.5	30	112	64	82	28	46.5	9
LAD*-20A	13	35	130.5	78	96	40	60	9
LAD*-25A	13	38.5	134.5	78	96	40	60	9

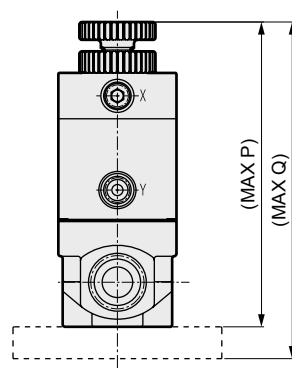
Optional dimensions

● With flow rate adjustment (PPS body)



Model No.	P no mounting plate	Q +mounting plate
LAD*-10A	102	111.5
LAD*-15A	120.5	133
LAD*-20A	145.5	158.5
LAD*-25A	152.5	165.5

● With flow rate adjustment (stainless steel body)

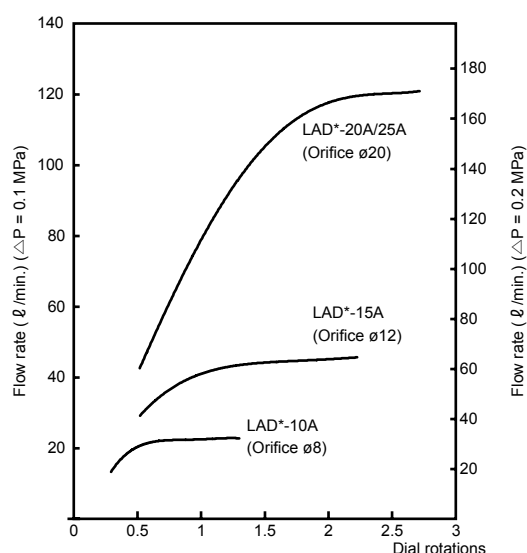


Model No.	P no mounting plate	Q +mounting plate
LAD*-10A	105	114.5
LAD*-15A	123.5	136
LAD*-20A	148.5	161.5
LAD*-25A	152.5	165.5

Flow characteristics

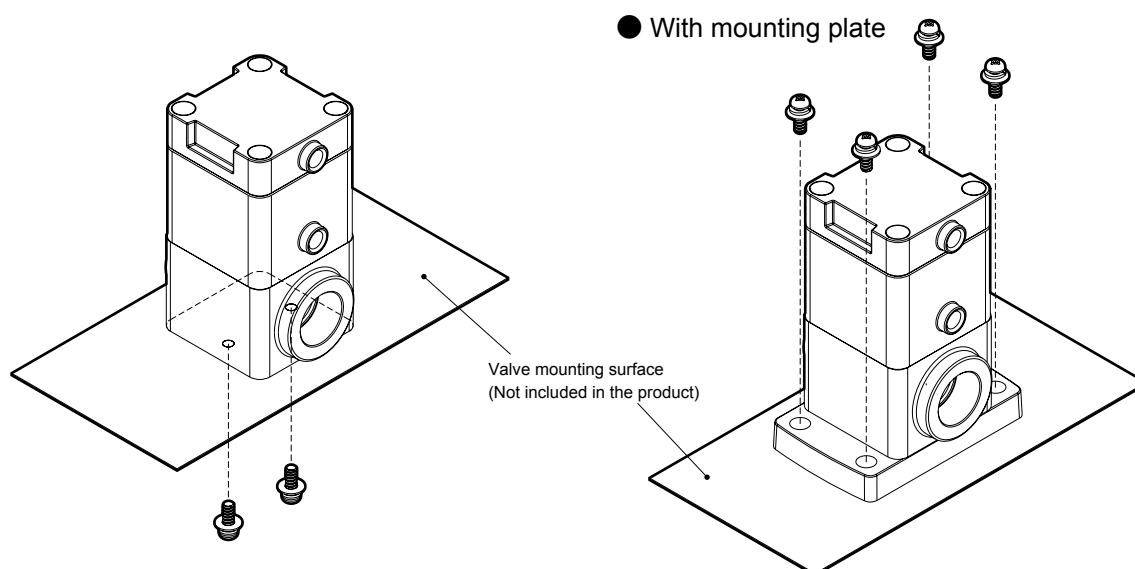
● With flow rate adjustment (water)

Rotations - flow rate



*1: During use, keep the adjusting dial open 1/4 or more rotation from the fully closed position for port size 10 A, and 1/2 or more rotation for other port sizes. If used below this level, vibration or flow rate fluctuation may occur depending on the working conditions.

Mounting of product (example)



*1 : Apply the recommended tightening torque (refer to the safety precautions).

*2 : Mounting screws are not included in the product.