

Pneumatic, Vacuum and Auxiliary Components
Catalog No. CB-024SA

Needle valve with adjusting dial, check valve

DVL-S-FP1 Series

● Port size: $\varnothing 4$, $\varnothing 6$, $\varnothing 8$, $\varnothing 10$, $\varnothing 12$

JIS symbol



DVL-S



Specifications

● Needle valve with adjusting dial, check valve DVL-S

Item	DVL-S-06				DVL-S-08		DVL-S-10				
	020		080		160		240		400		
Applicable tube bore	mm	$\varnothing 4$	$\varnothing 6$	$\varnothing 4$	$\varnothing 6$	$\varnothing 6$	$\varnothing 6$	$\varnothing 8$	$\varnothing 8$	$\varnothing 10$	$\varnothing 12$
Working fluid		Compressed air									
Max. working pressure	MPa	1.0									
Min. working pressure	MPa	0.1 (*3)									
Proof pressure	MPa	1.5									
Fluid temperature	$^{\circ}\text{C}$	5 to 60 (no freezing. *2)									
Ambient temperature	$^{\circ}\text{C}$	0 to 60 (no freezing)									
Weight	g	54	48	54	48	48	60	61	82	86	88
Needle control range		1 to 12 rotations					1 to 13 rotations				
Free flow	Flow rate L/min (ANR)	170	300	170	300	300	400	550	900	1100	1200
	Effective cross-sectional area mm^2	2.5	4.5	2.5	4.5	4.5	6	8	13.5	16.5	18
Controlled flow	Flow rate L/min (ANR)	18		80		160	240		440		
	Effective cross-sectional area mm^2	0.15		1.2		2.4	3.6		6.6		

*1: Flow rate is the atmospheric pressure conversion at 0.5 MPa.

*2: Freezing may occur due to adiabatic expansion depending on the air quality (dew point).

*3: Evacuating up to -100 kPa is possible only in the direction of free flow. (Needle control is not available)

For dimensions, refer to the DVL Series in "Pneumatic, Vacuum and Auxiliary components (CB-024SA)".

How to order

DVL - **S** - **06** - **H66** - **020** - **FP1**

Model No.

A Control method

B Body size

C Applicable tube bore

D Flow rate

Refer to the table below for the body size, compatible tube O.D. and flow rate combination.

Code	Description
A Control method	
S	Check valve
B Body size	
06	1/8 thread equivalent
08	1/4 thread equivalent
10	3/8 thread equivalent
C Applicable tube bore	
H44	ø4
H66	ø6
H88	ø8
H1010	ø10
H1212	ø12
D Flow rate *1	
020	18 L/min (ANR)
080	80 L/min (ANR)
160	160 L/min (ANR)
240	240 L/min (ANR)
400	440 L/min (ANR)

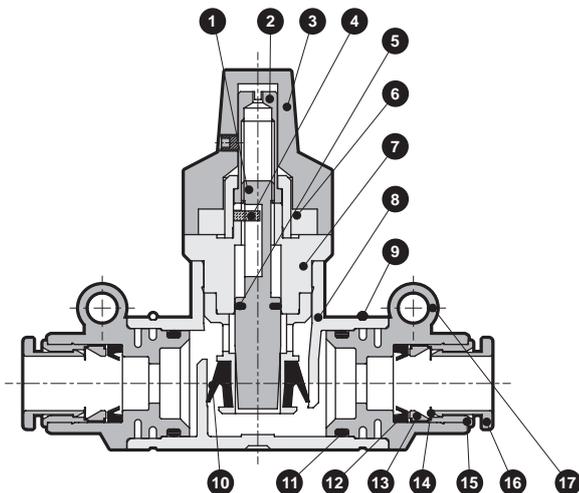
⚠ Precautions for model No. selection

*1: The flow rate is the guide value at 0.5 MPa.

Combination of body size, compatible tube O.D., and flow rate

	B Body size						
	06		08		10		
C Applicable tube bore	H44	H66	H66	H88	H88	H1010	H1212
D Flow rate							
020	●	●					
080	●	●					
160		●					
240			●	●			
400					●	●	●

Internal structure and parts list



Part No.	Part name	Material
1	Needle	Copper alloy
2	Rotary shaft	Copper alloy
3	Dial	Aluminum alloy, polyamide, etc.
4	Parallel pin	Stainless steel
5	O-ring	Nitrile rubber
6	Guide bush	Copper alloy
7	Check bracket	Copper alloy
8	Body	Polybutylene terephthalate
9	Stopper ring	Stainless steel
10	Check packing	Hydrogenated nitrile rubber
11	O-ring	Nitrile rubber
12	Packing	Nitrile rubber
13	Holder	Copper alloy or polyetherimide
14	Chuck	Stainless steel
15	Outer ring	Copper alloy
16	Push ring	Polybutylene terephthalate or polyacetal
17	Joint case	Polybutylene terephthalate

*1: All the copper alloy parts have electroless nickel plating.

*2: Some structures differ depending on the type. (No material changed)

FP1
Electric actuator
Pneumatic cylinders
Assistive device
Pneumatic valves
FRL/Auxiliary Components
Electronic Component
Vacuum components
Main line components
Fluid control valves
Main line components
Anti-bacterial/bacteria-removing filter
Vacuum components
Fluid control valves