

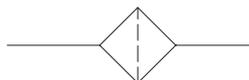
Vacuum filters VF series



- High vacuum (air) flow
- Flat type design
- Easy maintenance
 - Change only filter element
- Several port sizes available

Rp1/8, Rp1/4, Rc3/8

Symbol



How to order

VF - 3

Port size	
3	Rp1/8
5	Rp1/4
6	Rc3/8

Maintenance parts

● Element

Reference	Applicable part
VF-3E	VF-3
VF-5E	VF-5
VF-6E	VF-6

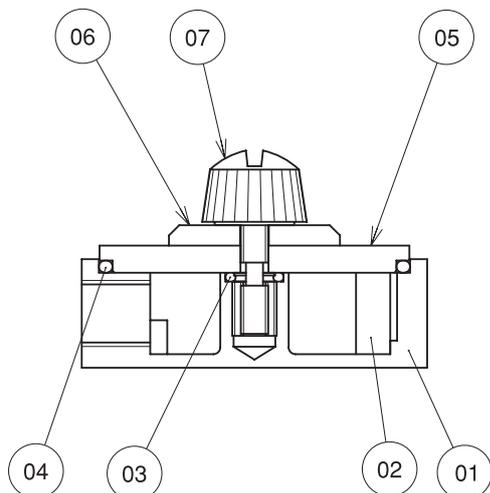
● Filter kit (cover and O-ring)

Model	Applicable part
VF-3K	VF-3
	VF-5
	VF-6

Specifications

Description	Unit	VF-3	VF-5	VF-6
Fluid		Non-lubricated air / non-corrosive gas		
Ambient temperature	°C	0 ~ 60		
Operating pressure range	kPa	-95.9 ~ 0		
Proof pressure	MPa	0.5		
Port size		Rp1/8	Rp1/4	Rc3/8
Filtration rate	µm	15		
Suitable ejector nozzle diameter	mm	less than φ1.0	less than φ1.5	less than φ2.0
Mass	g	90	150	235

Construction



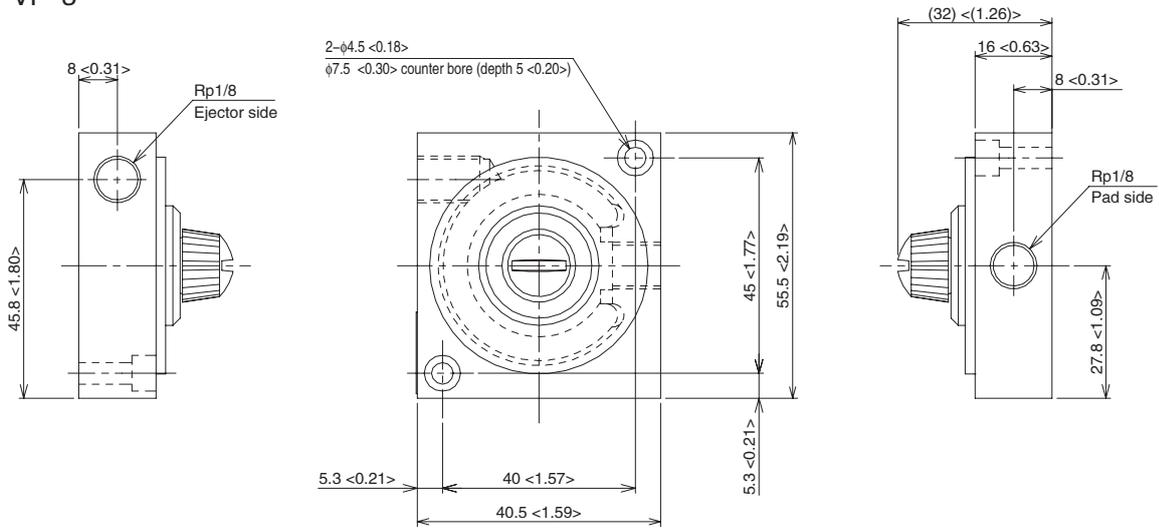
Main Parts

Parts	Part name	Material
1	Body	Aluminium
2	Element	PVF
3	O-ring	NBR
4	O-ring	NBR
5	Cover	PC
6	Cover ring	Iron
7	Screw	-

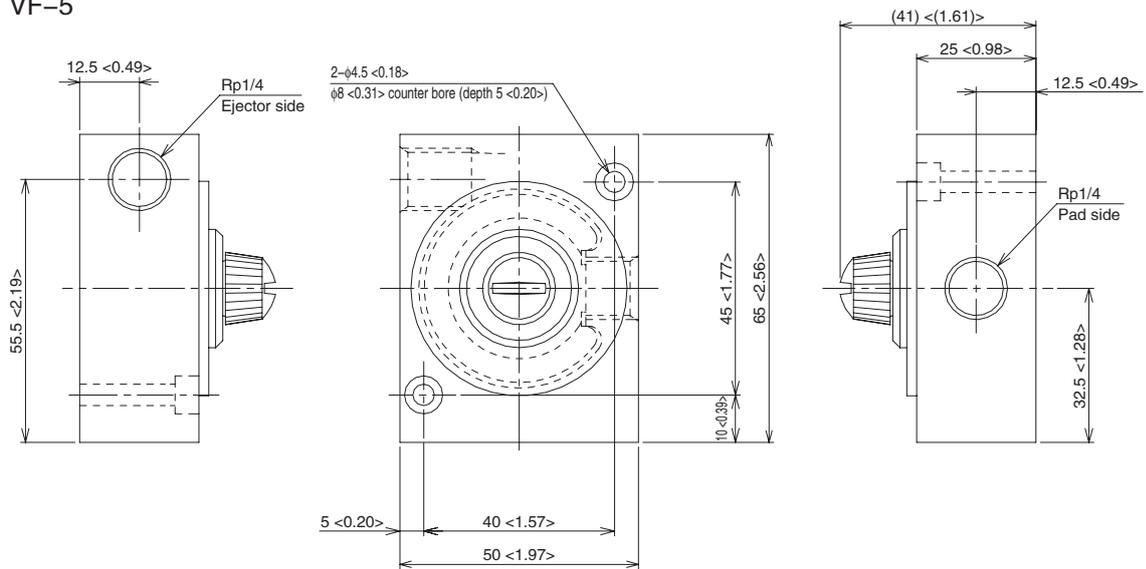
Dimensions

Unit : mm <inch>

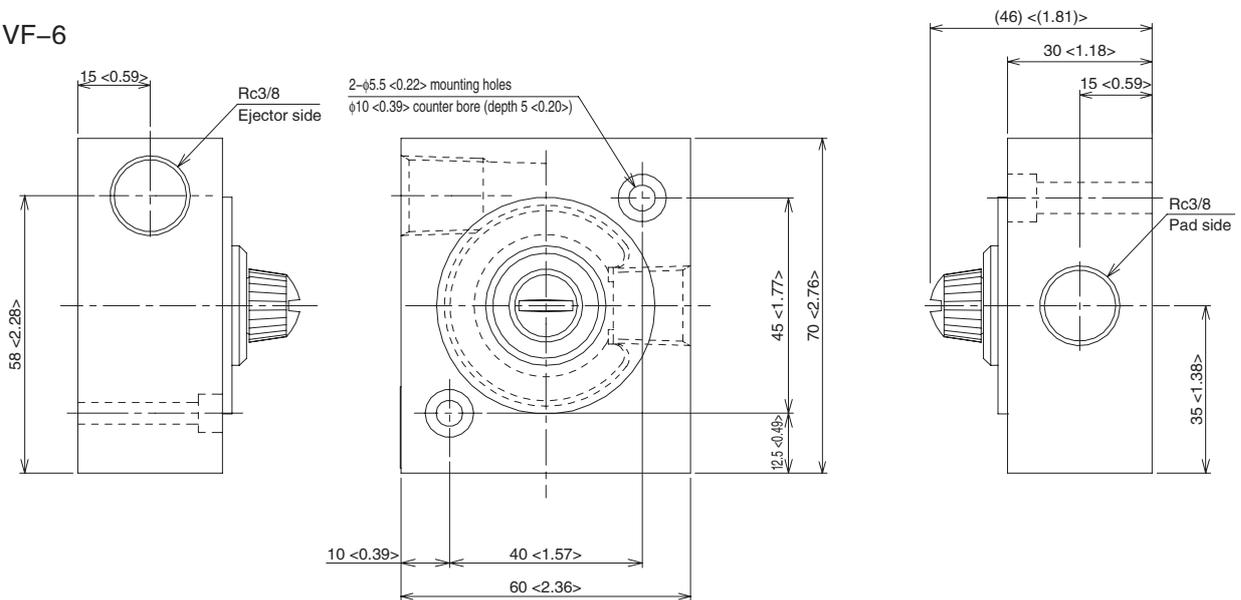
VF-3



VF-5



VF-6



Vacuum in-line filters with coupling VFL series



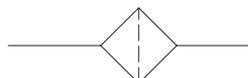
● Compact type, space savings

● Easy mounting

Push-in connection $\phi 4$, $\phi 6$

● Easy maintenance

Transparent case: easy checking



How to order

VFL - 44

Applicable tube	
44	$\phi 4$
66	$\phi 6$
88	$\phi 8$
1010	$\phi 10$

Maintenance parts

● Element

Reference	Applicable part
VFL-44E	VFL-44/66
VFL-88E	VFL-88/1010

● Filter kit (case, O-ring)

Reference	Applicable part
VFL-44K	VFL-44
VFL-66K	VFL-66
VFL-88K	VFL-88
VFL-1010K	VFL-1010

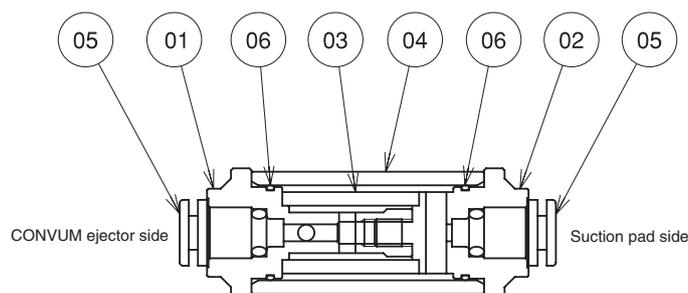
● Holder

Reference	Applicable part
VFL-46H	VFL-44/66
VFL-81H	VFL-88/1010

Specifications

Description	Unit	VFL-44	VFL-66	VFL-88	VFL-1010
Fluid		Non-lubricated air / non-corrosive gas			
Ambient temperature	$^{\circ}\text{C}$	0 ~ 60			
Operating pressure range	kPa	-95.9 ~ 0			
Proof pressure	MPa	0.5			
Port size	mm	$\phi 4$	$\phi 6$	$\phi 8$	$\phi 10$
Filtration rate	μm	15			
Suitable ejector nozzle diameter	mm	less than $\phi 1.0$	less than $\phi 1.5$	less than $\phi 2.0$	less than $\phi 2.0$
Mass	g	19	20	37	41

Construction

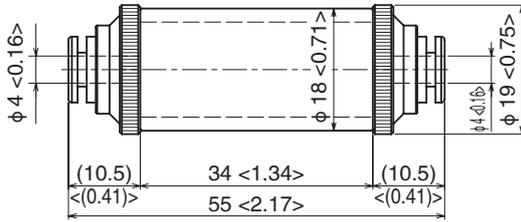


Parts	Part name	Material
1	Body A	Aluminium
2	Body B	Aluminium
3	Element	PVF
4	Case	PA
5	Connector	-
6	O-ring	NBR

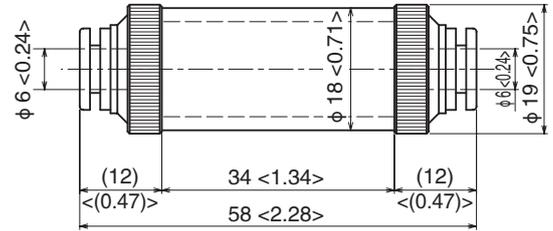
Dimensions

Unit : mm <inch>

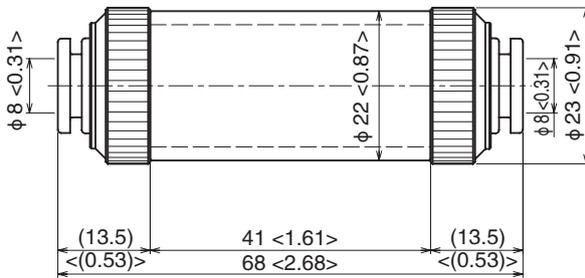
VFL-44



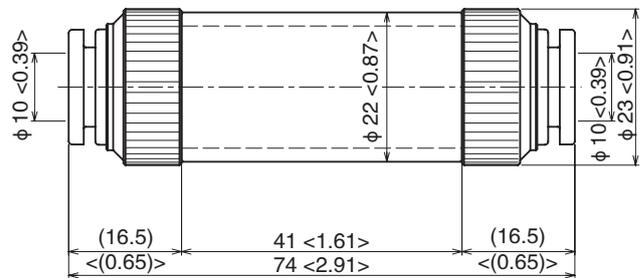
VFL-66



VFL-88

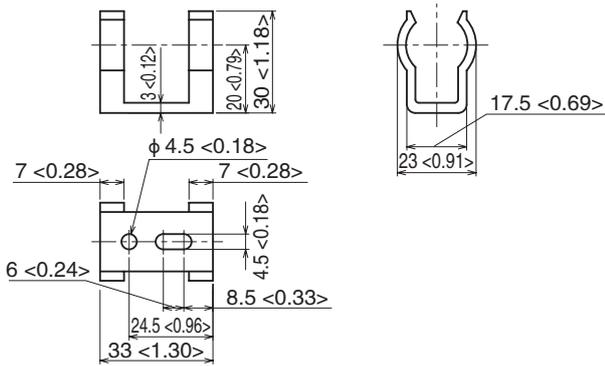


VFL-1010

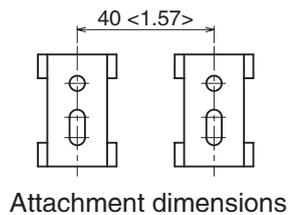
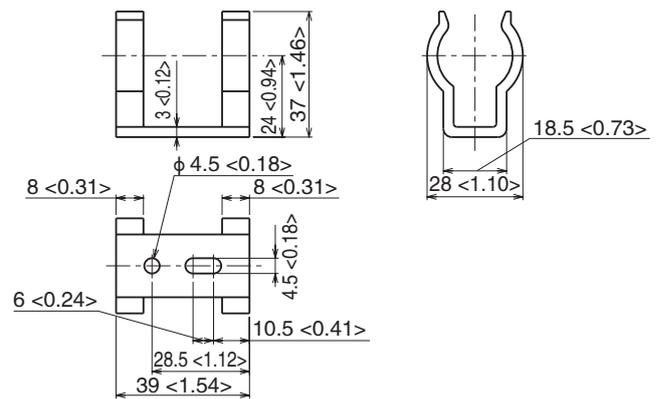


Holder

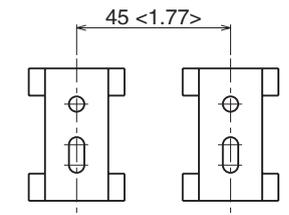
VFL-46H



VFL-81H



Attachment dimensions



Attachment dimensions

Miniature vacuum in-line filters

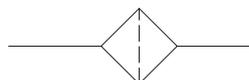
VFL-M5

- Compact type, space savings
- Easy maintenance



Transparent case: easy checking

Symbol



How to order

VFL - M5

Specifications

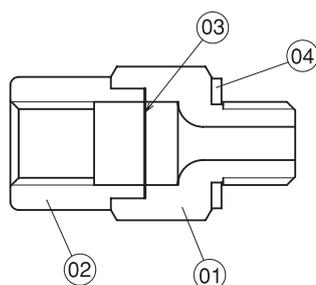
Description	Unit	VFL-M5
Fluid		Non-lubricated air / non-corrosive gas
Ambient temperature	°C	0 ~ 60
Operating pressure range	kPa	-91.8 ~ 0
Proof pressure	MPa	0.5
Port size		M5 x 0.8
Suitable ejector nozzle diameter	mm	φ1.0 or less
Filtration rate	μm	37
Mass	g	1



Caution - Safety instructions

- Fastening torque
Fastening with excessive torque may cause the filter break, because of its resin material.
Please attach with a maximum torque of 0.24N · m.
- Lateral load
Because of its resin material, filter may break in case of excessive lateral load.

Construction

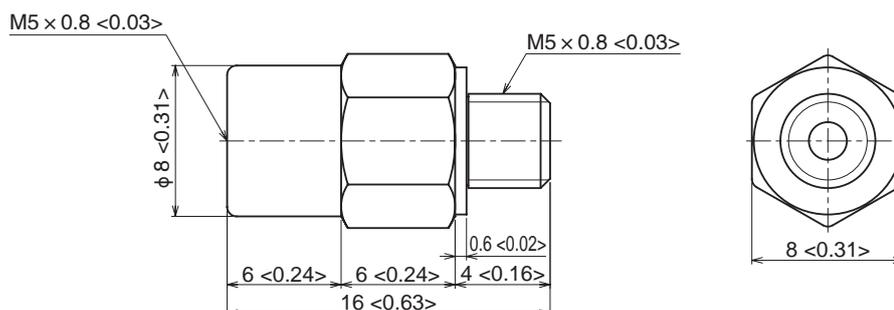


Main parts

Parts	Part name	Material
1	Body A	PA
2	Body B	PA
3	Element	PA
4	Gasket	-

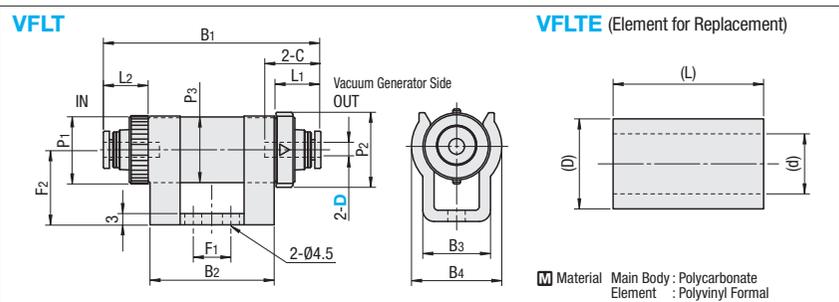
Dimensions

Unit : mm <inch>



Vacuum Filters

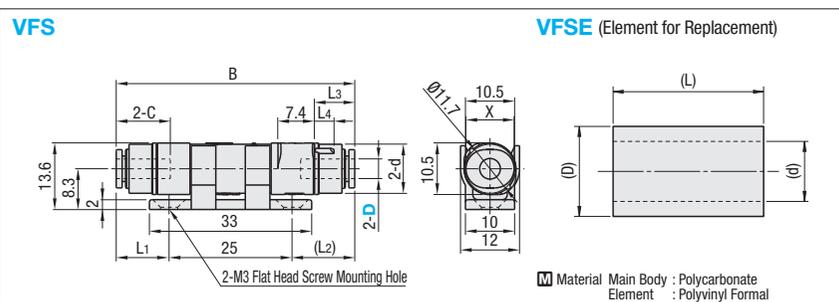
Vacuum Generators / Special Vacuum Filters / Fall Prevention Valves With Vacuum Release Function



Part Number Type	D	B1	B2	B3	B4	L1	L2	P1	P2	P3	C	F1	F2	Filtration Area (cm ²)	Mass (g)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
VFLT	4	58	33	18	24	11.9	11.9	18.2	20	17.5	14.9	10	20	7.5	18		
	6	60				13	13				16				19		

Part Number	(D)	(d)	(L)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
VFLTE	12	8	20		

Material Main Body : Polycarbonate
Element : Polyvinyl Formal



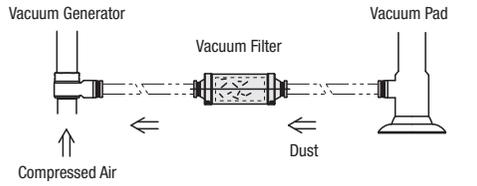
Part Number Type	D	B	C	L1	(L2)	L3	L4	d	X	Element Length	Filtration Area (cm ²)	Mass (g)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
VFS	4	48.5	11	10.8	12.7	8.2	4	10	9.8	15	2.8	5.1		
	6	53.4	11.6	13.2	15.2	10.6	4.5	10.5	11.8			6		

Part Number	(D)	(d)	(L)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
VFSE	6	4	15		

Material Main Body : Polycarbonate
Element : Polyvinyl Formal

Ordering Example
Part Number: VFS4

Example
Plumbing Example
Plumbing between Vacuum Generator and Vacuum Pad removes dusts entering from pad and protects Generator from failures.



Specifications

Applicable Fluid	Air
Operating Temperature Range	0-60°C
Operating Pressure Range	-100-0kPa
Filtration Accuracy	10µm

Element Replacement

How to Remove

- Turn plastic body B 45° counterclockwise*.
- Pull out plastic body B.

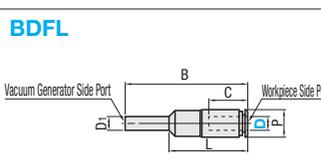
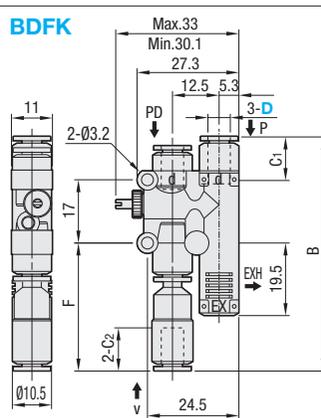
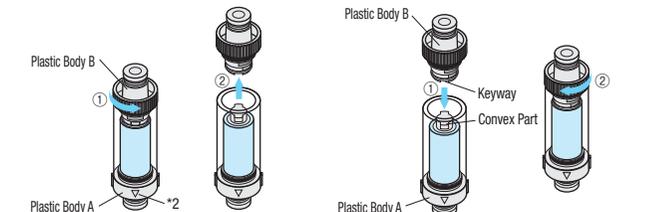
*Do not turn the plastic body B beyond 45°. It may damage the plastic body.

How to Lock

- Press-fit plastic body B completely to plastic body A. Be sure that the lug of plastic body A aligns with the key slot in plastic body B.
- Turn plastic body B 45° clockwise *1 to lock.

*1. Do not turn the plastic body B beyond 45°. It may damage the plastic body.

*2. Be sure that the vacuum generator is installed in the same direction as pointed by the △ mark. If installed reversely, the element inside will become dirty, making it impossible to know the proper time for maintenance.



Part Number Type	D	Suction Flow Rate (l/min (ANR)) Selection	B	F	C1	C2	Nozzle Dia. (mm)	Pressure Rating (MPa)	Ultimate Vacuum (-kPa)	Flow Consumption (l/min(ANR))	Mass (g)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
BDFK	4	7	59.7	34.1	10.9	11	0.5	0.5	90	11.5	20.5		
	6	12.5	62.9	34.4	11.7	11.6	0.7		92	23	21.5		

Part Number Type	Tube Outer Dia. D	Applicable Fitting Dia. D1	B	L	C	P	Mass (g)	Filtration Area (cm ²)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
BDFL	4	4	34.7	21.5	11.0	8.0	1.5	0.8		
	6	6	35.2	21.8	11.6	10.5	2.5	1.1		

Name of Parts / Material List

Body

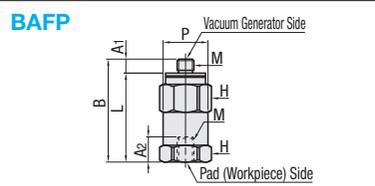
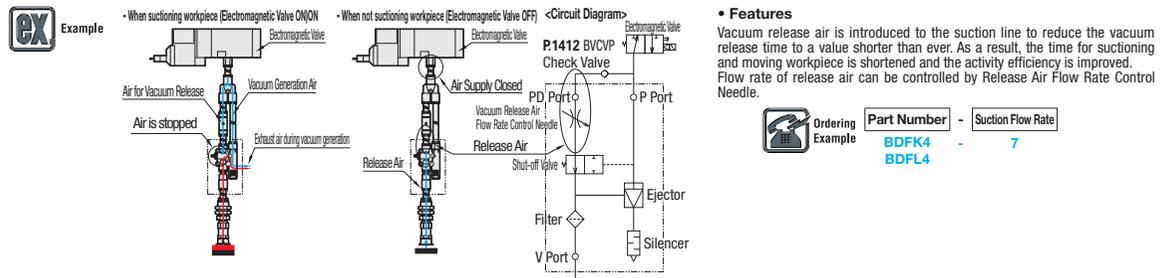
No.	Name of Parts	Material
①	End Plug	Brass, Electroless Nickel Plating
②	Upper Stopper	Brass, Electroless Nickel Plating
③	Release Needle	SUS303 Equivalent
④	Stopper 2	Brass, Electroless Nickel Plating
⑤	Sleeve	Brass, Electroless Nickel Plating
⑥	Nozzle Piston	Brass, Electroless Nickel Plating
⑦	Diffuser Spool	Brass, Electroless Nickel Plating
⑧	Resin Body	PBT Glass 15%
⑨	Spool Gasket	Nitrile Rubber (H-NBR)
⑩	Diffuser Spring	Stainless Steel
⑪	Silencer Element	Polyvinyl Formal (PVF)
⑫	Cartridge	-
⑬	Guide Ring	Brass, Electroless Nickel Plating
⑭	Elastic Sleeve	Nitrile Rubber (NBR)
⑮	Release Ring	Polyacetal (POM)
⑯	Y Gasket	Nitrile Rubber (NBR)
⑰	O-Rings	Nitrile Rubber (NBR)
⑱	Lock Nut	Aluminum Alloy
⑲	Spring Pin	Stainless Steel
⑳	Lock Pawl	Stainless Steel
㉑	Tubes	Urethane or Nylon

Vacuum Filter

No.	Name of Parts	Material
①	Resin Body	Polypropylene (PP)
②	Lock Pawl	Stainless Steel
③	Guide Ring	Brass, Electroless Nickel Plating
④	Release Ring	Polyacetal (POM)
⑤	Tubes	Urethane or Nylon
⑥	Elastic Sleeve	Nitrile Rubber (NBR)
⑦	Element Presser	Polyacetal (POM)
⑧	Filter Element	Polyvinyl Formal (PVF)

Applicable Fluid Air
Operating Pressure Range 0.3-0.7MPa
Operating Temperature Range 5-50°C
Lubrication Not Required

Applicable Fluid Air
Operating Pressure Range -100-0kPa
Filtration Accuracy 10µm
Operating Temperature Range 0-60°C
Filtration Area Joint Size 44: 0.8cm²
Joint Size 66: 1.1cm²



Part Number Type	No.	Thread Size	A1	A2	B	L	P	Width Across Suction Flow Rate (mm)	Valve Operation (l/min(ANR))	Non-attached Vacuum Decline Level (kPa)	Effective Sectional Area (mm ²)	Free Flow Control Flow (g)	Mass (g)	Unit Price (1-9 pc(s))	Volume Discount Rate (10-20)
BAFP	4	M4x0.7	3	4.5	19.9	16.9	10	10	5	2	1.63	0.09	7.9		
	6	M6x1.0	4	4.9	28.1	24.1	12	12	13	2	4.06	0.09	12.4		

Name of Parts

	M4	M6
Metal Body A	Stainless Steel	Brass, Electroless Nickel Plating
Metal Body B	Brass, Electroless Nickel Plating	Aluminum, Electroless Nickel Plating
Valve Body	Aluminum Alloy	
Stopper	Brass, Electroless Nickel Plating	
Spring	SUS304	
Filter	Polyvinyl Formal (PVF)	
O-Rings	Nitrile Rubber (NBR)	
Gasket	SUS304 + Nitrile Rubber (NBR)	

Description of Fall Prevention Valve

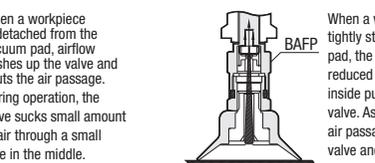
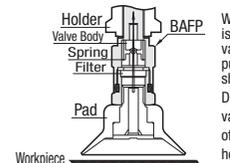
Fall Prevention Valve Operating Condition

When a workpiece is detached from the vacuum pad, airflow pushes up the valve and shuts the air passage. During operation, the valve sucks small amount of air through a small hole in the middle.

While Holding Workpiece

When a workpiece is tightly stuck to vacuum pad, the suction flow is reduced and the spring inside pushes down the valve. As the result, the air passage between the valve and body opens.

Ordering Example Part Number: BAFP4



Specifications

Applicable Fluid	Air
Operating Pressure Range	Positive Pressure: 0-0.7MPa Negative Pressure: 0-100kPa
Min. Operating Pressure	-7kPa
Operating Temperature Range	0-60°C