

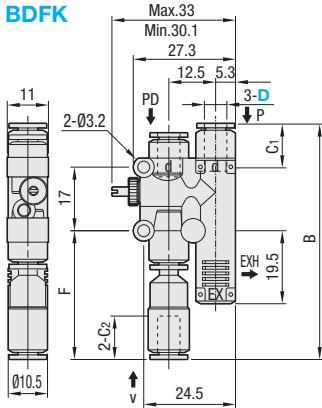
# Vacuum Generators / Special Vacuum Filters / Fall Prevention Valves

## With Vacuum Release Function

### Vacuum Generators with Vacuum Release Function

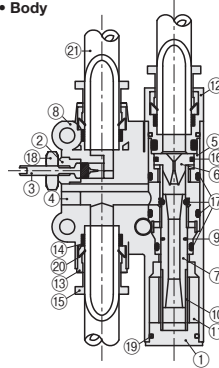


#### BDFK



### Name of Parts / Material List

#### • Body



See the following BDFL for construction of filter.

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

### Special Vacuum Filters

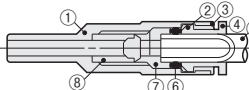


#### BDFL



RoHS 10

#### • Vacuum Filter



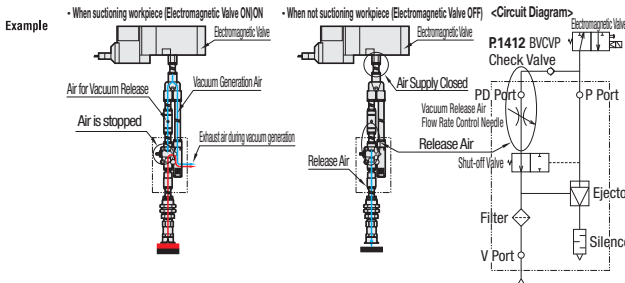
No.	Name of Parts	Material
①	Resin Body	Polypropylene (PP)
②	Lock Pawl	Stainless Steel
③	Guide Ring	Brass, Electroless Nickel Plating
④	Release Ring	Polyacetal (POM)
⑤	Tubes	Urethane or Nylon
⑥	Elastic Sleeve	Nitrile Rubber (NBR)
⑦	Element Presser	Polyacetal (POM)
⑧	Filter Element	Polyvinyl Formal (PVF)

Part Number	Suction Flow Rate	B	F	C <sub>1</sub>	C <sub>2</sub>	Nozzle Dia. (mm)	Pressure Rating (MPa)	Ultimate Vacuum (-kPa)	Flow Consumption (l/min(ANR))	Mass (g)	Unit Price	Volume Discount Rate
Type	D	7									1 - 9 pc(s).	10 ~ 20
BDFK	4	7	59.7	34.1	10.9	11	0.5	90	11.5	20.5		
	6	12.5	62.9	34.4	11.7	11.6	0.7	92	23	21.5		

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

Part Number	Applicable Fitting Dia. D <sub>1</sub>	B	L	C	P	Mass (g)	Filtration Area (cm <sup>2</sup> )	Unit Price	Volume Discount Rate
Type	Tube Outer Dia. D							1 - 9 pc(s).	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	

Applicable Fluid	Air
Operating Pressure Range	-100 ~ 0kPa
Filtration Accuracy	10µm
Operating Temperature Range	0 ~ 60°C
Filtration Area	Joint Size 44: 0.8cm <sup>2</sup> Joint Size 66: 1.1cm <sup>2</sup>



#### • Features

Vacuum release air is introduced to the suction line to reduce the vacuum release time to a value shorter than ever. As a result, the time for suctioning and moving workpiece is shortened and the activity efficiency is improved. Flow rate of release air can be controlled by Release Air Flow Rate Control Needle.



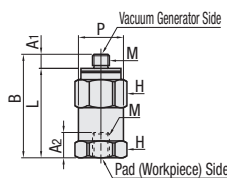
Ordering Example	Part Number	Suction Flow Rate
	BDFK4	7
	BDFL4	

### Fall Prevention Valves



RoHS 10

#### BAFF



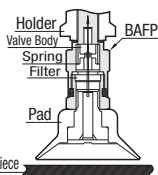
Name of Parts	M4	M6
Metal Body A	Stainless Steel	Brass, Electroless Nickel Plating
Metal Body B	Brass, Electroless Nickel Plating	Aluminum, Electroless Nickel Plating
Valve Body	Aluminum Alloy	
Stopper	Brass, Electroless Nickel Plating	
Spring	SUS304	
Filter	Polyvinyl Formal (PVF)	
O-Rings	Nitrile Rubber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

Part Number	Thread Size M	A <sub>1</sub>	A <sub>2</sub>	B	L	P	Width Across Suction	Valve Operation	Non-attached Suction Flow Rate	Non-attached Vacuum Decline Level (kPa)	Effective Sectional Area (mm <sup>2</sup> )	Mass (g)	Unit Price	Volume Discount Rate	
Type	No.						H	H	(l/min(ANR))		Free Flow Control Flow		1 - 9 pc(s).	10 ~ 20	
BAFF	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		

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

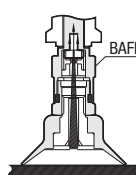
### Description of Fall Prevention Valve

#### - 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
	BAFF4