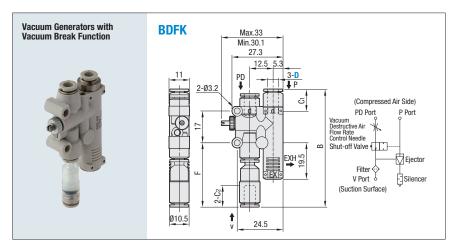
Vacuum Generators / Special Vacuum Filters

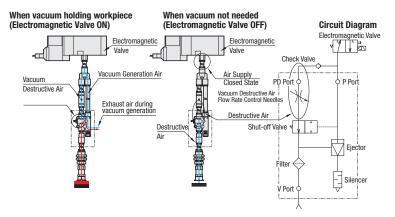
with Vacuum Break Function

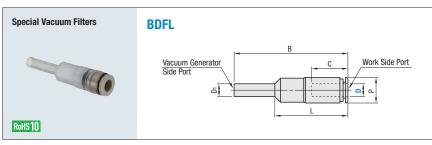


Part Num	ber	Suction Flow					Nozzle	Pressure	Ultimate Vacuum	Flow Consumption	Mass
Туре	D	Rate (ℓ/min (ANR))	В	F	C ₁	C ₂	Dia. (mm)	Rating (Mpa)	(-kPa)	(ℓ/min (ANR))	(g)
DDEN	4	7	59.7	34.1	10.9	11	0.5	0.5	90	11.5	20.5
BDFK	6	12.5	62.9	34.4	11.7	11.6	0.7	0.5	92	23	21.5

Features

Vacuum break air is introduced to the suction line to shorten vacuum destructive air time. Hence shorter time for suctioning and moving workpiece improves activity efficiency. Flow Rate of Break Air is controlled by Control Value.





Part Number Type Tube Outer Dia. D D		Applicable Fitting Dia.	В		C	В	Mass	Filtration Area
		D ₁	В	L	· ·	r	(g)	(cm²)
DDEI	4	4	34.7	21.5	11.0	8.0	1.5	0.8
BDFL	6	6	35.2	21.8	11.6	10.5	2.5	1.1







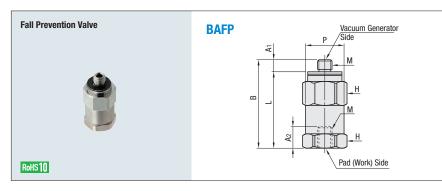
Application Example Name of Parts / Material List See the following BDFL for construction of filter.

No.	Name of Parts	Material
(1)	End Plug	Brass, Electroless Nickel Plating
(2)	Upper Stopper	Brass, Electroless Nickel Plating
(3)	Break Needle	303 Stainless Steel or 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 Polybutylene Terephthalate Glass 15%
(9)	Spool Gasket	Nitrile Rubber (H-NBR Nitrile Rubber)
(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 Nitrile Rubber)
(15)	Release Ring	Polyacetal (POM Polyoxymethylene)
(16)	Y Gasket	Nitrile Rubber (NBR Nitrile Rubber)
(17)	0-Ring	Nitrile Rubber (NBR Nitrile Rubber)
(18)	Lock Nut	Aluminum Alloy
(199	Spring Pins	Stainless Steel
(20)	Lock Pawl	Stainless Steel
(21)	Tube	Urethane or Nylon

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)	Tube	Urethane or Nylon		
(6)	Elastic Sleeve	Nitrile Rubber (NBR)		
(7)	Element Presser	Polyacetal (POM)		
(8)	Filter Element	Polyvinyl Formal (PVF)		

Operating Pressure Range	0.3-0.7 MPa			
Operating Temperature Range	5–50°C			
Lubrication	Not Required			
Applicable Fluid	Air			
Operating Pressure Range	-100-0 kPa			
Filtration Accuracy	10 μm			
Operating Temperature Range	0-60°C			
Filtration Area	Joint Size 44: 0.8 cm ²			
Filuation Area	Joint Size 66: 1.1 cm ²			

Fall Prevention Valve



Part Number		Thread Size A		^	В		D	Opposite Side	Valve Operation Suction Flow Rate	Non-attached Vacuum Decline Level		ve Sectional a (mm²)	Mass
Туре	No.	M	A ₁ A ₂	BL		H	(l/min (ANR))	(kPa)	Free Flow	Control Flow	(g)		
DAED	4	M4 x 0.7	3	4.5	19.9	16.9	10	10	5	2	1.63	0.09	7.9
BAFP	6	M6 x 1.0	4	4.9	28.1	24.1	12	12	13	2	4.06	0.09	12.4



Application Example

Specification

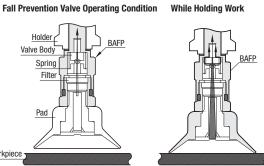
Applicable Fluid	Air
Onereting Pressure Penns	Positive Pressure: 0-0.7 MPa
Operating Pressure Range	Negative Pressure: 0100 kPa
Min. Operating Pressure	-7 kPa
Operating Temp. Range	0-60°C

Selecting Method

	M4	M6
Min. Valve Operation Suction Flow (ℓ/min (ANR))	5.0	13.0
Non-attached Vacuum Decline	2.0	2.0

Name of Parts	Material						
Name of Parts	M4	M6					
Metal Body A	Stainless Steel	Aluminum, Electroless Nickel Plating					
Metal Body B	Brass, Electroless Nickel Plating	Aluminum, Electroless Nickel Plating					
Valve Body	Aluminum Alloy						
Stopper	Brass, Electroless Nickel Plating						
Spring	304 Stainless Steel						
Filter	Polyvinyl Formal (PVF)						
0-Ring	Nitrile Rut	ober (NBR)					
Gasket	304 Stainless Steel+	-Nitrile Rubber (NBR)					

Description of Fall Prevention Valve

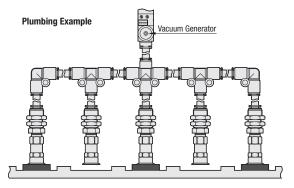


Vacuum Destruction

When a work is away 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.

When a work 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.



Prevents process stop problems by lowering vacuum decline levels on open pads due to missed pickups or absence of work pieces, when a single vacuum source is used for multiple pads. For adopting this system, the maximum number of open pads should be confirmed. If unsafe numeber of open pads is used, be sure to provide a safety measure.



