

## VB-M Series (Direct fitting bellows)

### Features and Strengths

Compensating for a difference in level  
Various materials for a wide range of applications

### Advantages

Particularly good for use on curved surfaces and for separating thin sheets of materials in stacks.  
The bellows cup is very good at compensating for a degree of difference in level and curvature of the work piece.  
Fitted directly onto a piece of pipe for making installation very simple and reducing cup cost.

### Application



### Examples of use

Cardboards, Veneer Sheets, Packaging Materials,  
Plastic Sheets, Thin Film Sheets



### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular			Page
		- 20 kPa	- 60 kPa	- 90 kPa	
VB20M	2.70	0.70	1.20	1.60	2
VB30M	10.00	1.50	2.60	3.90	4
VB50M	32.00	3.20	7.90	10.50	6

※ The lifting force above does not include safety factor

### Available size options

Model	Description
VB20M	Single-bellow suction cup Ø20
VB30M	Single-bellow suction cup Ø30
VB50M	Single-bellow suction cup Ø50

## VB20M

### Features and Strengths

Suitable for smaller objects  
Compensating for a difference in level  
Various materials for a wide range of applications

### Examples of use

Cardboards, Veneer Sheets, Packaging Materials,  
Plastic Sheets, Thin Film Sheets



### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
VB20M	2.70	0.70	1.20	1.60

※ The lifting force above does not include safety factor

### Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
Polyurethane	60	Translucent Orange	0-60

※ For additional material, see page 32-33

### Material Resistance

Description	Polyurethane
Wear Resistance	Excellent
Oil	Excellent
Weather / Ozone	Excellent
Alcohol	Fair
Acid	Fair

### Build an Ordering No.

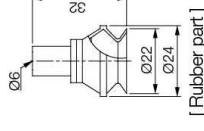


VB20M -

1. Suction Cup

1. Suction cup	Description	Weight (g)	Symbol
	Single-bellow suction cup, 20mm diameter, Polyurethane	3.53	VB20M-PU

[Unit: mm]



# SUCTION CUPS / Single Bellow & Direct Fitting

## VB30M

### Features and Strengths

Suitable for smaller objects  
Compensating for a difference in level  
Various materials for a wide range of applications

### Examples of use

Cardboards, Veneer Sheets, Packaging Materials,  
Plastic Sheets, Thin Film Sheets



### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
VB30M	10.00	1.50	2.60	3.90

\* The lifting force above does not include safety factor

### Material Specifications

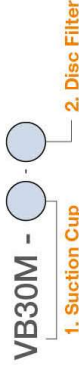
Material	Hardness Shore (°)	Color	Temperature (°C)
NBR	60	Black	-20~110
Silicone	55	Red	-70~200
White Silicone	55	Translucent White	-70~200
White Silicone (FDA)	55	Translucent White	-70~200
High temp. Silicone	50	Blue	-70~280
Conductive Silicone	70	Smoky Black	-45~90
Urethane	60	Dark Green	0~100
Mark Free	75	Black	-10~100
Polyurethane	60	Translucent Orange	0~60

\* For additional material, see page 32~33

### Material Resistance

Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent	Excellent	Fair	Good
Alcohol	Good	Good	Good	Good	Good	Fair	Good	Fair
Acid	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Excellent

### Build an Ordering No.



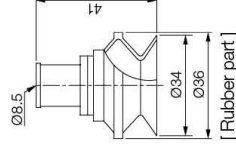
1. Suction cup	Description	Symbol
	Single-bellow suction cup, 30mm diameter, Nitrile (NBR)	VB30M-N
	Single-bellow suction cup, 30mm diameter, Silicone	VB30M-S
	Single-bellow suction cup, 30mm diameter, White silicone	VB30M-WS
	Single-bellow suction cup, 30mm diameter, White silicone (FDA)	VB30M-WS(FDA)
	Single-bellow suction cup, 30mm diameter, High temperature silicone	VB30M-HS
	Single-bellow suction cup, 30mm diameter, Conductive silicone	VB30M-CS
	Single-bellow suction cup, 30mm diameter, Urethane	VB30M-U
	Single-bellow suction cup, 30mm diameter, Mark free	VB30M-A
	Single-bellow suction cup, 30mm diameter, Polyurethane	VB30M-PU

2. Disc Filter	Description	Symbol
	No disc filter	Blank
	Disc filter, Polyethylene	F

### Spare Parts - Rubber Parts

Part No.	Description	Weight (g)	Color
VB30M-N	Single-bellow suction cup, 30mm diameter, Nitrile (NBR)	9.39	Black
VB30M-S	Single-bellow suction cup, 30mm diameter, Silicone	8.49	Red
VB30M-WS	Single-bellow suction cup, 30mm diameter, White silicone	8.69	Translucent White
VB30M-WS(FDA)	Single-bellow suction cup, 30mm diameter, White silicone (FDA)	8.69	Translucent White
VB30M-HS	Single-bellow suction cup, 30mm diameter, High temperature silicone	8.74	Blue
VB30M-CS	Single-bellow suction cup, 30mm diameter, Conductive silicone	8.75	Smoky Black
VB30M-U	Single-bellow suction cup, 30mm diameter, Urethane	9.29	Dark Green
VB30M-A	Single-bellow suction cup, 30mm diameter, Mark free	9.08	Black
VB30M-PU	Single-bellow suction cup, 30mm diameter, Polyurethane	8.81	Translucent Orange

[ Unit : mm ]



### Spare Parts - Disc Filter

Part No.	Description	Weight (g)
VTFE-B30	Disc filter, Polyethylene	0.63



# SUCTION CUPS / Single Bellow & Direct Fitting

## VB50M

### Features and Strengths

Suitable for smaller objects  
Compensating for a difference in level  
Various materials for a wide range of applications

### Examples of use

Cardboards, Veneer Sheets, Packaging Materials,  
Plastic Sheets, Thin Film Sheets



### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
VB50M	32.00	3.20	7.90	10.50

\* The lifting force above does not include safety factor

### Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR	60	Black	-20~110
Silicone	55	Red	-70~200
White Silicone	55	Translucent White	-70~200
White Silicone (FDA)	55	Translucent White	-70~200
High temp. Silicone	50	Blue	-70~280
Conductive Silicone	70	Smoky Black	-45~90
Urethane	60	Dark Green	0~100
Mark Free	75	Black	-10~100
Polyurethane	60	Translucent Orange	0~60

\* For additional material, see page 32~33

### Material Resistance

Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alcohol	Good	Good	Good	Good	Good	Fair	Good	Fair
Acid	Fair	Poor	Poor	Poor	Poor	Poor	Excellent	Fair

### Build an Ordering No.

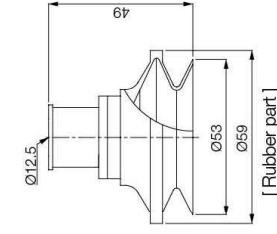


1. Suction cup	Description	Symbol
	Single-bellow suction cup, 50mm diameter, Nitrile (NBR)	VB50M-N
	Single-bellow suction cup, 50mm diameter, Silicone	VB50M-S
	Single-bellow suction cup, 50mm diameter, White silicone	VB50M-WS
	Single-bellow suction cup, 50mm diameter, White silicone (FDA)	VB50M-WS(FDA)
	Single-bellow suction cup, 50mm diameter, High temperature silicone	VB50M-HS
	Single-bellow suction cup, 50mm diameter, Conductive silicone	VB50M-CS
	Single-bellow suction cup, 50mm diameter, Urethane	VB50M-U
	Single-bellow suction cup, 50mm diameter, Mark free	VB50M-A
	Single-bellow suction cup, 50mm diameter, Polyurethane	VB50M-PU

2. Disc Filter	Description	Symbol
	No disc filter	Blank
	Disc filter, Polyethylene	F

### Spare Parts – Rubber Parts

Part No.	Description	Weight (g)	Color
VB50M-N	Single-bellow suction cup, 50mm diameter, Nitrile (NBR)	28.17	Black
VB50M-S	Single-bellow suction cup, 50mm diameter, Silicone	24.25	Red
VB50M-WS	Single-bellow suction cup, 50mm diameter, White silicone	24.03	Translucent White
VB50M-WS(FDA)	Single-bellow suction cup, 50mm diameter, White silicone (FDA)	24.03	Translucent White
VB50M-HS	Single-bellow suction cup, 50mm diameter, High temperature silicone	24.28	Blue
VB50M-CS	Single-bellow suction cup, 50mm diameter, Conductive silicone	24.30	Smoky Black
VB50M-U	Single-bellow suction cup, 50mm diameter, Urethane	27.36	Dark Green
VB50M-A	Single-bellow suction cup, 50mm diameter, Mark free	32.76	Black
VB50M-PU	Single-bellow suction cup, 50mm diameter, Polyurethane	25.57	Translucent Orange



[Unit: mm]

### Spare Parts – Disc Filter

Part No.	Description	Weight (g)
VTFE-B50	Disc filter, Polyethylene	1.64