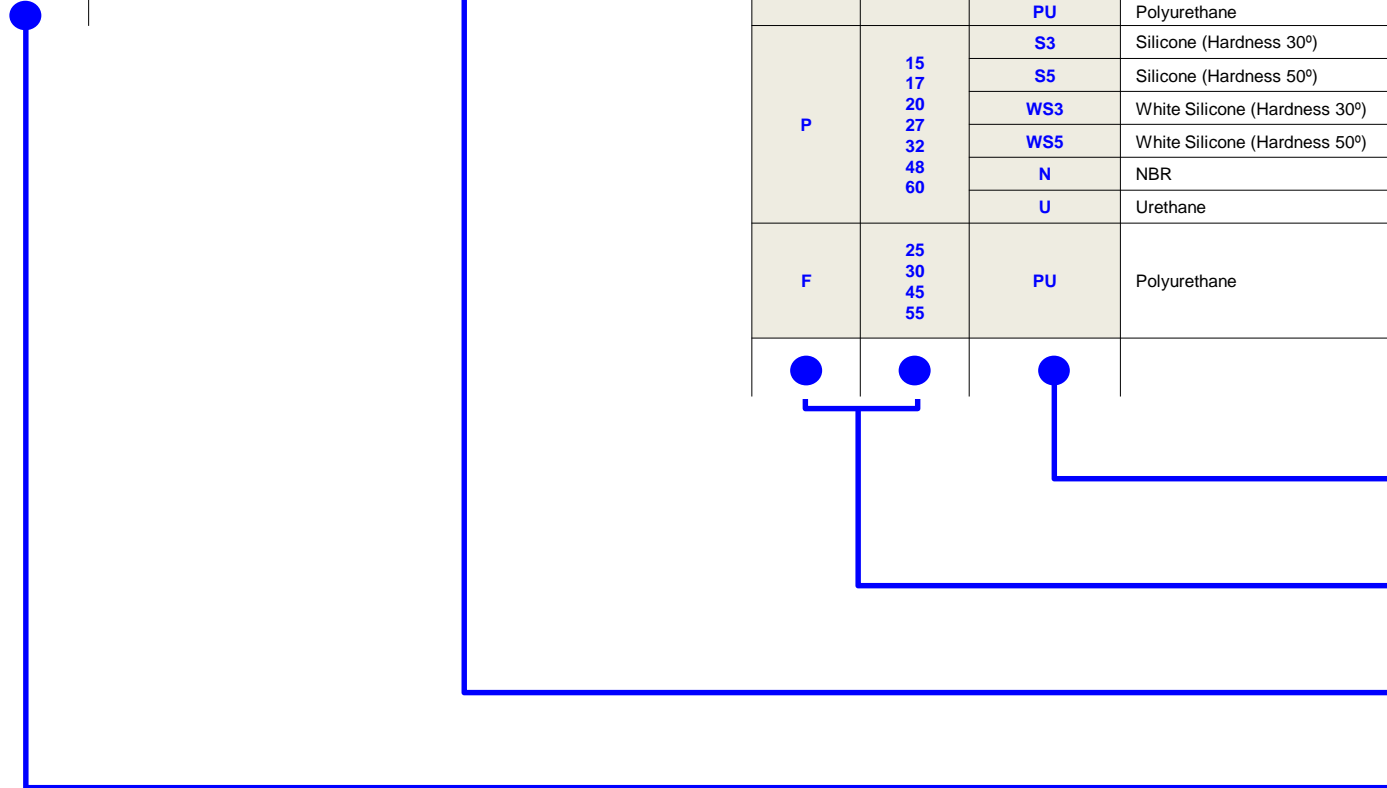




Model	Description	
	Top bellows	Middle bellows
<b>Bellows</b>		
<b>B 1.5</b>	1.5 folds	-
<b>B 2.5</b>	2.5 folds	-
<b>B 4.0</b>	1.5 folds	2.5 folds
<b>B 5.0</b>	1.5 folds	3.5 folds
<b>B 6.0</b>	2.5 folds	3.5 folds
<b>EB 1.5</b>	1.5 folds	-
<b>EB 4.0</b>	1.5 folds	2.5 folds
<b>EB 5.0</b>	1.5 folds	3.5 folds

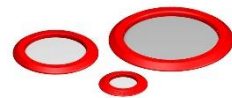
Model	Description
<b>Bellows size</b>	
<b>20</b>	For sealing lip 15Ø ~ 32Ø
<b>40</b>	For sealing lip 45Ø ~ 60Ø
<b>60</b>	For sealing lip 65Ø ~ 75Ø

Sealing lip	Model		Description
	Diameter	Material	
X	25 30 45 55 65 75	S3	Silicone (Hardness 30°)
		S5	Silicone (Hardness 50°)
		WS3	White Silicone (Hardness 30°)
		WS5	White Silicone (Hardness 50°)
		N	NBR
		U	Urethane
		PU	Polyurethane
U	25 30 45 55 65 75	S3	Silicone (Hardness 30°)
		S5	Silicone (Hardness 50°)
		WS3	White Silicone (Hardness 30°)
		WS5	White Silicone (Hardness 50°)
		N	NBR
		U	Urethane
		PU	Polyurethane
P	15 17 20 27 32 48 60	S3	Silicone (Hardness 30°)
		S5	Silicone (Hardness 50°)
		WS3	White Silicone (Hardness 30°)
		WS5	White Silicone (Hardness 50°)
		N	NBR
		U	Urethane
		PU	Polyurethane
F	25 30 45 55	PU	Polyurethane





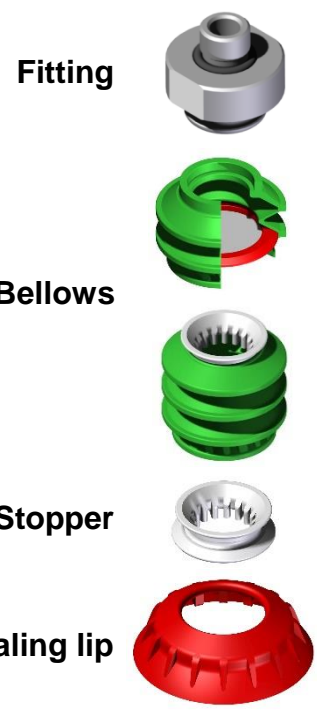
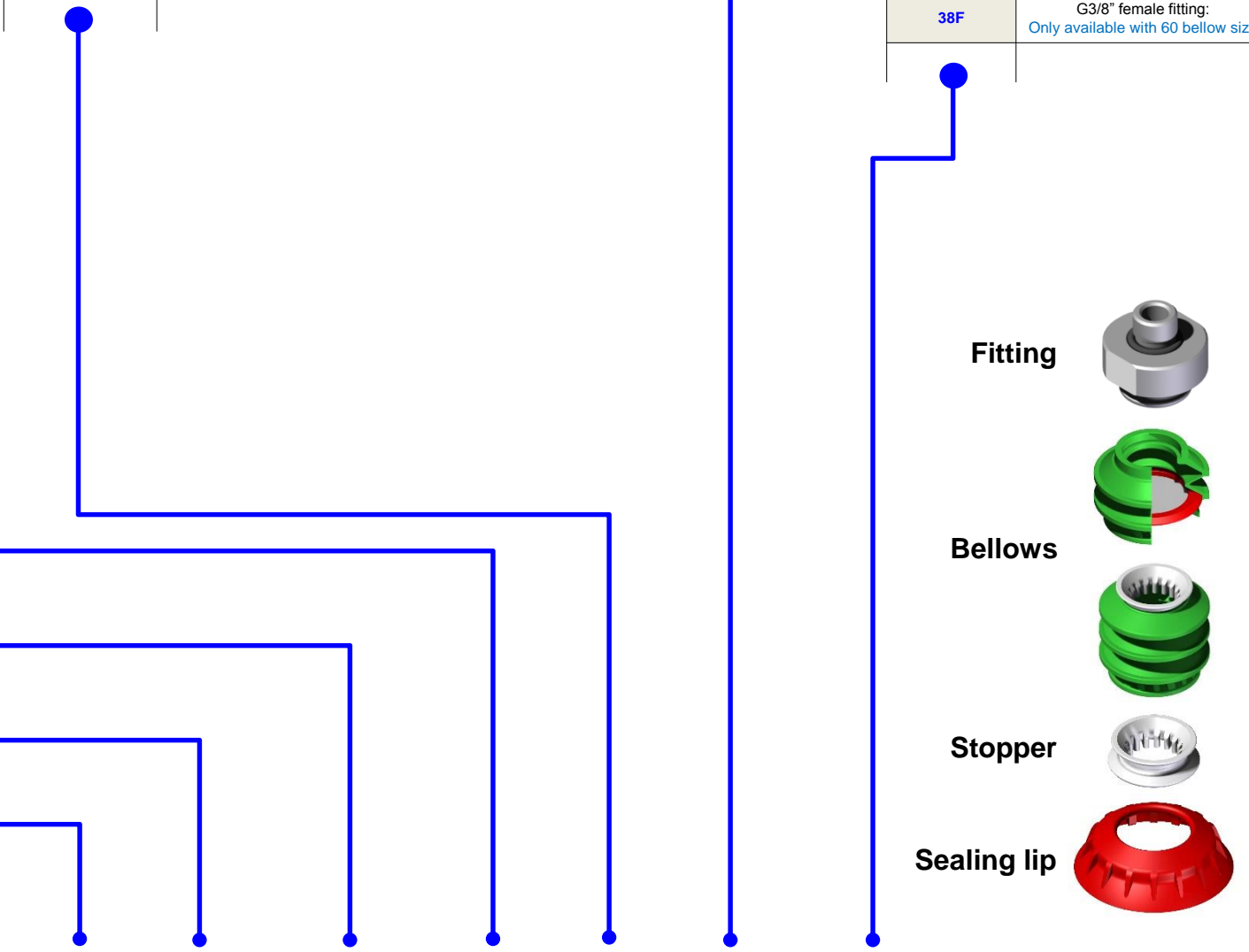
Model	Description
<b>Stopper</b>	
<b>A</b>	For "X" sealing lip
<b>B</b>	For "X", "U" and "F" sealing lip
<b>B2</b>	For "X" sealing lip
<b>C</b>	For "X", "U", "F" and "P" sealing lip
<b>D</b>	For "X", "U", "F" and "P" sealing lip



Model	Description
<b>Filter</b>	
<b>Blank</b>	No filter
<b>F2</b>	Filter (200µ)

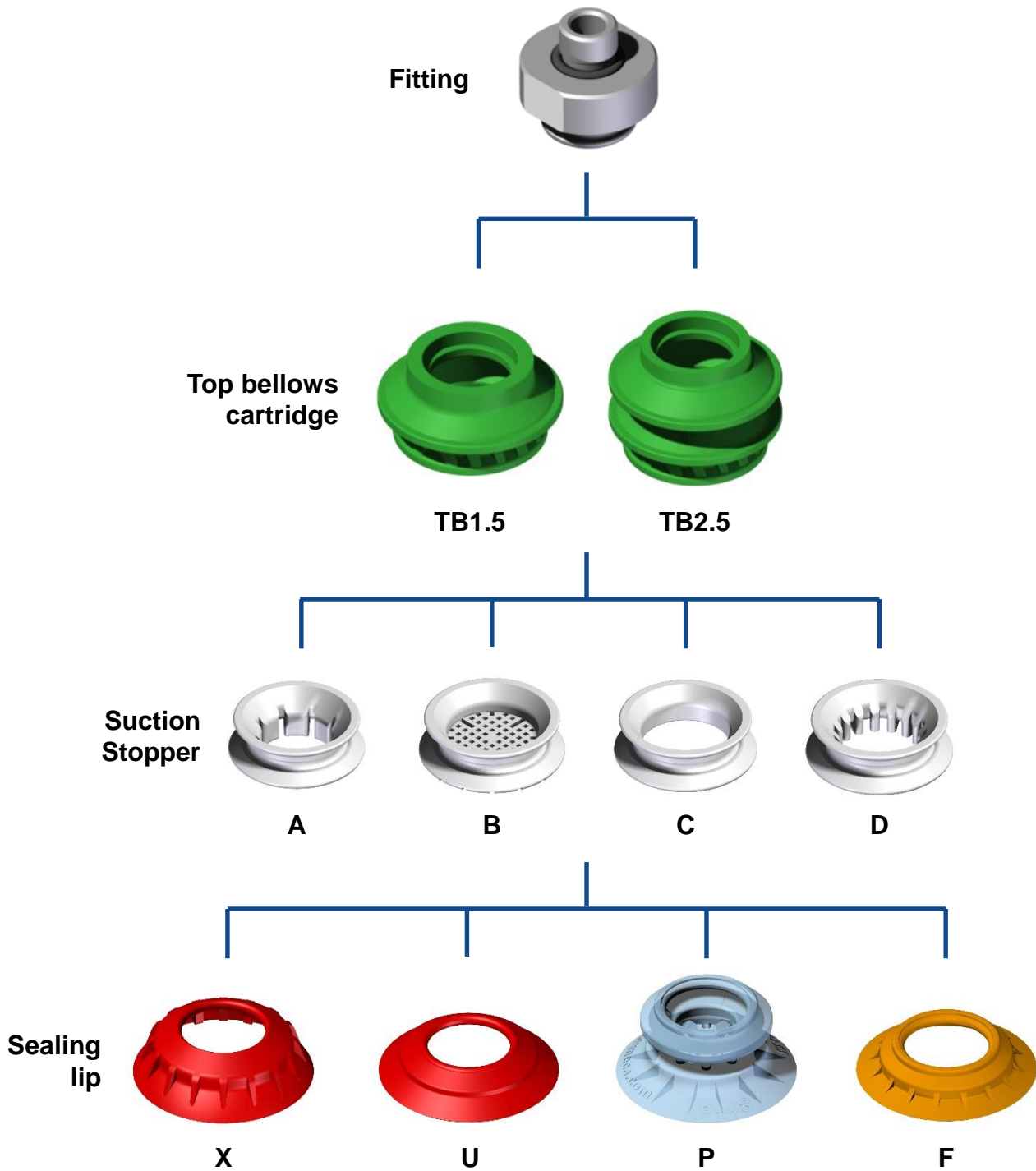


Model	Description
<b>Fitting</b>	
<b>18M</b>	G1/8" male fitting
<b>18F</b>	G1/8" female fitting
<b>14M</b>	G1/4" male fitting
<b>14F</b>	G1/4" female fitting
<b>38M</b>	G3/8" male fitting
<b>38F</b>	G3/8" female fitting: Only available with 60 bellow size

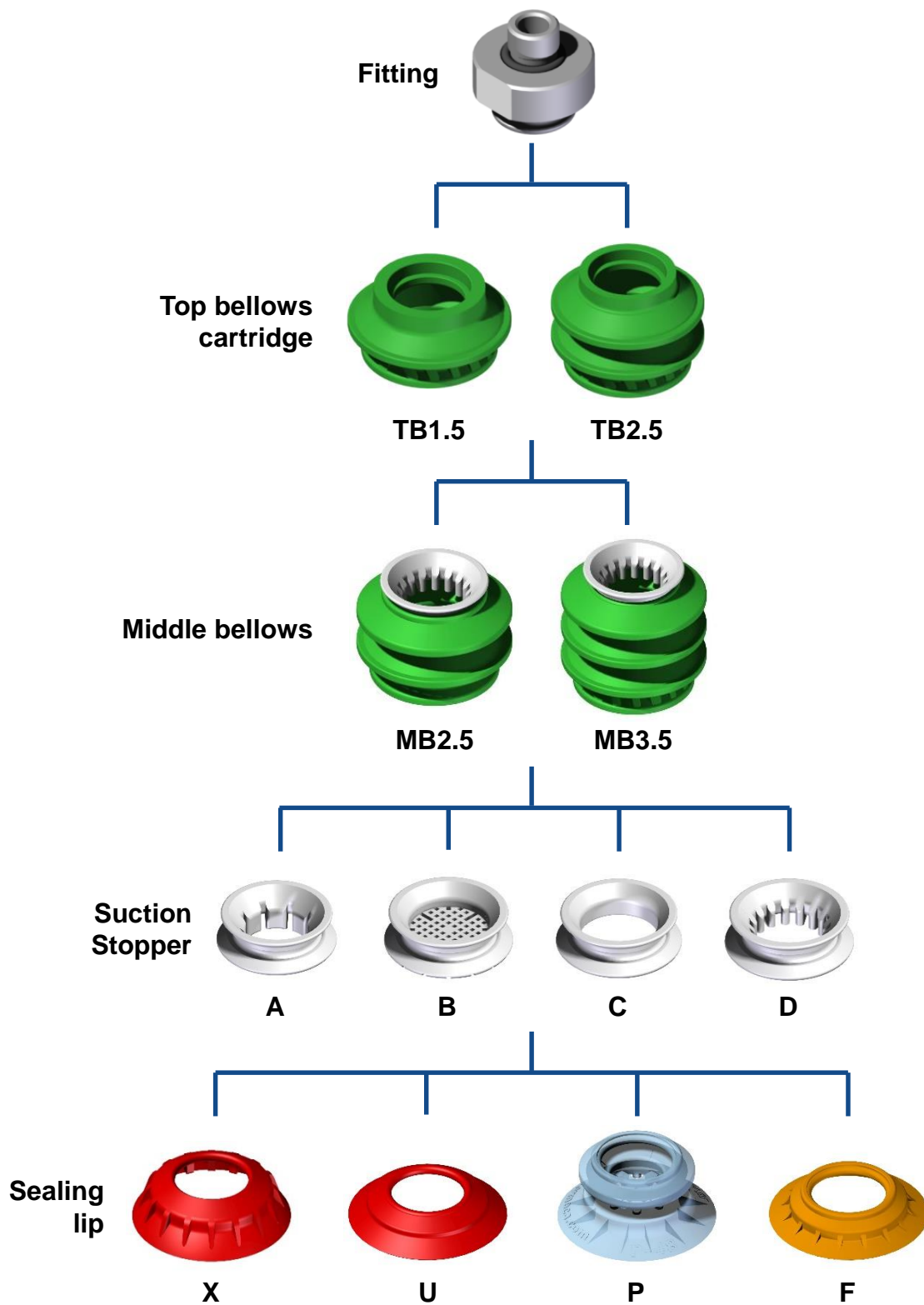


**B5.0 / 40 – X55 – S5 – D – F2 – 18M**

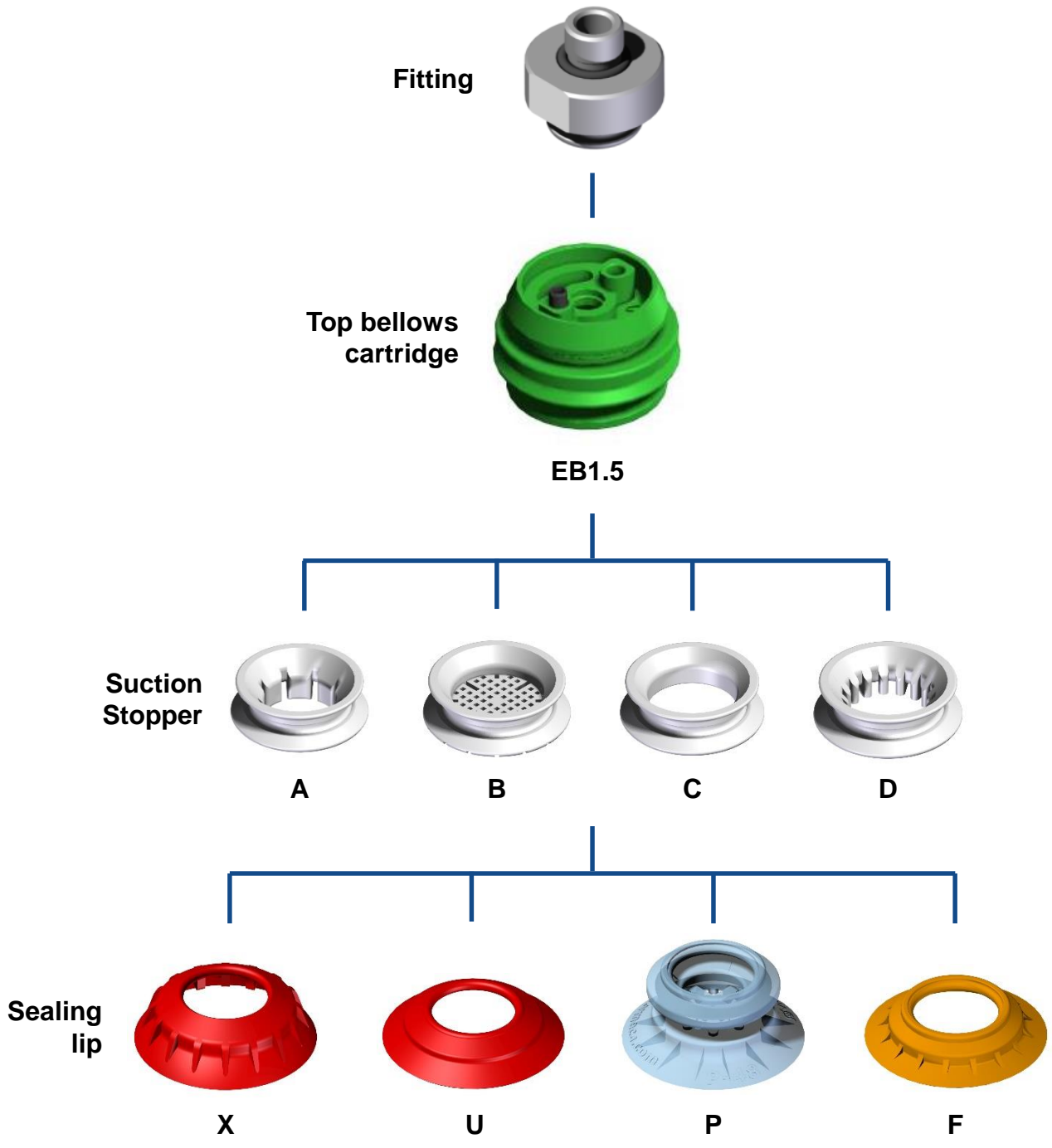
## Structure – B1.5 & B2.5 series



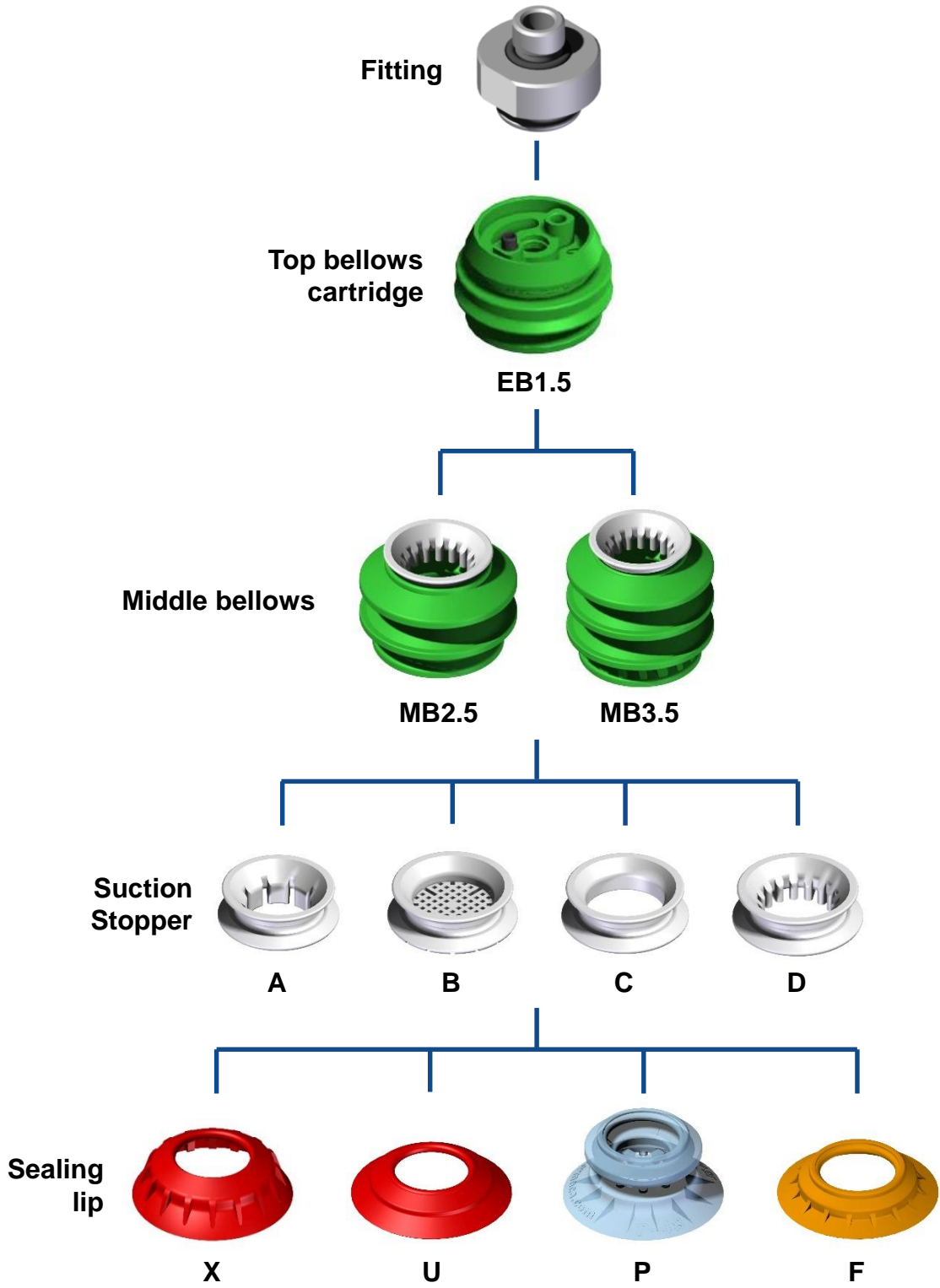
## Structure – B4.0 & B5.0 & B6.0 series



## Structure – EB1.5 series



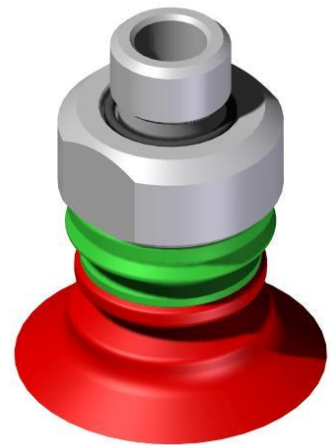
## Structure – EB4.0 & EB5.0 series



## How to assemble and disassemble

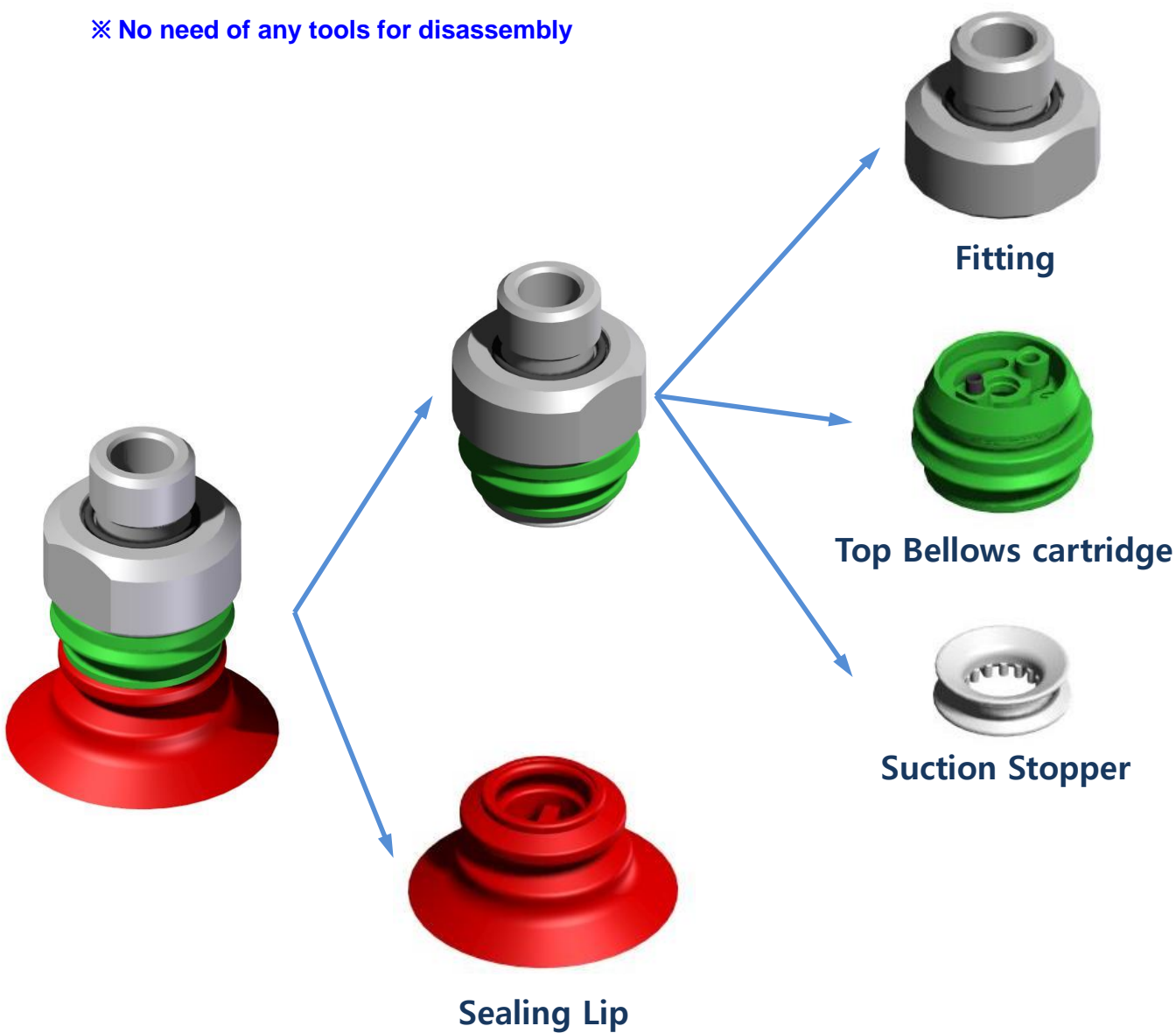
### Assembly sequence

- 1) Assemble fitting and bellows cartridge together
  - 2) Put stopper and sealing lip together
  - 3) Connect two parts assembled each other
- ※ No need of any tools for assembly



## Disassembly sequence

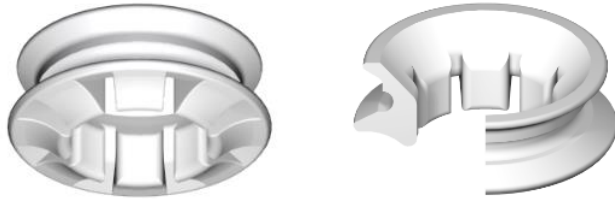
- 1) Disassemble sealing lip firstly
  - 2) The put out fitting, bellow cartridge and stopper
- ※ No need of any tools for disassembly





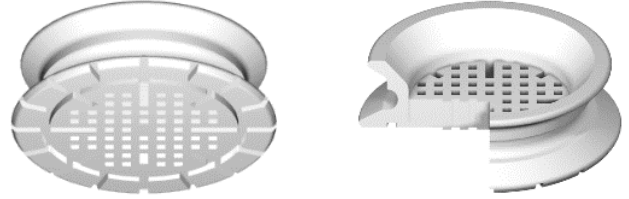
**Stoppers**

**Stopper A**



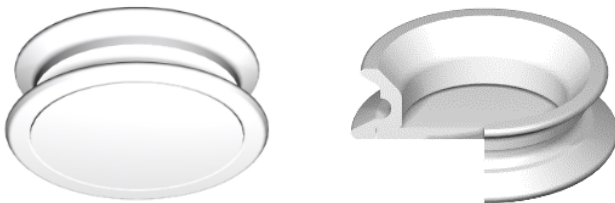
- Use for Sealing Lip “X” Type
- Good to handle a very thin and light plastic bag

**Stopper B**



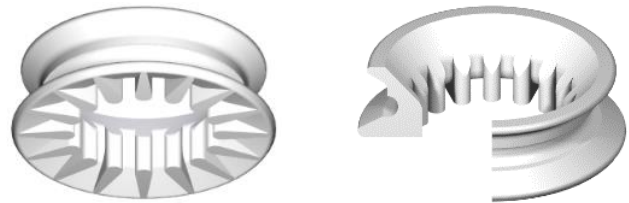
- Use for Sealing Lip “X” & “U” & “F” Type
- Good to transfer plastic bags and flexible objects
- Minimized mark when grab the plastic bag

**Stopper C**



- Use for Sealing Lip “X” & “U” & “F” & “P” Type
- Vacuum filter (PE) integrated
- No mark

**Stopper D**



- Use for Sealing Lip “X” & “U” & “F” & “P” Type
- Use for connecting each Bellows cartridge
- Good to transfer flat and thin object

## Sealing lips

**X type**



- X type Sealing Lip is excellent to handle a very thin and flexible plastic bag application



**U type**



- U type Sealing Lip is suitable for flat and slightly curved object application such as carton box, foil and etc..



**F type**



- F type Sealing Lip is excellent for flat and easily curved object handling such as thin box, glass and wooden panel



**P type**



- X type Sealing Lip is very good to handle a very thin and flexible plastic bag handling



## X type – Without efficient valve

### Features and Strengths

Excellent for very thin and light weight plastic bag in high speed operation

### Examples of use

Very thin plastic bags, Pouch bags

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
B1.5/20-X25	2.93	0.80	1.79	2.44
B1.5/20-X30	4.53	1.08	2.13	2.62
B1.5/40-X45	17.8	2.14	3.57	5.00
B1.5/40-X55	23.05	2.60	5.27	5.92
B1.5/60-X65	43	4.80	11.50	15.90
B1.5/60-X75	62.5	5.60	12.30	17.90
B2.5/20-X25	5.04	0.80	1.79	2.44
B2.5/20-X30	6.64	1.08	2.13	2.62
B2.5/40-X45	25.2	2.14	3.57	5.00
B2.5/40-X55	32.4	2.60	5.27	5.92
B2.5/60-X65	63.8	4.80	11.50	15.90
B2.5/60-X75	83.3	5.60	12.30	17.90
B4.0/20-X25	4.77	0.80	1.79	2.44
B4.0/20-X30	6.37	1.08	2.13	2.62
B4.0/40-X45	31	2.14	3.57	5.00
B4.0/40-X55	38.2	2.60	5.27	5.92
B5.0/20-X25	5.93	0.80	1.79	2.44
B5.0/20-X30	7.53	1.08	2.13	2.62
B5.0/40-X45	37.8	2.14	3.57	5.00
B5.0/40-X55	45.0	2.60	5.27	5.92
B5.0/60-X65	104.8	4.80	11.50	15.90
B5.0/60-X75	124.3	5.60	12.30	17.90
B6.0/20-X25	8.02	0.80	1.79	2.44
B6.0/20-X30	9.62	1.08	2.13	2.62
B6.0/40-X45	45.1	2.14	3.57	5.00
B6.0/40-X55	52.3	2.60	5.27	5.92
B6.0/60-X65	126.6	4.80	11.50	15.90
B6.0/60-X75	146.1	5.60	12.30	17.90

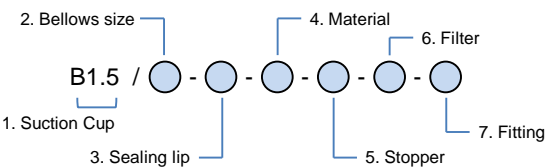
## Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 - Silicone	30	Translucent White	-70~200
S5 - Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100
Polyurethane	60	Translucent Orange	0~60

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane	Polyurethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor	Fair

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds	B1.5
	Top bellows 2.5 folds	B2.5
	Top bellows 1.5 folds + Middle bellows 2.5 folds	B4.0
	Top bellows 1.5 folds + Middle bellows 3.5 folds	B5.0
	Top bellows 2.5 folds + Middle bellows 3.5 folds	B6.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: <a href="#">For X25 &amp; X30</a>	20
	40mm bellow diameter: <a href="#">For X45 &amp; X55</a>	40
	60mm bellow diameter: <a href="#">For X65 &amp; X75</a>	60
3. Sealing lip	Description	Ordering No.
	X type lip, 25mm diameter	X25
	X type lip, 30mm diameter	X30
	X type lip, 45mm diameter	X45
	X type lip, 55mm diameter	X55
	X type lip, 65mm diameter	X65
	X type lip, 75mm diameter	X75
4. Material	Description	Ordering No.
	NBR (Nitrile)	N
	Silicone, 30° hardness	S3
	Silicone, 50° hardness	S5
	White Silicone, 30° hardness	WS3
	White Silicone, 50° hardness	WS5
	Urethane	U
	Polyurethane	PU
5. Stopper	Description	Ordering No.
	A type	A
	B type	B
	B2 type: <a href="#">Only for 40mm bellow diameter</a>	B2
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M
	Fitting, G3/8 female: <a href="#">Only for 60mm bellow diameter</a>	38F

## Spare Parts – Top bellows

Model No.	Description
TB1.5/20	Top bellows 1.5 folds for X25 & X30 without efficient valve
TB1.5/40	Top bellows 1.5 folds for X45 & X55 without efficient valve
TB1.5/60	Top bellows 1.5 folds for X65 & X75 without efficient valve
TB2.5/20	Top bellows 2.5 folds for X25 & X30 without efficient valve
TB2.5/40	Top bellows 2.5 folds for X55 & X55 without efficient valve
TB2.5/60	Top bellows 2.5 folds for X65 & X75 without efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for X25 & X30	MB3.5/20	Middle bellows 3.5 folds for X25 & X30
MB2.5/40	Middle bellows 2.5 folds for X45 & X55	MB3.5/40	Middle bellows 3.5 folds for X45 & X55
		MB3.5/60	Middle bellows 3.5 folds for X65 & X70

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-A	Stopper A type for X25 & X30	MS60-A	Stopper A type for X65 & X75
MS20-B	Stopper B type for X25 & X30	MS60-B	Stopper B type for X65 & X75
MS20-C	Stopper C type for X25 & X30	MS60-C	Stopper C type for X65 & X75
MS20-D	Stopper D type for X25 & X30	MS60-D	Stopper D type for X65 & X75
MS40-A	Stopper A type for X45 & X55		
MS40-B	Stopper B type for X45 & X55		
MS40-B2	Stopper B2 type for X45 & X55		
MS40-C	Stopper C type for X45 & X55		
MS40-D	Stopper D type for X45 & X55		

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter
VTFE60	Filter (200mesh) for 60mm bellow diameter

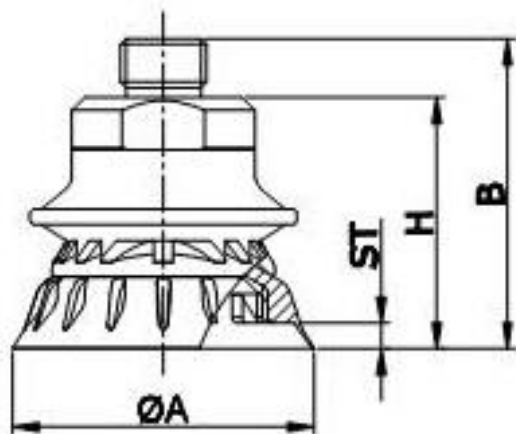
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
X25-N	X type - 25mm diameter, NBR	X25-WS3	X type - 25mm diameter, White Silicone, 30° hardness
X30-N	X type - 30mm diameter, NBR	X30-WS3	X type - 30mm diameter, White Silicone, 30° hardness
X45-N	X type - 45mm diameter, NBR	X45-WS3	X type - 45mm diameter, White Silicone, 30° hardness
X55-N	X type - 55mm diameter, NBR	X55-WS3	X type - 55mm diameter, White Silicone, 30° hardness
X65-N	X type - 65mm diameter, NBR	X65-WS3	X type - 65mm diameter, White Silicone, 30° hardness
X75-N	X type - 75mm diameter, NBR	X75-WS3	X type - 75mm diameter, White Silicone, 30° hardness
X25-S3	X type - 25mm diameter, Silicone, 30° hardness	X25-WS5	X type - 25mm diameter, White Silicone, 50° hardness
X30-S3	X type - 30mm diameter, Silicone, 30° hardness	X30-WS5	X type - 30mm diameter, White Silicone, 50° hardness
X45-S3	X type - 45mm diameter, Silicone, 30° hardness	X45-WS5	X type - 45mm diameter, White Silicone, 50° hardness
X55-S3	X type - 55mm diameter, Silicone, 30° hardness	X55-WS5	X type - 55mm diameter, White Silicone, 50° hardness
X65-S3	X type - 65mm diameter, Silicone, 30° hardness	X65-WS5	X type - 65mm diameter, White Silicone, 50° hardness
X75-S3	X type - 75mm diameter, Silicone, 30° hardness	X75-WS5	X type - 75mm diameter, White Silicone, 50° hardness
X25-S5	X type - 25mm diameter, Silicone, 50° hardness	X25-U	X type - 25mm diameter, Urethane
X30-S5	X type - 30mm diameter, Silicone, 50° hardness	X30-U	X type - 30mm diameter, Urethane
X45-S5	X type - 45mm diameter, Silicone, 50° hardness	X45-U	X type - 45mm diameter, Urethane
X55-S5	X type - 55mm diameter, Silicone, 50° hardness	X55-U	X type - 55mm diameter, Urethane
X65-S5	X type - 65mm diameter, Silicone, 50° hardness	X65-U	X type - 65mm diameter, Urethane
X75-S5	X type - 75mm diameter, Silicone, 50° hardness	X75-U	X type - 75mm diameter, Urethane
X25-PU	X type - 25mm diameter, Polyurethane		
X30-PU	X type - 30mm diameter, Polyurethane		
X45-PU	X type - 45mm diameter, Polyurethane		
X55-PU	X type - 55mm diameter, Polyurethane		
X65-PU	X type - 65mm diameter, Polyurethane		
X75-PU	X type - 75mm diameter, Polyurethane		

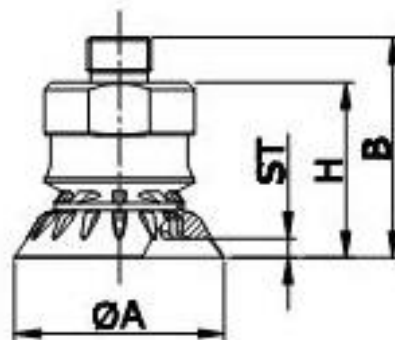
## Spare Parts – Fittings

Model No.	Description
18F/ 350-003-1101	Fitting, G1/8 female for 20mm bellow diameter
14F/ 350-003-1501	Fitting, G1/4 female for 20mm bellow diameter
18M/ 350-003-1201	Fitting, G1/8 male for 20mm bellow diameter
14M/ 350-003-1301	Fitting, G1/4 male for 20mm bellow diameter
38M/ 350-003-1401	Fitting, G3/8 male for 20mm bellow diameter
18F/350-003-1102	Fitting, G1/8 female for 40mm bellow diameter
14F/350-003-1502	Fitting, G1/4 female for 40mm bellow diameter
18M/350-003-1202	Fitting, G1/8 male for 40mm bellow diameter
14M/350-003-1302	Fitting, G1/4 male for 40mm bellow diameter
38M/350-003-1402	Fitting, G3/8 male for 40mm bellow diameter
18F/350-003-1107	Fitting, G1/8 female for 60mm bellow diameter
14M/350-003-1307	Fitting, G1/4 male for 60mm bellow diameter
38M/350-003-1407	Fitting, G3/8 male for 60mm bellow diameter
38F/350-003-1707	Fitting, G3/8 female for 60mm bellow diameter

## Dimensional Data



[B1.5 & 4.0 & 5.0 / 40 series]



[B1.5 & 4.0 & 5.0 / 20 series]

Fitting
18F
18M
14F
14M
38F
38M

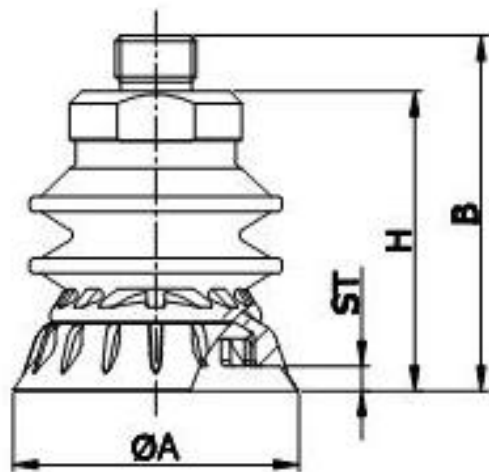
Model	Ø A	G	ST	H *	B *
B1.5/20-X25	26	Female thread : 1/8", 1/4", 3/8" Male thread : 1/8", 1/4", 3/8"	2.7	25.4	34.4
B1.5/20-X30	32		3	26.8	35.8
B1.5/40-X45	46		4	38.6	47.6
B1.5/40-X55	54.5		6	41.6	50.6
B1.5/60-X65	65		6.5	50.7	59.7
B1.5/60-X75	75		7.6	55.7	64.7
B4.0/20-X25	26		2.7	36	45
B4.0/20-X30	32		3	37.5	46.5
B4.0/40-X45	46		4	60.7	69.7
B4.0/40-X55	54.5		6	63.7	72.7
B5.0/20-X25	26		2.7	41.1	50.1
B5.0/20-X30	32		3	41.9	50.9
B5.0/40-X45	46		4	70.9	79.9
B5.0/40-X55	54.5		6	72.6	81.6
B5.0/60-X65	65		6.5	97.2	106.2
B5.0/60-X75	75		7.6	102.2	111.2

\* Dimension "H" and "B" is measured with 14M fitting option

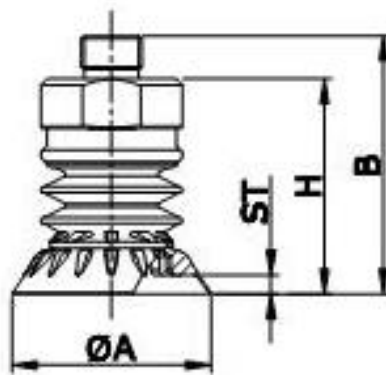
[Measure unit : mm]



## Dimensional Data



[B2.5 & 6.0 / 40 series]



[B2.5 & 6.0 / 20 series]

Fitting
18F
18M
14F
14M
38F
38M

Model	Ø A	G	ST	H*	B *
B2.5/20-X25	26	Female thread : 1/8", 1/4", 3/8" Male thread : 1/8", 1/4", 3/8"	2.7	33.3	42.3
B2.5/20-X30	32		3	34.9	43.9
B2.5/40-X45	46		4	48.5	57.5
B2.5/40-X55	54.5		6	51.5	60.5
B2.5/60-X65	65		6.5	65.1	74.1
B2.5/60-X75	75		7.6	70.1	79.1
B6.0/20-X25	26		2.7	49	58
B6.0/20-X30	32		3	50.5	59.5
B6.0/40-X45	46		4	80.5	89.5
B6.0/40-X55	54.5		6	83.5	92.5
B6.0/60-X65	65		6.5	111.6	120.6
B6.0/60-X75	75		7.5	116.6	125.6

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## X type – With efficient valve (EB type)

### Features and Strengths

Excellent for very thin and light weight plastic bag in high speed operation  
Integrated with adjustable efficient valve

### Examples of use

Very thin plastic bags, Pouch bags

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
EB1.5/20-X25	3.7	0.80	1.79	2.44
EB1.5/20-X30	5.3	1.08	2.13	2.62
EB1.5/40-X45	19.6	2.14	3.57	5.00
EB1.5/40-X55	26.8	2.60	5.27	5.92
EB4.0/20-X25	5.5	0.80	1.79	2.44
EB4.0/20-X30	7.1	1.08	2.13	2.62
EB4.0/40-X45	32.8	2.14	3.57	5.00
EB4.0/40-X55	40	2.60	5.27	5.92
EB5.0/20-X25	6.7	0.80	1.79	2.44
EB5.0/20-X30	8.3	1.08	2.13	2.62
EB5.0/40-X45	39.6	2.14	3.57	5.00
EB5.0/40-X55	46.8	2.60	5.27	5.92

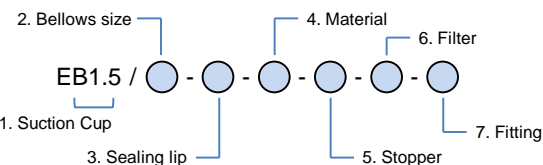
## Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 - Silicone	30	Translucent White	-70~200
S5 - Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100
Polyurethane	60	Translucent Orange	0~60

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane	Polyurethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor	Fair

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds with efficient valve	EB1.5
	Top bellows 1.5 folds with efficient valve + Middle bellows 2.5 folds	EB4.0
	Top bellows 1.5 folds with efficient valve + Middle bellows 3.5 folds	EB5.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: <a href="#">For X25 &amp; X30</a>	20
	40mm bellow diameter: <a href="#">For X45 &amp; X55</a>	40
3. Sealing lip	Description	Ordering No.
	X type lip, 25mm diameter	X25
	X type lip, 30mm diameter	X30
	X type lip, 45mm diameter	X45
	X type lip, 55mm diameter	X55
4. Material	Description	Ordering No.
	NBR (Nitrile)	N
	Silicone, 30° hardness	S3
	Silicone, 50° hardness	S5
	White Silicone, 30° hardness	WS3
	White Silicone, 50° hardness	WS5
	Urethane	U
	Polyurethane	PU
5. Stopper	Description	Ordering No.
	A type	A
	B type	B
	B2 type: <a href="#">Only for 40mm bellow diameter</a>	B2
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M

## Spare Parts – Top bellows

Model No.	Description
EB1.5/20	Top bellows 1.5 folds for X25 & X30 with efficient valve
EB1.5/40	Top bellows 1.5 folds for X45 & X55 with efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for X25 & X30	MB3.5/20	Middle bellows 3.5 folds for X25 & X30
MB2.5/40	Middle bellows 2.5 folds for X45 & X55	MB3.5/40	Middle bellows 3.5 folds for X45 & X55

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-A	Stopper A type for X25 & X30	MS40-A	Stopper A type for X45 & X55
MS20-B	Stopper B type for X25 & X30	MS40-B	Stopper B type for X45 & X55
MS20-C	Stopper C type for X25 & X30	MS40-B2	Stopper B2 type for X45 & X55
MS20-D	Stopper D type for X25 & X30	MS40-C	Stopper C type for X45 & X55
		MS40-D	Stopper D type for X45 & X55

## Spare Parts – Filters

Model No.	Description	Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter	VTFE40	Filter (200mesh) for 40mm bellow diameter

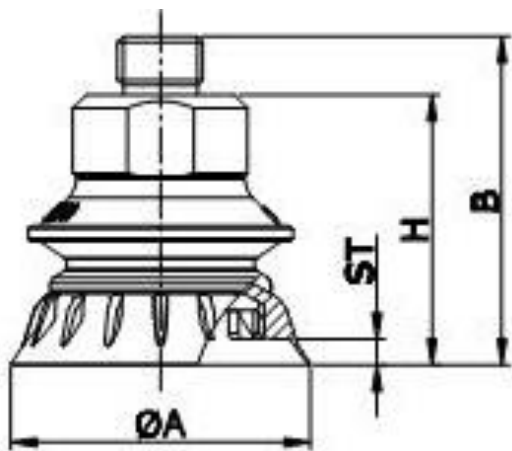
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
X25-N	X type - 25mm diameter, NBR	X25-WS3	X type - 25mm diameter, White Silicone, 30° hardness
X30-N	X type - 30mm diameter, NBR	X30-WS3	X type - 30mm diameter, White Silicone, 30° hardness
X45-N	X type - 45mm diameter, NBR	X45-WS3	X type - 45mm diameter, White Silicone, 30° hardness
X55-N	X type - 55mm diameter, NBR	X55-WS3	X type - 55mm diameter, White Silicone, 30° hardness
X25-S3	X type - 25mm diameter, Silicone, 30° hardness	X25-WS5	X type - 25mm diameter, White Silicone, 50° hardness
X30-S3	X type - 30mm diameter, Silicone, 30° hardness	X30-WS5	X type - 30mm diameter, White Silicone, 50° hardness
X45-S3	X type - 45mm diameter, Silicone, 30° hardness	X45-WS5	X type - 45mm diameter, White Silicone, 50° hardness
X55-S3	X type - 55mm diameter, Silicone, 30° hardness	X55-WS5	X type - 55mm diameter, White Silicone, 50° hardness
X25-S5	X type - 25mm diameter, Silicone, 50° hardness	X25-U	X type - 25mm diameter, Urethane
X30-S5	X type - 30mm diameter, Silicone, 50° hardness	X30-U	X type - 30mm diameter, Urethane
X45-S5	X type - 45mm diameter, Silicone, 50° hardness	X45-U	X type - 45mm diameter, Urethane
X55-S5	X type - 55mm diameter, Silicone, 50° hardness	X55-U	X type - 55mm diameter, Urethane
X25-PU	X type - 25mm diameter, Polyurethane		
X30-PU	X type - 30mm diameter, Polyurethane		
X45-PU	X type - 45mm diameter, Polyurethane		
X55-PU	X type - 55mm diameter, Polyurethane		

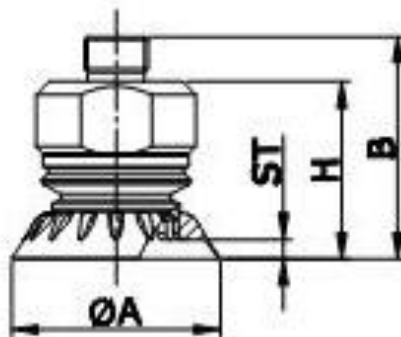
## Spare Parts – Fittings

Model No.	Description
18F/350-006-1101	Fitting – EB type, G1/8 female for 20mm bellow diameter
14F/350-006-1501	Fitting – EB type, G1/4 female for 20mm bellow diameter
18M/350-006-1201	Fitting – EB type, G1/8 male for 20mm bellow diameter
14M/350-006-1301	Fitting – EB type, G1/4 male for 20mm bellow diameter
38M/350-006-1401	Fitting – EB type, G3/8 male for 20mm bellow diameter
18F/350-006-1102	Fitting – EB type, G1/8 female for 40mm bellow diameter
14F/350-006-1502	Fitting – EB type, G1/4 female for 40mm bellow diameter
18M/350-006-1202	Fitting – EB type, G1/8 male for 40mm bellow diameter
14M/350-006-1302	Fitting – EB type, G1/4 male for 40mm bellow diameter
38M/350-006-1402	Fitting – EB type, G3/8 male for 40mm bellow diameter

## Dimensional Data



[EB1.5 & 4.0 & 5.0 / 40 series]



[EB1.5 & 4.0 & 5.0 / 20 series]

Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H*	B *
EB1.5/20-X25	26	Female thread : 1/4", 1/8" Male thread : 1/4", 1/8", 3/8"	2.7	25.8	34.8
EB1.5/20-X30	32		3	27.3	36.3
EB1.5/40-X45	46		4	42	51
EB1.5/40-X55	54.5		6	44.7	53.7
EB4.0/20-X25	26		2.7	36.5	45.5
EB4.0/20-X30	32		3	38.1	47.1
EB4.0/40-X45	46		4	64.8	73.8
EB4.0/40-X55	54.5		6	67.4	76.4
EB5.0/20-X25	26		2.7	41.5	50.5
EB5.0/20-X30	32		3	43	52
EB5.0/40-X45	46		4	74.8	83.8
EB5.0/40-X55	54.5		6	80.83	86.4

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## U type – Without efficient valve

### Features and Strengths

Suitable for flat and slightly curved surface products

### Examples of use

Thin metal sheets, Carton boxes, Veneer sheets, Glasses

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
B1.5/20-U25	1.83	0.83	2.20	3.06
B1.5/20-U30	2.63	1.22	2.45	3.06
B1.5/40-U45	12.1	2.55	5.66	9.18
B1.5/40-U55	17	3.78	7.09	9.56
B1.5/60-U65	28.8	5.30	13.30	19.40
B1.5/60-U75	40.4	6.60	15.00	20.50
B2.5/20-U25	3.94	0.83	2.20	3.06
B2.5/20-U30	4.74	1.22	2.45	3.06
B2.5/40-U45	19.5	2.55	5.66	9.18
B2.5/40-U55	24.4	3.78	7.09	9.56
B2.5/60-U65	49.6	5.30	13.30	19.40
B2.5/60-U75	61.2	6.60	15.00	20.50
B4.0/20-U25	3.67	0.83	2.20	3.06
B4.0/20-U30	4.47	1.22	2.45	3.06
B4.0/40-U45	25.3	2.55	5.66	9.18
B4.0/40-U55	30.2	3.78	7.09	9.56
B5.0/20-U25	4.83	0.83	2.20	3.06
B5.0/20-U30	5.63	1.22	2.45	3.06
B5.0/40-U45	32.1	2.55	5.66	9.18
B5.0/40-U55	37	3.78	7.09	9.56
B5.0/60-U65	49.6	5.30	13.30	19.40
B5.0/60-U75	61.2	6.60	15.00	20.50
B6.0/20-U25	6.92	0.83	2.20	3.06
B6.0/20-U30	7.72	1.22	2.45	3.06
B6.0/40-U45	39.4	2.55	5.66	9.18
B6.0/40-U55	44.3	3.78	7.09	9.56
B6.0/60-U65	126.6	5.30	13.30	19.40
B6.0/60-U75	146.1	6.60	15.00	20.50



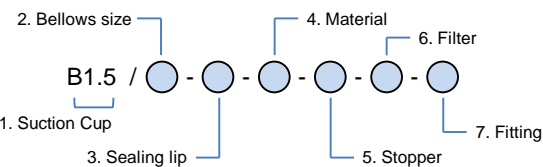
## Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 - Silicone	30	Translucent White	-70~200
S5 - Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100
Polyurethane	60	Translucent Orange	0~60

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane	Polyurethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor	Fair

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds	B1.5
	Top bellows 2.5 folds	B2.5
	Top bellows 1.5 folds + Middle bellows 2.5 folds	B4.0
	Top bellows 1.5 folds + Middle bellows 3.5 folds	B5.0
	Top bellows 2.5 folds + Middle bellows 3.5 folds	B6.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: <a href="#">For U25 &amp; U30</a>	20
	40mm bellow diameter: <a href="#">For U45 &amp; U55</a>	40
	60mm bellow diameter: <a href="#">For U65 &amp; U75</a>	60
3. Sealing lip	Description	Ordering No.
	U type lip, 25mm diameter	U25
	U type lip, 30mm diameter	U30
	U type lip, 45mm diameter	U45
	U type lip, 55mm diameter	U55
	U type lip, 65mm diameter	U65
	U type lip, 75mm diameter	U75
4. Material	Description	Ordering No.
	NBR (Nitrile)	N
	Silicone, 30° hardness	S3
	Silicone, 50° hardness	S5
	White Silicone, 30° hardness	WS3
	White Silicone, 50° hardness	WS5
	Urethane	U
	Polyurethane	PU
5. Stopper	Description	Ordering No.
	B type	B
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M
	Fitting, G3/8 female: <a href="#">Only for 60mm bellow diameter</a>	38F

## Spare Parts – Top bellows

Model No.	Description
TB1.5/20	Top bellows 1.5 folds for U25 & U30 without efficient valve
TB1.5/40	Top bellows 1.5 folds for U45 & U55 without efficient valve
TB1.5/60	Top bellows 1.5 folds for U65 & U75 without efficient valve
TB2.5/20	Top bellows 2.5 folds for U25 & U30 without efficient valve
TB2.5/40	Top bellows 2.5 folds for U45 & U55 without efficient valve
TB2.5/60	Top bellows 2.5 folds for U65 & U75 without efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for U25 & U30	MB3.5/20	Middle bellows 3.5 folds for U25 & U30
MB2.5/40	Middle bellows 2.5 folds for U45 & U55	MB3.5/40	Middle bellows 3.5 folds for U45 & U55
		MB3.5/60	Middle bellows 3.5 folds for U65 & U70

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-B	Stopper B type for U25 & U30	MS60-B	Stopper B type for U65 & U75
MS20-C	Stopper C type for U25 & U30	MS60-C	Stopper C type for U65 & U75
MS20-D	Stopper D type for U25 & U30	MS60-D	Stopper D type for U65 & U75
MS40-B	Stopper B type for U45 & U55		
MS40-C	Stopper C type for U45 & U55		
MS40-D	Stopper D type for U45 & U55		

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter
VTFE60	Filter (200mesh) for 60mm bellow diameter

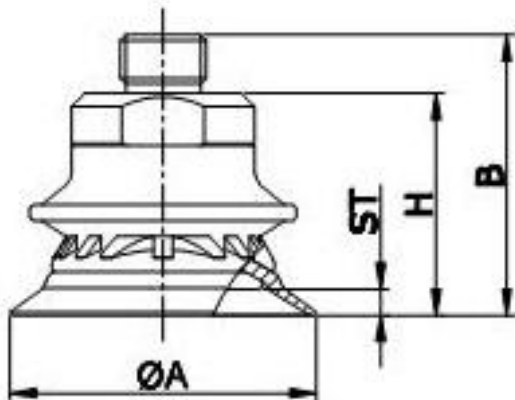
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
U25-N	U type - 25mm diameter, NBR	U25-WS3	U type - 25mm diameter, White Silicone, 30° hardness
U30-N	U type - 30mm diameter, NBR	U30-WS3	U type - 30mm diameter, White Silicone, 30° hardness
U45-N	U type - 45mm diameter, NBR	U45-WS3	U type - 45mm diameter, White Silicone, 30° hardness
U55-N	U type - 55mm diameter, NBR	U55-WS3	U type - 55mm diameter, White Silicone, 30° hardness
U65-N	U type - 65mm diameter, NBR	U65-WS3	U type - 65mm diameter, White Silicone, 30° hardness
U75-N	U type - 75mm diameter, NBR	U75-WS3	U type - 75mm diameter, White Silicone, 30° hardness
U25-S3	U type - 25mm diameter, Silicone, 30° hardness	U25-WS5	U type - 25mm diameter, White Silicone, 50° hardness
U30-S3	U type - 30mm diameter, Silicone, 30° hardness	U30-WS5	U type - 30mm diameter, White Silicone, 50° hardness
U45-S3	U type - 45mm diameter, Silicone, 30° hardness	U45-WS5	U type - 45mm diameter, White Silicone, 50° hardness
U55-S3	U type - 55mm diameter, Silicone, 30° hardness	U55-WS5	U type - 55mm diameter, White Silicone, 50° hardness
U65-S3	U type - 65mm diameter, Silicone, 30° hardness	U65-WS5	U type - 65mm diameter, White Silicone, 50° hardness
U75-S3	U type - 75mm diameter, Silicone, 30° hardness	U75-WS5	U type - 75mm diameter, White Silicone, 50° hardness
U25-S5	U type - 25mm diameter, Silicone, 50° hardness	U25-U	U type - 25mm diameter, Urethane
U30-S5	U type - 30mm diameter, Silicone, 50° hardness	U30-U	U type - 30mm diameter, Urethane
U45-S5	U type - 45mm diameter, Silicone, 50° hardness	U45-U	U type - 45mm diameter, Urethane
U55-S5	U type - 55mm diameter, Silicone, 50° hardness	U55-U	U type - 55mm diameter, Urethane
U65-S5	U type - 65mm diameter, Silicone, 50° hardness	U65-U	U type - 65mm diameter, Urethane
U75-S5	U type - 75mm diameter, Silicone, 50° hardness	U75-U	U type - 75mm diameter, Urethane
U25-PU	U type - 25mm diameter, Polyurethane		
U30-PU	U type - 30mm diameter, Polyurethane		
U45-PU	U type - 45mm diameter, Polyurethane		
U55-PU	U type - 55mm diameter, Polyurethane		
U65-PU	U type - 65mm diameter, Polyurethane		
U75-PU	U type - 75mm diameter, Polyurethane		

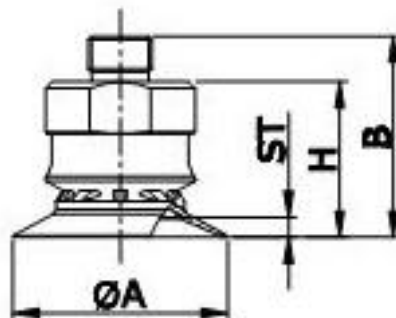
## Spare Parts – Fittings

Model No.	Description
18F/ 350-003-1101	Fitting, G1/8 female for 20mm bellow diameter
14F/ 350-003-1501	Fitting, G1/4 female for 20mm bellow diameter
18M/ 350-003-1201	Fitting, G1/8 male for 20mm bellow diameter
14M/ 350-003-1301	Fitting, G1/4 male for 20mm bellow diameter
38M/ 350-003-1401	Fitting, G3/8 male for 20mm bellow diameter
18F/350-003-1102	Fitting, G1/8 female for 40mm bellow diameter
14F/350-003-1502	Fitting, G1/4 female for 40mm bellow diameter
18M/350-003-1202	Fitting, G1/8 male for 40mm bellow diameter
14M/350-003-1302	Fitting, G1/4 male for 40mm bellow diameter
38M/350-003-1402	Fitting, G3/8 male for 40mm bellow diameter
18F/350-003-1107	Fitting, G1/8 female for 60mm bellow diameter
14M/350-003-1307	Fitting, G1/4 male for 60mm bellow diameter
38M/350-003-1407	Fitting, G3/8 male for 60mm bellow diameter
38F/350-003-1707	Fitting, G3/8 female for 60mm bellow diameter

## Dimensional Data



[B1.5 & 4.0 & 5.0 / 40 series]



[B1.5 & 4.0 & 5.0 / 20 series]

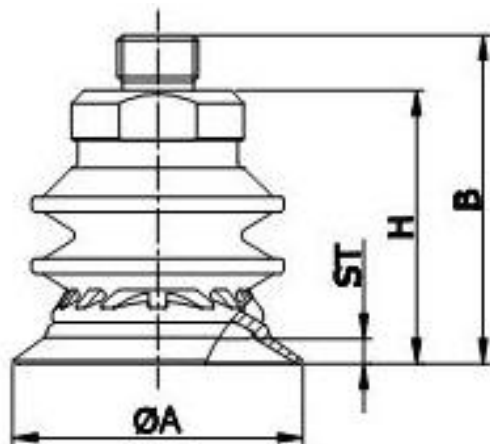
Fitting
18F
18M
14F
14M
38F
38M

Model	Ø A	G	ST	H *	B *
B1.5/20-U25	26	Female thread : 1/8", 1/4", 3/8" Male thread : 1/8", 1/4", 3/8"	2	22.9	31.9
B1.5/20-U30	33		3	23.8	32.8
B1.5/40-U45	47		4	34.1	43.1
B1.5/40-U55	55		6.8	36.9	45.9
B1.5/60-U65	65		5.6	45.4	54.4
B1.5/60-U75	75		9.3	49.1	58.1
B4.0/20-U25	26		2	33.5	42.5
B4.0/20-U30	33		3	34.5	43.5
B4.0/40-U45	47		4	56.2	65.2
B4.0/40-U55	55		6.8	59	68
B5.0/20-U25	26		2	38.5	47.5
B5.0/20-U30	33		3	39.5	48.5
B5.0/40-U45	47		4	66.4	75.4
B5.0/40-U55	55		6.8	68.9	77.9
B5.0/60-U65	65		5.6	91.9	100.9
B5.0/60-U75	75		9.3	95.6	104.6

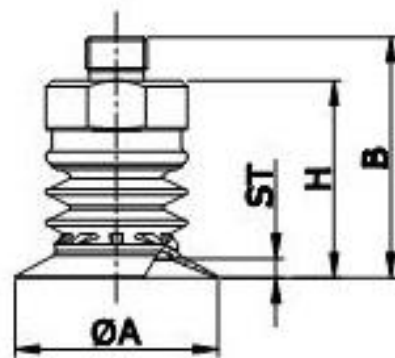
\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## Dimensional Data



[B2.5 & 6.0 / 40 series]



[B2.5 & 6.0 / 20 series]

Fitting
18F
18M
14F
14M
38F
38M

Model	Ø A	G	ST	H *	B *
B2.5/20-U25	26	Female thread : 1/8", 1/4", 3/8" Male thread : 1/8", 1/4", 3/8"	2	30.8	39.8
B2.5/20-U30	33		3	31.8	40.8
B2.5/40-U45	47		4	44	53
B2.5/40-U55	55		6.8	46	55
B2.5/60-U65	65		5.6	59.8	68.8
B2.5/60-U75	75		9.3	63.5	72.5
B6.0/20-U25	26		2	46.5	55.5
B6.0/20-U30	33		3	47.6	56.6
B6.0/40-U45	47		4	76.5	85.5
B6.0/40-U55	55		6.8	79.3	88.3
B6.0/60-U65	65		5.6	106.3	115.3
B6.0/60-U75	75		9.3	110	119

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## U type – With efficient valve (EB type)

### Features and Strengths

Suitable for flat and slightly curved surface products

### Examples of use

Thin metal sheets, Carton boxes, Veneer sheets, Glasses

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
EB1.5/20-U25	2.6	0.83	2.20	3.06
EB1.5/20-U30	3.4	1.22	2.45	3.06
EB1.5/40-U45	13.9	2.55	5.66	9.18
EB1.5/40-U55	18.8	3.78	7.09	9.56
EB4.0/20-U25	4.4	0.83	2.20	3.06
EB4.0/20-U30	5.2	1.22	2.45	3.06
EB4.0/40-U45	27.1	2.55	5.66	9.18
EB4.0/40-U55	32	3.78	7.09	9.56
EB5.0/20-U25	5.6	0.83	2.20	3.06
EB5.0/20-U30	6.4	1.22	2.45	3.06
EB5.0/40-U45	33.9	2.55	5.66	9.18
EB5.0/40-U55	38.8	3.78	7.09	9.56

## Material Specifications

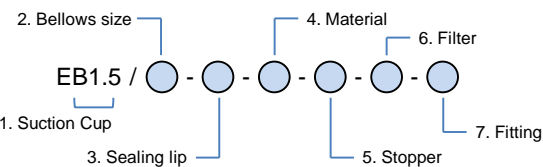
Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 – Silicone	30	Translucent White	-70~200
S5 – Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100
Polyurethane	60	Translucent Orange	0~60

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane	Polyurethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor	Fair



## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds with efficient valve	<a href="#">EB1.5</a>
	Top bellows 1.5 folds with efficient valve + Middle bellows 2.5 folds	<a href="#">EB4.0</a>
	Top bellows 1.5 folds with efficient valve + Middle bellows 3.5 folds	<a href="#">EB5.0</a>
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: <a href="#">For U25 &amp; U30</a>	<a href="#">20</a>
	40mm bellow diameter: <a href="#">For U45 &amp; U55</a>	<a href="#">40</a>
3. Sealing lip	Description	Ordering No.
	U type lip, 25mm diameter	<a href="#">U25</a>
	U type lip, 30mm diameter	<a href="#">U30</a>
	U type lip, 45mm diameter	<a href="#">U45</a>
	U type lip, 55mm diameter	<a href="#">U55</a>
4. Material	Description	Ordering No.
	NBR (Nitrile)	<a href="#">N</a>
	Silicone, 30° hardness	<a href="#">S3</a>
	Silicone, 50° hardness	<a href="#">S5</a>
	White Silicone, 30° hardness	<a href="#">WS3</a>
	White Silicone, 50° hardness	<a href="#">WS5</a>
	Urethane	<a href="#">U</a>
	Polyurethane	<a href="#">PU</a>
5. Stopper	Description	Ordering No.
	B type	<a href="#">B</a>
	C type	<a href="#">C</a>
	D type	<a href="#">D</a>
6. Filter	Description	Ordering No.
	No filter	<a href="#">Blank</a>
	Filter (200mesh)	<a href="#">F2</a>
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	<a href="#">18F</a>
	Fitting, G1/4 female	<a href="#">14F</a>
	Fitting, G1/8 male	<a href="#">18M</a>
	Fitting, G1/4 male	<a href="#">14M</a>
	Fitting, G3/8 male	<a href="#">38M</a>

## Spare Parts – Top bellows

Model No.	Description
<a href="#">EB1.5/20</a>	Top bellows 1.5 folds for U25 & U30 with efficient valve
<a href="#">EB1.5/40</a>	Top bellows 1.5 folds for U45 & U55 with efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for U25 & U30	MB3.5/20	Middle bellows 3.5 folds for U25 & U30
MB2.5/40	Middle bellows 2.5 folds for U45 & U55	MB3.5/40	Middle bellows 3.5 folds for U45 & U55

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-B	Stopper B type for U25 & U30	MS40-B	Stopper B type for U45 & U55
MS20-C	Stopper C type for U25 & U30	MS40-C	Stopper C type for U45 & U55
MS20-D	Stopper D type for U25 & U30	MS40-D	Stopper D type for U45 & U55

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter

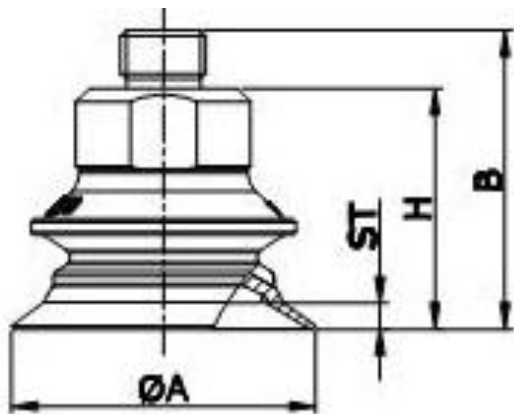
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
U25-N	U type - 25mm diameter, NBR	U25-WS3	U type - 25mm diameter, White Silicone, 30° hardness
U30-N	U type - 30mm diameter, NBR	U30-WS3	U type - 30mm diameter, White Silicone, 30° hardness
U45-N	U type - 45mm diameter, NBR	U45-WS3	U type - 45mm diameter, White Silicone, 30° hardness
U55-N	U type - 55mm diameter, NBR	U55-WS3	U type - 55mm diameter, White Silicone, 30° hardness
U25-S3	U type - 25mm diameter, Silicone, 30° hardness	U25-WS5	U type - 25mm diameter, White Silicone, 50° hardness
U30-S3	U type - 30mm diameter, Silicone, 30° hardness	U30-WS5	U type - 30mm diameter, White Silicone, 50° hardness
U45-S3	U type - 45mm diameter, Silicone, 30° hardness	U45-WS5	U type - 45mm diameter, White Silicone, 50° hardness
U55-S3	U type - 55mm diameter, Silicone, 30° hardness	U55-WS5	U type - 55mm diameter, White Silicone, 50° hardness
U25-S5	U type - 25mm diameter, Silicone, 50° hardness	U25-U	U type - 25mm diameter, Urethane
U30-S5	U type - 30mm diameter, Silicone, 50° hardness	U30-U	U type - 30mm diameter, Urethane
U45-S5	U type - 45mm diameter, Silicone, 50° hardness	U45-U	U type - 45mm diameter, Urethane
U55-S5	U type - 55mm diameter, Silicone, 50° hardness	U55-U	U type - 55mm diameter, Urethane
U25-PU	U type - 25mm diameter, Polyurethane		
U30-PU	U type - 30mm diameter, Polyurethane		
U45-PU	U type - 45mm diameter, Polyurethane		
U55-PU	U type - 55mm diameter, Polyurethane		

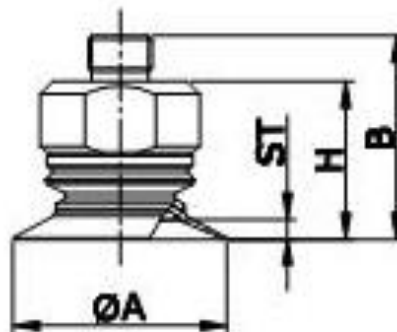
## Spare Parts – Fittings

Model No.	Description
18F/350-006-1101	Fitting – EB type, G1/8 female for 20mm bellow diameter
14F/350-006-1501	Fitting – EB type, G1/4 female for 20mm bellow diameter
18M/350-006-1201	Fitting – EB type, G1/8 male for 20mm bellow diameter
14M/350-006-1301	Fitting – EB type, G1/4 male for 20mm bellow diameter
38M/350-006-1401	Fitting – EB type, G3/8 male for 20mm bellow diameter
18F/350-006-1102	Fitting – EB type, G1/8 female for 40mm bellow diameter
14F/350-006-1502	Fitting – EB type, G1/4 female for 40mm bellow diameter
18M/350-006-1202	Fitting – EB type, G1/8 male for 40mm bellow diameter
14M/350-006-1302	Fitting – EB type, G1/4 male for 40mm bellow diameter
38M/350-006-1402	Fitting – EB type, G3/8 male for 40mm bellow diameter

## Dimensional Data



[EB1.5 & 4.0 & 5.0 / 40 series]



[EB1.5 & 4.0 & 5.0 / 20 series]

Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H *	B *
EB1.5/20-U25	26	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	2	23.3	32.3
EB1.5/20-U30	33		3	24.3	33.3
EB1.5/40-U45	47		4	37.2	46.2
EB1.5/40-U55	55		6.8	40	49
EB4.0/20-U25	26		2	34	43
EB4.0/20-U30	33		3	35	44
EB4.0/40-U45	47		4	59.9	68.9
EB4.0/40-U55	55		6.8	62.7	71.7
EB5.0/20-U25	26		2	39	48
EB5.0/20-U30	33		3	40	49
EB5.0/40-U45	47		4	69.9	78.9
EB5.0/40-U55	55		6.8	72.7	81.7

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## F type – Without efficient valve

### Features and Strengths

Suitable for flat surface products

### Examples of use

Yogurts, Thin metal sheets, Carton boxes, Veneer sheets, Glasses

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
B1.5/20-F25	1.53	1.4	2.9	3.7
B1.5/20-F30	2.03	1.9	3.8	4.3
B1.5/40-F45	10.9	3.4	8	9.3
B1.5/40-F55	11.7	4.4	9.9	11.9
B2.5/20-F25	3.64	1.4	2.9	3.7
B2.5/20-F30	4.14	1.9	3.8	4.3
B2.5/40-F45	18.3	3.4	8	9.3
B2.5/40-F55	19.1	4.4	9.9	11.9
B4.0/20-F25	3.37	1.4	2.9	3.7
B4.0/20-F30	3.87	1.9	3.8	4.3
B4.0/40-F45	24.1	3.4	8	9.3
B4.0/40-F55	24.9	4.4	9.9	11.9
B5.0/20-F25	4.53	1.4	2.9	3.7
B5.0/20-F30	5.03	1.9	3.8	4.3
B5.0/40-F45	30.9	3.4	8	9.3
B5.0/40-F55	31.7	4.4	9.9	11.9
B6.0/20-F25	6.62	1.4	2.9	3.7
B6.0/20-F30	7.12	1.9	3.8	4.3
B6.0/40-F45	38.2	3.4	8	9.3
B6.0/40-F55	39.0	4.4	9.9	11.9

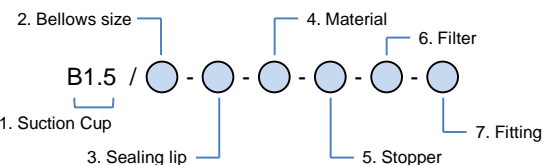
## Material Specifications

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

## Material Resistance

Description	NBR (Nitrile)
Wear Resistance	Excellent
Oil	Excellent
Weather / Ozone	Fair
Alcohol	Good
Acid	Fair

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds	B1.5
	Top bellows 2.5 folds	B2.5
	Top bellows 1.5 folds + Middle bellows 2.5 folds	B4.0
	Top bellows 1.5 folds + Middle bellows 3.5 folds	B5.0
	Top bellows 2.5 folds + Middle bellows 3.5 folds	B6.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: For F25 & F30	20
	40mm bellow diameter: For F45 & F55	40
3. Sealing lip	Description	Ordering No.
	F type lip, 25mm diameter	F25
	F type lip, 30mm diameter	F30
	F type lip, 45mm diameter	F45
	F type lip, 55mm diameter	F55
4. Material	Description	Ordering No.
	Polyurethane	PU
5. Stopper	Description	Ordering No.
	B type	B
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M

## Spare Parts – Top bellows

Model No.	Description
TB1.5/20	Top bellows 1.5 folds for F25 & F30 without efficient valve
TB1.5/40	Top bellows 1.5 folds for F45 & F55 without efficient valve
TB2.5/20	Top bellows 2.5 folds for F25 & F30 without efficient valve
TB2.5/40	Top bellows 2.5 folds for F45 & F55 without efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for F25 & F30	MB3.5/20	Middle bellows 3.5 folds for F25 & F30
MB2.5/40	Middle bellows 2.5 folds for F45 & F55	MB3.5/40	Middle bellows 3.5 folds for F45 & F55

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-B	Stopper B type for F25 & F30	MS40-B	Stopper B type for F45 & F55
MS20-C	Stopper C type for F25 & F30	MS40-C	Stopper C type for F45 & F55
MS20-D	Stopper D type for F25 & F30	MS40-D	Stopper D type for F45 & F55

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter

## Spare Parts – Sealing lips

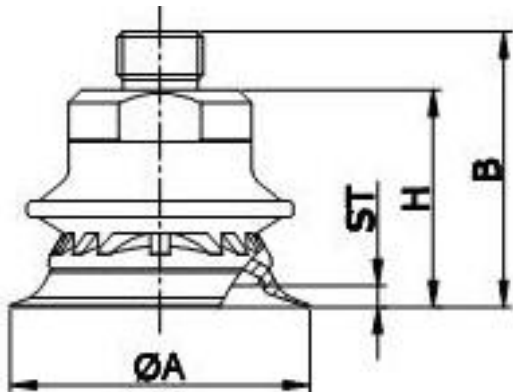
Model No.	Description
F25-PU	F type - 25mm diameter, Polyurethane
F30-PU	F type - 30mm diameter, Polyurethane
F45-PU	F type - 45mm diameter, Polyurethane
F55-PU	F type - 55mm diameter, Polyurethane



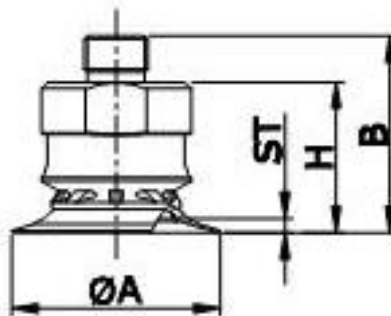
## Spare Parts – Fittings

Model No.	Description
18F/ 350-003-1101	Fitting, G1/8 female for 20mm bellow diameter
14F/ 350-003-1501	Fitting, G1/4 female for 20mm bellow diameter
18M/ 350-003-1201	Fitting, G1/8 male for 20mm bellow diameter
14M/ 350-003-1301	Fitting, G1/4 male for 20mm bellow diameter
38M/ 350-003-1401	Fitting, G3/8 male for 20mm bellow diameter
18F/350-003-1102	Fitting, G1/8 female for 40mm bellow diameter
14F/350-003-1502	Fitting, G1/4 female for 40mm bellow diameter
18M/350-003-1202	Fitting, G1/8 male for 40mm bellow diameter
14M/350-003-1302	Fitting, G1/4 male for 40mm bellow diameter
38M/350-003-1402	Fitting, G3/8 male for 40mm bellow diameter

## Dimensional Data



[B1.5 & 4.0 & 5.0 / 40 series]



[B1.5 & 4.0 & 5.0 / 20 series]

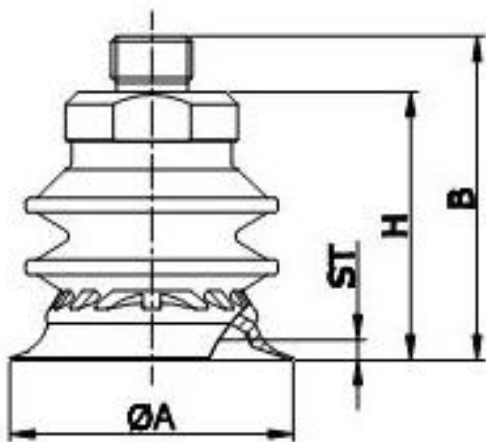
Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H *	B *
B1.5/20-F25	26	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	1.5	21.3	31.3
B1.5/20-F30	33		2.2	23	32
B1.5/40-F45	47		3.3	33.4	42.4
B1.5/40-F55	55		3.3	33.4	42.4
B4.0/20-F25	26		1.5	33.8	42.8
B4.0/20-F30	33		2.2	34.5	43.5
B4.0/40-F45	47		3.3	55.4	64.4
B4.0/40-F55	55		3.3	55.4	64.4
B5.0/20-F25	26		1.5	38	47
B5.0/20-F30	33		2.2	38.7	47.7
B5.0/40-F45	47		3.3	65.3	74.3
B5.0/40-F55	55		3.3	65.3	74.3

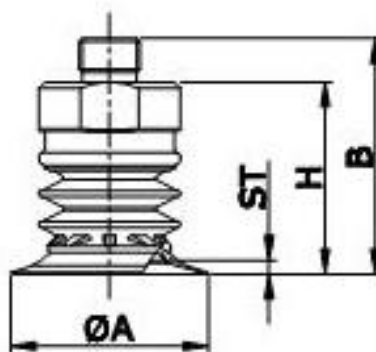
\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## Dimensional Data



[B2.5 & 6.0 / 40 series]



[B2.5 & 6.0 / 20 series]

Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H *	B *
B2.5/20-F25	26	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	1.5	30.3	39.3
B2.5/20-F30	33		2.2	31	41.03
B2.5/40-F45	47		3.3	43.3	52.3
B2.5/40-F55	55		3.3	43.3	52.3
B6.0/20-F25	26		1.5	46	55
B6.0/20-F30	33		2.2	46.7	55.7
B6.0/40-F45	47		3.3	75.3	84.3
B6.0/40-F55	55		3.3	75.3	84.3

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## F type – With efficient valve (EB type)

### Features and Strengths

Suitable for flat and slightly curved surface products

### Examples of use

Thin metal sheets, Carton boxes, Veneer sheets, Glasses

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
EB1.5/20-F25	2.3	1.4	2.9	3.7
EB1.5/20-F30	2.8	1.9	3.8	4.3
EB1.5/40-F45	12.7	3.4	8	9.3
EB1.5/40-F55	13.5	4.4	9.9	11.9
EB4.0/20-F25	4.1	1.4	2.9	3.7
EB4.0/20-F30	4.6	1.9	3.8	4.3
EB4.0/40-F45	25.9	3.4	8	9.3
EB4.0/40-F55	26.7	4.4	9.9	11.9
EB5.0/20-F25	5.3	1.4	2.9	3.7
EB5.0/20-F30	5.8	1.9	3.8	4.3
EB5.0/40-F45	32.7	3.4	8	9.3
EB5.0/40-F55	33.5	4.4	9.9	11.9

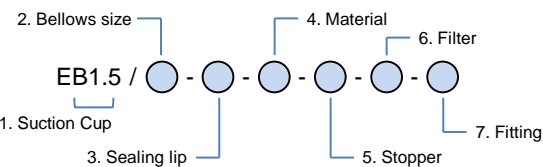
## Material Specifications

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

## Material Resistance

Description	NBR (Nitrile)
Wear Resistance	Excellent
Oil	Excellent
Weather / Ozone	Fair
Alcohol	Good
Acid	Fair

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds with efficient valve	EB1.5
	Top bellows 1.5 folds with efficient valve + Middle bellows 2.5 folds	EB4.0
	Top bellows 1.5 folds with efficient valve + Middle bellows 3.5 folds	EB5.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: For F25 & F30	20
	40mm bellow diameter: For F45 & F55	40
3. Sealing lip	Description	Ordering No.
	F type lip, 25mm diameter	F25
	F type lip, 30mm diameter	F30
	F type lip, 45mm diameter	F45
	F type lip, 55mm diameter	F55
4. Material	Description	Ordering No.
	Polyurethane	PU
5. Stopper	Description	Ordering No.
	B type	B
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M

## Spare Parts – Top bellows

Model No.	Description
EB1.5/20	Top bellows 1.5 folds for F25 & F30 with efficient valve
EB1.5/40	Top bellows 1.5 folds for F45 & F55 with efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for F25 & F30	MB3.5/20	Middle bellows 3.5 folds for F25 & F30
MB2.5/40	Middle bellows 2.5 folds for F45 & F55	MB3.5/40	Middle bellows 3.5 folds for F45 & F55

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-B	Stopper B type for F25 & F30	MS40-B	Stopper B type for F45 & F55
MS20-C	Stopper C type for F25 & F30	MS40-C	Stopper C type for F45 & F55
MS20-D	Stopper D type for F25 & F30	MS40-D	Stopper D type for F45 & F55

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter

## Spare Parts – Sealing lips

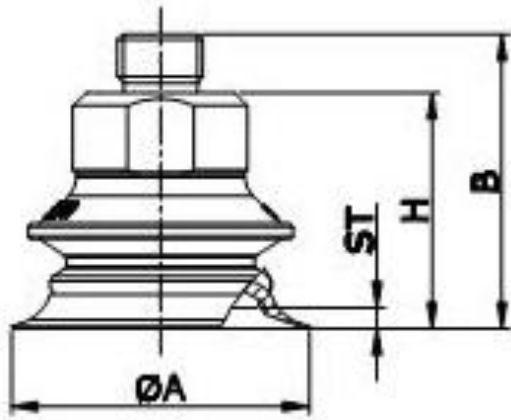
Model No.	Description
F25-PU	F type - 25mm diameter, Polyurethane
F30-PU	F type - 30mm diameter, Polyurethane
F45-PU	F type - 45mm diameter, Polyurethane
F55-PU	F type - 55mm diameter, Polyurethane

## Spare Parts – Fittings

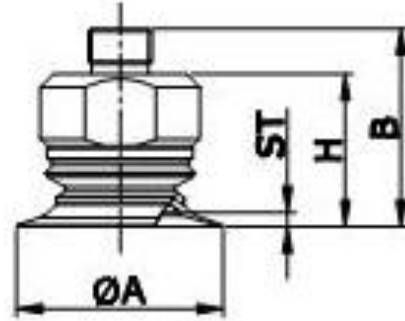
Model No.	Description
18F/350-006-1101	Fitting – EB type, G1/8 female for 20mm bellow diameter
14F/350-006-1501	Fitting – EB type, G1/4 female for 20mm bellow diameter
18M/350-006-1201	Fitting – EB type, G1/8 male for 20mm bellow diameter
14M/350-006-1301	Fitting – EB type, G1/4 male for 20mm bellow diameter
38M/350-006-1401	Fitting – EB type, G3/8 male for 20mm bellow diameter
18F/350-006-1102	Fitting – EB type, G1/8 female for 40mm bellow diameter
14F/350-006-1502	Fitting – EB type, G1/4 female for 40mm bellow diameter
18M/350-006-1202	Fitting – EB type, G1/8 male for 40mm bellow diameter
14M/350-006-1302	Fitting – EB type, G1/4 male for 40mm bellow diameter
38M/350-006-1402	Fitting – EB type, G3/8 male for 40mm bellow diameter



## Dimensional Data



[EB1.5 & 4.0 & 5.0 / 40 series]



[EB1.5 & 4.0 & 5.0 / 20 series]

Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H *	B *
EB1.5/20-F25	26	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	1.5	22.8	31.8
EB1.5/20-F30	33		2.2	23.5	32.5
EB1.5/40-F45	47		3.31	36.5	45.5
EB1.5/40-F55	55		3.34	36.5	45.5
EB4.0/20-F25	26		1.5	33.5	42.5
EB4.0/20-F30	33		2.2	34	43.2
EB4.0/40-F45	47		3.31	59.1	68.1
EB4.0/40-F55	55		3.34	59.2	68.2
EB5.0/20-F25	26		1.5	38.5	47.5
EB5.0/20-F30	33		2.2	39.2	48.2
EB5.0/40-F45	47		3.31	69.1	78.1
EB5.0/40-F55	55		3.34	69.2	78.2

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## P type – Without efficient valve

### Features and Strengths

Excellent for thin plastic bags

### Examples of use

Thin plastic bags

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
B1.5/20-P15	1.43	0.30	0.50	0.60
B1.5/20-P17	1.53	0.35	0.60	0.74
B1.5/20-P20	1.83	0.40	0.80	0.90
B1.5/20-P27	2.73	0.80	1.79	2.44
B1.5/20-P32	4.13	1.08	2.13	2.62
B1.5/40-P48	14.4	2.14	3.57	5.00
B1.5/40-P60	21.5	2.60	5.27	5.92
B2.5/20-P15	3.54	0.30	0.50	0.60
B2.5/20-P17	3.64	0.35	0.60	0.74
B2.5/20-P20	3.94	0.40	0.80	0.90
B2.5/20-P27	4.84	0.80	1.79	2.44
B2.5/20-P32	6.24	1.08	2.13	2.62
B2.5/40-P48	21.8	2.14	3.57	5.00
B2.5/40-P60	28.9	2.60	5.27	5.92
B4.0/20-P15	3.27	0.30	0.50	0.60
B4.0/20-P17	3.37	0.35	0.60	0.74
B4.0/20-P20	3.67	0.40	0.80	0.90
B4.0/20-P27	4.57	0.80	1.79	2.44
B4.0/20-P32	5.97	1.08	2.13	2.62
B4.0/40-P48	21.8	2.14	3.57	5.00
B4.0/40-P60	28.9	2.60	5.27	5.92
B5.0/20-P15	4.43	0.30	0.50	0.60
B5.0/20-P17	4.53	0.35	0.60	0.74
B5.0/20-P20	4.83	0.40	0.80	0.90
B5.0/20-P27	5.73	0.80	1.79	2.44
B5.0/20-P32	7.13	1.08	2.13	2.62
B5.0/40-P48	34.4	2.14	3.57	5.00
B5.0/40-P60	41.5	2.60	5.27	5.92
B6.0/20-P15	6.52	0.30	0.50	0.60
B6.0/20-P17	6.62	0.35	0.60	0.74
B6.0/20-P20	6.92	0.40	0.80	0.90
B6.0/20-P27	7.82	0.80	1.79	2.44
B6.0/20-P32	9.22	1.08	2.13	2.62
B6.0/40-P48	41.4	2.14	3.57	5.00
B6.0/40-P60	48.5	2.60	5.27	5.92

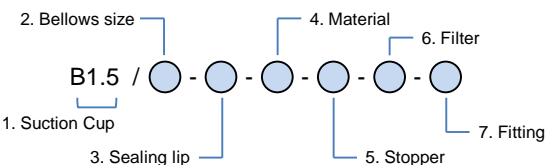
## Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 – Silicone	30	Translucent White	-70~200
S5 – Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds	B1.5
	Top bellows 2.5 folds	B2.5
	Top bellows 1.5 folds + Middle bellows 2.5 folds	B4.0
	Top bellows 1.5 folds + Middle bellows 3.5 folds	B5.0
	Top bellows 2.5 folds + Middle bellows 3.5 folds	B6.0
2. Bellows size	Description	Ordering No.
	20mm bellow diameter: For P15, P17, P20, P27 & P32	20
	40mm bellow diameter: For P48 & P60	40
3. Sealing lip	Description	Ordering No.
	P type lip, 15mm diameter	P15
	P type lip, 17mm diameter	P17
	P type lip, 20mm diameter	P20
	P type lip, 27mm diameter	P27
	P type lip, 32mm diameter	P32
	P type lip, 48mm diameter	P48
	P type lip, 60mm diameter	P60
4. Material	Description	Ordering No.
	NBR (Nitrile)	N
	Silicone, 30° hardness	S3
	Silicone, 50° hardness	S5
	White Silicone, 30° hardness	WS3
	White Silicone, 50° hardness	WS5
	Urethane	U
5. Stopper	Description	Ordering No.
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M

## Spare Parts – Top bellows

Model No.	Description
TB1.5/20	Top bellows 1.5 folds for P15, P17, P20, P27 & P32 without efficient valve
TB1.5/40	Top bellows 1.5 folds for P48 & P60 without efficient valve
TB2.5/20	Top bellows 2.5 folds for P15, P17, P20, P27 & P32 without efficient valve
TB2.5/40	Top bellows 2.5 folds for P48 & P60 without efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for P15, P17, P20, P27 & P32	MB3.5/20	Middle bellows 3.5 folds for P15, P17, P20, P27 & P32
MB2.5/40	Middle bellows 2.5 folds for P48 & P60	MB3.5/40	Middle bellows 3.5 folds for P48 & P60

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-C	Stopper C type for P15, P17, P20, P27 & P32	MS40-C	Stopper C type for P48 & P60
MS20-D	Stopper D type for P15, P17, P20, P27 & P32	MS40-D	Stopper D type for P48 & P60

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter

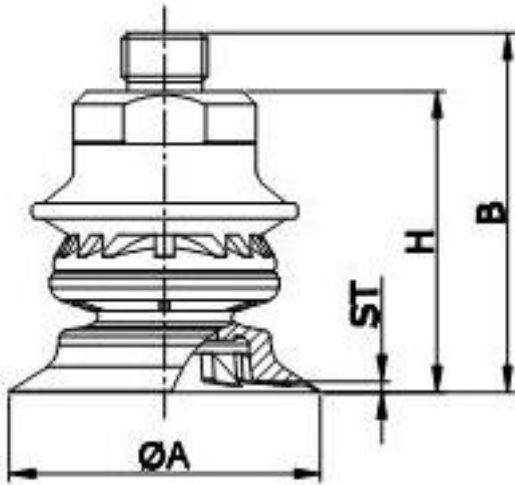
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
P15-N	P type - 15mm diameter, NBR	P15-WS3	P type - 15mm diameter, White Silicone, 30° hardness
P17-N	P type - 17mm diameter, NBR	P17-WS3	P type - 17mm diameter, White Silicone, 30° hardness
P20-N	P type - 20mm diameter, NBR	P20-WS3	P type - 20mm diameter, White Silicone, 30° hardness
P27-N	P type - 27mm diameter, NBR	P27-WS3	P type - 27mm diameter, White Silicone, 30° hardness
P32-N	P type - 32mm diameter, NBR	P32-WS3	P type - 32mm diameter, White Silicone, 30° hardness
P48-N	P type - 48mm diameter, NBR	P48-WS3	P type - 48mm diameter, White Silicone, 30° hardness
P60-N	P type - 60mm diameter, NBR	P60-WS3	P type - 60mm diameter, White Silicone, 30° hardness
P15-S3	P type - 15mm diameter, Silicone, 30° hardness	P15-WS5	P type - 15mm diameter, White Silicone, 50° hardness
P17-S3	P type - 17mm diameter, Silicone, 30° hardness	P17-WS5	P type - 17mm diameter, White Silicone, 50° hardness
P20-S3	P type - 20mm diameter, Silicone, 30° hardness	P20-WS5	P type - 20mm diameter, White Silicone, 50° hardness
P27-S3	P type - 27mm diameter, Silicone, 30° hardness	P27-WS5	P type - 27mm diameter, White Silicone, 50° hardness
P32-S3	P type - 32mm diameter, Silicone, 30° hardness	P32-WS5	P type - 32mm diameter, White Silicone, 50° hardness
P48-S3	P type - 48mm diameter, Silicone, 30° hardness	P48-WS5	P type - 48mm diameter, White Silicone, 50° hardness
P60-S3	P type - 60mm diameter, Silicone, 30° hardness	P60-WS5	P type - 60mm diameter, White Silicone, 50° hardness
P15-S5	P type - 15mm diameter, Silicone, 50° hardness	P15-U	P type - 15mm diameter, Urethane
P17-S5	P type - 17mm diameter, Silicone, 50° hardness	P17-U	P type - 17mm diameter, Urethane
P20-S5	P type - 20mm diameter, Silicone, 50° hardness	P20-U	P type - 20mm diameter, Urethane
P27-S5	P type - 27mm diameter, Silicone, 50° hardness	P27-U	P type - 27mm diameter, Urethane
P32-S5	P type - 32mm diameter, Silicone, 50° hardness	P32-U	P type - 32mm diameter, Urethane
P48-S5	P type - 48mm diameter, Silicone, 50° hardness	P48-U	P type - 48mm diameter, Urethane
P60-S5	P type - 60mm diameter, Silicone, 50° hardness	P60-U	P type - 60mm diameter, Urethane

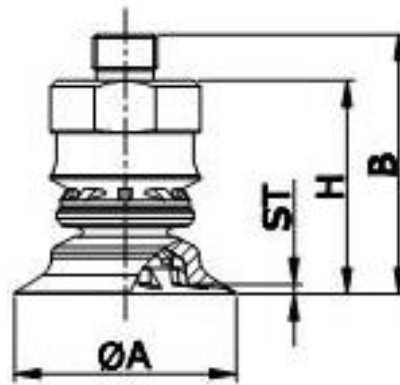
## Spare Parts – Fittings

Model No.	Description
18F/ 350-003-1101	Fitting, G1/8 female for 20mm bellow diameter
14F/ 350-003-1501	Fitting, G1/4 female for 20mm bellow diameter
18M/ 350-003-1201	Fitting, G1/8 male for 20mm bellow diameter
14M/ 350-003-1301	Fitting, G1/4 male for 20mm bellow diameter
38M/ 350-003-1401	Fitting, G3/8 male for 20mm bellow diameter
18F/350-003-1102	Fitting, G1/8 female for 40mm bellow diameter
14F/350-003-1502	Fitting, G1/4 female for 40mm bellow diameter
18M/350-003-1202	Fitting, G1/8 male for 40mm bellow diameter
14M/350-003-1302	Fitting, G1/4 male for 40mm bellow diameter
38M/350-003-1402	Fitting, G3/8 male for 40mm bellow diameter

## Dimensional Data



[B1.5 & 4.0 & 5.0 / 40 series]



[B1.5 & 4.0 & 5.0 / 20 series]

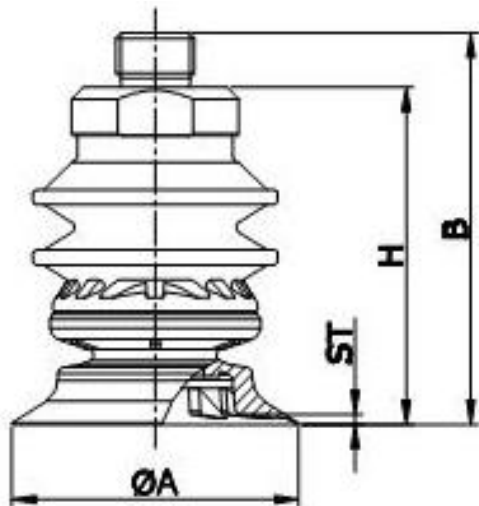
Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H*	B *
B 1.5/20 – P15	15.5	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	0.8	28.1	37.1
B 1.5/20 – P17	17		0.9	28.5	37.5
B 1.5/20 – P20	20		0.9	29.4	38.4
B 1.5/20 – P27	27		1.4	30.4	39.4
B 1.5/20 – P32	34		1.5	32.8	41.8
B 4.0/20 – P15	15.5		0.8	38.9	47.9
B 4.0/20 – P17	17		0.9	39.3	48.3
B 4.0/20 – P20	20		0.9	40.2	49.2
B 4.0/20 – P27	27		1.4	41.2	50.2
B 4.0/20 – P32	34		1.5	43.6	52.6
B 5.0/20 – P15	15.5		0.8	43.9	52.9
B 5.0/20 – P17	17		0.9	44.3	53.3
B 5.0/20 – P20	20		0.9	45.2	54.2
B 5.0/20 – P27	27		1.4	46.2	55.2
B 5.0/20 – P32	34		1.5	48.6	57.6
B 1.5/40 – P48	48		1.7	46.0	55.0
B 1.5/40 – P60	60		2.8	49.0	58.0
B 4.0/40 – P48	48		1.7	68.4	77.4
B 4.0/40 – P60	60		2.8	71.4	80.4
B 5.0/40 – P48	48		1.7	78.3	87.3
B 5.0/40 – P60	60	2.8	81.3	90.3	

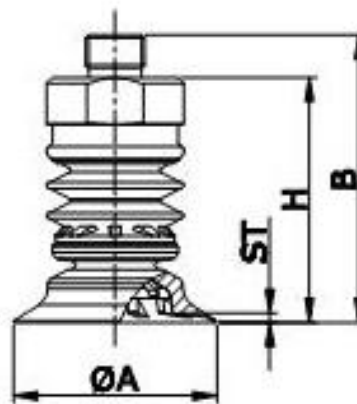
\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]

## Dimensional Data



[B2.5 & 6.0 / 40 series]



[B2.5 & 6.0 / 20 series]

Fitting
18F
18M
14F
14M
38M

Model	Ø A	G	ST	H*	B *
B 2.5/20 – P15	15.5	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	0.8	36.1	45.1
B 2.5/20 – P17	17		0.9	36.5	45.5
B 2.5/20 – P20	20		0.9	37.4	46.4
B 2.5/20 – P27	27		1.4	38.4	47.4
B 2.5/20 – P32	34		1.5	40.8	49.8
B 6.0/20 – P15	15.5		0.8	51.9	60.9
B 6.0/20 – P17	17		0.9	52.3	61.3
B 6.0/20 – P20	20		0.9	53.2	62.2
B 6.0/20 – P27	27		1.4	54.2	63.2
B 6.0/20 – P32	34		1.5	56.6	65.6
B 2.5/40 – P48	48		1.7	56.0	65.0
B 2.5/40 – P60	60		2.8	59.0	68.0
B 6.0/40 – P48	48		1.7	88.3	97.3
B 6.0/40 – P60	60		2.8	91.3	100.3

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]



## P type – With efficient valve (EB type)

### Features and Strengths

Excellent for thin plastic bags

### Examples of use

Thin plastic bags

### Recommended Lifting Force (Max.)

Model	Volume (cm <sup>3</sup> )	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
EB1.5/20-P15	2.2	0.30	0.50	0.60
EB1.5/20-P17	2.3	0.35	0.60	0.74
EB1.5/20-P20	2.6	0.40	0.80	0.90
EB1.5/20-P27	3.5	0.80	1.79	2.44
EB1.5/20-P32	4.9	1.08	2.13	2.62
EB1.5/40-P48	16.1	2.14	3.57	5.00
EB1.5/40-P60	23.2	2.60	5.27	5.92
EB4.0/20-P15	4.0	0.30	0.50	0.60
EB4.0/20-P17	4.1	0.35	0.60	0.74
EB4.0/20-P20	4.4	0.40	0.80	0.90
EB4.0/20-P27	5.3	0.80	1.79	2.44
EB4.0/20-P32	6.7	1.08	2.13	2.62
EB4.0/40-P48	29.4	2.14	3.57	5.00
EB4.0/40-P60	36.5	2.60	5.27	5.92
EB5.0/20-P15	5.19	0.30	0.50	0.60
EB5.0/20-P17	5.29	0.35	0.60	0.74
EB5.0/20-P20	5.59	0.40	0.80	0.90
EB5.0/20-P27	6.49	0.80	1.79	2.44
EB5.0/20-P32	7.89	1.08	2.13	2.62
EB5.0/40-P48	36.2	2.14	3.57	5.00
EB5.0/40-P60	43.3	2.60	5.27	5.92

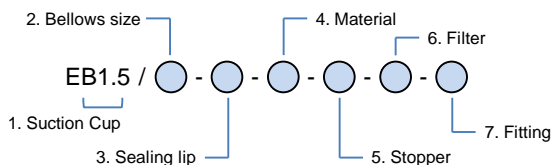
## Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
NBR (Nitrile)	60	Black	-20~110
S3 – Silicone	30	Translucent White	-70~200
S5 – Silicone	50	Red	-70~200
WS3 - White Silicone	30	Translucent White	-70~200
WS5 - White Silicone	50	Translucent White	-70~200
Urethane	60	Dark Grey	0~100

## Material Resistance

Description	NBR (Nitrile)	Silicone	White Silicone	Urethane
<b>Wear Resistance</b>	Excellent	Good	Good	Excellent
<b>Oil</b>	Excellent	Poor	Poor	Excellent
<b>Weather / Ozone</b>	Fair	Excellent	Excellent	Excellent
<b>Alcohol</b>	Good	Good	Good	Fair
<b>Acid</b>	Fair	Poor	Poor	Poor

## Build an Ordering No.



1. Suction cup	Description	Ordering No.
	Top bellows 1.5 folds with efficient valve	EB1.5
	Top bellows 1.5 folds with efficient valve + Middle bellows 2.5 folds	EB4.0
	Top bellows 1.5 folds with efficient valve + Middle bellows 3.5 folds	EB5.0
2. Bellow size	Description	Ordering No.
	20mm bellow diameter: For P15, P17, P20, P27 & P32	20
	40mm bellow diameter: For P48 & P60	40
3. Sealing lip	Description	Ordering No.
	P type lip, 15mm diameter	P15
	P type lip, 17mm diameter	P17
	P type lip, 20mm diameter	P20
	P type lip, 27mm diameter	P27
	P type lip, 32mm diameter	P32
	P type lip, 48mm diameter	P48
	P type lip, 60mm diameter	P60
4. Material	Description	Ordering No.
	NBR (Nitrile)	N
	Silicone, 30° hardness	S3
	Silicone, 50° hardness	S5
	White Silicone, 30° hardness	WS3
	White Silicone, 50° hardness	WS5
	Urethane	U
5. Stopper	Description	Ordering No.
	C type	C
	D type	D
6. Filter	Description	Ordering No.
	No filter	Blank
	Filter (200mesh)	F2
7. Fitting	Description	Ordering No.
	Fitting, G1/8 female	18F
	Fitting, G1/4 female	14F
	Fitting, G1/8 male	18M
	Fitting, G1/4 male	14M
	Fitting, G3/8 male	38M

## Spare Parts – Top bellows

Model No.	Description
EB1.5/20	Top bellows 1.5 folds for P15, P17, P20, P27 & P32 with efficient valve
EB1.5/40	Top bellows 1.5 folds for P48 & P60 with efficient valve

## Spare Parts – Middle bellows

Model No.	Description	Model No.	Description
MB2.5/20	Middle bellows 2.5 folds for P15, P17, P20, P27 & P32	MB3.5/20	Middle bellows 3.5 folds for P15, P17, P20, P27 & P32
MB2.5/40	Middle bellows 2.5 folds for P48 & P60	MB3.5/40	Middle bellows 3.5 folds for P48 & P60

## Spare Parts – Stoppers

Model No.	Description	Model No.	Description
MS20-C	Stopper C type for P15, P17, P20, P27 & P32	MS40-C	Stopper C type for P48 & P60
MS20-D	Stopper D type for P15, P17, P20, P27 & P32	MS40-D	Stopper D type for P48 & P60

## Spare Parts – Filters

Model No.	Description
VTFE20	Filter (200mesh) for 20mm bellow diameter
VTFE40	Filter (200mesh) for 40mm bellow diameter

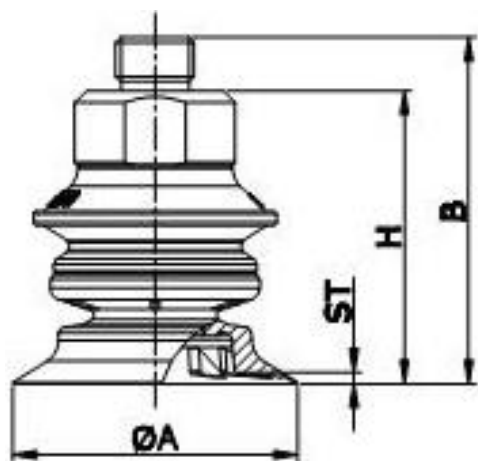
## Spare Parts – Sealing lips

Model No.	Description	Model No.	Description
P15-N	P type - 15mm diameter, NBR	P15-WS3	P type - 15mm diameter, White Silicone, 30° hardness
P17-N	P type - 17mm diameter, NBR	P17-WS3	P type - 17mm diameter, White Silicone, 30° hardness
P20-N	P type - 20mm diameter, NBR	P20-WS3	P type - 20mm diameter, White Silicone, 30° hardness
P27-N	P type - 27mm diameter, NBR	P27-WS3	P type - 27mm diameter, White Silicone, 30° hardness
P32-N	P type - 32mm diameter, NBR	P32-WS3	P type - 32mm diameter, White Silicone, 30° hardness
P48-N	P type - 48mm diameter, NBR	P48-WS3	P type - 48mm diameter, White Silicone, 30° hardness
P60-N	P type - 60mm diameter, NBR	P60-WS3	P type - 60mm diameter, White Silicone, 30° hardness
P15-S3	P type - 15mm diameter, Silicone, 30° hardness	P15-WS5	P type - 15mm diameter, White Silicone, 50° hardness
P17-S3	P type - 17mm diameter, Silicone, 30° hardness	P17-WS5	P type - 17mm diameter, White Silicone, 50° hardness
P20-S3	P type - 20mm diameter, Silicone, 30° hardness	P20-WS5	P type - 20mm diameter, White Silicone, 50° hardness
P27-S3	P type - 27mm diameter, Silicone, 30° hardness	P27-WS5	P type - 27mm diameter, White Silicone, 50° hardness
P32-S3	P type - 32mm diameter, Silicone, 30° hardness	P32-WS5	P type - 32mm diameter, White Silicone, 50° hardness
P48-S3	P type - 48mm diameter, Silicone, 30° hardness	P48-WS5	P type - 48mm diameter, White Silicone, 50° hardness
P60-S3	P type - 60mm diameter, Silicone, 30° hardness	P60-WS5	P type - 60mm diameter, White Silicone, 50° hardness
P15-S5	P type - 15mm diameter, Silicone, 50° hardness	P15-U	P type - 15mm diameter, Urethane
P17-S5	P type - 17mm diameter, Silicone, 50° hardness	P17-U	P type - 17mm diameter, Urethane
P20-S5	P type - 20mm diameter, Silicone, 50° hardness	P20-U	P type - 20mm diameter, Urethane
P27-S5	P type - 27mm diameter, Silicone, 50° hardness	P27-U	P type - 27mm diameter, Urethane
P32-S5	P type - 32mm diameter, Silicone, 50° hardness	P32-U	P type - 32mm diameter, Urethane
P48-S5	P type - 48mm diameter, Silicone, 50° hardness	P48-U	P type - 48mm diameter, Urethane
P60-S5	P type - 60mm diameter, Silicone, 50° hardness	P60-U	P type - 60mm diameter, Urethane

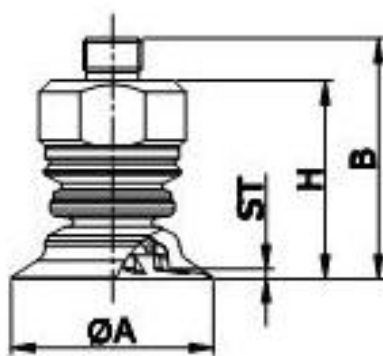
## Spare Parts – Fittings

Model No.	Description
18F/350-006-1101	Fitting – EB type, G1/8 female for 20mm bellow diameter
14F/350-006-1501	Fitting – EB type, G1/4 female for 20mm bellow diameter
18M/350-006-1201	Fitting – EB type, G1/8 male for 20mm bellow diameter
14M/350-006-1301	Fitting – EB type, G1/4 male for 20mm bellow diameter
38M/350-006-1401	Fitting – EB type, G3/8 male for 20mm bellow diameter
18F/350-006-1102	Fitting – EB type, G1/8 female for 40mm bellow diameter
14F/350-006-1502	Fitting – EB type, G1/4 female for 40mm bellow diameter
18M/350-006-1202	Fitting – EB type, G1/8 male for 40mm bellow diameter
14M/350-006-1302	Fitting – EB type, G1/4 male for 40mm bellow diameter
38M/350-006-1402	Fitting – EB type, G3/8 male for 40mm bellow diameter

## Dimensional Data



[EB1.5 & 4.0 & 5.0 / 40 series]



[EB1.5 & 4.0 & 5.0 / 20 series]

Fitting

18F

18M

14F

14M

38M

Model	Ø A	G	ST	H*	B *
EB 1.5/20 – P15	15.5	Female thread : 1/8", 1/4" Male thread : 1/8", 1/4", 3/8"	0.8	41.6	50.6
EB 1.5/20 – P17	17		0.9	42.0	51.0
EB 1.5/20 – P20	20		0.9	42.9	51.9
EB 1.5/20 – P27	27		1.4	43.9	52.9
EB 1.5/20 – P32	34		1.5	46.3	55.3
EB 4.0/20 – P15	15.5		0.8	39.4	48.4
EB 4.0/20 – P17	17		0.9	39.8	48.8
EB 4.0/20 – P20	20		0.9	40.7	49.7
EB 4.0/20 – P27	27		1.4	41.7	50.7
EB 4.0/20 – P32	34		1.5	44.1	53.1
EB 5.0/20 – P15	15.5		0.8	44.4	53.4
EB 5.0/20 – P17	17		0.9	44.8	53.8
EB 5.0/20 – P20	20		0.9	45.7	54.7
EB 5.0/20 – P27	27		1.4	46.7	55.7
EB 5.0/20 – P32	34		1.5	49.1	58.1
EB 1.5/40 – P48	48		1.7	49.1	58.1
EB 1.5/40 – P60	60		2.8	52.1	61.1
EB 4.0/40 – P48	48		1.7	71.5	80.5
EB 4.0/40 – P60	60		2.8	74.5	83.5
EB 5.0/40 – P48	48		1.7	81.5	90.5
EB 5.0/40 – P60	60	2.8	84.5	93.5	

\* Dimension "H" and "B" is measured with 14M fitting option

[Measure unit : mm]