

VSBO, VSBO+

Suction Cups for Bottle Handling



Industry-specific applications



Types of use

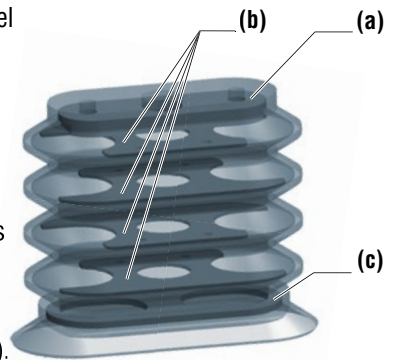


More information 

Designed for gripping 750 ml bottles, the VSBO suction cups range has grown with the development of the VSBO+, a specially created suction cup for gripping bottles at high frequency.

For the gripping of Magnum bottles, we have designed the Magnum suction cup VSBO 50105 with a lip shape and surface suited for the weight and the diameter of the bottle.

- The VSBO and VSBO+ are made for handling bottles from the side during vertical or horizontal gripping.
- The VSBO+ is equipped with anti-slip cleats to ensure the gripping of 750 ml bottles at high frequency and in humid environments.
- F2 mounting options: the VSBO Series includes 2 M6 threads allowing the suction cups to be mounted internally with 2 M5 screws or externally with 2 M6 screws.
- To increase lifting force while maintaining a large stroke and flexibility, the VSBO and VSBO+ suction cups are equipped with stainless steel upper inserts (a), and 4 stainless steel reinforcements (b) inside the bellows and with a lower reinforcement (c) available either in stainless steel or polypropylene.



Materials





Suction cups

- NBR** Nitrile
- NR** Natural rubber

Reinforcements

- Version D5** ■ Upper stainless steel insert (a), the 4 internal stainless steel reinforcements (b) and the lower reinforcement in stainless steel (c).
- Version D5P** ■ Upper stainless steel insert (a), the 4 internal stainless steel reinforcements (b) and the lower reinforcement in polypropylene (c).

Suction Cup Characteristics VSBO

	 (cm ³)	 (N) ⁽¹⁾	 (N) ⁽¹⁾	 f ⁽²⁾ (mm)	 (g)	NBR		NR	
						D5	D5P	D5	D5P
VSBO 4095	112.5	158	83	34	128	VSBO4095NBRD5	VSBO4095NBRD5P	VSBO4095NRD5	VSBO4095NRD5P

(1) Force measured at 65% on dry and smooth bottle without safety factor.

(2) f = Deflection of the suction cup.

Mounting holes:

The VSBO suction cup center to center distance is 45 mm.

Suction cup replacement without insert and reinforcements

NBR (Nitrile): Part No **VSBO4095NBR**

NR (Natural rubber): Part No **VSBO4095NR**



Suction Cup Characteristics VSBO+

	 (cm ³)	 (N) ⁽¹⁾	 (N) ⁽¹⁾	 f ⁽²⁾ (mm)	 (g)	NBR		NR	
						D5	D5P	D5	D5P
VSBO 4095C	112.5	158	83	35.5	128	VSBO4095CNBRD5	VSBO4095CNBRD5P	VSBO4095CNRD5	VSBO4095CNRD5P

(1) Force measured at 65% on dry and smooth bottle without safety factor.

(2) f = Deflection of the suction cup.

Mounting holes:

The VSBO+ suction cup has 2 center to center distances: 30 or 45 mm.

It includes an integrated seal to simplify the mounting.

Suction cup replacement without insert and reinforcements:

NBR (Nitrile): Part No **VSBO4095CNBR**

NR (Natural rubber): Part No **VSBO4095CNR**

The values represent the average characteristics of our products.



Options:

- Sensing valve (see page 3/19)
- Magnum bottle suction cup VSBO50105 (see page 3/18)



Specify the part number e.g.: **VSBO4095CNBRD5**
Please refer to the characteristics table above

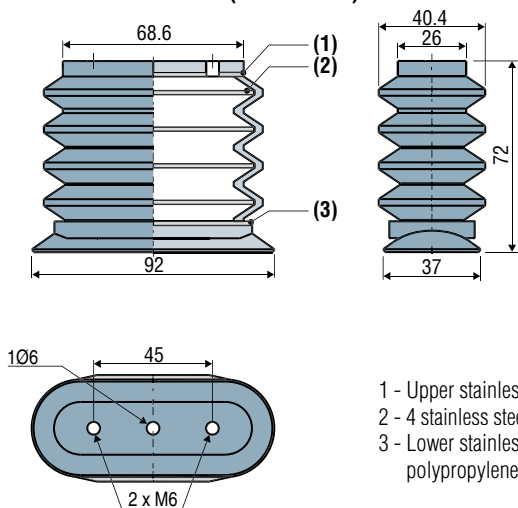
VSBO, VSBO+

Suction Cups for Bottle Handling

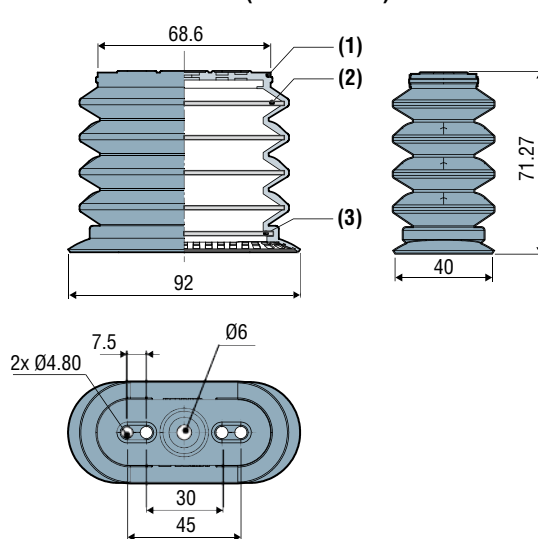


Suction Cup Dimensions

VSBO (VSBO4095)



VSBO+ (VSBO4095C)



1 - Upper stainless steel fitting
 2 - 4 stainless steel reinforcements
 3 - Lower stainless steel or polypropylene reinforcement

Suction Cups for Gripping Magnum Bottles

For the gripping of Magnum bottles, we have designed the Magnum suction cup **VSBO 50105 D5** with a lip shape and surface suited for the weight and the diameter of the bottle.

The **VSBO50105D5** includes:

- Suction cup with 4 bellows in nitrile, VSBO4095NBR
- One stainless steel upper insert
- A lower stainless steel reinforcement
- A 50 x 105 mm nitrile lip
- 4 stainless steel internal reinforcement

Materials

Suction cups	Insert and reinforcements
NBR Nitrile	Upper insert stainless steel
	4 internals reinforcements stainless steel

Suction Cup Characteristics

	(cm ³)	(N) ⁽¹⁾	(N) ⁽¹⁾	f ⁽²⁾ (mm)	(g)	NBR
VSBO50105	142.5	245	83	2.5 + 34	202	VSBO50105D5

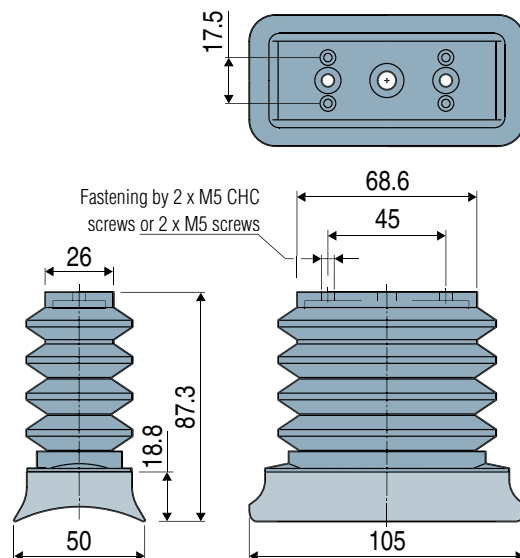
(1) Force measured at 65% on dry and smooth bottle without safety factor.
 (2) f = Deflection of the suction cup.

Note: The **VSBO4095** cups may be converted to a Magnum cup **VSBO50105D5** using the kit, **VP050105M**. This includes the lip (50 x 105 mm) in nitrile (NBR) with reinforcement for mounting below the cup.

Spare parts:

- 4 bellows suction cup in nitrile (NBR) without insert and reinforcement, part number: VSBO4095NBR or VSBO4095CNBR
- Sealing lip with dimensions 50 x 105 mm in nitrile (NBR), part number: VPB050105NBR

Dimensions



Specify the part number e.g.: **VSBO50105D5**
 Please refer to the characteristics table above

VSBO, VSBO+

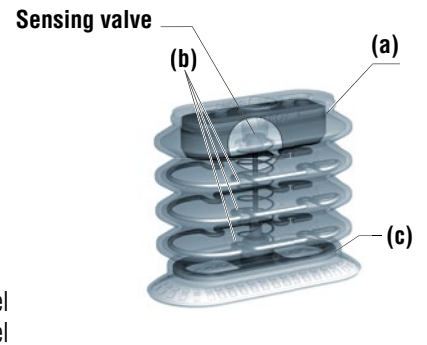
Suction Cups for Bottle Handling with Sensing Valve (V4 version)



Industry-specific applications



Types of use



Designed for gripping 750 ml bottles, the VSBO and VSBO+ suction cups are available with a new sensing valve (V4 version) ensuring an airtight vacuum network if a bottle is missing. This new technology gives a greater sensitivity in opening the valve and placing the suction cup under vacuum once contact is made with bottle.

The VSBO suction cups with sensing valve include one upper HDPE insert (a), 3 stainless steel reinforcements (b) in the bellows and an HDPE trigger plate (c) to increase the traction force while offering a large stroke and flexibility for box filling and emptying applications.

Materials

Suction cup	Insert and reinforcements	Sensing valve
NBR Nitrile	Upper insert HDPE	Pin Nylon
NR Natural Rubber	3 internals reinforcements Stainless steel	Cone Aluminum
		O-ring Nitrile
		Trigger plate HDPE
		Reinforcements Stainless steel
		Spring Stainless steel

Advantages of the V4 Sensing Valve

The sensing valve opens when pressure is exerted on the suction cup by a lower reinforcement called the "trigger plate".

- Valve adjustment underneath the suction cup
- Elimination of residual vacuum on release
- Immediate vacuum action from the first pressure
- No vacuum loss in the event a bottle is absent

Vacuum switch connection

The VSBO and VSBO+ suction cups with sensing valve V4 have a Ø 5 mm connection enabling a vacuum switch or blow-off.

Mounting:

The VSBO suction cups (VSBO4095..) and VSBO+ suction cups (VSBO4095C..) have a 45mm center to center mounting distance. The VSBO+ suction cups (VSBO4095C..) include an integrated seal to simplify the mounting.

Characteristics

	(cm³)	(N) (1)	(N) (1)	f (2) (mm)	(g)
VSBO	112.5	158	83	22	118
VSBO+	112.5	158	83	22	118

(1) Force measured at 65% on dry and smooth bottle without safety factor.
(2) f = Deflection of the suction cup.

Suction Cup Part Numbers

	Mounting distance 45mm, NBR Material	Mounting distance 45mm, NR Material
VSBO	VSBO4095NBRCH445	VSBO4095NRCH445
VSBO+	VSBO4095CNBRCH445	VSBO4095CNRCH445

The values represent the average characteristics of our products.

Replacement cup without valve, fitting and reinforcements

- VSBO series
 - NBR (nitrile): Part No VSBO4095NBR
 - NR (Natural rubber): Part No VSBO4095NR
- Serie VSBO+
 - NBR (nitrile): Part No VSBO4095CNBR
 - NR (Natural rubber): Part No VSBO4095CNR



Specify the part number e.g.:
VSBO4095CNBRCH445
Please refer part number table above

VSBO, VSBO+

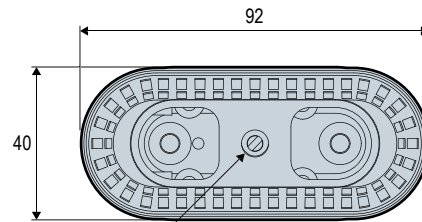
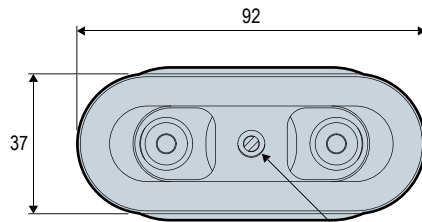
Suction Cups for Bottle Handling with Sensing Valve (V4 version)



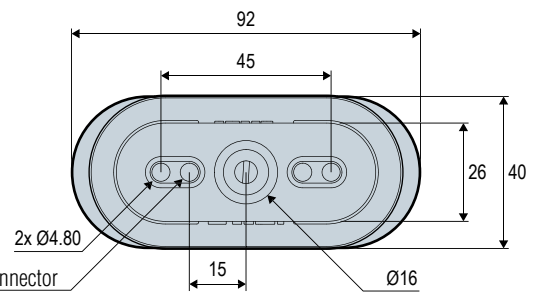
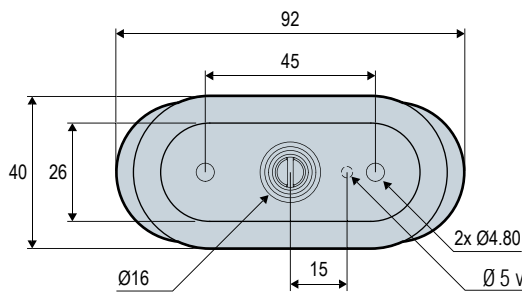
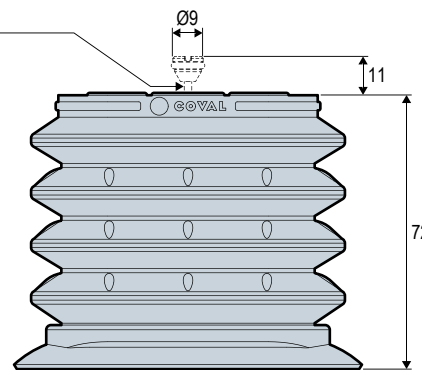
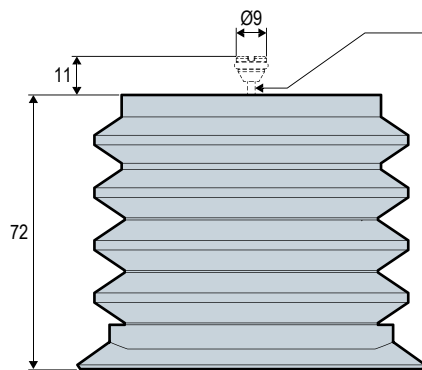
Dimensions

VSBO (VSBO4095)

VSBO+ (VSBO4095C)



pre-stress adjusting screw (0 to 5 mm)



Ø 5 vacuum-switch connector available in 45mm version

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VSBO, VSBO+