



Vacuum Components

STANDARD MACHINE ELEMENTS WORLDWIDE

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Vacuum components

Designed for gripping and handling products and packages of different shapes and sizes, vacuum components have construction features that allow them to be adapted to multiple machines with pneumatic automation.

The packaging sector (flow-pack), robot-automation, paper converting and electronics represent just some of the application sectors.

Finding the ideal suction cup for your application is simple. Just consider the following features.

- **Diameter:** from mini sizes of just 4 mm up to 125 mm
- **Compound:** 5 different types (oil-proof, natural, natural yellow, silicone and nitrile rubber) also with vulcanised treatments to improve tensile strength and extend its useful life
- **Shape:** cup, flat and elliptical vacuum components adapt to any type of shape and size and, in the bellows and multi-bellows executions, they can also compensate for errors in the flatness of the surfaces of the products to be handled

- **Shaped support surface:** the grooves or the particular internal labyrinth design allow you to obtain a high grip even on surfaces with different roughness or in the presence of liquids (water and oil)

The breadth of the range offers unique lifting forces for each suction cup which allow the manipulation and grip of very light and delicate products such as chocolates, biscuits, eggs, stickers, labels and sheets of paper up to parts with considerable weight such as glass plates, marble and metal.

The range is completed by complementary vacuum cup holders in brass, steel or stainless steel available in different configurations and sizes: spring (built-in or external), fixed, Mini, Micro. With threaded connection of different lengths to guarantee full adaptability to machinery.





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Vacuum components



Vacuum components for gripping and handling products in different industrial sectors.
Suction cups in different compounds and geometries (from 4 to 125 mm) for surfaces with different roughness.

19.1 Vacuum suction cups



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Material

- Rubber - N, NG, HNBR (16)
- Oil-proof rubber - A (11)
- Silicon - S (12)

VVA

Mini, flat with shank, shaped flat cup vacuum cups

Diameter from 7 to 65 mm, with and without support, rubber A, N, NG, S



For handling paper sheets and labels, and for the paper industry in general. The shaped labyrinth on the vacuum cup surface provides a more effective grip on the product to be handled; the grooves allow the vacuum to distribute evenly over the surface of the product, preventing the sheet or pack from being sucked into the vacuum cups.

VVE

Elliptical flat vacuum cups with one bellow - High Grip

With support, rubber HNBR



For the robot-automotive sector and for surfaces such as sheet metal or glass. The shaped labyrinth provides a high level of grip with the load surface even in the presence of liquids (oil, water). The bellows folds back on itself when in contact with the load surface, lifting the load off the surface.

VVB

Round vacuum cups - High Grip

With support, rubber HNBR
Diameter from 40 to 125 mm



For the robot-automotive sector and for surfaces such as sheet metal or glass. The flexibility of the gripping lip makes them suitable for flat, concave and convex surfaces. The shaped labyrinth on the vacuum cup surface provides a high level of grip with the load surface even in the presence of liquids (oil, water).

VVF

Elliptical vacuum cups

With support, rubber A, N, S



Fields of application: paper industry (cardboard boxes), ceramic sector (tiles or bricks) and iron or stainless steel profiles or sheets. The special elliptical shape makes them suitable for gripping, handling and clamping materials or products with elongated surfaces.

VVC

Round vacuum cups with one bellow - High Grip

With support, rubber HNBR
Diameter from 43 to 125 mm



For the robot-automotive sector and for surfaces such as sheet metal or glass. The shaped labyrinth provides a high level of grip with the load surface even in the presence of liquids (oil, water). The bellows folds back on itself when in contact with the load surface, lifting the load off the surface.

VVG

Elliptical vacuum cups with double bellow

With support, rubber A, N, S



Fields of application: paper industry (cardboard boxes), ceramic sector (tiles or bricks) and iron or stainless steel profiles or sheets. Suitable for gripping, handling and clamping materials or products with elongated surfaces. The bellows folds back on itself when in contact with the load surface, lifting the load off the surface.

VVD

Elliptical flat vacuum cups - High Grip

With support, rubber HNBR



For the robot-automotive sector and for surfaces such as sheet metal or glass. The flexibility of the gripping lip makes them suitable for flat, concave and convex surfaces. The shaped labyrinth on the vacuum cup surface provides a high level of grip with the load surface even in the presence of liquids (oil, water).

VVH

Cup-shaped vacuum cups

Diameter from 4 to 45 mm, with support, rubber A, N, S



Fields of application: electronics, food packaging, handling of multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter of the support surface and the shaped support, the mini versions are also suitable for handling objects with very small dimensions.

19. Vacuum components

19.1 Vacuum suction cups

Continues

VVI

Flat cup-shaped vacuum cups
Diameter from 25 to 60 mm,
with support, rubber A, N, S



Fields of application: electronics, food packaging, handling of multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Specifically used for handling ceramic or concrete tiles with smooth or shaped surfaces.

VVN

Bellows vacuum cups for Flow Pack
Diameter 20 and 30 mm,
with support, silicon S



For flow-pack packaging applications where the multi-bellow shape and extremely flexible lip allow the suction pad to be adapted to many different types of packaged products. Also suitable in the pharmaceutical and cosmetics industry.

VVK

Round Flat vacuum cups
Diameter 80 mm, with
support, rubber A, N, S



For handling tiles and can also be used with glass, marble and concrete products. Particularly flexible lip for smooth or rough, concave and convex flat surfaces, even very thin ones. Grooves on the vacuum cup surface allow for superior grip and more effective gripping.

VVO

Round vacuum cups with one bellow
Diameter from 40 to 85 mm,
with support, vulcanised
rubber A, N, S



For picking up sheet metal, glass plates, handling wood panels or plastic laminates. The vulcanised treatment offers more resistance to abrasion, tensile forces and aggressive environmental agents, ensuring less rubber wear. The bellows folds back on itself when in contact with the load surface, lifting the load off the surface.

VVL

Bellows vacuum cups for food packaging
Diameter from 6 to 75 mm,
rubber A, N, S



Fields of application: food, paper and plastic packaging. The bellows shape allows the suction pads to adapt to different shapes and sizes. The design of the vacuum cup surface provides a high grip even with products that have uneven or sloping surfaces.

VVP

Round vacuum cups with double bellows
Diameter from 40 to 85 mm,
with support, vulcanised
rubber A, N, S



For picking up sheet metal, glass plates, handling wood panels or plastic laminates. The vulcanised treatment of the rubber offers more resistance to abrasion, tensile forces and aggressive environmental agents. The multi-bellow shape allows perfect adaptability to different surfaces, even those with unevenness or flatness errors.

VVM

Multi-Bellows Round vacuum cups for food packaging
Diameter from 20 to 50 mm,
with support, rubber A, N, S



For the food packaging sector, in particular for the handling of bakery products, even fragile, where the multi-bullet shape allows perfect adaptability to different surfaces, even those that are not regular or with flatness errors (e.g. biscuits, bread, snacks).

VVQ

Reinforced Bellow vacuum cups
Diameter from 22 to 53 mm,
with support, rubber A, N, S



Designed to strip and pick up sheets of paper and cardboard, thin sheets and wooden panels, even on uneven or sloping surfaces. The reinforced bellows (wider and thicker) allows for higher lifting force, greater resistance to abrasion and wear, extending service life.



TECHNICAL DATA



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19. Vacuum components

19.2 Vacuum cup holders



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Material

- Stainless steel (1)
- Brass - Aluminium (2)
- Brass - Steel (5)

VPA

Vacuum cup suspensions

*Threaded connection
male or female, steel,
aluminium and brass*



4 available executions, each with three different effective spring strokes specific to each stem length. The presence of the spring allows the impact of the suction cup to be cushioned while maintaining a constant pressure with the load to be lifted.

VPE

Mini vacuum cup with built-in spring suspensions

*Threaded connection
female, steel, aluminium
and brass*



2 available executions, each with different effective spring strokes. The special shape of the stem prevents rotation during movement. The recessed spring protected by the body cushions the impact of the suction cup by maintaining a constant pressure with the load to be lifted

VPB

Vacuum cup suspensions - Fixed

*Threaded connection male or
female, aluminium and brass*



4 available executions. The threaded sleeves, with clamping ring for height adjustment and mounting on the automation, with a minimum length of only 74 mm provide a compact solution for fastening the suction pad with holder.

VPF

Mini vacuum cup suspensions - Fixed

*Threaded connection female,
steel, aluminium and brass*



2 available executions. The threaded sleeves, with clamping ring for height adjustment and mounting on the automation, with a minimum length of only 46 mm, represent a compact solution for mounting the suction pad with holder.

VPC

Anti-rotation vacuum cup suspensions

*Threaded connection male,
steel, aluminium and brass*



2 available executions, each with three different effective spring strokes specific to each stem length. The specific hexagonal shape of the stem prevents the stem and the suction cup attached to it from rotating on its own axis. The spring cushions the impact of the suction cup and maintains a constant pressure with the load to be lifted.

VPG

Anti-rotation mini vacuum cup spring suspensions

*Threaded connection
male or female, steel,
aluminium and brass*



6 available executions with an effective spring stroke of 25.5 mm. The specific hexagonal shape of the stem prevents the stem and the suction cup attached to it from rotating on its own axis. The spring cushions the impact of the suction cup and maintains a constant pressure with the load to be lifted.

VPD

Mini vacuum cup spring suspensions

*Threaded connection
male or female, steel,
aluminium and brass*



8 available executions and with an effective spring stroke of 25.5mm. They are characterised by their small size, which allows for a reduction in weight and space on the automation on which they are installed. The spring cushions the impact of the suction cup and maintains a constant pressure with the load to be lifted.

VPH

Micro vacuum cup spring suspensions

*Threaded connection
female, stainless steel,
aluminium and brass*



INOX
STAINLESS
STEEL

5 available executions, with an effective spring stroke of 10 mm. With a length of only 73 mm, it is an extremely compact and lightweight solution for mounting vacuum cups with diameters up to 16 mm and with M5 male support

19.3 Vacuum cup fittings



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Material

- Aluminium - Steel (1)

VRA

Vacuum cup fittings

*For VVB, VVC, VVD e VVE
High grip vacuum cups,
aluminium or steel*



6 available executions, used to connect suction cups to cup holders with different thread sizes. They allow both male-to-female and adapt to GAS, metric or NPT threads.



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