



Vacuum Components

Product Overview



Efficiency

Efficient – throughout a product's life

Schmalz attributes great importance to resource and energy efficiency right from the development stage of its vacuum components. Our products are manufactured in a carbon neutral manner using recyclable materials. To ensure optimum use of energy during operation, Schmalz has developed the automatic air-saving function and its eco-nozzle technology for ejectors, for example.

Intelligence

Industry 4.0 – intelligent production

In the future, products will plan their own production process – without human intervention. Using IO-link technology, our Smart Field Devices are networked within the entire production process. Diagnostic functions such as energy monitoring, condition monitoring and predictive maintenance ensure a high degree of process transparency.

Industry Expertise

At home in many industries worldwide

We inspire our customers by showing how vacuum technology can be used to design more efficient production processes. In order to meet your specific needs in different branches of industry, we offer components and system solutions for automation and handling in virtually all sectors.

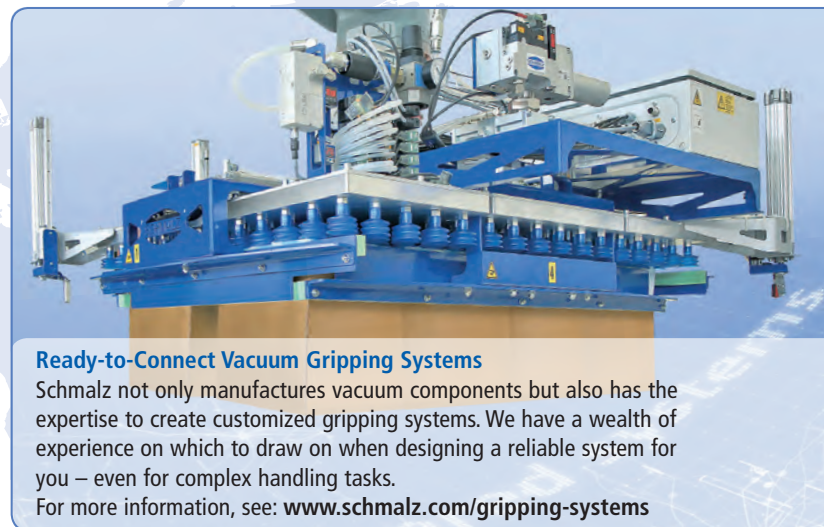
Your Contact at Schmalz

If you would like to find out more about our products or need some help designing your system, please do not hesitate to contact us and we will be happy to help.



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Ready-to-Connect Vacuum Gripping Systems

Schmalz not only manufactures vacuum components but also has the expertise to create customized gripping systems. We have a wealth of experience on which to draw on when designing a reliable system for you – even for complex handling tasks.

For more information, see: www.schmalz.com/gripping-systems

Practical
"How-to" videos
are available at:

www.schmalz.com/video



For questions concerning
system design
and maintenance:

www.schmalz.com/service





Schmalz – The World of Vacuum Technology

Consistent customer orientation and groundbreaking innovations, excellent quality and comprehensive consulting competence make Schmalz the world's leading partner for vacuum technology in the field of automation.

Find and Order Vacuum Components Quickly and Easily



- Find and compare components quickly and save them in a list
- Convenient product comparison function
- Order items directly
- Useful explanatory videos for many components
- CAD download
- Real-time price and availability check



Vacuum Components Catalog

Find all Schmalz products as well as lots of useful information about vacuum technology in our components catalog. We will be happy to send you a free personal copy. Order now at: www.schmalz.com/catalogs



Schmalz online shop
www.schmalz.com

Vacuum Suction Cups



Vacuum suction cups come in a wide range of shapes, sizes and materials. They act as the connecting element between the machine and workpiece, and are used to lift and transport objects of all kinds.

Flat Suction Cups (Round/Oval)



For flat to slightly curved and narrow workpieces

Bellows Suction Cups (Round/Oval)



Good adaptive characteristics suitable for uneven workpieces

Suction Cups for Industry Applications



Sheet metal/automotive Good handling specifically for oily surfaces



Wood Excellent properties under harsh operating conditions



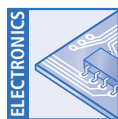
Packaging For handling tasks in the fastest of packaging processes



Plastics Specifically for mark-free gripping and temperature resistance



Solar Careful handling of photovoltaic components



Electronics For all handling steps within the electronics production process



Glass Mark-free handling of smooth, thin workpieces

Special Grippers



The range of special grippers includes many variants with differing sizes, shapes and principles of operation. They are used for workpieces that cannot be gripped using vacuum suction cups.

Floating Suction Cups



Floating suction cups enable contact-free handling of sensitive workpieces using an air cushion between the gripper and the surface.

Magnetic Grippers



A permanent magnet ensures that sheets with holes, bores and gaps are held securely.

Needle Grippers



Porous and unstable workpieces such as textiles or composite materials are held securely using retractable needles.

Thin Glass/Wafer Grippers



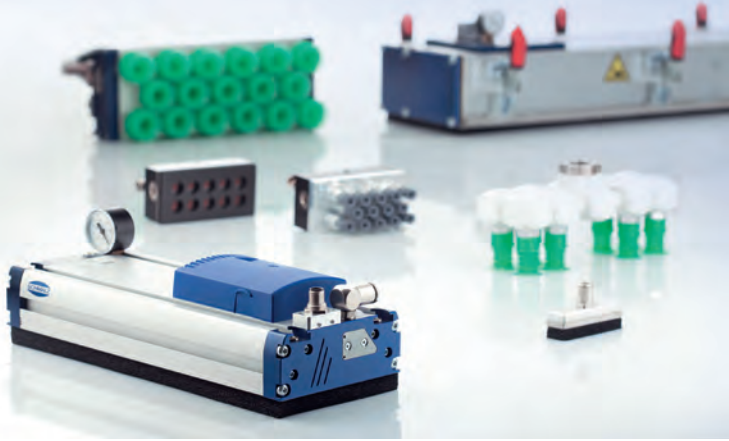
Thin glass/wafer grippers allow rapid and gentle handling as well as precise positioning of solar wafers and thin glass.

Composite Grippers



Composite grippers ensure secure handling of porous, non-rigid or permeable workpieces such as plastic film, paper and wooden veneer.

Vacuum Area Gripping Systems and Vacuum End Effectors



With its vacuum area gripping systems that are supplied ready for connection, Schmalz provides innovative, integrated solutions for a diverse range of applications in virtually all automated handling processes.

Area Gripping Systems FXP/FMP



Automatic palletizing, picking and sorting of a range of different goods – just one area gripping system is all you need.

Area Gripping Systems SBX



The area gripping system SBX was developed specifically for very rugged applications in the timber and woodworking industry and covers a wide range of applications in the modular system.

Vacuum End Effectors VEE



Modular system for designing vacuum end effectors and grippers for dynamic packaging processes.

Mounting Elements



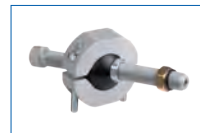
Mounting elements combine vacuum components into efficient vacuum systems. The modular design ensures that the components are combined for optimum effect.

Sections and Connections



High strength aluminum sections and a wide range of accessories ensure a tailored base structure for vacuum systems.

Holders



Holders provide a high level of flexibility during the assembly and adjustment of grippers and spring plungers, as well as providing a simple connection method with sections and pipes.

Spring Plungers



Spring-mounted holders on grippers compensate for differences in height and enable soft placement on sensitive workpieces.

Jointed Mountings



Multi-directional jointed mountings enable optimum adjustment of the vacuum suction cup on uneven workpiece surfaces.

Vacuum Generators



Vacuum generators can be operated pneumatically or electrically. Using different operating principles and performance levels, they can generate vacuum for every application.

Ejectors



Pneumatic vacuum generators are light and compact, making them suitable for decentralized installation in the vacuum system. They achieve extremely short cycle times and are low maintenance and wear-resistant. Thanks to the integrated automatic air-saving function and an IO-link interface, ejectors are energy efficient and work in an optimum way for the process.

Pumps



Electrical vacuum pumps generate a strong vacuum and a high flow rate for use in central vacuum systems.

Blowers



Electrical vacuum blowers have a very high suction capacity and thus compensate for considerable leakage, when handling porous workpieces.

Valve Technology



Valve technology is used to control the vacuum and compressed air. It improves process reliability in automated processes and is based on a variety of different operating principles.

Solenoid Valves



Vacuum and compressed air is controlled by direct electrical switching signals or pneumatic pilot control.

Check Valves



Valves close automatically if one or more vacuum suction cups are not in use.

Flow Restrictors



Reduction of the cross-sectional area, which ensures that the system vacuum is maintained even if the suction cups are not in contact with a workpiece.

Touch Valves



Touch valves open the vacuum line when the vacuum suction cup comes into contact with a workpiece.

Manual Valves



Manual valves enable manual activation and deactivation of the vacuum and compressed air.

Switches and System Monitoring



Switches as well as measuring and control components facilitate system monitoring. They are crucial for the safe and energy efficient operation of a vacuum system, and guarantee maximum process reliability.

Vacuum and Pressure Switches



Vacuum and pressure switches are available in electronic and mechanical versions. They work in a measuring range of -1 to 10 bar and their outputs are digital or analog. The IO-link interface and integrated NFC chip enable data to be read and measured values to be programmed.

Measuring and Control Devices



Vacuum regulators are mechanically adjustable and compensate for pressure variations from vacuum generators. Gauges measure and provide an analog display of the vacuum.

Filters and Connections



Filters effectively protect a vacuum system against contamination. Hose lines and distributors connect individual components, enabling the creation of vacuum on the workpiece.

Vacuum Filters



Filters with different sizes and degrees of separation protect the vacuum generator against dirt.

Vacuum Distributors



In systems with centralized vacuum and compressed air generation, the distributor directs the volume flow through different connection cross sections to a decentralized point.

Hoses and Connections



Schmalz provides all manner of accessories for building a functioning vacuum system, ranging from hoses and plug in screw unions to sealing rings and hose clamps.



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Vacuum Handling Systems
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Vacuum Clamping Systems
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