SCHMALZ



Vacuum Automation · Handling Systems

Solutions for the Automotive Industry

AUTOMOTIVE

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Schmalz: Vacuum Technology for Intelligent Automation and Ergonomic Handling

1500
employees
working hard for our customers.

19
locations
for outstanding customer service worldwide.

9
percent
of our revenue is invested in innovative ideas and new products.

580
copyrights
are proof of our groundbreaking innovations.



Schmalz is the Market Leader in Vacuum Automation and Ergonomic Handling Systems.

The wide range of products in the Vacuum Automation unit includes individual components such as suction cups and vacuum generators, as well as complete gripping systems and clamping solutions for holding workpieces, for example in CNC machining centers. The Handling Systems unit offers innovative handling solutions with vacuum lifters and crane systems for industrial and handicraft applications.

Our products are used in different applications for example in the logistics industry, the automotive industry, the electronics sector and in furniture production.

With comprehensive consulting, a focus on innovation and first-class quality, Schmalz offers its customers long-lasting benefits.
Schmalz's intelligent solutions make production and logistics processes more flexible and efficient, while also preparing them for the increasing trend toward digitalization.

Vacuum Automation

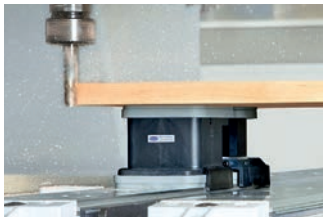


Components



Systems

Handling Systems



Clamping solutions

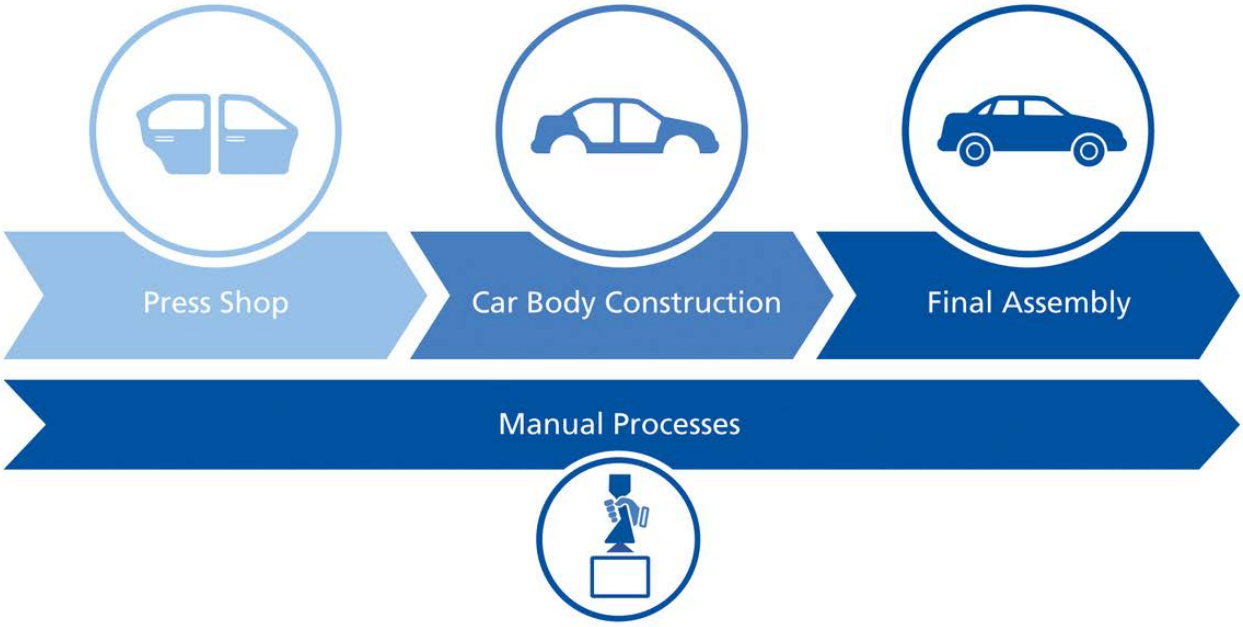


Vacuum lifters and crane systems

Vacuum Technology for the Automotive Industry

The automotive industry is one of the most important economical sectors, with a densely networked supplier industry. In general, the sector is divided into vehicle manufacturers, component suppliers and plant manufacturers. Due to the ever growing number of different car models and increased manufacturing capacities with plants in new markets such as China, vehicle manufacturers are increasingly focused on modular platforms and construction kits. These allow attachment parts, assemblies and even production lines to be reused, thus reducing production costs. Vacuum components from Schmalz are used wherever automated handling of parts is needed. This is particularly true for applications in press shops, car body construction and final assembly. In addition to automation technology, Schmalz also offers ergonomic vacuum lifters and crane systems for the automotive industry. They enable ergonomic and fatigue-free handling of heavy and unwieldy parts.

PROCESS STEPS AND VACUUM SOLUTIONS IN AUTOMOTIVE PRODUCTION





From Destacking Sheets to Unloading the Press



Forming and Joining Processes in Car Body Construction



Handling of Components in Final Vehicle Assembly



Crane and Lifting Solutions for Manual Handling in Logistics and Assembly

Press Shop

From Destacking Sheets to Unloading the Press

REQUIREMENTS AND SOLUTIONS



Bell-shaped suction cup SAX and vacuum generator SXMPi for handling side panels

Highly Dynamic and Transparent Processes

- Automotive suction cups for transmitting high lateral forces to dry, dry-lubricated and oil-lubricated sheet metal
- Powerful vacuum generators with integrated process monitoring for shortest grip and release times

Resistant to Dirt and Oil

- Specially developed suction cup materials with high resistance to drawing oils
- Robust vacuum generators that work reliably under the toughest operating conditions



Bell-shaped suction cup SAX, vacuum generator SEAC and holder for tooling HT for handling side panels

Good Adaptation to Complex Workpiece Shapes

- Complete range of suction cups for the most varied workpiece formats and contours in almost all process steps of sheet metal forming
- Wide range of holders for optimum adjustment of the suction cups to the workpiece contour

Temperature Resistance During Hot Forming

- Suction cups made of the material HT2 for unloading hot sheet metal parts from the press tool
- Wear-resistant magnetic grippers with high holding forces for flexible handling of sheet metal parts with complex shapes or cutout patterns

SELECTED PRODUCTS

Bell-Shaped Suction Cups SAX



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Holder system for tooling HT-SG



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Ejectors with Active Blow Off SEAC



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Compact Ejectors X-Pump SXPi / SXMPi with IO-Link



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Car Body Construction

Forming and Joining Processes in Car Body Construction

REQUIREMENTS AND SOLUTIONS



Flexible holder HTR-UNI and bell-shaped suction cups SAXM in a forming and joining station

High Energy Efficiency During Vacuum Generation and Handling

- Suction cups with outstanding sealing properties on complex shapes
- Vacuum generators with integrated air-saving function

Reliable and Transparent processes

- Continuous monitoring of vacuum systems for leakage, contamination and cycle times
- Recording, evaluation and visualization of all relevant process data to increase system availability



Magnetic gripper SGM-HP for handling structural parts

High Ozone Resistance in all Materials Used

- Specially developed suction cup materials ensure a long service life in the environments surrounding laser cutting machines and welding systems
- Extension of the maintenance intervals of large-scale and complex gripping systems

Vacuum Powered for Flexible and Cost Efficient Operation

- Low weight tooling by using suction cups instead of heavy mechanical clamps
- Space saving gripping from above instead of lateral mechanical clamping

SELECTED PRODUCTS

Bell-Shaped Suction Cups SAX



WWW.SCHMALZ.COM/SAX

Magnetic Grippers SGM-HP/-HT



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Compact Ejectors SCPi / SMPi



WWW.SCHMALZ.COM/SCPI

Compact Terminal SCTSi IO-Link



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Final Assembly

Handling of Components in Final Vehicle Assembly

REQUIREMENTS AND SOLUTIONS



Bellows suction cup SAB-HT1 for handling side windows

Handling and Installing Front, Side and Rear Windows

- Mark-free suction cup material HT1 for handling glass along the entire process chain, from application of the adhesive to installation in the vehicle
- Suction cups with a flexible sealing lip, a bellow and a defined support surface for gentle pickup of curved windows with high force transmission



Area gripper FX-SV for handling an automotive battery

Handling and Placing Automotive Batteries

- Gripping system enables safe handling of different battery types using check valve technology and adaptable sealing foam
- Available with integrated pneumatic vacuum generation or with external electrical vacuum generation, depending on customer requirements

SELECTED PRODUCTS

Bellows Suction Cups SAB HT1 (1.5 Folds)



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Area Gripping Systems FXP



WWW.SCHMALZ.COM/FXP

Universal Holders HTR-UNI



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Vacuum and Pressure Switches VSi



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Manual Processes

Crane and Lifting Solutions for Manual Handling in Logistics and Assembly

REQUIREMENTS AND SOLUTIONS



Vacuum tube lifter JumboFlex for handling automotive batteries in logistics

Logistics and Intra-logistics in Automotive Plants

- Fatigue-free handling of brake disks of various sizes and geometries
- Intuitive, fatigue-free handling of aluminum rims in intra-logistics

Safe Handling of Heavy Components

- Loading and unloading of autogas tanks in load carriers
- Handling of large-scale windshields in the warehouse



Vacuum tube lifter JumboFlex for handling windshields

Manual Handling in Press Shop and Paint Shop

- Ergonomic handling of even large sheet metal parts, such as roofs at the end of a press line and in the follow-up inspection
- Ergonomic assistance for lifting and lowering hoods and tailgates

Manual Handling in Assembly

- Safe and ergonomic handling of drive shafts, windscreens, tank systems, exhaust units, starter batteries and battery modules for electric vehicles
- Ergonomic handling of large-format components of commercial vehicles, buses and caravans

SELECTED PRODUCTS

JumboFlex



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JumboErgo



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VacuMaster Basic for horizontal handling



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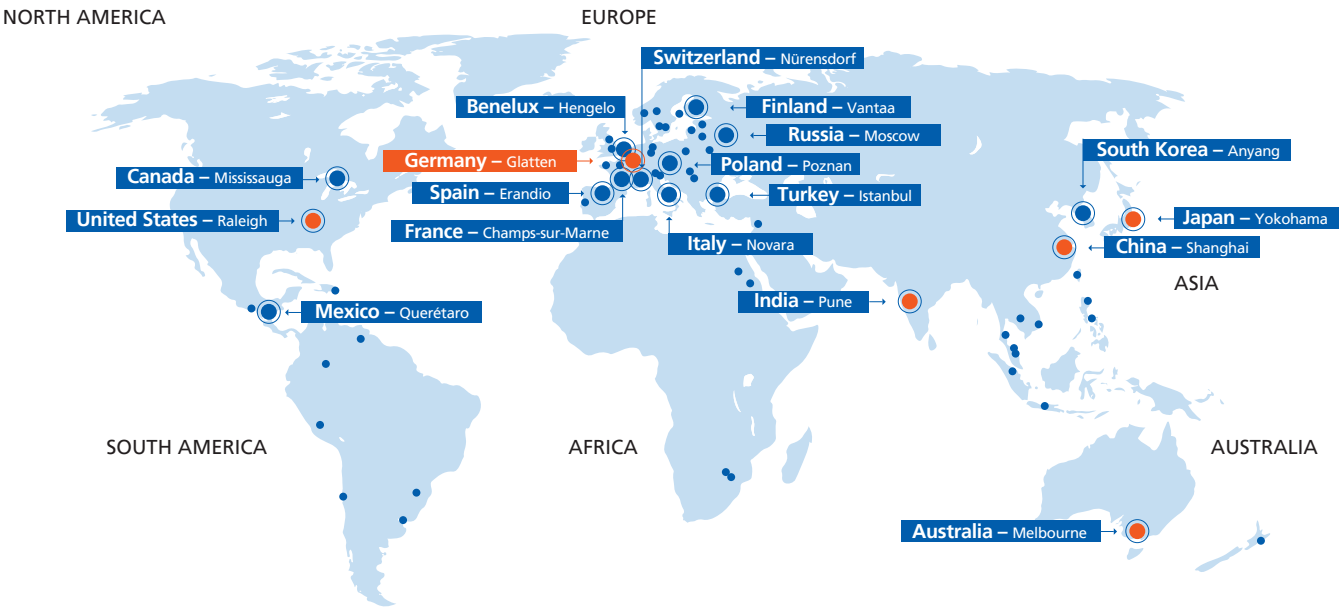
Aluminum Bridge Cranes SRA



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