Ergonomic Handling Solutions

SCHMALZ

Vacuum Handling Systems

Solutions for the chemical and pharmaceutical sector

Schmalz – World of Vacuum Technology

Strict customer-orientation and trend-setting innovations, excellent quality and comprehensive advisory skills make Schmalz the world's leading partner for vacuum technology in automation, handling and clamping technology.

As a worldwide active company with excellent products and services, we offer our customers in trade and industry trend-setting solutions. We have many enthusiastic customers in all sectors where production processes are made more efficient with the aid of vacuum technology.

In order to meet the specific requirements in various sectors of industry, we offer vacuum handling systems intended primarily for use in the following areas:

- Chemicals/pharmaceuticals
- Logistics/packaging
- Metal/sheet-metal
- Wood/plastics
- Aerospace industry
- Renewable energy (wind and solar energy)

Thanks to our worldwide sales network with wholly-owned companies and sales partners in more than 50 countries, we have highly-qualified sales personnel and consultants available in your vicinity.

Many prestigious awards document our company's ecological and social responsibility

Send a request for our catalogue "Vacuum Handling Systems" today:

Tel. 0411-13800

or at www.pmh.se

This contains our complete product range and many application examples.
More detailed information about Schmalz vacuum technology can be found in our current catalogue "Vacuum Handling Systems – Applications & Products". We will gladly send you a free printed copy of this catalogue.

Ergonomic and efficient workpiece handling

Product innovations for the chemical industry

Special suction pads for the chemical sector

- Damage-free handling of plastic and paper sacks (with inlayer)
- Safe handling of barrels up to 200 litres, even with bung holes
- Mechanical grippers for handling of buckets and canisters
- Simultaneous handling of several workpieces
- Flexible lifting devices with quick-change adapters for rapid changing of the suction pads

Adaptable vacuum generators with long operating life

- Directly driven for low wear and minimum maintenance
- Quiet operation due to low speed
- Low blower temperature even when running at full load
- Vacuum-generator output can be adjusted to match the properties of the workpieces to be handled
- Optional: frequency regulation for handling workpieces of varying weights

Special solutions for explosion-proof areas

- JumboHandy Ex for loads weighing up to 30 kg, with pneumatically powered multi-stage ejector
- JumboSprint Ex for loads weighing 45 to 300 kg
- Wide range of stainless-steel suction pads
- All mechanical parts with antistatic properties and grounding connections
- Suitable crane systems in stainless steel or painted, with grounding connections
- Comprehensive range of accessories suitable for explosion-proof areas (including quick-change system for rapid changing of the suction pads)

Selection aid

Selection criterion	Vacuum tube lifters Jumbo (Page 6)	Vacuum lifting devices VacuMaster (Page 8)
Workpiece	Airtight and porous workpieces, such as barrels with bung holes, buckets, plastic and paper sacks, canisters, etc.	Barrels of varying sizes and weights
Weight	Workpieces up to 300 kg	Workpieces up to 2000 kg
Lifting speed	Frequent, fast lifting and movement with a single medium	The device grips the workpiece with vacuum and is lifted and lowered with a chain hoist
Type of handling	horizontal, 90° tilting	horizontal, 90° tilting, 180° turning

Handling of sacks

Damage-free handling of various materials and containing various substances

Special industry requirements

- Productivity increases of up to 30%
- Damage-free gripping and palletizing of sacks, such as plastic and paper sacks
- Easy and fast emptying of sacks into mixers, silos, etc.
- Resistance to chemicals, salts, vapours, etc.
- Safe operation in explosion-proof zones 1/21 and 2/22

Our industry solutions

- Vacuum tube lifter Jumbo with sack gripper for fatigue-free work
- JumboSprint control unit for precise handling in an ergonomically optional posture
- Jumbo control-unit Flex for energysaving handling of sacks up to 25 kg
- Made from high-quality materials, also available in stainless steel
- Aluminium slewing cranes and crane systems for a perfectly matched system solution

Jumbo Sprint, maximum load 45 kg, with sack gripper, for handling plastic and paper sacks

JumboSprint, maximum load 65 kg, with sack gripper, for handling sacks in explosion-proof areas to ATEX

JumboSprint, maximum load 65 kg, with sack gripper, for commissioning of plastic and paper sacks

JumboFlex, maximum load 35 kg, with sack gripper, for handling plastic sacks weighing up to 25 kg

Handling of canisters and buckets

Dynamic and effortless – for all shapes and sizes

Special industry requirements

- Easy handling of workpieces which have to be gripped at difficult positions (handles, wire handles, lids)
- Simultaneous handling of several workpieces with a single gripper
- Safe and damage-free handling
- Resistance to chemicals, salts, vapours, etc.

Our industry solutions

- Vacuum tube lifter Jumbo with single suction pad or mechanical grippers for independent unpacking and packing of the workpieces

JumboErgo, maximum load 45 kg, for commissioning of canisters

JumboFlex, maximum load 35 kg, with round suction pad, for handling of buckets

JumboErgo, maximum load 65 kg, for unstacking five canisters on a roller conveyor

JumboErgo, maximum load 45 kg, with dual suction pad, for simultaneous handling of two buckets

Handling of barrels

Safe and ergonomic – for a wide range of dimensions

Special industry requirements

- Increased productivity
- Damage-free gripping and transport of barrels, including kegs
- Easy handling of barrels with varying types and shapes of lids, including barrels with bung holes and lids secured with clamping rings
- Gripping from the side and emptying of barrels weighing up to 85 kg
- Resistance to oils, chemicals, salts, etc.
- Safe operation in explosion-proof zoned 1/21 and 2/22

Our industry solutions

- Vacuum lifting devices VacuMaster with single suction pads
- Vacuum tube lifters Jumbo with round suction pads for fatigue-free operations
- Made from high-quality materials, optionally available in stainless steel
- Customer-specific gripper for gripping barrels from the side and tilting them
- Aluminium slewing cranes and crane systems for a perfectly matched system solution

JumboErgo, maximum load 140 kg, with customer-specific gripper solution, for simultaneous handling of four barrels

VacuMaster Eco, maximum load 250 kg, for barrel handling

JumboErgo, maximum load 85 kg, with side gripper, for handling and emptying barrels

JumboErgo, maximum load 300 kg, with round suction pad, for handling barrels

Further solutions

Simple handling, even for special applications

Special industry requirements

- Handling of heavy and unwieldy workpieces by a single person, without risk of injury
- Customer-specific solutions
- Frequent and fast lifting and moving of workpieces
- Simultaneous handling of several workpieces

Our industry solutions

- Vacuum tube lifters Jumbo with special suction-pad solutions
- Jumbo Flex, Ergo and Sprint, operator controls as desired, for precise handling in an ergonomical posture
- Vacuum lifting devices VacuMaster with customer-specific and application-specific modifications
- Mechanical grippers suspended on chain hoists
- Simultaneous handling of several workpieces

JumboErgo, maximum load 65 kg, with mechanical crate gripper, for handling metal boxes

JumboSprint, maximum load 65 kg, with vacuum sack gripper, for handling bales of raw rubber

JumboSprint, maximum load 45 kg, with dual suction pad, for handling cardboard boxes

VacuMaster, maximum load 140 kg, for moving barrels from a vehicle discharge point to a conveyor belt

Vacuum tube lifters Jumbo

Versatile lifting and movement with a single medium

Functionality
- The loads are gripped and lifted only by the vacuum
- Simple adaptation of the lifter to meet individual requirements, thanks to the modular system of variable basic components which can be combined in many ways

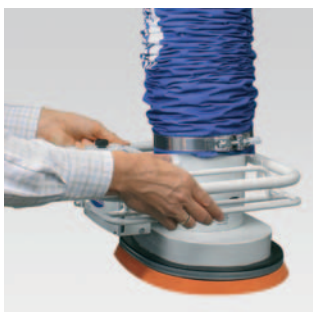
Safety
- Quick-acting non-return valve and large suction-pad area prevent dropping of the load, even if the power fails
- Designed in accordance with the German accident-prevention regulations laid down in BGR/BGV 500

Ergonomy
- Compliance with the latest ergonomic best practices reduces the risk of injuries to the operator

Reliability
- For all vacuum tube lifters, we offer a two-year warranty in single-shift operation

Efficiency
- Efficiency is improved by up to 30%

JumboFlex
- One-hand operation



JumboSprint
- Precise handling of heavy and unwieldy loads

JumboErgo
- Twist grip fast handling (similar to that on a motorcycle)

Quick-change adapter SWA
- All suction pads can be changed in a matter of seconds with the aid of the quickchange adapter SWA

Ergonomic operator controls for almost every application
- Maximum loads from 20 kg to 300 kg
- Precise handling of light and heavy loads
- Safe operation and an ergonomic posture at any working height

Solutions for explosion-proof areas

Simple handling, even for special applications

Special industry requirements

- Handling of sacks, paint containers and explosive materials

Our industry solutions

- Wide range of stainless-steel suction pads
- All mechanical components with antistatic coatings and, if necessary, with grounding connection
- Suitable crane systems made from stainless steel or painted, with grounding connection
- Comprehensive range of accessories suitable for use in explosion-proof areas (including a quick-change system for rapid changing of the suction pads)
- Antistatic lifting tubes and feed hoses
- Available in stainless steel or in specially coated aluminium

Safety

- Meticulous testing of the components and assemblies by analysis of the ignition risk
- All documentation archived by the testing company

JumboSprint, maximum load 65 kg, with sack gripper, for handling sacks in an explosion-proof area in accordance with ATEX

JumboSprint, maximum load 45 kg, with single suction pad, for handling cardboard boxes in an explosion-proof area in accordance with ATEX

JumboHandy Ex bow handle

- Maximum load 30 kg
- Pneumatically powered multi-stage ejector (SEM 100 Ex)

JumboSprint Ex

- Pneumatically powered multi-stage ejector (SEM 300 Ex)
  - Maximum load 45 to 85 kg
  - Classification II 2 GD c II B 85°C(T6) 0°C≤Ta≤+40°C
- Vacuum blower SB-L Ex – maximum load 250 kg
  - Classification II 3G / 3GD c II B 125°C(T4) 0°C≤Ta≤+40°C

Vacuum lifting devices VacuMaster

The trendsetting generation of vacuum lifting devices

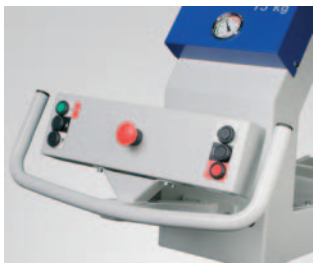
VacuMaster Basic, maximum load 250 kg, horizontal, for handling of barrels

VacuMaster Basic/Comfort

For handling of barrels, sheets, etc.

- Extremely versatile vacuum lifting device
- Components matched individually to the specific application
- Main beam with integrated vacuum reservoir and distributor
- Ergonomic operator handle (on the Comfort version) with integrated push-button controls
- Electronic warning device, non-return valve
- Optional: 90° tilting or 180° turning of the workpiece
- Maximum load 125 to 750 kg
- 3-year warranty in single-shift operation

Operator handle Basic



Operator handle Comfort

VacuMaster Eco, maximum load 250 kg, horizontal, for handling of barrels

VacuMaster Eco

For horizontal handling of smooth and airtight workpieces without an external power supply

- Safe operation thanks to battery-powered warning device with battery-test function
- Very flexible, since it needs no external power
- Construction similar to the VacuMaster Basic/Vario
- Maximum load 250 to 1000 kg
- 3-year warranty in single-shift operation

VacuMaster Light, maximum load 100 kg, horizontal, for handling of barrels

VacuMaster Light

For handling of airtight workpieces such as barrels

- Fatigue-free operation thanks to ergonomic controls and low intrinsic weight
- Suction pads can be adjusted quickly and easily for handling of workpieces with varying dimensions
- Fast commissioning thanks to simple installation (compressed air required)
- Safe handling thanks to an intelligent warning device
- Maximum load 100 kg
- 3-year warranty in single-shift operation

Crane systems and chain hoists

Safety and mobility for vacuum handling systems

Cranes

- Very ergonomical thanks to low moving masses
- Minimum overall height – also suitable for use in rooms with low ceilings
- Optimal routing of power supplies (electricity, compressed air, vacuum)
- Designed especially for use with the Jumbo and VacuMaster
- Also available in stainless steel for use in explosion-proof areas (zones 1/21 and 2/22)
- 2-year warranty in single-shift operation

Column mounted jib crane with Jumbo

Stainless-steel articulated-jib crane with Jumbo

Aluminium crane system with chain hoist

Wall mounted jib crane with chain hoist

Chain hoists

- High level of safety thanks to low voltages on the control unit
- Long operating life thanks to limit switches on the lifting system
- Precise, damage-free positioning with two lifting speeds
- Fast operation thanks to high lifting speeds
- Also available with frequency regulation for extremely precise positioning, particularly suitable for fragile workpieces or for assembly work
- 2-year warranty

World of Vacuum Technology

Vacuum Components

Innovative vacuum components from Schmalz offer many users in various sectors of industry reliable support in the solution of automation and handling tasks. The wide range of components extends from suction pads and vacuum generators to mounting elements and system monitoring devices.

Vacuum Gripping Systems

Complex vacuum gripping systems from Schmalz permit decisive productivity improvements to be achieved. The range extends from layer and large-area gripping systems to complete vacuum spiders, delivered ready for connection, for use in all areas of automation.

Vacuum Handling Systems

Ergonomical vacuum lifting devices Jumbo and VacuMaster for effortless, damage-free handling of workpieces. Crane systems to supplement these to form complete system solutions which are precisely matched to the planned application. Workshop equipment as practical aids in trade and industry.

Vacuum Clamping Systems

Future-oriented vacuum clamping technology from Schmalz is the intelligent response to the continually increasing demands for more productivity and economic operation of CNC machine tools.

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Rätt till konstruktionsändringar förebehålles.

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