



## Vacuum Handling Systems

Branch Solutions Metal



## Schmalz – World of Vacuum Technology

Strict customer orientation and path-breaking innovations, excellent quality and comprehensive competence in customer advice make Schmalz the world's leading partner for vacuum technology in the areas of automation, handling and clamping.

As a worldwide active company with excellent products and services, we offer our customers in trade and industry path-breaking solutions. We have enthusiastic customers wherever production processes need to be made more efficient with the aid of vacuum technology.

In order to meet the specific requirements of the various sectors of industry, we offer vacuum handling systems with the main emphasis on the following branches:

- **Metal/sheet metal**
- **Logistics/packaging**
- **Aerospace industry**
- **Wood/plastics**
- **Chemicals/pharma**
- **Renewable energy (wind, solar)**

With our international marketing network with our own companies and marketing partners in more than 50 countries, highly qualified consultants and engineers are at your service throughout the world.

The company's excellent ecological and social responsibility is proved by the many awards it has won in these areas.



## Get your copy of our catalogue "Vacuum Handling Systems" now:

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or at [www.schmalz.com](http://www.schmalz.com) – Link „Service“

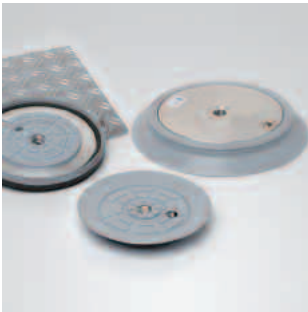
### Complete product range – many application examples

You can find detailed information about Schmalz vacuum technology in our current catalogue "Vacuum Handling Systems – Applications & Products". We will be happy to send you a free printed copy of this catalogue.

# Ergonomical and efficient workpiece handling

Schmalz product innovations for the metal branch

## Special suction pads for handling sheet metal



- Oil-resistant suction pads ensure slip-free handling of oily sheets of metal
- Supports on the lower surfaces of the suction pads permit handling of thin steel sheets and aluminum sheets without deformation
- Suction pads FM (available only for the Jumbo) ensure safe handling of workpieces with apertures, holes and special contours
- Sprung/flexible suction pad mounting elements ensure optimal adaptation to sloping workpiece surfaces

## Adaptable vacuum generators with long operating lifetimes



### Vacuum blower (Jumbo)

- The directly driven blower ensures a long operating lifetime of the lifting device
- The low blower speed ensures quiet operation
- The optional frequency regulation ensures optimal adaptation of the lifting device to heavy and light workpieces

### Electrical vacuum pump (VacuMaster)

- Pump size can be selected to match workpiece properties
- Hard-wearing carbon vanes ensure a long lifetime

## More safety with variable-length operator handle



- Ensures that the operator remains at a safe distance from the workpiece

## Selection aid

Selection criterion	Vacuum tube lifter Jumbo (Page 6ff)	Vacuum lifting device VacuMaster (Page 7ff)
Workpieces	Airtight and porous parts such as metal sheets (even with apertures), sections and assemblies, etc.	Metal sheets (including checker plate), coils, bodies, sections, etc.
Weight	Workpieces weighing up to 300 kg	Workpieces weighing up to 2000 kg, normally large, flat objects
Speed	Frequent and fast lifting and lowering with a single medium	The device grips the workpiece, which is then lifted and lowered with a chain hoist
Handling type	horizontal, 90° swiveling	horizontal, 90° swiveling, 180° turning

# Handling of sheet metal

Safe and ergonomical – for many different tasks

## Special branch requirements

- Damage-free gripping and movement of laser-cut sheet metal (also checker plates and stud plates), particularly those made from stainless steel; even with apertures and coated with oil
- Injury-free handling of heavy and unwieldy workpieces by a single person
- Gripping of parts made of non-magnetic steel and non-ferrous metals
- Reduced machine-loading times
- Energy-independent handling with the aid of existing overhead cranes
- Handling types: horizontal, swiveling by 90° and turning by 180°

## Our branch solutions

- Vacuum lifting device VacuMaster Basic/Comfort for handling sheet metal, optionally for checker and stud plates with special suction plates
- Vacuum lifting device VacuMaster Eco for self-powered handling tasks (without external power supply)
- Vacuum tube lifter Jumbo with suction pad FM for laser-cut parts
- Jib cranes and aluminum overhead crane systems for a perfectly matched system solution



VacuMaster Basic, maximum load 250 kg, horizontal, for loading and unloading sheet metal storage rack systems (more on Page 7)



JumboErgo, maximum load 35 kg, with double suction pad FM, for safe movement of raw sheets and machined circular-saw blades (more on Page 6)



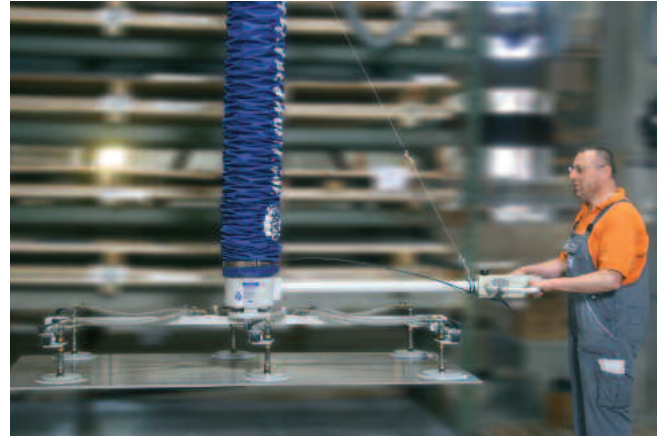
JumboErgo, maximum load 45 kg, with double suction pad FM, for loading gluing systems (more on Page 6)



VacuMaster Eco, maximum load 500 kg, with parking stand, for loading laser-cutting machines (more on Page 7)



VacuMaster Basic, maximum load 250 kg, horizontal, for handling checker plates (more on Page 7)



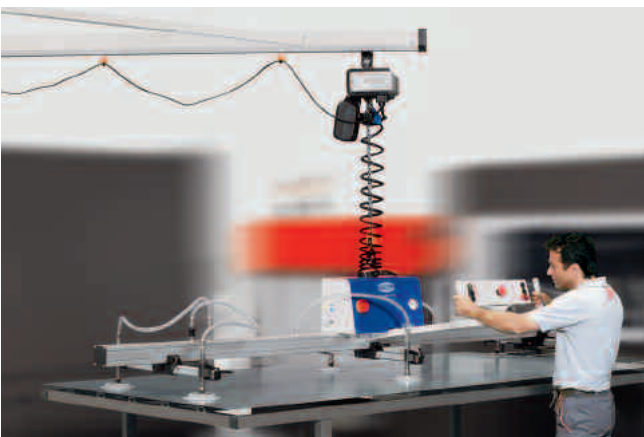
JumboErgo, maximum load 140 kg, for commissioning of small and medium-sized sheets of aluminum (more on Page 6)



VacuMaster Comfort, maximum load 125 kg, with 180° turning unit, for handling sheet metal (more on Page 7)



VacuMaster Vario, maximum load 2000 kg, horizontal, for loading mechanical saws with large sheets of aluminum (more on Page 8)



VacuMaster Comfort, maximum load 250 kg, horizontal, for loading and unloading laser-cutting machines (more on Page 7)



VacuMaster Basic, maximum load 250 kg, horizontal, for handling small metal sheets or sheets with apertures by individual activation of the suction pads (more on Page 7)

# Handling of metal sections and coils

## Damage-free gripping without mechanical clamps

### Special branch requirements

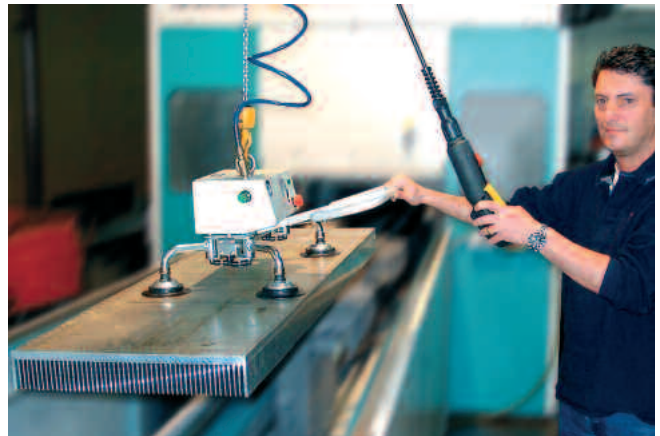
- Damage-free gripping and movement of coils made of (very) thin metal sheets, metal foils, steel, tinplate, aluminum, etc.
- Gripping of long, narrow sections
- Injury-free handling of heavy and unwieldy workpieces by a single person
- Reduced machine-loading times
- Gripping of workpieces made of non-magnetic steel and non-ferrous metals
- Swiveling of coils by 90°

### Our branch solutions

- Vacuum tube lifter Jumbo with customer-specific vacuum-grippers
- Vacuum lifting device VacuMaster Light for fatigue-free work thanks to compact construction and low weight
- Vacuum lifting device VacuMaster Coil for lifting workpieces from a pallet in the horizontal position and placing them in the vertical position on a spindle
- Jib cranes and aluminum overhead crane systems for a perfectly matched system solution



JumboErgo, maximum load 110 kg, horizontal, for handling of aluminum sections (more on Page 6)



VacuMaster Light, maximum load 100 kg, horizontal, for loading and unloading CNC machining centers (more on Page 8)



VacuMaster Coil, maximum load 750 kg, horizontal, for handling stainless-steel coils (more on Page 8)



VacuMaster Basic, maximum load 100 kg, horizontal, for handling aluminum sections (more on Page 7)

# Further solutions

Simple handling, even in special applications

## Special branch requirements

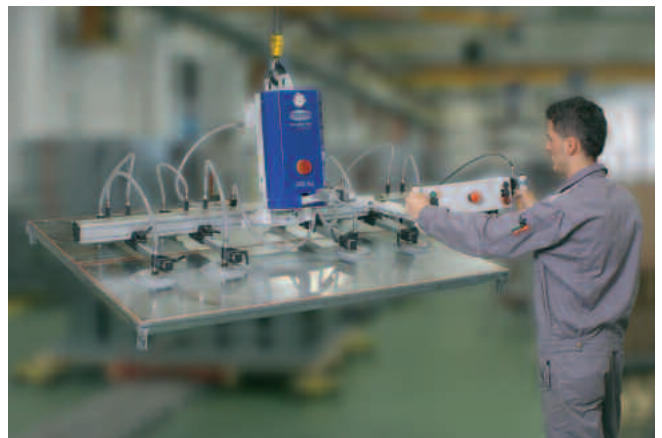
- Damage-free gripping and movement, even of finished products
- Injury-free handling of heavy and unwieldy workpieces by a single person
- Assistance of personnel in assembly tasks
- Customer-specific solutions

## Our branch solutions

- Vacuum lifting devices VacuMaster with customer- and application-specific modifications
- Vacuum tube lifters Jumbo with special vacuum-gripper solutions
- Vacuum stands PVS and vacuum benches PVT for clamping workpieces during machining



VacuMaster Basic, maximum load 250 kg, horizontal, for handling chests of drawers (more on Page 7)



VacuMaster Comfort, maximum load 250 kg, with 90° swiveling, for assembly of sheet-metal cabinets (more on Page 7)



JumboErgo, maximum load 140 kg, with customer-specific vacuum-gripper solution for simultaneous handling of four barrels (more on Page 6)



Vacuum stand PVS, maximum load 100 kg, with 90° swiveling, for assembly of switch-gear cabinets

# Vacuum tube lifters Jumbo

Versatile lifting and movement with a single medium



## Functions

- The load is gripped and lifted with a single medium vacuum
- Simple adaptation of the device to individual requirements thanks to modular design with variable components which can be combined as desired

## Safety

- A quick-acting non-return valve and the large suction-pad area prevent dropping of the load, even if the electric power or the compressed-air supply fails
- The design complies with the German accident-prevention regulations

## Ergonomy

- Injury-free work thanks to consideration of the latest ergonomical principles

Our two-year warranty demonstrates our confidence in this product.



JumboHandy pistol grip



JumboHandy bow handle



JumboSprint



JumboErgo

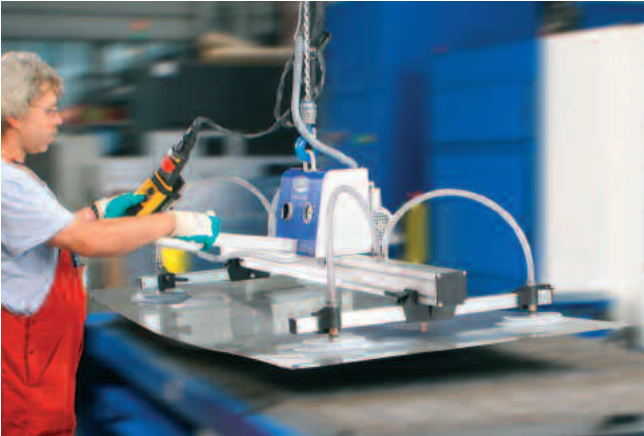
## Ergonomical controls for almost every application

- Maximum loads from 20 kg to 300 kg
- Precise positioning of light and heavy loads
- Safety and ergonomical posture at every working height



# Vacuum lifting devices VacuMaster

The path-breaking generation of vacuum lifting devices



VacuMaster Basic, maximum load 250 kg, horizontal, for handling sheets of stainless steel

## VacuMaster Basic

### Comprehensive basic configuration

- Operator-handle and crossbeam lengths matched to the customer-specific workpiece size
- Safety thanks to the electronic warning device and non-return valve
- Handling of workpieces of varying sizes by easy sliding of the suction pads and optional deactivation of individual suction pads
- 3-year warranty
- Optionally with 90° swiveling or 180° turning
- Maximum load 125 kg to 750 kg



VacuMaster Comfort, maximum load 750 kg, horizontal, for handling metal sheets

## VacuMaster Comfort

### With "high-end" configuration

Basic configuration as for the VacuMaster Basic, with the following additional features:

- Ergonomically integrated controls for "chain hoist up/down", "vacuum on/off" and "swivel vertical/horizontal" (optional)
- Solenoid valve with two-hand actuation for vacuum off
- Regulated vacuum generator, pump with automatic air-saving function
- Delivery complete with chain hoist
- 3-year warranty
- Optional: chain hoist with frequency regulation
- Maximum load 125 kg to 750 kg



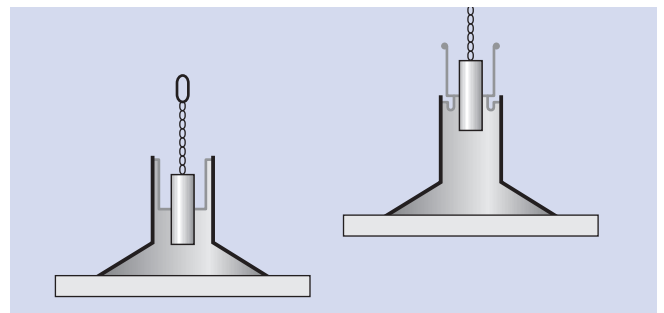
VacuMaster Eco, maximum load 250 kg, horizontal, for handling metal sheets without an external power supply

## VacuMaster Eco

### Horizontal handling of smooth and airtight workpieces without an external power supply

- Basic design as for the VacuMaster Basic
- Principle of operation: self-powered
- Can be used anywhere, since it requires no external power
- Safe operation thanks to battery-powered warning device
- 3-year warranty
- Maximum load 250 kg to 1000 kg

The piston is pulled out of the cylinder by the crane, acting against the weight of the workpiece. The cylinder volume is thus increased, generating a vacuum which is dependent on the weight of the workpiece and is sufficient to grip the workpiece safely.



# Vacuum lifting devices VacuMaster

The path-breaking generation of vacuum lifting devices!



VacuMaster Vario, maximum load 1000 kg, horizontal, for loading and unloading plasma-cutting machines

## VacuMaster Vario

**For horizontal handling of heavy and mainly airtight workpieces**

- Operator-handle and crossbeam length matched to the customer-specific workpiece size
- Safe operation thanks to the electronic warning device, large vacuum reservoir and non-return valve
- Handling of workpieces of varying sizes by easy sliding of the suction pads and optional deactivation of individual suction pads
- 3-year warranty
- Maximum load 1000 kg to 2000 kg



VacuMaster Light, maximum load 100 kg, horizontal, for handling painted furniture elements

## VacuMaster Light

**For horizontal handling of airtight and slightly porous workpieces such as furniture elements or sections**

- Suitable for use in applications such as assembly, packaging, loading of machines, etc.
- Fatigue-free work thanks to the ergonomical controls and low weight
- Handling of workpieces of varying sizes and shapes by flexible and fast adjustment of the suction pads
- Quick commissioning thanks to simple installation (a compressed-air supply is needed)
- Safe operation thanks to the electronic warning device
- 3-year warranty
- Maximum load 100 kg



VacuMaster Coil, maximum load 750 kg, with 90° swiveling, for handling of coils

## VacuMaster Coil

**For handling coils and split coils**

- Suitable for (very) thin sheets of metal, metal foils, steel, tinplate, aluminum, etc.
- Damage-free gripping without mechanical clamps
- Handling of coils of varying diameters with the aid of separately activated annular chambers
- Precise and continuous swiveling of the load by 90° with the aid of an electromechanical linear drive
- Simple positioning thanks to transparent suction plate
- Safe operation thanks to electronic warning device, vacuum reservoir and non-return valve
- 3-year warranty
- Maximum load 500 kg to 1000 kg

# Crane systems and chain hoists

## Safety and mobility for vacuum handling systems

### Crane

- Designed specifically for use with Jumbo and VacuMaster
- High mobility thanks to low moving mass
- Optimized overall height, can also be used in head-rooms
- Perfect power connections (electricity, compressed air, vacuum)
- Suitable for heavy loads, optionally available with electrically driven movement of the trolley and crane and electric swiveling



Jib crane with Jumbo



Wall-mounted jib crane with chain hoist



Aluminum ceiling mounted bridge crane with chain hoist



Chain hoist

### Chain hoists

- High safety level thanks to low voltage on the controls
- Long operating lifetime thanks to limit switches
- Precise and careful positioning thanks to two-speed control
- Fast working thanks to high lifting speeds
- Optionally with frequency regulation for very precise positioning, particularly suitable for handling fragile parts or for assembly operations
- 2-year warranty



#### Vacuum components and gripping systems

For a large range of users in many different branches of trade and industry – from the automotive to the pharmaceutical industries – Schmalz offers reliable support and assistance in the solution of automation and handling tasks – either as individual components or complex vacuum gripping systems.

Our teams are at your service!

Vacuum components

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Vacuum gripping systems

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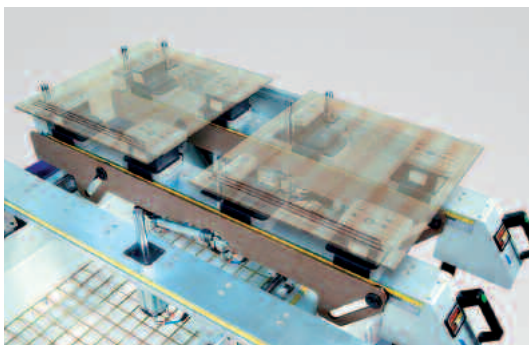
#### Vacuum handling systems

Ergonomical solutions for many types of applications. Vacuum lifting devices VacuMaster and vacuum tube lifters Jumbo for easy handling of workpieces without damage to their surfaces. Crane systems from Schmalz complement the system solutions designed for specific tasks. Workshop equipment as practical aids in trade and industry.

Our "Vacuum Handling Systems" team is at your service!

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#### Vacuum clamping systems

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

Our "Vacuum Clamping Systems" team is at your service!!

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