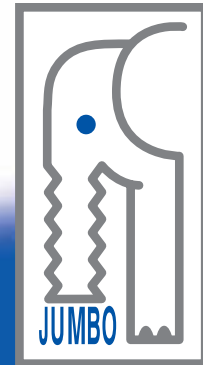


# ***Vacuum Tube Lifters JUMBO***

*Vacuum-  
Handling Systems*



***Handling with vacuum.***



# The Vacuum Tube Lifter **JUMBO**: Lifting is child's play!



**JUMBO** is the familiar nickname for an elephant. But elephants are not only large and strong – they are also reliable, very intelligent and capable of working hard for long periods.

They are thus very similar to the Vacuum Tube Lifting System **JUMBO** from SCHMALZ, an extremely versatile lifting and handling system which is surprisingly easy to use.

The Vacuum Tube Lifting system **JUMBO** is the intelligent answer to your handling problems. Its secret: only one medium is responsible for holding the load and lifting it, namely a vacuum. There is no need for chain hoists, manipulators or hydraulic cylinders to pick up and lift the workpiece. The operator controls the vacuum in the system with a valve on the control handle. A higher vacuum lifts the load, a lower vacuum lowers it. Lifting speeds of up to 230f.p.m. can be achieved.



The reliability and the operating safety of the Vacuum Tube Lifter **JUMBO** from SCHMALZ are already almost proverbial. Many patents covering the valve technology and many years of experience make the Vacuum Tube Lifters from SCHMALZ a top-quality product which has earned

the status of being "first class" throughout the world.

Since 1994, SCHMALZ is also certified in accordance with the quality guidelines of **DIN ISO 9001** and all products carry the **CE symbol**. Top-quality materials and rigorous inspection of each

unit leaving the factory guarantee a long operating lifetime.

The new modular design of the Vacuum Tube Lifters **JUMBO** has virtually no limits. Regardless of whether you need to place cardboard boxes on pallets, load barrels on trucks, prepare orders



of foodstuffs, stack sheets of wood or metal, lay stone slabs, as well as assemble components and move machines or furniture – the **JUMBO** is the ideal alternative to your present handling system and a welcome aid for your personnel!

The Vacuum Tube Lifter **JUMBO** is the best preventive medicine for anyone who has to lift heavy loads. It relieves the strain on his/her spine and joints, thus reducing time lost due to injury and improving the employees' performance and motivation.

It is an investment in the future and in the human resources of any company. The users and their well-being at work are extremely important to the SCHMALZ company. For this reason, ergonomic design was the prime objective in the

development of the new **JUMBO** generation. Lifting, lowering, turning, loading and transporting workpieces are child's play with the new Vacuum Tube Lifters.

# Three different control systems for different applications.



A typical feature of the new **JUMBO** from SCHMALZ, the "original" Vacuum Tube Lifter:

three different control systems to match varying applications and weight classes permit the selection of the ideal solution for each individual handling task.

Features common to all three control systems for the **JUMBO** are:

- they are designed in accordance with the latest ergonomical guidelines;
- loads can be lifted, moved and lowered with little effort;
- even very heavy loads can be positioned safely and precisely.

**And safety is not compromised when all of this is achieved. The quick-acting non-return valve and a large-area suction pad ensure that the load is not dropped, even if the electric power or the compressed-air supply fails.**

The **JUMBOERGO** will seem familiar to anyone who has ridden a motorcycle. With a twist grip similar to a motorcycle throttle, this control system permits rapid and precise handling of loads of any weight. This is true for stacking at floor level and up to a height of 90 in., since the twist grip reinforces the natural movements of the operator's hand.

Contrary to a motorcycle, "opening the throttle" lowers the **JUMBOERGO** and "closing the throttle" raises it. This principle makes the system safe to use and guarantees ergonomic handling of loads at any working height.



In cases where the main emphasis lies in the handling of heavy and cumbersome loads in rough working conditions or in the open air, the **JUMBOSPRINT** is the best solution. The operator can use both hands to steer the lifting unit and its load, such as sacks, stones, slabs and many other items. If, for example in the food-stuffs or chemicals industry, hygiene is of prime importance, there are several types of the **stainless-steel version** of the **JUMBOSPRINT**.

The **JUMBOHANDY**, with its one-hand operation, is the ideal unit for all light parts which need to be handled in large quantities or in rapid succession.

This "baby" in the range of SCHMALZ vacuum tube lifters is available with two different operator handles. In addition to the conventional "pistol grip", which permits precise movement and positioning of all types of loads at benchtop height, we can now offer a new version. The "bow-type" handle permits ergonomical operation and guidance over a large lifting range. And, since the **JUMBOHANDY** is operated with only one hand, the user's other hand is always free for positioning and assembly.



# Fast and powerful: the JUMBOHANDY 20, 30 kg (44, 66 lbs.).



Even light loads rapidly become hard work if they have to be lifted hundreds of times per day. This can result in irreparable damage to the worker's back, joints and hands. The **JUMBOHANDY** was developed specially for this type of task and provides effective "power support" for the user's hands. It is just the thing wherever loads of up to 30 kg (66 lbs.) need to be lifted and lowered at short intervals.

The Vacuum Tube Lifter **JUMBOHANDY** takes the drudgery out of many common tasks:

- loading machine parts or electronic components,
- lifting packing crates or assemblies,
- stacking trays of tinned food or paper bags,
- the possible applications are virtually unlimited!



**Load-detection valve:**

This reacts quickly and reliably to the surface quality of the load to be handled and permits the safe handling of all types of loads, particularly those with porous surfaces (such as cardboard boxes).



# JUMBOERGO and JUMBOSPRINT

## 35, 45, 65, 85 kg (77, 99, 143, 187 lbs.).



**JUMBOERGO** with single vacuum head, rotating unit and hose cylinder extension for filling and emptying wire-mesh boxes.



**JUMBOERGO** with double vacuum head for taped, hooped or even unsealed cardboard boxes.



**JUMBOERGO** with round vacuum head for handling barrels and components.



**JUMBOERGO** with double vacuum head for furniture parts and their cardboard boxes.

**JUMBOSPRINT** with round vacuum head for smooth and structured surfaces (such as exposed-aggregate concrete slabs).



**JUMBOSPRINT** with special suction pad for plastic and paper sacks.



**JUMBOERGO** with double vacuum head and pneumatic tilting unit PSE for tilting workpieces by 90°.



**JUMBOERGO** with swivelling controls for high stacking.



**JUMBOERGO** with long rectangular vacuum head for narrow loads and parcels.



**JUMBOSPRINT** in stainless-steel for plastic and paper sacks (in the chemicals and pharmaceuticals industries). Also available in an explosion-protected version in accordance with ATEX.



# JUMBOERGO and JUMBOSPRINT

110, 140, 200, 300 kg (242, 308, 440, 661 lbs.).



For really heavy loads of up to 660 lbs. (300 kg), SCHMALZ can provide **JUMBOS** which are as strong as their namesakes. Powerful blowers and suitably dimensioned lifting units with hose diameters up to 305 mm ensure that these **JUMBOS** can lift and move even washing machines safely.



These are easy tasks for the power versions:

- lifting heavy chipboards and MDF boards of all types;
- handling large sheets of glass in the horizontal position;
- lifting and moving slabs of natural stone or concrete;
- stacking thin and thick sheet metal;
- moving oversize cardboard boxes or packing crates;
- moving barrels

# It all depends on the vacuum head!

Lifting different loads such as stone slabs, cardboard boxes, sheets of wood or heavy sacks is not just a question of the weight involved but of the correct vacuum head(s). For the Vacuum Tube Lifters

**JUMBO**, SCHMALZ offers a comprehensive range of different vacuum heads.

**Since there are matching suction pads for each of the many Vacuum Lifter versions**

**with their differing hose diameters, it is possible to assemble optimum JUMBOS for all loads, even when these have only a small surface area. With the aid of a simple**

**quick-change system, you can even change the suction pads rapidly and easily.**



**Single Vacuum Head EG**  
for sealed cardboard boxes, sheets, wooden boxes, etc.



**Round Vacuum Head RG**  
for barrels, buckets or stone slabs with rough surfaces.



**Double Vacuum Head DG**  
for stapled, taped, hooped or open cardboard boxes. Also for crates, sheets, etc. The two suction pads can be positioned as required on a crossbar.



**Sack Vacuum Head SG**  
for paper and plastic sacks, raw-rubber bales, articles sealed in plastic, etc.



**Quadruple Vacuum Head VG**  
for cardboard boxes, sheets and flexible parts. The individual suction pads can be adjusted as required in two directions.



**Long Rectangular Vacuum Head LG** for pallets, narrow cardboard boxes, beams, girders, square-section tubes, etc.

The additional feature: all vacuum heads can be changed in a flash if the optional **Quick-Change System SWA** is fitted.



# Special grippers in many different shapes and sizes



Furthermore, SCHMALZ has developed and standardized many special vacuum heads.

There are even mechanical grippers for the **JUMBOS**. This permits the dynamic

lifting power of the Vacuum Tube Lifters to be combined with the advantages of

mechanical grippers.



**JUMBO SPRINT** with KLT Box Gripper.



**JUMBO ERGO** with CRT Gripper.



**JUMBO SPRINT**, made of stainless-steel, fitted with vacuum head for butter/cheese.



**JUMBO** Pallet Fork System.

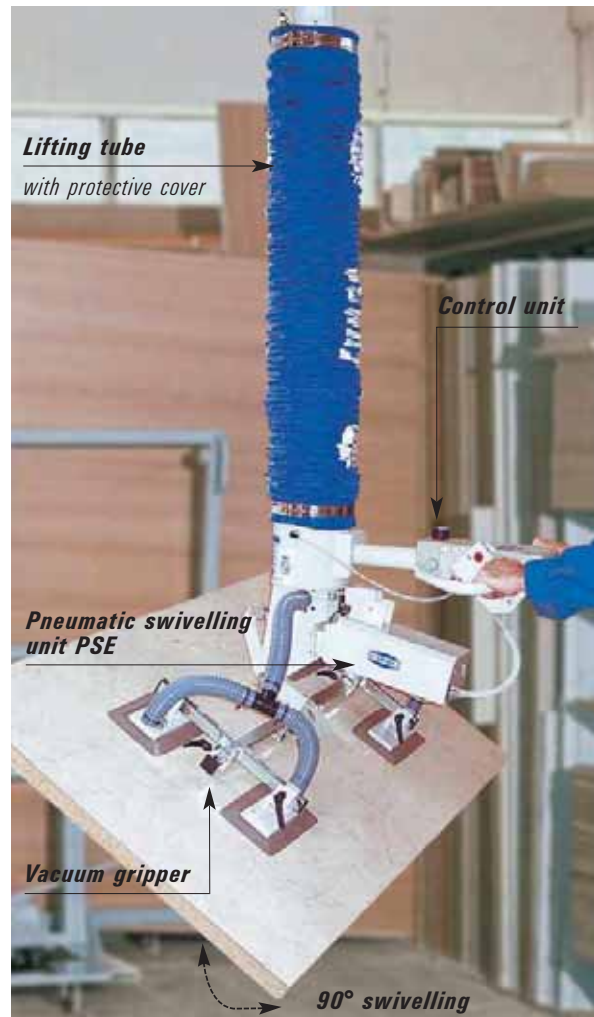
## Pneumatic swivelling unit PSE

### Highlights:

With the aid of the pneumatic swivelling unit PSE, workpieces such as wooden sheets, stones, metal sheets or panes of glass can be swivelled through 90° from the horizontal position to the vertical position (or vice versa).

- Suitable for workpieces weighing up to 120 kg (264 lbs.)
- Simple and ergonomical operation directly from the operator handle
- Lower overall height provides more flexibility in handling operations
- Pneumatic venting valve simplifies release of the workpiece in any desired position

- Protection against incorrect operator actions prevents inadvertent release of the load
- Large-area vacuum grippers exceed the current safety requirements (taking a friction factor of  $\mu = 0,5$  into account for vertical handling)
- Very short swivelling times
- Can be stopped at any position within the swivelling range
- Wide range of vacuum grippers



# JUMBO with pneumatic vacuum generation



## Highlights:

- Low energy costs in applications with short gripping times
- Pays for itself quickly due to low investment costs
- Ideal for use with large cranes
- Lifting speed can be adjusted by varying the pressure
- Load-dependent air consumption possible by regulation of the pressure

### Versions:

- **JUMBOHANDY** for loads of up to 20 or 30 kg (45 or 65 lbs.), with pneumatically driven multi-stage ejector (SEM 100)
- **JUMBOSPRINT** and **JUMBOERGO** for loads of 35 to 85 kg (75 to 185 lbs.), with pneumatically driven multi-stage ejector (SEM 300)



## Vacuum Generators

- Air consumption  
SEM 100: approx. 12 SCFM (at 72 psi)  
SEM 300: approx. 36 SCFM (at 72 psi)
- Operating pressure 60 – 90 psi
- Extremely quiet operation
- Absolutely free of wear
- No additional space needed for vacuum generators such as pumps or blowers

Multi-stage ejector SEM 300

# JUMBO for explosion-hazard areas



In accordance with the EG Directive 94/9/EG(ATEX)  
 II 2 GD c II B 85°C(T6) 0°C ≤ Ta ≤ +40°C



## Highlights:

Suitable for use in **zones 1 and 2** ("areas subject to explosion hazards from flammable gases, vapours or mists") and **21 and 22** ("areas subject to explosion hazards from flammable dust").

### Ideal for the sectors:

- chemicals industry
- paint production
- pharmaceuticals
- woodworking
- munitions industry
- bakeries

### Typical applications

- sack handling
- handling of paint and lacquer cans
- handling of chipboards
- handling of explosive substances

### Versions:

- **JUMBOHANDY Ex** for loads of up to 30 kg (65 lbs.), with pneumatically driven multi-stage ejector (SEM 100 Ex)
- **JUMBOSPRINT Ex** for loads of 45 to 85 kg (100 to 185 lbs.), with pneumatically driven multi-stage ejector (SEM 300 Ex)
- Wide range of stainless-steel vacuum grippers
- All mechanical components with antistatic finish and with equipotential bonding
- Suitable cranes made of stainless steel or painted, with equipotential bonding
- Wide range of accessories with explosion protection (including a quick-change adapter for rapid changing of the vacuum grippers)



Multi-stage ejector SEM 300 Ex

- No heat generated
- High suction capacity and high volume flow ensures safe holding of parts even when operating with short cycle times
- Low air consumption due to fast reaction times and high efficiency

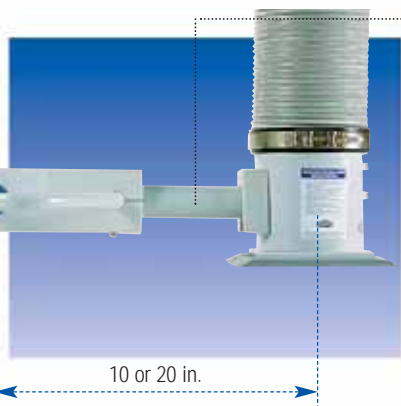
# JUMBO Control Handles. JUMBO Radio Remote Control.



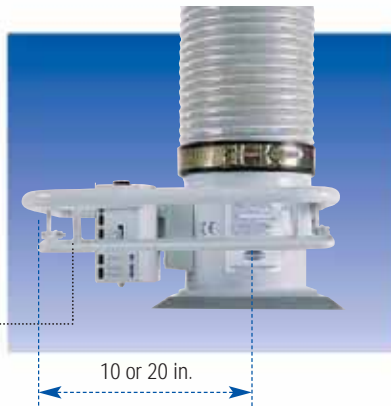
**JUMBOERGO** – valve tube 14 in. (standard).



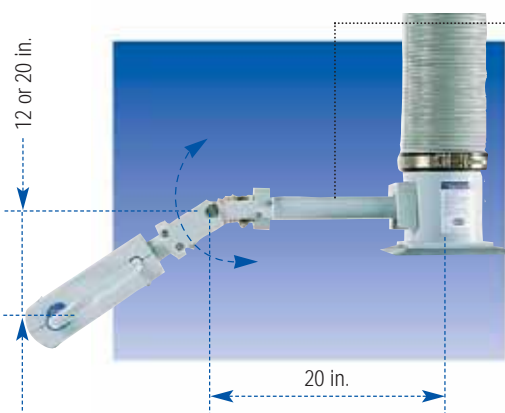
**JUMBOERGO** – centered control lever.



**JUMBOERGO** – handlebar length 20 or 40 in.



**JUMBOERGO** – control lever length 10 or 20 in.

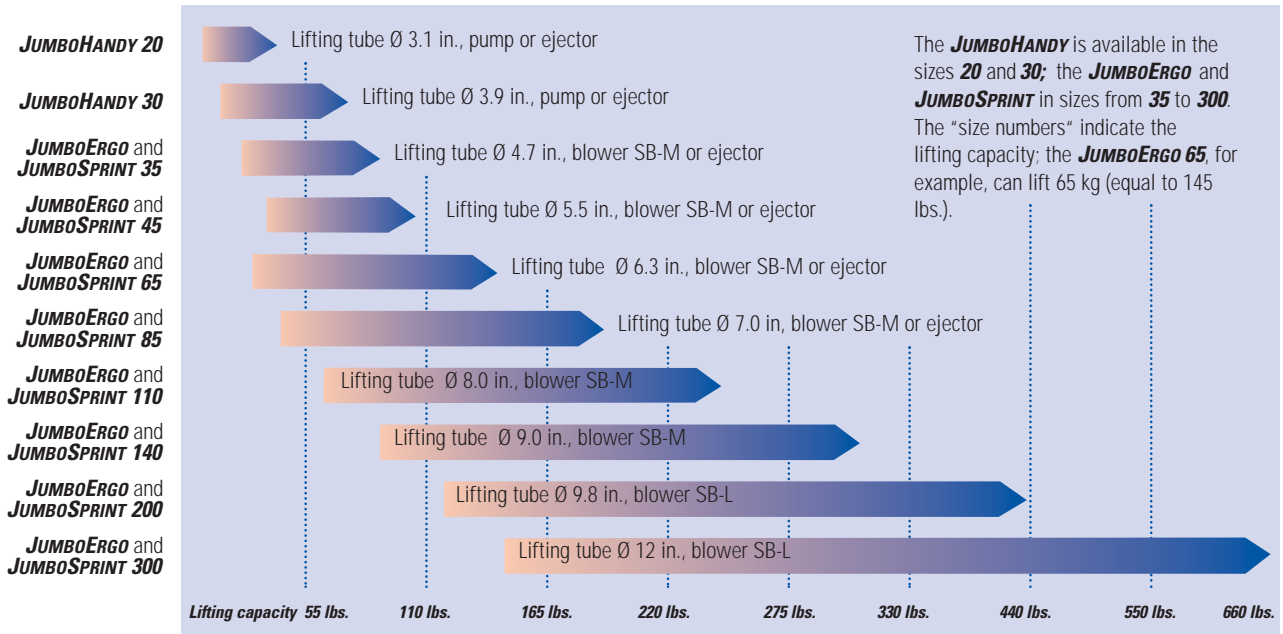


**JUMBOERGO** – vertically swivelling handlebar 20/12 in. or 20/20 in.



**Radio Remote Control FFS** for wireless activation and deactivation of the blower.

# 1000 standard versions in three product ranges:



## The optional accessories.



**Dust Filter STF** for handling dusty objects or sacks. Easy maintenance with rapidly changed filter cartridges. Also available with filter monitor.

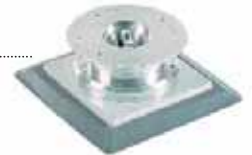


**Schmalz BlowerBox SBB** for installation on the vacuum blower. Reduces the noise output to only about 65 dB(A).



**Schmalz Blower SB-V** for the perfect adjustment of suction capacity and vacuum to different applications.

**Rotating Unit DE** for horizontal rotation of the load when items need to be rotated during unstacking (handle remains stationary, load rotates).



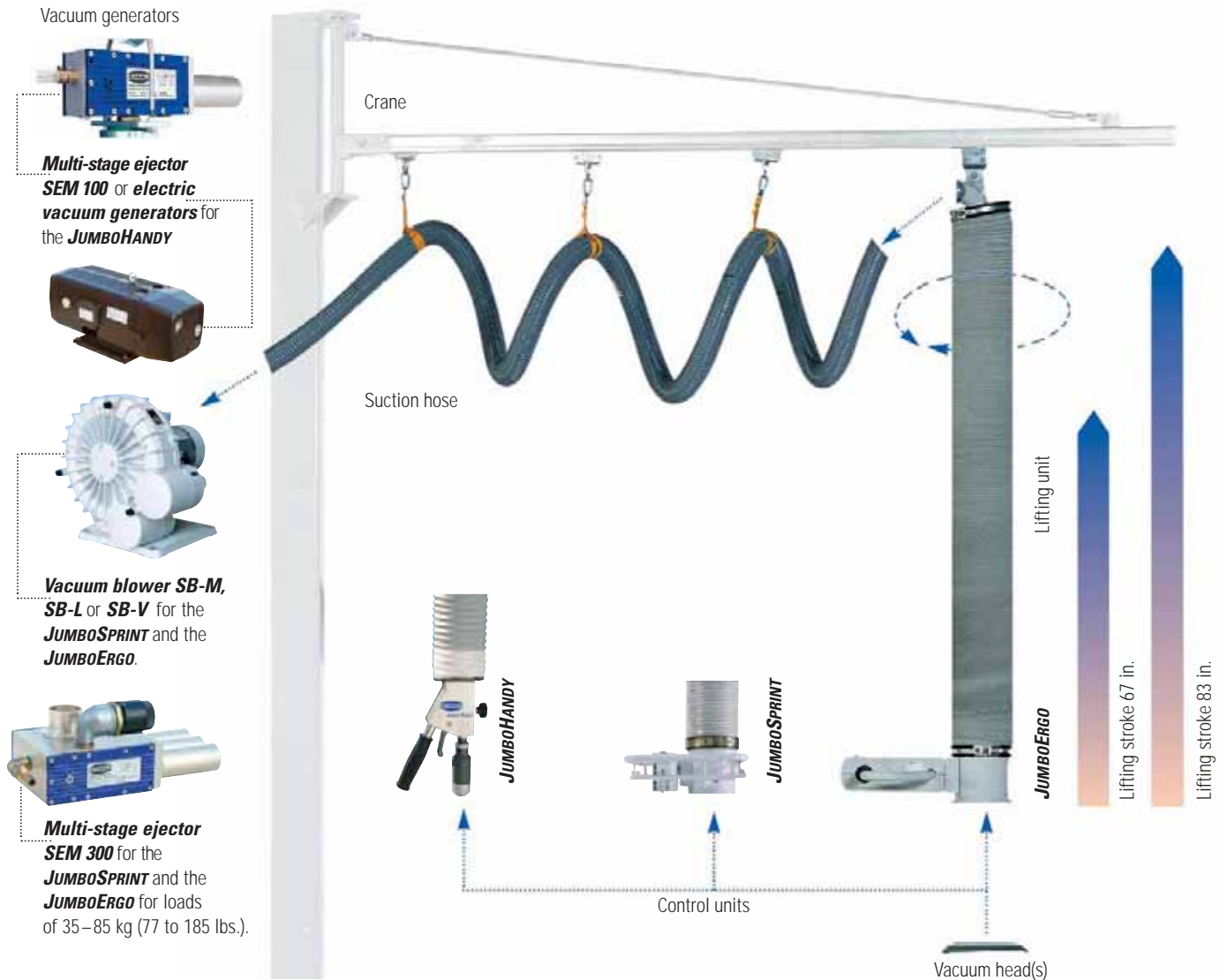
**Swivelling Unit SE** for swivelling the load from the horizontal to the vertical position (90°) or vice versa. Ideal for setting workpieces on edge.



**Hose Cylinder Extension SZV** for access to high-sided boxes, crates, wire-mesh boxes, etc.



# This will suit you nicely: the modular JUMBO system.



The modular **JUMBO** system consists of six variable basic components which can be combined in many different ways:

- vacuum generator,
- suction hose,
- lifting unit,
- control unit,
- vacuum head(s),
- crane.

**This modular system permits the construction of a tailor-made solution for almost any application. The lifting unit and the suction pads can be easily and precisely matched to the dimension and the weight of the load.**

■ A total of nine powerful vacuum generators are available.

**New:** A range of Schmalz blowers developed especially for use with Vacuum Tube Lifters – maintenance-free and extremely robust!

■ The suction hose has an internal diameter of 2,36 in. Lengths of up to 15 ft. can be used without problems.

■ Ten different lifting hoses can be used for the lifting units in the **JUMBOS**. The diameter of this hose and the type of vacuum generator used determine the final lifting

capacity and the minimum vacuum head size of the resulting Tube Lifter.

■ Three different control units permit optimum solutions for all handling tasks.

■ The number of possible variations becomes fully apparent when the vacuum heads are considered: six different types of standard vacuum heads can be mounted on each of the ten lifting units.

■ The correct crane for the job rounds off the comprehensive modular system.

All **JUMBO** Tube Lifters are provided with:

- 67 or 83 in. lifting stroke,
- lifting unit as Single Tube System (more compact design and easier handling compared to lifters with two or more tubes),
- design meets the strict requirements of the German accident prevention rules,
- colour RAL 7035 light grey; stainless-steel versions are electrolytically polished.

# Just the right thing: cranes for the JUMBO.



For the Vacuum Tube Lifters **JUMBO**, SCHMALZ offers a range of light, easily operated cranes specially matched to the requirements of the **JUMBO** range.

In addition to the standard versions, namely wall- or column-mounted slewing cranes and suspended cranes, SCHMALZ offers special versions tailor-made for individual applications.



**Floor-mounted jib crane SKJ**  
for **JUMBOERGO**, **JUMBOSPRINT** and **JUMBOHANDY**.  
Basic versions:  
■ jib length up to 20 ft  
■ slewing angle 270°



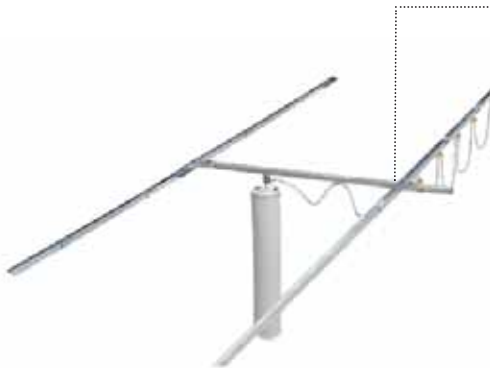
**Wall-mounted jib crane WKJ**  
for **JUMBOERGO**, **JUMBOSPRINT** and **JUMBOHANDY**.  
Basic versions:  
■ jib length up to 20 ft  
■ slewing angle 180°/270°



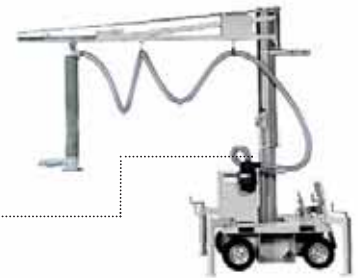
**Base plate** for floor-mounted jib crane SKJ  
for **JUMBOERGO**, **JUMBOSPRINT** and **JUMBOHANDY**.  
Standard dimensions:  
47,24 x 47,24 in. and 59,05 x 59,05 in.  
■ for use with jib length 2 to 5 m  
■ maximum load 440 lbs  
Can be moved with the aid of a fork-lift truck. Does not need to be screwed to the floor.



**Monorail ESB**  
for **JUMBOERGO**, **JUMBOSPRINT** and **JUMBOHANDY**. For traversing in one axis; possible is a crane way length up to 120 ft.



**Bridge crane ETK**  
for **JUMBOERGO**, **JUMBOSPRINT** and **JUMBOHANDY**.  
For traversing in two axes. The maximum crossbeam length is 8 meters; possible is a crane way length up to 120 ft.



**JUMBO MOBIL JM**  
for mobile and/or seasonal use.

If our standard cranes are unsuitable for your application, we can modify them to match the existing requirements and conditions in your workshop, stock room or warehouse. Our engineers will gladly visit you to carry out the planning of this work.

# Competent in vacuum technology – SCHMALZ



**Your Operating Equipment Hotline:**  
**(919) 713-08 80**  
**Fax:**  
**(919) 713-08 83**

## Vacuum Components

**Versatile and complete – the SCHMALZ range of vacuum components.**

SCHMALZ offers a wide range of vacuum components for complete system solutions in many sectors of trade and industry – from the automotive industry to the pharmaceuticals industry:

- Suction pads
- Mounting elements
- Vacuum generators:
  - Ejectors
  - Pumps
  - Blowers
- Valve technology
- Measuring and regulation systems
- Filters and connectors



- Complete vacuum systems
- Vacuum-gripper systems

## Vacuum Handling Systems

**Ergonomical solutions for many applications: vacuum handling systems from SCHMALZ.**

Vacuum lifting devices  
 VACUMASTER and vacuum tube lifters JUMBO for ergonomical handling of workpieces without damage to their surfaces.

- **Manual handling:**
- VACUMASTER:
  - Loads up to 4.409 lbs.
  - For loads of all types
  - Simple implementation of turning and swivelling operations



- JUMBO:
  - Loads up to 661 lbs.
  - Ergonomical and safe transport of workpieces
  - For short cycle times

- **Production equipment:**
  - Vacuum stands and benches
  - Transport trolleys

## Vacuum Clamping Systems

**Innovative vacuum clamping technology from SCHMALZ for the wood and plastics industries.**

SCHMALZ vacuum clamping systems are the intelligent answer to the constantly increasing demands for productivity and economic use of CNC machine tools:

- Vacuum clamping system

VC-G – suction blocks with hose connectors

- Vacuum clamping systems INNOSPANN
- Hose-free vacuum clamping system VC-T
- Vacuum clamping system VC-K1 for consoles with single-circuit system
- Vacuum clamping system VC-K2 for consoles with two-circuit system



## Handling with vacuum.



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