

European Aviation Group for Occupational Safety and Health

Ergonomics and safety In Baggage Handling

Your Safety is our Mission



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Company

Corporate history



1910

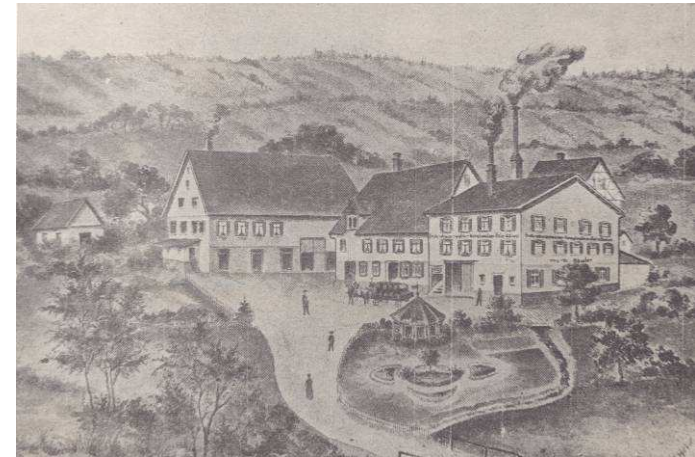
Razor blades



Johannes Schmalz

In 1910 Johannes Schmalz designs, produces and sells razor blades.

The “Glattis” brand of razor blades was known throughout Germany for its excellent quality and was highly successful, selling up to 600,000 razor blades every month.



Schmalz building 1910



*Er fängt den Tag
mit Freude an.....*

Wer sich leicht
rasieren kann,
fängt den Tag
mit Freude an
mit einer
Glattis
Seit 40 Jahren rasieren sich
Millionen mit dieser Klinge
und schätzen sie als
„Schwäbische Wertarbeit“



Glattis razor blades

1945

Transport vehicles



Artur Schmalz

In 1945 Artur Schmalz takes over the company and led the it to further success by making innovative developments in the field of light motor vehicles.

Schmalz supplied luggage trailers and mobile steps to airports all over Europe, while furniture factories integrated our workshop equipment into their production processes.



Schmalz building 1974



Schmalz transport vehicles

Company

Corporate history



1984

Vacuum technology



Dr. Kurt Schmalz

When Dr. Kurt Schmalz took over the management of the company in 1984, the company moved in a new direction and began to specialize in vacuum technology



Schmalz building 2010



Wolfgang Schmalz

In 1990, graduate engineer Wolfgang Schmalz joined the company's management. Together, the two brothers have transformed a company with a long tradition into one of the world's leading providers of vacuum technology.



Schmalz Vacuum technology

[→ History in detail](#)

Dynamic growth is our passion

| | |
|-----------------------|--|
| Established | 1910 by Johannes Schmalz |
| Market importance | World market leader in the area of vacuum clamping technology World's leading supplier of vacuum technology for automation and handling tasks |
| Turnover development | Significant growth since the entry of Vacuum technology → Graphic |
| Employees | More than 600 worldwide, trainee quota 13 % (D) Creation of about 150 jobs in the past five years (D) → Graphic |
| Innovation indicators | About 350 patent applications and granted patents 7 % (of turnover) spent on research and development |



Dynamic growth is our passion

| | |
|---------------------|---|
| Subsidiaries abroad | In 16 countries all over the world |
| Sales partners | Additional in more than 40 countries all over the world |
| Export quota | About 50 % |
| Certificates | DIN ISO 9001 (Quality Management) since 1994 DIN ISO 14001 (Environmental Management) since 1997 AZWV (Recognition and Authorization Ordinance for Continuing Education) since 2009 |
| Added-Value | Implementation of the Schmalz Added-Value System |

Products & Services

Vacuum components



Innovative vacuum for automation

Vacuum components

- Vacuum suction pads
- Special grippers
- Mounting elements
- Vacuum generators
- Valve technology
- System monitoring and sensors



Application areas

- Industrial robots
- Packing machines
- Handling systems
- Logistics
- Assembly technology, etc.



Recognition in the competition for the Innovation Prize of the State of Baden-Württemberg (2006)

Products & Services

Vacuum gripping systems



Innovative vacuum for automation

Vacuum gripping systems

- Systems for industrial robots and portals, configured and delivered ready for connection

Application areas

- Industrial robots
- Packing machines
- Handling systems
- Logistics
- Assembly technology, etc.



Products & Services

Vacuum clamping systems



Efficient clamping systems

Clamping Solutions for the Wood Industry

Vacuum clamping systems of Schmalz enable to upgrade and modernize existing CNC machining centers quickly and easily. This results in a fundamental improvement to profitability.

Clamping Solutions for the Metal Industry

Flat metal workpieces with a planar underside are clamped with high precision using the Schmalz Matrix-Plate, which demands minimal set-up times.

Manual Clamping Solutions

The highly flexible Multi-Clamp vacuum clamping solution is designed for clamping small and medium-sized workpieces in the workshop and on construction sites.

Application areas

- Improvement of productivity of CNC machining centers
- Working of workpieces from all sides without time-consuming re-clamping



Products & Services

Vacuum handling systems



Ergonomic handling solutions

Vacuum tube lifters Jumbo

For frequent and fast lifting and movement of cartons, sacks, barrels, etc. weighing up to 300 kg

Vacuum lifting devices VacuMaster

For handling sheets of metal, glass, chipboard, concrete slabs, etc. weighing up to 2000 kg

Aluminium crane systems

Crane systems complement the system solutions designed for specific tasks

Workshop equipment

Workshop equipment as practical aids in trade and industry

Application areas

- Loading and unloading of machines
- Lifting and moving many different workpieces
- Palletising, commissioning, loading, stacking, etc



Federal Prize for Excellent Innovative Performance (1991)



Big distribution- and service network

Schmalz is your authentic partner locally.

Schmalz Services – Supporting You All The Way



Schmalz worldwide – distributed competence with subsidiary companies and sales partners in more than 50 countries

Schmalz companies outside Germany:

Brazil
Schmalz do Brasil Ltda., Curitiba

China
Schmalz (Shanghai) Co. Ltd., Shanghai

Finland
Oy Schmalz Ab, Vantaa

France
Schmalz S.A.S, Champs sur Marne

India
Schmalz India Pvt. Ltd., Pune

Italy
Schmalz S.r.l., Novara

Japan
Schmalz K.K., Yokohama

Canada
Schmalz Ltd., Cambridge

Netherlands
Schmalz B.V., Hengelo

Poland
Schmalz Sp. z o.o., Warsaw

Russia
Schmalz Representation, Moscow

Switzerland
Schmalz GmbH, Nürensdorf

Spain
Schmalz S.A., Erandio (Vizcaya)




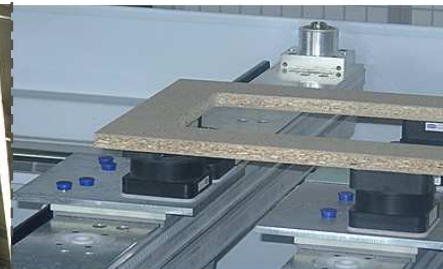
South Korea
Schmalz Co. Ltd., Seoul

USA
Schmalz Inc., Raleigh NC

Market & Customers

At home in many branches all over the world

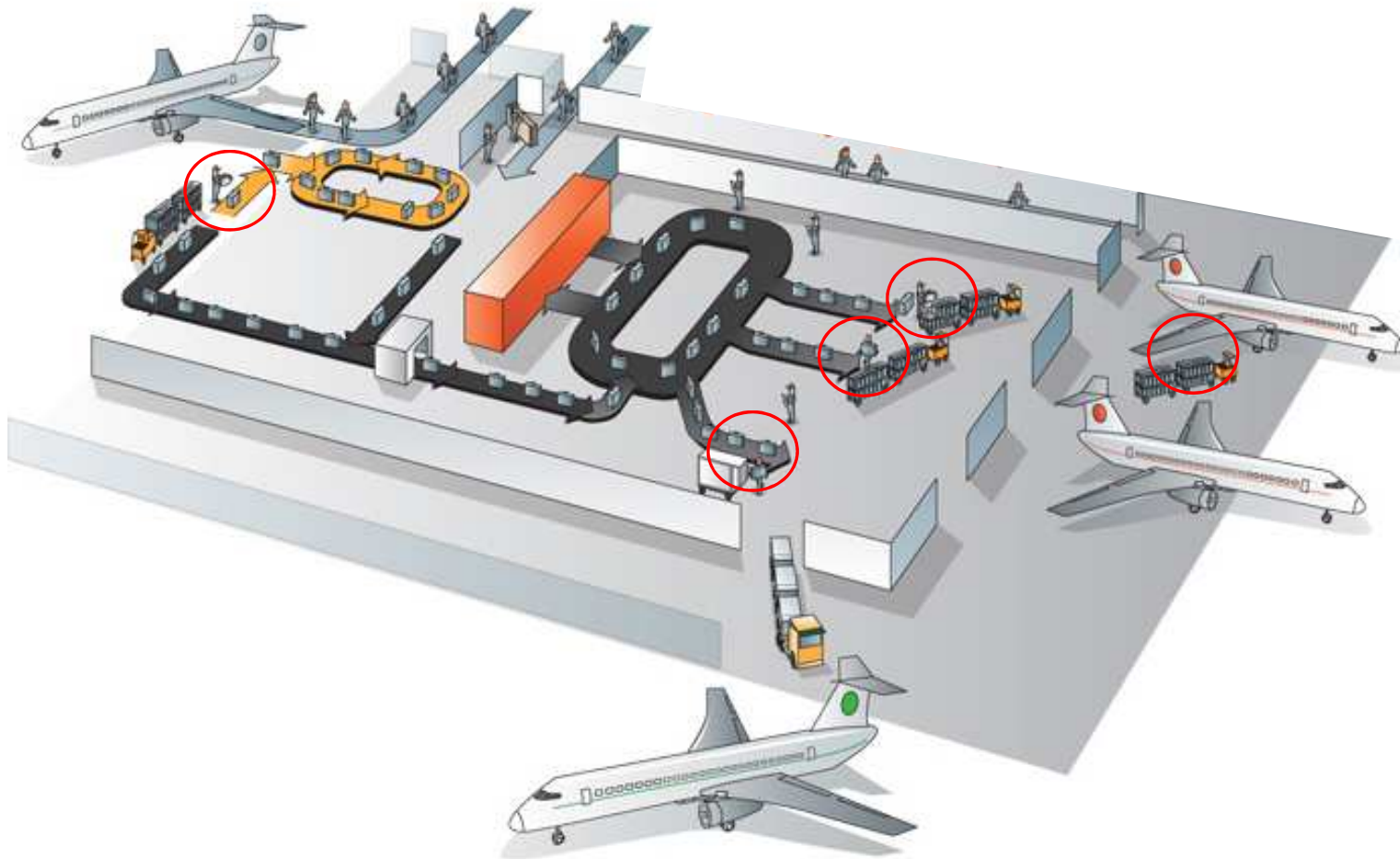


| Vacuum components | Vacuum gripping systems | Vacuum handling systems | Vacuum clamping systems |
|---|--|---|---|
| Automotive | | Chemical / Pharmaceutical | |
| Wood | | | |
| Plastics | | | |
| Logistics / Packaging | | | |
| | | Airport – Baggage Handling | |
| | | | Aerospace |
| Metal / Sheet Metal | | | |
| Solar / Electronics | | | |
| | | Wind power | |
|  |  |  |  |

Solutions for Baggage Handling



Ground Handling – Loading and unloading of trolleys

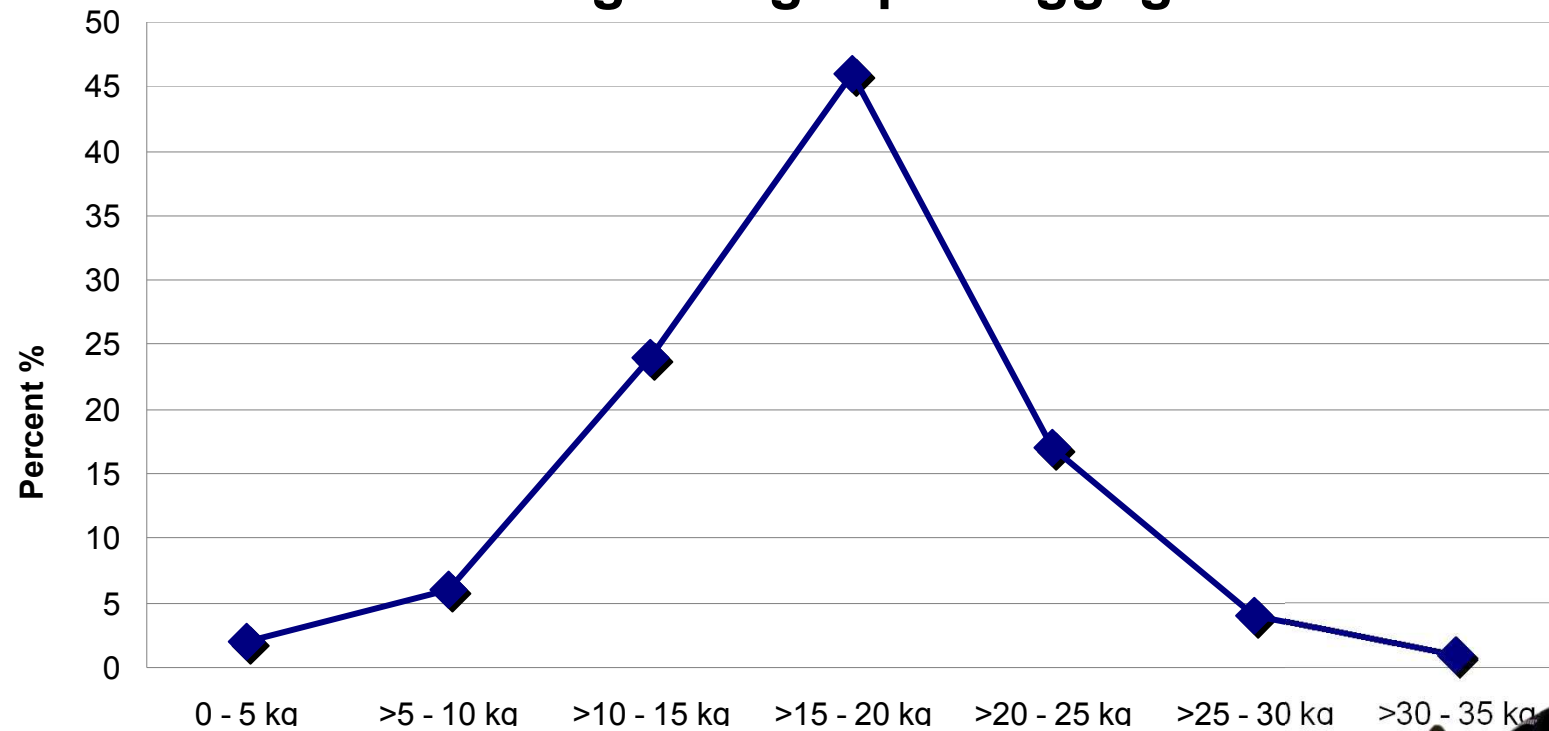




„Every worker handles up to 12 tons of luggage manually, every day“

Richard Knödler - Ground Service GmbH

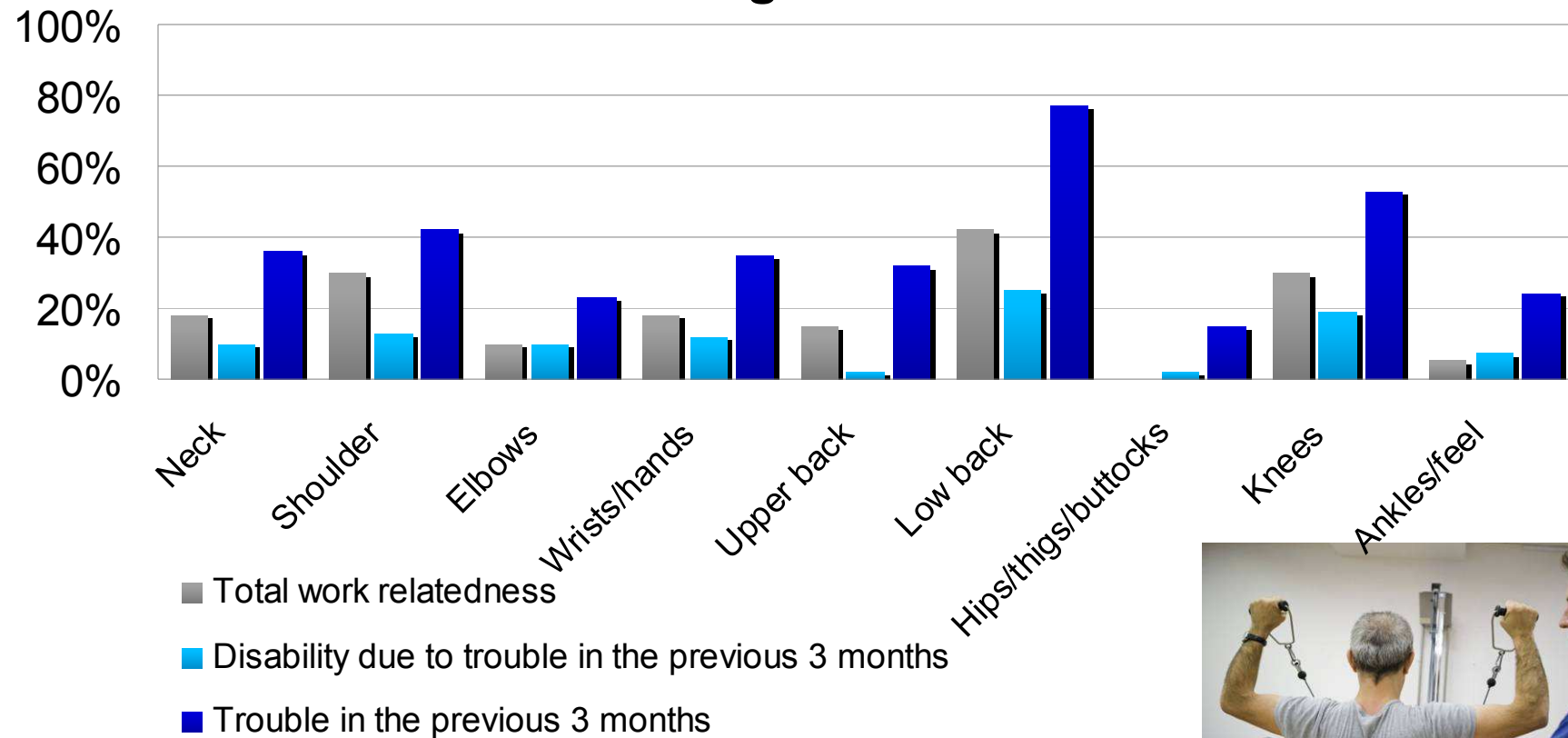
Average weight per luggage



origin: Ground Handling International (status 2009)



Health injuries among employees in the Airport Logistics



origin: Ground Handling International (status 2009)
Survey of health insurance



Trends in the market

- Guidelines on safety / ergonomics at work in the workplace will be tightened in future
- Requirements for ergonomic handling systems for worker protection

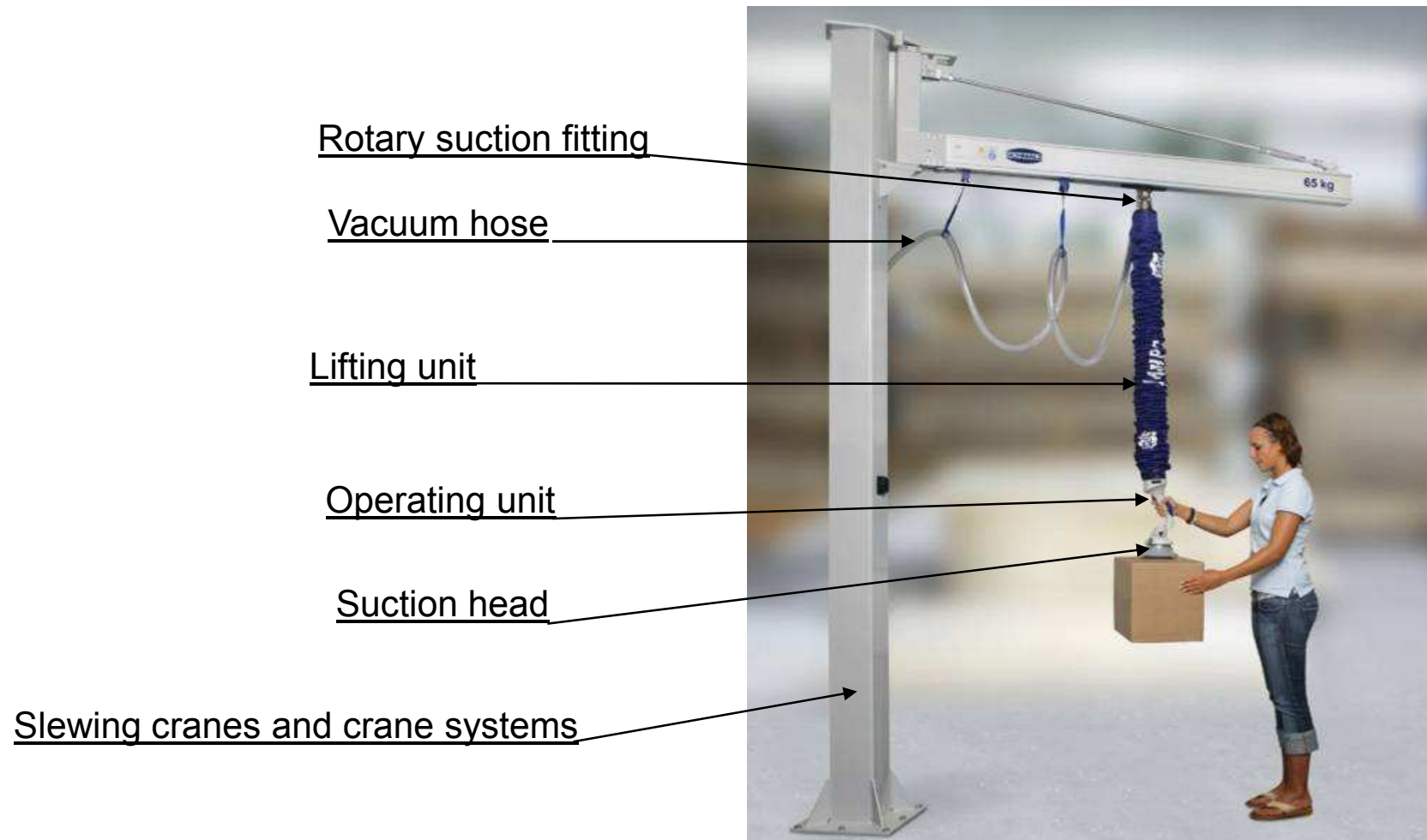


This is what we invented to protect your employees...



Vacuum Tube Lifter JumboFlex

Modular system of JumboFlex



Product Details

Filter

Tool-free installation and removal of the filter for cleaning and/or replacement

Precision single-hand operation

Integrated one-finger control
Equally easy to use for right- and left-handed users
Sensitive control of lift speed
Single controller for activation/deactivation and load release

Flexible load pick-up

Suction pads can be swivelled 90° to pick up workpieces from the side
After workpieces are picked up, they are automatically swivelled into a horizontal position



Setting the suspension

It is easy to set the suspension height of the vacuum tube lifter with no load

Ergonomic lever shape

Ergonomic design of operating levers with soft-touch element

Rotation without limits

The JumboFlex vacuum tube lifter can be rotated without limits
Workpieces that have been picked up can also be rotated without limits below the controller; locking in 90° intervals

Replaceable suction grippers

Features quick-change function as a standard component

Grippers

Sack gripper or baggage gripper (SG)

- For baggage like hard-top case, bags, trolleys,...



2 in1 Gripper (SG / EH)

- For baggage like hard-top case, bags, trolleys,...



Grippers

Suspension hook (EH)

- For mechanical gripping of hard-top cases, bags, trolleys,...



Ideas for the future



SRC

(Schmalz Radio Control)
Radio control for switching on/ off of vacuum generation per integrated transmitter in the operating unit.



Energy-efficient vacuum-generator

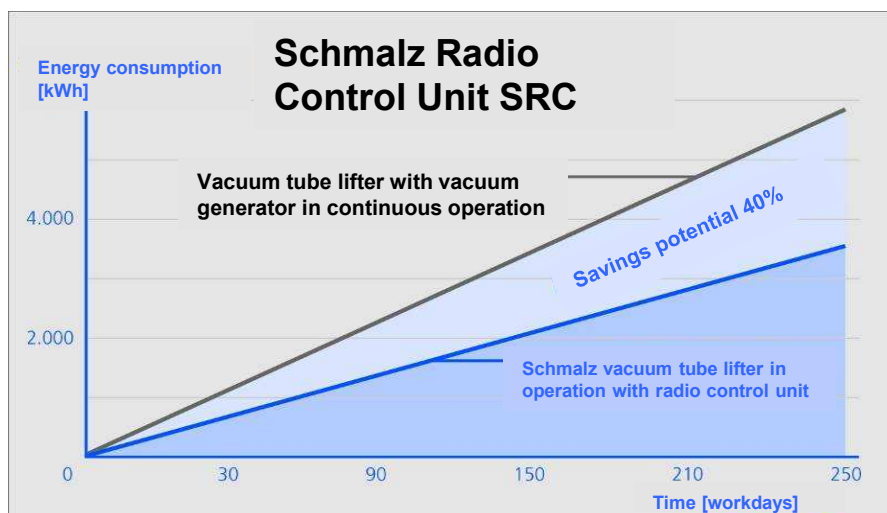
electrical operated vacuum pump with a suction power of 50m³/h by only 1,25 kW



Accessories

SRC (Schmalz Radio Control)

Remote control for switching the equipment on and off by means of a transmitter integrated into the control unit. Particularly suitable for use with large cranes.



Accessories

Schmalz Blower Box SBB-EVE

- Silencer box for reduction of the noise level of the vacuum pump EVE 40 to 58dB(A)



Storage JumboFlex

- For gentle and secure stoppage of the JumboFlex.
- Suctionpads are being safe from fouling and damage.
- For installation on column or wall



50% of ergonomics is influenced by a customized crane system



Aluminium Crane System SRA

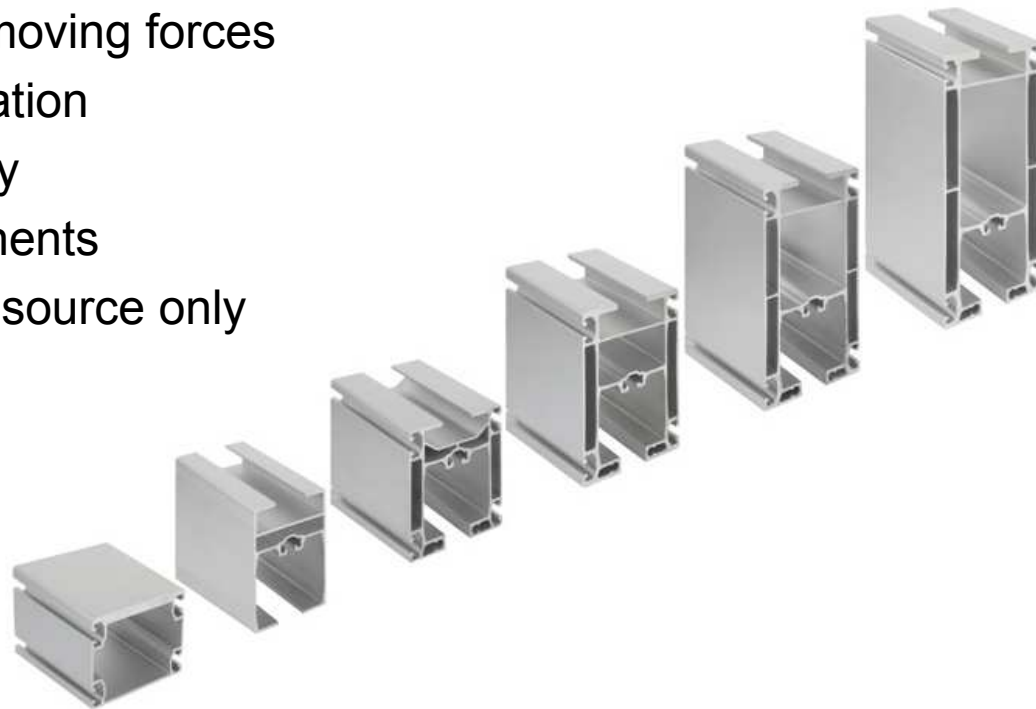
Key factor

Smoothly running crane systems



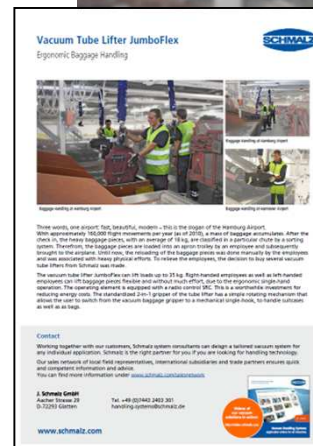
Innovative technology

- Perfectly matching to Schmalz for vacuum lifting systems
- Special solutions for low headroom conditions
- Minimum starting and moving forces
- Quick and simple installation
- Intelligent vacuum supply
- Low own-weight components
- Entire solution from one source only



Reference Projects

Baggage Handling

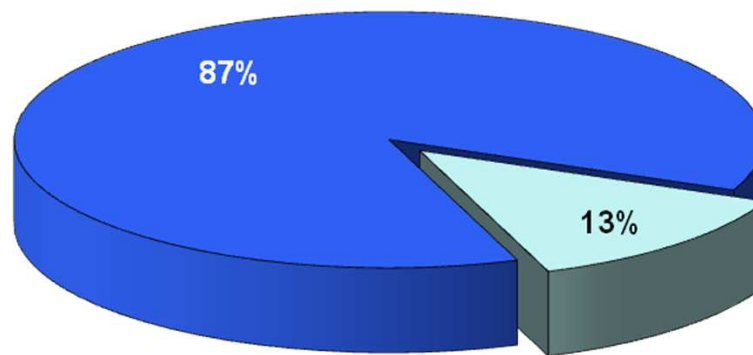


Reference projects



Reducing of the manual handling loads

- By using the Baggage-Gripper



Source: independent survey at the airport Münster-Osnabrück (2010)

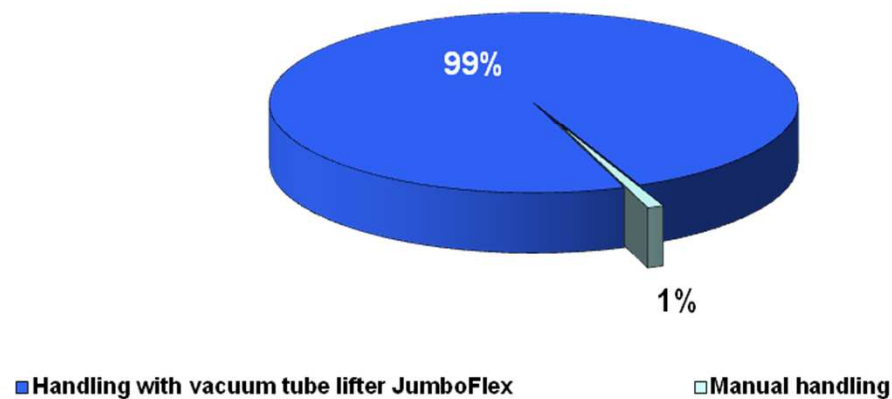
■ Handling with vacuum tube lifter JumboFlex
□ Manual handling



Physical relief for employees up to 90%

Reducing of the manual handling loads

- By using the 2-in-1-gripper



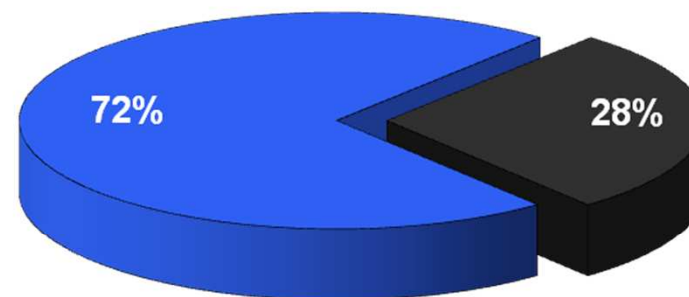
Source: independent survey at the airport Münster-Osnabrück (2010)



Physical relief for
employees more than 90%

Benefits of using Vacuum tube lifters for baggage handling:

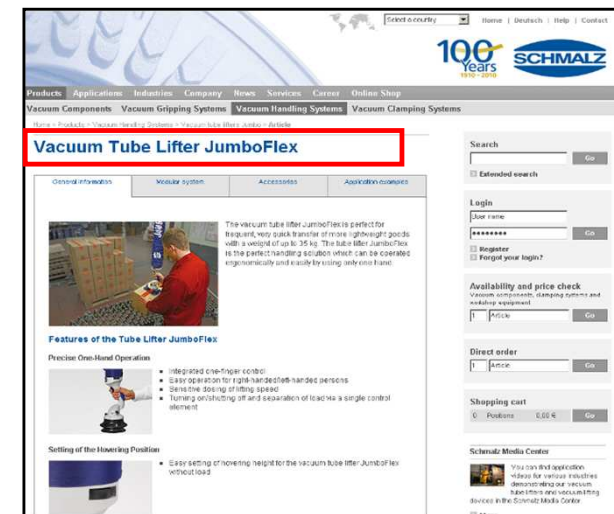
- For all weight classes up to 40 kg the physical stress on individual employees will be reduced by more than 50 %
- JumboFlex is suitable for 90% of all work pieces
- From the perspective of productivity it still can make sense to grab some bags manually
- The experience of many users show that a vacuum tube lifter is used effectively in about 72% of all cases



- Manuelle Handhabung ohne Schlauchheber
- Manuelle Handhabung mit Schlauchheber

Source: independent survey at the airport Münster-Osnabrück (2010)

Interest in baggage handling system?



Thank you for your attention!

