

## Vacuum Lifting – Metal

Vacuum Lifting Units for Metal Machining



Vacuum lifting units for metal machining



## Sheet Metal Handling



### Standard vacuum lifting units

Although movement of sheet material in the metal machining industry is a normal operation, it is also extremely complicated in the majority of cases.

Several employees have therefore frequently been required for loading a cutting or punching machines, ensuring that sheet material is transported quickly and with precision to the machining location. Large, extremely thin sheets in particular have proved particularly difficult to handle, due to their low intrinsic stability.

However, sheet material is ideal for handling with vacuum lifting units, thanks to its uniform dimensions and smooth, non-slip surfaces.

Even large sheets can be conveyed over long distances with these units, an example being transportation from moving floor shelving to a laser cutting machine.

Use of the vacuum lifting unit means that sheets can be removed quickly and precisely by a single person and then conveyed to the respective machine for further machining.

This accelerates the transportation process considerably, enhancing the efficiency of the complete workflow as a consequence.

Work is greatly facilitated by the simplicity with which the vacuum lifting unit can be operated (with an adjustable angled handle where required). Warping or even bending of the material transported is avoided through a configuration of the suction plates which suits the dimensions involved



Lifting unit with flexible handle



Teardrop seals for structured steel

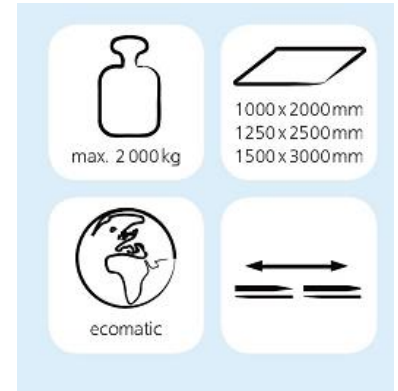


Sheet metal removal from moving floor shelving





Handling of special thin sheet formats



Handling of special thin sheet formats

The low maintenance pump and ecological wear part system are further efficient characteristics that speak for themselves. The hot-dip galvanised beam design ensures long-lasting corrosion protection, and high quality individual components guarantee maximum stability. A large vacuum tank with a non-return valve and intelligent electronic warning system provide optimum safety characteristics conforming to EN 13155. All devices conform to CE standards and are delivered after undergoing the latest UVC testing.





Heavy load lifting units



Fig. 1



Fig. 1  
Vacuum lifting unit, lifting capacity 32,000 kg

Fig. 2  
Heavy vacuum lifting crossbeam,  
lifting capacity 20,000 kg

Fig. 3  
Heavy vacuum lifting crossbeam,  
lifting capacity 10,000 kg

Fig. 4  
Vacuum lifting crossbeam, lifting capacity  
14,000 kg during commissioning in Malaysia

## Up to 40,000kg and more.....

Sheet material of enormous dimensions and weight is utilised in shipbuilding and the construction of pipelines or wind power generator towers. Handling of these gigantic masses will not only require a lot of workers, but also the employing of cumbersome and strenuous methods.



AERO-LIFT specialises in heavy weight applications and has proven that even weights of 40 tonnes and more pose no obstacle to the use of vacuum lifting technology.

One employee is generally sufficient for the precise and rapid transportation of surfaces exceeding 70 m<sup>2</sup> (eg for conveying to a processing machine)

Suctioning of the load in no way impairs the material and even prevents scratching of the surface. Slings and clamps can also be dispensed with.

Safety is particularly important where heavy loads are involved. The reliable traversing system, intelligent suction plate configuration and individual components distinguished by superior quality ensure that maximum stability is achieved and prevents deformation of the material being transported.

Visual and acoustic warning equipment informs the operator of problems should any occur. A vacuum tank in the hot-dip galvanised main transverse hold the material safely over a long period of time (eg during a power failure) thus ensuring that the transported load can be deposited safely in an emergency.



Lift Hold & Separate

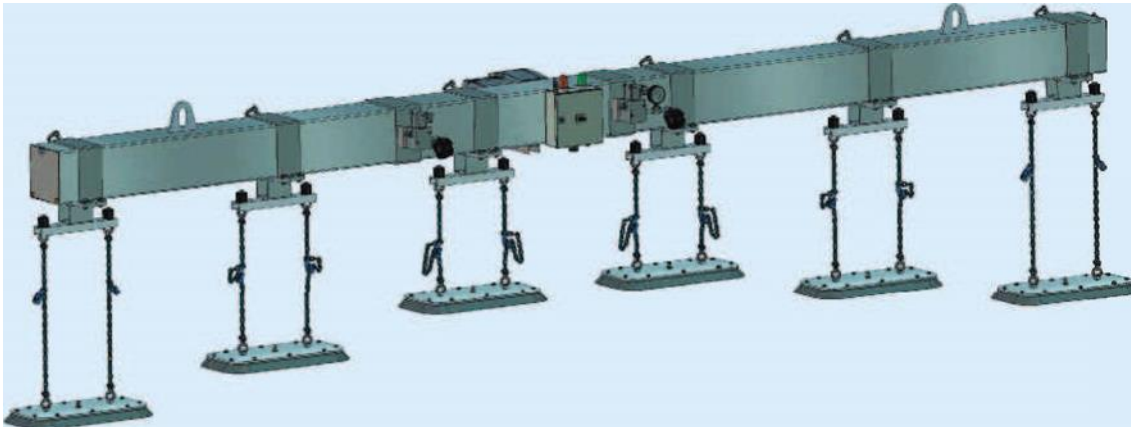


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Use of vacuum lifting technology means that, even where heavy loads are involved, handling processes can be improved significantly. Stress on both personnel and material is relieved, processes accelerated and material flow efficiency enhanced considerably as a result

Low-maintenance pumps, a cost-effective wear part system and efficient utilisation options mean that AERO-LIFT units are especially suitable for economic and, in particular, ecological production of systems for the recovery of regenerative energy.



## Flexible Lifting Units



Flexible lifting units

### Pivoting up to 90°

Horizontal transportation is often inadequate when it comes to sheet material. A pivoting range of 90° is required for loading a vertical saw or removing standing boards from a warehouse or stores

Easy pivoting of even larger and/or heavy loads by a single employee can be realised without difficulty using vacuum lifting units from AERO-LIFT



Fig. 1

Fig. 1  
90° pivoting coil lifter with multi-chamber suction plate



Fig. 2  
90° pivoting vacuum lifting unit for special load dimensions

Fig. 3  
Turning lifter for sheet material up to 800 kg

## Turning up to 180°

Vacuum lifters with a turning range of 180° are available which can be used to enable painting of both sides of boards. The load can be pivoted continuously (manually under electric power) and thus comfortably transported in a single action and painted on front and rear.

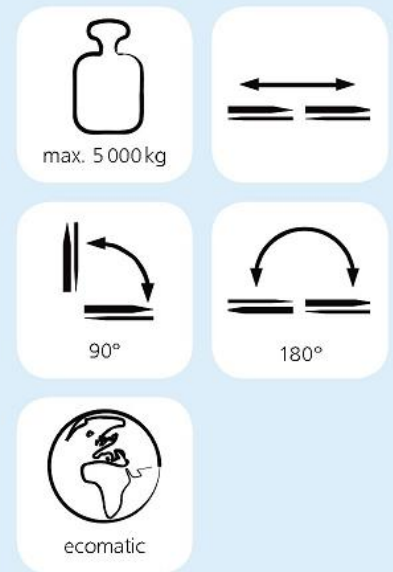
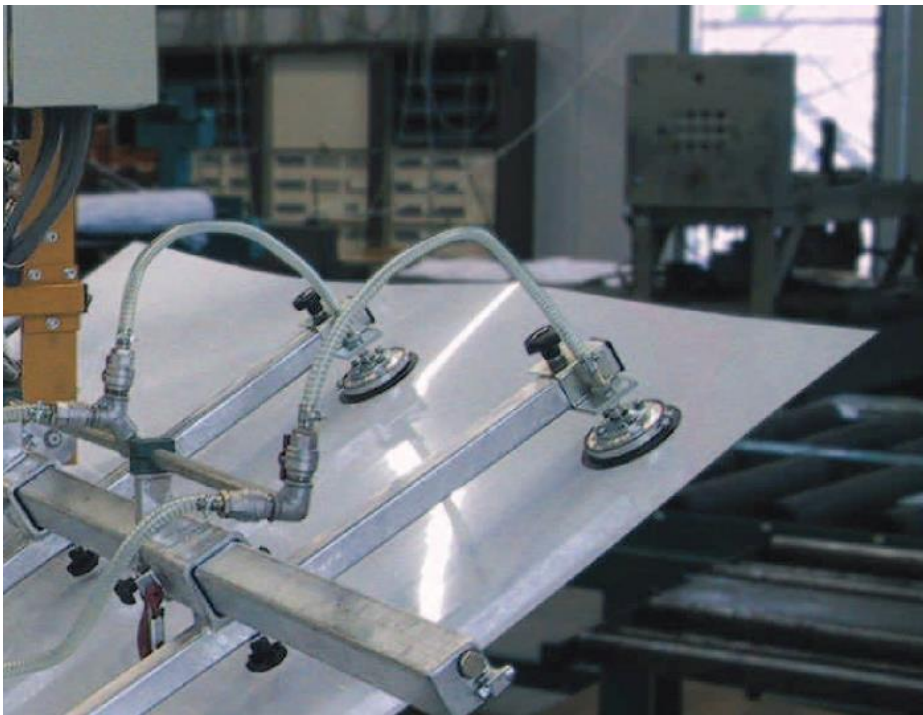


Fig. 3



Fig. 4



Fig. 5

Fig. 4  
Turning lifter in a production environment

Fig. 5  
Turning lifter for heavy loads (over 1000 kg)

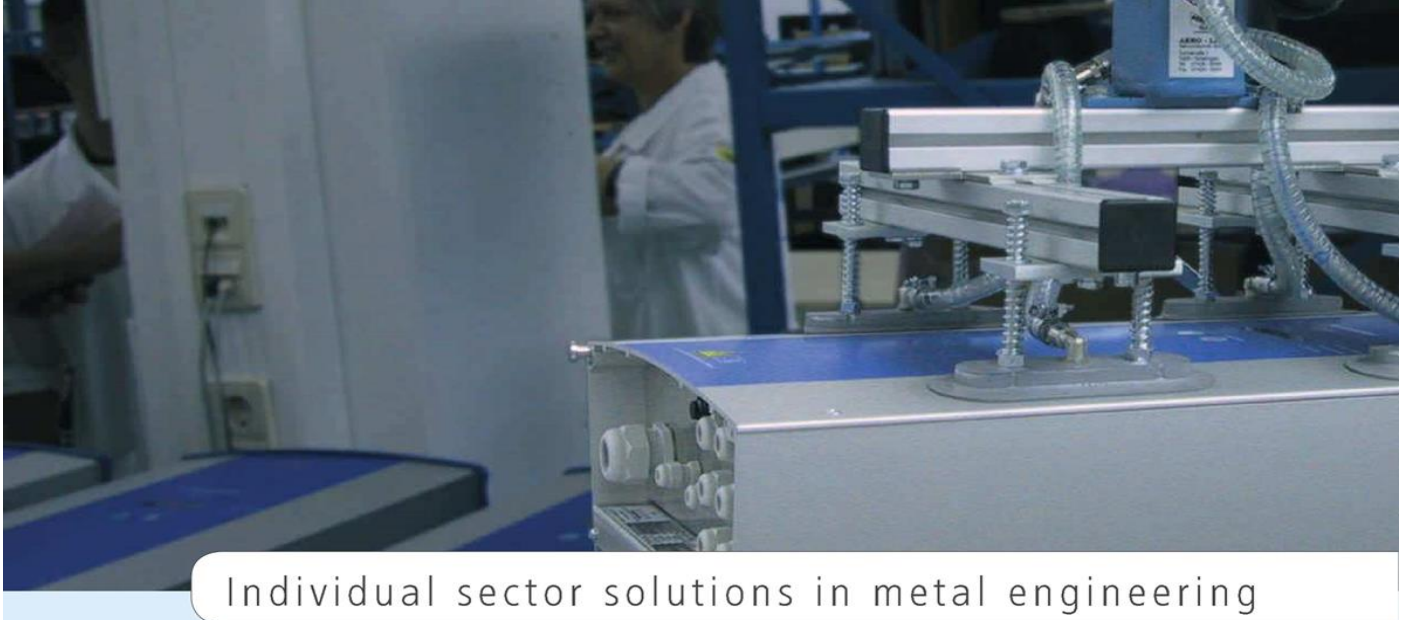
Fig. 6  
180° stationary turning unit for 10000 x 2500 mm shipbuilding panels



Fig. 6



## Individual Sector Solutions in Metal Engineering



Individual sector solutions in metal engineering

### Your problems – our solutions

Vacuum technology offers the ultimate universal solution when it comes to handling problems involving sheet material and a variety of other materials.

Regardless of the dimensions or weight involved, practically all materials can be transported rapidly, precisely and safely by a single employee in most cases using the suction-lift-lower-release principle.

In addition to many standard AERO-LIFT units designed primarily for handling smooth, regular sheet steel materials, the AERO-LIFT modular principle also provides numerous special designs individually adapted to suit specific problems which, as a consequence, can be optimally integrated in the workflow. Only in this manner can vacuum lifting units actively support processes and simultaneously enhance their efficiency.

Selection of the right suction plates or the configuration of suction pads are often the criteria that assure success, a success guaranteed in other cases by first-class technical innovations developed by AEROLIFT engineers, whether extremely robust traversing systems or very flexible hose lifters (e.g. for conveying barrels or coils) are involved. Experience indicates that individual solutions from AERO-LIFT amortise within a brief period, as they accelerate processes, humanise workplaces and release capacities which can be used more sensibly in other applications.

Regardless of the sector we can provide the ideal solution for practical sheet material handling of the highest quality.



## Mains-Free Units - Construction site systems

High-tech assistance designed for outdoors



### Clad-Boy

Never before was it so easy to install roofing and wall elements quickly and efficiently and in a material friendly manner than with Aero-Lift Clad-Boy.

The mains free vacuum lifter is able to work all day long due thanks to the high performance battery.

The Aero-lift panel lifter, Clad-Boy model, satisfies the latest safety regulations in accordance with EN 13155 for vacuum lifters used on building sites and thus ensures maximum safety for the installation of roofing and wall elements.

The compact, rugged design suited specifically for building sites and space saving transport make this a good assistant that you can take wherever you like.

### Quick Overview:

- ✓ **Safe, material friendly handling**
- ✓ **Maximum installation output yet with reduced manpower**
- ✓ **Functionality relevant structural components protected or reinforced**
- ✓ **Energy-saving, vacuum controlled motor circuit and vacuum monitoring with digital vacuum sensor**
- ✓ **UV resistant suction pads with very high service life**
- ✓ **Elasticity even at minus temperatures**

### Especially useful

- ✓ **Space saving transport thanks to special Storeboy**
- ✓ **individual accessories in the equipment box of rugged quality suited for construction sites**
- ✓ **tool free adaption options**
- ✓ **Special long lasting re-chargeable battery for up to 100 work cycles and built in charger**
- ✓ **Possible with a load bearing capacity of up to 800kg**



## Clad-Lift

### The revolution in window installation!

With the aid of these window robots, you can install windows, glass panels, doors and roofing and wall elements quickly, precisely and back friendly.

The Clad-Lift is very manoeuvrable and suited for various terrains thanks to the front drive wheels. The powerful electro-hydraulic system has a continuously variable speed regulation of all functions and is suited for heavy duty in the industry and construction sites. The simple control panel with coiled cable and ergonomic control handle with safety buttons make the Clad-Lift an extremely effective mobile vacuum lifter.

The Clad-Lift pays for itself in no time as a result of the time and manpower saved and its outstanding characteristics. The Clad-Lift is available in many variations with load-bearing capacity from 350kg up to 1000kg



## Clad-Tec

### Fast window transport – even at great heights!

What would wooden window frames be without the suitable pane? With the aid of our mains-independent vacuum lifter, you can transport glass panes on construction sites even at great heights.

The pivoting and slewing vacuum lifter is a tremendous aid when it comes to installing heavy and unwieldy glass panes. The UV resistant suction plates ensure a scratch free transport. The powerful vacuum unit, a dual-circuit system and an acoustic warning system guarantee maximum safety when used on site. Powerful batteries and a built-in charger allow for a flexible mains-independent use. The unit can be easily transported as a compact unit and is available with a load bearing capacity of 500kg – 1000kg.



## Aero-Lift Peripherals

Additions that make our lifting equipment even more effective.

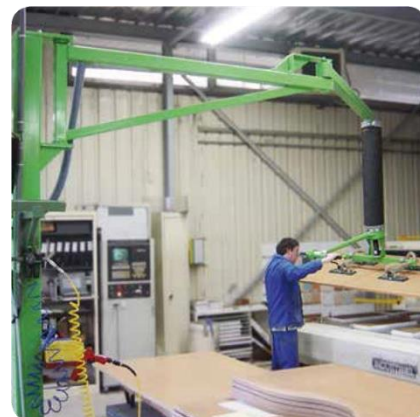
### The pillar-mounted slewing crane:

An Aero-Lift pillar mounted slewing crane with an electric chain hoist connecting the vacuum lifter enables to reach a great working area and disposes of a slewing area of 270°. We also can offer you a complete solution consisting of the pillar mounted slewing crane with an electric chain hoist and the fitting vacuum lifting device. There is a variety of crane systems with different carrying capacities and extension length.



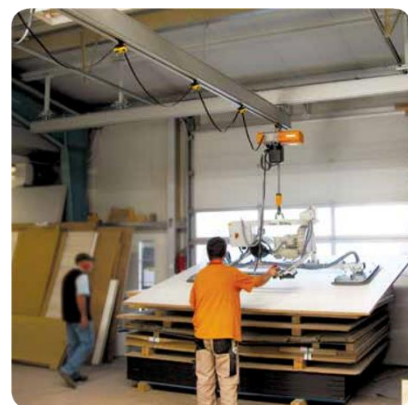
### The articulated arm jib

An articulated arm jib with pillar, wall or floor mounting allows for navigating around unwanted contours such as columns or machines in the work area and can enable the use of vacuum tube lifter even in spite of unfavourable space conditions. The maximum height can be utilised as a result of the special design of the articulated arm jib. Hoses hanging down and preventing work are no longer necessary thanks to the vacuum line integrated in the jib arm.



### The rail system

Low-friction aluminium profiles and a carriage made of high performance plastic for quiet and smooth running even with heavy loads. If convenience and smooth action are important, we can integrate running gear to facilitate movement on a rail system. The low net weight and the high load bearing capacity of aluminium profiles make the rail system an optimal solution for transporting loads with the aid of a vacuum lifter or vacuum tube lifter.



### The electric chain hoist

In addition to vacuum lifters, we also deliver the appropriate hoisting gear. The electric chain hoist is equipped with a plug-in connector for connecting a vacuum lifter. With this plug-in coupler system, the lifter can be easily detached and re-attached to the crane. The electric chain hoists are available in a wide range of load-bearing capacities and hoisting speeds. The crane control can also be integrated in the operator's console of the vacuum lifter.

