

**Your partner for extreme, large-scale  
glass mounting projects worldwide**



**Mounting of extra-large glass panes up to 24 m long**



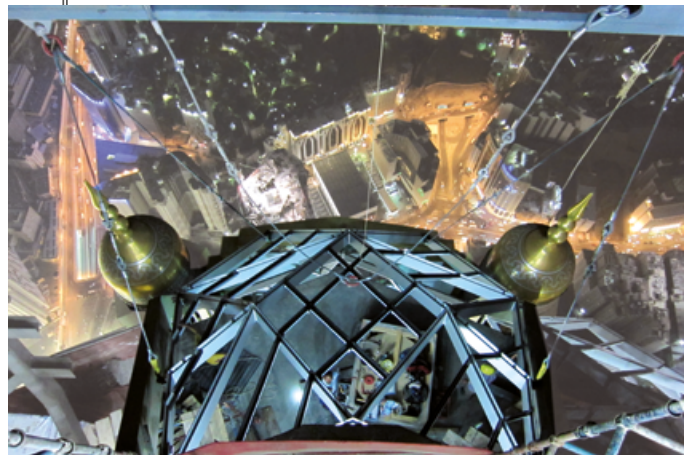
## Special preparations for work on the Royal Clock Tower in Mecca



View of Mecca from the dome (at approx. 560 m)

The equipment is packaged for transportation

Workman's basket with suction system



The dome of the Royal Clock Tower in Mecca



For the construction of the second highest building in the world at the time, the Royal Clock Tower in Mecca, Saudi Arabia, the company developed seven different [MRK cranes](#) in 2009.



### The challenge:

Glazing the dome from outside of the building with panes weighing 1,800 kg at a height of about 560 m.

### The solution:

Development of seven different [MRK cranes](#)

Heavydrive's own construction: a one-man [3-axle manipulator](#) basket attached to a truck-mounted crane



## Heavydrive devices rise to any challenge



The Heavydrive systems were being used for one whole year in Salt Lake City (Utah, USA). Extreme conditions (see box below) made fitting façade elements impossible with conventional systems. With the help of Heavydrive's special systems, the massive project was able to be completed successfully.

### Intensive pre-planning with the client

One year before work commenced, the project manager of the Mormons' new headquarters got in touch with the Heavydrive managing director. The architecture of the approx. 80 metre high building included a façade with glass panes of 3 metres wide and 10.7 metres high and weighing 3.2 tonnes, and fitting a 10.7 metre high and 60 cm wide glass fin.

### Heavydrive GmbH developed a custom solution for this.

To see the Heavydrive team's professionalism and the quality of the systems for himself, the client personally travelled to Germany in May 2015.

"With intensive planning beforehand and detailed talks with the construction management, we were able to put together an ideal glass mounting solution that complied with all of the project's demands", said managing director Guenter Uebelacker.

### Reliable use on the construction site

As planned, and to the customer's complete satisfaction, the three systems supplied by Heavydrive completed their operation in Salt Lake City in November 2016. The devices are already currently being used on other projects in the USA.

Image left: Mounting of panes on site  
Image below: Field test at Heavydrive



### The challenge:

Large and heavy panes, mounting under a 3m overhang and in temperatures as low as -20°C.

### The solution:

The [VSG 3500 K](#) suction system in combination with the [VSG 5000 counterweight traverse](#)

The [VSG 1000 KL 9](#) vacuum suction system for the extremely tall and narrow glass fins

Weatherproof suction pads for temperatures as low as -20°C

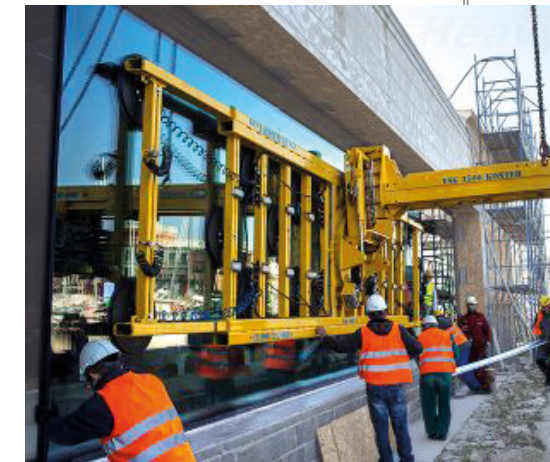


## Heavydrive devices withstand wind and weather



Transportation of pane over 40 m across the port

Mounting of the 4 tonne pane



### The company installs panes weighing four tonnes under extreme conditions

An Italian façade builder has spectacular construction plans for the old port at the Piazza Venezia in Trieste: the complete restoration of a historic building. The future visitor awaits a magnificent view of the port of Trieste. For this, a pane weighing four tonnes and two panes weighing 2.5 tonnes had to be installed at the side of the sea.

The Heavydrive team had to face several challenges (see box on the right) and enormous time pressure - The Bora, an unpredictable gust of wind with a high average speed makes the installation conditions very difficult.

At first, the largest of the three panes weighing almost 4 tonnes was installed. Via remote, the Heavydrive technician steered the pane above the sea directly to the façade. The system inserted the 9.6 metre long and 3.2 metre high pane exactly to the millimetre under the eave. The Italian construction manager instructed the employees at the sight. To install the two smaller, 2.5 tonne heavy panes, a smaller suction system was used.

Thanks to the [quick-change system SWS](#), the switching of the vacuum suction system was done in only 15 minutes and the installation could be carried out without delay.

### The challenge:

*The façade is offset into the building by 800 mm with a surrounding gap of just 10 mm.*

*The façade is right next to the sea. With no possibility to store the panes in the port, they had to be transported over a distance of 40 metres.*

*Gusts of wind becoming stronger and stronger, eventually leading to a storm.*

### The solution:

The [VSG 6000 K](#) vacuum suction system with an [SWS quick-change system](#) and the adapted [counterweight traverse](#) (capacity of up to 7 tonnes).

*The system installs panes of up to 18 m long and 3.4 m tall. With the counterweight traverse, the suction system can safely move into any recess horizontally or under the eaves of a building up to 3 m deep.*



## Fitting panes in a tight space in Basel

In Basel, Switzerland, Heavydrive GmbH installed a total of 50 panes on the St. Jakobshalle arena under extreme conditions. That would have been a difficult and time-consuming task for traditional solutions.

Heavydrive GmbH faced the challenge successfully with their special equipment (see box on the right).

A specialised crane operator with many years' experience of tricky glass mounting projects could easily transport the glass panes underneath the overhang and turn and tilt them within the tight space. The extra-large panes were inserted into the mullion-transom system to the millimetre. Within just one day, the team had replaced the emergency glass with the new façade elements.

### The challenge:

*Ground-level mounting of 50 panes, nine of which weighed 1.5 tonnes with some measuring up to 1.2 m x 3.1 m and 2.8 m x 6.5 m under 8 m-16 m deep overhangs.*

*The panes had to be rotated by 90 degrees after being unloaded – and within a very small, tight space.*

### The solution:

*The [MRK 195 mini crawler crane](#) with an [3-axle manipulator attachment](#)*

*The [VSGU 1500 KMH](#) and [VSG 1500 KS](#) vacuum suction systems*

*Highly experienced device operators*

Mehr Einsatzbilder und Videos finden Sie auf unserer Website [www.heavydrive.com](http://www.heavydrive.com)



St. Jakobshalle Arena at night

Glass mounting under an overhang with the VSGU 1500 KMH



## Heavydrive heavy-duty use in Geneva

A 12 m reach for extra-large panes – the VSG 3500 KMH



### The challenge:

*Replacement of five panes (measuring 2.2 m x 13.1 m and weighing 1.5 tonnes).*

*The building had sustained earthquake damage so intensive safety precautions were necessary.*

### The solution:

*The [VSG 3500 KMH](#) (capacity of up to 3.5 tonnes, a 4-circuit system and battery-powered)*

*The [MRK 195 mini crawler crane](#) with a reach of up to 22.7 m*

*Patented Heavydrive extension arm*

Heavydrive was used by an international organisation in Geneva.

With their specialised mounting solution the team had no problem fitting all five panes in two days. (see box above)

It wasn't just in transport and mounting that Heavydrive GmbH proved its competence in Switzerland. Even in the planning phase, the experts were there to offer advice and support.



## Mounting of heavy stone façade elements

This construction project in London's Wood Wharf district in July and August 2017 involved installing various-sized stone corner façade elements and façade insulation weighing up to a tonne.

To firmly place the various elements, the Polish façade manufacturer developed a special steel auxiliary structure.

Following extensive deliberation with the Heavydrive experts, the decision was made to use Heavydrive's [VSG 2000 counterweight traverse](#) in conjunction with the [SWS quick-change head](#) for mounting of the façade elements. Locating bore holes were welded to the auxiliary structure so the SWS could be attached.

### Safe, quick and competent glass mounting

Due to time constraints, the [VSG 2000 counterweight](#) was transported from the test location in Poland directly to the construction site in the British capital, while at the same time all of the auxiliary constructions were prepared for adaptation to the Heavydrive quick-change head. Using the SWS and with very few hand movements, the operator could replace the elements by pinning just three bolts.

In order to meet all of the requirements and guarantee the best operation of the Heavydrive equipment, the experienced Heavydrive mounting manager travelled to the construction site in London himself to train the on-site team and hand out the necessary certificates. At that point, the system could be handed over to the customer.

*Special corner frames were installed under an overhang*

### The challenge:

*Mounting of various-sized stone corner façade elements and façade insulation weighing up to a tonne under a 1.5 m deep overhang. The glass mounting device needed to be controlled remotely.*

### The solution:

*The [VSG 2000 counterweight traverse](#) with the [SWS quick-change head](#)*

*Locating bore holes for the auxiliary frame construction*

### Heavydrive counterweight traverses for every construction site

Several months previously, Heavydrive GmbH was involved in a similar mounting situation for another building in London's Wood Wharf district. On that occasion, conditions were even trickier due to the 3.5 m roof overhang and the corner angles and steel auxiliary structure projecting out by 2.9 m.

Together, the auxiliary frames and corner elements reached a lifting load of 1,850 kg, so the Heavydrive [VSG 4000 counterweight traverse](#) – with a capacity of up to 4 tonnes – was used in this glass mounting project.



## Heavydrive innovation to be implemented in London

### The Tapfheim-based company installed very tall glass fins in the London Underground



A new, all-glass entrance was being built at Tottenham Court Road Underground station in London. Glass fins up to 14 metres high and 450 millimetres wide stabilise the structure.

Glass fins are the latest challenge for the glass mounting sector. These narrow, very tall bonded glass plates are increasingly being used to replace steel and concrete supports thanks to their stability.

For these special mounting jobs, we offer special systems such as the [VSG 2500 KL 12 vacuum suction system](#).

This system, at that time the largest and most powerful available on the market, is a real innovation in the glass mounting industry.

### The challenge:

*Mounting of glass fins up to 14 m in height and 450 mm in depth. The glass fins had to be hydraulically and smoothly rotated by 270 degrees and tilted 90 degrees.*

### The solution:

*The [VSG 2500 KL 12 suction system](#) with a capacity of up to 2.5 tonnes and a suction length of 6.25 m (with the right attachment arm the system's suction length can even be extended to 12 m).*



## Heavydrive fits huge façade for luxury hotel

Breath-taking mounting of 15-metre-wide glass façade in Croatia



One of the highlights of Grand Park, a new 5-star luxury hotel being constructed in the picturesque fishing port of Rovinj, is a huge glass façade overlooking the ocean. Heavydrive's specialists were asked to fit the 15-metre-long, 3.2-metre-high, 5.2-tonne-heavy pane of glass.

### Planning from the very start

We began working on the perfect solution for the luxury hotel façade mounting as long ago as a year previously. "I visited the site so I could see the mounting situation we would be dealing with for myself. My team and I were then able to play out various different scenarios and ultimately come up with the optimum solution," explains Mr. Uebelacker.

Intense cooperation with the customer as early as in the planning stage and the development of dedicated solutions are part and parcel of the service Heavydrive delivers. In this way, the team is prepared for any situation that might arise and the work is carried out quickly, efficiently and smoothly.

The Heavydrive team opted for the [VSG 6000 KMH vacuum suction system](#), one of the biggest systems on the market.

At the site in Rovinj, the system was attached to a mobile crane, facilitating transportation of the façade element over the building to the façade opening, where it was placed directly into the transport rack. Installation of the huge façade element was complete within just a few hours.

Vacuum suction system VSG 6000 KMH with 15 m pane



### The challenge:

Fitting the pane at the waterfront at a height of 19 m, a long distance from the crane base.

The façade opening was not directly accessible, meaning the glass pane had to be moved over the top of the building.

### The solution:

The [VSG 6000 KMH suction system](#) – one of the largest systems on the market. The VSG 6000 KMH is lightweight and flexible, and it is quick and easy to rig up. The 20 suction pads can hold up to 6 tonnes in weight, up to 24 m in length and 3.2 m in width.

## Mounting and replacement of extra-large panes in Dubai

In Dubai (United Arab Emirates), Heavydrive GmbH has impressed time and time again with its equipment and know-how.

In the Dubai Mall – a huge shopping centre with more than 1,200 shops – a highly experienced Heavydrive device operator installed 14 m high, 3 m wide curved panes over the main entrance. The glass panes weighed 4 tonnes and had to be fitted under a 5.8 m deep overhang.

With the [VSG 4000 KR vacuum suction system](#) and the [VSG 6000 counterweight traverse](#), the installation went off without a glitch.

### Urgent operation in record time: Heavydrive replaces a damaged pane in the Dubai Mall within one week

It's every builder's nightmare: Shortly before the completion of a new mega store in the famous Dubai Mall, the huge glass pane in the entrance door broke. Within one week, we had managed to replace the curved glass element using our expert team and equipment.

Based on our longstanding international experience, we have developed a professional logistics system that makes it possible for devices to be delivered within 12 hours to Germany and within 24 hours to Europe.

We offer a one-stop service that takes care of all the necessary administrative formalities and approvals.

Heavydrive mounting devices in front of the Burj Khalifa



### The challenge:

To fit curved panes measuring 14 m high and 3 m wide and weighing 4 tonnes under a 5.8 m deep overhang

### The solution:

The [VSG 4000 KR suction system](#) with the [VSG 6000 counterweight traverse](#)



## Lifting panes to heights of more than 30 m

In Poing, Munich, the community now has an unusual church. The 900 sqm, 30 m tall building is based on a spectacular architectural design concept with eight extra-large panes.

15,000 white, three-dimensional tiles adorn the façade, allowing the church to shine as it reflects the sunlight. At first glance, the modern church appears almost windowless.

But the building has three large window openings that flood the inner space with light from every side. The large panes on three parts of the building were a vision of the impressive design concept by Munich architecture firm, Meck.

The panes had a particular glass crack structure, so the suction system was fitted with special suction pads. The system was ready for use within a few minutes.

It could then be attached directly to the truck-mounted crane and used right away. With instructions from the Heavydrive experts, the crane operator steered the system over the 30m high and wide church with absolute precision. Within three hours the damaged pane had been replaced.

### Pane mounting in record time

In total, Heavydrive GmbH installed eight panes in the new church. Every single pane posed a challenge for the team. The panes had to be lifted under overhangs up to 3 m deep and at ground level.

In just one day, all of the panes were safely and precisely installed thanks to Heavydrive technology.



### The challenge:

There is a park connected to the northwest side of the building that is closed off to vehicles, so the 1,200 kg glass element measuring 5.7 m x 3.2 m could not be moved directly into the building. Instead, the pane was lifted over the church, 30 m in the air, by a crane.

### The solution:

The [VSGS 2000 K MH vacuum suction system](#) with the [VSG 2000 counterweight traverse](#)

The [MRK 86.0 S1 mini crawler crane](#) with the [VSG 1200 KH vacuum suction system](#)

This Heavydrive System has to be lifted 30 m high over the church building

Precise mounting of the extra-large panes



These panes are only accessible from the park side





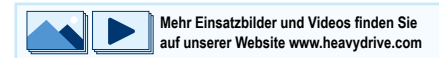
## Flight chambers in the Jochen Schweizer Arena and at FlyStation Munich

If you've ever dreamt of flying, indoor skydiving could be the thing for you! In a vertical wind tunnel known as a flight chamber, you can experience the thrill of freefall – just like in real skydiving.

Heavydrive was recently on site at one of these high-tech indoor skydiving facilities in Neufahrn and in the Jochen Schweizer Arena in Taufkirchen near Munich.

For Heavydrive this was the eighth flight chamber where its equipment and skilled operators were used.

Jochen Schweizer was there in person to see Heavydrive's unique crane and suction systems in action.



### The challenge:

To install the substructure, steel beams measuring 5.7 m in length and weighing 500 kg had to be hoisted up into the room. For the heart of the chamber, six curved panes, each measuring 5.5 m in height and around 1.8 m in width and weighing some 860kg, had to be installed inside the arena.

The limited space and low ceiling capacity posed further challenges.

### The solution:

The [MRK 86.0 assembly crane](#), suitable for indoor use, along with the [VSG 1000 KR vacuum suction system](#) and the [VSG 450 K](#) vacuum lifting device

The glass mounting was carried out by a skilled Heavydrive device operator

Mounting of curved panes  
in a tight space

The [MRK 144.0 S mounting crane](#) and the VSG 1000 KR vacuum suction system used to glaze the flight chamber





## Lakhta Tower, St. Petersburg

The Lakhta Tower in St. Petersburg is one of Europe's most prestigious architectural feats, and at a height of 462 m, it will be the tallest building on the continent.

Like most futuristic constructions, it pushes standard glass mounting solutions to their limits. It was a job for the experts.

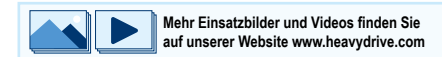
The façade construction company, the Lindner Group KG, called in support from lifting and transportation specialists Heavydrive GmbH to plan, develop and implement the project.

The Tapfheim-based company, along with Josef Gartner GmbH from Gundelfingen and Waagner Biro AG from Vienna, became the main suppliers for the construction project.

The Lakhta Tower in the second-largest Russian city is an unparalleled build – with 83 floors, a record-breaking continuous concrete pour into the foundation, and 400,000 sqm of usable floor space.

The customer visited the Heavydrive factory site in Tapfheim to see the glass mounting solutions for themselves. The team carried out a field test that simulated the construction site conditions and demonstrated the system's functions. The results were very convincing.

From then on, the Lindner Group GmbH benefited from Heavydrive's one-stop service. The experts organised everything from making sure the system was safely packaged for transportation to the customs paperwork.



### The challenge:

*This mega project placed enormous requirements on the glass mounting equipment: it would have to be ultra-lightweight and at the same time be able to bear heavy loads. The equipment also needed to be remote controllable and be able to function in temperatures as low as -20°C.*

*Another challenge was that the frame of the suction system needed to be particularly flexible and be able to lift curved panes.*

### The solution:

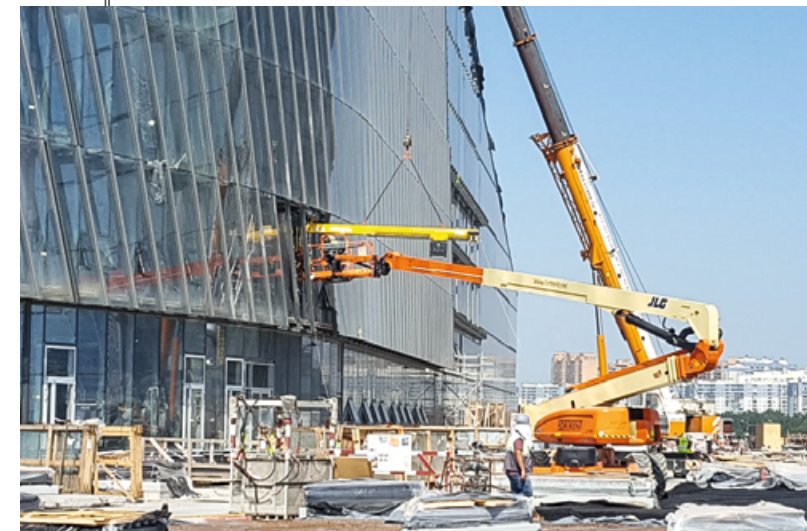
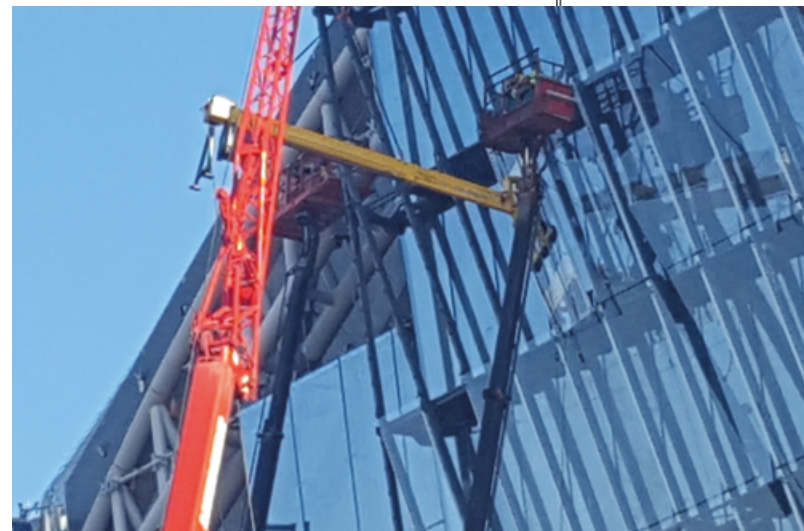
*Development and production of four [VSG 600 K MH vacuum suction systems](#) (a 2-circuit system with a hydraulic pivot mechanism and motorised swivel function, remote controllable and suitable for use in extreme sub-zero temperatures)*

*Development of two [counterweight traverses](#) that could be connected to the [VSG 600 K MH](#) with a quick-change head*

*The Lakhta Center conference building in St. Petersburg in front of the Lakhta Tower*

*On-site instruction: the VSG 1500 KH vacuum suction system*

*The specially developed counterweight traverse in use*





# Difficult Glass Mounting at the Elbe Philharmonic Hall

Heavydrive fits panoramic panes for Hamburgs newest landmark



With its spectacular architecture and unparalleled acoustics, the Elbe Philharmonic Hall in Hamburg has been a magnet for visitors from all over the world since its opening on 11 January 2017.

Our devices were used to fit the extremely large panoramic panes and wave-like glass elements on the sea-facing side of the building.

## An exceptional view of Hamburg port

Constructing this futuristic building was quite an affair. The panoramic panes in the Stoertebeker Beer & Dine Restaurant give customers an exceptional view of Hamburg port.

To create this, panes measuring 2980 mm high and 4680 mm wide were set in at an angle over two floors. For the complicated mounting of the 800 kg glass panes, Heavydrive GmbH was supported with special equipment from window and façade construction company Rommel. Using a building crane and the [VSG 900 KS vacuum suction system](#), the extra-large panes were first raised above the building.

The lotus effect of the panes was another challenge for the team. The glass panes have a special coating on the outside to allow water and dirt to run off. This means the panes have an extremely smooth surface and don't work with standard suction devices, so the vacuum suction system was fitted with special suction pads to ensure safe mounting. As there was nowhere on the sea-facing side of the building to stabilise the devices, the façade elements were basically air-lifted over the building. With the [MRK 86.0 mini crawler crane](#) the operator was then able to move the panes into the structure and fit them exactly to the millimetre.

## Complex mounting of wave-like panes

Assembling the curved glass panes was just as tricky. The Gundelfingen-based company Gartner hired the [VSG 1200 KR vacuum suction system](#) to install the large panes with fittings. The system has more than 48 suction pads that fit the curved panes perfectly and can grip both sides simultaneously (convex and concave) on a minimum radius of 450 mm. The system can also rotate the suctioned panes by 360 degrees and pivot them by 90 degrees.



### The challenge:

Panoramic panes measuring 2980 mm x 4680 mm had to be set in at an angle over two floors.

The lotus effect of the panes called for special suction pads. The façade elements also had to be lifted in the air.

The concave and convex curved panes had to be rotated and pivoted.

### The solution:

The [VSG 900 KS vacuum suction system](#) with a building crane, mounting of panes with the [MRK 86.0 mini crawler crane](#)

For the curved panes: the [VSG 1200 KH vacuum suction system](#) with special suction pads



### This also makes transportation easier:

Using the suction feature, the glass panes are held horizontally in the transport crate, lifted out and finally pivoted into position for mounting. The vacuum suction systems for curved panes have a lifting capacity of between 250 kg and 5,000 kg and are available to rent from Heavydrive.

In the Elbe Philharmonic Hall, the [VSG 1200 KR](#) was used to move every single one of the 1,200 kg curved panes diagonally through the building. Because these panes are embellished and have a lotus effect, all of the panes were gripped from the inside and lifted into position.

*Mounting of panoramic panes with the MRK 86.0*



## Unlimited creativity in planning and construction with Heavydrive!

Project management with Heavydrive gives you extreme flexibility, even in the planning phase



Modern architecture relies heavily on glass as a building material. Futuristic design and large glass constructions are on trend. With us, there are no limits to your creativity!

### Plan with Heavydrive®!



### Start planning and project managing the equipment you will need for every construction phase from the outset.

Then we can quickly put together a package that will save you time and money! It also means you can avoid nasty surprises from the get-go that can greatly increase project costs!

## There are no limits to your creativity!

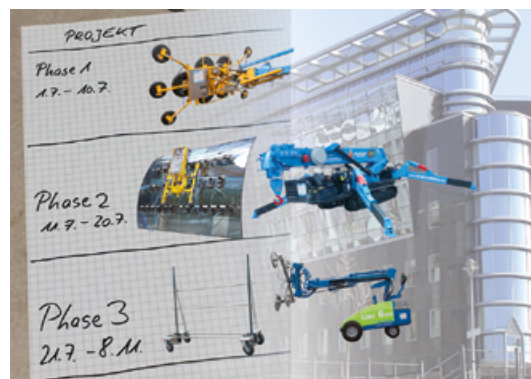
Even from the design and planning phase of a project, it makes sense to think about the implementation. This is becoming more and more important in the contracting phase.

### Creativity in glass construction

We support you in the creation of your mounting operations scheduling (with a method statement) and help you to prepare for worst-case scenarios with optimal solutions, for example replacing existing panes.

Heavydrive is the leading world specialist for these types of projects, so you can always be on the safe side with your project planning. From planning to precise implementation, you are in safe hands with us.

Heavydrive's special systems open up a world of creative opportunities that were previously inconceivable, until now!



## A reliable all-round service for extreme glass mounting

Heavydrive offers a one-stop service from planning to implementation

The sector is being faced with more and more challenges: structural elements are becoming larger and heavier, mounting is becoming more complicated and the logistics more complex.

So Heavydrive GmbH is offering an all-round service. The experienced, professional team supports clients around the world throughout their projects – in the planning, development and implementation stages – whether they have large or small panes to fit, specific custom requirements, difficult construction conditions, extreme climate conditions or remote operation sites.



Here, trained staff perform maintenance and repair work on company-own and external equipment and guarantee 100% machine operation. A dedicated test area enables employees to check the equipment's vacuum power and adjust the vacuum suction systems for each construction site situation accordingly.

The company's central location in Tapfheim ensures quick and reliable delivery. The equipment is kept in two well-organised warehouses and is „on-call“ at all times and can be shipped to Frankfurt and Cologne in 3 and 5 hours, respectively. For small equipment, Heavydrive even offers worldwide overnight delivery including all customs and transport documents.

Heavydrive GmbH has specialised as experts in mounting of extremely large and heavy panes, and also offers the optimal solution for difficult construction site conditions.

Customers receive a one-stop service, from planning and transportation, including all customs documents and freight documents, to a professional device operator. The versatile devices and suction systems are based in the headquarters in Tapfheim and are available to rent or to purchase.

Our rental park includes different [MRK mini cranes](#) by the manufacturers Maeda and Unic, various [vacuum suction systems \(VSG\)](#) with a capacity of up to 12,000 kilos and [counter traverse](#) up to 18,000 kilos capacity, [glass fitting equipment \(GMG\)](#), [motor chain hoists \(MKZ\)](#), [glass transport wagons \(HDL\)](#) as well as [assembly lifts \(ML\)](#). The company also rents out all-terrain [telescopic forklift trucks \(GTS\)](#) and [lifting platforms \(GTB and SB\)](#).

At its headquarters, the company offers professional servicing and repairs on machinery and has its own wash facilities for both small-sized and large-scale equipment.





For more information and equipment see our pocket-size catalogue with more than 300 pages - or visit us at [www.heavydrive.com](http://www.heavydrive.com)

### Rental & Sales WORLDWIDE:

full service ranging from individual devices to complete solutions for large-scale projects

[catalog.heavydrive.com](http://catalog.heavydrive.com)

[app.heavydrive.com](http://app.heavydrive.com)

Memory-free web app, so that you always have our catalog on your smartphone

▶ See [videos of our projects](#) and get more information on our website [www.heavydrive.com](http://www.heavydrive.com) at „News & Jobs“

See all subsidiaries and contacts at: [subsidiaries.heavydrive.com](http://subsidiaries.heavydrive.com)



**HEAVYDRIVE GmbH**  
**Headquarter Germany**  
Hoeslerstrasse 9 • 86660 Tapfheim  
Germany  
Phone: [+49 9070 96 8 96 90 - 0](tel:+49907096896900)  
Fax: [+49 9070 96 8 96 90 - 9](tel:+49907096896909)  
WhatsApp: [+49 171 3407406](tel:+491713407406)  
E-Mail: [info@heavydrive.com](mailto:info@heavydrive.com)  
Web: [www.heavydrive.com](http://www.heavydrive.com)  
Video conference via Skype oder zoom