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Industrial hoists
References worldwide

SCANCLIMBER®
by Tractel®

Scanclimber serves one of Germany's largest lime plants



Walhalla Kalk, one of Germany's largest and most modern lime plants, required efficient vertical transportation in order to transport material and personnel. Scanclimber shows how it should be done...

Walhalla Kalk GmbH & Co. KG produces and sells a variety of limestone-based products. It is one of the largest and most modern lime plants in Southern Germany, with a turnover of EUR 20 million.

Plant history

Limestone has been mined from the base of Mt Keilberg, near Regensburg, Germany, since the mid-19th century. In 1911, three entrepreneurs established a successful joint venture for the marketing and sales of their Walhalla-lime products.

After 1945, there was much reconstruction work in tandem with continuous process development and increased production. On 1st Jan 09, Walhalla Kalk GmbH & Co. KG became

a subsidiary of Heidelberger Cement AG and the 'Walhalla Kalk' brand became a household name.

Hoist requirements

Walhalla Kalk needed hoist services at their largest burnt lime production plant and there was a need for faster access to the different levels of the plant. In addition, an efficient method for the vertical transportation of material and personnel was required. This would also ensure fast access to every part of the plant - crucial for regular maintenance and avoiding unplanned stoppages.

Special features

The Scanclimber SC1500 was installed at the plant to meet the material transportation requirements. A spe-

cial feature was the ability to load the hoist from two sides on level zero. This was done by mounting an entry door on the hoist at the ground station.

Scanclimber SC1500

The SC1500 is a heavy-duty hoist, able to carry a payload of up to 1500 kg to a height of more than 200 m. This industrial hoist is used for the transportation of material as well as passengers. In addition, it can also be used for maintenance purposes when working at industrial construction projects such as chimney stacks, towers, etc. This industrial hoist can be used outdoors as well as indoors. Another important attribute is that the material used for this hoist is resistant to weather conditions and corrosion, so ensuring a long service life.



Enabling emissions control at Polish power plant

The Dolna Odra power plant in Nowe Czarnowo, Poland, required vertical transportation for emissions monitoring. A Scanclimber industrial hoist enabled emissions control and maintenance tasks.

The Electrownia Dolna Odra power plant was built in the 1970's and has been fully operational since 1977. The power plant has a total capacity of 1362 MW of electricity and 100.81 MW of thermal energy. It is a conventional power plant and it was comprehensively modernized in the 1990's. The Dolna Odra power plant supplies electricity to the national power grid, and heat to the town of Gryfino.

Requirements

EU environmental regulations require that pollutants discharged from industrial processes and operations must be controlled and regularly monitored. To do this, there was a need for the regular monitoring of emissions from the plant. A Scanclimber hoist was deemed to be the most feasible solution to facilitate this because of its modular design and adaptability.

The Scanclimber SC500K was

selected for installation on the plant chimney. It was decided to mount the hoist on the outside of the 200 m chimney, though it could be installed inside or outside. The hoist though, rises to 120 m. The SC500K is successfully used for periodic chimney maintenance and to access the emissions monitoring equipment installed on the chimney. The hoist is in use several times a month.

Scanclimber SC500K

The SC500K is for passenger and lightweight material transportation, as it can only carry up to 500 kg or 5 persons at a time. Its main advantage is adaptability, because it can be easily mounted in complicated sites. This hoist is mostly used for high structures like chimneys, cranes, etc. It can be mounted either internally or externally, is able to withstand extreme conditions and is corrosion resistant, thus ensuring long service.



Easing crane maintenance at the port of Le Havre, France

The port of La Havre, France, is one the largest ports in the country and handles an annual container volume of over 2.2 million TEU. It is operated under the port authority, 'Grand Port Maritime du Havre'. The Generale de Manutention Portuaire (GMP) started its operations in Europe in 1976 in order to process the increased volume of containers and vessels. Scanclimber assisted in the maintenance access of the port cranes by providing the SC300K.



The port of Le Havre was little more than a fishing village when a harbour was constructed at the location in 1517. Through the 16th and 17th centuries, the harbour was further expanded and developed to manage double the vessel traffic. From the 19th century, traffic kept increasing and the port expanding. The port of Le Havre was always a strategic location and was almost totally destroyed during World War II. It was re-built, expanded, and now plays a significant role in the economy of France.

Challenges

The challenge at Le Havre was access to the harbour cranes and to find an efficient solution with respect to their installation, maintenance, rapid availability of spare parts and adaptability to the site. Some major challenges were:

- To determine the basic measurements of the cranes
- To replace the old existing hoist with a new Scanclimber one
- To install a hoist without any major structural changes to the site.

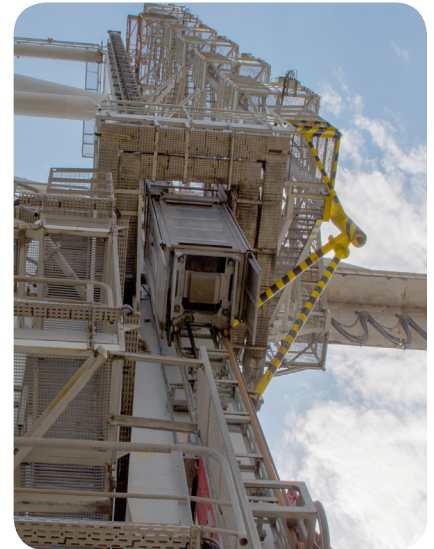
The main task was to replace the old hoist with the new one, but the major challenge was to determine the site measurements in terms of



landing and clearance dimensions. This was a challenge because the site was old and there were no layout drawings or other dimensional information available. The measurements had to be made with the crane in operation, and in an area the old hoist had contaminated with hydraulic oil. In addition, the emphasis was on installing the Scanclimber hoist without any major modifications to the crane. Scanclimber technicians from Poland skillfully addressed all these challenges. The measurement results enabled Scanclimber to design a customized hoist. The landing and cover panel were adapted in a way that required almost no additional changes to the existing construction. They replaced the old hoist with a new basic industrial hoist, which started operating in June, 2009.

Scanclimber SC300K

The Scanclimber SC300K hoist is a lightweight small industrial hoist, which can carry three people or material up to 300 kg. This hoist is highly efficient for installation at locations like towers, ports and chimneys for the majority of maintenance work. This high quality hoist can be used internally as well as externally at sites because it is able to resist extreme temperatures with no rusting factor involved - thus assuring low maintenance requirements for the hoist itself for years.



PROJECT FACTS

Hoist used	SC300K
Payload of hoist	300 kg or 3 persons
No. of hoists used	2
Hoist installed	June, 2009
Hoist usage	6 times per shift (8 hours)
Main use / benefits of hoist	Access for crane operators and maintenance

Scanclimber serving at Europe's largest port



Accessibility to harbour cranes is vital in cargo management and the Port of Rotterdam is no exception. Being Europe's largest port, they needed a solution to enhance operations. Scanclimber, as per expectations, successfully delivered results.

The Port of Rotterdam is one of the top 10 largest ports in the world. The port stretches over a distance of 40 kilometres, covering an area of 105 square kilometres. The port's net profit of €122.5 million (2014) makes it one of the major driving forces in the economy of the Netherlands. The port is operated by the Port of Rotterdam Authority.

History

The port's long history dates back to the 14th Century as the city of Rotterdam developed from a small village to major harbour city. In the first half of the 20th century, port operations were moved towards the North Sea. A large canal was designed and dug to let natural water flow to connect rivers with the North Sea. Once accomplished, industrial activity bloomed. The port zone was increased extensively with the construction of the Europe gate complex (Europoort). The port of Rotterdam was not just expanded but also equipped with state-of-the-art equipment and terminals to handle enormous quantities of cargo. The construction of a 24-metre-draft quay enabled the port to handle the largest ships in the world.



Hoist requirements

The handling of cargo is truly extensive and is done with the aid of tall harbour cranes. Easy and rapid access to the crane cabins is critical to minimize downtime which increases costs. Maintenance of these harbour cranes is critical in order to maintain operational efficiency. Operator access and crane maintenance would be slow and impractical if relying only on stairways. An industrial hoist provides solutions to all these issues and allows the cargo handling process to run smoothly.

Project Information

The decision to direct vessels to either harbour A or B is made only hours before unloading. Unloading must start immediately. Vessels with engines running and an idle crew are a direct cost. The cranes must be in position and ready to act once a vessel is moored.

The installation of a hoist was essential, even though the height requirement is only 25 m at Rotterdam. Two Scanclimber SC300K units were chosen for the task. With a run time of only one minute, the crane cabin can be accessed safely and quickly. The hoist makes it possible to move an operator in no time and meets the demanding logistics schedule. In addition to cabin access, the hoist is employed for inspection and servicing of the upper part of the crane where the electrical and mechanical units are situated.

Scanclimber SC300K

The SC300K is manufactured for personnel and lightweight material transportation, as it can only carry a weight up to 300 kg. Since it is a lightweight hoist, its main advantage is adaptability because it can be easily mounted in complicated sites. This hoist is mostly used for high structures like chimneys, cranes, etc. It can be mounted internally as well as externally and it is able to withstand extreme conditions and is resistant to corrosion; thus ensuring a long service life.

PROJECT FACTS

Hoist used	SC300K
Payload of hoist	300 kg or 3 persons
No. of hoists used	2
Required height	25 m
Main use / benefits of hoist	Accessing the crane's cabin Cranes inspection and service

SC2000K at Rouen's third largest structure



France built a giant 86-metre-high, vertical-lift bridge in Rouen. Maintenance of such structures is of high importance, which is how Scancrawler industrial hoists ended up inside the towers.

Pont Gustave-Flaubert is a vertical-lift bridge constructed over the River Seine at Rouen, France. The bridge is a lift bridge with a length of 120 m and a height of 86 m. The 'butterflies' on top of the foundations make this the third tallest structure in Rouen. A projected 50 000 vehicles a day will pass over it.

History

The crossing point of the Seine at Grand Quevilly and Petit Quevilly was chosen because of its proximity to central Rouen's residential and business areas. The total project cost €137 million. Work started in June, 2004

and completion took three years. The first test was in April, 2007 when the bridge was raised to let a barque vessel pass through. The bridge was opened for normal traffic in September, 2008. The bridge is named after Gustave Flaubert – renowned writer and native of Rouen.

Hoist requirements

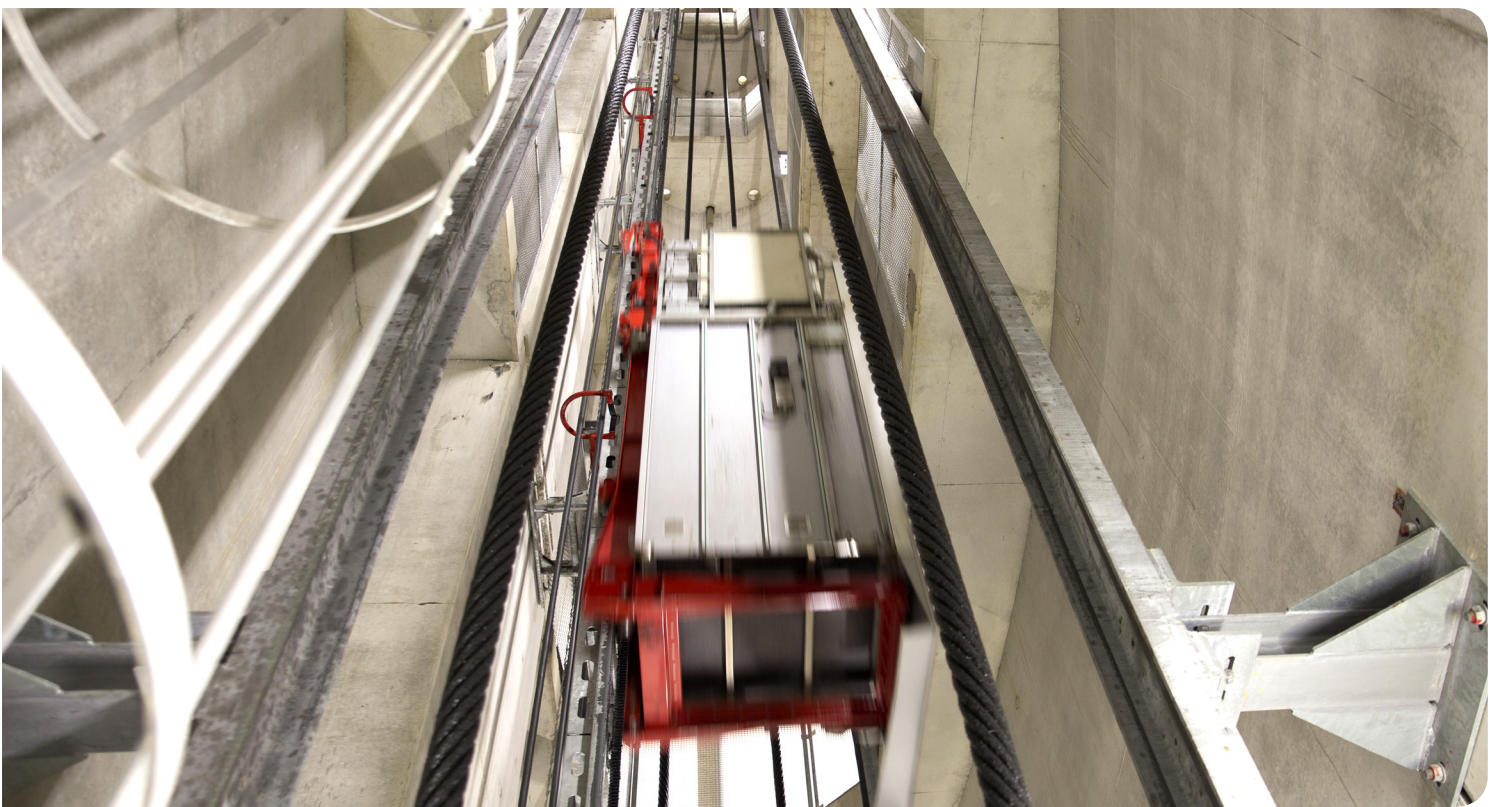
A unique feature of this bridge is its two 86-metre-high towers. The structure requires proper maintenance and the bridge panels must be raised occasionally to allow vessels to pass under it. The height of the towers made maintenance access by stairways im-

practical. An industrial hoist was the only viable answer.

Challenges

The project may sound simple, but installing a hoist inside the 86-metre tower presented some serious challenges; not least of which were space issues.

- Required payload of 2000 kg, with insufficient space for standard installation
- Installation level not at insertion level
- Hoist should remain undamaged during the months of construction work



SC2000K in one of the Gustave Flaubert Bridge towers, France

In order to install the hoist in the limited space, a special two-tube mast, integrated with special anchoring, was used to install a hoist with a payload of 2000 kg. Manpower and careful handling were crucial for the transportation of approx. 10 t of material for each hoist. All material was safely transported to the installation level. The material was moved from level to level and was consumed by the installation process along the way.

The construction work spanned several months and to protect the hoist cage from damage, a cage inside the cage was created. For this purpose, a nearly complete wooden casing was customized so that on its removal, only minor repair work was required.

The installation work on both towers was done in shifts. After installation to a given height, the assembly team

transferred to work on the other tower while the first hoist was being used.

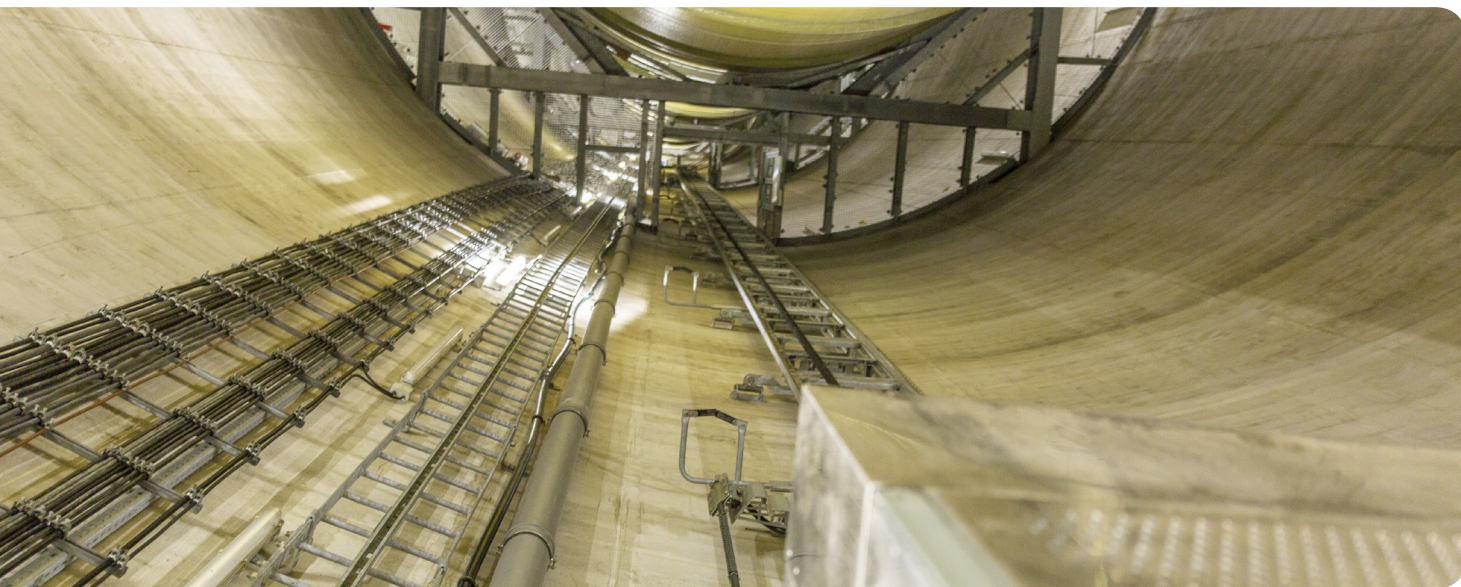
Scandclimber SC2000K

The SC2000 lift is meant for transportation of personnel or materials. Besides transportation purposes, it is also used for the maintenance of bridges, chimney stacks and various towers. It has payload capacity of 2000 kg or 20 persons at a time. It can lift to a height of 200 m or above, as required. The material used in the manufacture of this hoist can withstand extreme weather as well as corrosion, thus ensuring a long service life.



PROJECT FACTS

Hoist used	SC2000K
Payload of hoist	2000 kg
No. of hoists used	4
Special features	Two tube masts with special anchoring, less installation space



Playing our role in the world's cleanest & most efficient power plant

The recently-constructed coal power plant at Rustersieler Groden in Wilhelmshaven, by GDF Suez, started operations at full capacity in March, 2014. This power-plant achieves a net output of 731 MW and can generate up to 5.5 billion kWh of electricity per year. One of the unique features of this highly-advanced power plant is that it is the cleanest and most efficient in the world. The emissions from this plant are totally harmless to the environment.

Brief history of the site

There was already a power plant in operation since 1976, nearby to the location where the new plant is built. The idea was to design a highly efficient plant to reduce waste and increase productivity. Construction work on the expansion of the existing power plant began in 2008. The coal power plant started its trial operations in December, 2012.

Special features of the project

- The emissions from the plant are environmentally friendly. To ensure environmentally friendly emissions, it was essential to continuously monitor the emissions from the chimney, which required access to the emission release point inside it. An industrial hoist proved to be useful at this point.
- The chimney's vertical structure was built in a way that the inclination angle changes with increasing height. Flexible anchoring was chosen because of this structure. The mast was adapted to the curvature and the cage was mounted in an inclined position to the drive.
- The Scanclimber SC400 was chosen for installation inside the chimney. A drive with a running speed of 45 m/min was chosen from Scanclimber building com-

ponents in order to guarantee rapid transport. Scanc climber supplied and installed three-sided landing walls on each upper landing, which secured the hoist's carriageway up to a height of 250 m.

Beroa Germany had responsibility for the chimney construction, including steel construction and hoist service for this plant.

Scanc climber SC400K

The SC400K is for passenger and light-weight material transportation, as it can only carry a weight of up to 400 kg or 4 persons at a time. Since it is a light-weight hoist, its main advantage is adaptability because it can be easily mounted in complicated sites while requiring minimal space. This hoist is mostly used for high structures like chimneys, cranes, etc. It can be mounted either internally or externally, is able to withstand extreme conditions and is corrosion resistant, thus ensuring long service.



Scanclimber's major role in automation at NGK Ceramics, Poland

Takenaka Corp., Japan, constructed a modern ceramics factory for NGK in Poland. An automated material handling system was implemented at the factory to support high productivity. Scanclimber was part of this sophisticated automation project, which proved to be a success.

The Takenaka Corporation is one of the oldest Japanese construction companies. Its history dates back to the 16th century. The company operates worldwide, mainly in infrastructure projects. In 2012 Takenaka entered into a contract to build a ceramics factory for NGK in Gliwice, Poland.

The factory layout and infrastructure for this production facility were naturally designed by the Takenaka Corporation. The key focus of the design was on automated production processing and material handling. The target was to design a factory where labour costs and manual processes are minimized.

A specialized machine supplier was needed to achieve this goal. Takenaka needed a supplier that had flexible industrial elevators and was capable of customizing them according to special needs and integrating elevators with conveyor lines and automated doors.

Scanclimber established a joint project with a conveyor line supplier and door supplier to solve the problem. Finally, the NGK ceramics plant's three-floor factory transport line was successfully automated with lightweight Scanclimber hoists, integrated with horizontal conveyors and automated doors. For Takenaka, one key of the reasons to choose Scanclimber was their philosophy of using only high quality products.

Challenges

The design of the NGK Ceramic factory included a high level of automation. The amount of manual work was to be minimized. This meant that a complete transport line on three floors should operate practically unattended. The main difficulty for Scanclimber was to integrate their vertical material transportation module (hoist/elevator) with horizontal conveyors.

There were certain challenges in implementing such a system:

- Finding suitable supplier partners for the project
- Seamless operation of vertically and horizontally moving modules



Partner search

Takenaka Corp. was looking for a supplier who could take total responsibility for automation. Scanclimber alone, did not have all the necessary technology.

Compliant supplier partners were needed to take responsibility for the horizontal transportation and automated door solutions.

Supplier evaluation criteria were created and suppliers were successfully selected after an exhaustive process.

Seamless operation of all transport line components was an important issue for Takenaka. Various solutions were available on the market, but not all the proposed solutions were adaptable or flexible enough. The biggest challenge was to find a horizontal conveyor line which could be integrated seamlessly with the vertical lifting hoist over three floors.

Success

Scanclimber was chosen because of its expertise and its product capabilities. Takenaka appreciated product quality, safety, adaptability, durability and applicability to different industries.



In the NGK Ceramics factory project, Scanclimber delivered a customized SC1120 hoist. This SC1120 hoist was combined with a conveying roller line in order to reduce labour input and the manual handling of goods. Scanclimber blended its vertical and horizontal transportation services with those of the project partners from rollers and gates.

In the installation phase, a station for the hoist was established on every floor of the building. The hoist in-

cluded a small roller table at the same height as the conveyor rollers outside the hoist for material transportation. The gates of the hoist included automatic sensors which open them when the hoist reaches the floor. The material bags can then start rolling out to the conveyor rollers and on to the production unit. The hoist's vertical movement is along two mast sections on the sides in order to ensure a smooth drive and long-lasting stability.

PROJECT FACTS

Hoist used	SC1120MF & SC1120MFL
Max height achieved	14.65 m (3 floor factory)
Max lifting capacity	1100 kg
Application	Industrial automation
Project negotiations started	27.11.2011
Order shipment	01.02.2012
Main benefit of Scanclimber	Automatic line for horizontal and vertical goods transport
Special features of project	Two tube masts with special anchoring, less installation space



Scanclimber hoist controls emissions on power station chimney

EU requirements, together with the Ministry of Environment Regulation, demand that companies that discharge pollutants into the atmosphere, from industrial processes and operations, monitor and control the level of emissions of these pollutants.

As a result of these regulations, chimney and inspection hoists produced by Scanclimber are used to provide for the transport of persons with the necessary apparatus for gas monitoring and to carry out periodic maintenance of chimneys and equipment located inside of it.

Such inspection hoists can be mounted both inside and outside the chimney.

At the Kozienice Power Plant, under a contract with the company

UNISERV, Scanclimber has manufactured and installed a SC400K inspection hoist inside the chimney of the recently completed Block 10.

This chimney was built using a new sliding technology, the backbone of which has a cylindrical shape with a fixed outer diameter.

The Scanclimber SC400K hoist has a lifting capacity of 400 kg (4 people). With a total height and top landing at a level of 140 m, the hoist also has four intermediate landings.

In addition to normal safety controls, there is a telephone connected direct to the power station control room as well as to the landings. An independent safety brake is installed as standard and in the event of an emergency, the cabin can also be lowered to the ground.

Unique Scanclimber hoist provides access on record breaking road bridge

The largest concrete bridge in Poland was completed on the city ring road of Wrocław.

With a total area of the road deck of almost 70 000 m², the bridge is the 4th largest concrete structure in the world. The height to the top of the pylon is 122 metres.

The pylon is in the shape of the letter H, which is located on an island in the middle of the River Oder. From the pylon are two independent multi-lane roadways – this is a unique solution not applied yet anywhere else. The total length of the bridge is 1742 m.

To build the entire crossing more than 110 000 m³ of concrete and more than 180 000 tonnes of steel was required.

More than 12 000 m³ of con-

crete and more than 4 300 tonnes of steel was used to construct the pylon alone.

Scanclimber installed a SC1000K hoist inside the pylon. This was a specially configured 1000 kg capacity unit dedicated to concrete wall inspection. The elevator runs up a 56 m high mast, which is both curved and which leans at an angle of 12°. The Scanclimber SC1000K was equipped with a special cage levelling system providing a horizontal floor through the entire mast travel, making work much more comfortable.

Because of the limited space within the pylon for the elevator, combined with the changing angle of the mast, there was a necessity to use special innovative cable

guiding, equipped with an automatic guiding system.

In case of an emergency situation the hoist is also equipped with a secondary power supply, which provides both lighting and an emergency lowering facility.



Industrial Hoist Range We Offer Today

	SC300K	SC400K	SC500K	SC600K	SC700K
Payload	300 kg 3 persons	400 kg 5 persons	500 kg 6 persons	600 kg 8 persons	700 kg 9 persons
Speed	36 – 60 m/min	36 – 60 m/min	36 – 60 m/min	36 – 60 m/min	36 – 60 m/min
Lifting height	≤ 200 m	≤ 200 m	≤ 200 m	≤ 200 m	≤ 200 m
Cage dimensions - internal	780 x 1010 mm	900 x 1130 mm	1020 x 1250	1020 x 1490	1020 x 1730
Safety device	x	x	x	x	x
Power supply - voltage	400 VAC, 50	400 VAC, 50	400 VAC, 50	400 VAC, 50	400 VAC, 50
Mast section, hot-dip galvanised	3 different mast types, depends on the height and anchoring distance	3 different mast types, depends on the height and anchoring distance	3 different mast types, depends on the height and anchoring distance	3 different mast types, depends on the height and anchoring distance	3 different mast types, depends on the height and anchoring distance
*) other by request					

**Industrial hoists with payloads 1500-2000 kg are offered upon request*



Scanclimber is the world's technology leader in mast climbing equipment for both temporary and permanent installations. The company has its corporate head office in Pirkkala, Finland, and manufacturing in Gniezno, Poland.

The company employs more than 200 people in Europe and Asia. Scanclimber creates value for its customers with high quality, reliable and flexible vertical access solutions.

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