

Hess Group, 57299 Burbach-Wahlbach, Germany

New concrete block and paver plant and value adding line for Alomaier Trading and Contracting Company

Alomaier Trading and Contracting Company (OTC) was founded in 1978. With more than 46 years of experience, today, OTC is one of the leading building and infrastructure contractors in the Gulf region. The company is also active in the manufacturing industries within the construction sector, such as ready mix, as well as asphalt and crusher plants in several locations, all at strategically placed favourable locations in Saudi Arabia. Recently, the OTC reached a great milestone, expanding its business using HESS Group and SR Schindler's state-of-the-art concrete block and paver plant RH 2000-4 MVA, in addition to a fully automated Shot Blasting, Curling and Coating line.

Hess Group and SR Schindler have significantly expanded their market presence in Saudi Arabia in recent years. This growth is attributed to the rising awareness of the advanced technologies provided by these companies and their focus on local aftersales support through Topwerk Middle East.

OTC was established as a partnership company in Al Zulfi City, Riyadh province, Kingdom of Saudi Arabia. It started

as a contracting company owning only few equipment, a crusher and an asphalt mixer. OTC operates with a fleet of over 3,000 pieces of equipment and machinery, supported by a team of more than 4,000 multinational employees. This robust capacity enables the company to execute projects efficiently, meeting budget constraints, strict timelines, and the highest quality standards. Based on that, OTC was classified by the Saudi Ministry of Municipal and Rural Affairs as a first-class contractor to build roads, railways, reservoir dams, and bridges.

Turnkey concrete block and paver line from the Hess Group and SR Schindler

OTC's main goal is to support their existing and future projects with a concrete production line, along with the concrete value-adding line, to ensure and maintain the quality and timeline of their projects.

For OTC, it is important to have a competent and reliable partner by its side, who can support it in its development



Outside view of the OTC plant

work with all the necessary knowledge and technical solutions. Hess Group and SR Schindler offer system solutions from a single source and know the needs of the customers. Consequently, the Hess Group and SR Schindler have supplied the core components for the project, from the concrete block and paver plant, the entire handling system as well as the value-adding line. The result is a high-performance concrete block and paver production that impresses with both the output quantity and the high quality of the end products.

SX series concrete mixers

For the respective concrete mix design, OTC can rely on aggregates from eight silos on the new line. The aggregates are dosed directly from the silos arranged in a row into the underneath running traveling weigh batcher which ejects the aggregates to one of the two skip hoist buckets, which feed the base and face mixer.

Two planetary mixers were selected for the concrete production: the large SX3750 for the base concrete and the smaller SX750 for the face concrete. The Topwerk mixers are particularly suitable for the manufacture of semi-dry concrete, as needed e.g. for the production of paving stones, kerb stones, hollow blocks and slabs. The planetary mixers are characterized by their high level of mixing intensity and have been

reliably used by many customers worldwide for many years. The quality of the mixed concrete has a decisive influence on the quality of the products, and the Topwerk mixers ensure homogeneous mixes in the shortest possible mixing time.

The cement is dosed through a speed-controlled screw and slowly added to enable a good blend. Adding the cement directly to the mixing material also reduces the cement dust deposits in the upper area of the mixer trough. There is less soiling during the mixing process and consequently the cleaning time and costs are reduced.

RH 2000-4 MVA - developed for the high-performance market sector

The heart of the new production line consists of the concrete block and paver machine, the RH 2000-4 MVA. It has been developed as a particularly powerful machine for the high-performance market sector. Despite short cycle times, the machine is characterized by a soft, overlapping movement process. This is achieved through special control technology and hydraulics. The intelligent interaction of these components thereby guarantees the reliable and highly productive manufacturing of concrete precast elements. Production on the new line at OTC is done on 1,400 x 1,300 x 14 mm steel production boards.



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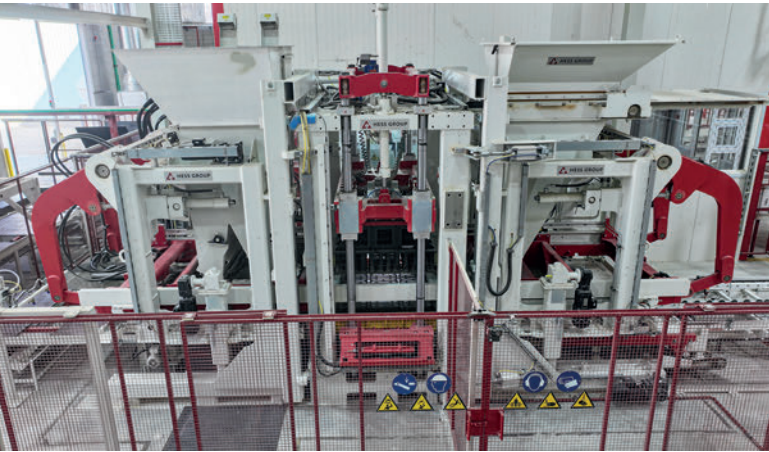
HESS RH 2000-4 MVA

Discover the unmatched strength and perfect performance of the HESS RH 2000-4 MVA crafted to meet and exceed the highest standards in concrete block and paver production. This machine empowers your projects with unparalleled efficiency, combining durability with precision to deliver optimal results in every stone. Experience how power refined into perfection sets new benchmarks in concrete manufacturing.

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Hess concrete block and paver plant RH 2000-4 MVA



Control Panel

Like all concrete block and paver machines produced by the Hess Group, the new plant at OTC is also equipped with an operating console. The height and angle of the touch screen can be adjusted to accommodate all the operator's needs. This touch panel enables all the concrete block and paver machine's functions to be fully monitored. The operating concept thus allows even lesser experienced personnel to quickly become familiar with the control system. Furthermore, the semi-automatic mold change can be directly monitored at the machine using a mobile panel, which makes the mold change safer and even faster.

Fully automatic handling system and curing chamber

Freshly made concrete products are transported on the steel production pallets via V-belt conveyors to the elevator. In subsequent upgrades, a dumping station and a double washing plant are expected to be added on the wet side.

The M Technology is the latest technology in industrial hydraulics. With Rexroth Motion Logic Control (MLC+H), all movements and positioning mechanisms of the machine components are controlled by a dedicated hydraulic system and CNC Control unit which communicates with the PLC of the machine, maintaining equal oil pressure on both sides of the tamper head and filler box cylinders, providing sequence benefits in unrivalled results, power, precision and performance. The smooth and easy operation of the M-Version RH 2000-4 production machine ensures great economic efficiency for the producer in his marketplace.

The machine is also characterized by a solid steel base and upper frame, which ensures that the vibrating force is directed properly into the product. Thanks to the high precision of the control system, even at full speed a high-accurate motion is achieved, which is of critical importance for filling, compaction and the product quality. In addition, setting the parameters on the display panel is particularly simple and user-friendly.



Finger cart system and curing chamber

The elevator with 22 levels and a max load capacity of 14 t collects the production boards, and depending on the product height, deposits one at every level or every second level. The finger car then takes the production boards out of the elevator and transports them into the curing rack which has 16 chambers. Altogether, the curing rack with 16 positions per chamber has a capacity of 4,950 active production boards and 5,632 boards total.

The cured products are then taken back out of the rack by the finger car and transferred to the lowerator.

Servo 700-2 cuber

Using the lowerator, the production boards with the cured products are separated onto the latch conveyor on the dry side and conveyed to the Hess Servo 700-2 cuber. The movements of the cuber for lifting, turning and traveling are fully

electrically servo driven and the cuber clamp is equipped with a hydraulic system. The fast cycle times of the cuber when stacking the products keep up with those of the concrete block machine and the dry line.

The bundles of blocks are stacked onto the 28meter long slat conveyor, which allows enough time for the forklifts to bring the cubes to the storage area, without affecting the production efficiency.

The empty steel production boards on the latch conveyor are conveyed further along the line and are cleaned as they pass through the steel board scraper and brush.

The special production board buffering system for maximum plant efficiency is a remarkable added value to the plant. If the dry side releases more steel production boards than are needed on the wet side, a magnetic stacking device arranged in front of the board silo takes the production boards off the cross conveyor.



Servo 700-2 cuber

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Fully Automatic Finishing line
supplied by SR Schindler



Fully Automatic Finishing line supplied by SR Schindler

SR-1250 shotblasting unit

SR Schindler supplied a type SR-1250 shot blasting unit for finishing the surface of concrete products. The SR-1250 shot blasting unit processes layers with dimensions between 800 x 800 mm and 1,200 x 1,200 mm. The maximum product thickness for this operation is 180 mm.

A shot blasting unit removes the binding material from the product surface, exposing the aggregates in paving stones and concrete slabs. The products are machined on the face side. Shotblasting machines are operated with steel or stain-

less-steel shots with a standard size of 0.6-1.2 mm. During operation, turbines propel stainless steel shots onto the products to achieve the desired shot blasting effect. The blasting intensity and belt speed are frequency-controlled adjustable depending on the product being treated and the desired surface appearance.

CA 1200 curling unit

A layer pusher with a transfer table transports the freshly shot-blasted products in an endless row into the CA 1200 curling unit, also supplied by SR Schindler. Curling is particularly well suited for textured products but also gives roughened and/or shot-blasted products a slight shine and exclusive surfaces.



Shotblasting unit
(in commissioning)



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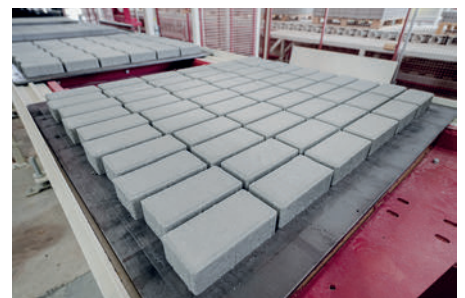
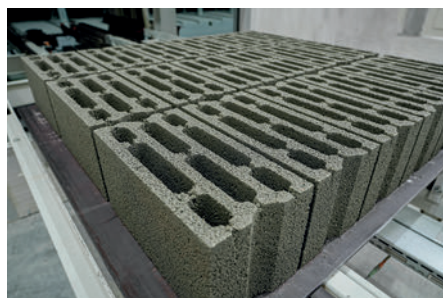
Curling unit

Coating line

A layer pusher with a sliding table transports the freshly curled products layer by layer into the coating line, supplied by SR Schindler.

The coating system consists of, in total, three infrared heating stations and two spray units. The surfaces for the primer are preheated under the first infrared heating station. The primer is sprayed on under the first spraying unit. The concrete products are then transported to the intermediate heating station

Coating line (in commissioning)



Freshly produced concrete blocks and quality control

to dry and prepare for sealer. They are then dried under the last heating station and finally packed onto transport pallets and transported to the storage yard.

A Seamless Blend of Technology and Expertise

OTC’s commitment to delivering the highest quality products is reflected in its investment in advanced technology from the Hess Group and SR Schindler. The state-of-the-art concrete block and paver machine, combined with the fully automated value-adding line, allows OTC to produce durable, aesthetically refined products that meet diverse customer needs. This seamless integration ensures efficient, reliable production while maintaining the flexibility to adapt to specific client requirements.

By pairing cutting-edge machinery with a highly skilled workforce, developed through strategic training programs, OTC sets a benchmark for excellence in the industry - consistently exceeding expectations and building trust as a reliable partner in construction.

FURTHER INFORMATION



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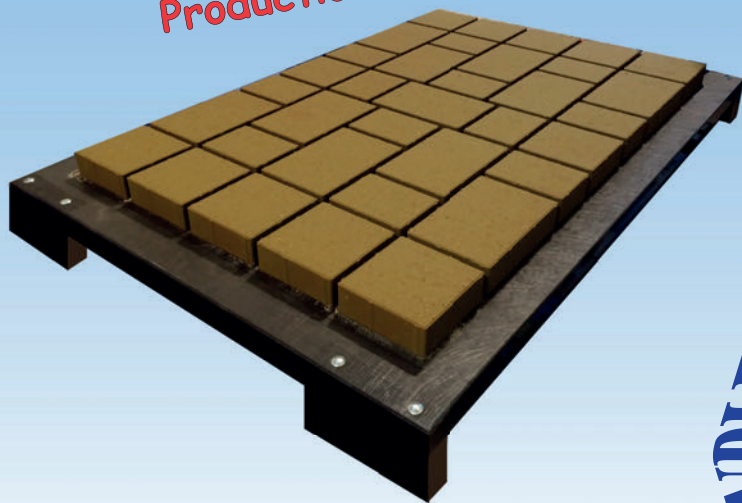


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