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Quadra, 74130 Contamine-sur-Arve, France

# New High Performance Press delivered to Saudi Arabia

Created in 1992 and based in Dammam, Khaleeg stands for high-class quality concrete products and is currently considered to be the main supplier for the precast industry in Saudi Arabia. As part of its extension, Khaleeg has commissioned Quadra to deliver and install a new production line including the vibrating presses, the transfer and curing devices and the automated cubing system.

Thanks to its wide range of products, Khaleeg is able to offer a large selection. Its products (insulating blocks, building blocks, pavers, kerbstones, etc.) are available in various sizes and colours. This company therefore pays great attention both to the quality and performance of its equipment and installations.



## State of the art vibrating press Q12 HP

This Quadra 12 High Performance, designed for manufacturing concrete blocks, paving stones, kerbs, slabs and kerbstones, benefits from a built-in vibrator which allows homogeneous concrete compaction. The robust machine offers high output and flexible operation, and is ranked amongst the most powerful and productive concrete block-machine that Quadra supplies.

The press is based on anti-vibration feet to avoid the propagation of the vibrations whilst reducing noise. The main frame of this Q12 HP is implemented as a one-piece heavy welded construction with reinforced base unit for heavy loads. It is therefore protected against stress and no specific civil engineering is required. Thanks to elevated and ventilated architecture, cleaning and maintenance are easy to carry out.

## Vibrating Press Q12 High Performance

In order to satisfy its production requirements, Khaleeg was looking for a vibrating press exhibiting extreme versatility, allowing a production changeover within a minimum

time and providing high production rates. The choice fell on a fully automatic installation type Quadra 12 HP, in which one person controls the entire production line.

The vibrating system is used to produce paving stone and kerbs with facing concrete under optimal conditions, as well as concrete blocks with thin walls. With the Q12 HP it is possible to change the vibra-



## Double-layer products

tion characteristics between the front and rear of the mould to obtain homogeneous filling of the products across the entire surface (patented system).

The laterally positioned motorisation to one side of the vibrating press enables generous access and a component protection. The motors are therefore completely isolated from vibration loads to ensure equipment reliability and longevity. No pit is required for accessing to the vibration motors.

The Q12 HP provides the flexibility of combining quality of finished products and productivity. With a cycle time of approximately 13 seconds per production board - each with 18 hollow blocks (20\*20\*40 cm), substantial quantities of concrete blocks can be produced in each shift. In addition, this high performance press guarantees a dimensional tolerance of less than 1 mm for these products. This adjustment is accurately realised without any cycle interruption or manual intervention.

The manufacturing change is also fast and easy. In fact, the production changeover including the mould replacement is achieved in less than 10 minutes. The mould



Vibrating press motorisation

and the tamper are positioned on a motorised introducer car. An operator controls the lead with the two-hand operating console next to the press. The height adjustment of the level of the feedbox table is


remote controlled and immediate. Manufacturing receipts are recorded and all set-up parameters are directly incremented. No other tool is necessary to operate the change of production.

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*Insulated control cab with large windows which allow a perfect view of the plant*

Finally, the production is controlled by means of the console in the noise-insulated control cab in which all the installations are managed. A touch screen terminal allows adjustments and a global view of all production parameters. Clear, complete and intuitive instrumentation allows modification of the press settings. The cause of a production stop is fully described, and thanks to the automation program structure; restarts of automatic cycles are quick and easy. Machine settings are stored and recorded by production recipe. Production statistics are also generated.

### **Automated transfer and handling system**

The steel boards bearing freshly produced concrete blocks travel from the sound-proof enclosure via a chain conveyor belt and are collected in an elevator. Once the elevator has reached its maximum capacity with 20 units each spaced at 350 mm, the finger car unit takes over the 20 boards and brings them to the rack in the ventilated curing chambers. The rack system offers room for 4,880 boards and the curing chambers are equipped with a ventilation system and temperature and humidity con-

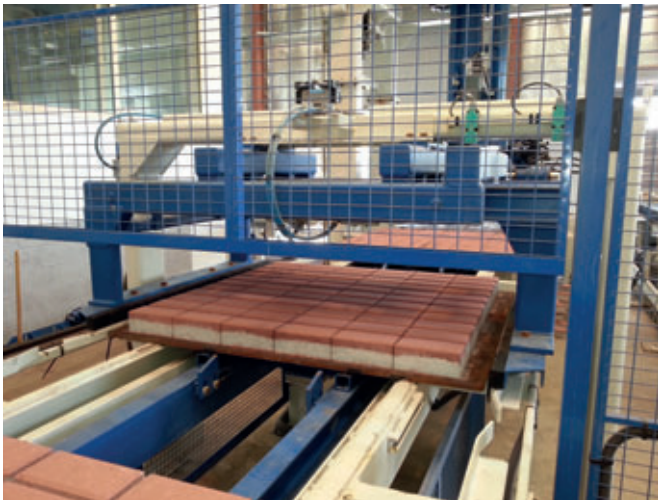
trol. The position of the finger car is continuously monitored by laser sensor and driven by servomotors. After a curing time of approximately one day, the production boards with their concrete blocks are retrieved from the rack by the finger car group and transferred to the lowerator on the dry side. The walking beam conveyor separates the steel boards and feeds them cyclically into the next conveyor unit, which transports the concrete blocks, still on their boards, to the packaging unit. This transfer system has the advantage of producing no wear and no noise.

Products are then cubed. The cuber clamp is suitable for all types of products and is designed to support heavy loads. The use of servomotors and continuous monitoring of the position of the clamp allow very high rates.

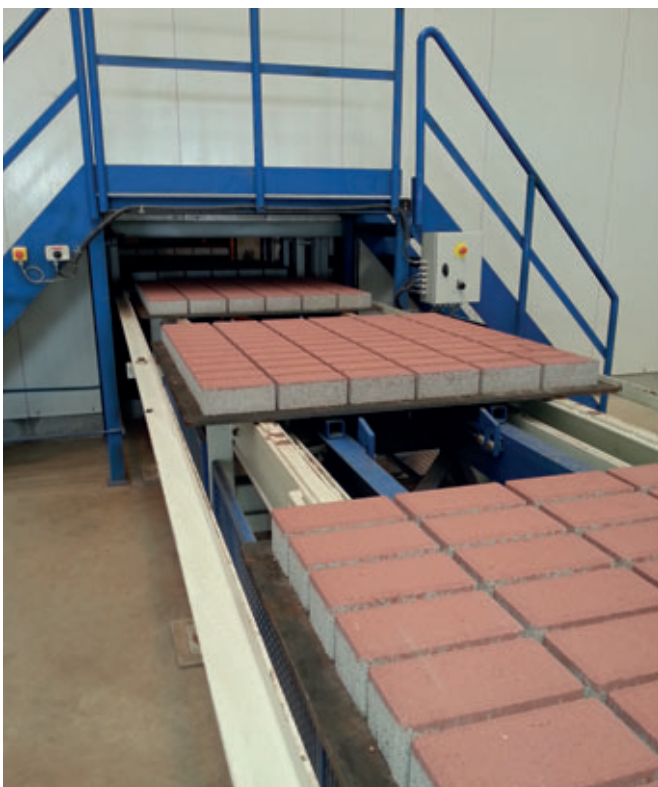
Finished products pallets are then set down in the outdoor storage area by a 20-metre slat conveyor which operates autonomously. The slat conveyor enables finished products to be cubed on wooden pallets or without any pallets. This involves the implementation of a strapping machine that fastens products together.



*Finger car unit for 20 production boards*



Conveyor after the lowerator



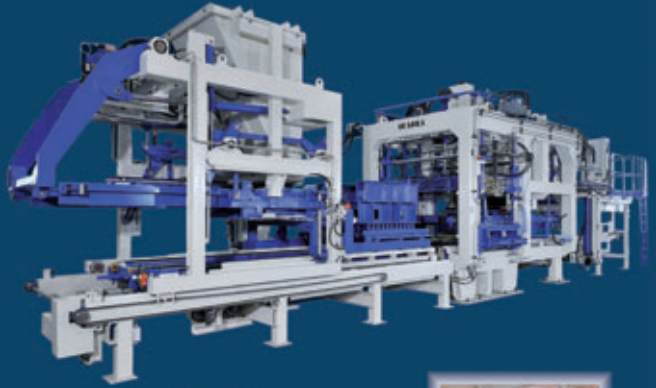
Finished products are transferred to the cuber via a walking beam conveyor

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QUADRA  
40 route de Findrol  
74130 Contamine-sur-Arve  
- France -  
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Fax. +33 (0)4 50 03 69 97  
[www.quadra-concrete.com](http://www.quadra-concrete.com)



Removal of the finished cubes on pallets



Exit of dry products via slat conveyor

### Quadra Customer Service

The commissioning of this installation is a success: the delivery time and the implementation planning have been met, the production rates and the quality of manufactured products are achieved and meet the client's requirements.

Following training provided by qualified technical staff, the Khaleeg company now benefits from the customer service directly available in the Middle East. In addition to

after-sales assistance, Quadra has proposed a stock of spare parts available in Riyadh and Doha. The hotline connection also allows access to all machine parameters in order to provide quick and effective assistance.

### FURTHER INFORMATION



Quadra

40, route de Findrol, 74130 Contamine-sur-Arve, France  
T +33 45003 9221, F +33 45003 6997

[info@quadra-concrete.com](mailto:info@quadra-concrete.com)

[www.quadra-concrete.com](http://www.quadra-concrete.com)

Khaleeg Factory for Natural Stone Construction & Construction Material Co, PO Box 4802  
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**MAIN CONTACTS:**

**SHANGHAI**  
**YIPIN PIGMENTS CO.,LTD.**  
4839 Jiasongbei Rd.  
Shanghai, China  
Tel: +86 21 6257 0666  
Fax: +86 216257 0666\*8818

**YIPIN PIGMENTS,Inc(USA)**  
843 6th St Suite 105,  
Rancho Cucamonga,  
CA 91730,  
Tel: +1 909 243 7394  
Fax: +1 909 243 7397

**YIPIN GMBH (GERMANY)**  
Happelallee 2, 22089  
Hamburg, Germany  
Tel: +49 40 36 90 010  
Fax: +49 40 36 38 42  
Email: [info@yipin.de](mailto:info@yipin.de)  
[info@remy-hamburg.com](mailto:info@remy-hamburg.com)  
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