

BOULLEVILLE, le 27/06/2024

MACHINE MAGNIFLEX



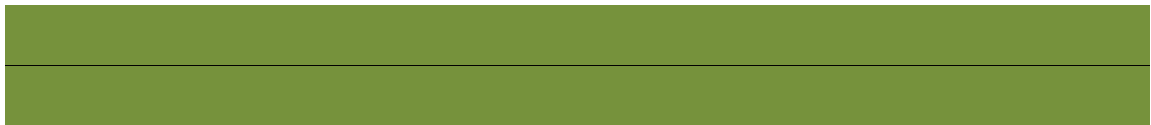
PRESENTATION OF THE MAGNIFLEX MACHINE

The MAGNIFLEX machine is:

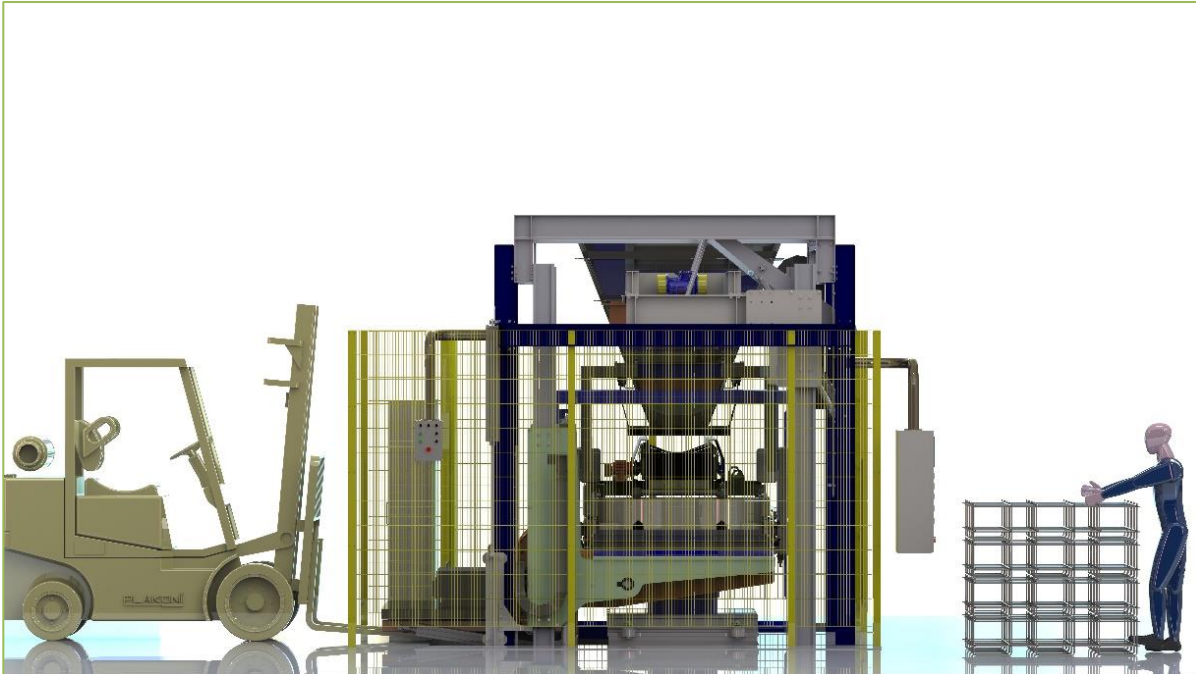
- An immediate demolding machine for dry concrete, complete and autonomous allowing the automatic manufacture of concrete elements.
- Allows the production of high-quality elements thanks to its vibration system that uses a very efficient vibrating table.



- Allows the production of small or large series of different products



- Possible hourly production of 5 to 10 cycles
- Mould replacement in less than half an hour



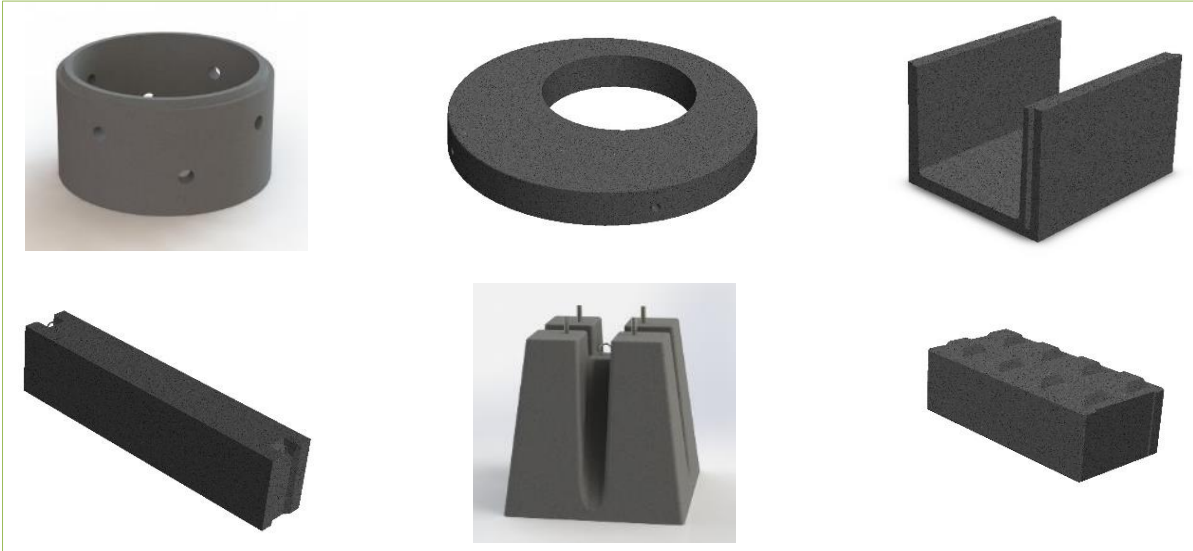
- Allows production of a wide variety of concrete elements

Allows the production of a wide variety of products

Product height: 50 and 1100 mm

Maximum product size: 1500x3000 mm

Maximum product weight: 1600kg



- Produces both simple and complex elements.



Concrete lintels (production capacity: 150 pieces/hour) New Jersey concrete (production capacity: 5 to 6 pieces/hour)

- Offers options to improve product quality, cycle times and workstation ergonomics



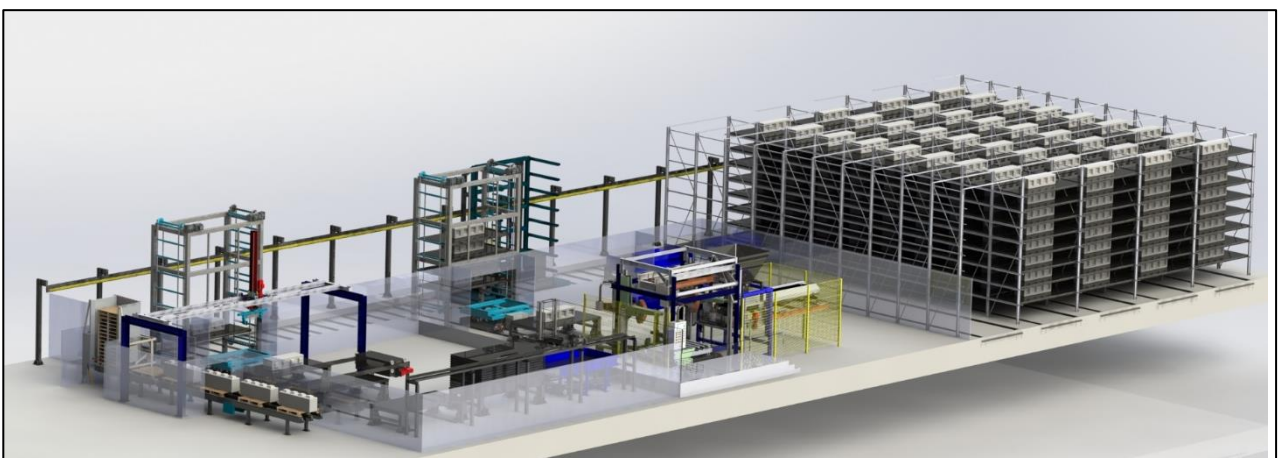
Some options to improve quality and productivity

- "Over mold" technology to increase the compaction of manufactured products
- Robot for the insertion of armatures
- Robots for the insertion of lifting rings
- Smoothing disc to smooth the top surface of the product

Other options for improving ergonomics

Changement de moule automatique

- Fameto offers a complete system from production to fully automatic palletizing



General implementation of the solution proposed by FAMETO INDUSTRIE SAS

FAMETO INDUSTRIE SAS

CENTRALES A BETON – MACHINES ET PROCESS INDUSTRIELS – MOULES – AUTOMATISME ET ELECTRICITE

MAIN FEATURES OF THE MAGNIFLEX

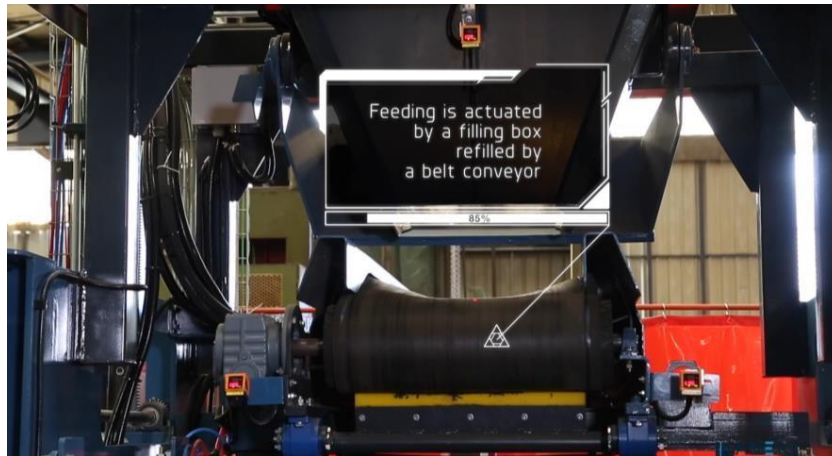
DISPOSITIF INSTALLÉS	
Démoulage direct-Vertical demoulding	X
Démoulage par retournement-Tilting demoulding	X
Pilon-Tamper head	X
Tapis-Belt conveyor	X
Tiroir-Filling box	X
Vibrateur sur pilon-Vibrators on tamper head	X
Variation amplitude vibration-Amplitude control	O
Variation fréquence vibration-Frequency control	X
Adaptation automatique hauteur moule du tiroir-Automatic adjusting at mould height	X
Hydraulique avec variation de vitesse-Variable flow hydraulic pumps	X

ACCESSOIRES OPTIONNELS

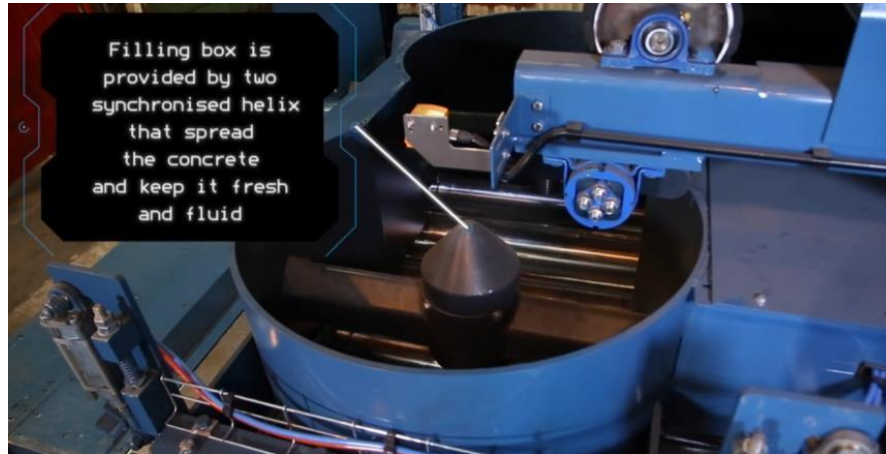
Cabine anti-bruit-Anti noise cabine	O
Equipement de manutention de sortie de produits frais-Pilgrims exit conveyor	O
Empileur fin ligne sortie produit-Stacker	O
Equipement d'entrée des planches dans la machine-Board loader	O
Empileur de planches-Board stacker	O
Changement moule automatique-Automatic mould changer	O
Deuxième tiroir pour double couche-Second filling box	O
Robot pour armature-Cage robot insertion	O
Robot pour huilage moules-Mould oiling robot	O
Robot pour insertion anneau de base-Muffing robot	O
Système de talochage-Smoothing disk	O
Technologie "Over mold"	O

DESCRIPTION OF THE MAGNIFLEX OPTIMAL MACHINE

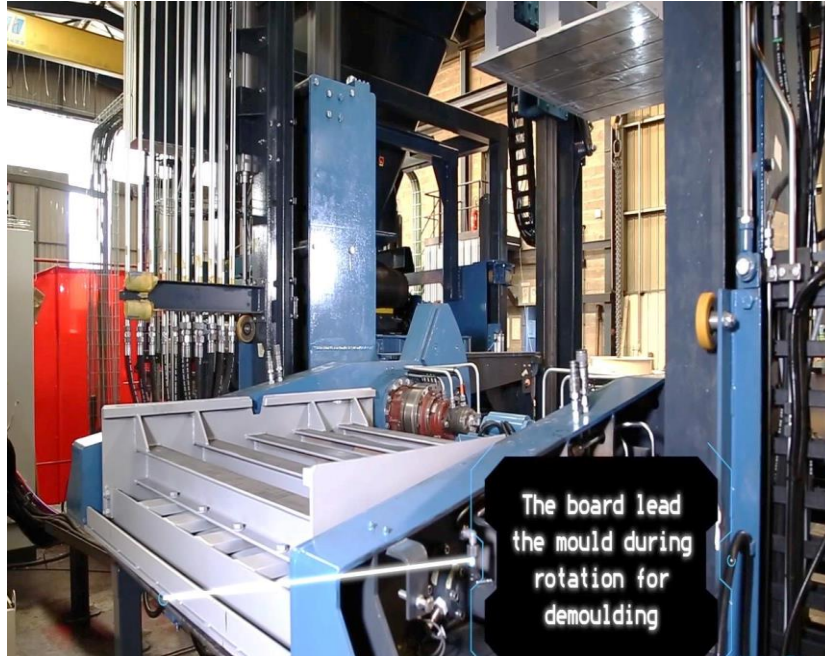
- The MAGNIFLEX machine consists of:
- The filling of the moulds is carried out by two processes that are selected according to the parts to be manufactured:
- A conveyor belt (width: 500mm). It's mobile, it is positioned under the concrete hopper to receive the fresh concrete continuously and moves to the mold for filling. When finished, the belt moves back and out of the area to allow demolding. The belt allows to control the distribution flow in the mold.



- A concrete distribution drawer that ensures high speed and manufacturing quality. The drawer has two synchronized agitators that hold the concrete soft. Two scrapers (front and rear) collect the concrete and ensure the cleaning of the upper part of the mold. The drawer is movable, it is initially positioned under the concrete hopper. The drawer is filled and moves to the mold for filling. When finished, the drawer moves back and out of the area to allow demolding. A laser-controlled system ensures the right level of concrete in the drawer for all kinds of products. The OPTIMAL version is designed to produce thin elements such as slabs, as well as for heavy products such as the "Legoblock" thanks to its ability to adapt the drawer.



- A vibrating table, equipped with a powerful vibrating group, is positioned under the distribution station and is independent of the machine structure (the machine does not undergo any vibration). At the time of filling, eight cylinders tighten the mold on the tables to transmit vibrations to the fresh concrete and ensure good compaction. The mold is released when the dispensing cycle is complete. We propose you in our vibration solution OMOCRONOS that we detail in the following pages.
- Demolding is carried out according to two processes:
- Immediate demolding: The mold is in the axis of the press. A tamper head is positioned above the machine. It drops to compress the concrete. The mould is lifted while the press maintains pressure on the compacted concrete. The fresh product remains deposited on the board that was positioned under the mold. The press ensures a very good finish of the upper surface of the product and a good compaction of the concrete.
- Turning: the board is positioned vertically in front of the mold by the board turner. The mold + board assembly rotates until it comes to rest on the release easels. The mold rises and the fresh product remains on the board. Also, in this case the press ensures a very good finish of the product and a good compaction of the concrete but of the lower surface of the product. (The product is returned after compaction for demolding).



- A fixed platform and a height adjustment of the mould (by two hydraulic cylinders) allow the operator to reach ergonomically on two sides for various operations: mould change, preparation of the mould (oiling, installation of reinforcement) or finishing of products (smoothing).
- A control cabinet is positioned close to the filling area. A touch screen allows you to adjust the filling and vibration parameters. The position of the machine components is controlled by linear transducers. This minimizes the sensors installed on the machine and eliminates the settings and hassles inherent in the sensors. All machine parameters are recorded as "recipe data" for each mold. Machine starts and launches in manufacturing are therefore immediate and without any manual adjustment. A small button box is installed near the release zone to be able to control this operation if necessary.

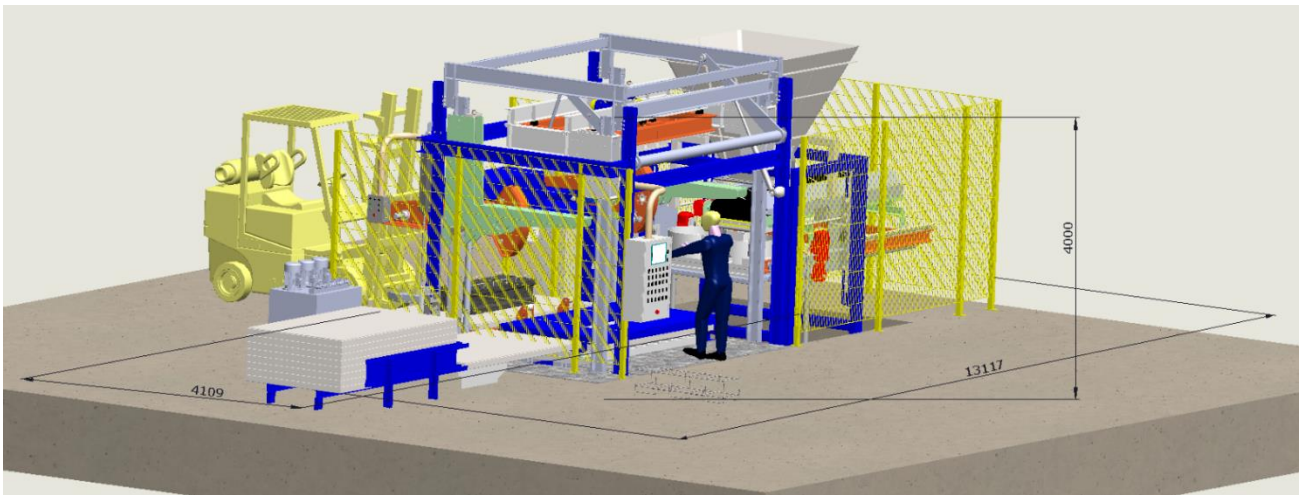


- The Hydraulics system consists of two variable flow pumps that can adjust all movements according to the need of the product. The pressure of fixing the mold to the vibrating table is also it variable according to the mold, to adapt the response of the table to the total mass mould + concrete.



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DIMENSIONS OF MAGNIFLEX MACHINE



MAIN FEATURES OF MAGNIFLEX

Description	Unité	Données
Product dimensions - height	mm	50 : 1000
Product dimensions – Dept x with	mm	1500X3000
Max product weight	kg	2000
Max mould wieight	kg	1600
Estimated cycle time	s	500 : 700
Board dimensions	mm	3200x1500x86
Hopper volume	m3	1,5
Hopper height	mm	4330
Max vibration force	kN	94
Frequency	rpm	0;4000
Power of vibration	kW	12
Hydraulic power unit	kW	15+11
Total installed power	kW	40

ACCESSORIES

- The MAGNI-FLEX OPTIMAL can accommodate additional accessories to improve productivity:
 - Automatic board dispensing station
 - Fresh product exit line
 - Robotic smoothing disk
 - Automatic mould oiling
 - Robot for insertion of armatures
 - Anti-Noise cabine
 - Over mould technology
 - Vibration system " OMOCRONOS

“OVER MOLD” TECHNOLOGY

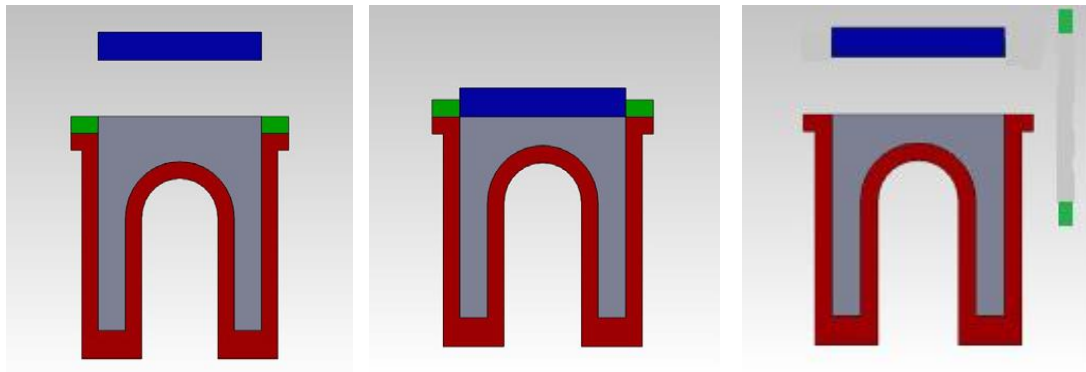
With this technology the MAGNIFLEX machine realizes special elements.

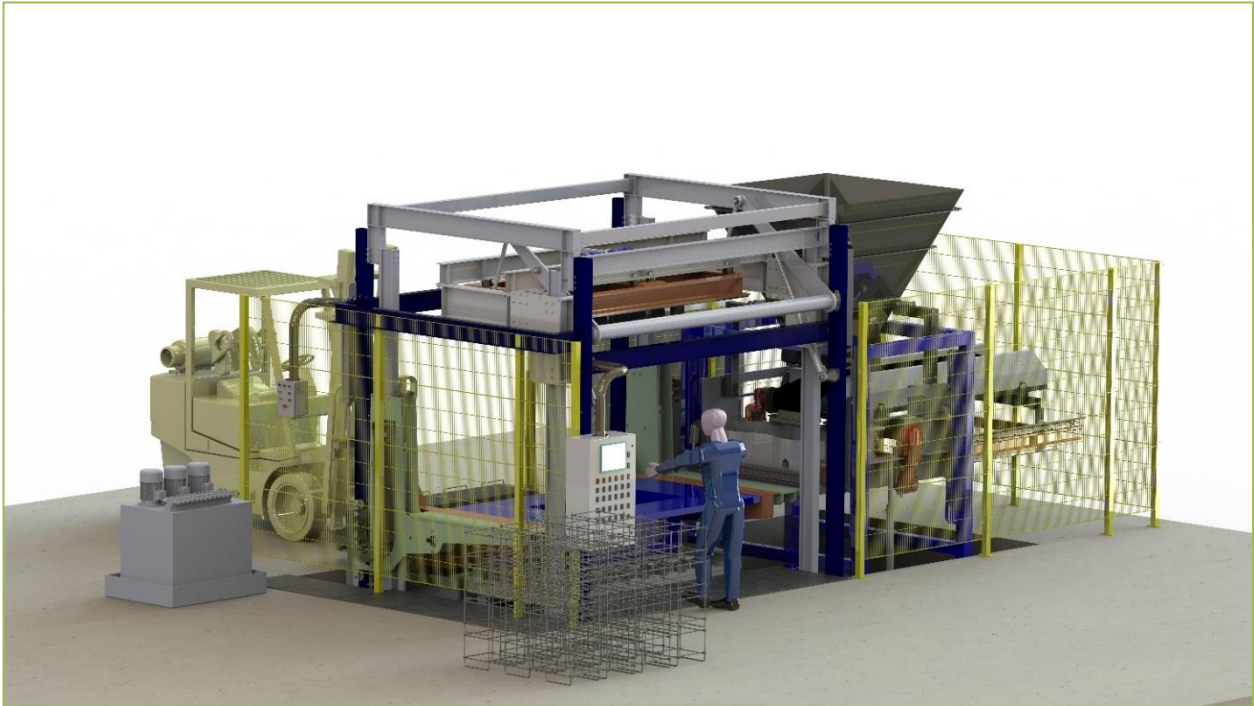
This technology consists in superimposing an extra thickness on the mould (red), a sheet plate of the necessary thickness (green), which acts as a tank for the concrete.

After filling the tamper head drops and produces a strong compression (blue) by compacting the concrete until reaching the level of the mold without the additional sheet metal.

The press rises, the "over mold" leaves the mold area to allow the demolding operations.

This technique allows a high compaction and a faster filling of the mold. It is a technique usable for certain products.





OMOCRONOS VIBRATION TABLE

The "standard" vibrating table can be replaced by a four-axis vibrating vibration system which is itself composed of a cube with four electric vibrators synchronized via incremental sensors. These four vibrators generate linear (horizontal or vertical) or circular vibrations in a synchronized way.

The system, in conjunction with the control system, allows continuous adjustment of the amplitude and frequency during the operation. The control system is simple and intuitive to use.



View of the OMOCRONOS vibrating table control screen

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Starting (and stopping) the system is done without centrifugal force, it is engaged in a fraction of a second, once the system has reached the chosen frequency. With this system the over-amplitudes due to the resonance are eliminated.

The OMOCRONOS vibrating table allows a setting that often solves the problems related to the local resonance of each mould and improves the energy transmission in the concrete. The result is an extension of the life of the mold and an increase in the quality of the product. In the MAGNIFLEX machine two of these groups are installed.

