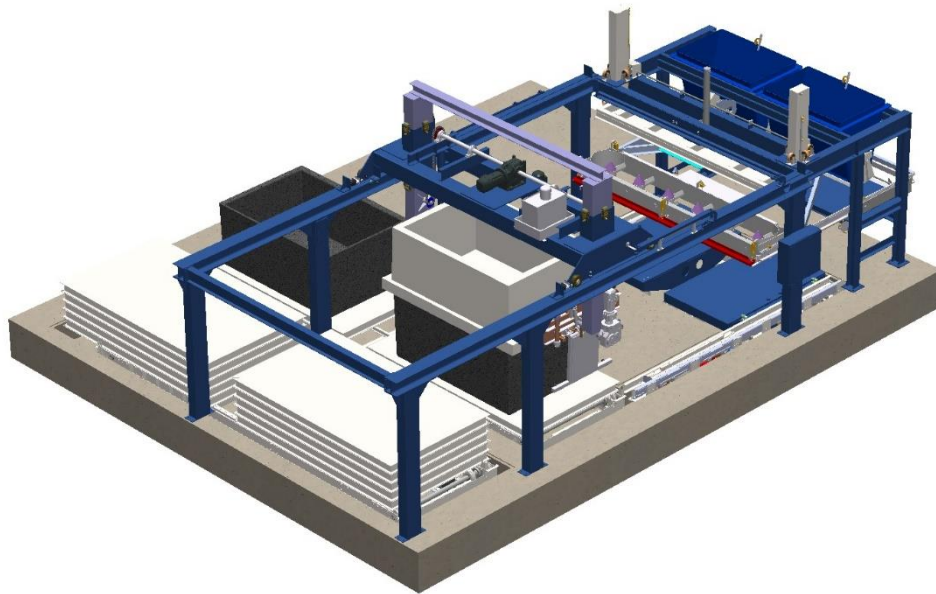


BOULLEVILLE, le 02/08/2019

AUTOMATIC AL.FA.02 MACHINE



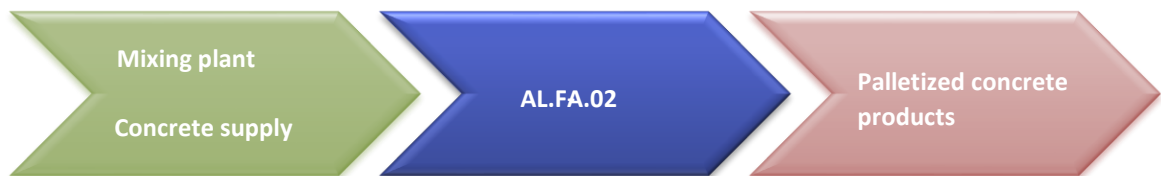
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MOLD	Erreur ! Signet non défini.
PRICES	Erreur ! Signet non défini.
COMMERCIAL TERMS	Erreur ! Signet non défini.

INTRODUCTION OF THE SOLUTION PROPOSED

The machine we propose consist of one assemblage of different machines, coordinated with the purpose to offer you:

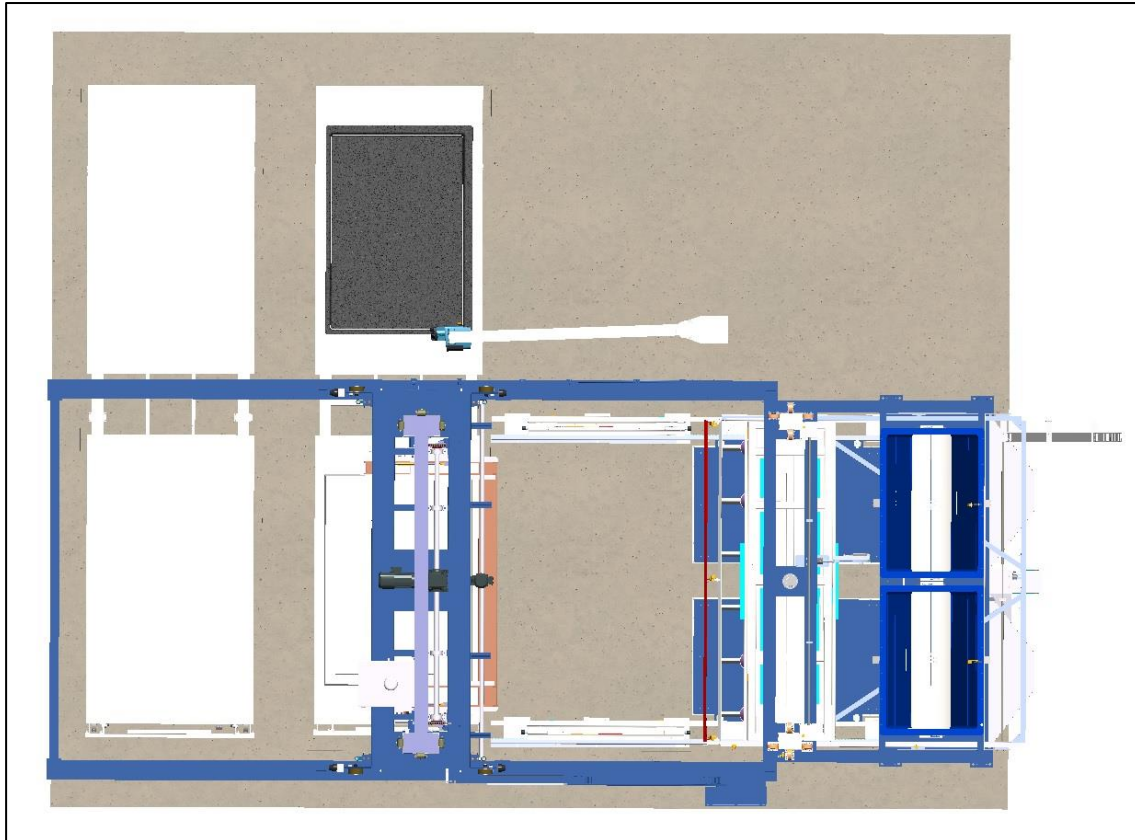
- A versatile system to produce a large variety of concrete products, with or without reinforcement, with dry cast technology.
- An automatic system of production, where the operators are dedicated at the control of the process cycles, with only some preparatory operations, like:
Insertion of reinforcement inside of the mold.
Oiling of the molds
Insertions of geotextile elements.
- A great capacity of the systems to adapt the production at different type of product, without any adjustment or manual operation.
- A machine "open to the future", because it can be upgraded with other machines to arrive till a complete turnkey plants.



- It allows the production of small or large series of elements.

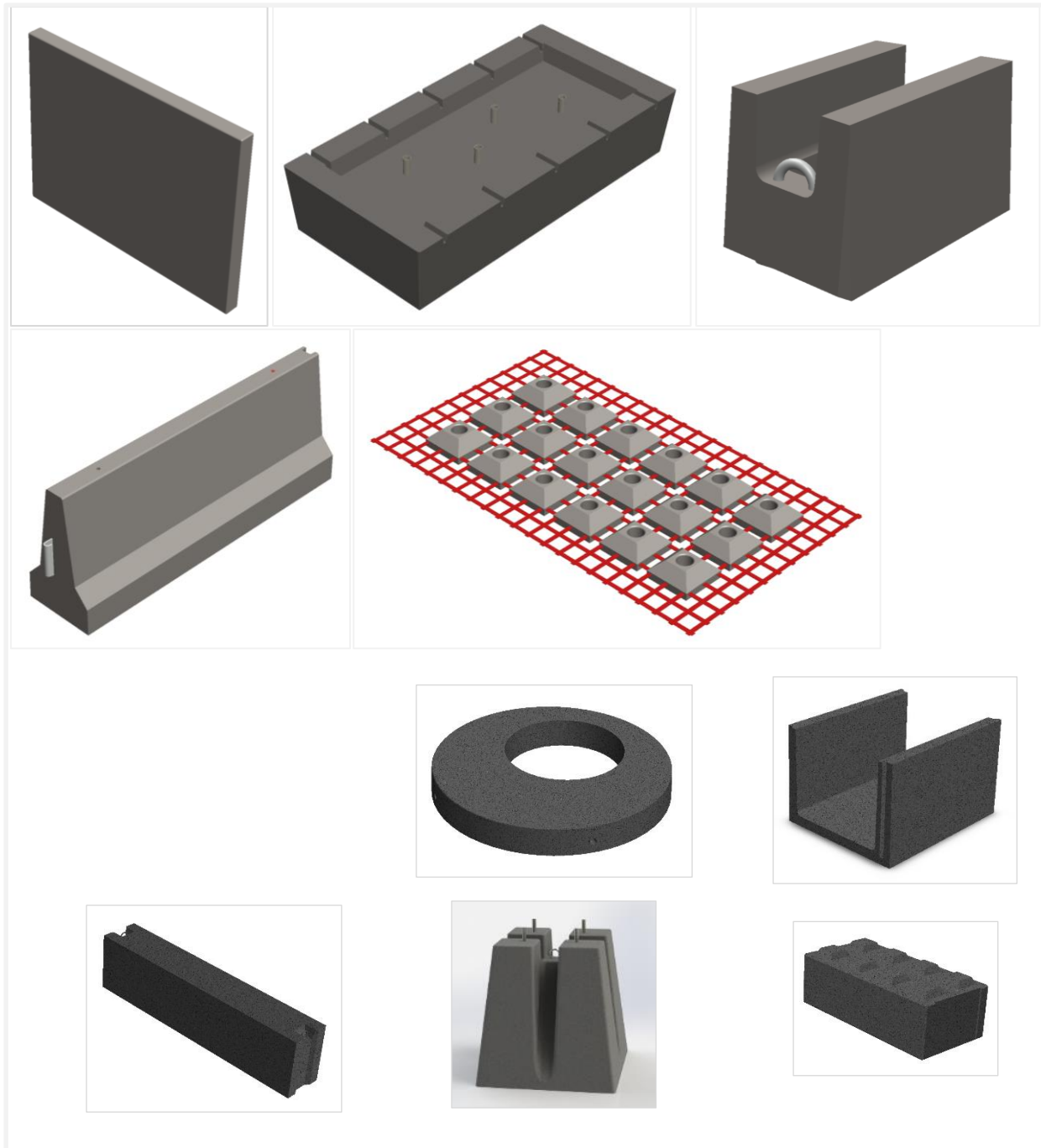


- Has a production cycles from 8 to 20 min depending of the types of product.
- The change of the mold is done in less than 30 min. This means that in 30 min you can change the production!



Plan view

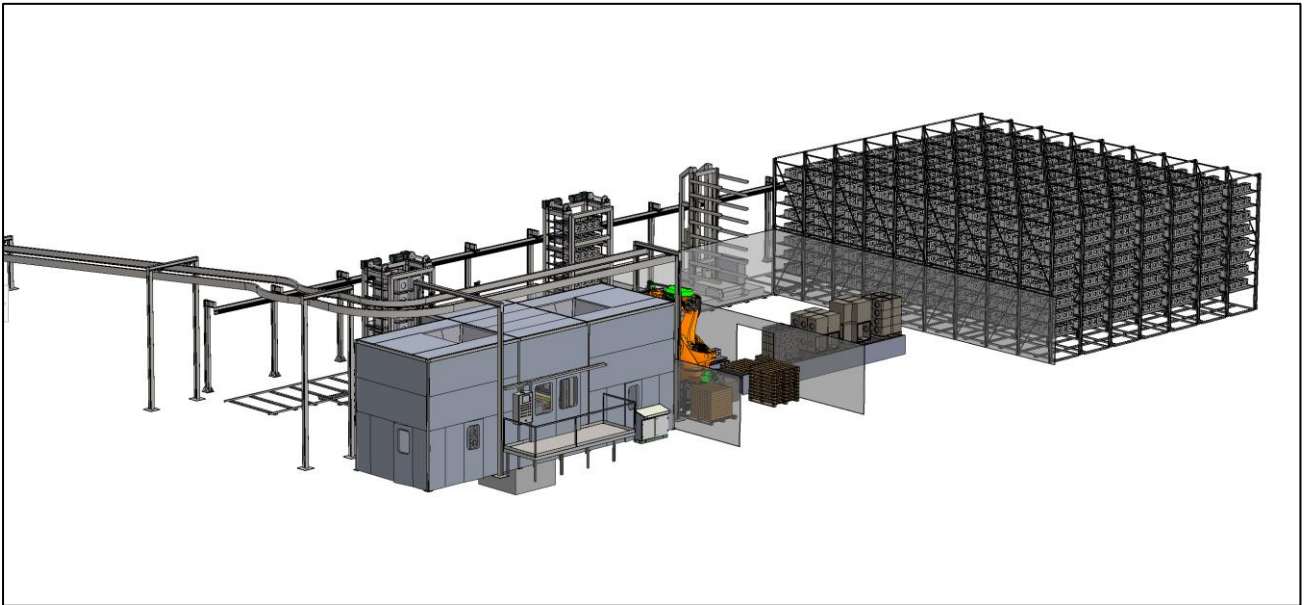
Height of the products from 100 to 1200 mm.
Max in plan dimensions of products: 4000x2500mm (extn size)
Weight of the products: 5000kg



Some optional for increase productivity and versatility productivity

- “Over mold” technology to increase the compaction or to allow the insertion of textile mesh
- Jib crane to insert the reinforcement cage inside the mold

We can offer a complete turnkey automatic installation



General view of one solution proposed by FAMETO INDUSTRIE SAS

DESCRIPTION OF THE INSTALLATION AL.FA.02

This installation is composed by the following devices and machines:

- The machine **AL.FA**. It consists in one big filling box with insides six rotors to keep the concrete fresh. This filling box has behind and rear a mobile scraper. Their movement allows to pick up the concrete staying into the top of the mold and scrape the excess of concrete filled. This filling box is hydraulically operated, (like the rotors inside) and guided by the big “U” rails. Filling box is refilled every cycle with the right quantity of concrete by two hoppers, situated over the filling box when it is back. The quantity delivered are controlled by two laser each hopper. This machine is provided also by a tamper head moving along two big squared columns. This device allows to stamp the top of the mold and give the desired shape at it.
- Two **OMOCRONOS** tables: 2 vibrating tables of type “Omocronos” are fixed into the ground underneath the molds and in axis with the tamper head of the AL.FA. The standard vibrating table can be replaced by a vibration system at four axes composed by one cube with four electrical synchronized by the encoder and a technology automation. These vibrators produce synchronized linear vibration, (vertical or horizontal) or circular.

The system allows a continuous adjustment of amplitude and frequency during compaction operation. The system control is simple and intuitive.



Touch screen of OMOCRONOS

The starting up (and the halt) of system is done without centrifugal force and engaged in a fraction of second when the imposed frequency is reached. In this way resonance phenomena are eradicated.

The vibrating table OMOCRONOS allows one to control that resolves the problem connected with local resonance of mold and improves the transmission of energy at the concrete. The result is an extension of the mold life and a quality gain for every product.



- The rotating device **EMOF1**. It is designed to handle the molds from the machines AL.FA. till the demolding area, providing the up-down movement and the rotation of the mold. It is also provided of hydraulics coupling to connect the mechanism of the mold to the hydraulics pack. The 3 movements along the 3 axes are electrical actuated, and speed are controlled by inverter. This machine has the clamps to take the pallets and fix them on the top of the molds before the rotation of it for demolding.

- A **TWIN TROLLEY** is conceived to insert and to exit the mold from the vibrating table. It run into the rails and allow a smooth movement without any vibration of the molds. Any side of the trolley are provided of 2 electrical rams to move up and down the molds.

- **TWO CHAINS CONVEYORS** are situated at the end of the AL.FA.02 installation; The first bring the packet of pallets in the axis of the installation from outside and the second displace the green product outside of the installation in the area where one forklift ore crane or one automatic bridge crane can take the product and transport it to the curing area.

DESCRIPTION OF THE PROCESS

The mold is behind the vibrating table where is easy to insert the reinforcement or other accessory inside the mold. The twin trolley moves up the molds and insert it into the vibrating tables, where it is locked by means of some cylinders. The machine AL.FA. feed of concrete the molds and the vibration start. In the end of filling the tamper head move down to compact and give the shape at the top of the product. During this time the rotating device EMOF1 go back with the device returned upside down to take one pallet from the top of the packet. It moves back and make it straight, then wait the mold. When filling process is completed, the twin trolley takes the molds and exit it from the vibrating table. The EMOF1 take the molds and lock it. Take the pallets and moves down it, in contact with the top of the molds. Then it locks them together. Afterward, it turns the molds upside down and lean the pallet on the second conveyor. It releases the pallet and lift the mold. It moves in the direction of the machine AL.FA. turn straight the mold and lean again at the ground. The conveyor moves the products outside the installation in one position where it can be taken to go at the curing area. A new process begins.

TECHNICAL DATA OF AL.FA.02

Description	Unit	Data
Product dimension - height	mm	100 : 1200
Product dimension - plan size	mm	4000 x 2500
Max product weight	kg	5000
Max mold weight	kg	4000
Estimated cycle time	min	8 : 20
Pallet size	mm	4300 x 2600 x 170
Hopper capacity	m3	2x1,5
Hopper height	mm	3300
Max vibration force	kN	264
Frequency	rpm	0:3500
Vibration power	kW	23,2
Hydraulic power	kW	22+11+4
Installed power	kW	85

Thanks to this device, the AL.FA.02 allows to realize some elements with a special technology, called “OVER MOLD TECHNOLOGY.”

It consists to superpose one extra plate on the top of the mold (red), an over-mold of suitable thickness (green), that acts as reservoir of concrete.

Subsequently the press will perform a deep molding (blue), compacting the concrete up to the level of mold without his over mold.

The press raises, and the over mold goes out of the mold for the demolding operation.

This technique allows a great compaction and a faster filling of mold. It is usable only for some products.

