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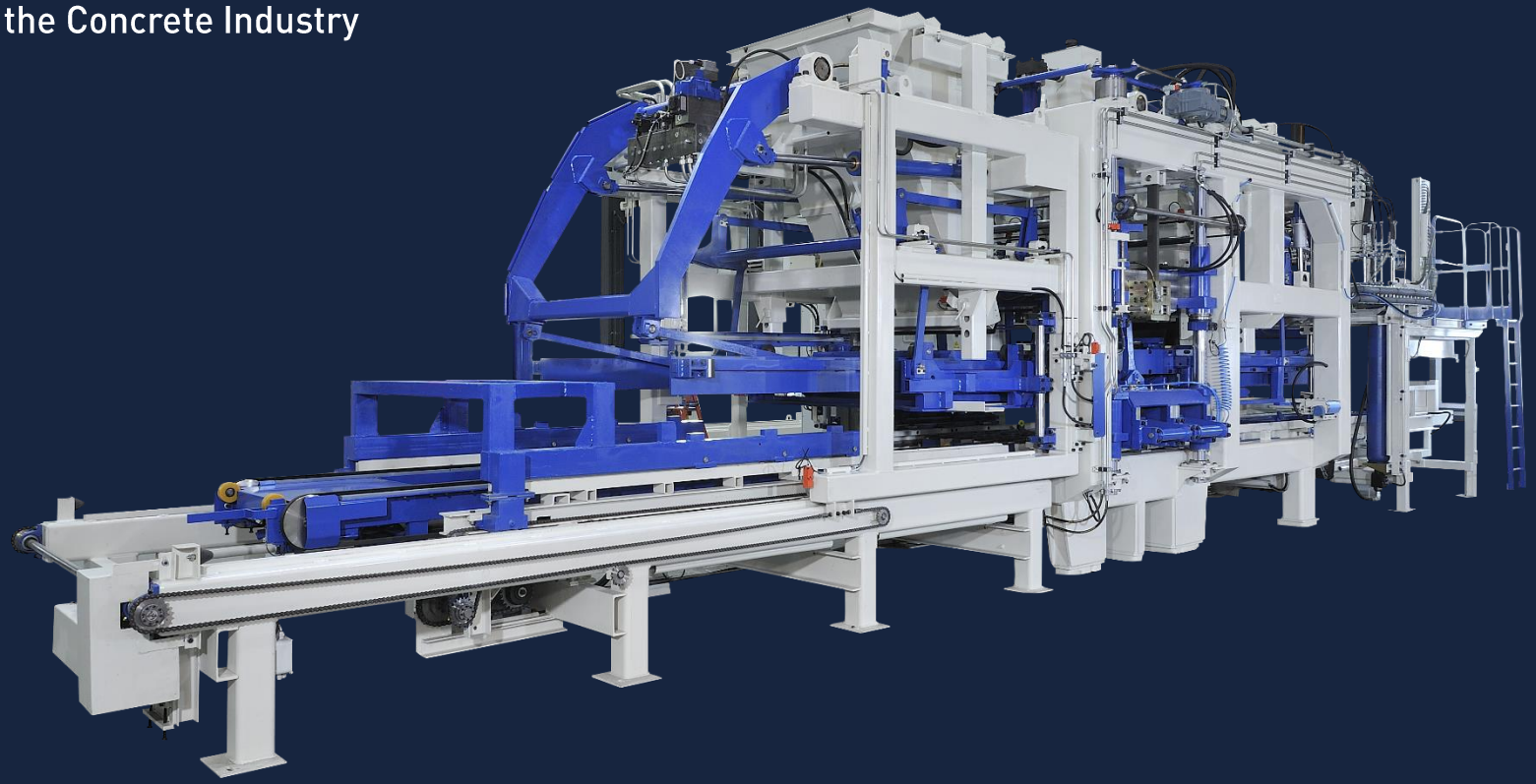
QUADRA

French Manufacturer of Equipment for the Concrete Industry



TECHNICAL DATA

Block Machine «High Performance»

SUMMARY

- **TECHNICAL FEATURES**
  - Vibrating equipment
  - Retractable table device
  - Feed box
- **PRODUCT QUALITY**
- **MANUFACTURING CHANGE**
- **SERVICE**

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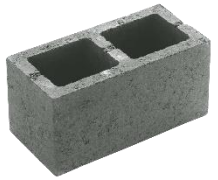


Products manufactured with our range of block machine

TECHNICAL FEATURES

Single-unit structure : elevated and isolated from the ground

ROBUSTNESS

▪One piece heavy welded construction built in high elastic limit steel

SPRINGINESS AND PROTECTION

▪Press frame based on flexible mountings isolating the structure, preventing the spread of residual vibration and reducing noise.

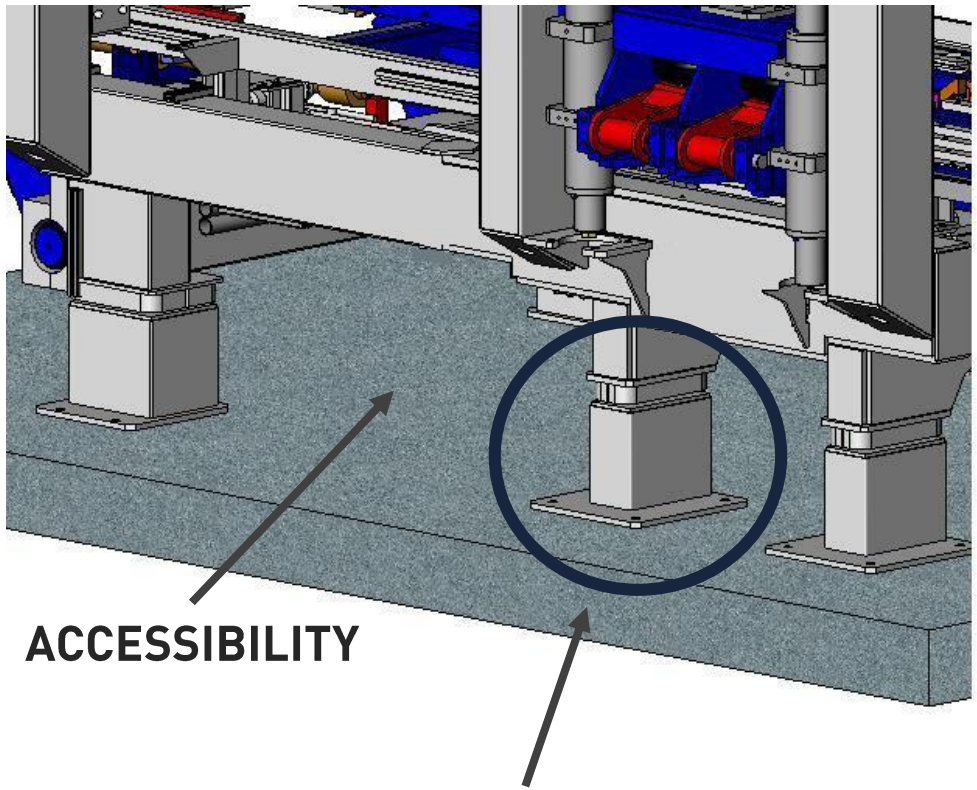
▪The kinetic energy of bodies in movement is absorbed by the flexible mountings, saving and protecting the frame solicitations

CONVENIENCE AND EASINESS

▪An elevated architecture from the ground for easy access, cleaning and maintenance

NO SPECIFIC FOUNDATION

▪The ground foundation supporting the press does not include any structure in concrete, or a pit under the press => civil engineering costs reduced.



Patented system

VIBRATING SYSTEM

Vibrating equipment with variable amplitude and frequency electronically synchronised

A rational set up: the engines drive of the vibrators shafts are set on the side of the press (right or left) ensuring:

- **Direct access**
- **Component protection** against any concrete projection
- **Reliability and durability** of equipment
- **Possibility to differentiate the vibration** characteristics between the front and rear of the vibrating table to obtain concrete products with a constant density throughout the moulding surface

A one piece vibrating table built in welded steel with high yield strength with heat treatment supports bolt-on wear liners.

Two vibrators are screwed to the vibrating table. The vibrators are oil bath lubricated. Oil level checking and adjustment from the top, easy operation.

Vibrators' speed rotation can be set-up according to the kind of manufacturing

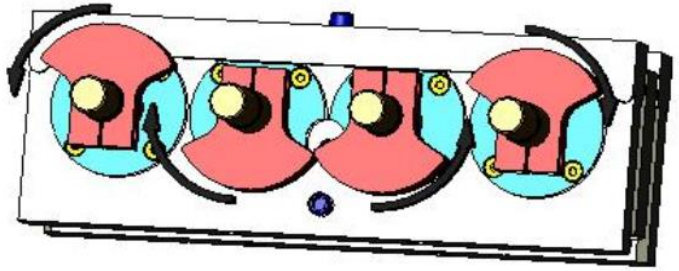
Patented system

VIBRATING SYSTEM

Vibrating equipment

FORCE = 0

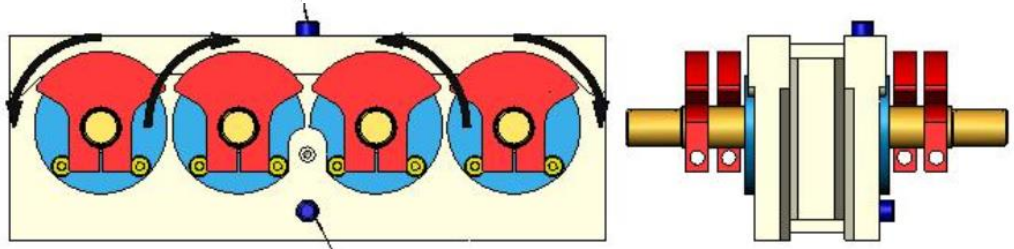
Unbalanced mass in opposition



Filler cap

FORCE MAX

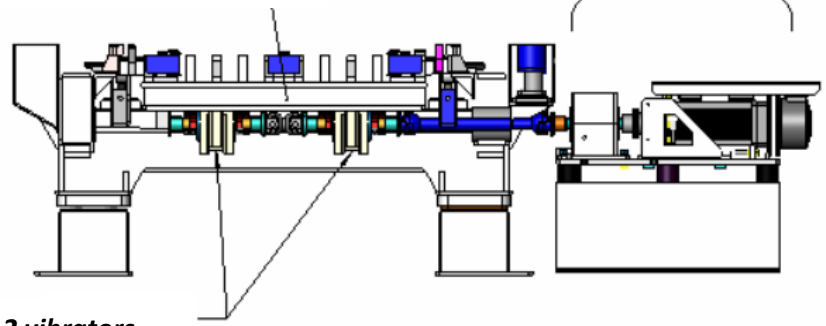
Unbalanced mass in phase



Drain plug

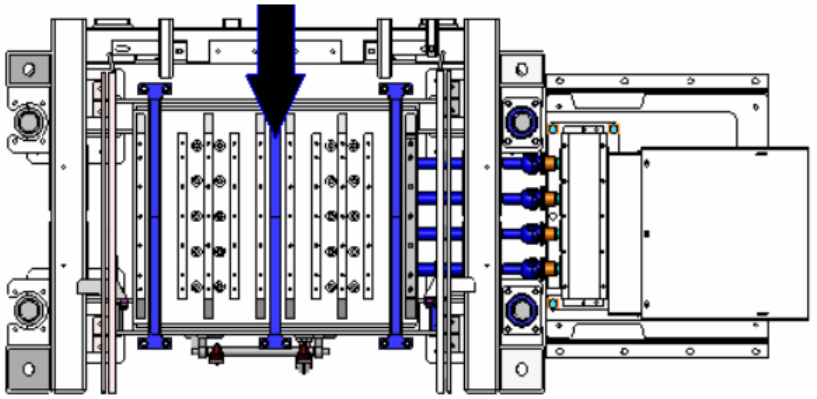
Vibrating table

Vibration motors



2 vibrators

PALLETS DIRECTION



VIBRATORS = OIL BATHED LUBRIFICATION = LONGEVITY and RELIABILITY

VIBRATING SYSTEM

Electrical engines are isolated and protected from the vibration solicitations

The optimal operating conditions are ripe for the moulding and compaction of concrete.

Programmable rotation speed vibrators for different types of manufacturing and different phases of the cycle (0 to 75 Hz).

Stability of the vibrating table to ensure the efficiency of vibration transmission to the mould

A set of point 0 for zero vibration fast and simple performed by the operator

Patented system

RETRACTABLE TABLE DEVICE

Patented system: retractable static bars

Mould filling cycle

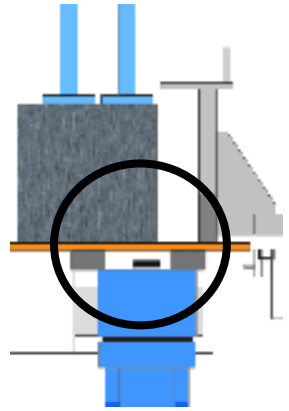
- Need of amplitude -> references get down -> harmonic vibration.
- The mould filling cycle is shortened.

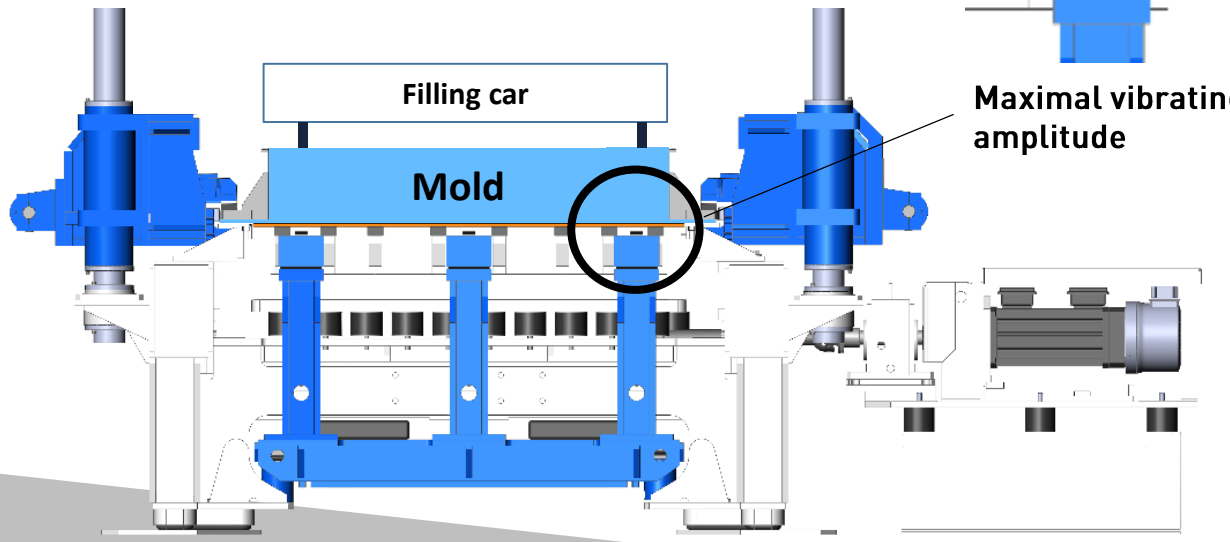
The reference bars are going down during the mould filling cycle (pre-vibration cycle) and are going up during the final vibration cycle (final compaction) to obtain a very accurate concrete products height.

Low position during the pre-vibration cycle

- No heavy and repeated impacts between bars and empty mould
  - Maximal mold amplitude
  - Quick and high-quality filling
  - Longer life time of the mould

High position during the final compaction





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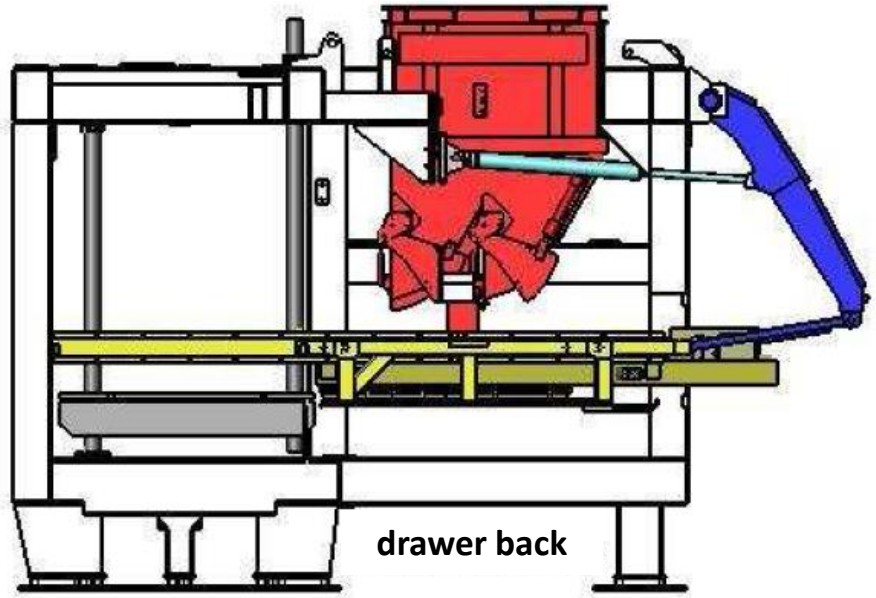
FEED BOX

Different vibration characteristics between front and rear of the vibrating table

- Constant density throughout the molding surface
- Faster filling : gain in cycle time

Accurate drawer guidance : The feed box is connected to an articulated arm operated by 2 hydraulic cylinders. The movement of advance and backward of the feed box is controlled by a proportional valve and linear measuring.



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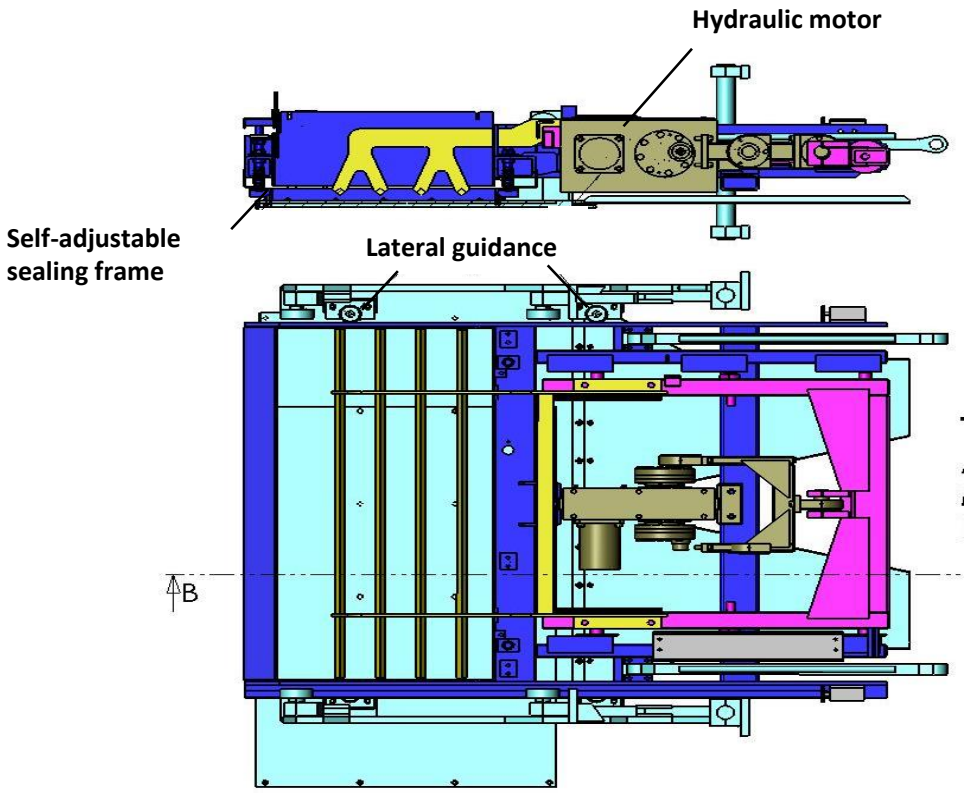
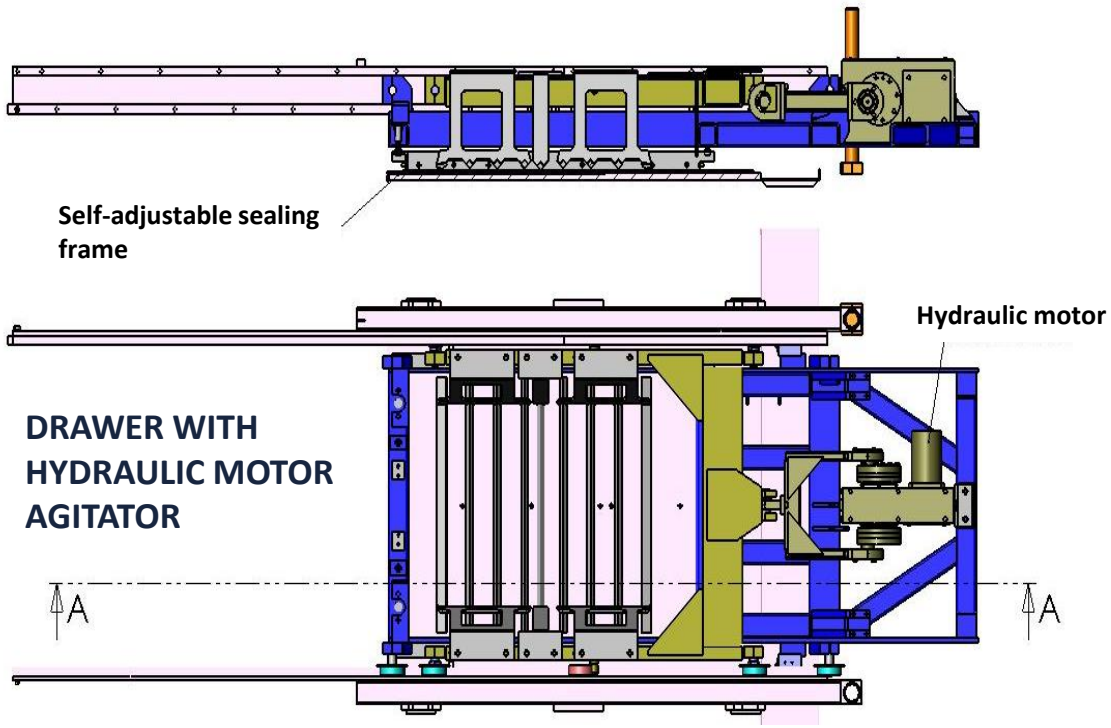
FEED BOX

AGITATOR

Q5 Q6



Q9 Q10 Q12



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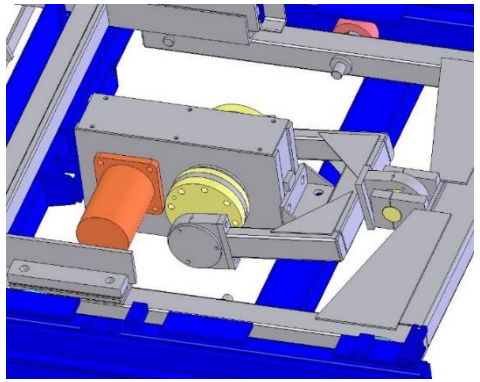
FEED BOX

AGITATOR

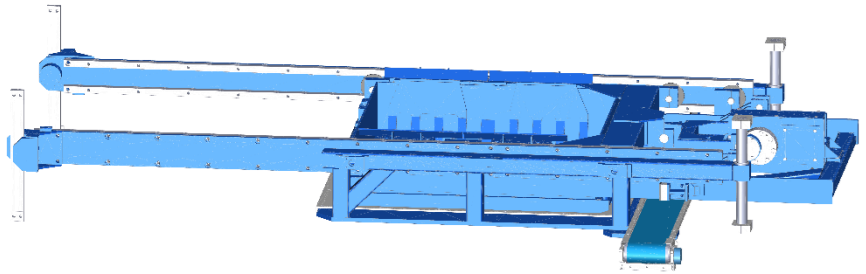


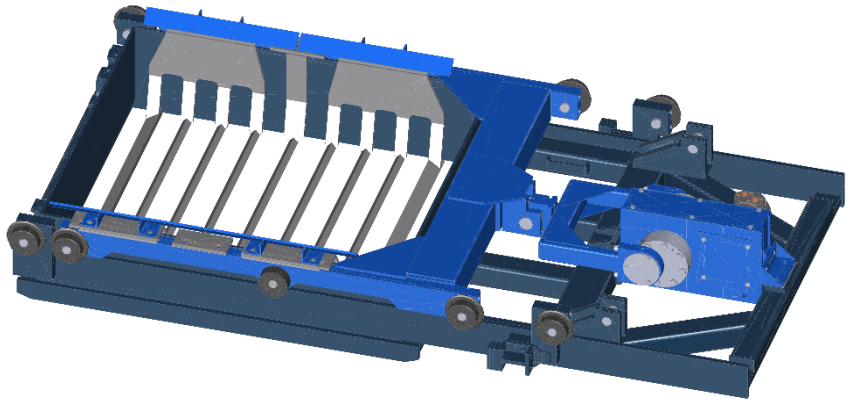
Agitation

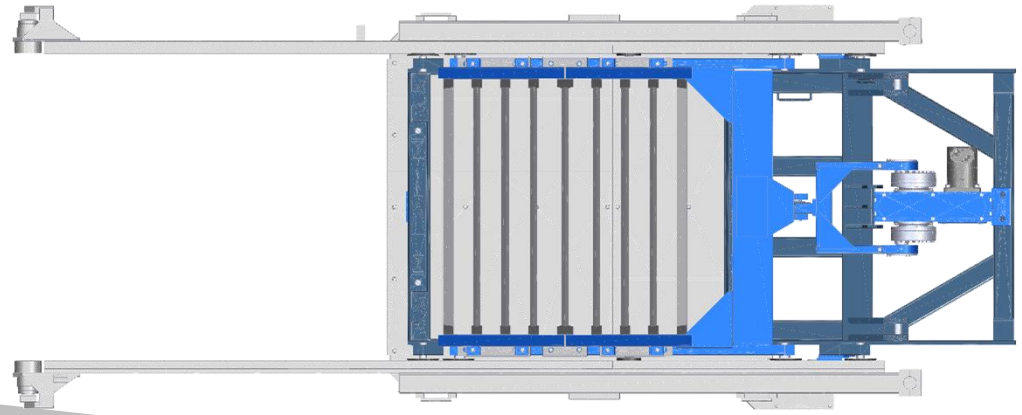
The shacking in the feed box is made by a mobile grid, uniformly accelerated and decelerated by a hydraulic motor.

The movement of agitation is controlled by a hydraulic function ensuring flexible and regular rotation

Regulation of the agitator's speed







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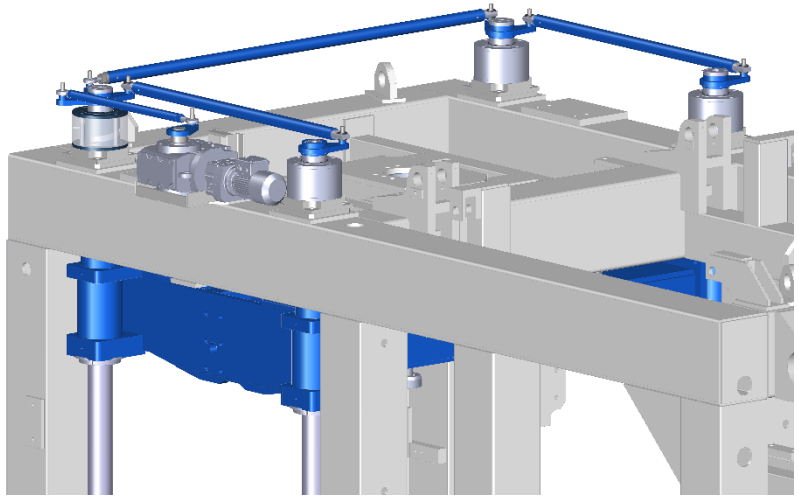
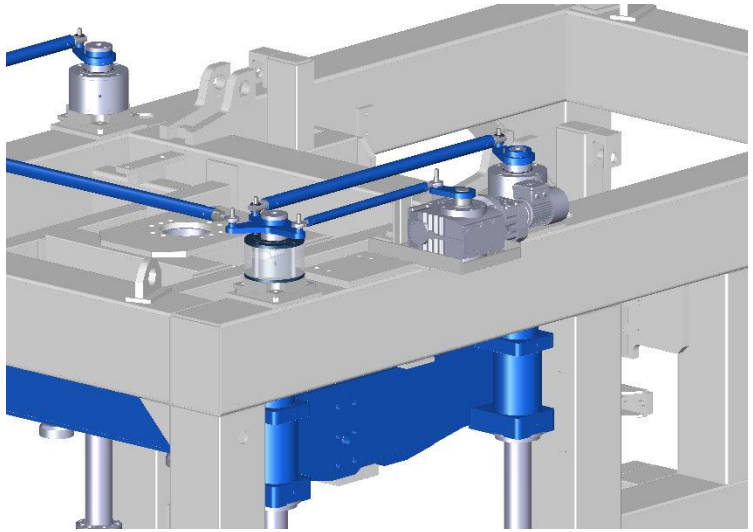
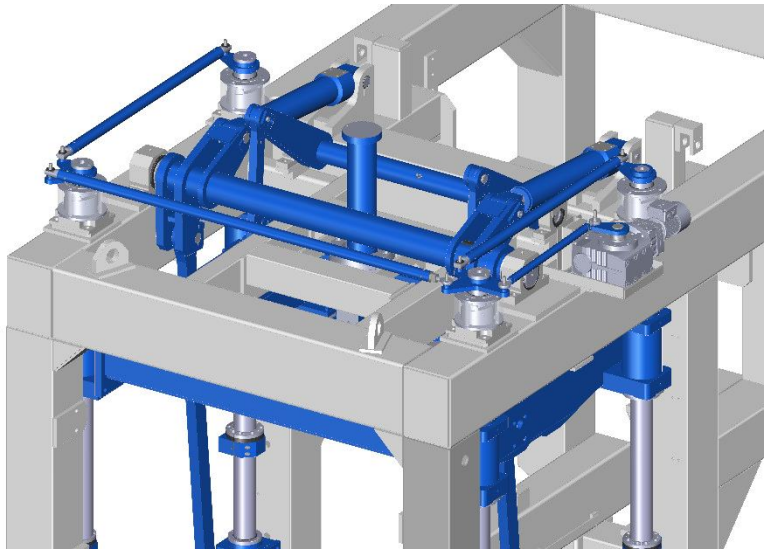
Patented system

PRODUCT QUALITY

Remote controlled height of products







PRODUCT QUALITY

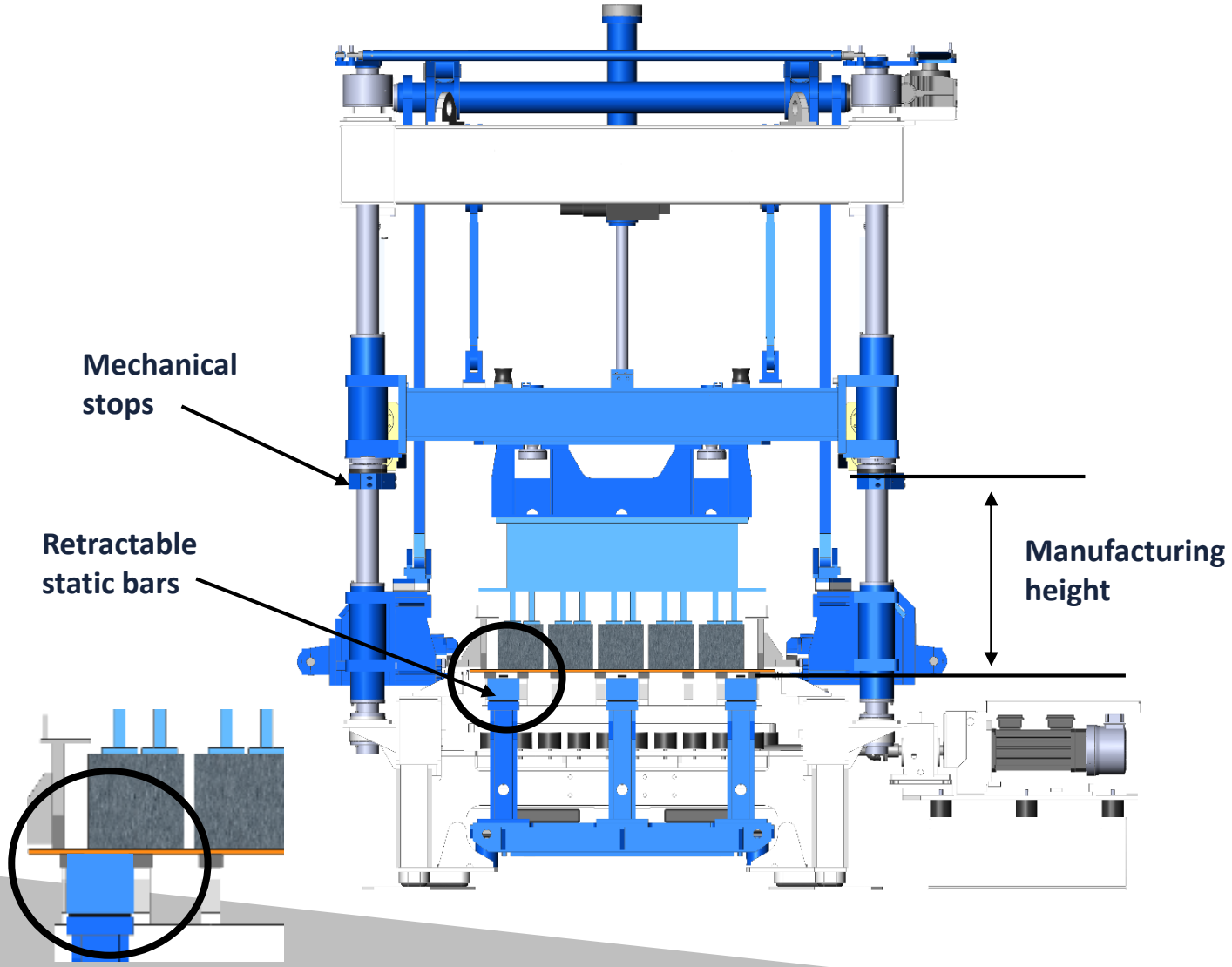
Products dimensional tolerances

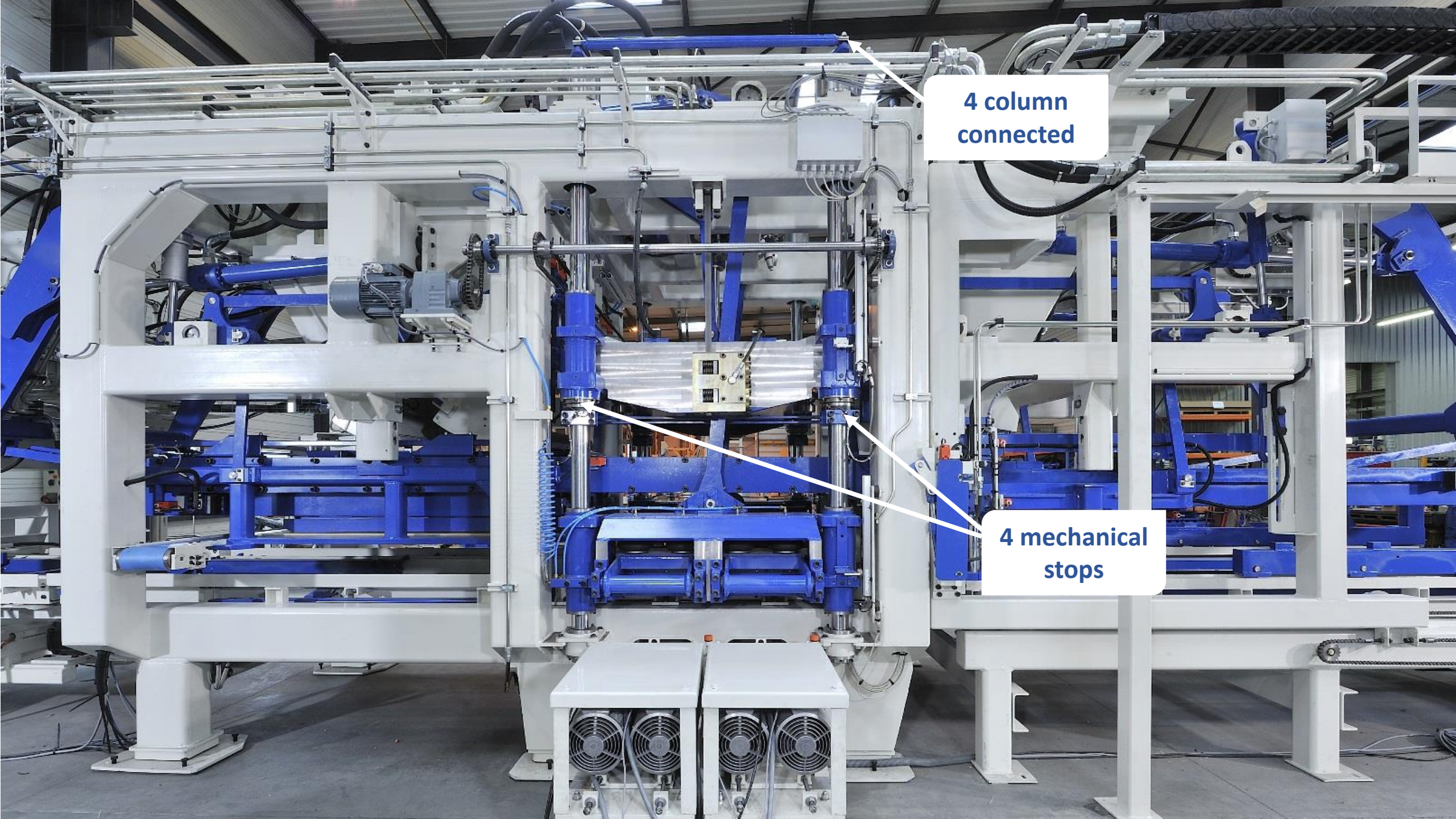
Top reference

- Mechanical stops > stationary stop of the tamper head
- Constant height : Product height + tamper head height

Lower reference

- Retractable bars are used as lower reference to the board
- Put them up at a fixed height enable to correctly calibrate the height of products




4 column connected
4 mechanical stops

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PRODUCT QUALITY

End products : quality and accuracy

END PRODUCTS

- Dimension
- Weight
- Density
- Strenght

FILLING CYCLE AND PRE-VIBRATION

Uniform density by board

+

FINAL VIBRATION

Tightest dimensional tolerance

MECATRONIC QUADRA

AUTOMATIC AUTOREGULATION FOR EACH CYCLE

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MANUFACTURING CHANGE

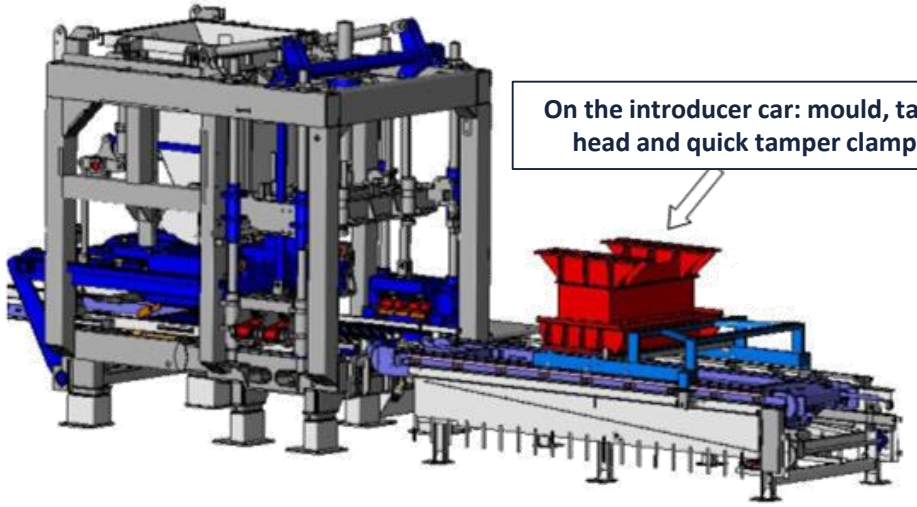
Express: less than 10 min

Motorised mould and tamper introducer. The mould and tamper set is positioned on the motorized introducer car.

An operator controls the lead with the double hand operating console next to the press

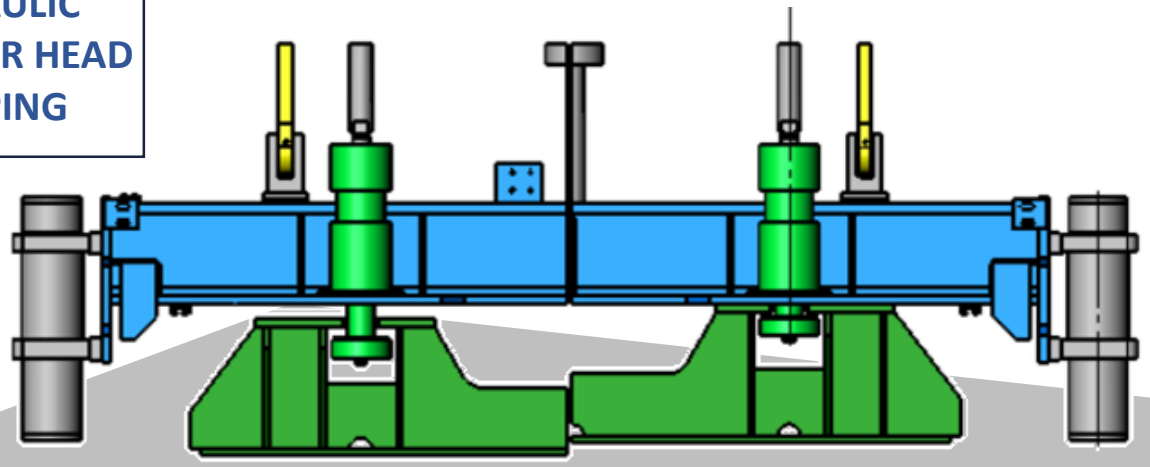
Tamper head hydraulic clamping. Once the mould is clamped, the tamper is fixed in the machine. The fit between the mould and the tamper is preserved.

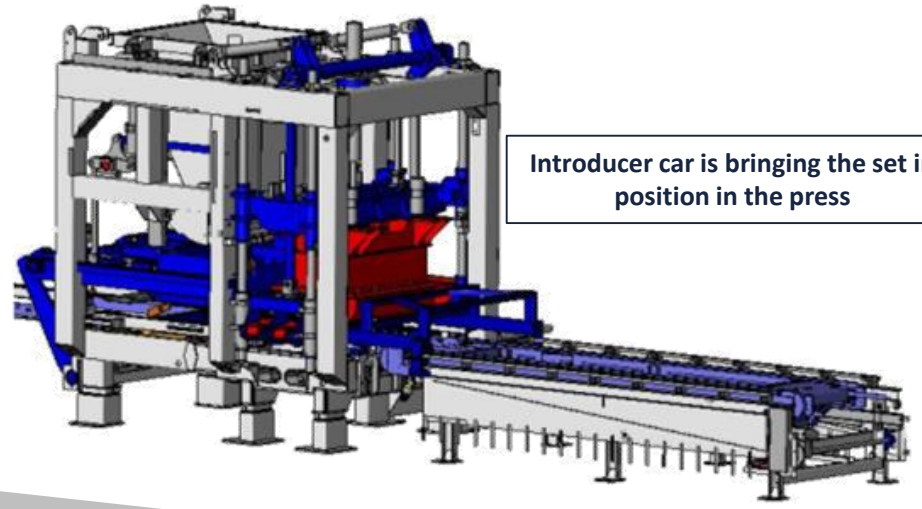
Mould fastening made by air bags



On the introducer car: mould, tamper head and quick tamper clamping

HYDRAULIC TAMPER HEAD CLAMPING





Introducer car is bringing the set in position in the press

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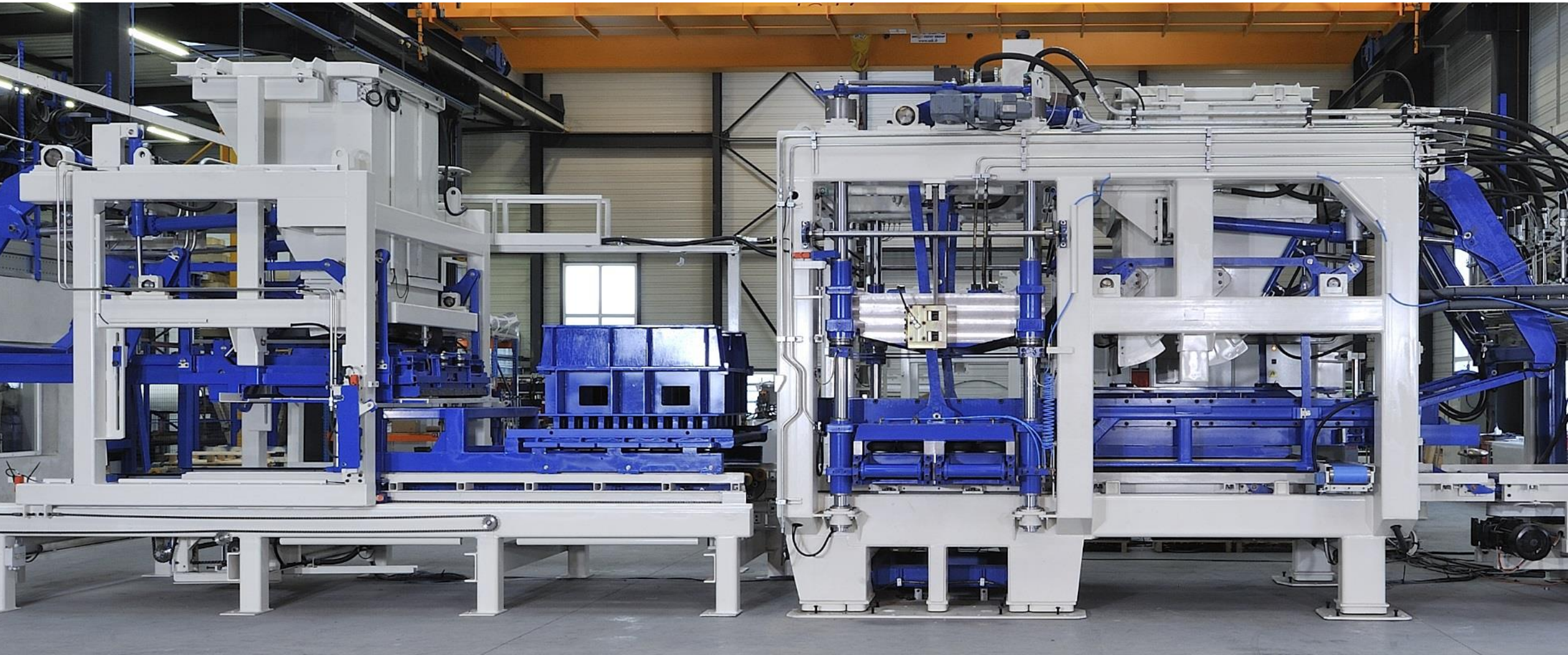
MANUFACTURING CHANGE

Express: less than 10 min



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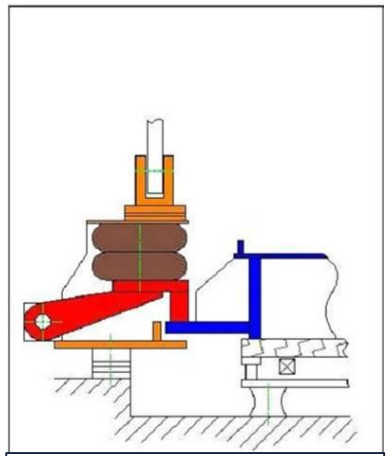
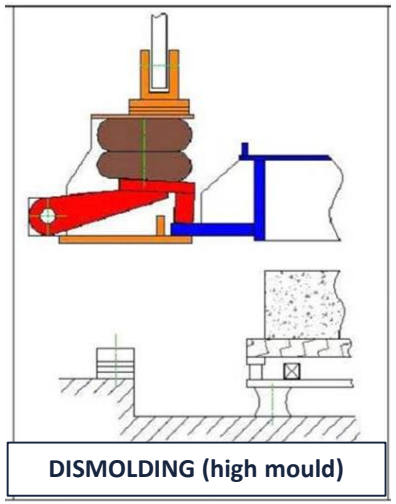
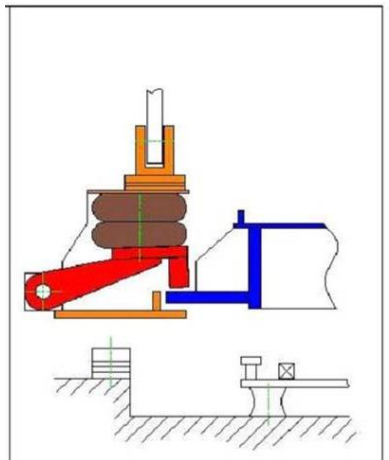
MANUFACTURING CHANGE



MANUFACTURING (low mold)



DISMOLDING (high mould)



ASSEMBLY-DISASSEMBLY

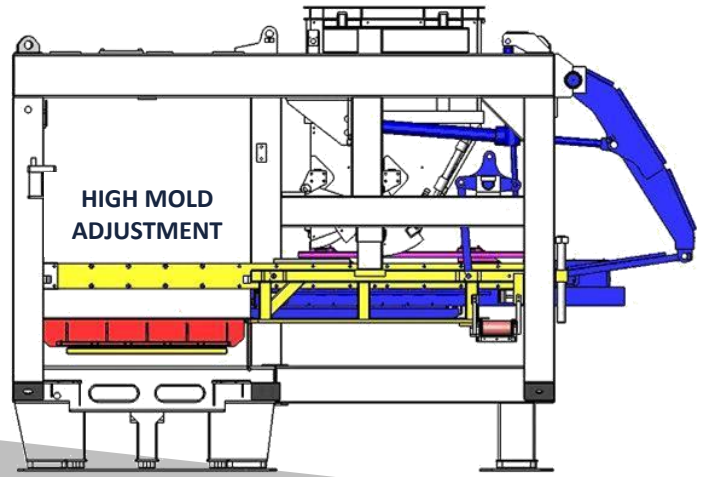
MOULD CLAMPING

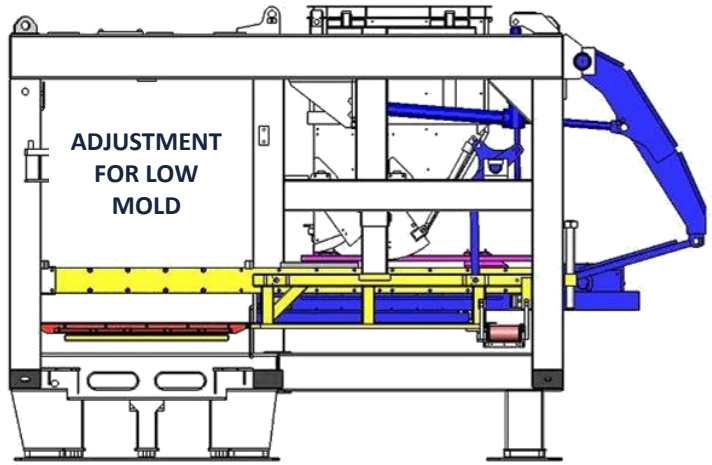
Remote controlled adjustment of the level of the feed box table:

No bolt to grip or to slack off.

The adjustment of the level of the feed box table is remotely made while being on the side of the machine. Accurate view on the adjustment. Immediate and very fast.

Blocking in position = a clamping device is fixed directly on the cylinders and holds the piston rod in whatever the position it is.





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QUADRA SERVICE

Customer service:

Our customers benefit from a high quality customer service, ensured by skilled technicians an specialized in concrete products manufacturing.

- Remote connection by modem link
- Phone assistance. The visio-maintenance service is also provided to Quadra's clients in order to assist them in real time during the adjustment or the troubleshooting of their equipment
- Collaborative plateform. This plateform enables our clients to download all technical documents, user manual and tutorials, spare parts catalogue
- Comprehensive and clear instruction manual
- On-site intervention and preventive maintenance
- Training and assistance

Quality of manufacturing:

- Quality control
- Equipment manufactured in France
- Tests performed in our assembly workshop in manual or automatic modes
- Quality of components : SEW, LENZE, SIEMENS, SCHNEIDER, REXROTH, PARKER, ATOS, HYDAC…
- Traceability

Stay tuned!

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