

Frima GmbH & Co. KG, 26723 Emden, Germany

System supplier for the concrete industry – from new systems to retrofit and component replacement

When the productivity or availability of a concrete block manufacturing system declines, it usually points to a need for larger investment sums in order to maintain competitiveness. A retrofit often makes more economic sense as an alternative to replacement by a new facility. Existing systems can be brought up to a state-of-the-art technological level by exchanging worn-out components and fitting new, advanced, cutting-edge developments. This applies especially to functional safety.

Modification or system expansion work can often be carried out in stages so that the downtimes due to renewal work are manageable. A machine's basic solid substance can be kept and, with concrete block-making machines, the high replacement investment costs be avoided for creating a foundation. Existing protection measures can be preserved by a retrofit for a system that would probably no longer get a new permit.

Frima GmbH & Co. KG has specialised in concrete block systems since its founding in 2004. The company manufactures concrete block-making systems with board sizes of 1,200 x 550 up to 1,400 x 1,400 mm (E 500, P 650, HP 800, HP 1000, HP 1200 and HP 1400) along with their corresponding components from finger car systems to dry sides and post-treatment lines. Yet, right from the outset, Frima has also been engaged in modifying and modernising machines and systems of all common makes.

A tailor-made concept is worked out in intensive dialogue with the operator after assessing the existing system. Depending on the substance found, potential solutions range from complete new systems to replacing system sections or exchanging components and control units.

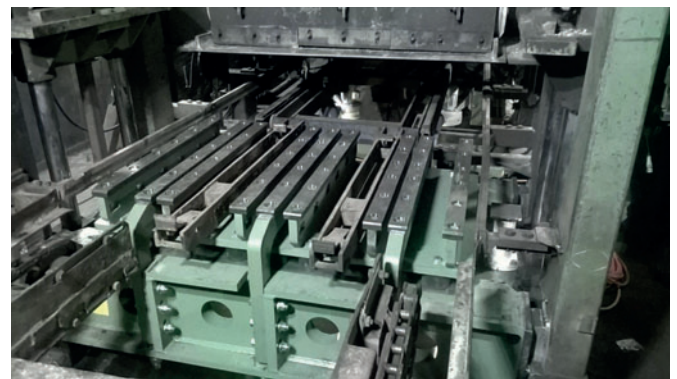
Modifications to machine and wet side

The control unit or hydraulics for this area is often renewed in addition to replacing the entire wet line or else fitting individual components.

Machine modifications are targeted as they are of especial interest. Besides installing cutting-edge displacement measuring systems and hydraulic components with proportional valve technology, the machine frame (middle section or supporting structures) or smaller functional groups, such as filling devices or machine hopper, can often be replaced.

Special attention is paid to the vibration system - the key component of a concrete block-making machine - in modification work. Frima has developed solutions whereby well-proven systems from its own machines, such as the double vibrating table or the Axis Vibrosystem featuring impressive power, adjustability and reaction speed, can be built into concrete block-making machines from other manufacturers.

At the current time, a customer's system is being brought up to the standard of his Frima HP 1200 purchased some three years ago. Modifying the control unit and the vibration table with Frima components will bring it up to a comparable level as far as ease of operations and product quality is concerned - along with the availability of replacement and wearing parts.



Axis Vibrosystem modification with vibration table replacement in Newark, England



Axis Vibrosystem modification without replacing the table in Tüßling, Germany



Axis Vibrosystem in a concrete block-making machine at Heide, Germany

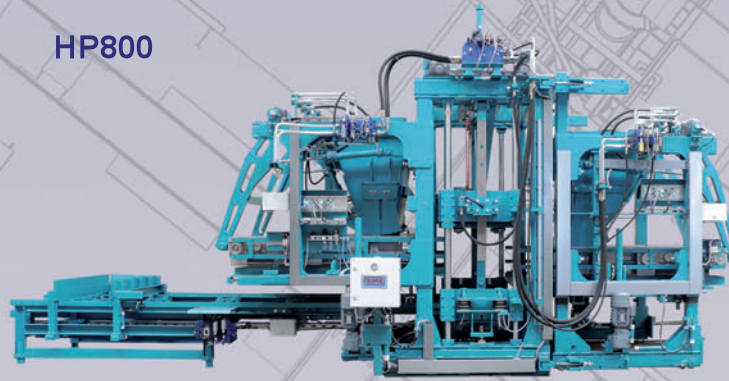
Modifications to finger car systems

Modifications, in particular to the drive, displacement measurement system and control unit including safety, occur especially often apart from complete replacements.

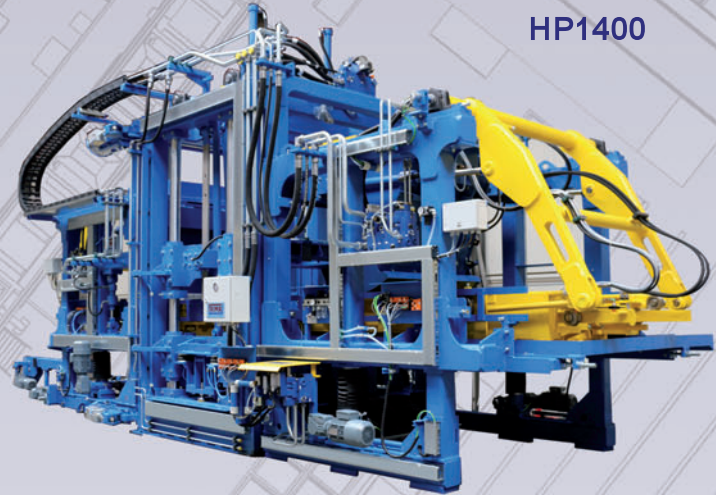


Control unit modification of a mobile elevator for a slab press in Fensterbach, Germany

HP800



HP1400



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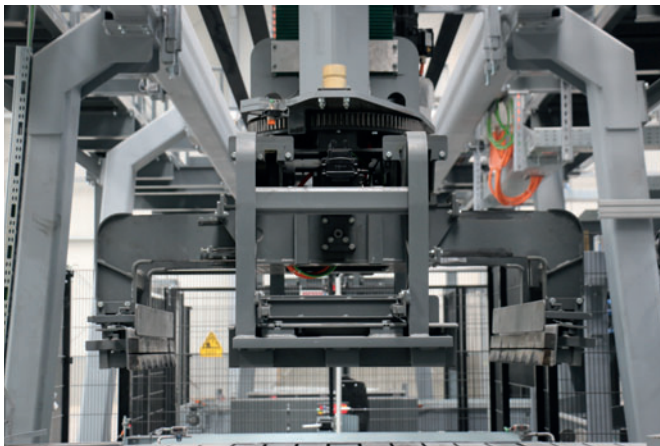
P650



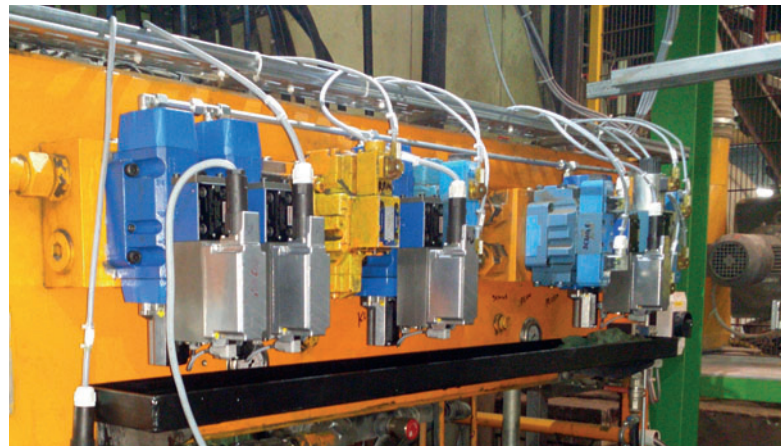
Specialist in:

- concrete block plants
- mixing and batching technology
- robot-controlled customized plants
- paving stone treatment systems





Frima servo packaging unit



Changeover to proportional valve technology in Osterhout, The Netherlands

Modifications to the dry side

On the dry side, it is particularly the newly developed, fully electrified, high-performance packaging units with optimised cycle times that make for an increase in added value.

Modifications to the hydraulics

In this case, besides strengthening the motor to improve energy efficiency and performance, a renewal of the valve technology for optimum motion sequence management and improvements in safety are frequently needed.

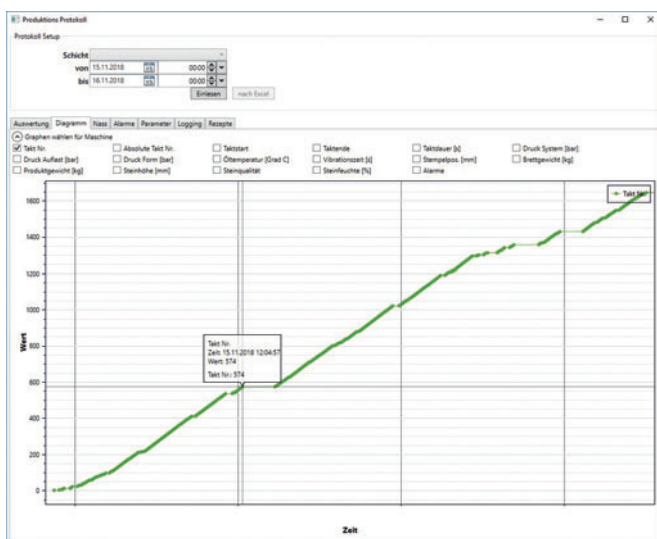
Modifications to the control unit and digitisation

Besides key components, the areas of sensor systems, control units, visualisation systems, networking and production data evaluation are those flowing from new system developments

that are involved in strengthening and renewing existing systems.

Frima places great emphasis on new ideas and their implementation particularly in view of the growth in digitisation and networking relating to Industry 4.0. This includes the development of in-house data evaluation with a database and graphic display. This system enables the operator to analyse production data precisely according to cycle. All the machine's relevant statuses, such as pressure, temperature and position for every individual machine cycle, are recorded using sensors. Each change in parameters is logged by the operator. The data can be evaluated using a graphic representation. Operator errors or system problems can be recorded and localised rapidly and effectively by this means.

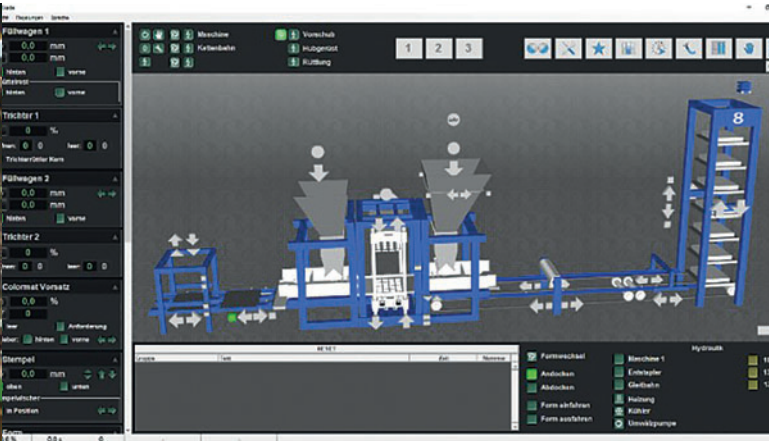
The advanced development of a laser-based block height measurement system is another element in quality assurance.



Frima data representation graph



Operator RFID registration at the machine makes personalised parameter enabling possible. For data evaluation purposes, all alterations in parameters are ascribed to the machine operator



Frima 3D wet side visualisation



Block height measurement system in East Germany

This system can measure block heights from 20 up to 500 mm regardless of shape, colour, moisture and surface. It can both relay the results visually to the operator and enter them into the data evaluation system described above.

Frima can supply a great range of products for many needs. To date, many machines of differing manufacturers - from mixing systems to the dry side - have been successfully modified and re-equipped with components from Frima.

FURTHER INFORMATION



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