

MODIFICATION RETROFIT



MORE EFFICIENT · MORE PRODUCTIVITY · MORE SAFETY

FRIMA





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MODIFICATION AND RETROFIT

Since its founding in 2004, **FRIMA** has been a specialist in concrete block plants. In addition to the **FRIMA** concrete block plants with a board size of 1200 x 550 to 1400 x 1400 (E 500, P 650, HP 800, HP 1000, HP 1200 and HP 1400) and the corresponding components of mixing plants across finger car groups, dry sides to aftertreatment lines, from the beginning, **FRIMA** has been dedicated to the field of modifications and modernization of machinery and equipment of all major brands.

If productivity drops or a concrete block plant becomes unavailable, large investments are usually necessary to maintain competitiveness. As an alternative to a new build, a retrofit often makes more economic sense than a replacement with a complete new build. Exchanging obsolete components and adding new, state-of-the-art technological advances will bring existing facilities back to the cutting edge of technology - and in particular, functional safety.

These modifications or system extensions can often also be carried out in stages. High additional expenses can be partly avoided, such as building the foundation.

Also, retention of an existing plant that could possibly not receive a new approval can be made possible by a retrofit.

An individual concept is developed through detailed discussion with the operator, and evaluation of the existing plant. The solutions range from complete new plants through to replacement of plant components, or to component or control exchange, depending on the existing material.





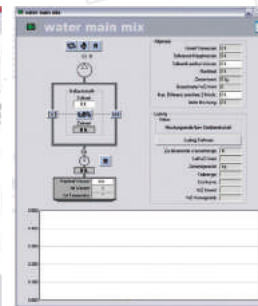
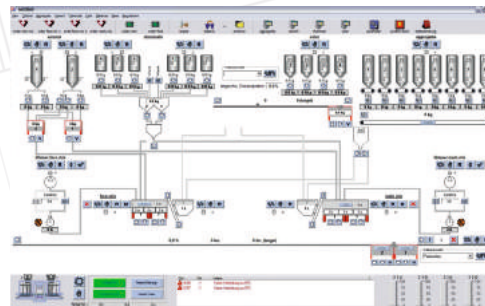


MODIFICATION MIXING SYSTEMS

Mixing and dosing systems can also be purposefully optimized. From the conversion of volumetric dosing to dosing via load cells, the subsequent installation of colour dosing systems on the exchange of mixers or bucket conveyors, **FRIMA** offers individual consultation about all possibilities of plant modernization, in particular a conversion to new controls with up-to-date weighing techniques and data management, thus creating an increase in value.

PLC-based FRIMA controls offer the following functions:

- Dynamic determination of the “inflight” values for all dosing drives for a precise dosing of the individual materials.
- Silo configuration is not dependent on formula. The required material is found automatically in the silo.
- Dynamic speed control of scales and bucket conveyor. Depending on the load, the control values are optimally adjusted.
- Silo switch - several silos can use the same material.
- Automatic grouping system. In the case of a malfunction, for example during the dosing process only the affected function group is stopped, all other groups will continue to work. If the fault has been identified and corrected, the function group will continue the automatic sequence.
- Extensive monitoring of the dosing process.
- **FRIMA** visualization system with a full overview of the entire mixing plant and its sequence.



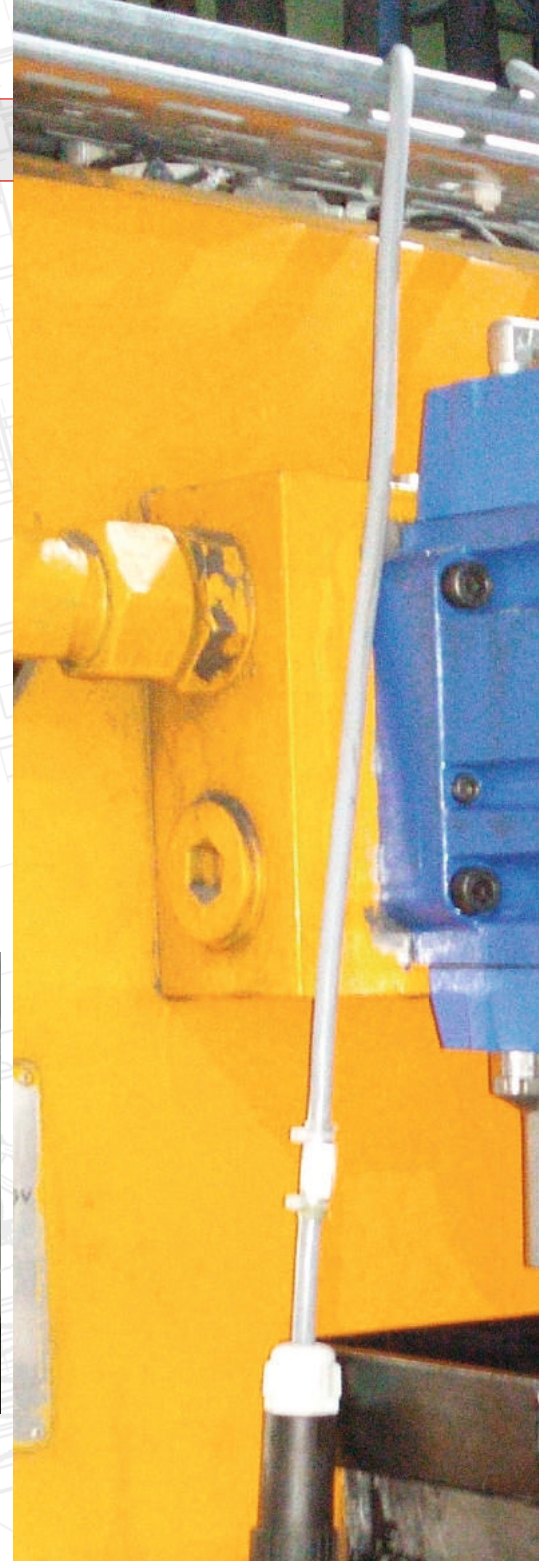
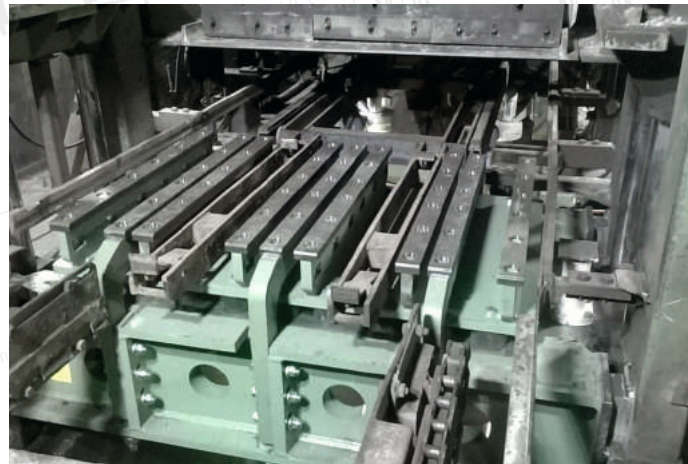
MODIFICATION MACHINE AND WET LINE

FRIMA doesn't just offer the replacement of the entire wet line or the replacement or addition of individual components, such as colourmix feeders, washing plants, or further individual modifications.

In addition, the focus is particularly on the modification of machines. As well as the installation of modern position measuring systems and hydraulic components with proportional valve technology, the machine frame (middle section or main/ face mix unit) or the replacement of smaller functional groups such as filler boxes or machine feeders is common.

The heart of the concrete block machine, the vibration system, is especially considered in the modifications. **FRIMA** has developed solutions for their own machines, such as installing the double vibration table or the axis vibration system with servo drives in machines from other manufactures in order to optimize the consolidation and thus the quality of the production.

Many plants have already been modernized by **FRIMA** in terms of availability and performance by increasing hydraulic power, as well as the use of modern proportional technology, in conjunction with a modern control system.







MODIFICATION FINGER CAR GROUP

The finger car group is the central interface between the wet and dry side. If the driving platform is stationary, then the entire production is stationary.

In addition to the replacement of complete finger car groups, **FRIMA** also offers a partial replacement of transfer- and upper cars as well as forks.

The drive and control modifications round off the complete range of modernization options, using state-of-the-art systems such as laser remote measuring systems or data connections via Bluetooth or WLAN.

The scope of functions of the controls covers the clearing, loading and redeployment of the chambers. Furthermore, you have the possibility to start partial processes manually. In manual mode, speed and position are monitored, so that incorrect operation can largely be avoided. Depending on the system type, a digital joystick on the finger car or an industrial radio remote control is available to the operator for manual driving of the finger car group.

Furthermore, the system automatically calculates the clearing and loading of chambers, as well as having an intelligent product tracking system with data storage.



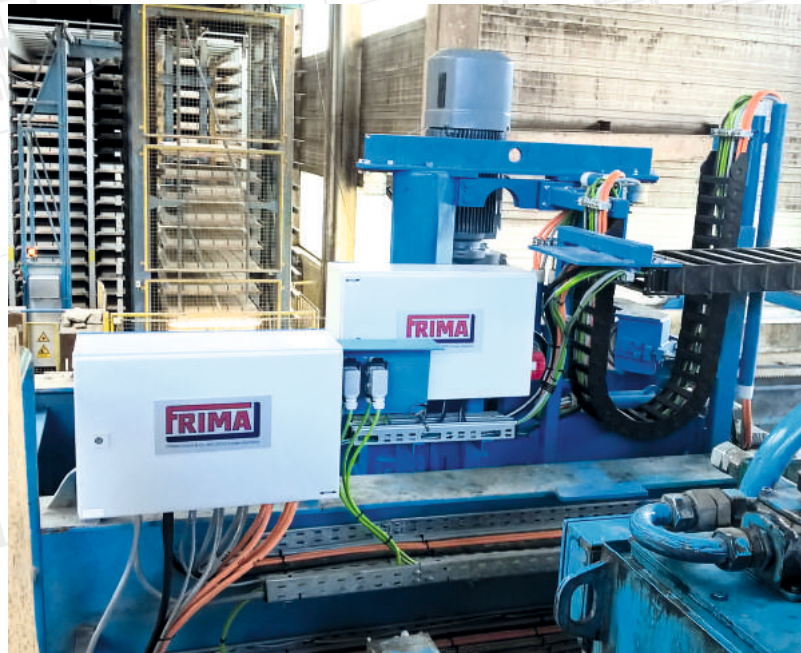
MODIFICATION PACKAGING AND DRY LINE

Packaging is a decisive speed factor in the overall system of the production plant. Obsolete mechanics, hydraulics or control technology creates great risk in terms of sufficient availability and productivity.

FRIMA believes in electromobility packaging systems to combine the benefits of speed and precision.

The cuber clamp can be designed either hydraulically or servo-electrically, depending on customer specifications.

The high-end solution in this segment is the **FRIMA** servo-cuber which is optimally equipped for the future with an intelligent control system and energy recovery.





MODIFICATION CONTROLS, DIGITIZATION, BIG DATA

In addition to the core components, sensors, controls, visualization systems, networking and production data evaluation which have come from the development of new plants are also incorporated into the retrofitting and renewal of existing plants.

Especially with regard to the increasing digitization and networking in the course of Industry 4.0, **FRIMA** puts a strong emphasis on new ideas and their implementation. This includes the development of their own data evaluation with database and graphical representation. The system allows the operator a precise analysis of the production data. In this case, all relevant states of the system are recorded via sensors such as pressure, temperature or position encoders for each individual machine cycle. Any change of parameters by the operator is logged. A graphical evaluation can then be used to evaluate the data. Operator errors or system problems can be detected and localized quickly and effectively in this way.

Another building block for quality assurance is the new development of laser-based block height measurement. The block height measurement system can measure products from 30mm to 500mm regardless of shape, colour, moisture and surface, and visually pass on the results to the operator, as well as bring in the data analysis described above.



PARTS OF OUR REFERENCE LIST

Project	Plant Type	Year	Country
Replacement of finger car group with adjustable suspension arm and turntable	HESS	2019	Germany
Modernization of wet side (controls, hydraulics, etc.)	MAS	2019	Netherlands
Modernization of dry side (new S7 controls, new trolley / lifting mast with electric clamp for cuber)	OMAG S22	2019	Germany
Retrofitting of laser stone height measurement	MAS	2019	Germany
Modernization of wet side (conversion to servo vibration system, new S7 controls, conversion of finger car group controls to S7, etc.)	Schlosser SV 500	2019	Germany
Replacement of finger car group with adjustable suspension arm, retrofit of radius stamp with transverse cleaning	OMAG S26	2019	Germany
Modernization of cuber unit (exchange trolley, lifting mast with hydraulic clamp)	OMAG S22	2019	Netherlands
Modernization of wet side (controls, hydraulics, etc.)	MAS	2018	Netherlands
Modernization of wet side and finger car group (exchange of vibration system, new S7 controls, etc.)	OMAG S22	2018	Germany
Exchange of complete cuber unit	OMAG S22	2018	Israel
Retrofit of colourmix hopper/feeder on the wet side	OMAG S25	2018	Germany
Modification of stone packaging discharge, new apron conveyor	OMAG S22	2018	Germany
Modification of controls to S7 for the complete system	MASA	2018	Germany
Replacement of complete washing station	OMAG	2018	Italy
Modernization of wet and dry side (controls, hydraulics, etc.)	Schlosser SV 30	2017	England
Modification of finger car group controls to S7	Columbia	2017	England
Replacement of complete vibration system to servo vibration system	Schlosser SV 30	2017	England
Modification of existing vibration system to servo vibration system	OMAG S22	2017	USA
Replacement of finger car group with adjustable suspension arm and turntable	OMAG	2017	Germany
Modernization of wet side (replacement of vibration system, new S7 controls, etc.)	Schlosser SV 40	2017	Germany
Retrofit of transport pallet buffer, modification of finger car group controls to S7, retrofit of colourmix hopper/feeder wet side	OMAG S25	2017	Germany
New filler box face mix with smoothing roll and rotating stamp brush	HENKE Variant	2017	Germany
Modification of controls for finger car group to S7	OCCEM	2017	Germany
Modernization of packaging system (exchange trolley, lifting mast with electric clamp)	OMAG	2017	Germany
Modernization of dry side (exchange board turner and boardstacker)	OMAG S22	2017	Austria
Modernization of wet side (modification to a frequency vibration system, retrofit of a quick mold exchange system, etc.)	OMAG S22	2016	Switzerland
Retrofitting of a forming unit on the dry side	OMAG S25	2014	Slovakia
Upgrading a completely new face mix device	Demler	2013	France
Exchange and modification of finger car groups and exchange of buffer cars	HESS	2012	Germany
Modification of cuber system (replacement of the positioning and lifting device)	OMAG S25	2011	Germany
Modification of wet side control and finger car group to S7	HENKE Variant	2007	Germany



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