

ADVANTAGES OF **MEC BLOCK MACHINE**



- ✓ Whole machine is powered only with Servo motors (no hydraulic unit)
- ✓ Motors only consume energy during the movements
- ✓ Braking energy can be used in the next movement
- ✓ Avg. energy consumption 6–10 kWh
- ✓ Yearly electricity savings up to €100,000+
- ✓ Reduced carbon footprint
- ✓ Connection power < 80 kW
- ✓ Main switch < 200A



ENERGY EFFICIENCY



MECMETAL
CONCRETE EVOLUTION

ADVANTAGES OF **MEC BLOCK MACHINE**

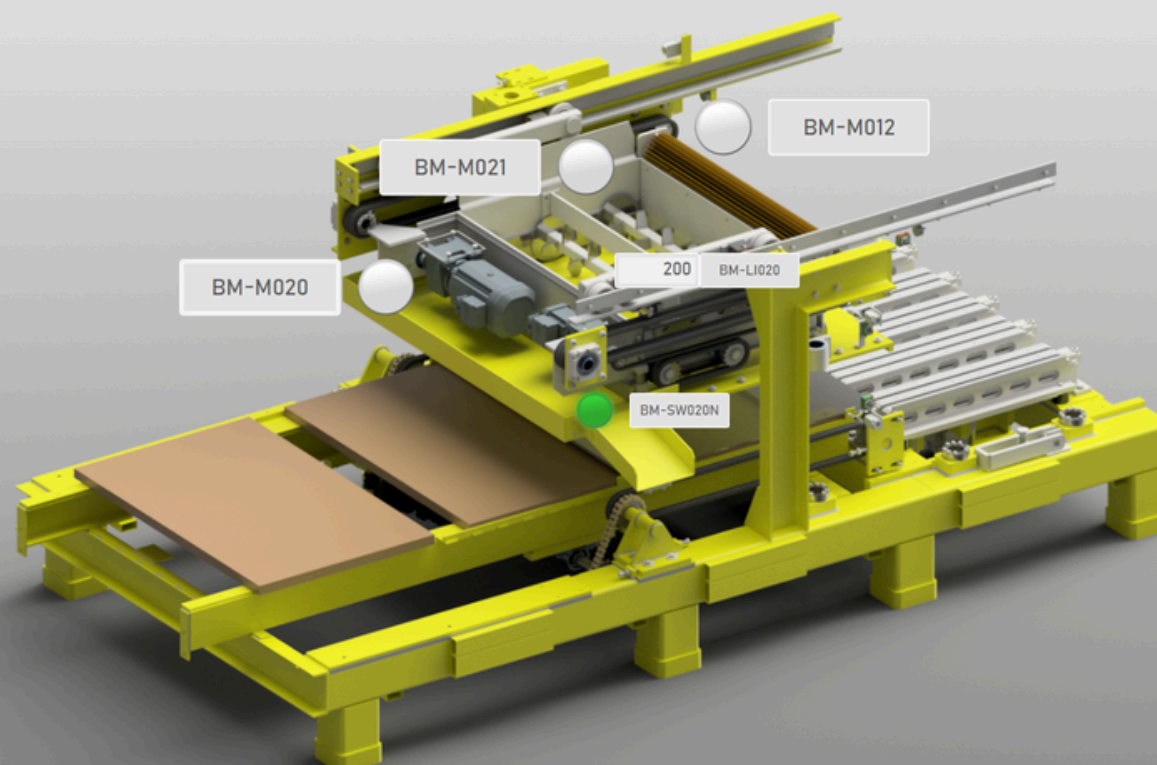
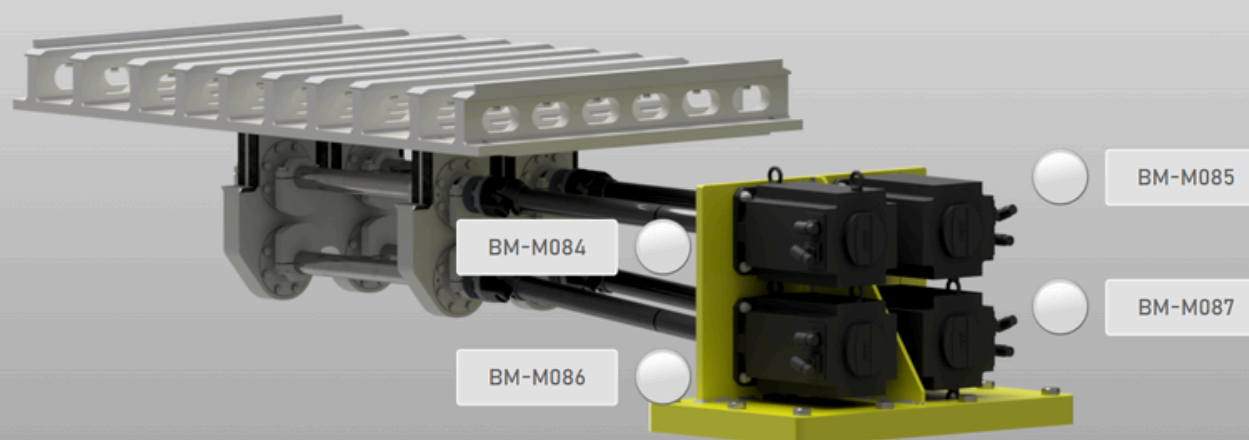


- ✓ **Pre-planned Yearly Maintenance Clock (YMC) to avoid failures and unwanted stoppages during peak production**
- ✓ **Real-time production monitoring with 0.01-second feedback time from Motors and switches**
- ✓ **Precise, easy-to-read control system guidance for operators in the event of errors**
- ✓ **Continuous staff training and support via the control system and MEC personnel**
- ✓ **On-call secure remote connection in case of automation errors and guidance**
- ✓ **On-site MEC Maintenance services available globally**



SMART MAINTENANCE AND DIAGNOSTICS

	SET VALUE	ACTUAL VALUE	
SPEED	60.0 RPM	0.0 RPM	PHASE ANGLE
FORCE	50.0 %	0.0 %	
VIBRATOR STATUS	Initializing		



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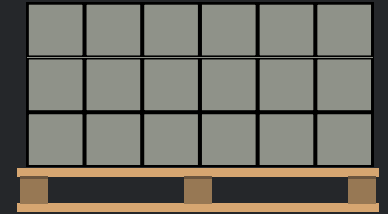
- ✓ **MEC Block Machines are always built using high-quality materials, parts, and components, selected based on decades of knowledge and experience in the field**
- ✓ **MEC Block Machines have an average lifespan of 25 years**
- ✓ **Low wear and tear due to servo motor capabilities and precise movement adjustments**
- ✓ **Wear parts are easy to replace**
- ✓ **No investment or upkeep costs for hydraulic parts, lines, or unit**
- ✓ **The control system is integration-free, allowing the use of external equipment alongside MEC products, all of which can be integrated into the same control system**



COST EFFECTIVE & LONG LIFE CYCLE



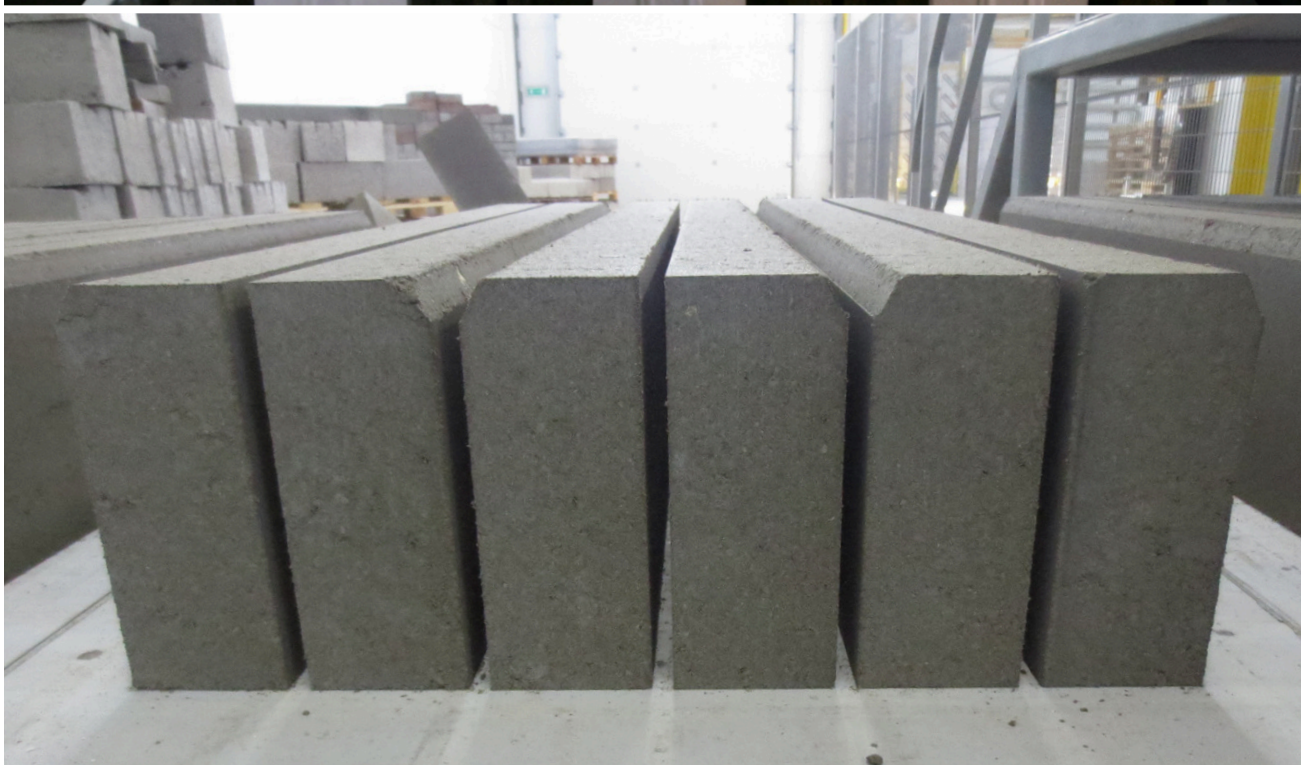
ADVANTAGES OF **MEC BLOCK MACHINE**



- ✓ Servo motors deliver consistent and reliable performance regardless of environmental conditions
- ✓ Exceptional accuracy in movement execution, crucial for producing high-quality, dimensionally accurate blocks
- ✓ Easily adjusts to different production requirements and product specifications
- ✓ Zero risk of hydraulic oil cross-contamination with concrete products
- ✓ The more complex the manufactured product, the greater the advantage the MEC Block Machine brings



CONSISTENT PRODUCT QUALITY



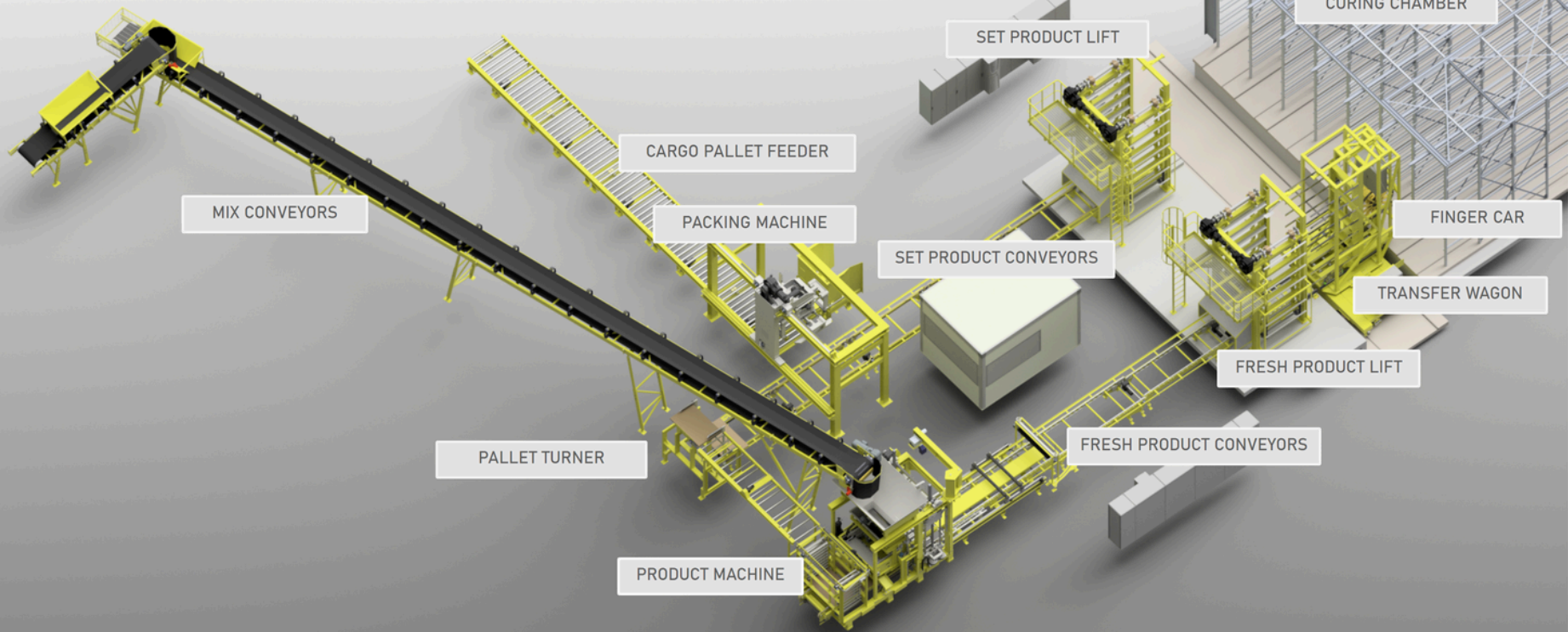
ADVANTAGES OF **MEC BLOCK MACHINE**



- ✓ **Smart, robust automation & mechanical solutions built to withstand harsh working conditions and 24/7 production**
- ✓ **Real-time data from servo motors and the control system guides production optimization, supports maintenance, and prevents breakdowns**
- ✓ **Low wear and tear due to servo motor features and stepless movement adjustments**
- ✓ **Automatic central lubrication system and fast mold changes**
- ✓ **Dust-proof electric cabinets with an integrated cooling system ensure long-lasting durability**
- ✓ **Automatic backup of the control system's programs, parameters and recipes**



HIGH OPERATIONAL RATE & FAULT-TOLERANT



PRODUCTION STATE

Machine running - resepti123

	DAY	SHIFT	HOURL
STILL	%	%	%
RUN	%	%	%
WAIT	%	%	%
ERROR	%	%	%

CYCLE TIME	LAST	AVG	DAY EFFICIENCY
CYCLES IN HOUR	LAST	AVG	
PRODUCT HEIGHT	LAST	AVG	

PRODUCTION	PALLETS	PRODUCTS
resepti123		
Day	7823	93876
Shift	2605	31260

CHARTS

REPORTS

MACHINE WORKFLOW

100 MACHINE_AUTO_RUN



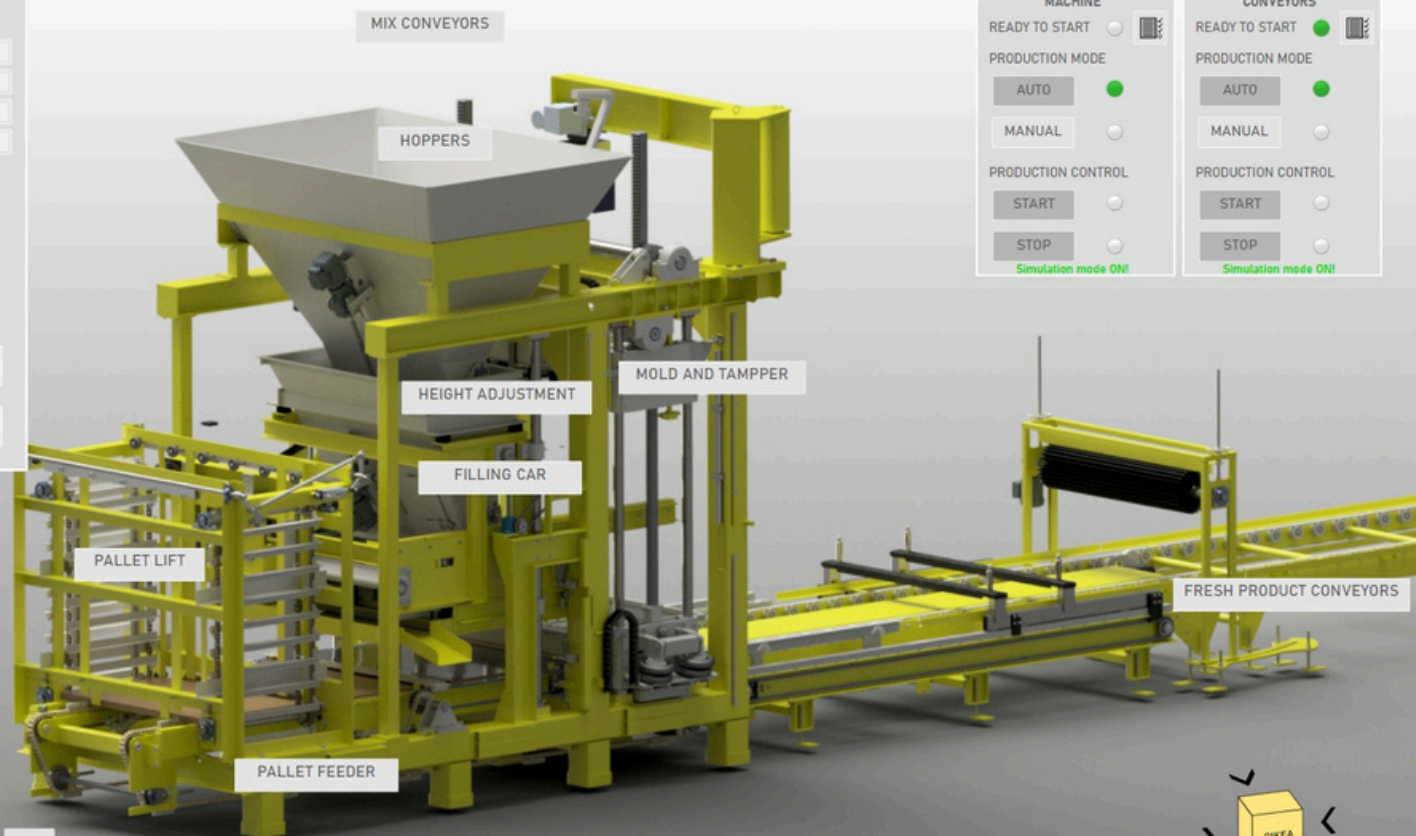
FILLING WORKFLOW

30 FILLING_TAKE_MIX_OPEN_LOWER



COMPRESSING WORKFLOW

241 COMPRESSION_COREPLATE_BACK_WAIT



MACHINE

READY TO START ☐

PRODUCTION MODE

AUTO ☒

MANUAL ☐

PRODUCTION CONTROL

START ☐

STOP ☐

Simulation mode ON!

CONVEYORS

READY TO START ☒

PRODUCTION MODE

AUTO ☒

MANUAL ☐

PRODUCTION CONTROL

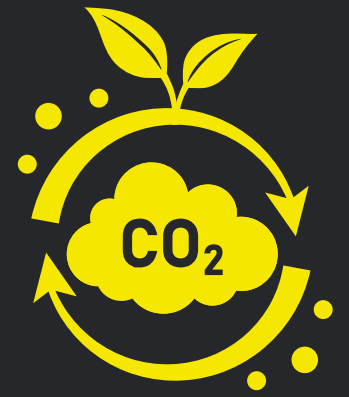
START ☐

STOP ☐

Simulation mode ON!



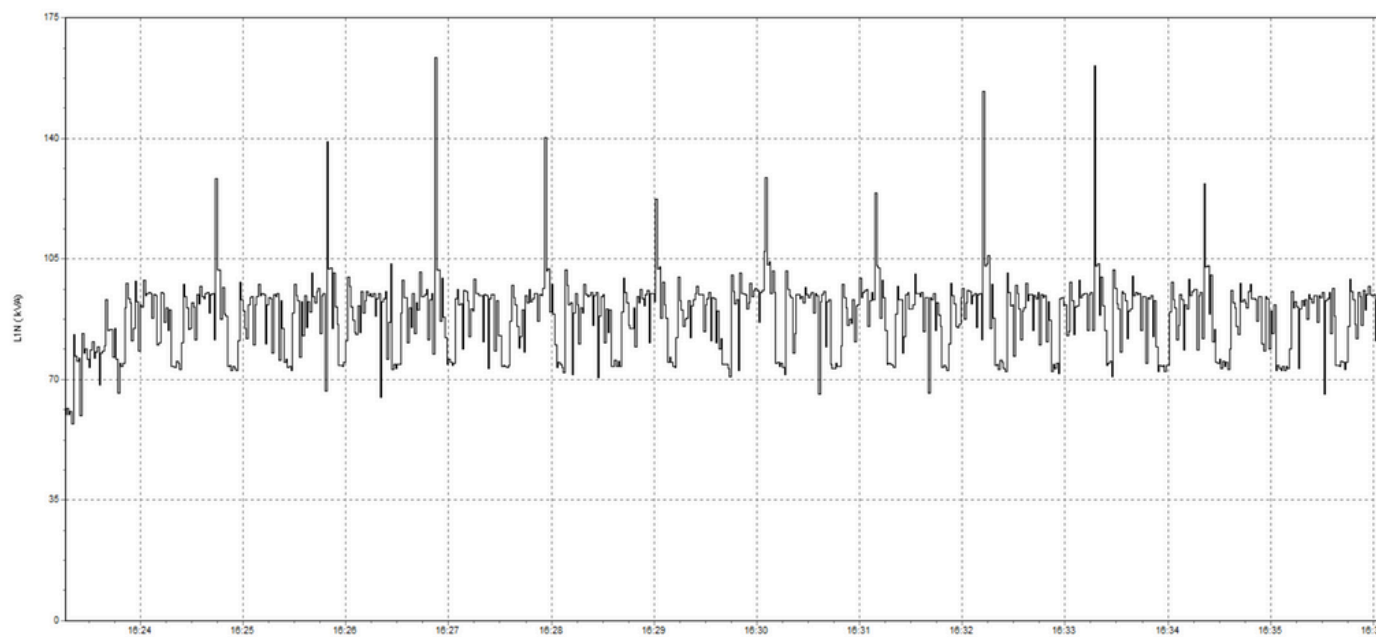
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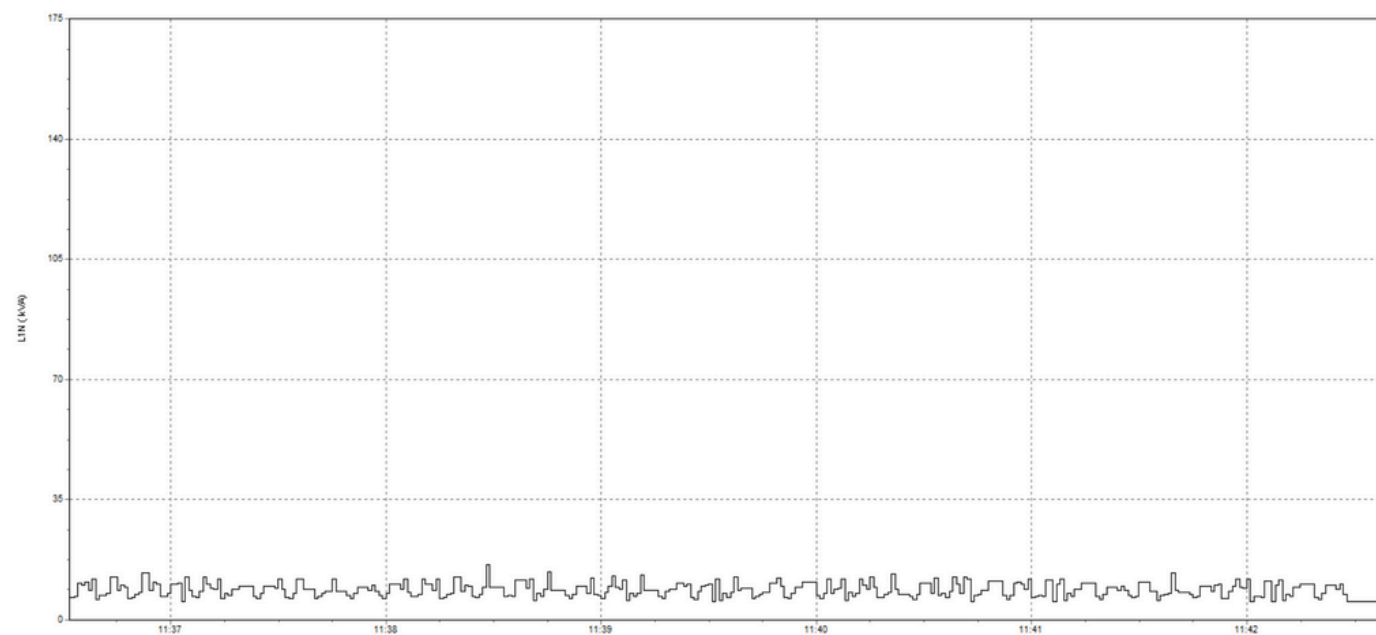
- ✓ **No hydraulic systems – No hydraulic oil**
- ✓ **Market leader in energy efficiency – Up to 90% more efficient**
- ✓ **MEC machines have a proven average lifespan of 25 years**
- ✓ **With MEC machines, customers have reported successful use of alternative materials and the replacement of cement in block production**
- ✓ **Fully compatible with carbon curing technology**
- ✓ **Lower wear and tear thanks to servo motor capabilities – reducing the need for spare parts and maintenance visits**



LOW CARBON FOOTPRINT



A cyclical 163 kVA / 124 kW start-up peak occurs in the hydraulic solution.
Otherwise, during the production a continuous average of 88 kVA / 74 kW is consumed.



In the MOVI-C® servo solution, there is a cyclical 15 kW peak caused by the lifting operation. Otherwise, during the production, a continuous average of 8,7 kVA / 6,8 kW is consumed. With servo drives, the apparent power corresponds to the active power and reactive power does not need to be compensated.

Saving potential is up to **90 %**

The energy consumption measurement results showed that replacing hydraulics with electric drives significantly saves energy. The MOVI-C® servo drive solution significantly reduces the industry's carbon footprint and life cycle costs.

TECHNICAL SPECS OF **MEC BLOCK MACHINE**



- ✓ Pavement stone (200 x 100 x 60 mm) = 10 – 13 s cycle time
Masonry Block (600 x 200 x 200 mm) = 12 – 15 s cycle time
- ✓ Maximum available production pallet size: 1400 x 1400 mm
- ✓ Maximum production area: 1320 x 1350 mm
- ✓ Product height range: 15 – 400 mm
- ✓ Main switch: < 200 A
- ✓ Connection power: < 80 kW
- ✓ Energy consumption: 6 – 10 kWh
- ✓ Approx. dead weight: 16 000 kg
- ✓ Warranty: Up to 10 years



MORE AT WWW.MECMETAL.FI



CONCRETE EVOLUTION

FROM FINLAND