

(FoMaSys-Module 3)



THE ONLINE SANDLAB

In-Process Moulding Sand Management
directly at the moulding machine

++WORLD NOVELTY++

**FOR THE FIRST TIME WITH INTEGRATED
MEASUREMENT OF GAS PERMEABILITY**

MEASURING VALUES / APPLICATIONS

In stand-alone mode

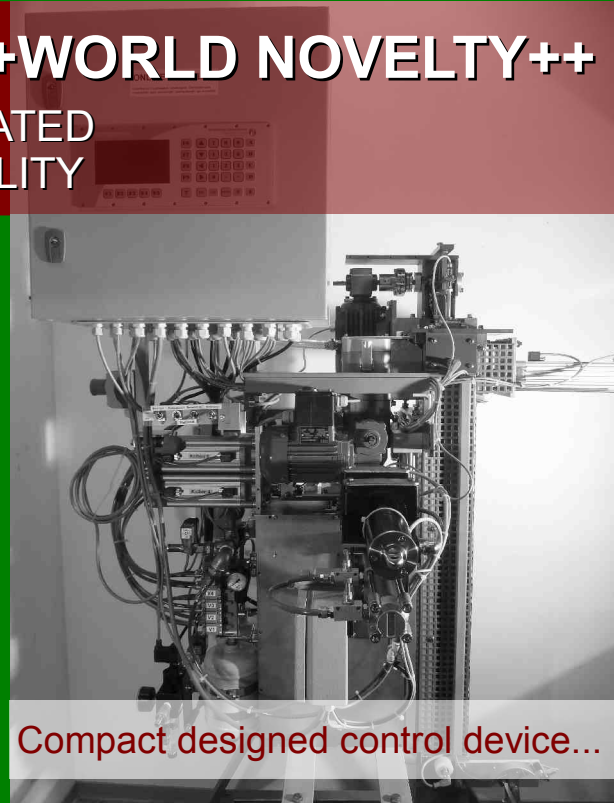
- Compactability
- Shear strength
- Compressive strength
- Gas permeability
- Moisture and temperature

In combination with process control system MiPro

- Shear strength with recording of plasticity graph
- Compressive strength with recording of pressure drop graph
- Fines content determination
- Bentonite/Clay equivalent value determination
- Usage of numerous and comfortable monitoring, analysis and evaluation tools of MiPro
- Remote check of all moisture control and sand testing systems connected to MiPro

In combination with moisture control system integrated into green sand mixer

- Fully automatic control and stabilization of compactability directly at the moulding machine
- Profiting from two independently working control systems which do complement one another in a perfect way
- Usage of the Moulding Sand Matrix
– The navigation system for the sand preparation



Compact designed control device...



...with innovative test sleeve
for the most comprehensive sand
properties testings of its kind

FULLY AUTOMATIC ONLINE SAND TESTING SYSTEM

(FoMaSys-Module 3)



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**FULLY INFORMED ABOUT THE SAND QUALITY STATUS
DIRECTLY AT THE MOULDING MACHINE AT ANY TIME**

Knowing the sand properties without loss of time

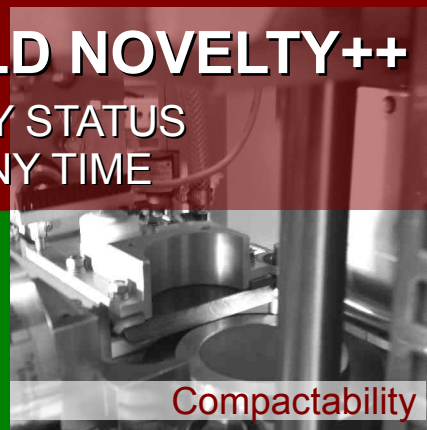
With the brand-new ONLINE-SANDLAB Michenfelder(r)evolutionises the monitoring and control of important moulding material parameters. In a compact automatic testing unit for conveyor belt installation there are several devices combined for the determination of a so far unequalled multitude of quality-relevant variables for sand preparation. For the first time, also gas permeability testing has been relocated away from the laboratory into the sand preparation process. The times in which your decisions in controlling the sand preparation process based on maybe five lab tests a day are gone now. The relocation into the preparation process allows action and reaction based on an enormously enlarged and directly at the moulding machine generated database in real time – batch by batch – without loss of time and without the influential "human factor" during sample taking and lab processes.

Achieving multiple benefit

You'll benefit from increased reaction time, from measuring precision by automated processes, from the process-technically sophisticated system interlinking and its optimized placing (with regularly positive effects on sand-related casting scrap rate reduction) and finally from the potential of lab-cost savings at later stage. All in all we are talking about an estimated yearly financial advantage in a medium five-digit Euro range. A fast amortization of your investment is regularly guaranteed.

Highly constant compactability at the moulding machine

Until today, the various changes occurring in the ready green sand conveyed from the mixer to the moulding machine, due to follow-up saturation of the bentonite, evaporation and temperature effects, varying dwell times, sand aerators and conveying belt transfer points, can only be registered fully automatically and reliably offset by this particular arrangement and interlinking of the modules of the Moulding Sand Management System FoMaSys. The key to success is interlinking and control-technical coupling of the sand testing system at the moulding machine with the continuous moisture control system with super-fine resolution in the green sand mixer. By means of this system arrangement it is possible to warrant across all production phases an extremely narrow fluctuation range of compactability of $s = \pm 2\%$ directly at the moulding machine. With reliably and sufficiently pre-moisturised used sand this system arrangement produced during daily routine consistently a standard deviation which, with $s = \pm 0.8 - 1.5\%$, is still much better. No other system can achieve this. For the capability of a modern foundry to operate with regard to sand with permanently low scrap rates, it is thus of critical importance at which point in the process of reconditioning the moulding sand possesses consistently the best mechanical properties. This point is not the mixer, but the moulding machine.



Compactability



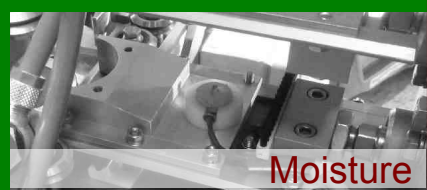
Shearing strength



Compressive strength



Gas permeability



Moisture

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