

Hardheim, June 2019

EIRICH at GIFA 2019: Molding material as an opportunity - economic molding material preparation for small, medium and large foundries

EIRICH specializes in machines and plants for the processing of clay-bonded molding materials and has been working closely with foundries, molding line producers and research institutes for decades. A steadily growing number of installed molding material preparation plants for steel, iron and non-ferrous metal foundries worldwide - more than 1630 machines supplied from Germany alone and 450 of these plants - supply molding plants of all major manufacturers and provide top performance in terms of quality, throughput and cost-effectiveness. EIRICH preparation plants enable high-energy efficiency, careful use of resources, optimized and automated processes right through to autonomous molding sand preparation. A perfectly functioning molding material cycle, which provides the appropriate molding material for each model, is the basis for a uniform continuous production process with high-quality castings.

At GIFA 2019, EIRICH will present technical solutions for new construction, conversion or modernization that offer new possibilities for optimizing quality and cost-effectiveness.

Return sand cooling and treatment under vacuum - the EVACTHERM® process

EIRICH has developed a unique process for foundries that want to achieve the best possible molding material quality with the highest degree of cost-effectiveness. This process is uniquely capable of ensuring consistent, reproducible molding material quality despite fluctuating initial conditions. In an air-cooled process, two machines are required to optimize and prepare a molding sand, whereas in the EVACTHERM® process, homogenization, cooling and activation of the bentonite all take place only in a single mixer.

Hardheim, June 2019

At GIFA 2019, EIRICH will present the EVACTERM® process for the capacity range below 60 m³/h, the world's first molding material preparation system with Evactherm® technology in modular design. This means that even foundries with a low throughput per hour can benefit from all the advantages of the vacuum process. Within 70 seconds, the used sand can be homogenized with all aggregates at residual moisture levels of less than 0.5% and precisely humidified, and then cooled and processed under vacuum by evaporation. In this process, a targeted temperature of 40 °C is reached and the molding material is adjusted to the specified compactability.

Modular molding material tester with intelligent control options - once again extended - also for technical upgrade to equipment from other manufacturers

To ensure quality and maximize productivity, EIRICH has developed a wide range of control solutions for these topics. The solutions range from the entry-level version up to preventive molding material management, which is dependent on the casting-related parameters, which is equipped with the functions model catalogue, recipe calculation and model-related additive calculation. The EIRICH control concept thus offers proactive management and control of the molding material properties. The new generation of the QualiMaster AT 1 test instrument in modular design is available in *Eco*, *Profi* or *ProfiPlus* versions. In the *Eco* version, the inline tester is equipped with a compactability-measuring device. In the *Profi* version, additional shear strength and deformability are determined. The QualiMaster AT1 *ProfiPlus* offers completely new possibilities: For the first time, the inline tester also measures springback and gas permeability. Based on the modular design, the AT 1 Eco can be upgraded to the AT1 Profi or AT1 ProfiPlus at any time. Thanks to an integrated reporting tool, the QualiMaster AT1 can also be used as a stand-alone unit in all three equipment variants. The QualiMaster SandReport software enables continuous recording, evaluation and archiving of production data. The Qualimaster SandExpert software provides an additional calculation of all model-related recipes on the basis of production plans.

Hardheim, June 2019

Energy-efficient torque drives

Permanently excited synchronous motors, known as torque or high torque motors, offer high torque moment in a compact design and small construction volume and enable energy-efficient solutions. The energy economy are considerable, up to 25 % are possible. Torque motor drives are also low-noise and low-maintenance due to the elimination of mechanical elements. Due to the increased rigidity of the powertrain, there are reduced vibrations –e.g. compared to V-belt drives - and the running smoothness of the mixer is improved. Practically there is no wear in the motor, because the radial belt forces are eliminated.

Plant construction in modular technology - tower construction with integrated façade

The complete sand preparation plant is assembled at the factory on individual platforms. With this modular design, the manufacturing and commissioning times can be reduced significantly. This offers immense advantages, especially when modernizing existing molding material preparation systems - even during ongoing operation.

Molding material aerator to reduce the compactness of molding sand - also for the upgrade

The sand aerator improves the flowability of the molding material in the molding box and increases the compactability at the molding line; it results in better casting qualities with reduced after-treatment costs. The sand aerators consist of an aerator tool and a sand collecting tank and is installed above a belt conveyor on the molding sand line after a mixer. In addition to this on-belt installation, intermediate belt or pre-head mounting is also possible. The sand aerator, designed for all current conveyor belt sizes, requires little space and can be easily adapted to existing belt constructions. Typical for EIRICH is the rugged and low-maintenance design.

Hardheim, June 2019

EIRICH presents at GIFA 2019 in Hall 17, booth A38

EIRICH sand preparation plants - complete or as a part of a system - are flexible and customizable to different molding technologies and molding material parameters. They supply molding plants of all manufacturers. The performance spectrum ranges from transport, pre-treatment and storage of the return sand to preparation of the molding material and transfer to the molding machine. From the individual machine to turnkey preparation of the molding material - everything from one source.

Further information:

Contact EIRICH Germany: Edith Weiser, edith.weiser@eirich.de

Contact EIRICH USA: Nick Semitka, nsemitka@eirichusa.com

Contact EIRICH Mexico: Luis Salazar, lsalazar@eirichusa.com

The EIRICH Group, with Maschinenfabrik Gustav Eirich as its strategic center in Hardheim, is a supplier of industrial mixing, granulating/pelletizing, drying and fine grinding machinery, systems and services. EIRICH has core expertise in processes and techniques used for the preparation of free-flowing materials, slurry and sludge. The main applications for these processes are in the ceramics, refractory, foundry, construction materials, plaster, rechargeable battery, battery compound, fertilizer, glass and ore dressing industries. Close co-operation between our own test centers around the world and collaboration with the research and academic community enables the "hidden champion" to provide solutions for innovative, cost-efficient products and processes. The family-managed company was founded in 1863 and operates from twelve locations on five continents.