CENTRIFUGAL CASTING
Machines and Process Technology

High Material Efficiency
Superior Metallurgy
High Output
Excellent Mold Filling

KÜTTNER
GOOD REASONS FOR CENTRIFUGAL CASTING

Suitable Process to many alloys
- Steel, Iron & Non-Ferrous

Very good mold filling
- higher yield
- less porosity

Close to net shape parts
- lower machine allowances
- less and faster machining

No risers and feeders
- less cleaning time
- lower return rates
- lower melting costs

Metallurgical improvements
- fine, dense structures (g-force)
- increased strength
- bi-metallic castings possible

Free Shaping

Centrifugal castings are not limited to cylindrical parts. Centrifugal Sand Casting uses sand packages inside a centrifugal casting machine.

Advantages out of two casting processes can be combined. The good molding properties of sand combined with the high G-force mold filling and feeding of the centrifugal casting process.

Spiny Lock / Rough Surface
Cylinder liners ready to cast in aluminum blocks
Horizontal Single Station Machines - from Simple to Complex

**SAMSUN, TR**
Horizontal Single Station Machine, manual pouring and casting extraction

**Automatic transport ladle pouring system/module**

**SPUNCAST, USA**
Highly automated single station machine for the production of steel pipes

**Hot Mold Process**
Suitable process for most centrifugal castings. Metal is poured into a preheated, spinning mold. Basic machine provides a reliable spinning station and a semi-automated coating/spraying equipment. Pouring and extracting is conducted manually. The machines are available in light and heavy duty versions, for numerous dimensions.

- Outer diameter: from 80 mm to 800 mm
- Inner diameter: from 50 mm to 750 mm
- Casting length: from 500 mm to 6,000 mm

**Modular Machine Design**
The modular machine design allows you to add automated modules like extracting or pouring. A wide choice of options and accessories convert a basic machine to a highly automated machine, which ensures a reliable casting process. Regardless the use of standardized modules, KÜTTNER also designs tailor-made solutions for your application.

**Horizontal Single Station Machine**
The horizontal single station machine is characterized by its high flexibility and variability. In the high end version, the machine is capable of casting up to 25 castings per hour of consistent quality, due to automated process steps like:
- automatic end plate handling and treatment
- automatic mold brushing
- automatic mold coating / spraying
- automatic pouring
- automatic cooling control and adjustment
- automatic extraction
**Ductile Iron Pipe Production in DeLavaud process**

- DN80 - DN1200 / 3" - 47" pipe diameters
- Liquid iron treatment & logistics
- In-line integration
- Process control and monitoring of the latest generation.
- Turnkey plant engineering and project management

**Large Volume Production**

Fully automated hot mold centrifugal casting machine. All process steps are conducted simultaneously. The molds are revolved clockwise inside the machine to each process step.

Examples:

- Cylinder liners up to 90 pipes/h, comes up to appr. 1,000 liners
- Soil / drain pipes up to 280 pcs/h of DN100/3.000, acc. to DIN EN 877
Flange Drives
- Short in Length, High in Output

Vertical Flange Drive Machine

Ideal solution for heavy parts with a large diameter/length ratio. Diameters up to 3,000 mm and casting weights up to 16 t are possible. Parabolic inside shape is obtainable for specific castings. Parts like rolling mills, gear rims, or bushings are cast with different alloys, from aluminum, copper-alloys, iron, and steel.

Turn Table Casting Machine

Continuous large scale production. Metal is poured via a dosing furnace in the exact quantity into the mold. Up to the casting extraction, each process step runs automatically. Industrial robot solutions for sand package setting into the mold or casting handling, could be also implemented. Twin-Turn-Table machines with shared dosing furnaces are also available to double the productivity.
Originally an engineering company, founded in 1949 by Dr. Carl Küttner, KÜTTNER has evolved into a worldwide group of companies working in plant engineering and construction. The company supplies and erects turnkey installations for a wide range of process technologies; including melting and material handling in the iron, steel, and foundry industries.

In 2014 KÜTTNER incorporated Küttner Centrifugal Casting GmbH & Co. KG, which was a joint venture with DÜKER. Centrifugal casting machines with DÜKER Technology have been in operation all over the world for more than 60 years.

The services provided include development of new technologies, engineering and design, supply, installation, and start-up of plants complete with controls and data processing systems.

The KÜTTNER-Group works worldwide and is represented in the international markets through a network of agents and affiliated companies.