



Product datasheet

Multiple Hearth Furnace

Efficient and flexible calcination

Proven design – highest flexibility – best product qualities

In a competitive industry, efficiency is key.

The Multiple Hearth Furnace's ability to thermally process a large volume of fine-grained material at once plays a critical part in streamlining your production. The MHF is ideally suited for the thermal treatment of both fine raw materials and mechanically unstable raw materials. The MHF makes it possible to precisely keep the temperature profiles and the respective retention times such that the highest product qualities can be obtained. When it comes to high product quality, the extraordinarily efficient MHF is the best choice for all calcination processes. 100% of the filter dust can be recycled to the MHF. This allows very good production efficiency.

The MHF consists of a steel shell with a refractory lining, refractory hearths, a supporting structure,

the furnace top platform and the central shaft with drive train. The material fed into the furnace is conveyed to the dropholes in the counterflow to the gas flow by means of rabble arms via the alternately arranged out- and in-hearths. This ensures an excellent heat transfer between material and gas phase while being able to adjust the retention time. The air-cooled rabble arms are mounted to the central, air-cooled hollow shaft.

Part of the cooling air serves as preheated combustion air for the up to four burners per level, thus ensuring a high energy efficiency.

The quality of the product can be controlled and adjusted according to the requirements (reactivity, specific surface, loss on ignition, residual CO₂, etc.) by means of the temperature profile of each individual hearth.

FLS

Multiple Hearth Furnace

Technical specification

Fields of application

Calcination of industrial minerals, e.g. magnesite, dolomite, bauxite, limestone and clay

Calcination of flotation concentrates and filter cakes

Thermal treatment of ores (molybdenum, nickel, copper, vanadium, zinc), biomass and electronic scrap

Main features

Moisture content of over 50% (e.g. filter cake) possible

High flexibility

Temperature profiles (± 5 °C) precisely adjustable

Suitable for very fine materials with a grain size of 0 to 40 mm

Insensitive to quality fluctuations in the material used

Operation at up to 1,150 °C

Oxidising and reducing operating mode is possible

Suitable for liquid and gaseous fuels, including low-calorific gas

Low maintenance and operating costs

No product loss due to exhaust gas filter dust recycle, in contrast to conventional calcining systems

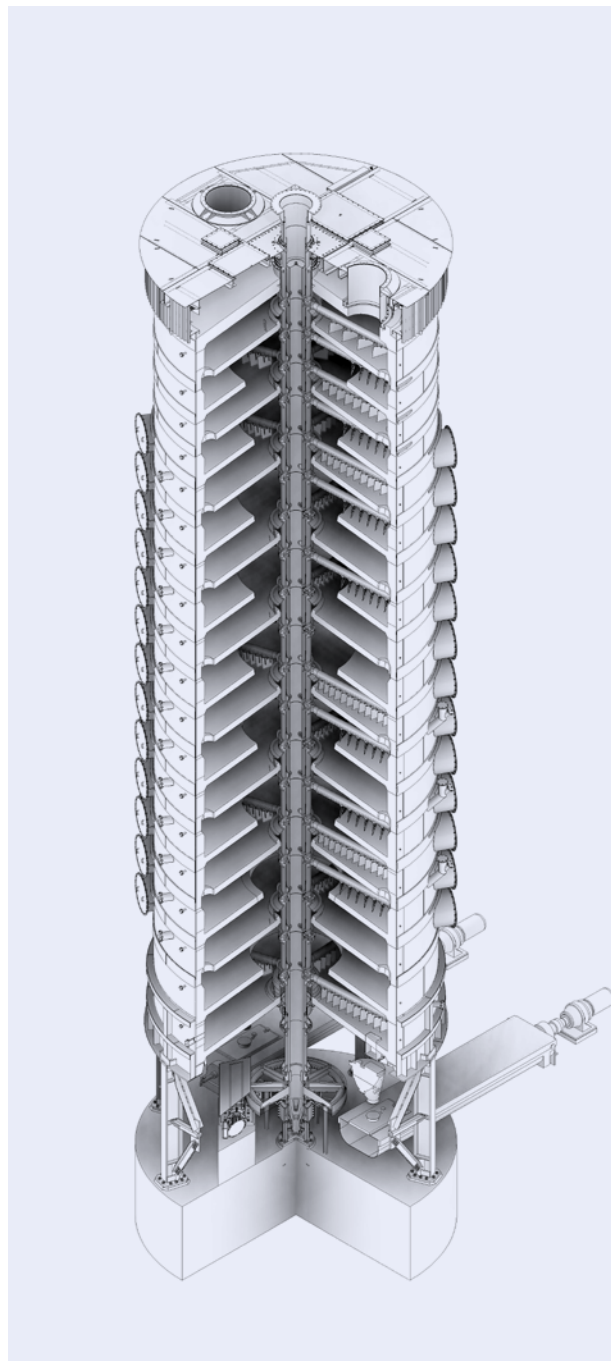
Design parameters

Outside diameter 4.5 to 7.8 m

Number of hearths 6 to 19 hearths

Daily output Up to 300 tons in case of magnesite calcination

Feed material size 0 to 40 mm



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