



Aluminium Solution Provider

Company | **Performances** | Publications | Contact

Engineering

Products

- .Tiltable rotary kiln
- .Charging machine
- .Hearth-type furnace
- .Pig casting machine
- .Auxiliary equipment
- .Complete plants

Supplies

Services



Tiltable rotary kiln

The tiltable rotary kiln can be installed in modern aluminum recycling plants and distinguishes itself as key technology for the smelting of small pieces of contaminated scrap.

The ALCUTEC technology has some special features.

The controlled process steps of the ALCUTEC tiltable rotary kiln and the specifically defined kiln atmosphere create both optimal conditions for low smelting losses and the effective exhaust gas extraction, while the enclosed construction will largely prevent diffuse emissions.

In order to ensure trouble-free operations and a long service life, the individual components are of a particularly rugged design and are manufactured in top quality. The axial forces will be absorbed by 4 stable supporting roll systems via processed bearing races at the kiln shell. A thrust bearing at the drum bottom will absorb the horizontal forces while the kiln is tilted. The fixed part of the foot bearing is connected with the kiln drum via a hinged column, so that misalignments can be adjusted.

A part of the kiln cycle is the low-temperature phase, the parameters of which will be programmed in accordance with the organic components of the scrap. The chemically melted energy of these components will further improve the energy balance of the smelting process.

Design features

- Kiln drum with an optimal geometry for the flow of combustion products. Thick-walled drum shell with low-wear refractory lining and stable bearing races.
- Bearing system consisting of 4 idler stations for absorbing the radial forces and a gimbal-supported thrust bearing for the axial forces.
- Tiltable frame made of rugged rectangular profiles and stick-slip-free hydraulic cylinders for gentle tilting operations, while the metal heat is being poured and the slag being discharged.
- Hydraulically operated swivel door with integrated burner and particularly effective dynamic sealing for avoiding diffuse emissions.
- Fume hood tiltable together with the frame and dynamic sealing at the kiln body as well as sealing hoods at the swivel door; the exhaust gas being discharged thru ducts with refractory lining.
- Swivel launders with a low dropping height for pouring the liquid metal heat.
- Slag pass ("slag-off") for discharging the slag from the kiln drum by removing the slag skips provided.
- Slag retention facility movable on three axes for retaining the slag while the metal heat is being poured; tiltable towards the fixed part of the flue-gas system.
- Drive with endless chain and frequency controls via transmission and sprocket wheel for generating the safe rotating drum movement.

Tiltable drum kilns are delivered for volume sizes of 6 t, 12 t and 24 t and can be equipped with gas/air burners, gas/oxygen burners or oil burners.

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