



OVERVIEW

The batch rotary kiln is used to simulate the conditions in continuous commercial rotary kilns. Time in a batch kiln is equivalent to length in a continuous kiln. The batch kiln is lined with lightweight castable and heated with a propane burner. It can be operated to heat solids **up to 3000 °F** (1650 °C) with the firing maintained from highly oxidizing to sub-stoichiometric.

Solids and gas temperatures are sensed by thermocouples and are continuously recorded and logged. Solids samples may be withdrawn at regular intervals during the process. This allows the solids chemistry to be determined as a function of time.

The batch kiln can be operated to simulate parallel or counter-current flow. The gas temperature profile is maintained to achieve what is expected in a commercial kiln. A combustion chamber can be used to avoid direct flame impingement onto the solids.

The data from the tests along with the chemical and physical analyses are used in determining the necessary commercial kiln size and process operating conditions. The batch kiln is also used to help determine the conditions to be used in a pilot plant test.

SPECIFICATIONS

Dimensions:

Diameter:
18" (Inside Refractory)

Length:
24"

Description:

- Propane burner with oxygen enrichment
- Reducing atmosphere can be used
- Variable speed drive
- Bed and gas thermocouples, type K

Options:

Combustion chamber
Afterburner
Baghouse
Wet scrubber

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