

Highly productive pig iron plant
of lower CO₂ emissions

Energy-saving pig iron plant

Features

- The plant uses iron ore fines, low-grade ore and non-coking coal as materials for manufacturing pig iron products.
- Capable of reducing CO₂ emissions by about 20% compared to pig iron manufacturing in blast furnaces in developing countries and at mining sites
- Cost-efficient method of less capital investment than large blast furnaces, which requires huge investments.

Overview

(Technical principles, actions, etc.)

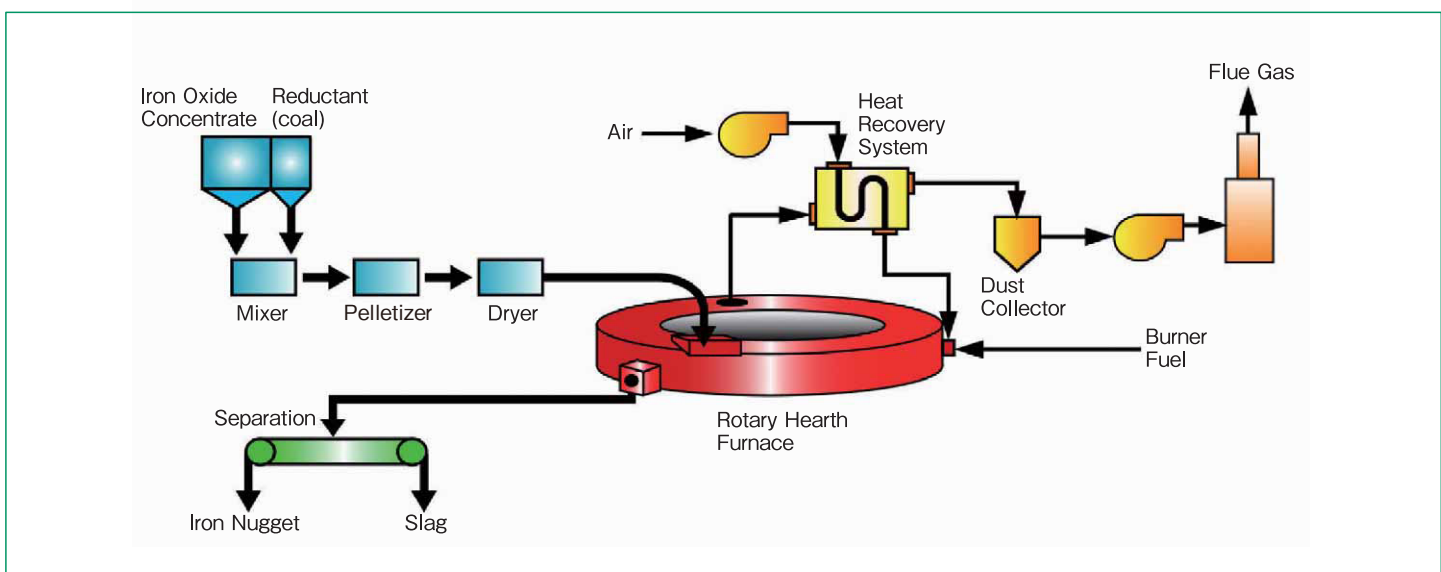
Our ITmk3[®] process uses iron ore fines, low-grade ore and non-coking coal as raw materials, and feeds them into a rotary hearth furnace heated to 1350 to 1450°C to reduce and melt the iron ore in about 10 minutes to produce iron nuggets equivalent to pig iron.

Introductory Track Record

Mesabi Nugget Delaware, LLC (Minnesota, USA) 1 system
(Joint venture between Steel Dynamics, Inc. and Kobe Steel, Ltd.)

Effects

- ◎ It does not require pre-treatment facilities for raw materials (coke and sinters) required in the iron-making process involving a blast furnace, and reduces the burden on the environment imposed by NO_x or SO_x emissions. The plant can reduce CO₂ emissions by about 20% from those emitted by blast furnace iron making in developing countries or at mining sites. It also reduces the per-unit energy consumption of iron making. Furthermore, the exhaust gas is cleaned after exhaust heat recovery to prevent air pollution.



ITmk3[®] process flow

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