Replacing industrial combustion furnaces with induction heaters to realize energy saving and zero gas emissions.

# Induction Heating System "Billet Heater"

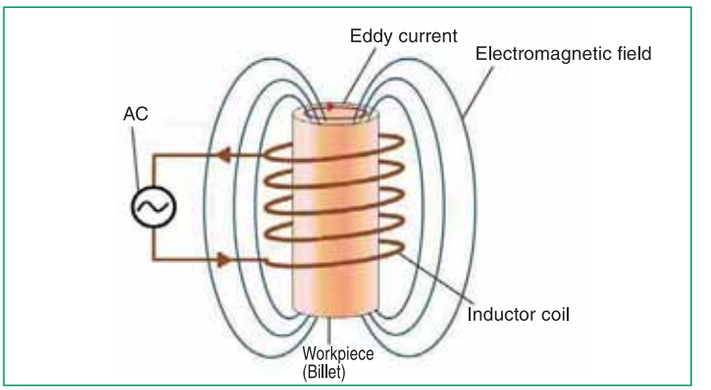


## Features

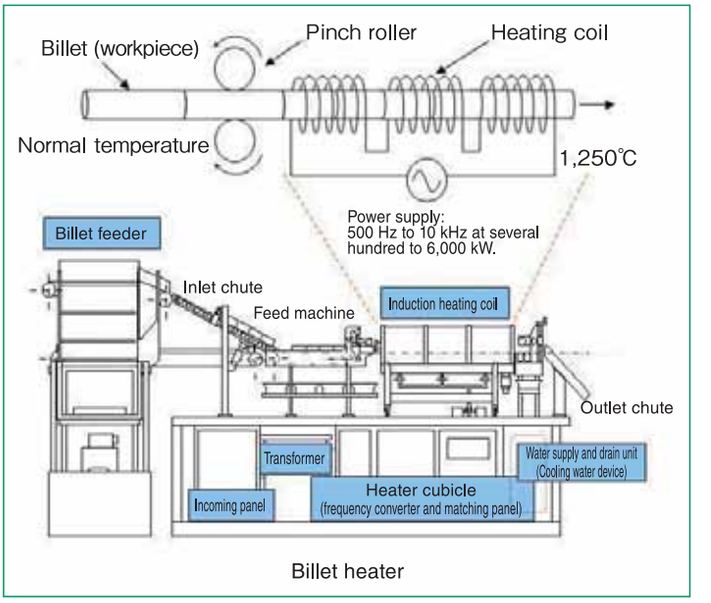
- Highly functional and efficient induction heating system to realize total energy saving.
- Provided with a highly reliable and durable inverter, heating device, and billet feeder.
- Replacing combustion furnaces to realize rapid heating, uniform heating, work environment improvement, energy saving, and zero gas emissions.

## Overview (Technical principles, actions, etc.)

Either a combustion furnace or induction heating system is worked to heat up billets prior to the hot forging process. The combustion furnace is fueled by a high-temperature heat source such as gas or heavy oil, on the other hand, the induction heating system is powered by AC. The combustion furnace heats up billets with the radiant heat from high-temperature heat sources, whereas the induction heating system is of direct heating type, which concentrates magnetic field on billets to cause an electromagnetic induction phenomenon so that the billets will be heated up by the generated eddy current of the workpieces in it. The induction heating system consists of a power supply (including a transformer and inverter), heating device (including a matching panel and inductor coil), and billet feeder. Workpieces, such as billets and bars, are transferred into the inductor coil, to which AC power is supplied. The induction heating system makes it possible to heat up steel or nonferrous materials at around 1,250°C rapidly.




Principle of induction heating




Configuration of equipment

## Introductory Track Record

■ **Over 1,200 units were delivered all over the world including Japan, out of which around 200 units were delivered in Asian countries.**

## Effects

◎**The replacement of the industrial combustion furnaces (gas or heavy oil) with induction heating system will enable the energy-saving, rapid and uniform heating (highly reproducible heating without preheating), a great reduction of oxidation scale layers and improvements in the work environments (with no emissions). Furthermore, the reliability and durability of the system will be so high that the system can realize a great productivity in the forging manufacturers.**

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