

Strip heating



The most efficient solution for heat treatment of flat products

In-line process, heat treatment, coating
Horizontal or vertical line
For all steel grades
For any kind of steel

Strip heating solutions by Fives meet the requirements of modern processing lines however, their compactness make them easy to implement for retrofitting projects.

Advantages of the Fives solution

Fives solutions have been created to get the best heating homogeneity but also to:

- Increase the productivity of the line, thanks to smooth power control during transient modes, enabling «flying» strip format change over
- Offer the greatest flexibility regarding strip format, steel grade or temperature range
- Decrease maintenance costs thanks to a sturdy design and a selection of components offering extended life-time
- Demonstrate highest power density and thermal efficiency
- Facilitate their installation, thanks to a compact design

Description

Generators have a wide impedance range, suitable for the strip heating process, using transistors type IGBT or MOSFET

- Generator Celes IS (IGBT): unit power up to 4 MW, frequency range: 0,5 to 50 kHz
- Generator Celes MP (MOSFET): unit power up to 3,2 MW, frequency range: 0,5 to 400 kHz

The use of digitally controlled transistors IGBT and MOSFET allows a high operational flexibility. The control can be local or remote by link MODBUS, PROFIBUS or ETHERNET, depending of the PLC brand & type

Inductors are compact, have a high power density, can operate under atmosphere control conditions and include electromagnetic shielding, compliant with CE EN 12198 standard.

Applications

Curing / Drying of coating

- Temperature from 90 to 300°C
- 'Anti finger', coatings with or without solvent
- Varnish for silicium steel
- Suitable for line speed up than 180m/min.



Booster to increase furnace capacity

- Temperature 20 and 700°C
- Heating under reducing atmosphere or in open air



Galvanising (before zinc batch, 'Heat-to-Coat' process)

- Temperature 450 - 500°C
- Heating under reducing atmosphere.



Annealing of welding seams (strip butt welding)

- Temperature 20 - 700°C
- For High Strength Steel or Silicium Steel

