Rapid Heater Walking Beam Furnace

Hanson Springs
Walking Beam Furnace for Coil Spring Manufacturing

Full turnkey, design, manufacture and installation of two furnaces to walk spring steel through to pre-heat bars up to 1000°C delivering the bars on demand to a robotic arm, accurately positioning the bars in the coiling machine in the manufacture of coiled springs.

Furnace 1 capacity - Bars in length up to 5 meters ranging from Ø16mm – Ø35mm. Throughput of 1.5 tonnes per hour.

Furnace 2 capacity - Bars in length up to 6 meters ranging from Ø33mm – Ø65mm. Throughput of 1.5 tonnes per hour.

Stockpiled bars at the inlet are automatically collected by the indexing loading mechanism from the loading table. Bars are then in turn collected by the hydraulic operated walking beams to be walked through for heating by Furnace 1: Eight 90kW; Furnace 2: Ten 90kW, medium velocity natural gas burners in 4 control zones down the length of the furnace. The system designed to meet with current European safety standards EN746-2 2010.

The furnace incorporates dense refractory hearth, ceramic fibre lined side walls and roof, hinged side access doors and a pivoted hydraulic operated roof for maintenance access to the furnace chamber. The furnace is operated via interactive screens on the HMI with the PLC used to sequence the operation of loading machine, walking beams and the discharge diablo roller table.