

CH – TORNOS

FURNACE LINE IN MODULAR CONSTRUCTION

System 250-42/60

PRESENTATION OF THE END-USER

Concerned with environmental preservation and quality improvement of its products, TORNOS SA, the worldwide renowned manufacturer of automatic lathes, intended to replace its traditional salt tanks by a modern, versatile high-performance installation that would meet ISO certification requirements in every respect.

Furthermore, the installation has to be economic in terms of energy and consumables, meet space constraints in exiguous premises, be designed for easy maintenance by non specialized staff and, in particular, manufacture parts of superior quality with regard to deformations resulting from heat treatment.

After detailed analysis of the available alternatives, the management of TORNOS SA approved the automatic line **CODEPE System 250 – 42 / 60**.

DESCRIPTION OF THE INSTALLATION

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|----|---|-------------------------|
| 1 | Ergonomic table for preparation of the loads | type TAE2 |
| 2 | Alkaline washing machine by aspersion + drying | type LA2H (oil) |
| 3 | Polymer quench tank (50°C) | type P |
| 4 | Austenitizing/carburizing furnace (1100°C) | type C11 |
| 5 | Salt quench tank (160÷450°C) | type S4 |
| 6 | Austenitizing/carburizing furnace (1100°C) | type C11 |
| 7 | Gas quench tank (under nitrogen N2) | type N2BP |
| 8 | Annealing furnace 650°C (nitrogen N2) | type CRG6 |
| 9 | Annealing furnace 650°C (nitrogen N2) | type CRG6 |
| 10 | Alkaline washing machine by aspersion + drying | type LA2S (salt) |
| 11 | Manipulator for load transfers | type MMMR |
| 12 | Storage ramp for 8 loads | type R8 |
| 13 | Power, regulation gas distribution and automatic supervision cabinets | |
| 14 | On-site salt recycling system | type RS |



LOADS

Maximum weight : 150 kg
 Usable diameter : 420 mm
 Usable height : 600 mm



PERFORMANCES

Perfect homogeneity with regard to temperature and atmosphere, guaranteed by a brazing turbine and a guide cylinder for forced atmosphere convection.

The **CODERE** installation has allowed its user to significantly **reduce** the **deformation** of the parts and so bring down the machining excess thicknesses, straightening operations and rectifying times, **lower** the **hardness dispersions** and **homogenize the carburizing depths**.

LAYOUT

