

The New IUT Solution Heat Treatment Concept

The concept is designed to meet the new demands of total flexibility in the solution heat treatment process. The concept is fully automated and includes ovens and automatic handling.



Starter kit for batch Solution Heat Treatment

EASY TO INCREASE THE CAPACITY

The number of chambers is related to the production capacity. The concept is easily extendable to meet a production increase. Capacity can easily be increased, by adding more oven modules to the plant.

INDIVIDUAL AND ACCURATE TEMPERATURE CONTROL

Each chamber is individually temperature controlled and allows special heat treatment cycles for different alloys in running production.

The oven chambers have an extremely efficient air circulation and a precise temperature control. The result is a rapid heat up to a temperature of 545°C.

FLEXIBLE AND FULLY AUTOMATED

The automatic handling trolley collects the batch from the pick-up station and transfers it on to the oven. The lift platform with the batch elevates up into the oven chamber and the pre-set heating cycle starts. The trolley can also return empty baskets to the press area.

The handling trolley is controlled by a PLC-system automatically guiding the trolley to the right oven, bufferstation, etc, for loading or unloading.

VERTICAL CHAMBER DESIGN

Unlike traditional oven layouts this oven type is elevated and loaded from below. The quench tank is motorised in under the oven at the end of the solution cycle.



Elevated load in a vertical chamber oven

The oven door opens horizontal and the batch is rapidly lowered down into the quench tank. Lowering sequence is normally 5-10 seconds, depending on the size and weight of the load.



Motorised quench tank.

In comparison to ordinary floor ovens the electrical power connection is substantially less, owing to the fact that only one batch at a time is in the up-heating sequence. Required floor space is reduced.

The benefits of the concept are the following:

- **Integrated handling equipment**
- **Floor space considerably reduced**
- **Individual heating cycles for different alloys**
- **Short heating cycle – Shorter lead time**
- **High energy transfer and precise temperature accuracy**
- **Less rejects**
- **High efficiency reduces labour costs**
- **Less tied-up capital owing to substantially reduced tonnage in the process**
- **Less electrical power connection**
- **Low maintenance costs**
- **Ready to integrate with automatic warehouse / packaging systems**

As stated above the new IUT concept offers considerable advantages in productivity and profitability.

Our program of heat treatment equipment for the aluminium industry also includes



Ageing ovens for extrusions

- **Automatic ageing plants for extrusions**
- **Homogenising ovens for billets and coil**
- **Die Heating ovens, manual or automatic**
- **Fast curing oven for powder on aluminium extrusions or castings**