



Vertical Bottom Drop Furnace for Aluminium Industry



AICHELIN UNITHERM offers a state-of-the-art Vertical Bottom Drop Furnace for solution annealing of aluminium components, designed with advanced features for high performance, safety and repeatability of heat treatment results.

MAIN CHARACTERISTICS

- **Bottom Cover Opening:** Bottom door gets opened by hydraulic cylinder guided through special slot. This is a unique design arrangement which makes cover to go downwards and swing aside in one stroke to attain minimum opening time.
- **Vertical Drop Mechanism:** Electro-hydraulic system for smooth and quick charge lowering for quenching. Unique double-fall mechanism allows fast quenching of charge within 7 seconds after door opening.
- **SS304 Link Chain & Pulley arrangement** provided for change lifting instead of rope, which is very rugged and work trouble free, unlike frequent replacement required in rope design.
- **Nickel-Chromium hairpin elements** mounted all around the charge space ensure even heat distribution.
- **Roof-mounted high-capacity re-circulating fan** with guide baffles ensures excellent temperature uniformity upto $\pm 3^{\circ}\text{C}$, throughout the charge space during soaking.
- **Integrated Quenching System:** Motorized trolley with loading table and high volume water quench tank with features like water agitation, electric heating and plate heat exchanger for efficient cooling.
- **Advance Process Control & Automation**
High accuracy special thermocouples from Europe with advance automation through PLC control for recipe program selection & ease of operation.
- **Safety and Standards:** Includes Charge hanger movement, wagon positioning, thermocouples failure detection, interlocks for fan-heater safety. Compliant with ASM 2750H, NADCAP and CQI9 standards.

APPLICATIONS

Ideal for aluminium heat treatment applications requiring high uniformity, fast quenching and strict process control such as aerospace, automotive and precision engineering sectors etc.

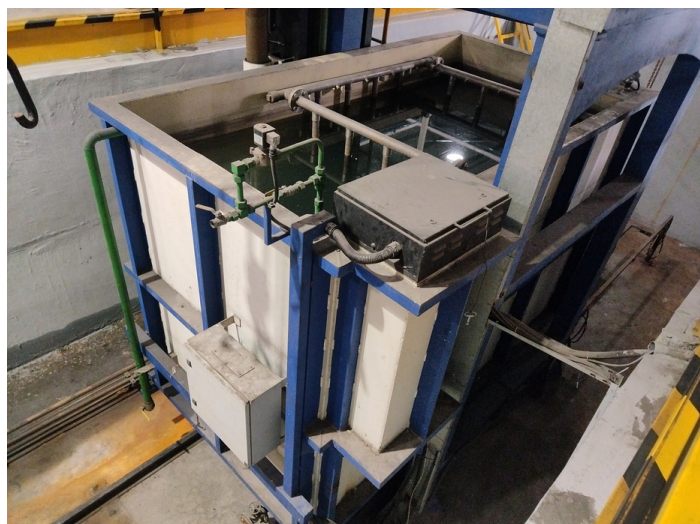
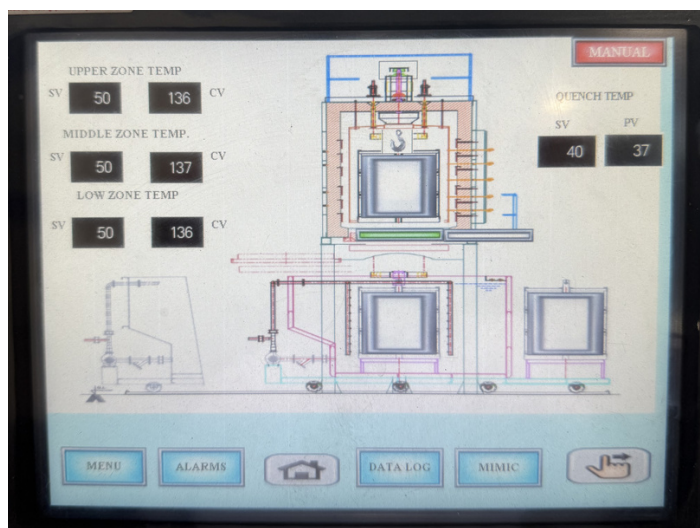


Integrated Quench tank with water heating and agitation.

STANDARD SIZES FOR VERTICAL BOTTOM DROP FURNACE

Type	Useful Charge Dimensions Diameter/Height (mm) Width x Height x Length (mm)	Useful Charge Volume (m3)	Gross Charge Max. (kg)	Heating Power (kW)	Quench Tank Volume (m3)
UVAF (ST)- RO 112/120	1120 Ø x 1200 H	1.2	900	120	8
UVAF (ST)- RO 112/165	1120 Ø x 1650 H	1.6	1200	180	10
UVAF (ST)- RE 135/170/200	1350 W x 1700 H x 2000 L	4.6	2700	250	21
UVAF (ST)- RE 190/80/120	1900 W x 800 H x 1200 L	1.8	900	120	10
UVAF (ST)- RO 300/150	3000 Ø x 1500 H	10.6	4000	360	30

Special dimensions are available for your special needs.





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