

TECHNICAL SPECIFICATION

ISOBARIC VAPOUR ALUMINISING TYPE IVA2736TL Top Loading Type

The IVA2736TL is designed for the vapour aluminising of nickel based gas turbine components. The out of pack process results in uniform and defect free coatings over the most complex shapes. The maximum weight of work and fixturing is 500Kg.



Vapour aluminising (IVA) is a form of out-of-pack aluminising operated at a low constant pressure to achieve good throwing power and uniformity of layer thickness. The process operates at temperatures between 900 and 1050°C and at pressures in the range 1 to 50 mbar. The aluminium content of the resulting layer can be adjusted by the process conditions and also by the subsequent heat treatment which can be carried out in the same furnace.

IVA has a number of advantages over pack aluminising:

1. More rapid cycle time because the parts are not surrounded by pack.
2. Better coating uniformity on each part.
3. Less variation in coating thickness from one place in the retort to another.
4. No coating defects caused by pack inclusions.
5. Lower cost of operation because less pack material is used.
6. Less pack material to be dumped safely.

The IVA2736TL Top Loading Type consists of a double-pumped vacuum furnace and retort. The normal operating temperature range is 900 to 1150°C. The normal operating pressure range is 1 to 50 mbar. The double pumping arrangement is necessary to ensure that the inner hot retort wall does not collapse.

The furnace is stationary and the retort is moved via an overhead crane. The furnace is kept permanently heated in order to decrease the heat-up time. The retort can be removed whilst it is still hot in order to reduce cycle times.

The retort is parked in a cooling station from where it can be loaded and unloaded. The work is supported on a series of trays. The spacing between the trays can be adjusted to fit the parts to be coated

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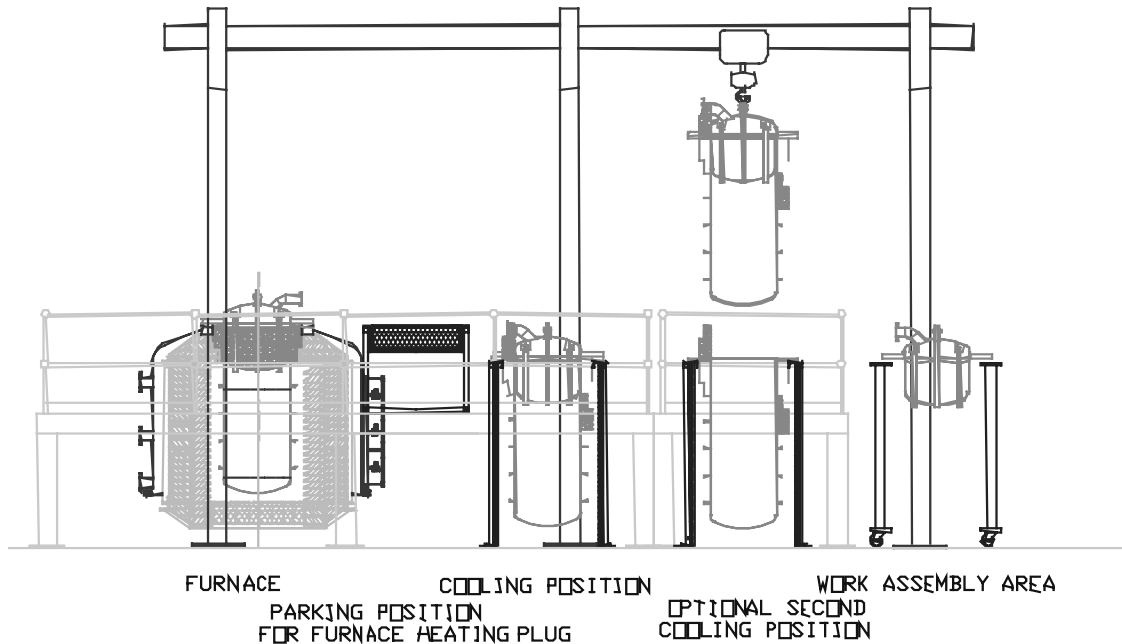
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Specification for IVA 2736TL:

Retort overall dimensions:	750mm x 2000mm
Retort working zone:	700mm x 900mm
Temperature range:	900 - 1150°C
Temperature control:	3 zones with PID control
Temperature measurement:	S-Type Pt/Rh thermocouples in each zone
Pressure range:	1-50 mbar (standard control range)
	Lowest operating pressure: 1 mbar
	Highest operating pressure: 1000 mbar
Pressure control:	Motorised line valve
Pressure measurement:	Absolute pressure transducer
Vacuum pump:	Rotary Oil Piston Pump
	Capacity: 250m ³ /Hr (150 cfm) approx.
Gas control:	Argon purge controlled by mass flow controller
Electricity:	100 KVA
Cooling water:	15 litre/min
Materials of construction:	Furnace shell: Carbon steel
	Retort: Inconel 601
	Heaters: Kanthal
	Vacuum lines: Stainless steel
Will it fit ?	10 x 6.5 x 6 M (32 x 21 x 20 feet)

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