

Ipsen Horizontal Vacuum Compression Braze Furnace

Description

The furnace is designed to heat/braze a horizontally rotated part while providing an external pressure to a sealed braze assembly, and at the same time continuously evacuate the sealed cavity.

Mechanical

- Chamber – water cooled, double wall
- Work Zone – 120 inches long by 120 inches in diameter
- Rotator capacity – 2500 lbs at 2200 F at C.O.G. at 60 inches from mounting flange (cantilevered load)
- Chamber Vacuum – 1×10^{-4} Torr or better, Evacuation Time ~60 minutes
- Part Vacuum – 1×10^{-2} Torr, Evacuation Time ~10 minutes
- Chamber Pressure – 90 Psig
- Auxiliary Hearth Capacity – 2500 lbs at 2200 F

Thermal

- Heating system – graphite shielded hot zone with graphite heating elements
- Heat up rates - Element power sufficient to heat a total load of 2500 lbs in 2 hours
- Working Temperature – 2300F maximum, normal range 1000F to 2200F
- Temperature Uniformity - at working temperatures 1000F to 2200F is +/- 10F
- Hot Zone Temperature Control – Heating elements phased into 8 trimmable zones, type “S”
- Work Temperature Control – 12 type “K” thermocouples
- Quiescent Cooling – System and parts cool by radiant heat and natural convection between hot zone and cold chamber wall
- Forced Gas Convective – Recirculating gas cooling system with turbine blower and water cooled heat exchanger, capacity of removing 2,100,000 BTU/hr

Control

- Control – Allen Bradley PLC 5
- Operator interface – Allen Bradley PanelView, process cycles are generated on the PanelView or PC and downloaded to the PLC for process operation
- Data Acquisition – Honeywell 32 channel recorder and/or PC system (store, print or manipulate data)