The Mentor™
HFL-2018-2IQ

Vacuum Heat Treating & Brazing Furnace

SOLAR MANUFACTURING

Horizontal, front loading design with hinged front door for easy, convenient loading/unloading of workloads and fixtures

3000°F
Max Temperature

2800°F
Max Operating Temperature

±10°F
Temperature Uniformity (1000°F-2200°F)

2 Bar
Quench Pressure Capability

12″×12″×18″
Work Zone Size

SolarVac®
Interactive Controls

Compact, economical production furnaces

The Mentor™, Model HFL-2018-2IQ, is a horizontal, front loading, compact, vacuum heat treating and brazing furnace generally designed and developed to accommodate small to mid-size furnace loads in an efficient and economic manner. It is a high temperature, high vacuum, batch-type furnace with electrical resistance heating elements. The Mentor™ is mounted on a single, portable platform for easy shipment and maneuverability.

For a detailed price proposal with equipment specification, contact Peter Reh, Vice President of Sales at 267-384-5040 x1509.

PROUDLY MADE IN THE USA

THE BRIGHTEST SOLUTIONS THROUGH INGENUITY

The Mentor™

Specifications

Hot Zone

Hearth: molybdenum support pins and rails

Heating elements: curved, segmented graphite bands

Insulation: six (6) layers of ½" thick high purity rayon graphite felt with a Flexshield hot face

Insulation and heating elements are mounted on a heavy duty (0.090") stainless steel support structure

Power Supply

MSI SCR power supply rated at 40 KVA

460 volt/3 phase/60 Hertz

Vacuum Chamber

All stainless steel, double wall, water cooled, horizontal front loading vacuum chamber.

Hinged and bolted front door permits the furnace to safely quench at positive pressures.

Oversized water inlets and outlets assure maximum water flow.

Gas Quenching System

The internal gas quench system provides the lowest resistance, highest efficiency gas flow in the industry. A 7.5 HP motor drives a high-speed turbine fan to recirculate the quench gas straight through the water-to-gas heat exchanger and then into the hot zone at high velocity. The tapered graphite gas nozzles are specifically directed at the work load for optimum cooling.

Vacuum Pumping System

Mechanical Pump:
High capacity rotary vane pump

Diffusion Pump:
Varian VHS-6 6"

Holding Pump:
High capacity rotary vane pump

High Vacuum Valve:
Right angle poppet valve

Control Cabinet and Instrumentation

All industrial controls and instrumentation are housed in a suitable NEMA 12 control cabinet. The SolarVac® 3000L interactive control system enables the operator to monitor, control, record, and display information graphically to quickly understand the status of the furnace operation.

Operator Interface: Allen-Bradley PanelView 1000 with color touch-screen monitor and diagnostic messaging

Programmable Logic Controller:
Allen-Bradley MicroLogix 1500

Programmable Controller:
Honeywell Model DCP300

Overtemperature Controller:
Honeywell Model UDC2500

Graphic Video Recorder:
Eurotherm Model 6100A utilizing a color touch-screen monitor

Vacuum Gauge Controller:
Televac MC300

Control Thermocouples: Type "S" / "C"

Work Thermocouples: Type "K"

Equipment and Energy Savings Options

SolarVac® 3000M optional control system for H2 partial pressure includes: Televac MM200, Honeywell DCP551, MKS Baratron

High Temperature Hot Zone Option for 3000°F includes: Type "C" control & overtemp TCs, boron nitride insulators

ElementGuard off-line element protection system

Gas backfill reservoir

RA330 and molybdenum work grids

Water cooling systems

Additional options available upon request

Solar Manufacturing is a world leader in innovative vacuum furnace designs. Since 2002, commercial and captive heat treaters from a wide variety of industries trust in our ingenuity for their vacuum heat treating.

P 267.384.5040

W solarmfg.com

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