

LINDBERG/MPH

Mesh Belt Conveyor Furnaces

Brazing Mesh Belt Conveyor Furnace

Brazing is an important process in the trend toward higher performance, lower cost products. Complex, cast or machined pieces are being replaced by simpler, furnace-brazed components that are more economical to produce. Continuous furnace brazing offers superior throughput for high-volume applications, combined with short turnaround time for quick manufacturing response to your customer's requirements. Optimum yield, however, requires tight process control, so furnace dependability is of paramount importance.

Mesh Belt Brazing Furnaces meet this need and are ideal for a wide range of base/filler metal combinations from 1300°-2100°F. These furnaces are providing superior results in automotive, electronics and other manufacturing industries and are well known for dependability and simplicity of operation.



► Features:

Three different styles:

1. Open Chamber - The most straightforward applications require gradual heating to the brazing temperature, a short hold at temperature, and cooling at a moderate rate. This category generally includes heavier parts of simple configuration that require direct heater-to-part radiation, or that do not have strict dimensional or metallurgical requirements.
2. Full Muffle - For lighter parts that are more sensitive to heating rates, and processes that require precise gas control and quality, a muffled construction provides better uniformity, lower dew point and superior part cleanliness. The flow rate of atmosphere gas is reduced as well. Typical silver and copper brazing cycles have a brief 'spike' above the liquidus of the filler metal, followed by rapid cooling to 'set' the joint.
3. Full Muffle with Pre-Heat - Many brazed assemblies combine thin and thick components. These applications require pre-heating to equalize temperature through the entire part to achieve uniform braze flow. The pre-heat is accomplished at an intermediate temperature, and is followed by a controlled ramp to the brazing temperature. Multiple zones of control provide for even the most complex temperature profiles.

► Benefits:

- The open-chamber design provides a simple, effective furnace for copper brazing. This type features a gas-tight shell with lightweight ceramic fiber block insulation and silicon-carbide heating elements or a gas-fired Single-Ended Recuperative Tube (SERT) system in two or more zones of control. This is followed by a water-jacketed cooling section. A variable speed belt drive allows flexibility to meet the requirements of your application.
- The full-muffle design provides superior temperature uniformity, reduced atmosphere gas usage, and even more flexibility in creating specific temperature profiles. The muffle is either 330 or Inconel and is completely surrounded by the unique LGO heating modules for optimum efficiency. Silicon carbide elements are also available. Four zones of temperature control are standard, with additional zones available. Atmosphere inlets and exhausts can be specifically tailored to your application. The muffled cooling section helps maintain a protective atmosphere to prevent oxidation and discoloration.
- The full muffle with pre-heat design has the same features as the full muffle with the first zone reserved for pre-heating the work.

► Options:

- Atmosphere gas blending and mass-flow controls
- Directional gas inlets
- Controlled exhausts
- Combustible atmosphere safety systems
- Cooling systems
- Belt cleaning packages
- Computer controls
- Mass flow control system
- Ultrasonic belt cleaners
- Communications card allowing data transfer to a personal computer

► Lean Operation:

- Mesh Belt Brazing Furnaces are versatile units for silver or copper brazing of a variety of base metals including steels, stainless steels, copper alloys, brass, and heat resisting metals.
- Atmosphere selection and control are critical to the success of production brazing. Typical gases used include exothermic, endothermic, nitrogen-hydrogen and dissociated ammonia. TPS provides a full line of generators, dissociators and gas systems to supply these gases.

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Specifications and Product Information are subject to change without notice.