



Designed for Solution Engineered to Last



HSH IR RAPID FIRE

Applications

- Equipped with IR lamp heating, this furnace is designed primarily for solar cell firing. Specially designed heating layout, atmosphere system and chambers structure work ultra effectively for rapid sintering of PV cells.

Highlights

- Customized Belt Width and Clearance
- Standard Type K Thermocouple
- DSC Furnace Control Software
- Custom Temperature Profiling
- Active Cooling
- $\pm 2^{\circ}\text{C}$ Cross Belt Uniformity
- Active Cooling
- Independent Over Temperature Control in Each Zone
- Belt Speed Control
- Custom Voltage Configuration
- Free Shipping and Delivery

■ Fast Thermal Response

The HSH series infrared belt furnace is designed for the rapid sintering of photovoltaic cells. The furnace chamber is equipped with infrared shortwave heating tubes. Infrared radiation penetrates the treated material more easily, which decreases treatment time and energy consumption.

■ Uniform and Stable Temperature Control

The furnace is monitored by type "K" thermocouples in the center of each heated zone. Each temperature zone is controlled by its own SHIMADAN SR94 single loop intelligent temperature controller with full auto-tuning PID to achieve independent over temperature control in each zone. The single wave, zero trigger method enables precise and stable temperature control, avoiding damages to the peripheral equipment and prolonging the life of controlling devices at the same time.

Industrial computer control system is able to save multiple programs and perform real-time temperature recording, data saving and printing functions.

■ Conveyor System

The furnace belt is balanced spiral Nichrome V mesh. Belt speed is programmable in IPM with readout on the monitor. Stepless speed regulation is controlled by FUJI frequency converter and is digitally displayed. Deviation from set point alarm is also programmable.

■ Atmosphere Control System

Furnace is equipped with 4 pipes and uses glass rotameter control. Compressed air or nitrogen is commonly used.

■ Cooling Mode

Furnace uses finned water-cooled heat exchanger combined with fan axial blower cooling system for forced convective heat transfer.

■ Technical Support

With our experienced staff ministering custom voltage configuration, free shipping and delivery, professional on-site installation, start-up support, warranty repairs, assistance and consultation, our focus is on maintaining incomparable client care and reliable technical support.

■ Standard Configuration

Model	HSH 2503	HSH 3605
Conveyor Clearance	1.2 in (3 cm)	2 in (5 cm)
Belt Width	10 in (25 cm)	16 in (36 cm)
Conveyor Speed	28-140 IPM	28-140 IPM
Loading Zone	18 in (45 cm)	17.7 in (45 cm)
Unloading Zone	22 in (55 cm)	21.6 in (55 cm)
Heated Length	95 in (242 cm)	154 in (392 cm)
Heating Zones	5	9
Heat Up Time	15 min	15 min
Maximum Temperature	1000 °C	1000 °C
Water and Air Cooling Length	38 in (88 cm)	38 in (88 cm)
Atmosphere, Clean Dry Air	6 m3/h	9 m3/h
Venturi Exhaust	2	2
Electrical	208-480 VAC 3 Phase 50/60Hz (4 wire or 5 wire)	
Power (Peak, Typical)	38 kW, 18 kW	42 kW, 20 kW
Overall System Length	14 ft (4.3 m)	19 ft (5.8 m)
Overall System Width	40 in (100 cm)	40 in (100 cm)
Overall System Height	52 in (132 cm)	52 in (132 cm)

■ Options

CE Compliance
Atmosphere analyzer
±1°C PID Control Precision
Water cooling
Ultrasonic belt cleaners
UPS

■ Company Headquarters

Torrey Hills Technologies, LLC
6370 Lusk Blvd., Suite F-III
San Diego, CA 92121

Tel: 858.558.6666
Fax: 858.630.3383
Email: sales@torreyhillstech.com

www.beltfurnaces.com