



SPECIAL FURNACE CO INC

20 Kent Road • PO Box 2129 • Aston, PA 19014 • 610.459.9216 • Fax: 610.459.3689 • Web: hotfurnace.com

GL SERIES



APPLICATIONS

The GL SERIES Electric Silicon Carbide Element Bench Mounted Furnaces feature true continuous 2500°F (1370°C) operation. This is ideally suited for applications where temperatures between 2000°F (1095°C) and 2500°F need to be reached under normal operating conditions and/or where very long heat cycles will be run. The silicon carbide elements also have important advantages with certain atmospheres and operating conditions. See Technical Reference Sheet on Element Choices (Q49) or discuss your application with the factory or sales representative for more information.

SILICON CARBIDE ELEMENT ELECTRIC BENCH MOUNTED BOX FURNACES 2500°F (1370°C)

FEATURES

SILICON CARBIDE HEATING ELEMENTS

Spiral type high density silicon carbide elements are mounted over and under the hearth for even heating. All element connections are on the sides. The elements are designed to run at line voltage. They permit the 2500°F maximum temperature under continuous operating conditions. Elements are rated for 3000°F (1650°C).

BENCH MOUNTED CASE CONSTRUCTION

The case is reinforced 10 gauge steel with an integrated bench mounted base. The entire case is primed with 800°F silicone paint and finished in machine enamel.

MULTILAYERED INSULATION

There is 4-1/2" of 2800°F (1535°C) insulating firebrick backed up with 4" of mineral wool. Completely shaped firebrick sections replace easily. As an option the entire insulation except for the door vestibule can be 2600°F (1425°C) fiber modules for fast heat up and cool down. No asbestos is used.

TIGHT PLUG DOOR WITH A DOOR VESTIBULE

The double pivoting of door allows parallelogram opening of the plug door which keeps the hot face from the operator and allows tight sealing of the door. The door features a 3/4” deep plug with heat locks. A vestibule around the perimeter of the door reduces heat loss when the door is opened. This also aids temperature uniformity while protecting the elements from physical damage.

TEMPERATURE UNIFORMITY OF +/-25°F (+/-15°C)

Uniformity of +/-25°F (+/-15°C) is normal above 1600°F (870°C) within 2/3 of the working dimensions.

1-1/2” THICK SILICON CARBIDE HEARTH

The hearth is a 1-1/2” thick silicon carbide hearth plate for strength and excellent heat transfer. Base to hearth dimension is 20-1/2”.

PID DIGITAL CONTROL AND HIGH LIMIT SYSTEM

The standard control is a Honeywell UDC 2300 digital PID 3 mode tuning control. All fuses, transformers, contactors, and controls are located in a NEMA 1 panel. Quiet, long life mercury power contactors are standard. The thermocouples are Type R. The control voltage is transformed to 120 volts. A NEMA 13 lighted On/Off switch and NEMA 13 door power cut off switch are included. A Honeywell UDC 2300 digital high limit back up control with manual reset, back up contactors and separate thermocouple is standard. Customer must connect fused power supply to single point on panel.

TESTING AND INSTRUCTIONS

The furnace is tested to insure proper circuit integrity. A complete instruction manual includes easy start up instructions, theory of operation, maintenance instructions, parts list, and a detailed trouble shooting guide. A ladder logic diagram and panel layout are prepared on CAD for easy readability.

WARRANTY

The furnace is warranted for one year except for elements and thermocouples (warranted for 6 months).

OPTIONS

- **JIC CONTROL OPTION:** This includes a NEMA 12 control cabinet, all oil tight switches and a panel mounted fused disconnect switch.
- **INERT ATMOSPHERE CONTROL:** The GL furnaces can be fitted for use with inert or combustible atmospheres. Inlet of the atmosphere is through the element connection chamber to maintain cool element connections. This system includes special all aluminum element hardware inside the sealed boxes. The door features a special tadpole gasket. A flowmeter/ regulator is included. Complete safety systems for use with combustible atmospheres are available. Mixing panels for mixing nitrogen with hydrogen or nitrogen with natural gas for neutral hardening are available. (See Bulletins MPH and MPN.)
- **ANGLE IRON STAND:** Hearth height becomes 40” from floor to hearth.
- **RAMP/SOAK PROGRAM CONTROLS**
- **TEMPERATURE RECORDERS:** Round or strip chart.
- **MANUAL OR POWERED VENTURI VENT:** A manual or air powered venturi can be provided for venting or quick cool down. This can be programmable.
- **COUNTERBALANCED VERTICAL DOOR:** Manual hand crank, pneumatic or electric operation.

SPECIFICATIONS

MODEL NUMBER	WORKING DIMENSIONS			INSIDE DIMENSIONS			OUTSIDE DIMENSIONS			K.W	MAX LOAD LBS	SHIP WGT
	W	H	D	IW	IH	ID	OW	OH	OD			
GL 9	11	8	10	13	16	13	42	42	30	10.0	75	900
GL 29	11	8	20	13	16	23	42	42	40	20.0	150	1400
GL 39	11	8	30	13	16	33	42	42	50	30.0	225	1900

Dimensions are in inches. Weight is in pounds. Typical control panel is 17” wide by 48” high by 30” deep. All dimensions are in inches. Normal voltage is 240, 208, 380, 440 and 575 volts are optional. Single phase is standard; three phase is optional (but will produce an unbalanced load on some models).