

SILICON CARBIDE ELEMENT ELECTRIC FLOOR STANDING BOX FURNACES 2,500°F (1,370°C)

APPLICATIONS

The GLF Series Electric Silicon Carbide Element Floor Standing Furnaces feature continuous 2,500°F (1,370°C) operation. This is ideally suited for applications where temperatures between 2,000°F (1,095°C) and 2,500°F need to be reached under normal operating conditions or where very long high heat cycles will be run. The silicon carbide elements also have important advantages with certain atmospheres and operating conditions.



FEATURES

SILICON CARBIDE HEATING ELEMENTS

Silicon carbide heating 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 2,500°F (1,370°C) maximum temperature under continuous operating conditions. Watt density is 27-39 watts per square inch. Elements are rated for 3,000°F (1,650°C).

FLOOR STANDING CASE CONSTRUCTION

The case is reinforced 10-gauge and 3/16" sheet steel with an integrated floor stand and lifting rings. The entire case is primed with 800°F silicone paint and finished in machine enamel.

MULTILAYERED INSULATION; FIBER ROOF

There is 4-1/2" of 2,800°F (1,535°C) insulating firebrick backed up with 4" of ceramic fiber. The roof is made from 2,600°F (1,425°C) ceramic fiber modules. Completely shaped firebrick sections install easily for replacement. As an option, the entire insulation except for the door vestibule can be 2,600°F fiber modules for fast heat-up and cooldown. No asbestos is used.

TIGHT PLUG DOOR WITH A DOOR VESTIBULE

The double pivoting of the hinge 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 1"-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 1,600°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 plate for strength and excellent heat transfer. Floor to hearth dimension is 32".

DIGITAL PID CONTROL AND HIGH LIMIT SYSTEM

The standard control is a Honeywell UDC 2500 digital PID 3 mode tuning control. All fuses, contactors and controls are located in a NEMA 1 panel. 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 cutoff switch are included. A Honeywell UDC 1200 digital high limit backup control with manual reset, backup contactors and separate thermocouple is

standard. The customer must connect fused power supply to a single point on panel.

SCR POWER CONTROL AND TAP TRANSFORMER

The power control has a six-position tap transformer with taps that are changed inside the control panel and a phase angle fired SCR. The SCR adjusts for most voltage changes automatically as needed, eliminating the need to manually change taps while operating the furnace.

TESTING AND INSTRUCTIONS

The furnace is tested to ensure proper circuit integrity. A complete instruction manual includes easy startup instructions, theory of operation, maintenance instructions, parts list and a detailed troubleshooting 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, which are warranted for six 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 GLF 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 completely piped flowmeter and regulator with ball valve, pressure gauge and pressure relief valve is included. Complete safety systems for use with combustible atmospheres are available. Panels for mixing nitrogen with hydrogen or nitrogen with natural gas for neutral hardening are available. Request Bulletins MPH and MPN.
- **HIGH DENSITY ELEMENTS:** These will provide greater element life than the standard silicon carbide elements, especially in atmosphere applications.
- **RAMP/SOAK PROGRAM CONTROLS**
- **TEMPERATURE RECORDERS:** Round or strip chart
- **HIGH K.W.:** See specifications for amount
- **VENTURI VENT:** A venturi can be provided for venting or quick cooldown. This can be programmable.
- **COUNTERBALANCED VERTICAL DOORS:** Manual hand crank, pneumatic or electric operation.

SPECIFICATIONS

Model Number	Working Dimensions			Inside Dimensions			Outside Dimensions				Stand K.W.	High K.W.	Max Load Lbs	Ship Weight
	W	H	D	W	H	D	W	H	D					
GLF 524	15	15	24	17	26 ½	26	70	61	50	30	33	175	2,000	
GLF 814	18	12	24	21	23 ½	26	73	58	50	30	34	225	2,200	
GLF 824	18	18	24	21	29 ½	26	73	64	50	37	41	225	2,600	
GLF 836	18	18	36	21	29 ½	38	73	64	62	47	52	325	3,200	
GLF 236	24	18	36	27	29 ½	38	79	64	62	54	60	450	3,800	
GLF 244	24	24	24	27	35 ½	26	79	70	50	50	54	300	3,600	
GLF 246	24	24	36	27	35 ½	38	79	70	62	65	66	450	4,000	
GLF 248	24	24	48	27	35 ½	26	79	70	74	80	86	600	5,500	
GLF 3636	36	36	36	39	47 ½	38	91	82	62	95	106	675	7,000	
GLF 3648	36	36	48	39	47 ½	50	91	82	74	114	127	900	8,200	
GLF 3672	36	36	72	39	47 ½	74	91	82	98	150	164	1,350	9,600	

All dimensions are in inches. Weight is in pounds. Typical floor standing control panel is 24" wide by 66" high by 36" deep. 240 or 460 volts is normal; 208, 380 and 575 volts are optional. Three phase is normal, although single phase is available. All circuits are balanced loads. Larger sizes are available by special quote. Specifications are subject to change without notice.

20 Kent Road • PO Box 2129 • Aston, PA 19014 T: 610.459.9216 • F: 610.459.3689 • lffurnace.com • sales@lffurnace.com