



SPECIAL FURNACE CO INC

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WQ SERIES



A WQ2 with a motorized lift.

APPLICATIONS

The WQ Series furnace is designed specifically for the purpose of annealing quartz and borosilicate glass. Other applications are also possible. The heated furnace portion is a counterbalanced rectangular “bell” that lifts entirely out of the way when loading the furnace. The furnace features proprietary ceramic element holders for easy low cost replacement of elements and maximum element life, all low density ceramic fiber and mineral wool insulation and a completely digital programmable temperature control for automated cycling. Maximum temperature is 2200°F (1200°C.)

BELL LIFT ANNEALING FURNACE FOR QUARTZ AND GLASS 2200°F (1200°C)

FEATURES

IRON-ALUMINUM-CHROME ALLOY ELEMENTS

The elements are coiled iron-aluminum-chrome alloy rated for 2350°F (1287°C). A high watt density is used for long element life.

CERAMIC ELEMENT HOLDERS

The elements are supported in proprietary ceramic element holders located on all four sides of the furnace. The holders are supported in grooved slots in the ceramic fiber board hot face. These provide perfect support for the coiled element as well as excellent radiating characteristics. The elements are completely exposed to the air which allows the element surface temperature to stay relatively cool (as opposed to embedded type elements). The smooth surface prevents premature failure of the elements as they expand and contract. Element replacement is easy: elements just lift out of the holders without affecting the fiber hot face.

EFFICIENT MULTILAYERED INSULATION

The furnace is insulated with 1-1/2" of low K factor ultra high temperature ceramic fiber board as the primary insulation. This is backed up by 2" of 2300°F ceramic fiber blanket and 1" of very low K factor mineral wool board. This extremely efficient insulation will heat up and cool down quickly. The fiber board sections are available completely shaped for easy replacement without cementing. No asbestos or vermiculite is used.

COUNTERBALANCED BELL LIFT CONSTRUCTION

The furnace is a rectangular bell that lifts vertically from the rigid base. The bell is supported by two heavy channels from the back, leaving the entire hearth area exposed without obstruction for easy loading. The furnace section is counterbalanced in the rear. Eight roller bearings insure smooth operation. On larger units (WQ 5 and above) a hand crank is included as standard for easy raising and lowering. A counterbalance allows top to be stopped in any position. A manual safety pin allows furnace top to be fixed in the top position. The base is heavy duty 10 gauge construction with square tube structural legs. The furnace casing is 14 gauge steel. The entire case is primed with 800°F silicone paint (which will prevent corrosion even at high temperatures) and finished in machine enamel.

CERAMIC FIBER HEARTH

The hearth is layered with four 1 inch layers of ceramic fiber blanket. This is soft and provides an excellent working surface for delicate glass. The fiber blanket layers are easily and economically replaced if damaged.

UDC 3300 PROGRAM CONTROL SYSTEM

The standard control is a Honeywell UDC 3300 program control with 6 ramps and 6 soaks.

TYPE R PLATINUM THERMOCOUPLE

A Type R Platinum thermocouple is encased in an alumina sheath and mounted from underneath. This thermocouple, rated for 3000°F (1650°C), will last practically forever at the temperatures in this furnace.

ZERO FIRED SCR POWER CONTROL

The power control is a zero fired SCR power control which provides very even power to the elements. This results in longer element life and more even heating.

EASY TO VIEW CONTROL PANEL

All contactors and controls are located in a NEMA 1 panel mounted under the furnace to save floor space. The panel is angled up so that the operator can view it while standing. It can be adjusted in and out to suit customer. Power circuits are fused. A limit switch turns off power to the furnace when the furnace is lifted up. Customer must connect fused power supply to single point on panel.

TESTING AND INSTRUCTIONS

The furnace is power tested to insure proper watt ratings. 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 wiring diagram and panel layout are prepared on CAD for easy readability.

WARRANTY

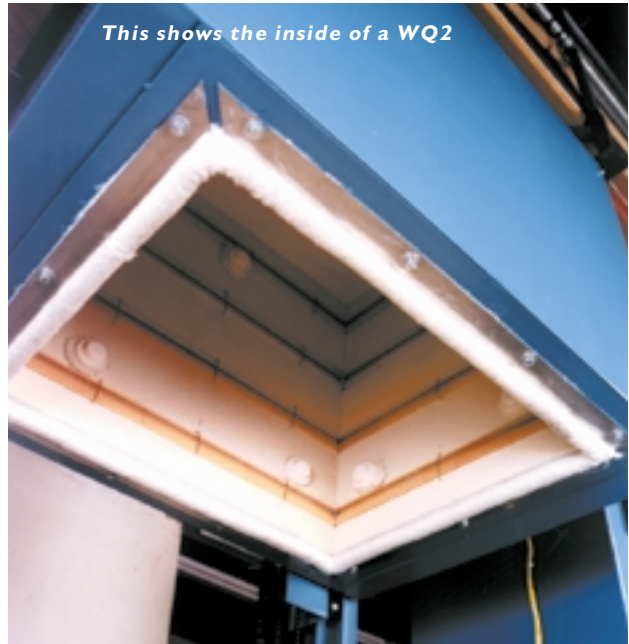
The furnace is warranted for one year.

SHIPPING

The furnace is shipped completely assembled (including the counterbalance). This saves time when installing the unit. The unit can be disassembled to fit through a 32" by 6 foot door.

OPTIONS

- **OVERTEMPERATURE SYSTEM:** Honeywell UDC 2300 digital high limit back up control with manual reset, back up contactors and separate Type R thermocouple element. The back up contactors will prevent overfiring even if the primary contactors fail for any reason.
- **FIREBRICK BOTTOMS AND LOAD OPTIONS:** The bottom can be made from 4-1/2" thick 2300°F firebrick for heavier hearth loading. Stands, racks, rollers can all be quoted.
- **POWER LIFT:** A gear motor lifts the furnace up and down. Limit switches are included. Works from switches on the control panel.



SPECIFICATIONS

MODEL NUMBER	INSIDE DIMENSIONS			OUTSIDE DIMENSIONS			K.W.	LOAD WEIGHT WITH FIREBRICK BOTTOM	SHIP WEIGHT
	IL	IH	IW	OL	OH	OW			
WQ 2	20	24	17	37 ¹ / ₂	92 ³ / ₄	35 ¹ / ₄	8.0	300	1100
WQ 5	56	24	17	73 ¹ / ₂	92 ³ / ₄	35 ¹ / ₄	17.0	750	1800
WQ 6	68	24	17	85 ¹ / ₂	92 ³ / ₄	35 ¹ / ₄	18.0	900	2000
WQ 8	92	24	17	109 ¹ / ₂	92 ³ / ₄	35 ¹ / ₄	22.0	1200	2500
WQ 10	111	624	17	133 ¹ / ₂	92 ³ / ₄	35 ¹ / ₄	28.0	1500	2900

Dimensions are in inches. Weight is in pounds. Hearth height is 33". Special sizes are available. 240 or 480 volts is normal. 208, 380 or 575 are optional. 3 phase or single phase hook up. Specifications subject to change without notice.