



**FLUIDTHERM**



**FLUIDCARB  
SEALED  
QUENCH  
FURNACES**



**IMPROVED THERMAL PERFORMANCE**

**SUPERIOR TEMPERATURE UNIFORMITY**

**BETTER ATMOSPHERE DISTRIBUTION**

**Superior thermal performance**

The circular cross section of the furnace has a larger internal heat emitting surface area which allows quicker load recovery and a lower shell surface area that reduces wall losses.

**Superior temperature uniformity and atmosphere distribution**

The circular design also eliminates eddies which would be caused by sharp corners and allows effective and uniform atmosphere circulation around and beneath the work basket ensuring uniform temperature and stable atmosphere conditions.



**Vertical heaters for low space occupancy**



**Horizontal heaters for low head room**

Model (1) FLUIDCARB	Useful load size W x L x H (cm)	Connected Load (Heating) (2)				Gross capacity kg@950C	Atmosphere consumption m <sup>3</sup> /hr	Quenchant Volume (Litres)
		Furnace		Quench Tank (KW)				
		KW (E)	Kcal /hr x 1000 (G)	Warm	Hot			
Mini Q 50.E	30/60/30	24	NA	NA	9	50	4	1200
Mini Q 125.E	45/60/30	36	NA	NA	15	125	6	1800
E-250	50/75/45	45	100	9	24	250	7	2800
E/G-350	60/90/45	54	114	15	36	350	8	3000
E/G-500	60/90/60	60	125	15	36	500	12	3300
E/G-650	75/100/60	100	196	21	54	650	15	7250
E/G-1000	75/120/75	145	250	30	66	1000	18	10000
E/G-1300	90/120/75	160	350	37	72	1300	22	12000
E/G-2700	90/180/90	210	500	54	118	2700	30	18000

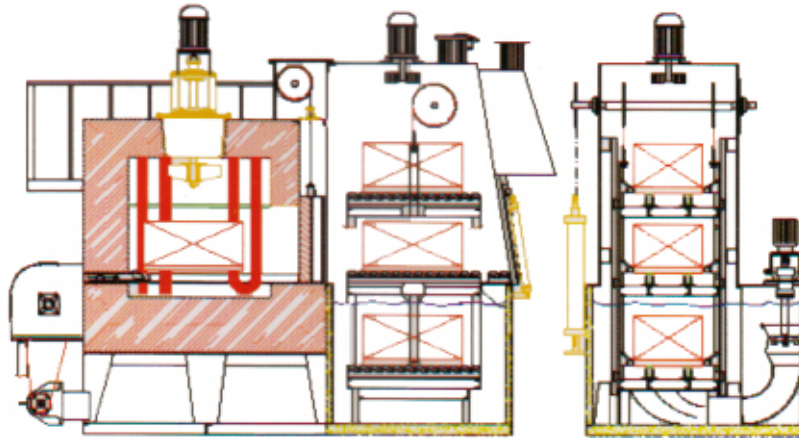
1) All models available in two types; in-out (single side entry/exit) or straight through (entry one side & exit on the other).

E = Electrically heated G = Gas fired NA = Feature not available.

2) Motor power rating extra and will depend on configuration & options.

CUSTOM SIZES & CONFIGURATIONS AVAILABLE ON REQUEST

ALL FIGURES ARE APPROX. AND SUBJECT TO CHANGE DUE TO CONSTANT INNOVATION.



### **Insulation**

LTM fiber insulation for rapid and uniform temperature recovery and atmosphere conditioning.

### **Atmosphere Control**

CO<sub>2</sub> analyzer / Oxygen probe system with CO compensation and auto calibration.

### **Atmosphere Circulation Fan**

High alloy, rugged long life design, bung mounted.

### **Effective Quenching**

Bi-directional, variable flow through propeller pumps within draft tubes and CFD designed baffle system ensure consistent hardness and reduced distortion.

### **SiC Muffle**

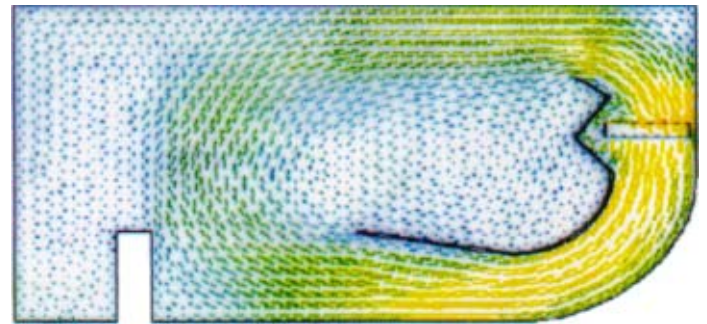
For guided convection & uniform heating.

### **Maintenance**

Plant is designed for reliability, maintainability.

### **Improved Productivity**

Cycle times are reduced by up to 30%. Higher production rates and lower operating costs.



### **Heating System**

Radiant tubes with bayonet electrical elements, gas or oil firing. Also "SUPERGLO" advanced design direct resistance heated tubes with maximum surface area for radiation. Heating rates comparable to gas fired furnaces can be obtained with this electrical element design.

### **Control Systems**

Versatile, expandable PLC system with a touch screen MMI that supervises the cycle, temperature, atmosphere flow / potential, mechanical movements and interlocks. Sophisticated data acquisition of all process parameters and alarm conditions.

### **Vestibule Sealing**

Self adjusting positive sealing door with a supervised pilot and flame curtain.

### **Load Handling**

Rugged rear mounted push / pull handler in conjunction with a single (or double) ended traversing charge car that also charges and unloads all auxiliary equipment provided for cleaning, tempering, storing, etc.



### **Cooling & Reheating**

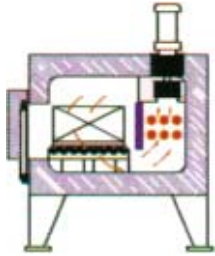
Upper deck with atmosphere circulation for cooling the work basket in protective atmosphere when it is not to be quenched. The system design allows cooling prior to reheating the same work basket.

# COMPANION TEMPERING FURNACES $T_{max}$ 300°C & 700°C ELECTRIC OR GAS HEATED



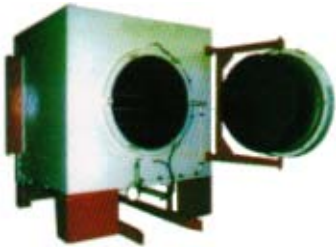
## HAC TYPE

This high convection furnace with a streamlined circular cross section performs high precision tempering, stress relieving, preheating and annealing whether on its own or as a companion to the FLUIDCARB Sealed Quench furnace. Gas tight construction allows processing in air or inert gas. Low thermal mass insulation ensures quick response to set temperature changers. Special cooling system options for controlled and rapid cooling rates.



## CYCLONE TYPE

A very high convection, high pressure furnace fan specially designed for dense loads like fasteners dumped in a basket. The convection path & fan pressure rating ensure uniform convection through the work basket which is also shielded from radiation to guard against spot overheating.

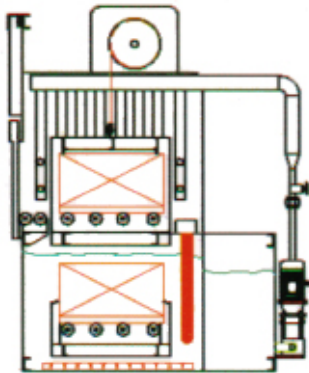


## FLOVAC TYPE

A vacuum purge inert gas furnace with a retort and sealed atmosphere cooling system. Designed for high temperature processing of components requiring a bright surface finish. A sealed atmosphere cooling system cools the charge rapidly & uniformly in protective atmosphere. Also performs nitriding / nitrocarburising with add on modules.

## WASHING MACHINES

High efficiency washing of dense loads by a spray-dunk-spray sequence. Effective oil separation system without moving parts. Electric, gas or steam heated.



## AUXILIARY EQUIPMENT

- ENDOSYN—METHANOL DISSOCIATION AND BLENDING SYSTEMS.
- ENDOGAS GENERATORS.
- BURN OUT FURNACES.
- SLOW COOL CHAMBERS, AIR OR INERT GAS.
- SINGLE / DOUBLE ENDED CHARGE CARS.
- SCISSORS LIFT TABLES.
- STORAGE CONVEYORS.