

Company Profile



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About us

Fulcrum Heating System (Shanghai) Co., Ltd. was established in 2013. We have strong engineering and process developing team of thermal processing equipment and industrial automation, and the capabilities of engineering of the metal / non-metal material processing and forming, heat treatment process and equipment. The company has established metallographic laboratory, electrical laboratory and composite material laboratory to provide solid laboratory support for the company's new process / new material research and development.

Our products including

Heat treatment of metal materials, including high pressure gas quenching, oil quenching, nitriding, brazing, sintering, induction smelting, aluminum alloy solid solution, aging, melting, etc.

Heat treatment of non-metallic materials, including carbon fiber pre-oxidation, carbonization, equipment graphitization, graphitized sintering, etc.

Composite molding and space environment simulation, including hot pressing vessel, hot press and KM series simulation vessel. Our users are distributed in automobile, mold, tool, carbon fiber processing and other high-end application field.

Company qualification and certification



High tech enterprise certificate



ISO9001 quality management system certification



D-U-N-S registration

PremiumHeat™

vacuum high pressure gas quenching furnace

PremiumHeat™ vacuum high pressure gas quenching furnace is the general solution for gas quenching. The application of various cutting-edge technologies and concepts enables this series to meet various quenching requirements and the furnace can fulfill rigorous system certifications. The types of equipment can be horizontal or vertical and even in pit type. The maximum quenching pressure is up to 25bar.

PremiumHeat™ vacuum high pressure gas quenching furnace can meet all your requirements for high pressure gas quenching.



EcoHeat™

vacuum high pressure gas quenching furnace

EcoHeat™ series vacuum high pressure gas quenching furnace is a low-cost gas quenching solution for mould and die industry. It is a specific furnace types developed for specific needs and concerns of mould and die industries. Cost-effective, stable and reliable and simple operation are the main characteristics of this series.



**PremiumHeat™ and EcoHeat™ series vacuum high pressure gas quenching furnace follow the same design, manufacturing and quality standards, and have the same high quality.*

MultiHeat™

vacuum furnace

The basic design of the MultiHeat™ series vacuum furnace is the horizontal internal heating vacuum furnace. With the combination of different hot zone materials and the functional modules, various vacuum / chemical heat treatment processes can be realized.



ModuleHeat™

modular heat treatment furnace



Three-chamber high pressure gas quenching furnace



Three-chamber vacuum oil quenching furnace

The new ModuleHeat™ modular vacuum heat treatment furnace adopts advanced modular design. The functional cabin can be combined freely, and can realize the function of vacuum heating, gas, oil, salt and water quenching. The special design of the transfer cabin can realize the rapid transfer of the workpiece and isolate the pollution of the quenching medium to the heating chamber.

UltraHeat™

high temperature vacuum sintering furnace



The ultimate heating temperature of vacuum sintering furnace is up to 2800°C. It can be used for high temperature / ultrahigh temperature sintering of metal / non-metal, graphitization and purification of graphite carbon materials.

Available options

- ✔ CVD function
- ✔ Ultrahigh temperature physical purification and chemical purification process
- ✔ Special dewax system
- ✔ Non standard size and structure



Pre-evacuated retort tempering furnace



T(N) Pre-evacuated retort tempering furnace with vacuum sealed heat-resistant steel retort. Furnace can be pre-evacuated and heated up with protective gas. It can achieve stable, economical and efficient precisely-controlled nitriding, nitrocarburizing, post oxidation, tempering, annealing and other heat treatment.

Box type tempering furnace

T-type box type furnace is a box type resistance heating furnace with a horizontal cubic heating zone, which can be heated by convection with protective gas. The furnace adopts mature and reasonable overall design, with high temperature uniformity. Through reliable automatic control, stable, economical and efficient high and low temperature tempering treatment is realized.



Aluminum alloy solid solution furnace

Q(W) type aluminum alloy solid solution furnace is a vertical heating furnace with metal muffle, which is heated by air or nitrogen convection and supplemented by controllable water quenching. The furnace has a novel design and reasonable structure. In addition to high temperature uniformity, it also has a very short transfer time. Through reliable automatic control, stable, efficient and controllable heat treatment of aluminum alloy can be realized. The equipment complies with AMS2750 standard and can be certified by NADCAP. It is suitable for solid solution treatment of various aluminum alloys and aluminum magnesium alloys.



Liquid nitrogen deep cooler

D(LN) type liquid nitrogen deep cooler can be equipped with nitrogen recircling function to recircle nitrogen from refrigeration. The equipment can be heated to 250°C and can be used for cryogenic and tempering treatment.



Cleaning machine

W-type single chamber cleaning machine is applicable to the pre/post cleaning of heat treated workpieces. According to the cleanliness requirements and workpiece characteristics, dual solution design (DS) or single solution design (SS) with rinsing function can be adopted; It can realize heating, soaking, shaking and ultrasonic cleaning. The equipment has a drying function, which greatly improves the production efficiency of the equipment.



Control system

The computer control system adopts the WYSIWYG friendly man-machine dialogue mode for process preparation. The system has the functions of error prevention, fault diagnosis, permission control, remote communication, file collection, etc., and provides N-ext™ nitriding expert system and Accept™ low pressure carburizing expert system. The expert system can simulate the process and automatically generate the process curve according to the steel grade, layer depth requirements and workpiece parameters.



Electrical system

Configuration standard
Siemens PLC system
S7-1500 / 1200 series
Eurotherm temperature control
instrument
Siemens low voltage electrical system
ABB distribution system
Rittal control cabinet connected with
air conditioner



Spare parts and refurbishment

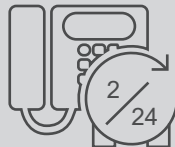
Fulcrum Heating System (Shanghai) Co., Ltd. has a production base, spare parts warehouse and special maintenance service department in Shanghai. More than 200 kinds of spare parts are always available. Service personnel are on standby 24 hours to ensure the timely supply of various spare parts and the timely response of after-sales service.

Spare part



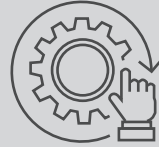
Provide high-quality spare parts for various types of industrial furnaces and repair key parts of the original factory, greatly reducing equipment maintenance costs. Spare parts have the same warranty conditions.

After market service



Provide after-sales service for Fulcrum brand equipment, and promise to respond within 4 hours and arrive at the site within 24 hours (Locally), both within and outside the warranty period.

Refurbishment and reconstruction



Provide refurbishment services for various types of vacuum furnaces, including local renovation of graphite and metal screens, overall renovation of hot zones, equipment refurbishment, electrical system transformation, etc. Overhaul parts enjoy the same quality assurance conditions.

For more details, please contact us



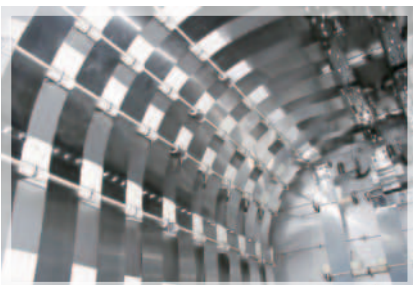
Maintenance of key components



System maintenance / Leakage detection



System Modification



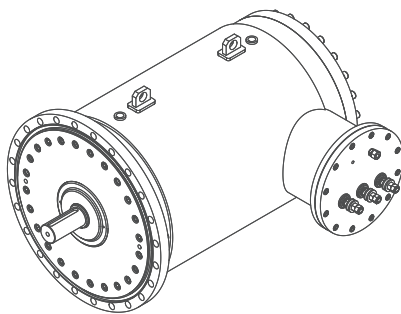
Hot zone rebuild (metal)



Hot zone rebuild (graphite)



High quality spare parts



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