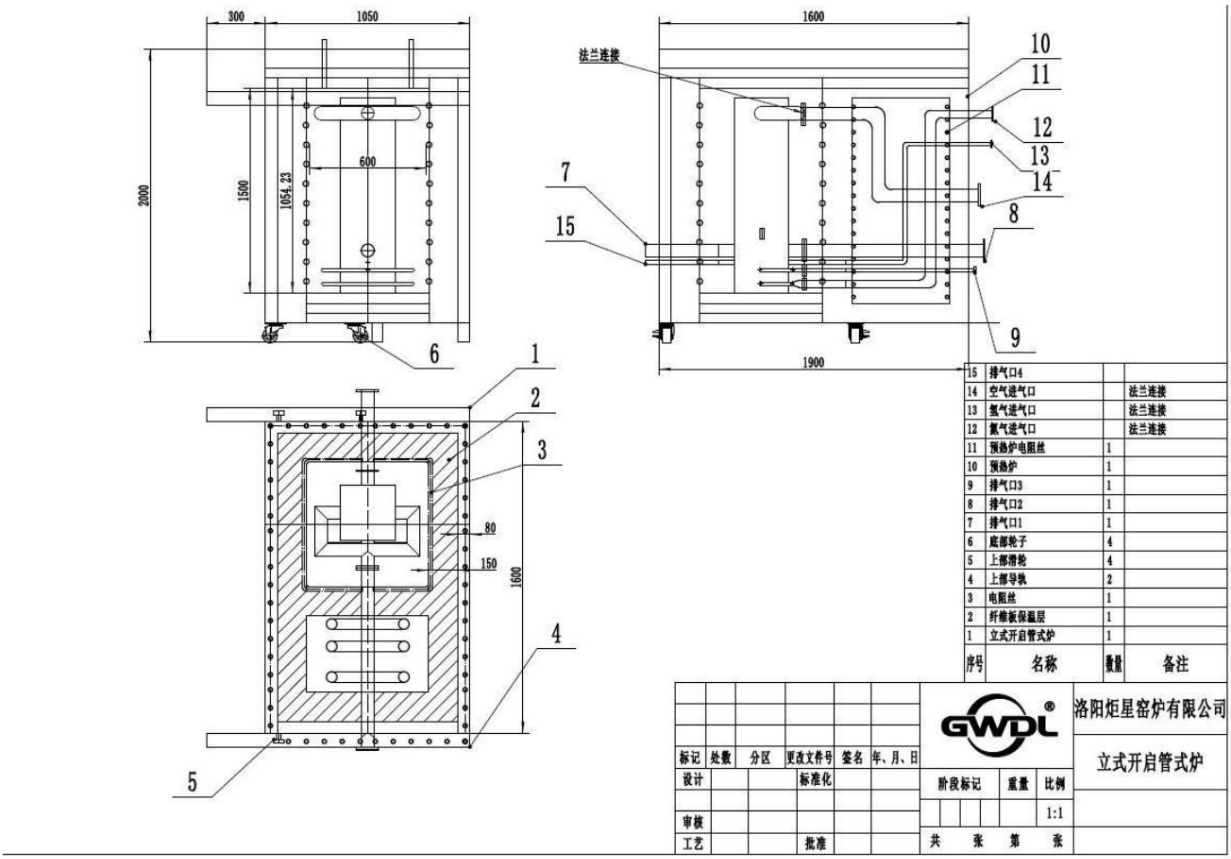
I. Technical Requirements and Parameters

1.1 Equipment Technical Requirements and Parameters

The design is based on the buyer's technical specifications and requirements, and the technical parameters are as follows:



1.2 Main heating chamber technical parameters:

category parameter	1200 degrees
model	GWL-1200LDZ
Main heating chamber	600×600×1500mm
dimensions and power	Designed power 75kW, automatically adjusted according to the heating rate.
AC power	Three-phase five-wire 380V
The maximum operating	1200 degrees
temperature and the long-term	1150 degrees
operating temperature control range are:	80 to 1200 degrees

Temperature sensing element	Type K thermocouple, temperature measurement range 0-1320 degrees Celsius
Heating element mounting position	Installed around the inner wall of the furnace, with three independent temperature control layers (top and bottom).
Temperature control area	Three temperature control points are used in the upper and lower heating zones.

Temperature monitoring point	Six channels, including thermocouples
temperature control accuracy	±1 degree (integrated circuit control, no overshoot) ±3-5 degrees (depending on furnace size)
Furnace temperature uniformity	
heating rate	The heating rate is freely adjustable, with an adjustment range of: maximum heating rate of 30 degrees Celsius per minute (non-heating rate). (Linear), slowest heating rate 1 degree per hour (1 degree/h)
Heating element	High-temperature alloy resistance wire (containing molybdenum) is used.
air intake	Four air inlets (D12mm) are arranged at the top, middle, and bottom of the furnace.
Furnace body	The furnace body is machined using CNC machine tools, and undergoes polishing, grinding, pickling, phosphating, powder coating, and high-temperature baking. It boasts a novel and attractive appearance, and possesses advantages such as oxidation resistance, acid and alkali resistance, corrosion resistance, high-temperature resistance, and easy cleaning. It is of export quality with a mirror-finish paint finish.
Furnace body structure	The electric furnace body adopts an internationally advanced air-cooled double-layer furnace body structure, effectively guiding and isolating the air cooling system. The plate circulates cold air throughout the furnace shell, ultimately cooling the conductive plates of the heating element before it is discharged from the furnace body. This avoids high-temperature oxidation of the conductive sheets in the heating element and ensures a good working environment.
Furnace opening method	The furnace chamber is designed to be openable for easy replacement of heating elements and mounting of workpieces.
Furnace opening and charging platform refractory matching combine	The furnace opening and the charging platform are fitted with a stepped, cross-sealed refractory material, with angles on both the top and bottom of the refractory material. The opening angle of the loading platform increases, and the closing angle of the loading platform gradually decreases.
Load capacity of loading platform	500KG (customizable according to customer requirements)
Refractory materials	The furnace lining uses 1400-type vacuum-formed high-purity alumina fiber lightweight board material. Areas prone to material handling (furnace bottom) utilize a mixture of high-purity lightweight alumina bricks and fiberboard. This material offers high operating temperatures, low heat storage, resistance to rapid heating and cooling, and good insulation performance (energy-saving effect is superior to older models). More than 80% of electric furnaces
thermal insulation materials	The insulation layer consists of: nano-board, 1200 alumina fiberboard, and 1420 type fiber. This plate achieves over 60% energy savings compared to older electric furnaces. It allows for continuous
Furnace shell temperature	operation without shutting down the furnace, with the outer casing temperature remaining below 45 degrees Celsius.
Protect	It adopts an integrated modular control unit, ensuring accurate control precision. It also features dual-loop control and dual-loop protection, providing protection against overshoot, over-adjustment, under-adjustment, thermocouple interruption, phase loss, and overvoltage. Overcurrent, overtemperature, current feedback, soft start protection, etc.

control	It employs closed-loop technology with thyristor module trigger control and phase-shift trigger control, allowing for continuous adjustment of output voltage, current, or power, and providing constant voltage, constant current, or constant power characteristics. The current loop is the inner loop, and the voltage loop is the outer loop. Adjustment is limited when a sudden load is applied or the load current exceeds the current limit. The output current of the voltage regulator is within the rated current range to ensure normal operation of the output and the voltage regulator; Simultaneously, the voltage loop also participates in the regulation, limiting the output current of the voltage regulator within the rated current range, maintaining a constant output current and voltage with sufficient adjustment margin; from This protects the heating element from excessive current and voltage. Impact, achieving safe and reliable control effect and control accuracy. Temperature, temperature
Display parameters	range number, time period, remaining time, output power percentage, voltage, current, etc.

Multiple curve inputs	Multi-segment program control function, allows input of settings; can simultaneously input multiple curves, and use... It can be called at any time.
Random accessories	A set of gaskets for the relevant pipelines, and an electronic instruction manual.
Warranty coverage and period	The electric furnace comes with a one-year free warranty, but the heating element is not covered by the warranty.
Precautions	1. To avoid affecting the lifespan of the electric furnace, we recommend the following maximum heating and cooling rates: The rate is 10-20ÿ/min (too rapid heating will shorten the lifespan of the heating element). 2. This electric furnace does not use a vacuum sealing structure, so flammable and explosive gases must not be introduced. 3. After a period of use, minor cracks may appear in the furnace chamber of this electric furnace. This is normal. This phenomenon will not affect its use and can be repaired with an aluminum oxide coating. 4. It is not recommended to introduce corrosive gases. If it is necessary to introduce highly corrosive gases such as S or Na, Please inform us in advance so we can perform special treatment on the furnace. 5. High-temperature solution must not leak onto the furnace bottom. To prevent this, a pad or alumina can be used. Powder Primer 6. The instrument should be placed in a well-ventilated, dry place.
Packing list	One electric furnace, one instruction manual, one certificate of conformity, and one acceptance report (factory inspection report). One sales delivery note.

1.2 Technical parameters of the auxiliary heating chamber:

category / parameter	1000 degrees
Model,	GWL-1200LDZ
main heating chamber	500×500×1500mm
dimensions, main heating	Designed power 45kW, automatically adjusted according to the heating rate.
chamber power, pipe material, and flange material.	SUS310S stainless steel pipe, internal pressure 5000Pa
AC power	Three-phase five-wire 380V
Maximum operating temperature	1000 degrees
and long-term operating temperature	950 degrees
The control range is the	80 to 1200 degrees
temperature sensing element.	Type K thermocouple, temperature measurement range 0-1320 degrees Celsius
Heating element mounting position	Installed around the inner wall of the furnace
Temperature control	The heating zone uses one temperature control point at the top and bottom.
accuracy in temperature control zone	±1 degree (integrated circuit control, no overshoot)
heating rate	The heating rate is freely adjustable, with an adjustment range of: maximum heating rate of 20 degrees Celsius per minute (non-heating rate). (Linear), slowest heating rate 1 degree per hour (1 degree/h)
Heating element	High-temperature alloy resistance wire (containing molybdenum) is used.

Refractory materials	The furnace lining uses 1400-type vacuum-formed high-purity alumina fiber lightweight board material. Areas prone to material handling (furnace bottom) use a mixture of high-purity lightweight alumina bricks and fiberboard. It has high operating temperature, low heat storage, resistance to rapid heating and cooling, and good insulation performance (energy-saving effect is superior to older models).

	More than 80% of electric furnaces
thermal insulation materials	The insulation layer consists of: nano-board, 1200 alumina fiberboard, and 1420 type fiber. This plate achieves over 60% energy savings compared to older electric furnaces. It allows for continuous
Furnace shell temperature	operation without shutting down the furnace, with the outer casing temperature remaining below 45 degrees Celsius.
Protect	An integrated modular control unit is adopted, ensuring accurate control precision, and a dual-loop control system is designed. It features dual-circuit protection, including overshoot, over-adjustment, under-adjustment, thermocouple interruption, phase loss, overvoltage, overcurrent, overtemperature, current feedback, and soft start protection.
control	The system employs closed-loop technology with thyristor module trigger control, using a phase-shift trigger control method, to control the output voltage. The current or power is continuously adjustable, exhibiting constant voltage, constant current, or constant power characteristics; the current loop is... The inner loop and the voltage loop form the outer loop. When a sudden load is applied or the load current exceeds the current limit, the adjustment is restricted. The output current of the voltage regulator is within the rated current range to ensure normal operation of the output and the voltage regulator; Simultaneously, the voltage loop also participates in the regulation, limiting the output current of the voltage regulator to within the rated current range. Within the specified range, the output current and voltage are maintained constant with sufficient adjustment margin; from This protects the heating element from excessive current and voltage. Impact, to achieve safe and reliable control effect and control accuracy.
Display parameters	Temperature, temperature range number, time period, remaining time, output power percentage, voltage, Current, etc.
Multiple curve inputs	Multi-segment program control function, allows input of settings; can simultaneously input multiple curves, and use... It can be called at any time.

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