Luoyang Juxing Kiln Co., LTD
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Top-Opening Car Bottom Furnace GWL-1200°C Technical Data

GWDL Luoyang Juxing Electric Kiln Co., Ltd.

LUCYANG JUXING KILN CO.,LTD

High-Tech Enterprise / “Specialized and Sophisticated” Enterprise

Professional High-Temperature Heating Manufacturing Factory (-60℃ ~ 2600℃)

Member Unit of Heat Treatment Industry Association

ISO45001: Occupational Health and Safety Management System Certification

ISO14001: Environmental Management System Certification

ISO9001 Quality Management System Certification

EU CE Product Certification

1100°C Vertical Tube Furnace — Technical Specifications

Item	Specification
Maximum temperature	1100° C
Voltage (AC)	380 V
Long-term working temperature	1100° C

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Item	Specification
Temperature control accuracy	±1° C
Furnace tube material	Stainless steel tube, outer diameter 108 mm
Furnace tube sealing	304 stainless steel KF flange; fixing devices added at both ends of the tube to prevent the tube from falling over
Heating zone size	2 temperature zones, each 400 mm; total heating zone 800 mm; total tube length 1.3 m
Gas inlet	Two inlets, flow meter 0–10 L/min
Vacuum pump	Mechanical vacuum pump, vacuum degree −0.1 MPa
Temperature field uniformity inside the furnace	±3° C
Temperature sensing element and range	K-type thermocouple, range 0–1320° C

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Item	Specification
Furnace body	CNC-machined; polished, ground, acid-washed, phosphated, powder-coated and high-temperature baked; two-color design, novel and attractive appearance; oxidation-resistant, acid/alkali-resistant, corrosion-resistant, high-temperature-resistant and easy to clean
Furnace body structure	Internationally advanced air-cooled double-layer furnace shell structure; effective air-cooled guide baffle enables overall cold-air circulation in the shell; finally cools the conductive plates of heating elements before discharging from the furnace body, avoiding high-temperature oxidation of the conductive plates and ensuring a good working environment
Furnace door opening	Side opening
Refractory material	High-purity alumina fiber, vacuum-formed fiber lightweight board material for the furnace lining; light-weight hollow-sphere alumina boards used at positions easily hit during loading/unloading (furnace mouth, furnace bottom); high service temperature, low heat storage, resistance to rapid heating/cooling, no cracking, no slagging, good insulation performance (energy-saving effect over 80% compared with old-style electric furnaces)
Insulation material	Three-layer insulation: alumina fiber cotton, alumina fiber board, alumina polycrystalline fiber board; energy-saving effect over 80% compared with old-style electric furnaces

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Item	Specification
Control	Closed-loop technology, SCR module trigger control, phase-shift triggering or zero-crossing triggering; output voltage, current or power continuously adjustable; constant voltage, constant current or constant power characteristics; current loop as inner loop and voltage loop as outer loop; when load is suddenly applied or load current exceeds the limit value, the output current of the voltage regulator is limited within the rated current range to ensure normal operation of the output and voltage regulator; meanwhile the voltage loop also participates in regulation, so that the output current of the voltage regulator is limited within the rated current range and the output current and voltage are maintained constant under the premise of sufficient regulation margin; thereby protecting heating elements from impact of excessive current and voltage and achieving safe, reliable control effect and control accuracy
Heating element	Resistance wire
Gases allowed	Nitrogen, argon, hydrogen and other inert gases
Heating element position	Installed around the furnace chamber
Refractory material	High-purity alumina fiber board
Cooling structure	Double-layer furnace shell, air cooling
Furnace body temperature	≤45° C

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Item	Specification
Warranty scope and period	Free warranty for the electric furnace for one year; heating elements and furnace tube not covered (heating elements naturally damaged within three months will be replaced free of charge)
Additional configuration	7-inch true-color touch screen
Random accessories	One manual, one certificate of conformity, one pair of high-temperature gloves

GWL Touch Screen Control Introduction

Item	Parameter
Size	7-inch TFT true color
Resolution	800 × 480
Backlight	LED
Power	5 W
Weight	1 kg

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Item	Parameter
Language	Chinese/English, freely switchable
Full-screen display and operation	Instrument screen, bar graph, historical trend, data report, alarm information, data export, process flow, system management, etc.
Touch screen operation	Touch operation and mouse operation can be used arbitrarily

Touch Screen Control Functions

Item	Specification
Controlled objects	Temperature, pressure, flow, liquid level, etc.
Number of furnaces controlled	1 unit
Temperature control	Touch screen + high-precision integrated module
Start heating	Touch operation
Pause heating	Touch operation
Stop heating	Touch operation

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Item	Specification
Temperature curve programming	Touch operation, 30 segments per curve
Number of stored temperature curves	Unlimited (each curve can be named in Chinese/English)
Real-time status display	Running curve name, running segment number, segment time, segment running time, digital temperature, real-time curve, power output percentage
Start from selected segment (cross-segment start)	Touch operation
Curve range	Adjustable
Historical curve (graphic/text)	Approximately 20 months of storage
Data report (EXCEL)	Approximately 20 months of storage; multi-point simultaneous display (USB flash drive can be inserted for expansion)
Historical curve and report record (save) interval	Adjustable from 1 s to 3600 s; multi-point simultaneous display (USB flash drive can be inserted for expansion)
Alarm indication	Color change (red)

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Item	Specification
Alarm information language	Chinese display (alarm time and event described in Chinese)
Data export interface	USB
Printer interface	Parallel port
Touch screen operation protection	Password setting (others cannot operate without password)
Communication port	RS485
Password	Passwords can be set for all touch screen operations, preventing leakage of parameters and processes and enabling comprehensive management

Q1: What are the maximum temperature and long-term working temperature of this furnace? What is the temperature control accuracy?

A: The maximum temperature is 1100° C, and the long-term working temperature is also 1100° C. The temperature control accuracy is ±1° C, and the temperature field uniformity inside the furnace is ±3° C.

Q2: What is the material and size of the furnace tube? How are both ends sealed and fixed?

A: The furnace tube is made of stainless steel, with an outer diameter of 108 mm and a total length of 1.3 m. Both ends are sealed with 304 stainless steel KF flanges, and fixing devices are added at both ends of the tube to prevent it from falling over.

Q3: What is the heating zone size and how are the temperature zones distributed?

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A: There are 2 temperature zones, each with a heating zone length of 400 mm. The total heating zone length is 800 mm, and the total tube length is 1.3 m.

Q4: What gases can be introduced into the equipment? What are the gas inlet and flow meter configurations?

A: Nitrogen, argon, hydrogen and other inert gases can be introduced. Two gas inlets are provided, with flow meters ranging from 0 to 10 L/min. The vacuum system uses a mechanical vacuum pump, and the vacuum degree can reach −0.1 MPa.

Q5: What does the warranty cover? Which parts are not covered by free warranty?

A: The electric furnace has a free warranty of one year. Heating elements and the furnace tube are not covered by warranty, but heating elements naturally damaged within three months will be replaced free of charge. Random accessories include one manual, one certificate of conformity, and one pair of high-temperature gloves.

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