



Luoyang Torch Star Kiln Co., Ltd.

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GWDL-XL Four-Sided Heating Box-Type Electric Furnace Technical Specifications



I. Product Introduction
The GWDL-XL series high-temperature furnace, as shown in the figure, integrates the control system and the furnace chamber. The furnace lining is made of vacuum-formed high-purity alumina lightweight material.



Luoyang Juxing Kiln Co., Ltd.

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It uses high-temperature alloy resistance wire for heating; it is specially designed for laboratories in universities, research institutes, and industrial and mining enterprises. For ceramics, metallurgy, electronics, glass, chemicals, machinery, refractory materials, new material development, and special materials Research and development of sintering, melting, analysis, and production of raw materials, building materials, metals, non-metals, and other chemical materials. Specialized equipment manufactured.	
The control panel is equipped with an intelligent temperature regulator to control the power switch, main heating start/stop button, and electric... Includes a voltmeter, ammeter, computer interface, and observation/air inlet to monitor the system's operating status at any time. This product uses reliable integrated circuitry, has a good working environment, is resistant to interference, and maintains a maximum furnace shell temperature. The y45y temperature greatly improves the working environment; microcomputer program control, programmable curves, and fully automatic heating/cooling. The temperature control parameters and program can be modified during operation, making it flexible, convenient, and easy to operate.	
II. Technical Parameters	
Maximum operating temperature	1000 degrees
Long-term operating temperature	700-900 degrees
Temperature control range	100-1000 degrees
Furnace size	500×500×500mm
Temperature control accuracy	±1 degree
Temperature sensing element	K-type thermocouple
Heating element material	High-temperature alloy resistance wire
Heating element Installation location	Four-sided heating
Fully automatic intake and exhaust ports	A protective atmosphere can be introduced, and the electric exhaust port and electric intake port can be linked to a heating curve. Line segment selection automatically turns on and off at any temperature range.
heating rate	Minimum 10-30°C/minute
Furnace body structure and materials	The electric furnace body adopts an advanced air-cooled double-layer carbon steel furnace body structure, with effective air cooling guidance. The baffles allow for the circulation of cold air throughout the furnace shell, which ultimately cools the conductive plates of the heating elements before being discharged from the furnace. This design avoids high-temperature oxidation of the conductive sheets in the heating element, ensuring a good working environment. territory.
Stainless steel fan	Stainless steel fans assist chimneys for forced ventilation



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Observation window	Minimum size 30 x 35 mm, material/quartz glass
Door opening method	Electric top-opening door
Refractory insulation materials	The furnace lining is made of vacuum-formed high-purity alumina lightweight material, which has high operating temperature, low heat storage, resistance to rapid heating and cooling, no cracking, no slag shedding, and good heat insulation performance.
The furnace shell temperature is	less than 40 degrees Celsius.
Security Protection	It adopts an integrated modular control unit, which has accurate control precision, and is designed with dual-loop control and dual-loop protection, and has protection against overshoot, overshoot, undershoot, phase loss, overvoltage, overcurrent, overtemperature, current feedback, and soft start.
Power off when door is opened	The furnace body is designed with a function that opens the furnace door and disconnects the main heating circuit when the temperature is high during operation, greatly protecting against the risk of electric shock when handling materials at high temperatures.
Safe temperature control	Employing closed-loop technology with thyristor module trigger control, phase-shift trigger control, or zero-crossing triggering, the output voltage, 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 is the outer loop. When a sudden load is applied or the load current exceeds the current limit, the output current of the voltage regulator is limited to the rated current range, ensuring normal operation of the output and the voltage regulator. Simultaneously, the voltage loop also participates in regulation, limiting the output current of the voltage regulator to the rated current range, maintaining constant output current and voltage with sufficient adjustment margin. This protects the heating elements from excessive current and voltage surges, achieving safe, reliable, and precise control.
Temperature profile setting	Employing an intelligent temperature controller, it offers multiple adjustment modes including standard PID, AI-based APID, and MPT. It features self-tuning and self-learning capabilities, excellent control characteristics with no overshoot or undershoot, and 50-segment programmable control. It can achieve temperature rise and fall control with arbitrary slopes and provides programmable/operable commands such as jump (loop), run, pause, and stop, allowing modification of the program at any time during operation. Utilizing an AI-based adjustment algorithm with curve fitting capabilities, it achieves smooth and even curve control.
Number of segments in the heating curve	The program control function has 50 segments, which can be set as follows: 50 segments for one curve, 28 segments for two curves, 15 segments for three curves, and 9 segments for five curves; multiple curves can be input at the same time and can be called up at will when in use.
The panel has two buttons: a main power button/knob and a heating chamber on button/knob.	
Random accessories include one	crucible tong, two pairs of high-temperature gloves, and one furnace bottom pad.



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III. Warranty Scope and Period	
The electric furnace comes with a one-year free warranty, but the furnace bottom plate and heating elements are not covered by the warranty (they will be replaced free of charge if they fail naturally within three months).	
IV. Packing List	
Two pairs of high-temperature gloves; one corundum furnace bottom plate; one crucible tong; one main unit instruction manual; one warranty card; one personnel operation and usage training manual; one delivery note and one equipment acceptance form.	
V. Precautions	
1. To avoid affecting the lifespan of the electric furnace, it is recommended that the maximum heating and cooling rates be 1-15y/min. (Rapid heating at high temperatures will shorten the lifespan of the heating elements.)	
2. This box 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 box furnace. This is normal and will not affect its use. It can be repaired with an alumina coating.	
4. It is not recommended to introduce corrosive gases. If you need to introduce highly corrosive gases such as sulfur (S) or sodium (Na), please inform us in advance so that 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 powder can be used for isolation.	
6. The instrument should be placed in a well-ventilated, dry place.	
VI. Shipping Details	
1. The electric furnace is packaged in three layers: first wrapped in foam paper, then wrapped in plastic film, and finally packed in a wooden crate.	
2. Free domestic door-to-door delivery (free delivery within city limits)	
3. We will be responsible for any damage that occurs during the transportation of the electric furnace.	
4. Logistics methods: transportation by road, rail, ship (for foreign trade export), and air (for foreign trade export). For nearby locations, our company will arrange dedicated vehicles for transportation (packaging is wooden pallets and cardboard boxes).	

VII. List of Main Components of Juxing Kiln									
Serial Number	Item Name	Classification					1900	factory	Remark
		1200	1400	1600	1700	1800			
		degree	degree	degree	degree	degree	degree		



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1. Outer shell		Double-layer shell	• • • • •						Juxing Kiln	
2	heating element	electric heater	High-temperature alloy resistance wire	silicon carbide rods	silicon molybdenum rod	1800 Type Silicon molybdenum rod	1850 Type Silicon molybdenum rod	1900 Type Silicon molybdenum rod	Juxing Kiln	
3	Electrical control section	Temperature controller 858P 858P 858P 858P 858P 858P							Xiamen Yudian	
4		Thermocouple K		S	B	B	B	B+ fiber	Taisho/ Enlightenment	
5		Voltmeter	• • • • •	Chint						
6		Ammeter	• • • • •	Chint						
7		SCR power regulator	• • • • •						Germany West Gate Kang 106/1 6E	
8		Contactor	• • • • •						Chint/ Delixi	
9		Air circuit breaker	• • • • •						Chint/ Delixi	
10		Button	• • • • •	Chint /						
									Deli West	
11		Buzzer	• • • • •						Chint/ Delixi	
12		Quick Melt	• • • • •	Ming Melt						
13		Transformer	• • • • •						Juxing Kiln	

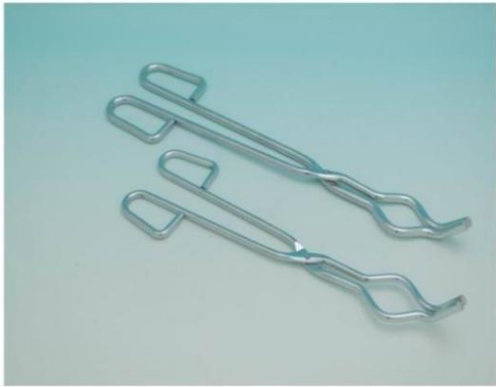


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14	Refractory and heat- insulating furnace	Ceramic fiberboard/ module	1260 1500 1700 1800 1850					Oxidation Zirconium fiber dimension 2100	Juxing Kiln	
15		Furnace opening partition heat seal brick (Inner door)							Juxing Kiln	
16		Sintering plate	Quartz ceramics	Quartz ceramics	Corundum Mullite	Corundum Mullite	Corundum Mullite	Oxidation Zirconium fiber dimension 2100	Juxing Kiln	

坩埚钳



高温手套





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