GWDL-1200XL Electric Top-Opening Ash Blowing Furnace

GWDL-1200XL

I. Product Introduction
The GWDL-XL series high-temperature furnace, as shown in the figure, integrates the control system and furnace chamber. The furnace lining is made of vacuum-formed high-purity alumina lightweight material. It utilizes high-temperature electric heating elements and is a specialized piece of equipment developed for laboratories in universities and research institutes, as well as industrial and mining enterprises, for the sintering, melting, analysis, and production of ceramics, metallurgy, electronics, glass, chemicals, machinery, refractory materials, new material development, special materials, building materials, metals, non-metals, and other chemical materials. The control panel is equipped with an intelligent temperature regulator, a power switch, a main heating start/stop button, voltage and ammeters, a computer interface, and an observation port/air inlet for continuous monitoring of the system's operating status. This product employs reliable integrated circuitry, providing a good working environment and strong anti-interference capabilities. The furnace shell temperature is ÿ45ÿ at its highest, significantly improving the working environment. It features microcomputer program control, programmable curves, fully automatic heating/cooling, and the ability to modify temperature control parameters and programs during operation, offering flexibility, convenience, and simple operation.

II. Technical Parameters	
Maximum operating temperature	1200 degrees
and long-term operating temperature	1200 degrees
Temperature control range	100-1200 degrees

Temperature control accuracy	±1 degree
temperature measuring element	k
Heating element material	silicon carbide rods
Heating element installation location	Vertically installed on both sides of the furnace
Furnace size	300-200-200mm
AC power	380V, 60HZ
Intake and exhaust systems	Equipped with a float flow meter and a manual regulating valve, it is used to precisely control the gas flow during the ash blowing process, thereby achieving furnace atmosphere regulation and effective emission and management of exhaust gas.
heating rate	The maximum heating rate is 40 degrees Celsius per minute (non-linear). The electric
Furnace body structure and materials	furnace body adopts a double-layer carbon steel structure with air cooling. Effective air-cooling guide baffles ensure overall cold air circulation in the furnace shell. Automatic start-up occurs when the furnace surface temperature reaches 50 degrees Celsius. The cooled conductive plates of the heating elements are then discharged from the furnace, preventing high-temperature oxidation of the conductive plates and ensuring a good working environment. The electric top-opening door is controlled by a
Door opening method	cylinder, compatible with both automatic and manual control. An operating handle or foot switch is provided for easy manual opening during debugging or in case of malfunction. In the event of an unexpected gas or power outage, the furnace door should remain in the position it was in during the outage and should not droop. The furnace lining is made of vacuum-formed high-purity alumina lightweight material, which has high operating
Refractory insulation materials	temperature, low heat storage, resistance to rapid heating and cooling, no cracking, no slag shedding, and good insulation performance. It employs a three-layer insulation system: aluminum silicate fiberboard, alumina fiberboard, and alumina (polycrystalline) fiberboard, achieving
thermal insulation materials	energy savings of over 80% compared to older electric furnaces. The furnace employs an integrated modular control unit with an outer casing temperature below 45 degrees Celsius, ensuring accurate control. It features dual-loop control and dual-loop protection, including
Furnace shell temperature	protection against overshoot, over-
Security Protection	adjustment, under-adjustment, thermocouple breakage, phase loss, overvoltage, overcurrent, overtemperature, current feedback, and soft start. The furnace body is designed with a function to open the furnace door and disconnect the main heating circuit during high-temperature operation, significantly reducing the risk of electric shock during high-temperature material handling. It utilizes closed-loop
Power off when door is opened	technology with thyristor module trigger control, phase-shift trigger control, or zero-crossing triggering, allowing for continuous adjustment of output voltage, current, or power. It features constant voltage, constant current,
Safe temperature control	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 voltage regulator's output current 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 voltage regulator's output current 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	It employs an intelligent temperature controller with multiple adjustment modes, including standard PID, AI-based APID, and MPT. It features self-tuning and self-learning functions, excellent control characteristics with no overshoot or undershoot, and a 30-segment programmable control function. It can achieve temperature rise and fall control with arbitrary slopes and has programmable/operable commands such as jump (loop), run, pause, and stop, allowing modification of the program at any time during operation. It utilizes an AI adjustment algorithm with curve fitting capabilities to achieve smooth and even curve control. The 50-segment programmable control function allows input settings: 50 segments for one curve, 28 segments for two curves, 15 segments for three curves, and 9 segments for five curves.
Number of segments in the heating curve	Multiple curves can be input simultaneously and recalled at will. Two buttons are provided: a main power button/knob and a heating chamber on/off button/knob. The package includes two heating elements, one crucible tong, one pair of high-temperature gloves, and one furnace bottom pad. III. Warranty Scope and Period:
Panel buttons and	The electric furnace is covered by a one-year free warranty. The furnace bottom plate and heating elements are not covered by
random accessories	the warranty (free replacement for natural damage within three months). IV. Packing List
One electric furnace, one crucible tong, one pair of high-temperature gloves, and one furnace bottom firing plate.	
V. Precautions 1. To avoid	
affecting the service life of the electric furnace, it is recommended that the maximum heating and cooling rates be 1-15ÿ/min. (Rapid heating at high temperatures will shorten the life of the heating element.) 2. This box furnace does not use a	
vacuum sealing structure, so flammable and explosive gases should not be introduced. 3. After a period of use, minor cracks may	
appear in the furnace chamber. This is normal and will not affect the use. It can be repaired with an alumina coating. 4. It is not recommended to introduce corrosive gases. If you need to introduce strong corrosive gases such as S or Na, please inform us in advance,	
and we will treat the furnace chamber specially. 5. Do not allow high-temperature solutions to leak onto the furnace bottom. To avoid this, use a pad or alumina powder for isolation. 6. The instrument should be placed in a well-ventilated,	
dry place. VI. Shipping Information 1. The electric furnace will be packaged in three layers: first wrapped in foam paper, then in plastic film, and finally in a	
wooden crate. 2. Free delivery within China (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: truck, rail, ship (for export), air (for export). For nearby locations, our company will	
arrange dedicated transportation (packaging: wooden pallets and cardboard boxes).	

Juxing Kiln Main Component Configuration List

Serial Number	Item Name	Classification: 1200°C, 1400°C, 1600°C, 1700°C, 1800°C, 1900°C • Juxing Kiln					factory	Remark
1	Double-layer outer shell • High-temperature	•	•	•	•	Type 1900 Silicon		
2	alloy resistor with heating element electric heater	Silicon carbide rods and silicon molybdenum rods		1800 type silicon molybdenum rod	1850 type silicon molybdenum rod	Molybdenum Rods	Juxing Kiln	

			Silk							
3		Temperature controller 858P		858P	858P	858P	858P		858P Xiamen Yudian	
4		Thermocouple K		S	B	B	B	B+ light fiber	Taisho/Guangming	
5		Voltmeter •		•	•	•	•	• Chint		
6		Ammeter •		•	•	•	•	• Chint		
7		SCR adjustment instrument	•	•	•	•	•	• Juxing Kiln		
8	Electrical control	Contactor •		•	•	•	•	•	Chint/Deli West	
9	Control part	Air circuit breaker •		•	•	•	•	•	Chint/Deli West	
10		Button •		•	•	•	•	•	Chint/Deli West	
11		Buzzer •		•	•	•	•	•	Chint/Deli West	
12		Fast-melting		•	•	•	•	• Mingrong		
13		transformer		•	•	•	•	• Juxing Kiln		
14		Ceramic fiber Board/Module	1260	1500	1700	1800	1850	Zirconia fiber 2100	Juxing Kiln	
15	Refractory Bar Hot furnace	Furnace opening insulation Filling bricks (inside) Door)	•	•	•	•	•	• Juxing Kiln		
16		Sintering plate	Quartz ceramic porcelain	Quartz ceramic porcelain	Corundum Lai Shi	Corundum Lai Shi	Corundum Lai Shi	Zirconia fiber 2100	Juxing Kiln	