



# Luoyang Juxing Kiln Co., Ltd.

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(National High-tech Enterprise, Specialized and Innovative Enterprise)

### GWDL-XA Box-Type Electric Furnace Product Introduction and Technical Data

<b>one,</b>	<b>Product Name: Resistance Furnace / Box-type Electric Furnace / Muffle Furnace</b>	<b>Contact Person: Wang Guoqing, 13837908666, wgq@gwdl.com</b>
<b>two,</b>	Model: GWDL-XA	Specifications: 1200, 1400, 1600, 1700, 1800, 1900 degrees
<b>three,</b>	<b>Product Introduction</b>	

The GWDL-XA 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.

This equipment utilizes high-temperature electric heating elements and is specifically designed for laboratories in universities, research institutes, and industrial 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, power switch, main heating start/stop button, voltmeter, ammeter, computer interface, and observation/air inlet for continuous monitoring of the system's operating status. The product employs reliable integrated circuitry, ensuring a good working environment and strong anti-interference capabilities. The furnace shell temperature remains 45°C 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 and convenience.



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Convenient and easy to operate.						
Four,	Technical parameters					
Maximum operating temperature: 1200 degrees Celsius	1400 degrees	1600 degrees	1700 degrees	1800 degrees	1900 degrees	1900 degrees
Operating temperature up to 1150 degrees Celsius	1350 degrees	1550 degrees	1680 degrees	1780 degrees	1850 degrees	1850 degrees
Temperature control range	100-120 0 degrees	100-1 400 degrees	100-160 0 degrees	100-170 0 degrees	100-1800 degrees	100-1900 degrees
Temperature control accuracy	±1 degree	±1 degree	±1 degree	±1 degree	±1 degree	±1 degree thermocouple
Temperature sensing element	k	S	B	B	B	+ optical fiber 1900 type
Heating element material	High-temperature alloy resistance wire	Silicon carbide rods and silicon molybdenum rods		Type 1800 silicon molybdenum rod	Type 1850 silicon molybdenum rod	silicon molybdenum rod
Heating element installation location	with three-sided heating, plus bottom heating on both sides.	Top and bottom / sides	Both sides		Both sides	
heating rate	Maximum heating rate: 40 degrees Celsius per minute (non-linear)					
Furnace body structure and materials	The electric furnace body adopts an advanced air-cooled double-layer carbon steel furnace body structure. The effective air-cooled guide baffles enable the overall cold air circulation in the furnace shell, which finally cools the conductive plates of the heating element and then discharges them from the furnace body, avoiding high-temperature oxidation of the conductive plates of the heating element and ensuring a good working environment.					
Door opening method	The furnace door opens 180 degrees axially to the side. The door lock is located on the side and is equipped with a spring-loaded lock, ensuring effective locking. The lock's elasticity absorbs the expansion of the refractory material, allowing for free expansion and contraction during thermal changes and providing an effective seal.					
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 45 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, using 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 safety.					



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	Highly reliable control effect and control accuracy.
Temperature profile setting	<p>Employs an intelligent temperature controller, equipped with standard PID, AI-controlled APID, or MPT, etc.</p> <p>This type of control features self-tuning and self-learning functions, providing excellent control with no overshoot or undershoot.</p> <p>Features include 30-segment programmable control, enabling temperature control with arbitrary slopes for both heating and cooling.</p> <p>It has programmable/operable commands such as jump (loop), run, pause, and stop, and allows...</p> <p>The program can be modified at any time during its controlled operation; artificial intelligence with curve fitting capabilities is employed.</p> <p>The algorithm can be adjusted to achieve a smooth and even curve control effect;</p>
Number of segments in the heating curve	<p>The 50-segment programmable control function allows for input settings: 50 segments for one curve, 28 segments for two curves.</p> <p>Segments/line, 15 segments/line for three curves, 9 segments/line for five curves; multiple curves can be entered simultaneously.</p> <p>It can be called arbitrarily when used.</p>
The control panel has two buttons: a main power button/knob and a heating chamber on/off button/knob. Included accessories are a crucible tong, a pair of high-	
temperature gloves, and a furnace bottom pad.	
<b>five,</b>	<b>Warranty coverage and period</b>
	<p>The electric furnace comes with a one-year free warranty, including two heating elements. The furnace bottom plate and heating elements are not covered by the warranty (they are not covered by the warranty due to natural damage within three months).</p> <p style="text-align: center;">(Free replacement)</p>
<b>VI. Packing List</b>	
	<p>One electric furnace, one crucible tong, one pair of high-temperature gloves, one furnace bottom firing plate, one instruction manual, one certificate of conformity, and inspection.</p> <p style="text-align: center;">Please receive one copy of the factory inspection report and one sales delivery note. Notes</p>
<b>seven,</b>	
	<p>1. To avoid affecting the lifespan of the electric furnace, it is recommended that the maximum heating and cooling rates be 1-15<math>\dot{y}</math>/min (at high temperatures).</p> <p>(Rapid heating will shorten the lifespan of the heating element)</p>
	<p>2. This box furnace does not use a vacuum sealing structure, so flammable and explosive gases must not be introduced.</p>
	<p>3. After a period of use, minor cracks may appear in the furnace chamber of this box-type furnace. This is normal and will not affect its use.</p> <p>It can also be repaired with an alumina coating.</p>
	<p>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, and we will...</p> <p>Special treatment of the furnace</p>
	<p>5. High-temperature solution must not leak onto the furnace bottom. To prevent this, a pad or alumina powder can be used for isolation.</p>
	<p>6. The instrument should be placed in a well-ventilated, dry place. VIII. 1. The electric furnace</p>
<b>is</b>	<b>Shipping Information</b>
	<p>packaged in three layers: wrapped in foam paper, then wrapped in plastic film, and finally packed in a wooden crate.</p>
	<p>2. Free domestic door-to-door delivery (free delivery within city limits)</p>
	<p>3. We will be responsible for any damage that occurs during the transportation of the electric furnace.</p>
	<p>4. Logistics methods: Transportation by road, rail, ship (for foreign trade export), and air (for foreign trade export). For locations relatively close to our company...</p> <p style="text-align: center;"><small>The company will arrange dedicated vehicles for transportation (packaging includes wooden pallets and cardboard boxes).</small></p>

<b>Nine,</b>	<b>Optional additional features list</b>	Additional fees apply
Name and Function Introduction		Function code



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	Standard configuration includes 50 temperature rise profiles; imported instruments are optional (B).	Choose one of the two options	A/B
	Chinese menu, storage of multiple heating process curves, storage of historical curves and data reports (7-inch)	Choose one of the four options	C
Temperature controller touch screen IoT interface	The RS485 communication interface for the electric furnace allows reading and writing real-time data such as furnace start-up, pause, stop, temperature rise curve, and allowable time.		D
Computer control software and hardware	The electric furnace can be controlled via computer for start-up, pause, stop, temperature curve setting, temperature curve reading, and parameter setting. It boasts high reliability and ease of use. It can store measured values, setpoints, output values, time intervals, interval numbers, temperature curves, and power percentage curves. Temperature curves, setpoints, and commonly used parameters can be modified via computer. Historical curves and reports can be filtered by time interval (1 second to 1 hour) and can be stored long-term. It uses a Siemens PLC for control (reading and writing electric furnace start-up, pause, stop, temperature curve, time, temperature curve, atmosphere,		E
PLC	flow rate, switch status, power supply, and power). Open ports allow for serial and parallel data exchange with upstream and downstream equipment.		F
observe	The observation port is located on the furnace door and is made of high-temperature resistant quartz glass.		H
intake	Float flow meter + manual valve; flow meter quantity, maximum output, and gas medium selectable; digital display mass flow meter; flow	Choose one of the two options	K
	meter quantity, maximum output, and gas medium selectable; exhaust port, manual or electric opening; automatically opens or		M
exhaust	closes in N segments based on the	Choose one of the two options	T
	temperature rise curve; electric exhaust port and electric air inlet can be linked to the temperature rise curve segment		P
Automatic intake and exhaust	selection; automatic opening and closing at any temperature segment; PLC-based automatic opening and closing during the heating process (provided the touch screen function is selected).		Y
with movable	Two omnidirectional wheels, two fixed wheels		R
casters for rapid cooling	A variable frequency drive and a centrifugal fan are used to achieve programmable cooling.		N
Open	Electric top-opening door + foot pedal control panel		S
Door-mounted high-speed	The material rack (platform) is made of high-temperature steel and has wear-resistant heavy refractory bricks on the top. This function works in conjunction with the S function to quickly pull out high-temperature materials onto the rack (platform) outside the furnace door after the furnace door is opened.		I
discharge rack	Multi-face independent temperature control is used to achieve higher temperature field uniformity.		X
(platform); multi-point temperature-controlled stirring; metal stirring fan up to 1050 degrees Celsius; frequency converter; PLC with automatic Z-axis temperature control.			



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independent	Automatic Start/Customization-4000	
wind turbine control cabinet	The control system is separated from the furnace body, requiring the addition of an independent control cabinet (1600x600x400) and additional control cables.  Length (within 5 meters)	Q
Heat storage furnace end	Lowering the furnace bottom by 50mm and creating a perforated design, along with multiple support points and additional firing plates, increases costs by 5%.	W
exhaust deal with	Add VOC exhaust gas treatment furnaces of 40m³/h and 80m³/h.	V
Anti-corrosion Erosion furnace chamber	Acid and alkali resistant, hydrofluoric acid corrosion resistant furnace lining material	G
fever Sports Insurance Protect	The heating element is protected against powder contamination and corrosion from volatile substances.	L
Clean furnace	The furnace interior is insulated with ceramics, high-temperature glass, and high-temperature metals to prevent dust and volatile organic compounds from entering.	J

ten,	Model Specifications					
	1200-degree electric furnace					
name	Specifications Number	Furnace dimensions (length and width) mm high)	External dimensions (mm)	Voltage ACV	power kw	weight (kg)
Box-type electric Furnace	GWDL-12 00XA-A- 4.5L	200×150×150 L=570, W=400, H=710	220V	220	2.5	70
	GWDL-12 00XA-A- 7.2L	300×200×120 L=670, W=480, H=683		220	3.5	85
	GWDL-12 00XA-A- 12L	300×200×200	L=670, W=480, H=763	220	5	90
	GWDL-12 00XA-A- 16L	400×250×160	L=770, W=530, H=723	380	7	110
	GWDL-12 00XA-A- 27L	300×300×300	L=670, W=580, H=863	380	9	125



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	GWDL-12 00XA-A- 30L	500×300×200 L=870, W=580, H=763	380	10	130
	GWDL-12 00XA-A- 45L	500×300×300 L=870, W=580, H=864	380	12	140
Note:	1. All models listed above are in stock. Special models with furnace dimensions can be customized according to customer requirements (delivery time 7-10 days)! Custom-made sizes will increase by 20% for a single unit, by 10% for 3-5 units, and by no increase for 6 units or more.				
	2. Dimensions are in millimeters (mm). The dimensions shown are for reference only; the actual dimensions shall prevail.				

1400-degree electric furnace						
name	Specifications Number	Furnace dimensions (length and width) mm high)	External dimensions (mm)	Voltage ACV	power kw	weight (kg)
Box-type electric Furnace	GWDL-14 00XA-A- 4.5L	200×150×150 L=570, W=400, H=710	220V		4	90
	GWDL-14 00XA-A- 7.2L	300×200×120 L=580, W=450, H=530		220	5	100
	GWDL-14 00XA-A- 12L	300×200×200	L=580, W=450, H=610	220/380	8	110
	GWDL-14 00XA-A- 16L	400×250×160	L=680, W=500, H=580	380	10	130
	GWDL-14 00XA-A- 27L	300×300×300	L=680, W=500, H=581	380	12	150
	GWDL-14 00XA-A- 30L	500×300×200 L=780, W=550, H=610		380	15	150
	GWDL-14 00XA-A- 45L	500×300×300	L=780, W=550, H=730	380	18	180
Note:	1. All models listed above are in stock. Special models with furnace dimensions can be customized according to customer requirements (delivery time 7-10 days)! 2. Dimensions are in millimeters (mm). The dimensions shown are for reference only; the actual dimensions shall prevail.					



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1600-degree electric furnace						
name	Specifications Number	Furnace dimensions (length and width) mm high)	External dimensions (mm)	Voltage ACV	power kw	weight (kg)
Box-type electric Furnace	GWDL-16 00XA-A- 4.5L	200×150×150 L=570, W=400, H=710		220V	4	180
	GWDL-16 00XA-A- 7.2L	300×200×120 L=770, W=632, H=905		220	5	200
	GWDL-16 00XA-A- 12L	300×200×200	L=770, W=632, H=985	380	8	220
	GWDL-16 00XA-A- 16L	400×250×160	L=870, W=682, H=945	380	10	240
	GWDL-16 00XA-A- 27L	300×300×300 L=770, W=732, H=1085		380	12	250
	GWDL-16 00XA-A- 30L	500×300×200 L=970, W=732, H=985		380	15	260
	GWDL-16 00XA-A- 45L	500×300×300 L=970, W=732, H=1085		380	18	300
Note:	<p>1. All models listed above are in stock. Special models with furnace dimensions can be customized according to customer requirements (delivery time 7-10 days)! Custom-made sizes will increase by 20% for a single unit, by 10% for 3-5 units, and by no increase for 6 units or more.</p> <p>2. Dimensions are in millimeters (mm). The dimensions shown are for reference only; the actual dimensions shall prevail.</p>					

1700-degree electric furnace						
name	Specifications Number	Furnace dimensions (length and width) mm high)	External dimensions (mm)	Voltage ACV	power kw	weight (kg)
Box-type electric Furnace	GWDL-17 00XA-A- 4.5L	200×150×150 L=570, W=400, H=710		220V	4	180
	GWDL-17 00XA-A- 7.2L	300×200×120 L=770, W=632, H=905		220	5	200



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	GWDL-17 00XA-A- 12L	300×200×200	L=770, W=632, H=985	380	8	240
	GWDL-17 00XA-A- 16L	400×250×160	L=870, W=682, H=945	380	10	260
	GWDL-17 00XA-A- 27L	300×300×300 L=770,W=732,H=1085		380	12	280
	GWDL-17 00XA-A- 30L	500×300×200 L=970, W=732, H=985		380	15	280
	GWDL-17 00XA-A- 45L	500×300×300 L=970, W=732, H=1085		380	18	320
Note:	1. All models listed above are in stock. Special models with furnace dimensions can be customized according to customer requirements (delivery time 7-10 days)! Custom-made sizes will increase by 20% for a single unit, by 10% for 3-5 units, and by no increase for 6 units or more.					
	2. Dimensions are in millimeters (mm). The dimensions shown are for reference only; the actual dimensions shall prevail.					

1800-degree electric furnace						
name	Specifications Number	Furnace dimensions (length and width) mm high)	External dimensions (mm)	Voltage ACV	power kw	weight (kg)
Box-type electric Furnace	GWDL-18 00XA-A- 4.5L	200×150×150 L=570, W=400, H=710		220V	4	180
	GWDL-18 00XA-A- 7.2L	300×200×120 L=770, W=632, H=905		220	5	200
	GWDL-18 00XA-A- 12L	300×200×200	L=770, W=632, H=985	380	8	240
	GWDL-18 00XA-A- 16L	400×250×160	L=870, W=682, H=945	380	10	260
	GWDL-18 00XA-A- 27L	300×300×300 L=770,W=732,H=1085		380	12	280
	GWDL-18 00XA-A-	500×300×200 L=970, W=732, H=985		380	15	280



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	30L					
	GWDL-18 00XA-A- 45L	500x300x300 L=970, W=732, H=1085	380	18	320	
Note:	1. All models listed above are in stock. Special models with furnace dimensions can be customized according to customer requirements (delivery time 7-10 days)! Custom-made sizes will increase by 20% for a single unit, by 10% for 3-5 units, and by no increase for 6 units or more. 2. Dimensions are in millimeters (mm). The dimensions shown are for reference only; the actual dimensions shall prevail.					

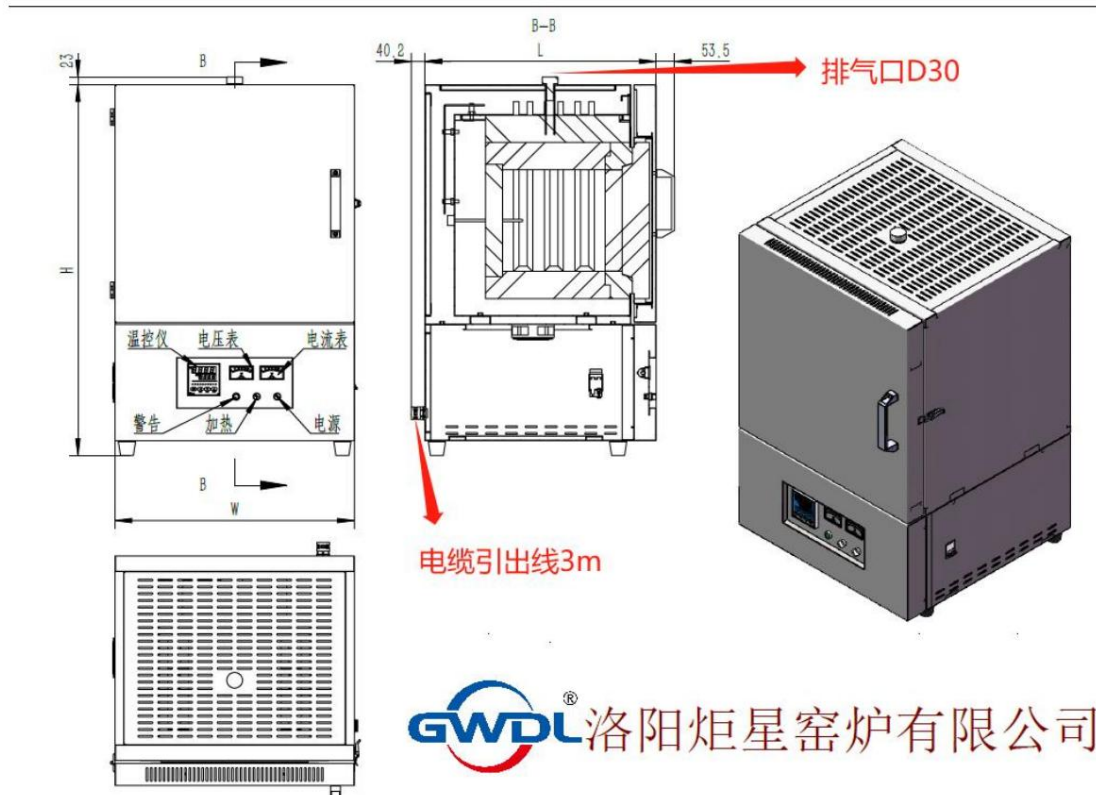
List of main components of Juxing kiln												
sequence Number	Project Name		Classification						factory	Remark		
			1200 Spend	1400 Spend	1600 Spend	1700 Spend	1800 degrees	1900 degrees				
1.	Outer shell	Double outer shell	••••					•	•	Juxing Kiln		
2	electro-thermal element	electric heating element	high temperature alloy resistance Silk	Silicon carbon Great	silicon molybdenum Great	1800 Type 1 silicon molybdenum Great	Model 1850 silicon molybdenum rod	Model 1900 silicon molybdenum rod		Juxing Kiln		
3	Electrical appliances control part	Temperature controller	858P	858P			858P	858P		Xiamen Yudian		
4		858P 858P		S	B	B	B B+	Fiber Optics		Dazheng/Guangming		
5		Thermocouple	K Voltmeter	••••				•	•		Chint	
6		Ammeter	••••					•	•		Chint	
7		SCR adjustment	••••					•	•		Juxing Kiln	
8		Power tools	••••					•	•		Chint/Delixi	
9		Contactor	••••	Circuit breaker	••••			•	•		Chint/Delixi	
10		• Pushbutton	••••	Buzzer	••••			•	•		Chint/Delixi	
11		Fast fuse	••••	Transformer	••••			•	•		Chint/Delixi	
12								•	•		Mingrong	
13							•	•		Juxing Kiln		
14	refractory	ceramic fiber Viagra/ Module	1260	1500	1700	1800	1850	Zirconia fiber 2100		Juxing Kiln		
15	Heat insulation furnace	Furnace opening partition heat seal brick (Inside Door)	••••				•	•		Juxing Kiln		
16		Sintering plate	quartz ceramics	quartz ceramics	Corundum Mo Lai	Corundum Lai Shi	Corundum Lai Shi	Zirconia fiber		Juxing Kiln		



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Thank you to get in touch with us!

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