

## Vacuum Oven

High precision temperature control  
Electrically controlled vacuum.  
Shelf heat transfer technology

KZ-23 KZ-23G

KZ-50 KZ-50G



KZ-50G(High configuration )

# Gather all the essence of Kenton technology, Together with researchers

From KENTON--- Human engineering design, the high-precision micro-computer control, temperature control, best components, as well as advanced manufacturing technology of Europe and the United States, ensure your successful experiment.

## KZ Vacuum Oven

Technical parameters

product model	KZ Vacuum Oven		KZG Vacuum Oven (High-end configuration)			
	KZ-23	KZ-50	KZ-23G	KZ-50G		
Heat transfer	Heat transfer of aluminum shelf		Scalable shelf heat conduction (thermal conductivity is more direct)			
Control System	LCD intelligent controller (RS485 )		Touch screen intelligent programmable controller ( USB storage and programmable software)			
Degree of vacuum display	Digital display					
Vacuum degree control	Manual control		Electronic automatic control			
Vacuum range	0~999.9mb or 0~99.99kp, <133pa or -0.1mpa					
Temp. Range (°C)	RT+5°C~250°C					
Temperature resolution (°C)	± 0.1		± 0.1			
Temp. Fluctuation (°C) (In the range of RT+10°C~240°C)	± 0.5		± 0.5			
Timer Range	0~99h or 0~9999min ,					
Heat-up time / rate	Up to 100°C within 60 min					
Working environment	Ambient temperature: 10~30°C, Humidity<70%					
Insulation materials	Environmental protection type material					
Protection function	The observation window is protected by tempered glass and double explosion-proof glass pieces to prevent accidental glass rupture					
External Dimensions (H×W×D)	695×545×480	783×635×550	695×545×480	783×635×550		
Internal Dimensions (H×W×D)	285×258×315	375×348×385	285×258×315	375×348×385		
Interior Volume (L)	23	50	23	50		
Interior steel materials	3MM SUS304 stainless steel inner( 5 sides structural angle steel reinforcement)					
The number of standard tray	2					
Shelf bearing/Total(KG)	Each shelf max 20 KG /Total max 70 KG					
Power (W)	1000	1500	1000	1500		
Voltage	220V/110V					
Net weight (KG)	33	68	35	70		
Shipping weight(KG)	35	71	38	73		
Packing size (mm) (H×W×D)	820×625×600	900×715×670	820×625×600	900×715×670		

# Optional Product Accessories

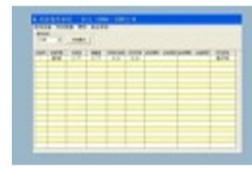
- 1、Portable printer
- 2、USB interface storage recorder
- 3、Gas interface
- 4、ALLSENSTM software
- 5、Vacuum pump
- 6、Aluminum shelf



Printer



Touch screen



Software



Vacuum pump



Storage recorder

All technical data is under no load conditions, environment temperature 25°C, relative humidity 50%RH, voltage fluctuation  $\pm 10\%$ , Under the conditions of test to Setting up a test temperature 10°C/40°C, And fully comply with the requirements of DIN12880 standard.

KENTON may change the above technical parameters at any time. There is deviation about product appearance due to some factors such as the photographic or printed result, please understand and reserves the final right of interpretation.

## Meet international standard:

Temperature safety standards: Germany DIN 12880 Class 3.1

Electrical safety standards: International IEC61010-1

US UL61010-1

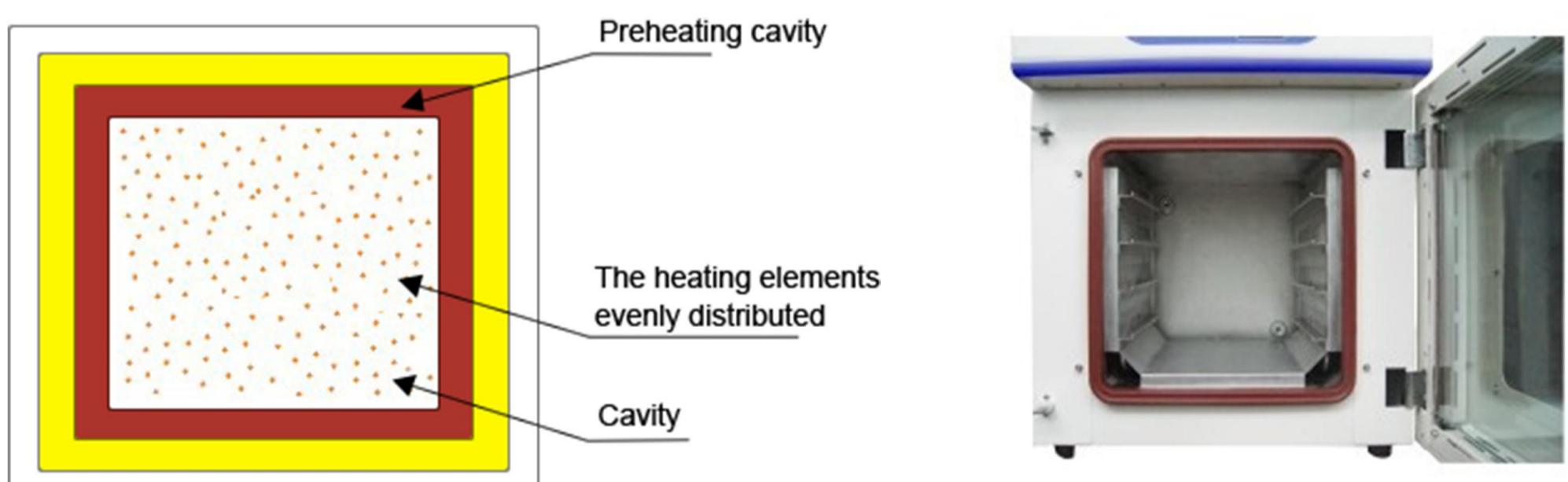
EU EN61010-1

# KZ/KZ-G(Advanced)

1. Vacuum oven designed for drying heat-sensitive and easily oxidized substances, especially suitable for powder or granular samples, and effectively reduce the drying time, which is used in biopharmaceutical, medical utilities, agricultural research and other fields. KZ series Vacuum oven adopt ALLHEAT cavity preheating technology, and S.H-Transfer Shelf heat transfer advanced patented technologies, to ensure the smooth progress of the experiment and culture of the sample.
2. KZ using intelligent LCD screen, RS485 (232) output connection computer remote, temperature programmable control, KZ-G configuration integrated 4.3 inch touch LCD screen, in addition to the above functions also with USB interface data storage function.
3. 3MM thickened SUS304 stainless steel liner, with five-sided structural corner steel reinforcement, so that the whole liner is stronger, more pressure resistant.
4. Equipped with gas external interface, can inject inert gas, while with the help of inert gas injection box to achieve moisture emission.
5. Valve electronic control technology, combined with automatic CNC vacuum, make operation more convenient, no manual repeated calibration is required to effectively reduce the offset, greater accuracy. (Only with the series of KZ-G series)
6. IQ, OQ, PQ and other related certification services.
7. CE certification. Three-year warranty.

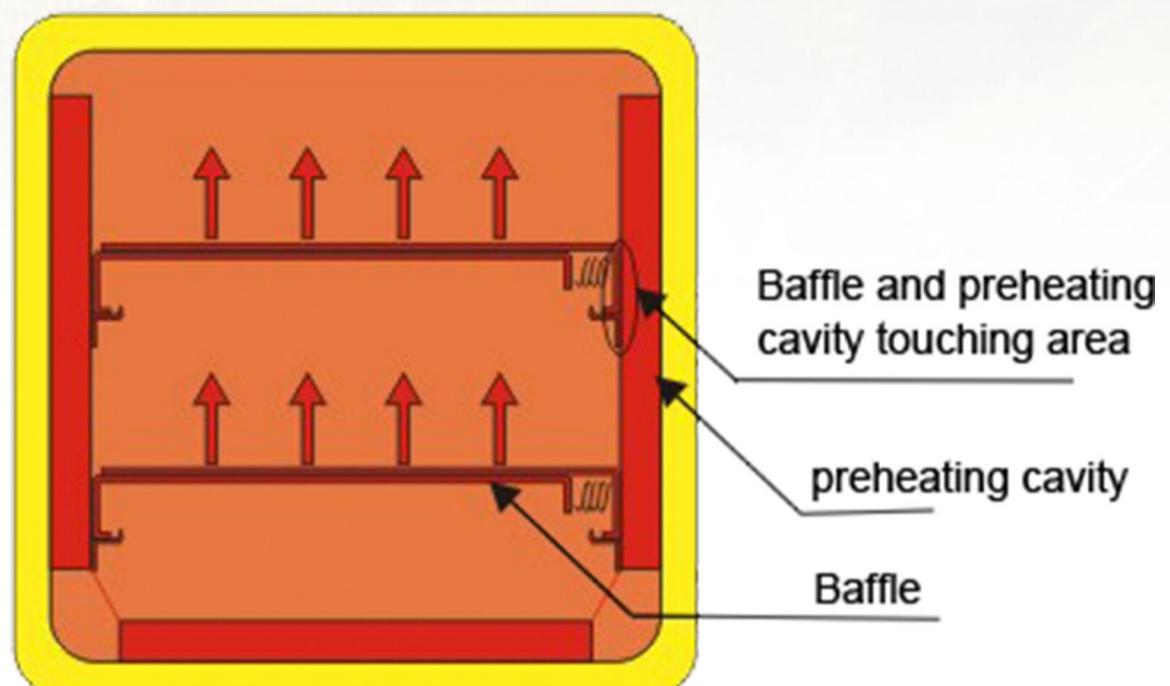
## ALLHEAT liner preheat technology

1. ALLHEAT the advanced cavity preheat technology is the heating elements evenly distributed around the liner, the preheating of the cavity inner wall, and then through the heat transfer and forced-fan convection, so that the cavity temperature of every point can be accurately achieve and maintain settings, thus ensuring uniform distribution of cavity temperature;
2. With ALLHEAT series products because uniform distribution of heat, so low energy consumption, heat not easily lost, and enables customers to use cost reduction.



## S.H-Transfer Shelf heating transfer technology

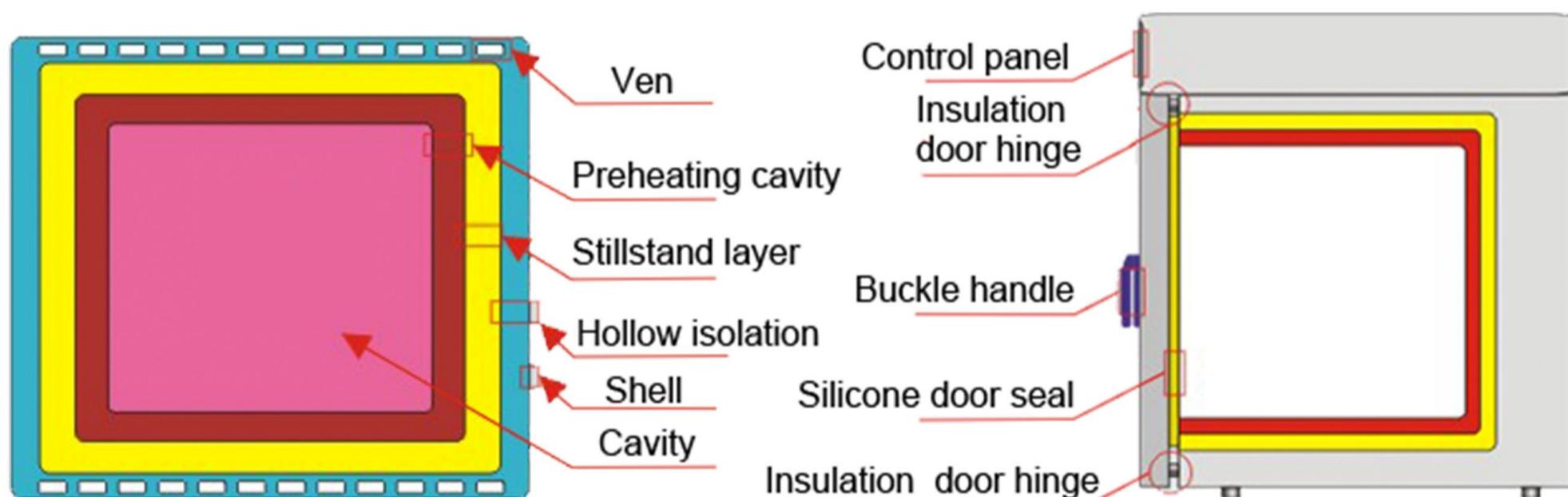
1. Shelf heat transfer technology, increase effective contact area between shelf and cavity heating chamber, shelf temperature and cavity heating chamber temperature consistent. S.H-Transfer shelf heat transfer technology, successfully resolved problem reduced heat transfer under vacuum, so that sample be the most direct and optimized heat transfer.



baffle heating transfer technology

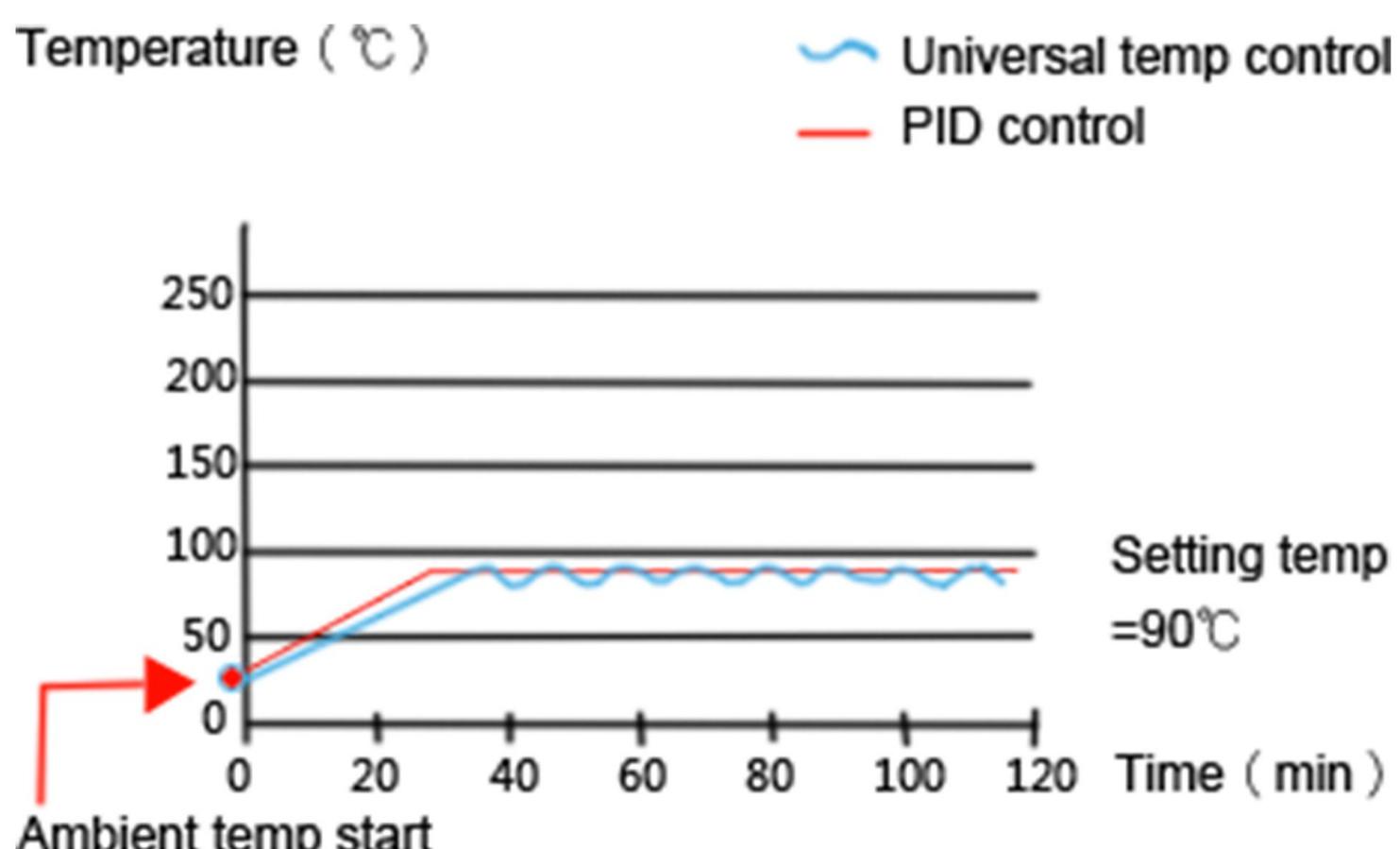
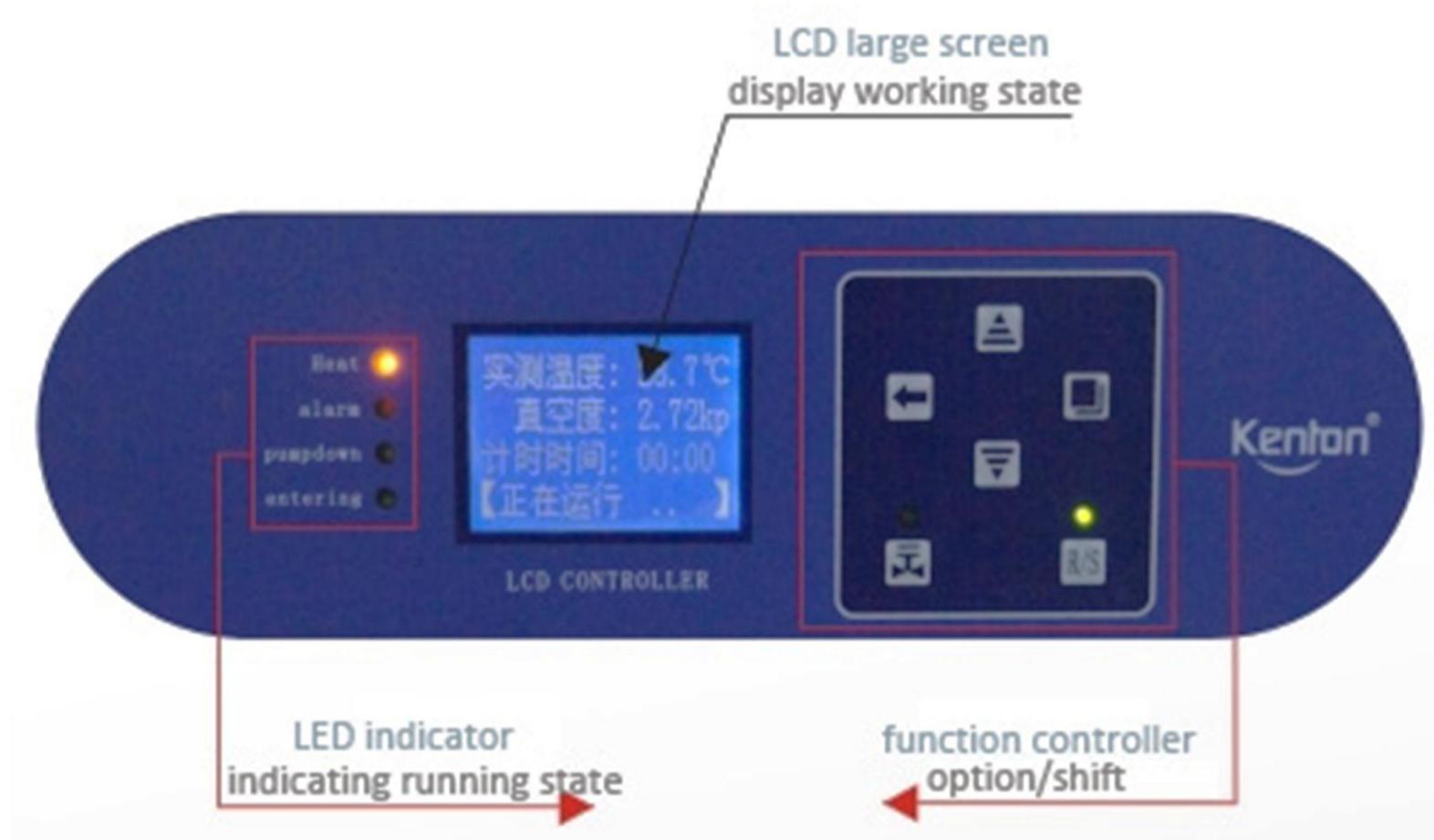
## Pro-Insulation isolation technology

1. The complete isolation between the whole inner tank and the shell is designed to avoid the energy loss caused by heat transfer;
2. Use high-density imported thermal insulation material to wrap the inner bladder, effectively heat insulation and heat insulation;
3. Silicone door seal, isolation type hinge design, with the door handles, belt fastening to ensure tightness.



# ALLSENS programmable PID control

- 1.KZ model is equipped with LCD intelligent temperature controller, KZ-G high configuration is LCD touch screen, all parameters display at screen.
- 2.KZ-G is 4.3-inch touch display: temperature, vacuum, timing, alarm, etc., and can be programmed segment temperature setting, USB interface data storage function. KZ is upgraded to programmable multi-segment temperature controller to meet the needs of customers, multi-segment temperature control range design; wide time setting: 0~999 hours, 0~9999 minutes, the program can be cycle executed.
- 3.Adaptive PID controller precisely control the temperature and humidity, prevent temperature soaring, keep working room temperature stable and uniformity.
- 4.Standard RS485 / 232 interface can be connected to multiple devices at the same time for real-time monitoring, professional supporting the operation ALLSENS programmable



## Sensor

- 1.Industrial sensor PT100, short response time, and low self-heating temperature.
- 2.High quality electronic pressure sensor, to provide accurate pressure value, between provide an effective guarantee for vacuum stability control (KZ-G ).



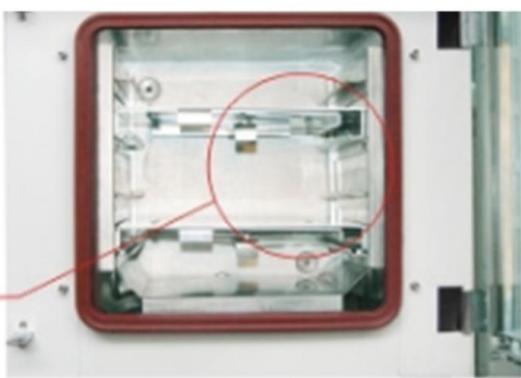
⊕ PT100 tmeperature sensor



⊕ Vacuum sensor

## Ergonomic design

- 1.Classical color design for Lab, international fashion design, arc-shaped design, for highest operational comfort.
- 2.Integrated design that contains original outside handle and LCD screen, ergonomic structure, comfortable viewing angle, convenient to open the outside door and operate interface.
- 3.Interval and number of mesh shelf can be adjusted according to customer requirements. Maximum capacity to meet customer needs.
- 4.Vertical cabinet type typical design structure, electrical control parts placed in the upper part of the box, easy maintenance.
- 5.The suspension spring device of the glass door can effectively close to the silicone sealing ring to ensure that the inner cavity maintains a high vacuum
- 6.☒ Extension lock shelf to avoid displacement in vacuum.



expansion buckle baffle



suspension spring device

# Modern manufacturing processes

Use laser cutting and CNC bending technology. Cold-rolled sheets use three line of acidification anti-rust technology, surface use workmanship of spraying plastics.



## Easy to clean

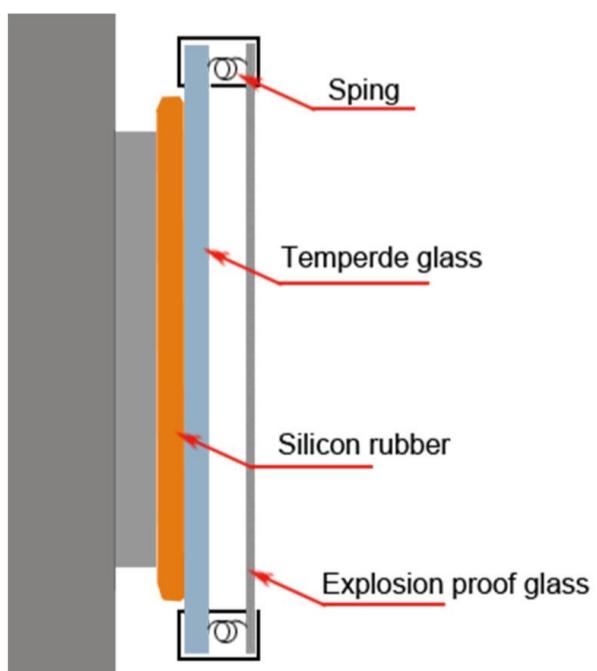
1. Internal surface is smooth and less weld, easy cleaning and maintenance.
2. Pull shelf design, less metal accessories, easy to clean.

## Convenient maintenance

1. Liquid crystal micro-computer controller with diagnostic function. display operating parameters including historical record, temperature and humidity data.
2. Liner with SUS304 stainless steel material, good corrosion resistance and durability;
3. Electrical control components and working room are installed separately. installed on the top of incubator, easy to maintenance.

## Convenient maintenance

1. Multiple over-temperature protection, audible and visual alarm to remind customers.
2. Major electronic components are UL certified.
3. Over temperature protection devices meet Germany standard DIN standard D12880 Class 3.1.
4. Observation window using explosion-proof, tempered glass for double protection, improve safety operating personnel;
5. Pressure protection device with flexible suspension and in the door frame avoids the damage to the operator due to the pressure action or rupture



⊕ Anti pressure protection device



⊕ Dual protection observation window

## Comparison for vacuum oven DZF and KZ series.

Vacuum oven	KZ-G High match version	KZ Professional	DZF-60/S basic	DZF-30S Individual Shelfheating	DZF-50S 4 sides heating
<b>controller</b>					
PID LCD	• Touch screen	•			
PID Digital			•	•	•
<b>Chamber material</b>					
SUS304 St.steel	•	•		•	•
201 St.steel			“S” •		
Zinc-plated steel			No “S” •		
<b>Brand accessories</b>					
ST bi type thyristor	•	•			
Philip chip	•	•			
Taiwan optical coupler	•	•			
Taiwan original magnetic valve	•				
Original vacuum sensor	•				
<b>Vacuum degree display</b>					
LCD screen	• Touch screen				
Digital		•			
pointer			•	•	•
<b>Heating element</b>					
304 St.steel	•	•			
201 St.steel			“S” •	•	•
Carbon steel			no “S” •		
<b>Vacuum control</b>					
automatic	•				
manual		•	•	•	•
<b>Pressure-suspension protection device</b>					
Individual shelf heating				•	
4 sides heating					•
RS232 PORT	•	•			
Remote control monitor	•	•			
Programmable control	•				
USB interface storage	•				
S.H-Transfer	•			•	
ALLHEAT chamber preheating	•	•			•
ALLSENS temp.control	•	•			
Insulation technology	•	•	•	•	•
Insulation layer	Glass fiber	Glass fiber	Rock wool	Rock wool	Rock wool
Temp.range °C	50-250	50-250	50-200	50-200	50-200
Temp.accuracy °C	±0.1	±0.1	±0.5	±0.5	±0.5
concentration	±0.5%	±0.5-1%	±1%	±1%	±1%
timer	•	•	•	•	•
Over-temp.alarm	•	•	•	•	•
warranty	3 years	3 years	2 years	2 years	2 years

## Manufacture of drying oven, lab incubator, climate chamber, laminar flow cabinet, biological safety cabinet(OEM,ODM)

### KENTON APPARATUS LIMITED

KENTON Apparatus Limited was found in 1999, production plant was set in Guangzhou, China. It is mainly engaged in production, sales and export of laboratory thermostatic equipment and biological scientific equipment, and has provided high-quality products and services for professional laboratories and scientific research institutions at domestic and abroad for many years. We rely on an international professional R&D team to keep the design and technology of products in step with the world and constantly seek breakthroughs. Since its establishment, the company has been focusing on thermostatic equipment products in related fields. Now it is a high-tech enterprise integrating science, industry and trade. Its business covers China, Southeast Asia, America, Europe, Australia and other countries. At the same time, based on the business philosophy of "walking with scientific researchers", and taking advantage of the company's geographical advantages, the company has carried out extensive communication and exchange with scientific researchers in different regions for many years, and carried out long-term follow-up services to users, constantly improving the function and quality of products, so that products can better meet the requirements of users.

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