



KLABS Vacuum Oven



Humanized design

- With reservation and timing functions, there is no need to wait, which effectively improves the efficiency of the experiment.
- Available in Chinese and English menus to meet different language needs, with °C / °F conversion.
- The machine above 90L has moving casters for flexible and convenient movement.
- The door is closed and elastically adjustable, and the integrated molded silicone rubber door seal ring ensures the vacuum inside the box.

Safety

- **Protection on instruments:** Comply international standard secondary temp limiting alarm system, when the heating is out of control or exceeds the maximum limit temperature, the heating is automatically cut off with sound and light alarm, ensure operating is safe without any accident.
- **Protection on key components:** Key components are equipped with over-current, over-temperature, overload and other safety protection to prevent accident.
- **Protection on samples:** When the temperature inside the box is higher or lower than the set temperature, the alarm will start to cut off the heater, with sound and light alarm to remind the operator to protect the sample from normal test without accident.
- **Protection on operator:** The cabinet and door are specially insulated to make the surface temperature of the cabinet low, ensuring the operator's safety and no accidents.
- **Breakdown message provided:** When the instrument breakdown, the message will shown on the screen to help operator clearly check.

Convenient data processing

- The touch screen type standard with a USB interface, which can record the change status of the temperature parameters.
- The LCD screen is option for USB interface.
- It can be equipped with RS232 data interface, which can realize remote control of the machine through software (option).
- RS-232 and USB can be selected one of them.

Technical parameters

Touch Screen	KV-20	KV-50	KV-90	KV-120	KV-210
LCD controller	KV-20L	KV-50L	KV-90L	KV-120L	KV-210L
Capacity (L)	24L	51L	91L	125L	216L
Temp Range	RT+10℃ - 200℃				
Temperature Accuracy	±1℃				
Display Resolution	0.1℃				
Max degree of vacuum	99Pa				
Standard Max number of shelves	2 (3)	2 (5)	2 (6)	2 (10)	2 (13)
Max load per shelf	20Kg				
Interior Material	304 stainless steel				
Interior Dimension WxDxH(mm)	300×300×275	415×370×345	450×450×450	500×500×500	600×600×600
Exterior Dimension WxDxH(mm)	445×505×590	580×594×670	610×721×774	660×824×774	760×874×924
NW	60Kg	95Kg	145Kg	175Kg	245Kg
Inert gas air inlet	standard				
Electrical Requirement	AC220V/50Hz				
Power Consumption	700W	1400W	2000W	2400W	2800W

※ The outer dimensions do not include hinges, handles, gauges, wires, etc., and the internal dimensions do not include the duct section.

※ All test data are tested in a 25℃ environment.

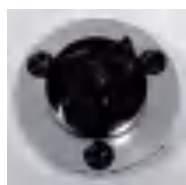
Option-Vacuum Pump

Low noise, high efficiency

- Two-stage vacuum pump control technology with lower noise, higher vacuum, higher pumping efficiency, for KV series , The vacuum drying time is around 2-4 mins.

Clean and reliable

- Double anti-return oil structure to more reliably protect the vacuum system from oil pollution after shutdown.
- It adopts imported German oil seal and seals with fluororubber material to improve corrosion resistance and prevent oil leakage.
- Adopting the aviation technology bushing treatment process, the life of the exhaust valve piece reaches 10 billion times.
- It adopts high-quality materials such as vacuum pump oil imported from Japan, which makes the operation more reliable and has a longer service life.



Gas ballast



Auto antisuck back valve



Gear pump



Integrated pump body structure



Technical parameters

Vacuum oven model	Capacity(L)	Degree of vacuum	Vacuum pump model	Type	Flow of Vacuum pump	Time
KV-20	24	133Pa	VRD-8	two-stage pump	2L/S	1min
KV-50	51	133Pa	VRD-8		2L/S	1min
KV-90	91	133Pa	VRD-16		4L/S	2min
KV-120	125	133Pa	VRD-16		4L/S	3min
KV-210	216	133Pa	VRD-24		6L/S	4min

Technical parameters

Model		VRD-4	VRD-8	VRD-16	VRD-24
Displacement speed	50Hz m3/h(L/s)	4(1.1)	8(2.2)	16(4.4)	24(6.6)
	60Hz m3/h(L/s)	4.8(1.3)	9.6(2.6)	19.2(5.2)	28.8(7.9)
Ultimate partial pressure gas ballast close		5x10 - 2Pa	5x10 - 2Pa	4x10 - 2Pa	4x10 - 2Pa
Ultimate total pressure gas ballast close		5x10 - 1Pa	5x10 - 1Pa	4x10 - 1Pa	4x10 - 1Pa
Ultimate total pressure gas ballast open		10 Pa	10 Pa	8x10 - 1Pa	8x10 - 1Pa
Power supply		Single/Three-Ph			
Power rating		0.4/0.37kW	0.4/0.37kW	0.55kW	0.75 kW
Level of protection		IP44			
Intake and exhaust		KF16/25	KF16/25	KF25	KF25/40
Oil capacity		0.6 - 1.0 L	0.6 - 1.0L	0.9 - 1.5L	1.3 - 2.0 L
Motor speed(50/60Hz)		1440 /1720 rpm			
Ambient temperature		10 - 40℃			
Noise level(50Hz)		≤ 52dB	≤ 52dB	≤ 58dB	≤ 58dB
Weight		19 kg	21 kg	30 kg	35 kg
Dimension(LxWxH)mm		440x144x217	440x144x217	530x188x272	567x188x272

1



Advanced Color Intelligent Touch Screen Control

- 4.3 inch touch screen, intelligent touch control, real-time display of parameters, simple and convenient operation.
- Quick setting of temperature, time and other parameters can be carried out.
- It has the function of program setting. It can be programmed in 7 segments, 63 steps, 9 steps and 1-99 hours and 59 minutes per segment.

2



Intelligent Solenoid Valve

- Vacuum exhaust pipe adopts solenoid valve automatic control, which is more convenient, labor-saving and safer than mechanical control valve.
- Joint control of solenoid valve and vacuum pump, solenoid valve opening vacuum pump can automatically open, solenoid valve closing vacuum pump can automatically close, avoiding the possibility of errors in operation.
- The inert gas intake pipeline is controlled by solenoid valve, which is easy to operate and safe.

3



Bundled Heating Technology

- The shelf is tightly combined with the inner gallbladder with large angle, large contact area, high thermal conductivity and good temperature uniformity, which is 40% higher than that of the traditional way and 50% higher than that of the box.
- The height of shelf is adjustable, it can be used for drying different sizes of articles and materials, and it is easy to operate.

4



Stainless Steel Inner Liner

- The liner is made of 304 stainless steel, sandblasted and has good heat resistance. Strong corrosion resistance, ensuring durability and easy cleaning.
- The shelf is made of aluminum, sandblasted, and has a large contact area. High thermal conductivity, 40% higher heat transfer efficiency than conventional methods.
- The number of shelves is optional, and the number of shelves can be increased as needed to improve the efficiency of vacuum box use.

5



Large View Window

- Large viewing angle window is adopted to make the objects in the working room clear at a glance.
- Tempered and bullet-proof double-layer glass is used in the visible window, which has strong pressure resistance and is safe and reliable.
- The visible window has LED light source to observe the drying condition of the object in the box more clearly (optional).

6



Special Power Supply for Vacuum Pump

- With special power supply jack for vacuum pump and linkage control with solenoid valve, the vacuum pump can start automatically when the solenoid valve is opened. When the solenoid valve is closed, the vacuum pump can be automatically closed.
- The operation is simple and convenient, and there will be no misoperation. It is safe and reliable.

7



Inert Gas Intake Valve

- With inert gas inlet to meet the needs of special materials demand for inert gas drying.

