

## Programmable Temperature and Humidity Test Chambers

KOMEQ



KMH-408S Temperature & Humidity test chamber



Solar Test Chamber



LED Test Chamber

### ■ Standard configuration

- Sight window\*1, cable port(port $\Phi$ 50mm)\*1, shelves\*2, chamber lamp\*1, power cable \*2m
- No fuse breaker, over pressure, over heat and over current protection for compressor, Over temperature protection, over load protect of blower, dry heat protection

### ■ Optional accessories

- Cable Port:  $\Phi$ 100mm cable port is available
- Shelves

- Ro-type water purifier: R-80/day

Provide to keep the humidifying heater and wet bulb wick free from scale.

- Inner glass door with operation port

A glass door can be provided behind the main door so that specimens can be observed. Two operation ports of 130mm diameter are used for handing specimens inside the chamber without opening the glass door.

- Dehumidifier

The rotation regenerating dehumidifier M-120 ensures precise control of low humidity (5°C 5%RH) for electrostatic reliability tests.

- Temperature and humidity recorder

-100 to +150°C/0 to 100%RH 100mm with effective width 100mm and 2 pen  
Temperature 1 pen and humidity 1 pen.

-100 to +150°C/0 to 100%RH 100mm with effective width 100mm and 6 dots  
Temperature 3 dots and humidity 1 dot.

-100 to +150°C/0 to 100%RH 100mm with effective width 180mm and 12 dots  
Temperature 6 dots and humidity 6 dots.

- Defrosting circuit

The chamber automatically detects and melts the frost on the evaporator when operating below 0°C.

- Liquid or infection

In order to rapidly decrease the temperature inside the chamber, a cylinder of liquid can be connected the chamber.

# Programmable Temperature and Humidity Chamber



## ■ Specifications ( at +20°C room temp. Or+25°C water temp with empty load)

Model	KMH-R series					KMH-L series					KMH-S series				
	150R	225R	408R	800R	1000R	150L	225L	408L	800L	1000L	225S	408S	800S	1000S	
Temp. range	-20°C~150°C					-40°C~+150°C					-70°C~+150°C				
Interior size	W(mm)	600	700	700	1000	1000	600	700	700	1000	1000	700	700	1000	1000
	H(mm)	600	700	750	1000	1000	600	700	750	1000	1000	700	750	1000	1000
	D(mm)	460	480	800	800	1000	460	480	800	800	1000	480	800	800	1000
Exterior size	W(mm)	880	980	980	1280	1280	880	980	980	1280	1280	980	980	1280	1280
	H(mm)	1730	1890	1940	2160	2160	1730	1890	1940	2160	2160	1890	1940	2160	2160
	D(mm)	1400	1460	1740	1750	1950	1400	1460	1740	1750	1950	1460	1740	1750	1950
Power(KW)	5.8	6	7.5	12.8	12.8	7.5	7.5	8.5	14.5	14.5	9.5	10.6	18.5	18.5	
Weight(KG)	240	280	400	500	580	250	300	420	530	600	330	450	550	650	
Humidity uniformity	±3.0%R.H			±5.0%R.H		±3.0%R.H			±5.0%R.H		±3.0%R.H		±5.0%R.H		
Heat up time	-20°C~+100°C, within 35 min					-40°C~+100°C, within 45 min					-70°C~+100°C, within 60 min				
Pull down time	+20°C~-20°C, within 45 min					+20°C~-40°C, within 60 min					+20°C~-70°C, within 80 min				
Standard accessories	Sight window*1, cable port(portΦ50mm)*1, shelves*2, chamber lamp*1, power cable *2m														
Safety device (standard)	No fuse breaker, over pressure, over heat and over current protection for compressor, Over temp. protect, over load protect of blower, dry heat protection														
Control System	Balanced Temperature & Humidity Control System														
Refrigeration system	Air Cooled (Water Cooled Type is option)														
	Hermetic compressor, Single stage refrigeration system, CFC-Free refrigerant(HFC-507/HFC-23)										Hermetic compressor, Cascade Refrigeration, CFC free refrigerant (HFC-507/HFC-23)				
Controller	Panel:7-inch LCD Touch panel, Chinese or English display selectable														
	Operation model :Program or fix point running														
	Memory capacity :120programs,1200steps,														
	All repeat 999 cycles, part repeat 99 cycles														
Humidity Range	20~98%R.H														
Temp. constancy	±0.5°C														
Humidity constancy	±2.5%R.H														
Temp. uniformity	±2.0°C														
Interior material	Stainless Steel Plate (SUS 304)														
Exterior material	Baked Painting Steel Or Stainless steel(SUS304)														
Insulation material	Rigid polyurethane Foam and Glass Fiber Wool														
Ambient Temp.	+5°C~+35°C														
Wiring method	AC 380±10% 50Hz, 3 phase 4 wires +Ground Wires														

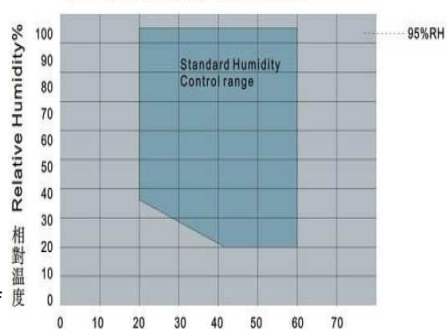
Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available



KMHW-4 walk-in chamber

**Optional accessories**

- Cable Port: Two size of cable port is available:  $\Phi 50\text{mm}$ ,  $\Phi 100\text{mm}$ .
- Double door
- Pass room: Provided to avoid disturbance of atmospheric temperature and humidity while opening the door.
- Floor reinforcement: Can be fixed if heavy specimen placed in the chamber for test.
- Carry-in inclined platform: Provided below the door to facilitate moving of specimens in and out through the door.
- Entire ceiling blow-out duct  
The extremely wide air inlet reduces the airflow rate (down to approx.  $0.5\text{m/s}$ )
- Dehumidifier  
The rotation regenerating dehumidifier (M-300) ensures precise control of low humidity ( $21^\circ\text{C}$ ,  $23\%\text{RH}$ ) for electrostatic reliability tests.
- Temperature and humidity recorder  
100mm width recording paper with 6 dots  
180mm width recording paper with 12 dots
- Status indication lamp  
Provide to signal chamber status and warnings when normal running, a malfunction running or stand by occurs.
- Water purifier  
Provided to keep the humidifier heater free from scale and ensure the supply of water to humidifier.
- Power socket
- Air cooled type condense

Humidity Control Range 湿度可控制範圍  
( $+5$  to  $+32^\circ\text{C}$  ambient temperature with no load)

## Walk-In Chambers

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■SPECIFICATIONS		Note: We reserve the right to change specifications without prior notice					
Model		KMHW-					
		4	6	8	13	17	21
Volume(m <sup>3</sup> )		9	12.9	16.8	16.8	35.2	13.3
Interior Dimensions	W(mm)	2100	3000	3900	3000	3900	4800
	H(mm)	2100	2100	2100	2100	2100	2100
	D(mm)	2050	2050	2050	4300	4300	4300
Exterior Dimensions	W(mm)	3250	4160	5050	5050	5050	5950
	H(mm)	2350	2350	2350	2350	2350	2350
	D(mm)	2250	2250	2250	2250	4500	4500
Safety Devices(standard)		No fuse breaker, over pressure, over heat and over current protection for compressor, over temperature protection, over load protection for blower, dry heat protection					
Standard accessories		Sight window*1, cable port(portΦ50mm)*1, chamber lamp*1, status indicator					
Control System		Balanced Temperature & Humidity Control System					
Refrigeration system		Water Cooled					
		Semi-hermetic compressor, single stage or cascade refrigeration system,					
		CFC free refrigerant (HFC-507 and HFC-23)					
Controller	Panel	7-inch LCD Touch panel, Chinese or English display selectable					
	Operation model	Program or fix point running					
	Memory capacity	120 programs, 1200 steps, all repeat 999 cycles, part repeat 99 cycles					
	Accuracy	Temp.: 0.1% of F.S. ±1 digit Humidity: 0.1% of F.S. ±1 digit					
	Input	Temp.: pt-100, Humidity: pt-100 or ~5V DCV					
	Comm. port	RS-232 or RS-485 (Software is option)					
Temp. range		Maximum: 80°C, 120°C; Minimum: -60°C, -50°C, -40°C, -30°C, -20°C, -10°C, 0°C					
Humidity Range		10%, 20%, 30%~95%					
Temp. constancy		±0.5°C					
Humidity constancy		±2.5% R.H					
Temp. uniformity		±2.0°C					
Humidity uniformity		±5.0% R.H					
Ambient Temp.		+5°C ~ +35°C					
Wiring method		AC 380±10% 50Hz, 3 phase 4 wires +Ground Wires					
Heat up time		+20°C ~ +80°C, Within 60 min					
Pull down time		+20°C ~ -55°C, -40°C, -20°C, -10°C, Within 120 or 90 or 60 min					
Interior material		Stainless Steel Plate(SUS 304)					
Exterior material		Baked Painting Steel Or Stainless steel(SUS304)					
Insulation material		Rigid polyurethane foam					
Door size (mm)		Single wing: W800*H1800; Double wing: W1600*H1800;					

Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available

# Thermal Shock Chamber (Including three-Zone & two Zone series as below)



Three zone thermal shock chamber KTS-72D

Two zone thermal shock chamber TST-72D

**Specifications** Note:1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available

Model	KTS-A Series							KTS-B Series							KTS-D Series						
	72A	100A	150A	200A	252A	300A	480A	72B	100B	150B	200B	252B	300B	480B	72D	100D	150D	200D	252D	300D	
Interior size	W(mm)	450	500	600	670	700	800	800	450	500	600	670	700	800	800	450	500	600	670	700	800
	H(mm)	400	450	500	600	600	600	800	400	450	500	600	600	600	800	400	450	500	600	600	600
	D(mm)	400	450	500	500	600	650	750	400	450	500	500	600	650	750	400	450	500	500	600	650
Exterior size	W(mm)	1490	1540	1640	1720	1750	1850	1850	1490	1540	1640	1720	1750	1850	1850	1490	1540	1640	1720	1750	1850
	H(mm)	1790	1840	1890	2000	2000	2000	2200	1790	1840	1890	2000	2000	2000	2200	1790	1840	1890	2000	2000	2000
	D(mm)	1600	1700	1830	1850	1930	1980	2500	1600	1700	1830	1850	1930	1980	2500	1600	1700	1830	1850	1930	1980
Test weight (KG)	5	10	12	15	18	20	20	5	10	12	15	18	20	20	5	10	12	15	18	20	
Low Temp. chamber	-55℃~-10℃							-70℃~-10℃							-80℃~-10℃						
Pre-heat time	+20℃~-55℃ ,Within 60 min							+20℃~-70℃ ,Within 60 min							+20℃~-80℃ ,Within 60 mins						
Test. chamber	-40℃~+150℃							-55℃~+150℃							-65℃~+150℃						
High Temp. chamber	+60℃~+200℃																				
Pre-heat time	+60℃~+200℃ ,Within 20 min																				
Recovery time	High-Temp Exposure 30 min																				
	Low-Temp Exposure 30 min																				
	Recovery time within 5 min																				
Safety device	No fuse breaker, over pressure, over heat and over current protection for compressor, over temperature protection, over load protection for blower, dry heat protection																				
Standard accessory	Cable port(portΦ50mm)*1, shelves*2																				
Interior material	Stainless steel plate (SUS 304)																				
Exterior material	Baked painting steel or stainless steel(SUS304)																				
Insulation material	Rigid polyurethane Foam+glass fiber wool																				
Refrigeration system	Water Cooled																				
	Semi-hermetic compressor, cascade refrigeration system, CFC free refrigerant (HFC-507 and HFC-23)																				
Controller	Panel:7-inch LCD Touch panel, Chinese or English display selectable																				
	Operation model:Program or fix point running																				
	Memory capacity:120programs,1200steps, all repeat 999cycles, part repeat 99 cycles.																				
	Accuracy:Temp.:0.1% of F.S±1 digit Humidity:0.1% of F.S±1 digit																				
Ambient Temp.	+5℃~+35℃																				
Power	AC 380±10% 50Hz ,3 phase 4 wires +Ground Wires																				



## Two-Zone Thermal Shock Chamber

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■ Specifications		Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available														
Model		TST-A Series					TST-B Series					TST-D Series				
		72A	130A	226A	360A	500A	72B	130B	226B	360B	500B	72D	130D	226D	360D	500D
Interior size	W(mm)	410	520	610	710	810	410	520	610	710	810	410	520	610	710	810
	H(mm)	560	670	770	830	710	560	670	770	830	710	560	670	770	830	710
	D(mm)	410	520	610	770	860	410	520	610	770	860	410	520	610	770	860
Basket size	W(mm)	300	410	510	610	710	300	410	510	610	710	300	410	510	610	710
	H(mm)	300	410	510	730	610	300	410	510	730	610	300	410	510	730	610
	D(mm)	300	410	510	510	730	300	410	510	510	730	300	410	510	510	730
Test weight (KG)		5	5	5	5	10	5	5	5	5	5	5	5	5	5	10
Low Temp. chamber		-55℃~-10℃					-70℃~-10℃					-80℃~-10℃				
Pre-heat time		+20℃~-55℃ ,Within 60 min					+20℃~-70℃ ,Within 60 min					+20℃~-80℃ ,Within 60 mins				
Test chamber		-40℃~+150℃					-55℃~+150℃					-60℃~+150℃				
High Temp. chamber		+60℃~+200℃														
Pre-heat time		+60℃~+200℃ ,Within 25 min														
Recovery time		High-Temp Exposure 30 min														
		Low-Temp Exposure 30 min														
		Recovery time within 5 min														
Transfer time		within 10 seconds														
Safety device		No fuse breaker, over pressure, over heat and over current protection for compressor, over temperature protection, over load protection for blower, dry heat protection														
Standard accessory		Cable port(portΦ50mm)*1, shelves*2														
Interior material		Stainless steel plate (SUS 304)														
Exterior material		Baked painting steel or stainless steel(SUS304)														
Insulation material		Rigid polyurethane Foam glass fiber wool														
Refrigerator system		Water Cooled														
		Semi-hermetic compressor, cascade refrigeration system,										CFC free refrigerant (HFC-507 and HFC-23)				
Controller		Panel:7-inch LCD Touch panel, Chinese or English display selectable														
		Operation mode:Program or fix point running														
		Memory capacity:120programs,1200steps, all repeat 999cycles, part repeat 99 cycles.														
		Accuracy:Temp.:0.1% of F.S.±1 digit Humidity:0.1% of F.S.±1 digit														
		Input:Temp.:pt-100 Humidity:pt-100 or ~5V DCV														
Ambient Temp.		+5℃~+35℃														
Power		AC 380±10% 50Hz ,3 phase 4 wires +Ground Wires														

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## Rapid Temperature Change Chamber

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### Applications

Temperature adaptability test under the condition of rapid change, or gradient for electrical, electronic, instruments and other products or spareparts, particularly applies to environmental stress screening test (ESS)

### Features

- Rational Construction and fast cooling rate
- Frequency conversion control of wind speed.
- Adopts international brand of imported parts for cooling system to improve operation reliability
- Touch screen controller, friendly Man-Machine interface and safety device to ensure simple operation and easy maintenance.

### Standards Implemented and met

- GB10592-89 Technical requirements for high and low temperature test chamber
- GB2423.1-1989 Low temperature test
- GB2423.2-1989 High temperature test mode

■ **Specifications** Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available

Model	ESS-SL							ESS-LL					
	225SL5	225SL10	408SL5	408SL10	1000SL5	1000SL10	1000SL15	225LL5	225LL10	408LL5	408LL10	1000LL5	1000LL10
Working Chamber Volume (L)	225		408		1000			225		408		1000	
Temp Rate of Change( °C/Min)	5	10	5	10	5	10	15	5	10	5	10	5	10
Performance	-70°C~+100°C							-70°C~+100°C					
	Rapid Temp Change -55°C~+85°C Full Linear Control							Rapid Temp Change -40°C~+85°C Full Linear Control					
Humidity Constancy	±0.5°C												
Temp Constancy	±3.0°C												
Exterior Material	Cold-rolled steel sheet (Rust proof & Plastic Spray treated )/ Stainless Steel												
Interior Material	Stainless Steel Plate (SUS 304)												
Insulation Material	Rigid Polyurethane Foam												
Safety Devices	over pressure、 over heat and over current protection for compressor, over temp. protection,												
Compressor	Semi-Hermetic Compressor												
Cooling Mode	Water Cooled												
Control system	Balanced Temperature & Humidity Control System(BTC type)												
Heater	Iron-chrome wire heater												
Blower	Centrifugal Blower												
Observation Window	Glass incorporating heat generator												
Temp Sensor	Pt-100												
Controller	Touch screen programmable controller												
Ambient Temp.	+5°C~+35°C												
Power	AC 380V/50Hz 3phase 5 wires+ Ground wire												

## High & Low Temperature Altitude Test Chamber

**KOMEGB**



### Application (Precise drying test chamber)

Environmental adaptability and reliability test for the instruments and meters, electrical products, materials, spare parts, equipments, etc at a low pressure, high temperature, low temperature, under the effect of single factor or multiple factors at the same time. Test for electric performance parameters of the specimen. Mainly used in aviation, aerospace, information, electronics and other industries.

### Features

- External pressure type box body structure and stainless steel tank design, rational air circulation system and scientific layout of heating, refrigerating system.
- Adopts international brand of imported parts for cooling system to improve operation reliability
- High precision and stable performance with touch screen controller, friendly Man-Machine interface.
- Multiple layers of safety device to easy maintenance.

### Specifications

Model	KU-504L	KU-1000L	KU-504S	KU-1000S
Inner Size (D*W*H)mm	800*700*900	1000*1000*1000	800*700*900	1000*1000*1000
Capacity (KW)	11	15	16	18
Chamber Volume (L)	504	1000	504	1000
Performance	Temp range	-40℃~+150℃		-70℃~+150℃
	Temp constancy	±0.5%		
	Temp deviation	≥100℃, ±3.0℃ (at constant pressure with empty load) <100℃, ±2.0℃ (at constant pressure with empty load)		
	Cooling rate	0.7℃~1.0℃/min (Overall average)		
	Pressure range	Constant pressure ~1kPa		
	Pressure constancy	When ≥40kPa, ±2kPa, 4kPa~40pKa ±0.5kPa, when ≤4kPa, ±0.1kPa		
	Depressurization rate	Constant pressure~1kPa≤30mins (Normal temp)		
	Pressure recovery rate	10kPa/Min(adjustable)		
Material	Exterior material	Cold-rolled steel sheet(Rust proof&Plastic Spray treated)/Stainless Steel plate		
	Interior material	Stainless steel (SUS304)		
	Pressurized parts	High quality steel plate(Rust proof & Plastic spray treated)		
	Insulation material	High quality glass wool		
Cooling System	Compressor	Semi-Hermetic Compressor		
	Cooling Mode	Water cooled		
Temp regulating method	Balanced Temperature & Humidity Control System (BTHC)			
Pump	Rotary vane type vacuum pump			
Heater	Iron-chrome wire heater			
Sight window	Circular viewing glass incorporating heat generator			
Temp Sensor	Pt-100			
Controller	Touch Screen Controller			
Safety Devices	Over pressure, over heat and over current protection for compressor, over temp. protection, over load protection for blower, Hydraulic and Water lack Protection,			
Standard Accessory	Sight window, Cable Port( 1 located on the left side), Baffle, Baffle frame*2			
Power	AC380V/50Hz, 3Phase 5 wires+ Ground Wire.			

Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available



**Application**

Can match appropriate vibration table. Meet all kinds of the corresponding temperature, humidity, vibration, three comprehensive test requirements. Widely used in aviation, aerospace, shipbuilding, electrical, electronics, communications and other fields

**Features**

- Combined laboratory structure and refrigeration system as a whole, compact and beautiful, easy operation.
- Refrigeration compressor, LCD touch screen and main parts are imported brand, equipped with RS232 communication interface.
- Good mechanical transmission and match different types of vibration table.

**Specifications**

Model		THV-	
		408	1000
Working chamber volume (L)		408	1000
Interior size (W*H*D) mm		600*850*800	1000*1000*1000
Safety device		No fuse breaker, over pressure, over heat and over current protection for compressor, Over temp. protection, over load protection for blower, Hydraulic and Water lack Protection dry heat protection	
Power		AC 380V/50Hz ,3phase 5 wires+ Ground wire	
Temp regulating mode		Balanced Temperature & Humidity Control System (BTC)	
Ambient temp		+5℃~+35℃	
Performance	Temp range	-70℃~+150℃	
	Temp constancy	≤0.5℃	
	Temp uniformity	±2.0℃	
	Humidity constancy	±2.5%RH	
	Humidity range	2.0%RH~98%RH	
	Humidity uniformity	If humidity≤75%RHJ, ±3.0%RH; f humidity>75%RHJ, ±5.0%RH	
	Cooling rate	≤5℃/Min or ≤10℃/Min (-55℃~+80℃ within humidity range)	
Material	Exterior material	Cold-rolled steel sheet (Rust proof & Plastic Spray treated) / Stainless Steel plate	
	Interior material	Stainless steel plate(SUS 304)	
	Insulation material	Rigid polyurethane foam	
Cooling system	compressor	Semi-Hermetic Compressor	
	Cooling mode	Water cooled	
Heater		Iron-chrome wire heater	
Blower		Centrifugal Blower	
Sight window		470mm*350mm Glass incorporating heat generator	
Temp sensor		Pt-100	
Controller		Touch screen controller	
Shaking table		Custom made as required	

Note: 1. We reserve the right to change specifications without prior notice

2. Customized sizes and configurations available

## Precise Oven / Cabinet Dryer

**KOMEQ**



### Application

Precise oven or cabinet dryers are mostly used for drying, baking, sterilization of non - volatile items and heat treatment test for mining enterprises, schools, medical and scientific research. Especially for simultaneous drying of different kinds of polymers in small quantities for drying materials for trial molding. They can also be applied in electronic engineering, electroplating, and pharmacy, paint baking, printing industries, etc. for preheating or drying related products.

### Features

- Provide a series of stable and reliable precision oven, KOV precise oven inside the box dimension is divided into eight kinds of standard specifications, can meet various requirements.
- Forced air supply circulation system and the special outlet design to ensure perfect humidity and temperature uniformity.
- LED digital temperature controller, easy operation and bring you happy customer experience.
- Air-exhausting Device is optional
- Other ultra high temperature oven series can reach 500 °C are available upon customized.

### Specifications

Model	KOV-50	KOV-100	KOV-200	KOV-290	KOV-500	KOV-600	KOV-720	KOV-1000	KOV-1800
Interior size (W*H*D)mm	400*350*350	450*500*450	600*600*600	600*950*500	800*1050*600	1000*1000*600	900*1000*800	1000*1000*1000	1600*1400*600
Exterior size (W*H*D)mm	1010*650*760	1110*800*1100	1260*900*1100	870*1590*640	1160*1760*880	1360*1715*880	1300*1750*1000	1400*1750*1200	1600*1940*1200
Capacity(KVA)	3.5	3.5	4.5	4.5	6	6.5	7.5	8.5	9.5
Power	AC220V±10% 1Φ 50Hz/60Hz				AC 380V±10% 3Φ4wire 50Hz/60Hz				
Temp. range	50℃~200℃ (300℃)								
Temp. constancy	±1.0℃								
Temp. uniformity	±2.0℃ (50℃~200℃) ±3.0℃ (101℃~200℃)								
Heat up time	50℃ to 200℃ within 50 min								
Interior material	Stainless steel plate								
Exterior material	Painted Stainless steel plate								
Insulation material	Glass wool								
Safety devices	No fuse breaker, over temp protection, ceramic fuse								
Accessories	Recorder, insulating layer								

Note: 1. We reserve the right to change specifications without prior notice 2. Customized sizes and configurations available



## Vacuum Oven



### Application

Vacuum oven are mostly used for drying, baking, sterilization of non - volatile items and heat treatment test for mining enterprises, schools, medical and scientific research. Expecially for simultaneous drying of different kinds of polymers in small quantities for drying materials for trial molding. They can also be applied in electronic engineering, electroplating, and pharmacy, paint baking, printing industries, etc. for preheating or drying related products.

### Features

- Silicone sealing pressure pad, ensure the perfect tightness inside the box
- Glass fiber insulation, provide efficient thermal insulation, energy - saving effect
- Heating plate installed in a box in a four - sided, ensure temperature uniformity
- Digit temperature sensor, ensure work stably for given vacuum conditions

### Specifications

Model	Power	Temp Range	Vacuum limit	Working chamber size (W*H*D) mm
KUO-27-200	3KW	60°C-200°C	130Pa	300*300*300
KUO-72-200	4KW	60°C-200°C	133Pa	400*450*400
KUO-100-200	5KW	60°C-200°C	133Pa	450*450*450
KUO-290-200	7KW	60°C-200°C	130Pa	600*950*500

Note: 1. We reserve the right to change specifications without prior notice  
 2. Customized sizes and configurations available

## No-Oxidation Oven

**KOMEG**



### Application

Vacuum oven are mostly used for drying, baking, sterilization of non - volatile items and heat treatment test for mining enterprises, schools, medical and scientific research. Especially for simultaneous drying of different kinds of polymers in small quantities for drying materials for trial molding. They can also be applied in electronic engineering, electroplating, and pharmacy, paint baking, printing industries, etc. for preheating or drying related products.

### Features

- Silicone sealing pressure pad, ensure the perfect tightness inside the box
- Glass fiber insulation, provide efficient thermal insulation, energy - saving effect
- Heating plate installed in a box in a four - sided, ensure temperature uniformity
- Digit temperature sensor, ensure work stably for given vacuum conditions

### Specifications for No-Oxidation Oven

Model	KNO-200	KNO-290	KNO-500	KNO-216D
Interior size (W*H*D)mm	600*650*500	600*950*500	800*1050*600	600*600*600
Exterior size (W*H*D)mm	900*1700*640	900*1610*640	1100*1730*740	1510*1860*780
Capacity (KVA)	3	4.2	5.1	9
Temp. range	50°C ~ 200°C			
Temp. constancy	±1.0°C			
Temp. uniformity	±2.0°C			
Heat up time	±20 ~ +200°C about 50 Min			
Interior material	Stainless steel			
Exterior material	Baking painted steel			
Insulation material	Glass wool			
Safety devices	No Fuse Breaker, Over Temp. relay, ceramic fuse			
Accessories	Recorder 30hr、isolating layer *2, N2 or CO2 flow meter			
Power	AC220V±10% 1Φ 50Hz/60Hz			

Note: 1. We reserve the right to change specifications without prior notice  
 2. Customized sizes and configurations available

# Aging Oven



## Specifications

Note: We reserve the right to change specifications without prior notice

Model	Interior size (W*H*D)mm	Max. Temp	Rack rotation speed	Heater Power	Motor	Dimension (W*H*D)mm	Weigheht	Power
KOR-72	400*400*450	200°C or 300°C	5-10 R.P.M	2KW	1/8HP	910*550*990	70kg	AC220V,1Φ,12A
KOR-150	500*500*600			3.5KW	1/4HP	880*830*1250	90kg	AC220V,1Φ,18A
KOR-216	600*600*600			5KW	1/4HP	1010*650*1140	105kg	AC220V,1Φ,26A

## Features

- Touch screen control and digit display
- Low speed rotary table available
- PT100 temperature sensor and 1 pc Cable port (50mm)
- Thermal Insulation material with ultra-fine glass fibre to avoid unnecessary loss of energy and ensure good performance
- Tempered glass material observation window , equipped with LED light for clear detection inside work chamber
- Hot air circulating system with heat resistant blower to ensure even temperature inside work chamber



## Application

Hang the specimens vertically on the test rack and heat at the required temperature for a certain time period according to your test criteria. Then take then specimens form the Aging oven and place them at room temperature for 4 hours. After all, compare the cross section area and the scale line distance; test the tensile strength and elongation.



## Air Exchange Type Aging Oven(KOVU-216L) KOME G

0°C	0.001293g/cm <sup>3</sup>	Interior size (W*D*H)	600*600*600mm
5°C	0.001270g/cm <sup>3</sup>	Air-change rate	100~200 times/hr , adjustable
10°C	0.001247g/cm <sup>3</sup>	Temp. controller	Digital controller, P.I.D. +SCR o/p
15°C	0.001226g/cm <sup>3</sup>	Temp. range	R.T.+20~+300°C
20°C	0.001205g/cm <sup>3</sup>	Specimen's rotary disk	Three layers, three circles per layer
25°C	0.001184g/cm <sup>3</sup>	Dimension (W*D*H)mm	1250*840*1630
30°C	0.001165g/cm <sup>3</sup>	Weight	280kg
		Power	AC220V 1Φ 25A 50Hz/60Hz

## Features

- Interior hot air circulation pushes the specimens aging in a guaranteed airing and good uniformity environment.
- Equipped with ventilation fan and over temperature relay.
- Can also be used as Drying Oven by changing the test frame rack.

## Application

Air exchange type aging oven is used for testing insulator of wires or rubber specimens to compare the change of tensile strength and elongation rate after aging test.

### Air exchange rate test method and calculation

● Block all of ventilation holes, door(s), temperature probe hole, especially the hole for shaft of air circulation fan before test, otherwise will cause remarkable test error.

● Connect the Watt Mater to power of the Oven (according to ASTM standard, resolution of the Watt Meter should be 1.0W.hr.and 1hour.).

● Rise up the temperature inside the oven to 80±2°C above room temperature. Measuring position of room temperature should bar at 2m from the oven and at almost the same height of the air inlet, should also be away at 1m from any other object.

● Measure the power consumption (W) for half an hour, times 2 to get the value of 1 hour.

● Remove all the seal materials and measure the power consumption under air exchange by using the same way.

Hence use the following formula to calculate the Air Exchange times per hour.  $N=3590 (X-Y) /V*D*\Delta T$

N: number of air exchange per hour

X: average power consumption in watts hour during ventilation by the watt-hour reading

V: volume of the testing chamber cm<sup>3</sup>

Y: average power consumption W-hr with no ventilation obtained by the same way.

D: density of the ambient room air during the test g/cm<sup>3</sup>

ΔT: difference of temperature between the testing chamber and the ambient room air 0°C





### Specifications

Interior dimensions(W*H*D) mm	1500*1280*550
Exterior dimensions(W*H*D) mm	1720*1980*750
Temp. range	Room Temp. +20~+100℃
Temp. constancy	±0.5℃
Temp. uniformity	±3℃
Test. capacity	88PCS/CYCLE(Custom made available)
Dimension	100W*100HJ*50D(MM)
Test range	FAN(full machines number)
Voltage range	3~50V
Current range	±5%
Speed	0-15000RPM,±8%
The detection speed	7-12sec/cycle

Note: 1.the specifications can be customized according to customer requirements

### Isolated type of burn-in room

#### Features

- Separate the product and loading area, easy to control temperature and maintain.
- Temp. range: 40-70℃±3/±5℃,
- Temp. constancy: ±0.5℃
- Uniformity: ±3℃
- Test frame materials: painted stainless steel or a combination of forming aluminum
- Insulation: with PU foam ( doors with double glazing ) insulation, so that the internal temperature is not subject to external factors, to achieve power saving effect
- Product hierarchy placement, Selection of layer height in accordance with the requirements, convenient access
- Computer monitoring system is optional.
- Noise level: ≤75dB

#### Application

Suitable for all kinds of electronic products, especially for products with heating characteristics  
 Product and loading area should be separated  
 Large-scale production



## Integral type of burn-in room

### Features

- Combined insulation, PID & closed temperature control
- Temp. range: 40-70°C ±3/±5°C,
- Temp. constancy: ±0.5°C
- Uniformity: ±3°C
- Insulation: with PU foam ( doors with double glazing ) insulation, so that the internal temperature is not subject to external factors, to achieve power saving effect
- Running test trolley, selection of layer height and size are in accordance with the requirements, convenient access, and easy product handling, easy to maintain.
- Computer monitoring system is optional.
- Noise level: ≤75dB

### Application

Suitable for all kinds of electronic products  
Different size is flexible and selectable.

### Application case 1: Burn-in room Cases in library group state



### Application case 2: DC Fan aging box and monitoring system



### Accessory: Sequence timer for burn in system

#### Features

- Can set 8 group of timer value
- Man-machine interface control, easy to operate.
- Auto reset function
- With 10A loading capacity and can bear lager load by using solenoid switch load
- Buzzer alarm or warning lamp available.
- Data can be saved and will not disappeared when turn off the machine.



Burn-in老化用雜合定時器  
Sequence timer for burn in system

# Salt Spray Tester



### Application

Corrosion resistance test for products after treated by plating, anodized, spraying, and anti-rust .

### Features

- High temperature resistant material imported from Germany to ensure long-term use
- Complete system for water level and water temperature protection to ensure safe use
- Nozzle spray pressure, work room temperature and working time adjustable, easy operation
- Accurate glass nozzle to assure evenly spread and no crystallization block.

### Standards implemented and met

- 1 GB/T 2423.17-1993 salt spray test
- 2 GB/T 2423.18-2000 salt spray test
- 3 GB/T 10125-1997 salt spray test
- 4 ASTM.B117-97 salt spray test
- 5 JIS H8502 salt spray test
- 6 IEC68-2-11 salt spray test
- 7 IEC68-2-52 1996 salt spray test
- 8 GB.10587-89 salt spray test
- 9 CNS.4158 salt sprav test

**Specifications** (Note: We reserve the right to change specifications without prior notice)

Model	HL-160-NS	HL-90-BS	HL-60-SS
Interior dimensions(W*H*D)mm	1600*500*1000	900*500*600	600*400*450
Exterior dimensions(W*H*D)mm	2240*1500*1600	1460*1280*910	1130*1070*630
Volume(L)	800	270	60
Heater	15KW+1KW	7KW+0.75KW	3KW+0.75KW
Air compressor	2HP	1/2HP	1/2HP
Temp. range	35℃~50℃		
Power	AC220V 1Φ 50Hz		

## Drop Tester

KOMEG

### 1. Single Wing Drop Tester

Reliability test for resistance to impact strength and the rationality of the packaging design when product was suffered a drop during transportation, loading and unloading process. With advanced structure and stable and reliable performance, specimen can instantly free fall, both edges and surfaces of the package box can be tested.

#### Specifications for Single Wing Drop Tester

Model	KPD-315	KPD-320
Height range(mm)	300-1500mm	300-2000mm
Maximum sample weight	100kg	100kg
Maximum Sample size(mm)	1000*800*1000mm	1000*800*1000mm
Base area size(mm)	1700*1200*20mm	1700*1200*20mm
Motor Power(KVA)	0.85	0.85
Exterior size of tester(mm)	1700*1200*2500mm	1700*1200*2830mm
Net Wight(kg)	600kg	700kg
Applicable Standards	ISO02248-1972(E)	



### 2. Two Wing Drop Tester

Specially designed to test the damage when product packaging crushed, and to evaluate impact strength of the inside electronic components when suffered a drop in moving. This machine is controlled by an electromagnetic, specimen can instantly free fall, both edges and surfaces of the package box can be tested.

#### Specifications for Two wing drop tester

Model	KT-7003
Height range	40-150cm
Area of single wing (W*D)	30*75cm
Base area (W*D)	120*140cm
Test space (W*D*H)	87*74*40~160cm
Hold weight	About 60kg
Height adjustment	Motor driven
Motor	1/3HP
Host size	120*140*210cm
The control box size	H110cm
Weight	400kg
Power	AC220V 1Φ 50Hz



# Vibration Test (Electromagnetic & Mechanical) Machine



## 1. Electromagnetic vibration test machine (K & KV series)

### Features

- Unique aluminum alloy magnetic isolation material table to ensure complete elimination of adverse effects on specimen caused by high energy magnetic fields.
- Table was up and down driven by electromagnetic force, with wide range of frequencies and low waveform distortion
- Reliable and significant test results with wide application.

### Application

Electromagnetic Vibration Test Machine are used for reliable test for finding fault, simulating actual conditions, reviewing the product structure strength in defense, aerospace, communications, electronics, automotive, household appliance industries.



### Specifications for K series Electromagnetic vibration test machine

Model		K-100B	K-150B	K-200B	K-300B	K-600B	K-1000B
System Model	Frequency range (Hz)	5~4000	5~4000	5~4000	5~4000	5~3000	5~3000
	Rated Sinusoidal force (N)	980	1470	1960	2940	5880	9800
	Rated random Thrust (Nrms)	980	1470	1960	2940	5880	6680
	Maximum acceleration) (m/s <sup>2</sup> )	490	735	980	980	980	1176
	Maximum velocity (m/s)	1.75	1.15	1.75	1.6	1.5	2.0
	Maximum displacement (mm p-p)	25	25	25	25	25	25
	maximum load (kg)	70	70	70	120	200	120
	capacity (KVA)	4.5	4.5	6.5	7.5	17	20
Power	AC380V±10%,3PH50HZ						
Shaker Table	Weight of testing samples (kg)	2	2	2	3	5.6	8.3
	Table size (mm)	Φ110	Φ110	Φ110	Φ150	Φ200	Φ200
	Table weight(kg)	320	320	320	320	630	940
	Table size(L×W×H)mm	660×550×650	660×550×650	660×550×650	730×550×650	790×580×660	830×680×825
Performance	Maximum output power (KVA)	1	1	2	3	5	10
	Weightkg (kg)	210	210	230	240	270	290

### Specifications for KV series Electromagnetic vibration test machine

		K-200L	K-300L	K-600L	K-1000L	K-1500L
System Model	Frequency range (Hz)	2~2500	2~2500	2~2500	5~3000	5~3000
	Rated Sinusoidal force (N)	1960	2940	5880	9880	14200
	Rated random Thrust (Nrms)	1960	2058	4116	9880	14200
	Maximum acceleration) (m/s <sup>2</sup> )	245	367	490	1020	784
	Maximum velocity (m/s)	1.2	1.2	1.1	2	1.85
	Maximum displacement (mm p-p)	40	40	51	51	51
	maximum loa(kg)	140	140	300	140	300
	capacity (KVA)	6	8	11	22	28
Power	AC380V±10%,3PH50HZ					
Shaker Table	Weight of testing samples (kg)	8	8	12	9.5	18
	Table size (mm)	Φ230	Φ230	Φ230	Φ200	Φ280
	Table weight(kg)	350	350	600	950	1600
	Table size(L×W×H)mm	720×560×670	720×560×670	790×600×710	920×610×790	900×790×990
Performance	Maximum output power (KVA)	2	3	5	15	20
	Weightkg (kg)	210	230	270	290	390

		K-2000L	K-3000L	K-4000L	K-5000L
System Model	Frequency range (Hz)	5~3000	5~2500	5~2500	5~2500
	Rated Sinusoidal force (N)	19600	29400	39200	49000
	Rated random Thrust (Nrms)	19600	29400	39200	49000
	Maximum acceleration (m/s <sup>2</sup> )	980	980	980	980
	Maximum velocity (m/s)	1.85	1.7	2.0	1.5
	Maximum displacement (mm p-p)	51	51	51	51
	maximum loa(kg)	300	500	500	1000
	capacity (KVA)	33	45	50	76
Power		AC380V±10%,3PH50HZ			
Shaker Table	Weight of testing samples (kg)	18	25	35	40
	Table size (mm)	Φ280	Φ320	Φ440	Φ440
	Table weight(kg)	1600	2000	2000	3500
	Table size(L×W×H)mm	900×790×990	1000×880×1060	1420×1210×1100	5100×1310×1170
Performance	Maximum output power (KVA)	25	30	35	45
	Weightkg (kg)	410	410	900	920

## 2.Mechanical Vibration test machine

### Specifications

Model	VS-5060
Frequency range	10-80Hz
Frequency accuracy	±0.05Hz
Acceleration range	0~11G(peak)
Maximum Payload	80kg
Test Mode	Fix; Sweep; Multi-random
Displacement range	0~2.8mm p-p, adjustable
Table size	500*600mm
Test program number	No limit
Test time	No limit
Power	AC220V 1Φ 50Hz 5A
Vibrator dime	W625*D525*H690mm



### Features

- Vibration frequency with digital display and high precision
- Synchronous mute broadband transmission with low noise
- Rail-style specimen clamp ensure easy and safe operation.
- Heavy steel base with shock absorbing rubber to ensure strong load capacity, steadily running and easy installation.
- Retrofit otary motion on similar advanced equipment, meet the specifications for transport in Europe and America.

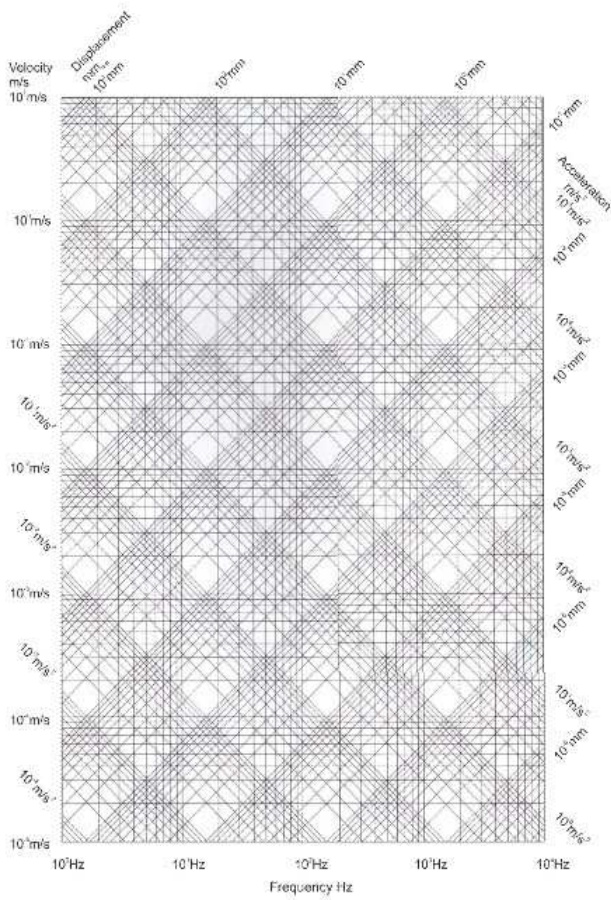
### Application

Reliability test for product packaging in toys, electronics, furniture, gifts, and ceramic industry

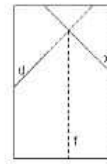
### Relation among Acceleration, Velocity and Displacement

Relation	Equation for estimation
Acceleration $x[m/s^2]=[2\pi f]^2 d/1000=2\pi f v$	$x[m/s^2]\approx 0.0394 d f^2 \times 1$
Velocity $V[m/s^2]=2\pi f d/1000=x/2\pi f$	$V[m/s]\approx 0.00628 d f \approx 0.159 x/f \times 1$
Displacement $d[mm]=1000x/[2\pi f]^2=1000v/2\pi f$	$d[mm]\approx 25.5 x/f^2 \approx 159.2 v/f \times 2$
※1 Divide the acceleration value by 9.8 when its unit is G.	
※2 Multiply the acceleration value by 9.8 when its unit is G.	

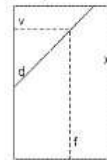




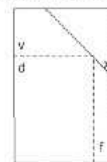
Relation among displacement, acceleration, x and frequency, f.



Relation among velocity, v, frequency, f and displacement, d.



Relation among velocity, v, frequency, f and acceleration, x.



- d: Displacement(mm<sub>rms</sub>)
- v: Velocity(m/s<sub>rms</sub>)
- x: Acceleration(m/s<sup>2</sup><sub>rms</sub>)
- f: Frequency(Hz)