



HOT AIR OVEN 75 L





Air Oven Technical Proposal 75L



1, Pictures



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2, Overview

1.Description	Industrial Oven/Hot Air Drying Oven
2.Model No	ae-075
3.Volume,Size and Weight	
3.1.Inner volume	75L
3.2.Inner chamber size(mm)W*H*D	500*500*300mm
3.3.Exterior chamber size(mm)W*H*D	900*1050*550mm(Appro.)
3.4.Weight(KG)	280KGs
3.5.Power Supply	AC 1Ψ 110V;AC 1Ψ 220V;3Ψ380V 60/50Hz
3.6.Power	10kW
3.7.Current	17A

3, Performance

1.Temperature Range	RT ~ 200°C RT+10°C~50°C,100°C,150°C,200°C,250°C,300°C,350°C,500°C,600°C,700°C,800°C,900°C,1000°C,1200°C,1400°C,1600°C,1800°C,2000°C,2500°C,3000°C,or custom requirements
2,Heating Rate	≅ 3°C/Min or based on your custom requirements
3,Cooling Rate	≅ 1.2°C/Min or based on your custom requirements
4,Control accuracy	0.1°C or based on your custom requirements
5,Temperature Fluctuation	≅ 0.5°C or based on your custom requirements Temp Precision: ±1 ° C
6,Temperature Error	≅ ±1°C or based on your custom requirements
7,Temperature Uniformity	≅ 2°C or based on your custom requirements
8,Working Noise	≤60dB(A) (Cycling temperature 25°C,testing in the less echo anechoic chamber,use A weighting,testing 8 points average,every testing point far away from level noise source 1 meter,Height far away from floor 1 meter)

9,Standards

Cleanliness level	ISO class number	Maximum concentration limits (particles/m ³ of air) for particles equal to and larger than the considered sizes shown						Particles/ft ³ of air ≥0.5 μm	FED STD 209E equivalent
		≥0.1 μm	≥0.2 μm	≥0.3 μm	≥0.5 μm	≥1 μm	≥5 μm		
Extremely clean	ISO 1	10	2						
	ISO 2	100	24	10	4				
	ISO 3	1,000	237	102	35	8		1	Class 1
	ISO 4	10,000	2,370	1,020	352	83		10	Class 10
	ISO 5	100,000	23,700	10,200	3,520	832	29	100	Class 100
	ISO 6	1,000,000	237,000	102,000	35,200	8,320	293	1,000	Class 1,000
	ISO 7				352,000	83,200	2,930	10,000	Class 10,000
	ISO 8				3,520,000	832,000	29,300	100,000	Class 100,000
Clean	ISO 9				35,200,000	8,320,000	293,000		

4,Main Chamber

1,Structure



2,Exterior chamber Material

SUS#201 Stainless steel plate+ powder coated+Foam Insulation

3,Inner chamber Material

SUS#304 stainless steel

3,Air Circulating Duct

1,Use multi-wing centrifugal circulating fan,strengthen axis and hot cold resistance rotary vane make of aluminum alloy,in order to forced convection.
2,FLOW THROW Air Supply Method ; level diffuse vertical heat exchange arc circulation.

3.Program automatic control high speed air cylinder drive high low temperature air supply valve conversion

4.Standard Configuration of Working Zone	Move caster:6 pcs Fixed footed glass: 4 pcs(height adjustable) Sample stand : 2-layer stainless steel sample stand,hook 8 pcs,Load bearing(uniform distribution):25kg/layer(sample total load bearing not more than:60kg) PC,Mobile APP,USB,RS-485 communication interface,misoperation hardware lock,communication cable 1 strip Cable port: $\phi 50\text{mm}$ 1 pcs(option)
5.Door	Single hinged door(face to box,left hinges,right handle)
6,Control Panel	1.Controller display 2.U disk interface(USB) 3.RS-485 Computer communication Interface 4.Misoperation hardware locking LOCK 5.Power switch 6.Emergency stop switch 7.Status and sound& light alarm device 
7,Standard Configuration	Water pan,drain hole,plate heat exchanger, Transport wind motor refrigeration system safety device (detail see configuration list)
8,Circuit System	IO Panel,tool transformer,ballast,intermediate relay,time relay,solid-state relay,A.C. contactor,thermal relay,fuse,owe reverse-phase relay, air switch
9,Heater	1.Chromel alloy strip heater 2.Heater control method: contactless recurrent pulses tune width,SSR (solid state relay) 3.Heater power: 20KW
10,Power Wire and drain hole	Power Wire at the top of chamber,drain hole at the back of chamber

11,Clean Room Class	Class 100 or Class 1000 Heat-resistant HEPA filter
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5, Electric control system(ECS)

1,Controller	PID 7 Inch CO5600
2,Operation mode	Program mode
3,Setting mode	English Menu PID Control
4,Program volume	T-touch 1.Program: Maximum 120 set 2.Cycle number: Maximum can infinite loop
5,Setting range	Adjust by devices' temperature working range
6,Resolution	Temperature: 0.1°C; Time: 1min
7,Input	T model thermocouple
8,Communication function	PC,Mobile APP,USD,RS-485 interface,misoperation hardware locking LOCK,random complimentary computer communication software
9,Control	1.Anti reset wind-up PID 2.BTC balance tempering control +DCC intelligent cold quantity control +DEC intelligent electrical control
10,Curve record function	Have battery protections' RAM,can save devices' setting,time of sampling value and sample time; Maximum recording time is 180 days(when sampling period is 60S)
11,Auxiliary function	1.Fault alarm and cause,code manage prompt function 2.Outage protection function 3.Top and buttom limitation temperature protection function 4.Calendar timing function (autostart and autostop operation) 5.Self-diagnostic function
12,Temperature measurement	USA OmegaT-shape thermocouple temperature sensor

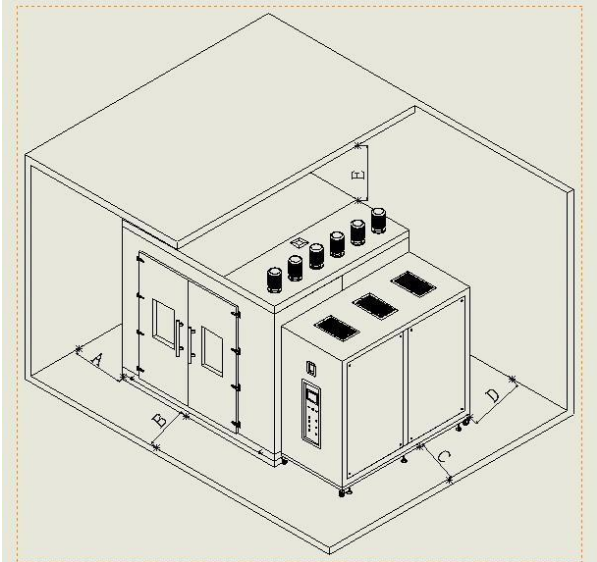
6,Protection

1,Test chamber	1.Adjustable over temperature protection 2.Air conditioning channel limit over temperature protection 3.Fan motor overheat protection
2,Other	1.Emergency stop protection 2.Main Power phase sequence and default phase protection 3.Overload and short circuit protection 4.Cabient multi-open cause refrigeration system failure alarm protection 5.Air compressor air feed lack alarm protection



7,Other Configuration

1,Power cable	Five wick(four wire three phase+protective earth wire)cable 1 strip(about 4 meter long)
2,Power switch	NFB circuit breaker
3,Transport	Chamber is integral type, overall transport
4,Installation Size	1. Floor Leveling,Excellent Ventilation 2. Around Chamber No Strong Vibration 3. Around Chamber No Strong Electromagnetic Field Affect 4. Around Chamber No Flammable,Explosive,Corrosive Substance And Dust 5. Around Chamber Have Appropriate Use And Maintenance Space,Shown Below:

	 A: ≥30cm B: ≥80cm C: ≥60cm D: ≥60cm E: ≥30cm
5,Environmental condition	1. Temperature: 5°C~28°C 2. Relative Humidity: ≤85% 3. Air Pressure: 86kPa~106kPa
6,Power Condition/Power	1. Voltage Range: 3 φ AC(380±38)V 2. Four Wire Three Phase+ Protective Earth Wire 3. Frequency Allow Wave Range: 60/50Hz 4. Protective Earth Wire Earth Resistance Less Than 4Ω 5. Require User At installation Site For Device Configuration Accordingly Volumetrics' Air Or Power Switch, In Addition This Switch Much Be Independence Supply For This Chamber Use
7,Max Power	15A,7KW (At Ambient Temperature+25°C, No Sample, Operating Conditions Stability After one hour can get the date)
8,Other	When testing open the chamber door can cause chambers' temperature and humidity Fluctuation; If multi-open the door or open the door for long time when testing or testing sample emission humidity, can cause refrigeration system heat exchanger freeze result in fail to work. Need a Gas Analyzer(Customized Requirement)



Industrial Oven

Hot Air Oven

RT+10°C~50°C,100°C,150°C,200°C,250°C,300°C,350°C,500°C,600°C,700°C,800°C,900°C,1000°C,1200°C,1400°C,1600°C,1800°C,2000°C,2500°C,3000°C,Customization is available
It is applicable to a variety of products, materials, components, electronics, automobiles, aviations, plastics, chemicals, foods, chemicals, etc.

AE LAB UK offers two types of standard models: the space-saving vertical ovens and the horizontal ovens. Both provide horizontal airflow for even exposure to all samples. Control constancy as low as $\pm 0.1^{\circ}\text{C}$ and uniformity as low as $\pm 0.5^{\circ}\text{C}$ ensures accurate operation. An exhaust damper is included to ventilate the oven and allow quick cool-down.

The standard controller offers two-step programming for simple heat-up or shut-down steps. An inexpensive upgrade allows creation of up to ten programs for full cycling applications. The large display is easy to use and read. Four levels of overheat protection are included for safety. A wide variety of options are also available.

Features

- Stainless steel interior
- Exclusive AE LAB UK controller with large LED display
- Two-step programmability with functions for automatic start, stop, ramp, and repeat
- Visual and audible alarm with diagnostic fault code
- Specimen power supply control terminal: turns specimen off if chamber faults
- Four-tiered safety system for overheat conditions
- Two shelves included standard, rated for 40 lbs. or more
- Exhaust damper for ventilating oven and fast cool-down
- Large variety of models and optional features

See additional model variations available in the right-hand column

Model types:

- Horizontal-type: Controller and blower to the right of the chamber
- Vertical-type: Controller and blower at the top of the chamber (air distributed horizontally from back wall)

Optional accessories

USB,RS-485 interface can be linked to Personal computer(PC) and achieve multi-level control & recording software management.



Technical parameters:

Model No		ae-072	AE-270	AE-480	AE-600	AE-720	AE-1000
Inner chamber size(mm)W*H*D		450*400*400	600*900*500	800*1000*600	1000*1000*600	1200*1000*600	1000*1000*1000
Exterior chamber size(mm)W*H*D		900*1050*550	1100*1600*650	1200*1700*840	1400*1750*840	1750*1750*840	1750*1750*1550
Temperature range		RT+10℃~50℃,100℃,150℃,200℃,250℃,300℃,350℃,500℃,600℃,700℃,800℃,900℃,1000℃,1200℃,1400℃,1600℃,1800℃,2000℃,2500℃,3000℃					
Performance	Temperature fluctuation	±3℃					
	Temperature Uniformity	±0.1℃ AT 200℃; ±1.5%AT300℃					
	Temperature resolution	0.1℃/1℃					
	Heating up time	500℃/30min					
Material	Exterior chamber material	Stainless steel plate+ Power Coated					
	Inner chamber material	SUS#304 stainless steel plate					
	Insulation Material	PU& Fiberglass wool					
System	circulation system	Sirocco fan					
	Heating system	SUS#304 stainless steel high-speed heater					
	Controller	Touch-screen controller or Omron E5AZ controller+ S.S.R.					
Door		Single gate	Double gate				
Other Components		Cable port(50mm), control status indicator lights, loading shelves(2pcs for free)					
Safety protection device		Over-heat protection circuit breaker,Control system overload protection,Overload indicator lamp.					



Power Supply	AC 1Ψ 110V;AC 1Ψ 220V;3Ψ380V 60/50Hz					
Power(KW)	4	6	8	10	12	15
Customized service	Welcome to Non-standard and Specail requirements,OEM/ODM orders.Customization of inner chamber size, tempreture&humidity range,ect.					
The technical information will be subjected to change without notice						

9, Configuration List

Item No	Description	Model No	Brand name	Origin	Remarks
1	Touch-screen controller with RS-485+USB	CO5600	AE LAB UKTOP®	China	
2	Electromagnetic Switch	SP-11/16/18 CU-11/16/18	SHIHLIN/SHIH II	Taiwan	
3	Thermorelay	380V\5.5-8.5A(8.5-12.5A)	SHIHLIN/SHIH II	Taiwan	
4	Intermediate relay	MY2J or MY2N-JS	Omron	Japan	
5	Time relay	AH3-2	CKC	Japan	
6	Owe reverse phase relay	DPA51CM44	GAVAZZI	Switzerland	
7	Overtemperature Protection	TS-320S	RAINBOW	South Korea	
8	SSR	20A~40A	KaiTong/Yang Ming	Taiwan	
9	Temperature sensor	-100~300°C(PT100 or T model thermocouple)	Omega	USA	
10	Signal indication	LA12D	Tianyi	Shanghai	
11	Flashlight buzzer	LA42S	Tianyi	Shanghai	
12	Machine tool control transformer	250W	Huada	Taiwan	
13	No-fuse switch	380V/40A/60A/100A	SHIHLIN	Taiwan	
14	Button switch	240V 5A	CKC	Japan	
15	Emergency stop button	240V 5A	CKC	Japan	
16	Heater	20KW	Longxing	Taiwan	
17	Centrifugal exhaust fan	380V 90W	Yizheng	Taiwan	
18	Circulating fan	1/2P /1P	Daoma/Yizhen	Taiwan	11

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19	Wind Wheel	6F、9F、12F	Shangyu	Taiwan	
20	Sweatproof line	24VDC50W	GOOLMAX	Taiwan	
21	High temperature wire	Optional	Jinmingtai	China	
22	Electric wire	Optional	Jinmingtai	China	
23	Cylinder	50-125	Airtac	Taiwan	
24	Air-operated solenoid valve	4V220	Airtac	Taiwan	
25	Air pressure switch	1/6	SNS	Japan	
26	Air pressure adjusting valve	AW2000	SNS	Japan	
27	Air throttle	1/6	SNS	Japan	
28	Condenser	9P	Keweili	Taiwan	
29	Cooling fan(air-cooled dedicated)	380V400MM		AE LAB UKTO P®	
30	Water tower(water-cooled dedicated)	Optional	Liangyan	China	
31	Water pump(water-cooled dedicated)	1.5P~5P	Kenfolai	China	
32	Cooling temperature protector	TS-110	RAINBOW	South Korea	
33	Dry filter	DCL032/053/083/085	Danfoss	Denmark	
34	Expansion valve	TS2	Danfoss	Denmark	
35	Magnetic valve	3/8 or 5/8	Saglnomlya/Castel	Japan/Italy	
36	Hot gas by-pass valve	DPR343	Saglnomlya	Japan	
37	Plate heat exchanger	Optional	TOSLEVO	Japan	
38	Evaporator	9P	Zhongli	Taiwan	
39	Oil separator	Large scale system assort 55824/55855	Emerson	USA	
40	Flash Chamber	3/8"	Fuzhou	Taiwan	
41	High low voltage switch	Large scale system assort D606M	Saglnomlya	Japan	
42	Oil pressure switch	Large scale system assort C106S	Saglnomlya	Japan	
43	Suspension hose	P5、P8	Packless	USA	
44	Technology Valve	1/4"	Fuzhou	Taiwan	

45	Copper material miscellaneous accessories	Optional	Xiongde	Taiwan	
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10,After-sales Service And Quality Assurance

10.1. AE LAB UK Limited Warranty

AE LAB UK warrants Test Equipments manufactured by AE LAB UK and supplied under this contract to be free from defects in materials and workmanship under normal use and proper maintenance. AE LAB UK will repair or replace any defective part for a period of ONE YEARS from the date of invoice. AE LAB UK reserves the right to require any defective part be returned, freight prepaid, to AE LAB UK's factory or to inspect any defective part at the Purchaser's site. AE LAB UK shall have sole discretion to determine whether any part is defective and whether any defective part will be repaired

or replaced. This limited warranty shall extend to any standard chamber accessory and component part which is normally sold by AE LAB UK. Non-standard accessories and component parts specified by the Purchaser shall be warranted only to the extent of the original manufacturer's warranty, if any exists.

If the repair or replacement is performed in the FIRST YEAR from the date of invoice, AE LAB UK will also pay for the labor associated with the repair at the Purchaser's site, subject to AE LAB UK's prior approval. During the SECOND and THIRD YEAR of the warranty period, Purchaser will be responsible for the installation and cost of installation of replacement or repaired parts.

Purchaser shall notify AE LAB UK in writing of any alleged defect within 10 days after its discovery within the warranty period. AE LAB UK reserves the right to satisfy the labor portion of this limited warranty either through its own service personnel or an authorized agent. In order to provide



expeditious service, AE LAB UK reserves the right to satisfy its limited warranty obligation by sending replacement parts to be installed by the Purchaser if they can be installed easily without special tools or training.

AE LAB UK reserves the right to satisfy this limited warranty by requiring the Purchaser to return the Equipment to AE LAB UK when such return is feasible.

AE LAB UK must initiate field service for in-warranty claims. Purchaser will not be reimbursed for labor if they initiate service on their own without prior approval from AE LAB UK. Replacement parts must be supplied by AE LAB UK for in-warranty claims. Purchaser will not be reimbursed for parts they buy on their own without prior approval from AE LAB UK.

The following parts are excluded from this limited warranty and are sold as-is or are considered expendable: interior light bulb, viewing window, paint and cosmetic surface finishes and treatments, port plugs, and refrigerant.

This limited warranty shall extend in full to Equipment installed within continental CHINA. For all other locations, Purchaser is responsible for all labor costs for repairs or parts installation, and for all shipping costs associated with providing replacement parts.

This limited warranty does not cover: (1) Defects or damages arising as the result of shipment by common carriers or private transportation, unless AE LAB UK undertakes shipment and transportation of the Equipment to Purchaser's site or contractually assumes the risk of damage to the Equipment in shipment; (2) Defects or damages arising out of, or as the result, of mishandling, modification, or improper start up, installation or maintenance of the Equipment (including start up, installation or maintenance not in accordance with AE LAB UK's written procedures); (3) Defects or damages resulting from, or arising out of, abuse, misuse, neglect, intentional damage, accident, fire, flood, earthquake, or any other act of God.

This warranty as to Equipment is LIMITED to repair or replacement of parts or Equipment in the determination of AE LAB UK.

THE FORGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY. AE LAB UK DISCLAIMS ANY LIABILITY FOR ANY DAMAGES RESULTING FROM DELAY OR LOSS OF USE IN SERVICE OR REPAIR, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE EQUIPMENT, EXCEPT AS STATED IN THIS PARAGRAPH.

This limited warranty cannot be modified in any way except in writing by both AE LAB UK and Purchaser. Invalidation of any one or more of the provisions of this limited warranty shall in no way affect any of the other provisions hereof, which remain in full force and effect.

This limited warranty shall be extended only to the first Purchaser of this Equipment and is not transferable.

10.2. Quality Assurance

1. Quality assurance system: Accordance with ISO9001 quality management system, ISO14001



environmental management system, Europe CE certification and calibration., etc.

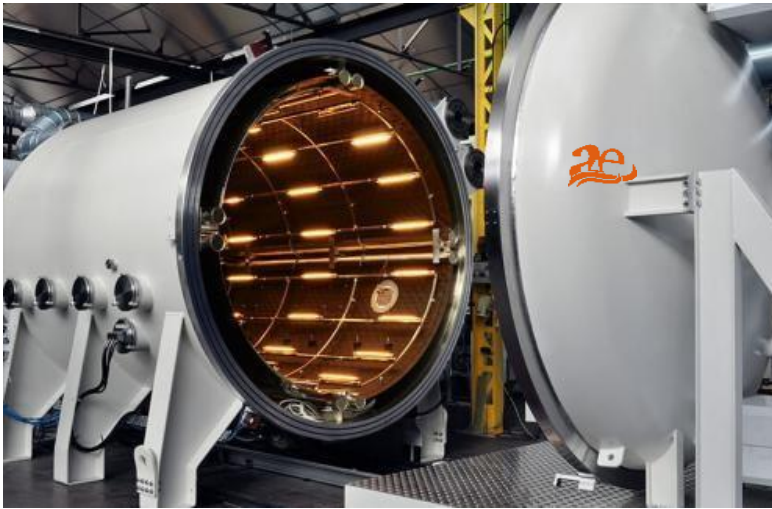
2. Quality Filter: We have specialized meter aging table, Motor test table, mechanical vibrator table and environmental test chamber ,equipment and facility to test high and low temperature, humidity, vibration for the component when they enter the factory, every production process will proceed self-inspection and mutual inspection after that inspect by quality department when the quality is good can enter into the next process; when the product leave factory will inspect by intelligence temperature humidity roving measuring apparatus(D64_2) and match with special high precision testing platinum resistor, carry out strict inspection when the goods leave factory.

11, Pictures(Reference Only)





LOW TEMPERATURE





LOW TEMPERATURE

Thermal Vacuum Chamber 热真空试验舱外太空模拟试验舱



Thermal Vacuum Chamber 热真空试验舱



Ultra-Low Pressure Test Chamber 超低压试验箱



Super Huge Thermal Vacuum Chamber 大型空间环境模拟设备



Outer Space Simulation Test Chamber 外太空模拟试验舱



Ultra High Vacuum System 超真空系统



LOW TEMPERATURE

Thermal Vacuum Chamber 热真空试验舱外太空模拟试验舱



Thermal Vacuum Chamber 热真空试验舱



Ultra-Low Pressure Test Chamber 超低压试验箱



Super Huge Thermal Vacuum Chamber 大型空间环境模拟设备



Outer Space Simulation Test Chamber 外太空模拟试验舱



Ultra High Vacuum System 超真空系统



Vacuum Equipments 真空设备



Vacuum Oven 真空烤箱



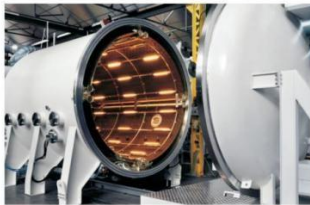
Thermal Vacuum System 热真空系统



Vacuum Drying Oven 真空干燥箱



Cylindrical Vacuum Chamber 圆形真空箱



Large Custom Vacuum Chamber 大型非标定制真空箱



Vacuum Storage Chamber 真空储存箱



Vacuum Plus Nitrogen Chamber 真空氮气烤箱



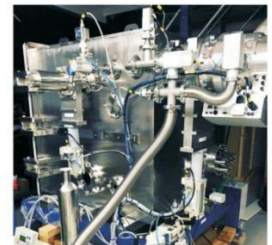
Vacuum Plus Nitrogen Drying Equipment 真空氮气干燥设备



Vacuum Plus Nitrogen Storage Chamber 真空氮气储存箱



Large Custom Vacuum Plus Nitrogen Chamber
大型非标定制真空氮气烤箱



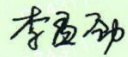
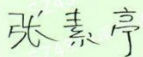
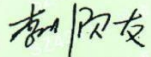
Vacuum Plus Nitrogen Drying Oven 真空氮气干燥箱



Vacuum Furnace 2500°C 真空炉 2500°C



16, Calibration & CE certificates:

	深圳市四三一检测有限公司 SHENZHEN FOUR THREE ONE ONE TESTING CO.,LTD			中国认可 国际互认 校准 CALIBRATION CNAS L7875
校准证书 CALIBRATION CERTIFICATE				
证书编号 Certificate No.	18AA044700001	 18AA044700001		
委托方 Client	TEOMA ENGINEERING LIMITED			
委托方地址 Address	RM 1101 11/F,SAN TOI BLDG,NO.139 CONNAUGHT RD CENTRAL,HK			
计量器具名称 Description	2 Zone Thermal shock test chambers			
规格/型号 Model/Type	GTS-126			
制造单位 Manufacturer	TEOMA ENGINEERING LIMITED			
出厂编号 Serial No.	20180612001			
管理编号 Asset No.	/			
结论 Conclusion	见校准结果			
校准日期 Date of Calibration	2018 年 7 月 12 日 Year Month Day			
批准人 Approved Signatory				
核验员 Inspected by				
校准员 Calibrated by				
 签发单位(专用章) Stamp 				
实验室地址: 深圳市宝安区西乡街道前进二路135号航城工业区B栋4楼401 ADD: B401, Hangcheng Industrial District, No.135, Qianjin Second Road, Baoan District, Shenzhen 邮编(Post Code): 518101 电话(Tel): 0755-23057616 传真(Fax): 0755-23057616 网址(HTTP): www.sz4311.com 邮箱(E-mail): sz4311@126.com				



深圳市四三一检测有限公司

SHENZHEN FOUR THREE ONE ONE TESTING CO.,LTD

TESTING

校准说明

DIRECTIONS OF CALIBRATION

证书编号: 18AA044700001
Certificate No.

- 1、本机构管理体系符合ISO/IEC 17025: 2005的要求。
(The quality system is in accordance with ISO/IEC 17025:2005.)
- 2、本机构出具的数据均可溯源至国家计量基准和国际单位制(SI)。
(All data issued by the laboratory are traced to National Primary Standards and International System of Units(SI).)
- 3、本结果只与受校准样品有关。
(The results relate only to the items calibrated.)
- 4、未经本机构书面批准, 不得部分复制此证书。
(This certificate shall not be reproduced except in full, without the written approval of the laboratory.)
- 5、证书内页中“P”代表“Pass”, “F”代表“Fail”, “N/A”代表“Not Applicable”。
(In the datesheet, "P" represents "Pass" and "F" represents "Fail" and "N/A" represents "Not Applicable".)
- 6、本次校准参照的技术依据文件: (Reference documents for the calibration)

JJF 1101-2003《环境试验设备 温度湿度校准规范》《C.S. for Environmental Testing Equipments》

- 7、本次校准使用的主要测量标准(Main Standards of Measurement Used in the Calibration.):

计量标准名称 Description	编号 Serial No.	计量特性 Metrological Characteristic	证书编号 Certificate No.	有效期 Exp. Date
温湿度校验系统	101710	$U_H=2.0\%RH$ $U_T=0.3^{\circ}C$	GFJGJL2032171215208	2018.12.11

- 8、校准地点、环境条件 (Place and environmental conditions of the calibration):

地点 本实验室 Place	温度 20 °C Temperature	湿度 60 %RH Humidity
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- 9、建议复校时间间隔(Recalibration interval): 12 个月, 但送校单位应按实际使用情况来定。

- 10、备注(Notes): /



深圳市四三一一检测有限公司

SHENZHEN FOUR THREE ONE ONE TESTING CO.LTD

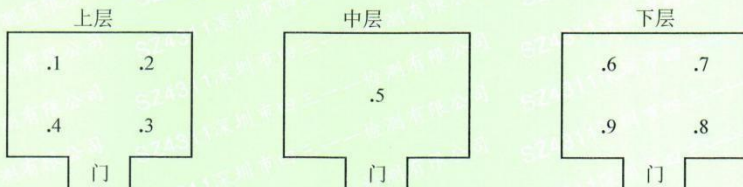
校准结果

Result of Calibration

证书编号: 18AA044700001
Certificate No.

(一): 温度测量

1 测量点布置图 (Measurement point graph):



2 温度测量 (Temperature measurement):

设定值 (Setting): 80 °C

指示值 (Indicated): 80 °C

测量点 (Measuring point)	最大值 (Max)	最小值 (Min)
温度(Temp.)	(°C)	(°C)
1	80.59	80.07
2	80.57	80.02
3	80.60	80.08
4	80.59	80.00
5	80.57	80.02
6	80.59	80.08
7	80.56	80.02
8	80.56	80.15
9	80.58	80.05

允许误差 (MPE)	结论(P/F)
温度偏差 (Temp deviation): -0.3 °C	±2.0 °C P
温度波动度 (Temp fluctuation): ± 0.3 °C	±0.5 °C P
温度均匀度 (Temp uniformity): 0.4 °C	2.0 °C P

(二): 控制器: 正常

The controller: Normal

备注 (Notes):

- 按用户要求指定温度点校准;
- 各校准点位置与工作室内壁的距离不小于各边长的1/10;
- 校准时设备处于 空载 状态。
- 本次测量结果扩展不确定度(Expanded uncertainty of the measurement results):
温度: $U=0.4^{\circ}\text{C}$, $k=2$;
- 依据(Reference document)
JJF 1059.1-2012 测量不确定度评定与表示
(JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

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Certificate of Conformity

No.: RCO19CE120016C

The following product has been tested by us with the listed standards and found in conformity with the European directive EMC 2014/30/EU and LVD 2014/35/EU. It is possible to use CE marking to demonstrate the conformity with this EMC and LVD Directive.

Applicant: UK AE LAB .COM

CHASE BUSINESS CENTRE (CHD, 39-41 Chase Side, London N14 5BP,
United Kingdom

Manufacturer: UK AE LAB .COM

CHASE BUSINESS CENTRE (CHD, 39-41 Chase Side, London N14 5BP,
United Kingdom

EUT: RAPID-RATE THERMAL CYCLE CHAMBER

Brand Name: 

Model No.: GTC-800

Test Report No.: RCO19CE120014, RCO19CE120015

Sufficient samples of the product have been tested and found to be in conformity with

Test Standards: EN 61326-1:2013

EN 61010-1:2010+A1:2019


Marsh Wu

Laboratory Manager

Issue Date: January 3, 2020



Due Date: January 2, 2025

The test report was carried out from submitted type samples of a product in conformity with the specification of the respective standards. The certificate holder has the right to fix the CE-mark for EMC and LVD Directive on the product complying with the inspection samples.

RADER CERTIFICATION UK CO., LTD.

Add: 710, Jiangong Building, Zizhu 7th Road, Futian District, Shenzhen, China

Tel: 86-755-36626058 Web: www.rcocn.cn

CERTIFICATE

RADER CERTIFICATION UK CO., LTD



17, Hear what our clients are saying:

Hear what our clients are saying.		Hear what our clients are saying.	
 "Grande team responds quickly. They are meticulous with our products and have discovered areas for improvement in our products."	 "Your lab and test equipment are first class and well maintained. We really appreciate the extra mile."	HUAWEI "We have always gone to Grande Test Chamber for all testing needs. They are a top notch organization and they will get the job done for you."	BYD "We are grateful and happy for the work and advice on the project. I appreciate your quick work."
ARISTA "I found Grande Labs as the best place to perform testing due to technical understanding of staff, state of the art equipments, clean facility, quality customer support, and a detailed test report."	 "I have worked closely with Grande Environmental test chambers for the past 2 years for Accelerated Thermal Cycling. They are easy to work with, solution oriented and knowledgeable in applied reliability. The test chambers are clean, well organized and have the latest equipment with a range of chambers to choose from. The staff is friendly, resourceful and competent. Grande Environmental test chambers has definitely been a value-add in our product development and reliability improvement efforts!"	Resysnet Engineering "Grande makes our company reliant on their services. We have saved design cycles and mitigated risk by releasing truly reliable products."	
Volkswagen "The test reports you have supplied to us have been accurate, detailed, and professional; and were a great help to communicate the test results, design issues, and process deficiencies we found to the rest of the product development team."	 "I have not found a more comprehensive, better written report in my 18 years of testing experience."	 "I would highly recommend Grande test chambers as a partner in developing a world class reliability program."	stryker® "The Grande team is by far the most professional Test chambers in the valley. We've used others and the difference is dramatic. Grande provides everything we look for in a partner lab: clean facilities, the latest test equipment, a strong customer service focus, and expertise in reliability test techniques. As a manufacturer of minimally invasive surgical equipment, we must ensure high reliability. Reliant has been a true partner in our efforts to improve reliability and customer satisfaction – and the results have been noticeable."
 "Allied Telesis would have no hesitation in recommending Grande Test Chambers as a complete service provider with the willingness to go the extra mile while maintaining professionalism and the privacy of their customers."	 "I found Grande teams to be efficient with time, knowledgeable about testing electronics and really great service."	SIGIKID Germany "Grande has been one of the best companies I have ever had the opportunity to work with. Great service, friendly personnel, very knowledgeable staff to assist with test setups/configuration and absolutely wonderful reports with high level of detail in a timely fashion"	 "Grande Test Chamber is very flexible and accommodating in everything they do."

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18, About AE LAB UKTOP®

 **UK AE LAB UK Automatic Test Equipment Limited**, found in 2016, Approved by China Government to set up **China Space R&D and Production Base**, since 2021, **Two National Academicians were appointed and joined AE LAB UK Team**, is a Professional company engaged in R&D, Production, Training, Global Pre-sales and After-sales Service, Technical support, Maintenance of Environmental and Climatic Simulation Test Chamber, Materials Testing Industry, Industrial Oven, Mechanical Tester, Vibration Test System, **Vacuum Drying Oven, Vacuum System, Thermal Vacuum Chamber, Outer Space Simulation Test Chamber, Vacuum Furnace, Hypobaric Oxygen Chamber, Hypobaric Chamber, Altitude Test Chamber, Magnetron Sputtering Vacuum Coating Equipment, Cathode Arc Ion Vacuum Coating Machine, Vertical Side Door Ion Vacuum Coating Equipment, Evaporation Vacuum Coating Equipment, Ion Vacuum Coating Machine, High End Bathroom Vacuum Coating Equipment**, Formaldehyde and VOC Emission Test Chamber, Ultra Freezers & Chillers.,etc.

AE LAB UKTOP® test equipment's and testing services are widely applied for Scientific Research, University, Outer Space, Electro Technics, Electronic Engineering, Aviation, Navigation, Telecommunication, Automobile, Motorbike, Medical Science, Packaging, Ocean, Outdoor, Road and Bridge Engineering, Military and Labs., etc.

AE LAB UKTOP® always adhere to China Price, Germany Quality. Quality is not just a word. Our engineers are available to provide Pre-sales, After-sales, Installation, Debugging, Training, Service all over the world. Warranty 2 Years.

To help our customers improving the testing requirements, AE LAB UK has established strategic cooperative partnership with first-class Universities, whose Cryogenics and Test Centers possess the the world's leading inspection techniques, vacuum systems, cryogenics, mechanic inspections, equipment, test chambers, testers and instruments.

As an enterprise responsible for society, environment and safety, AE LAB UK has initially built ISO9001:2015 Quality Management System Certificate, ISO14001:2015 Environmental Management System Certificate, ISO45001:2018 Occupational Health and Safety Management System Certificate. And AE LAB UK Adheres to the Operation Principle of The best Quality Environmental Test Chamber Manufacturer in China. Quality is not just a word.

AE LAB UKTOP® test equipment's are widely used in electricity, electronic communication, semi-conductor, electric appliance and machine, spaceflight, automobile, locomotive, telecommunication, food and pharmacy and academic institutions and so on. AE LAB UKTOP® test equipment have been exported to more than 100 countries and reAEEns, such USA, Canada,



LOW TEMPERATURE

Germany, Spain, Russia, Argentina, Brazil, India,Indonesia.,etc.Our main market includes Asia,North America,South America,Europe,Middle East,Africa,Australia.



Our import and export team can serve you with fluent Chinese, English, Spanish, Japanese and Indonesian. We have been to more than 30 countries for Installation, Training, After-sales Service. We will take an active role to ensure that our equipment proposed will not only meet the specifications but also will be made as per the budget. We also provide timely delivery.

We are recruiting agents over the world. If interested, please feel free to contact us.

More information, pls kindly check our website: www.AE LAB UK.com/ , please kindly download our datas <https://www.AE LAB UK.com/datas-download/>

Pls feel free to contact us for any question, we are glad to be any help to you and you are welcome to visit our company any time.

We are looking forward to have a long-term good business relationship with you in near future.

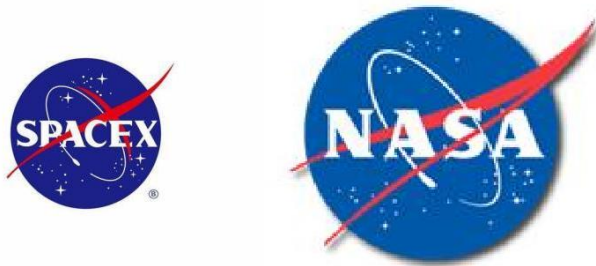
AE LAB UK Automatic Test Equipment Limited

AE LAB UK's Team have served more than 10,000 customers from over the worlds, below is the list of significant customer list:

UK AE LAB UK Automatic Test Equipment Limited has had the privilege of serving many Fortune 500 companies and global industries. Our growing network of customers include major corporations such as:

ASML-Advanced Semiconductor Material Lithography

TSMC-Taiwan Semiconductor Manufacturing Company



German Aerospace Center

Hong Kong Aerospace Technology Group Limited (HKATG)

E-Space LLC in Boston MA, USA

Algerian Space Agency (ASAL)

The Exploration Company GMBH

Ateliers Bigata Military & Space Programs



Atomos Space

Ateliers Bigata Military & Space Programs

Space scAvengers

Plan Space

Privateer Space

Pakistan Space and Upper Atmospheric Research Commission (SUPARCO), the National Space Agency of Pakistan

Satellogic



Algerian Space Agency (ASAL)

Libre Space Foundation

Space Forest

University of Michigan's Space Physics Research Lab

SAAK International Company

Airbus is a leader in designing, manufacturing and delivering aerospace products, services and solutions to customers on a worldwide scale.



CATL is a global leader of new energy innovative technologies, committed to providing premier solutions and services for new energy applications worldwide. <https://www.catl.com/en/>



HUAWEI





Go Further



天津大学
Tianjin University



清华大学
Tsinghua University



東京大学
THE UNIVERSITY OF TOKYO



Stanford
University



- 3M Corporation
- ABB Inc.
- ABC Group
- Abu Dhabi Metal Pipes & Profiles
- Agri-Food Canada
- Airboss
- Akron Rubber Development Lab



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-
- Alaska Railroad Corp.
 - Alcan
 - Alcoa Corp
 - Alitalia
 - Allegheny Ludlum Steel Corporation
 - Allergan
 - Alstom
 - American Packaging Corp
 - Apple Computer
 - Argonne National Laboratory
 - Ash Grove Cement
 - Atomic Energy of Canada
 - Autoliv North America
 - BAE Systems
 - Bang & Olufsen
 - Bank of Canada
 - BASF Corporation
 - Bayer Corp
 - Bell Helicopter
 - Bethlehem Steel
 - BF Goodrich Aerospace
 - Biltrite Industries
 - Black & Decker Corp
 - BodyCote Material Testing
 - Boeing Corporation
 - Bombardier
 - Bosch
 - Boston Scientific
 - BP British Petroleum
 - Bridgestone / Firestone
 - Buffalo State University
 - Cabot Corporation
 - Cameron Romania S.A.
 - Canadoil Pipe Limited
 - Carlisle Tire & Wheel
 - Caterpillar
 - Cemex Inc.
 - Chatham Steel
 - Chevron
 - Cisco Systems
 - Coca-Cola



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-
- Colgate-Palmolive Company
 - Colorado State University
 - Continental Teves
 - Cooper Tire Company
 - Cornell University
 - Cornerstone Research Group, Inc.
 - CTL Group
 - Dana Corporation
 - De Havilland
 - Delphi Automotive
 - DHL
 - Disneyland
 - DOW Chemical
 - DOW Corning
 - E.I. Dupont
 - Eaton Corp
 - Eli Lilly & Company
 - Emirates Techno Casting
 - Esco Corp
 - Exxon Mobil
 - Federal Mogul Corporation
 - Fisher Scientific
 - Ford Motor Company
 - Fort James Corporation
 - Freudenberg N.O.K.
 - Frisa Aerospace SA de VE
 - Future Pipe Industries
 - G.E. Company
 - Gates Corporation
 - GE Global Research Center
 - General Motors Corporation
 - Genpak LLC
 - Georgia Institute of Technology
 - Georgia Pacific
 - Gerdau Steel
 - GKN Aerospace
 - Goodrich Corporation
 - Goodyear Tire & Rubber Company
 - H.C. STARCK
 - Harley-Davidson
 - Hitachi



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- Hoeganaes Corporation
 - Holcim
 - Honeywell
 - HP (Hewlett-Packard)
 - Hydro Aluminum
 - Illinois Department of Transportation
 - Intel Corp
 - International Tubular
 - Iowa Dept. of Transportation
 - James Hardie Building Products
 - Jindal Stainless / Aluminium
 - Johnson Controls
 - Jordan University of Science
 - Kaiser Aluminum
 - Kobelco
 - Kruger Inc.
 - Kuwait Airways
 - Lafarge
 - LanXess Corporation
 - Leco
 - Lehigh Portland Cement
 - Lockheed Martin
 - Los Alamos National Laboratory
 - Magna Group
 - Merck Company
 - Metso Paper
 - Metzeler
 - Michelin North America
 - Mitsubishi
 - Mittal Steel
 - Motorola
 - MTS Mfg Inc.
 - National Composite Centre
 - New Mexico University
 - Nike
 - Nikon Research Corp of America
 - Nissan
 - NIST
 - North American Stainless
 - Northrop Grumman Corp.



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- Nova Chemicals
 - NRC National Research Council of Canada
 - NSK Corporation
 - Nucor Steel
 - Oak Ridge National Laboratory
 - Ohio Dept. of Transportation
 - Owens Corning
 - Packaging Corporation of America
 - Pakistan International Airlines
 - Parker Hannifin Corp.
 - Pennsylvania Dept of Transportation
 - Petro-Canada
 - Petronas Nasional Berhad
 - Pfizer Inc.
 - PolyOne
 - Pratt & Whitney
 - Praxair
 - Proceq
 - Procter & Gamble
 - Purdue University
 - Raytheon
 - Rehau
 - Revlon
 - Rinker
 - Rollex Corporation
 - Rolls Royce
 - Royal Canadian Mint
 - Royal Institute of Technology
 - SABIC
 - Saint-Gobain
 - Samsung
 - San Francisco State University
 - San Jose State University
 - Sandia National Laboratories
 - Sartomer Company
 - Schlumberger
 - SGS North America Inc
 - Shanghai Automotive
 - Shimadzu
 - Shurtan Gas Chemical Complex
 - Siemens



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- Sika
 - Smithers Scientific Services, Inc.
 - Smurfit-Stone
 - Snap-On Tools
 - SNC Lavalin
 - Sonoco
 - Sony
 - Stackpole Ltd.
 - Steyr
 - TaylorMade/ Adidas
 - Tetra Pak
 - Texas A&M University
 - Thyssen Krupp
 - Timken
 - Tinker Air Force Base
 - Toledo/ GT Technologies
 - Toshiba
 - Toyota R&D
 - TRW Automotive
 - Tyco Healthcare / Electronics
 - UCLA
 - Underwriters Laboratories Inc
 - United Space Alliance (NASA)
 - Université Laval
 - University of Akron
 - University of Hawaii
 - University of Maryland
 - University of Massachusetts
 - University of Missouri – Rolla
 - University of Texas
 - University of Toronto
 - University of Washington
 - University of Wisconsin
 - Uraplast
 - US Army Corps of Engineers
 - US Rubber
 - USAF (US Air Force)
 - V.A.W of America
 - Valeo Inc.
 - VirginiaTech
 - Visteon



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- Voith
 - VWR International
 - Washington State University
 - Weatherford
 - Welspun
 - Westinghouse
 - Weyerhaeuser
 - Whirlpool
 - Xerox Corporation
 - Zyvex Corporation

20, Visiting AE LAB UK Onsite

Mr. Badar U Zaman, Commercial Counselor of Embassy of Pakistan in Beijing and Business Representatives visited AE LAB UKTOP:



Consul General and Commercial Counselor of Consulate General of Pakistan in Guangzhou visited UK AE LAB UK Automatic Test Equipment Limited:



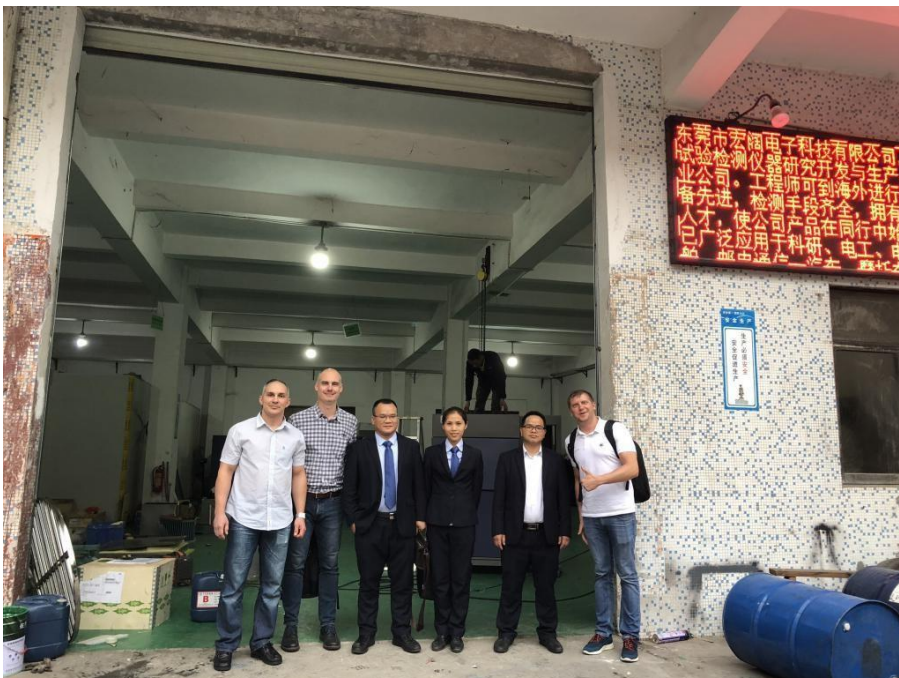


Found in 1897 with 57 controlled Corporation,Austrian Customer Visiting:





UK Battery Supplier Visiting:



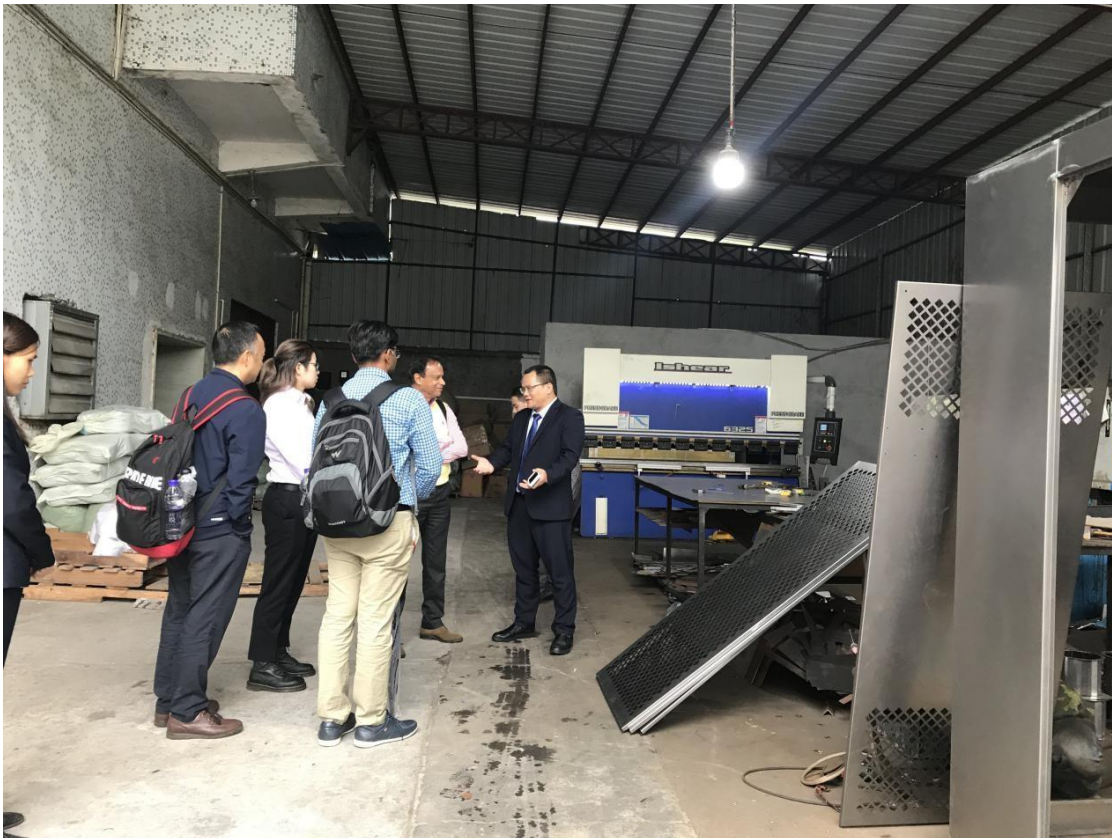


Singapore Customer Visiting:

www.ukaelab.com | sales@ukaelab.com



UKAEL

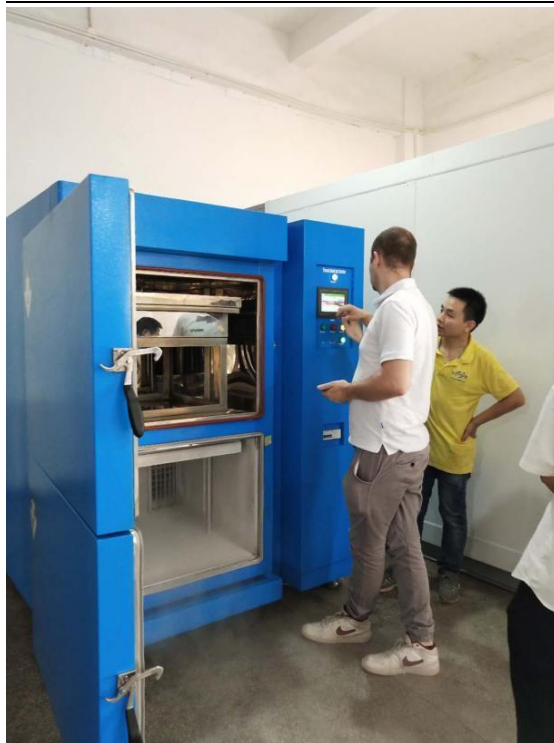


Bangladesh Customer Visiting:

www.ukaelab.com | sales@ukaelab.com



Germany Customer Calibrating:



Brazilian Customer



Russian Customer



Pakistan Professors



USA Customers



LOW EMISSION VIBRATION



Dubai Weapon Factory Customer



Indian Engineer



Doctor of Berlin University:



Car Engineer



Tata Group





21,Global Fair:

Booth No:7A175,Shenzhen International Lithium Battery Technology Exhibition,4-6th,November,2019

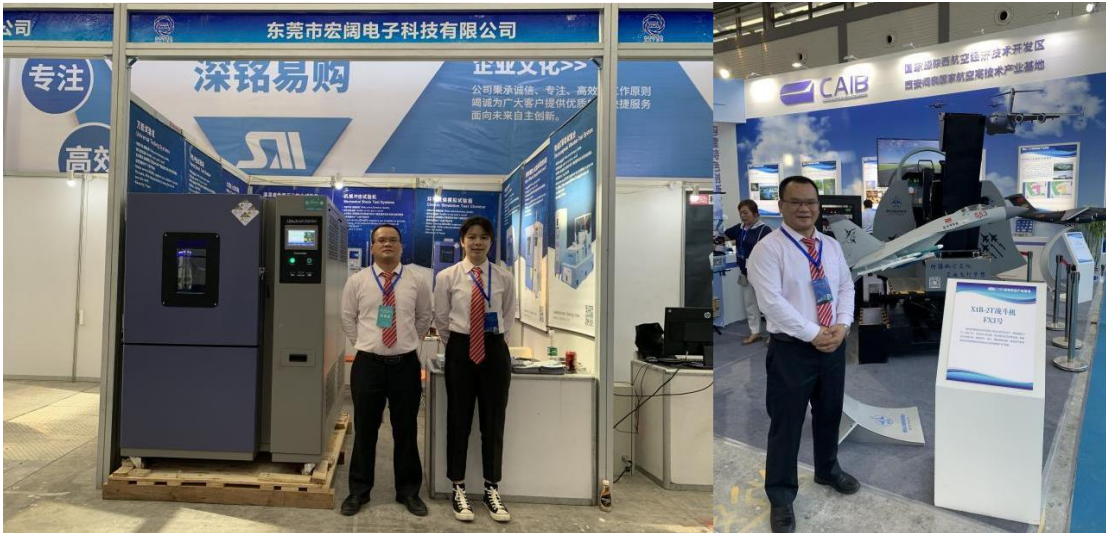


Booth No:5C-F15,HKTDC Hongkong Electronics Fair(Autumn Edition) 13-16 October,2019





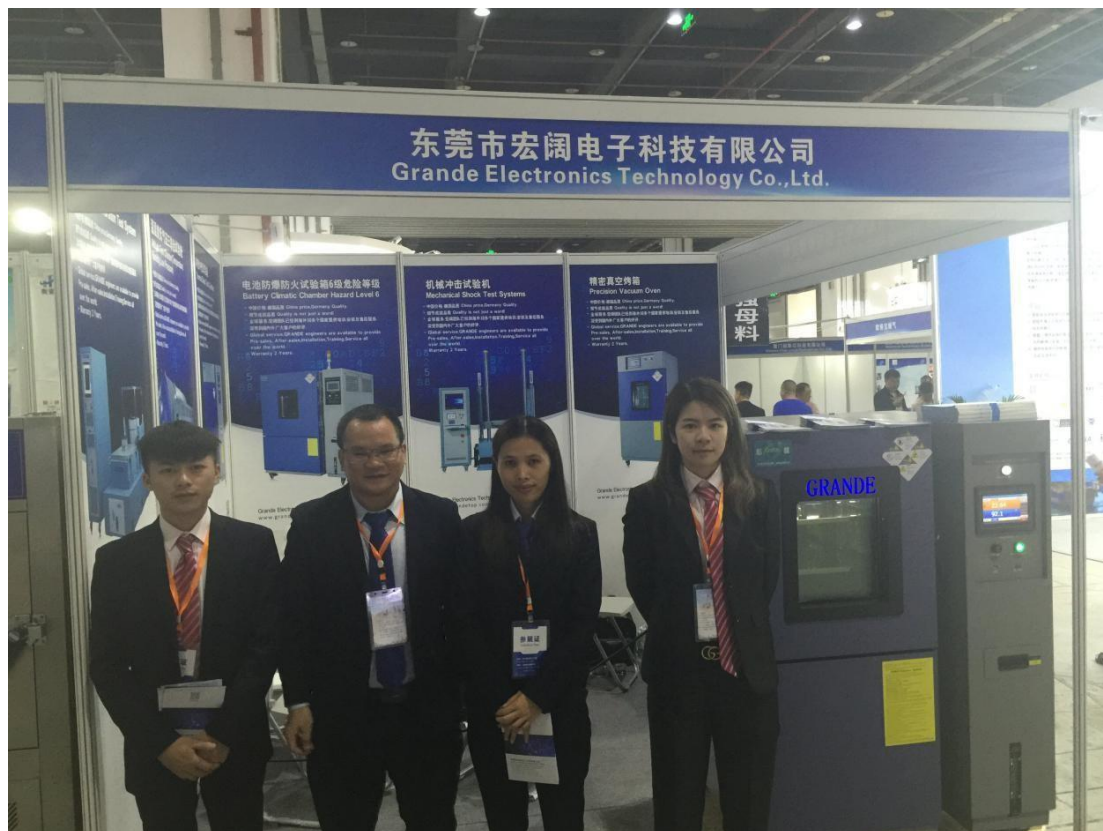
Booth No:D05-1,2019 China Xi 'An The International Military National Defense Electronic Exhibition,15-17th August,2019



Booth No:219,The 7th Shanghai International Testing Machine & Environmental Test Device



Expo 2019, May 15-17th



Booth No:5C-D27 HKTDC Hongkong Electronics Fair(Spring Edition) 13-16 April,2020



RosUPack fair in Moscow, on June 26-29th, 2018

