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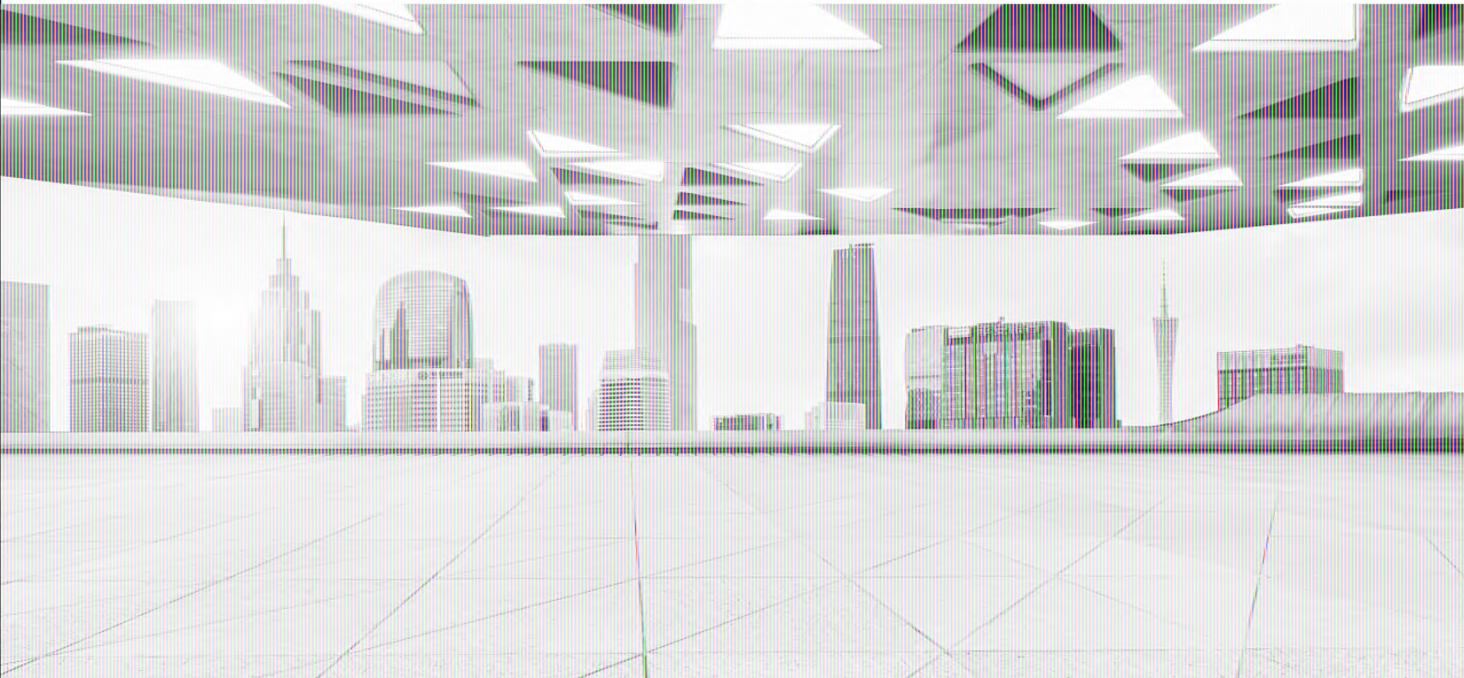


GUANGZHOU

广州大冷王测控设备有限公司是生产和销售的科技型企业。公司以科技产流程，为市场提供高可靠性、高性价比。为保持技术领先的优势，公司与系，共同研发，获取高低温环境试验技术研发与稳定性，在技术团队的努利，3项发明专利及6项计算机软件著作权认证证书。公司的产品已通过了CE认

Guangzhou Topect Control Equipment and technological enterprise engaged in reliability testing equipment. The scientific and technological innovation based on lean thinking, the company of high reliability and high cost performance.

In order to keep our superiority established long-term strategic cooperation with University of Technology to develop testing equipment and acquire relevant company has particularly focused on the stability of the company, With company has obtained 30 utility model computer software copyright registration certificate of intellectual company's products have passed CE and PSE certification.



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大冷王国际私人有限公司是由广州大冷王测控设备有限公司与印度浦那Hi Physix私人实验室有限公司共同投资成立的合资公司。

关于Hi Physix印度私人实验室有限公司：

Hi Physix印度私人实验室有限公司是根据1956年《公司法》注册成立的公
司，其实验室位于马哈拉施特拉邦浦那兰江冈M.I.D.C工业区B-32 / 1/2,邮编
412220。HiPhysix于2010年在浦那兰江冈M.I.D.C A-79成立了第一个测试实验室
和校准实验室。我们很自豪地提到，是由尊敬的已故APJ Abdul Kalam阿卜杜勒·
卡拉姆博士（印度前总统）2012年8月1日为该实验室揭幕。

TOPECT INTERNATIONAL PVT. LTD. is a Joint Venture Company (JV
Co.) between Guangzhou Topect Control Equipment Co. Ltd., Guangzhou
China and Hi Physix Laboratory India Private Ltd., Pune India.

About Hi Physix Laboratory India Pvt. Ltd.:

Hi Physix Laboratory India Private Limited is a company incorporated
under The Companies Act 1956, having its Laboratory at B-32/1/2, M.I.D.C
Industrial Area, Ranjangaon, Pune, Maharashtra – 412220. Hi Physix had set
up its first laboratory for Testing & Calibration at A-79, MIDC Ranjangaon,
Pune in 2010 and we feel proud to mention that the laboratory was
inaugurated by Honourable Late Dr. A.P.J Abdul Kalam (Former President of
India) on 1st August 2012.



阿卜杜勒·卡拉姆博士（印度前总统）揭幕
Dr.A.P.J Abdul Kalam (Former President of India) unveiled



大冷王国际开幕式

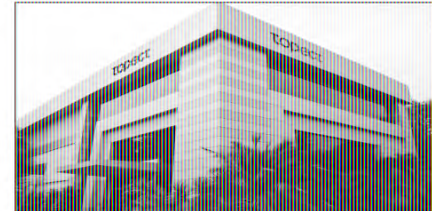
Topect International Opening Ceremony



中国驻孟买总领事馆：唐国才总领事
Consulate-General of PRC in Mumbai Consul Tang Guocai



开幕式
Ribbon Cutting for th



大冷王国际主楼
The Main Building of Topect International



升旗礼
The-Flag-raising Ce



各方领导讲话
Speeches of Leaders of All Parties



印度特有
A Unique Indian Li



会后交流
Communication after the Meeting



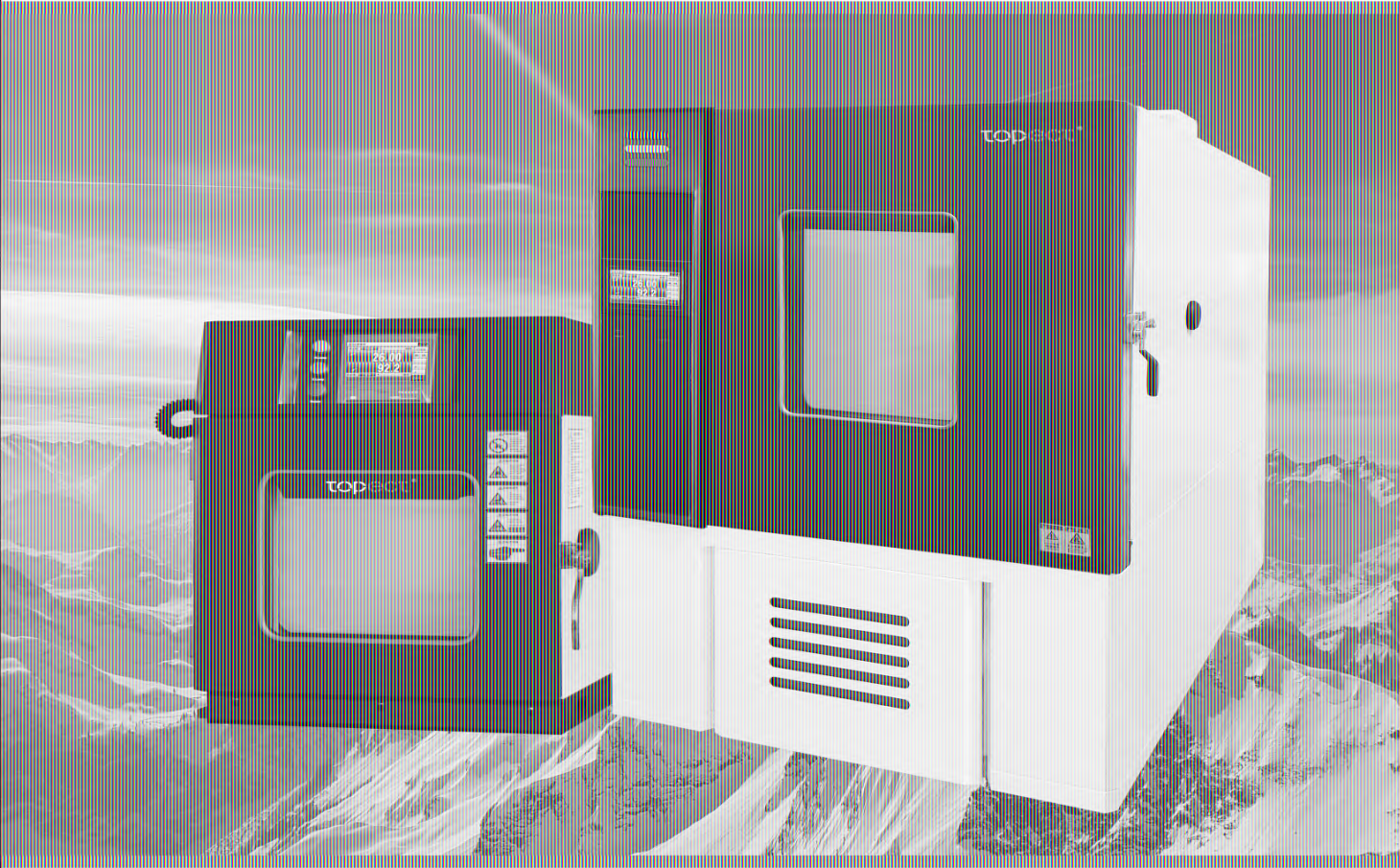
中方参
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参会人员：
中华人民共和国驻孟买总领事馆：唐国才总领事，刘明明参赞、左晓波领事；
广东驻印度经贸会：陈旺先生（经贸代表），托马斯先生（经贸干事）；
印度当地政府负责人：Mr. Anand Deshpande, Mr. Santoshkumar Deshmuki
开幕式当天200多人参会，此活动在中华人民共和国驻孟买总领事馆官网报
Participants:
Consul General of the People's Republic of China in Mumbai: Consul Ge
and Consul Sun Xianpu;
Guangdong Economic and Trade Association in India: Mr. Chen Wan
Trade Officer);
India, head of the local government: Mr. Anand Deshpande, Mr. Santos
More than 200 people attended the opening ceremony, which was rep
Republic of China in Mumbai.



冰点系列 Freezing Point Series

高低温湿热试验箱 High and Low Temperature & Humidity Test Chamber



● 大尺寸观察窗
Large observation window

● 左右两侧开引线孔
Lead holes are available on both sides

● 独特杠杆门锁
Unique lever lock

● 三重独立超温保护
Triple independent over-temperature protection

● 样品电源控制端子
Power supply control terminal of sample

● 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号 Model		EPTH 64-20A	FPTH 300-20A	FPTH 500-20A	FPTH 1000-20A
内容积 (L) Internal Volume (L)		64	300	500	1000
内箱尺寸 (mm) Inner Dimension (mm)	W	400	700	800	1000
	H	400	700	900	1000
	D	400	600	700	1000
外箱尺寸 (mm) Outer Dimension (mm)	W	600	900	1000	1200
	H	1500	1800	2000	2100
	D	1350	1666	1770	2070
温度范围 (°C) Temperature Range (°C)		-20~150			
湿度范围 (%RH) Humidity Range (%RH)					
温度波动度 (°C) Temperature Fluctuation (°C)					
温度偏差 (°C) Temperature Deviation (°C)					
湿度偏差 (%RH) Humidity Deviation (%RH)					
升温时间 Temperature Rise Time		-20~150°C			
		≤35min	≤40min	≤55min	≤60min
降温时间 Temperature Fall Time		+20~20°C			
		≤40min	≤40min	≤40min	≤40min
调温调湿方式 Temperature and Humidity Regulation Mode		BTHC平衡调湿(SSR调湿)方式 BTHC Balanced temp Mode			
使用环境 Operating Environment		温度: (5~36)°C 湿度: (30~85)%RH 气压: (86~101)kPa			
材料 Material	内箱 Inner Chamber	不锈钢板 SUS 304 Stainless steel sheet SS304			
	外箱 Outer Chamber	双面镀锌钢板, 表面处理后静电喷塑处理; Two-sided galvanized steel plate, electrocoat after surface treatment			
执行器 Actuator	保温 Thermal Insulation	纤维高温棉+聚氨酯发泡; High temperature fibre ceramic insulation + polyurethane foam			
	风机 Fan	加长轴离心风机; Extended shaft centrifugal fan			
	压缩机 Refrigerator	低噪音活塞式压缩机或涡旋式压缩机; Low-noise piston compressor or scroll compressor			
	加热器 Heater	进口镍铬合金电发热丝; Imported nickel-chrome alloy heating wire			
控制器系统 Controller System	加湿器 Humidifier	316不锈钢加湿器 (外置式蒸汽发生器); 316 stainless steel humidifier (external steam generator)			
	触摸屏+PLC Touch Screen & PLC	7.0", 800×480分辨率, 混合输出PLC; 7.0", 800×480 resolution, mixed output PLC			
	运行方式 Running Mode	定值运行, 程式运行; Fixed mode, Program mode			
	设定方式 Setting Mode	简体中文+英文, 触摸输入; Simplified Chinese & English, touch input			
	程序容量 Program Capacity	269组程序, 每组程序50段, 可设32000次循环; 程序间有链接功能; 269 programs, 50 segments per program, 32000 cycles; link function between programs			
	设定范围 Setting Range	依据设备性能的最大温度范围值调整±5.0°C, 湿度范围湿度范围 (5~100)%RH (humidity equipment); temperature range ±5.0°C, humidity range (5~100)%RH			
	显示分辨率 Display Resolution	温度: 0.01°C, 湿度: 0.1%RH (湿度设备), 时间: s; Temperature: 0.01°C, Humidity: 0.1%RH (humidity equipment), Time: s			
	传感器 Sensor	PT100 (铂电阻) 温度传感器; PT100 (platinum resistance temperature detector) temperature sensor			
	控制方式 Control Mode	低温冷平衡+抗积分饱和PID+自整定; Low-temperature balance + anti-integral saturation PID + self-tuning			
	曲线记录 Curve Record	具有带电保存数据功能, 屏上可以滑动浏览数据, 断电报警及原因处理提示功能; 定时开关机, 断电保护; 用户权限管理; Has data saving function while powered on, data browsing on screen, power-off alarm and reason handling prompt, timing on/off, power-off protection, user permission management			
	附加功能 Additional Function	支持RS485, LAN(网口), GPRS(手机)等方式通讯, 兼容RS485, LAN (internet port), GPRS (phone) and compatible machines. CPU above PII, memory above 1G			
	数据收集 Data Acquisition	1. 配备USB接口, 可保存3个月的曲线数据, 可下载历史数据; 2. 可作为替代电脑存储, 用户可用U盘导出历史数据; 3. 连接至PC (optional) - Record testing data through monitoring.			
供水 Water Supply	供水方式 Water Supply Mode				
	储水箱 Water Storage Tank				
	水质 Water Quality				
电源 (V)(Hz) Power Supply (V)(Hz)	交流电压 380V±38V 频率 50Hz±0.5Hz 三相四线				
最大电流 (A) Maximum Current (A)	10	13	14	24	
功率 (kW) Power (kW)	4	6	6	11	
重量 (kg) Weight (kg)	145	200	530	760	
标准配置 Standard Configuration	电热观察窗1个, φ50测试孔左右各1个, 样品架2套, 1个电加热观察窗, 1个测试孔, 1个漏电开关, 电机, 压缩机, 相序, 超温, 干烧等保护; 1 electric heating observation window, 1 testing hole, 1 leakage switch, motor, compressor, phase sequence, over-temperature protection, etc.				
安全装置 Safety Device					

a H表示有湿度功能。b,c仅湿热试验箱有此选项。注: 1.A表示新风冷却, W表示新风冷却。2.选择循环水冷却选项。注: 1.A表示新风冷却, W表示新风冷却。2.选择循环水冷却选项。注: 1.A表示新风冷却, W表示新风冷却。2.选择循环水冷却选项。

冰点系列产品特点 Freezing Point Series Product Features

结构特点 Structural Features

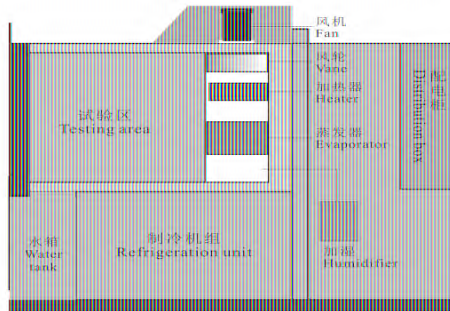
- 独特的门锁设计，操作方便，密封性好。
Unique door lock design for easy locking and better sealing performance.
- 抽展式水箱设计，方便实用。
Drawer-type water tank.
- 大尺寸观察窗，方便观察箱内的试验样品。
Large size observation window makes it convenient for operator to observe the test sample inside the chamber.
- 设备两侧开引线孔，方便在设备两侧置放测量仪器及引线等。
Lead hole is available on the two sides of the equipment, convenient for placing the testing apparatus, leads and others on the two sides of the equipment.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by SECC with electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化，且分块布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式，使箱内温度快速均匀分布，温湿度恒定速度更快，导风片角度可以自由调节，有效保证箱内的均匀性。
Air vents in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from international famous brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适用负载范围广，运行功耗更小。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：泰康、谷轮、博克或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Tecumseh, Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装和总装三个模块；建立弯管手册，保证系统的统一性；标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

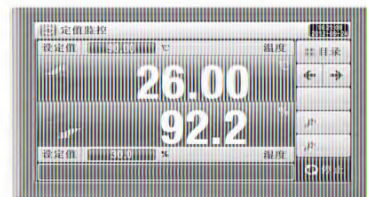
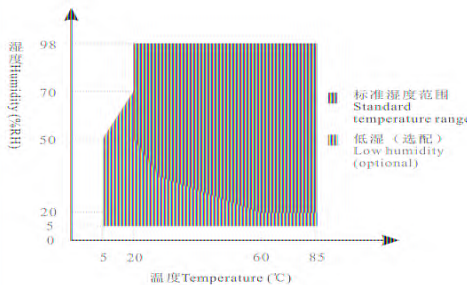
控制系统 Control System

- TOPECT触摸式温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
- TOPECT touch-type temperature and humidity controller is specially developed by TOPECT for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的锁保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5) (6)
FP T H 300 - 40 A

(1)	FP	冰点系列 Freezing Point Series
(2)	T	温度 Temperature
(3)	(H)	带湿度功能 With humidity function
(4)	300	内箱容积(L) Internal volume (L)
(5)	40	设备的最低负温 Minimum negative temperature (°C)
(6)	A	W: 水冷式 W: Water cooling type A: 风冷式 A: Air cooling type



控制器 Controller

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子
Power supply control terminal for test samples
- 压缩机超压及过热保护装置
Compressor overpressure & overheating protection device for compressor
- 2个Φ50的测试孔
2 Cable port holes of Φ50
- 带电热膜的观察窗保证视线清晰
Single leaf door with toughened glass inspection window for viewing the specimen under test inside the chamber with pre-heating system to avoid the condensation
- 不锈钢内箱和喷漆TOPECT标准色外箱
Stainless steel inner chamber and external chamber is coated with TOPECT standard color
- 自诊断功能报警器发现并协助解决问题
Self-diagnosis function alarm is used to identify and assist in fault finding & solving the problem
- 蒸发压力调节装置（防止湿热试验时蒸发器结冰）
Evaporation pressure regulating device for preventing the evaporator from icing during heat and humidity test
- 排气压力调节装置（防止压缩机运行时压力过高）
Exhaust pressure regulating device for preventing overpressure during running of compressor
- 冷凝压力调节装置（水冷型为了适应冬夏不同环境）
Condensation pressure regulating device (water cooling type device used to adjust winter and summer environment)
- 带有独特断热功能的门封条和测试孔减少凝露和结霜
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting
- 门上的接水盘防止箱门打开时门上的水珠滴落
Drip tray is provided on the door is used to prevent water from dripping when the chamber door is open

选配件 Optional Accessories

- 湿热试验箱纯水自动供应装置(图1)
Automatic pure water supply device for temperature-humidity test chamber (fig.1)
- 远程控制及数据传输用通讯接口和软件(图2)
Communication port and software for remote control and data transmission (fig.2)
- 空气干燥机(图3)
Air dryer (fig.3)
- 低湿、超低湿系统(可长时间运行超低湿5℃/5%RH)
Low humidity condition & super low humidity condition can be achieved (it can run for a long time; super low humidity at 5℃/5%RH)
- 可选用不同规格的引线孔(Φ50、Φ80、Φ100、Φ160等)
Lead hole of different specifications can be provided as per customer requirement (Φ50, Φ80, Φ100, Φ160, etc.)

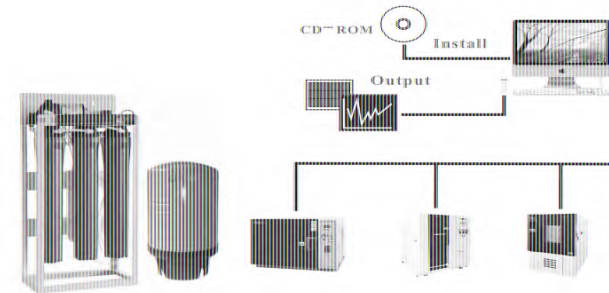


Fig. 1

Fig. 2

海洋系列 Marine Series

步入式高低温湿热试验箱 Walk-in High and Low Temperature and Humidity Test Chamber



- 大尺寸观察窗
Large observation window
- 拼装式/整体焊接式可供选择
Assembly/ integral welding type as per customer's choice

- 制冷机组及通道等附件采用整体式
Integral refrigeration unit & channels
- 适合大型零部件试验样品
Suitable for sample of large components & parts

- 样品电源控制端子
Power supply control terminal of sample
- 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号/Model*		OTH 078-40W 1LH	OTH 117-40W 1LH	OTH 136-40W 1LH	OTH 162-40W 1LH
内容积 (m³) Internal Volume (m³)		6.8/7.8	10.2/11.7	13.6/15.6	14.2/16.2
内箱尺寸 (mm) Inner Dimension (mm)	W	1800			
	H	2700			
	D	1800	2700	3600	2700
外箱尺寸 (mm) Outer Dimension (mm)	W	2000			
	H	2000			
	D	内箱尺寸D+1205 Inner diameter D+1205			
性能* Performance	温度范围(°C) Temperature Range (°C)	最低温度: -40°C Minimum temperature: -40°C			
	湿度范围(%RH) Humidity Range (%RH)	20~98%RH			
	温度波动度(°C) Temperature Fluctuation (°C)	±0.1°C			
	温度偏差(°C) Temperature Deviation (°C)	±0.1°C			
	湿度偏差(%RH) Humidity Deviation (%RH)	±0.5%RH			
	升温时间* Temperature Rise Time*	≤45min	≤50min	≤55min	≤45min
	降温时间* Temperature Fall Time*	25°C~额定极限低温	25°C~lower limit of rated temperature	(30~180)min(视不同型号和配置而不同)	(30~180)min(视不同型号和配置而不同)
	温湿度调节方式 Temperature and Humidity Regulation Mode	BTHC平衡调温(SSR调温)方式 BTHC Balanced temperature and humidity control mode (SSR temperature and humidity control mode)			
	使用环境/Operating Environment	25°C~36°C 湿度: (30~85)%RH 气压: (86~106)kPa 25°C~36°C Humidity: (30~85)%RH Pressure: (86~106)kPa			
	保温库板结构/Structure of Thermal Insulation Warehouse Board	预氧化镀锌彩色钢板-射温度应力保温材料-SU304不锈钢复合板 Pre-oxidized galvanized color steel plate - temperature stress resistant insulation material - SUS304 stainless steel composite plate			
执行器 Actuator	风机/Actuator Fan	加长轴离心风机 Extended shaft centrifugal fan			
	制冷机/Refrigerator	低噪音活塞式压缩机或涡旋式压缩机 Low-noise piston compressor or scroll compressor			
	加热器/Heater	进口镍铬合金电发热丝 Imported nickel-chrome electric heating wire			
	加湿器/Humidifier*	316不锈钢加湿器(外置式蒸汽发生器) 316 stainless steel humidifier (external steam generator)			
控制计算机系统 Controller System	触摸屏+PLC Touch Screen & PLC	7.0"或10.0", 800*480分辨率, 混合输出PLC 7.0" or 10.0", 800*480 resolution, mixed output PLC			
	运行方式/Running Mode	定值运行, 程式运行 Fixed mode, Program mode			
	设定方式/Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese & English, touch input			
	程序容量/Program Capacity	269组程序, 每组程序50段, 可设32000次循环, 程序具有多组, 可依设备性能的最大范围调整±5.0°C, 湿度范围(5~100)%RH 269 groups of programs, each consisting of 50 sections for setting; can be adjusted to ±5.0°C according to the maximum range of device performance; humidity range (5~100)%RH			
	设定范围/Setting Range	温度: 0.01°C, 湿度: 0.1%RH(湿度设备), 时间: s/Temp/Hum/TIME			
	显示分辨率/Display Resolution	PT100 (铂电阻), 温度传感器; PT100 (platinum resistor), temperature sensor			
	传感器/Sensor	低温冷平衡+抗积分饱和和PID+自整定 Low-temperature cold balance + anti-integration saturation and PID + self-tuning			
	控制方式/Control Mode	具有带电保存数据功能, 屏幕上可以滑动浏览数据抓图功能 With automatic data storage function. User can browse the data through the touch screen and capture the data screenshot.			
	曲线记录/Curve Record	故障报警及原因处理提示功能; 定时开关机, 断电保护, 并支持RS485, LAN(网口), GPRS(手机)等方式通讯, 方便远 Fault alarm and cause handling prompt function: Timed start/stop, power on/off, power off protection, and support RS485, LAN (network port), GPRS (mobile phone) for communication, convenient for remote monitoring.			
	附加功能/Additional Function	通讯功能 Communication Function			
数据采集/Data Acquisition	数据记录	1. 配备USB接口, 可保存3个月的曲线数据, 可下载历史曲线数据, 可替代电脑存储。用户可用U盘导出历史数据(时间可连续记录, 实现远程监控)。 1. With USB interface, curve data of three months can be saved. It can be an alternative to the recorder. With built-in extra data acquisition, it can replace computer storage. Users can export historical data through U-disk (continuous recording, remote monitoring).			
	数据记录	2. 它可作为替代记录器。具有内置的额外采样时间, 采样时间为1min。它可以替代计算机存储。用户可以将数据导出到PC(可选)。记录测试数据通过计算机监控。 2. It can be an alternative to the recorder. With built-in extra sampling time is 1min. It can replace computer storage. Users can export data to PC (optional). Record testing data through computer monitoring.			
	数据记录	3. 连接PC(可选) - 记录测试数据通过计算机监控。 3. Connect to PC (optional) - Record testing data through computer monitoring.			
供水 Water Supply	供水系统* Water Supply System*	配备多级过滤反渗透纯水机, 或水泵提升 Cascade filtration or water pump lift			
	水质* Water Quality*	电阻率>500Ω·m Resistivity >500 Ω·m			
	循环冷却水/Circulating Water Flow (t/h)	供水压力>0.25~0.4MPa 水温: ≤30°C Water supply pressure: >0.25~0.4MPa Water temperature: ≤30°C			
	电源(V)/Power Supply (V)	交流电压380V±38V 频率50Hz±0.5Hz 三相四线+接地保护 AC voltage 380V±38V Frequency 50Hz±0.5Hz Three-phase four-wire + ground protection			
电源功率(kW)/Power (kW)	(20~55)kW (视不同型号和配置而不同) (20~55)kW (dependent on model and configuration)				
标准配置/Standard Configuration	电加热观察窗1个, φ50测试孔左右各1个。 Electric heating observation window, 1 testing hole of φ50 on each side, φ50 test hole on each side.				
安全装置/Safety Device	漏电开关, 电机, 压缩机, 相序, 超温, 干烧等保护装置 Leakage switch, motor, compressor, phase sequence, over-temperature, dry burn, etc. protection devices				

a.L型: 内室高度为2100mm, H型: 内室高度为2400mm.
注: 海洋系列试验箱可依客户需求定制。
a.L type: Indoor height: 2100mm; H type: Indoor height: 2400mm.
b: Room temperature 25°C and circulating water temperature 25°C. Such data are acquired by test without sample.
c: This option is only available for temperature and humidity test.
Notes: Marine series of test chambers can be customized according to client's requirements.

海洋系列产品特点 Marine Series Product Features

结构特点 Structure

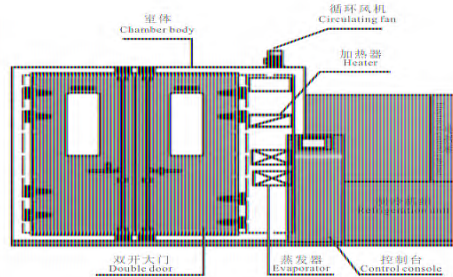
- 送风通道与制冷机组一体化设计。
Air supply channel and refrigeration unit adopt integral design.
- 斜坡用来向试验箱内部搬运重物。
The slope is used for transporting heavy object into the test chamber.
- 大尺寸观察窗, 方便观察箱内的试验样品。
Large observation window makes it convenient for operator to observe the test sample inside the chamber.
- 设备两侧开引线孔, 方便在设备两侧置放测量仪器及引线等。
Lead holes are available on the two sides of the equipment, convenient for placing the testing apparatus, leads and others on the two sides of the equipment.
- 内箱材料采用SUS304不锈钢; 外箱材料采用双面镀锌钢板, 表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by SECC and its surface is treated by electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化, 且分开布局, 安全可靠。
Modularized Refrigerating system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风, 使箱内温度快速均匀分布, 温湿度恒定速度快, 导风片角度可以自由调节, 有效保证箱内的均匀性。
Air vents are in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

特点系统 Features System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置, 保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制, 适用负载范围广, 运行功耗更小。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机: 谷轮、博克或比泽尔, 运行噪音更低更稳定, 性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护, 确保铜管内部不氧化, 焊口表面涂油漆保护, 是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产, 分为分装、部装和总装三个模块; 建立弯管手册, 保证系统的统一性; 标准化模块, 便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

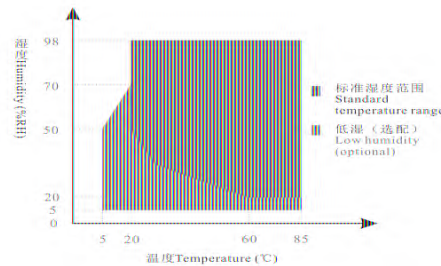
控制系统 Control System

- Topect触摸屏温湿度控制器是大王公司针对环境设备行业开发; 它由触摸屏、PLC、温度模块和湿度模块组成, 功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度; 具备USB接口, 可以导出数据(时间可选), 可通过RS485通讯与PC连接实现远程监控。
- Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器, 65536色7", TFT真彩触摸屏, 800×480点阵, 确保显示效果真, 操作舒适, 整个界面风格简洁清晰, 操作方便, 运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的锁保护功能, 故障报警及解除说明; 可扩充的输入输出, 可以依据要求编制不同控制程序来实现不同的功能; 针对各种环境设备分别开发, 可统一用软件集中电脑控制, 控制器界面风格一致, 方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制, 具有定时运行、停止功能, 断电保护功能, 稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件, 且提供通讯协议, 便于用户进行二次开发; 可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5) (6) (7)
O T H 58-40 W 5

(1)	O	海洋系列 Marine Series
(2)	T	温度 Temperature
(3)	(H)	带湿度功能 With humidity function
(4)	58	内箱容积58m ³ Internal volume 5.8m ³
(5)	40	设备的最低负温(℃) Minimum negative temperature (C)
(6)	W	W: 水冷式 W: Water-cooling type A: 风冷式 A: Air-cooling type
(7)	5	升降速率(℃) Temperature rising and cooling rate (C)



控制器 Controller

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for Test samples.
- 压缩机过热保护装置。
Overpressure & Overheating protection device for compressor.
- 2个φ80的测试孔。
2 Cable port holes of φ80.
- 带电热膜的观察窗保证视线清晰。
Single leaf Door with toughened glass inspection window for viewing the specimen under test inside the chamber with pre-heating system to avoid the condensation.
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber is coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in fault finding & solving the problem.
- 蒸发压力调节装置(防止湿热试验时蒸发器结冰)。
Evaporation pressure regulating device (for preventing the evaporator from icing during heat and moisture test).
- 排气压力调节装置(防止压缩机运行时压力过高)。
Evaporation pressure regulating device for preventing overpressure during running of compressor
- 冷凝压力调节装置(水冷型为了适应冬夏不同环境)。
Condensation pressure regulating device (water cooling type device used to adjust winter and summer environment).
- 带有独特隔热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 门上的接水盘防止箱门打开时门上的水珠滴落。
Drip tray on the door is provided to prevent water from dripping on floor when the chamber door is open.

选配件 Optional Accessories

- 湿热试验箱纯水自动供应装置(图1)。
Automatic pure water supply device for temperature-humidity test chamber (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 空气干燥器(图3)。
Air dryer (fig.3).
- 低湿、超低湿系统(可长时间运行超低湿5℃/5%RH)。
Low humidity condition & super low humidity condition can be achieved (it can run for a long time; super low humidity at 5℃/5%RH).
- 可选用不同规格的引线孔(φ50、φ80、φ100、φ160等)。
Lead hole of different specifications can be provided as per customer requirement (φ50, φ80, φ100, φ160, etc.).

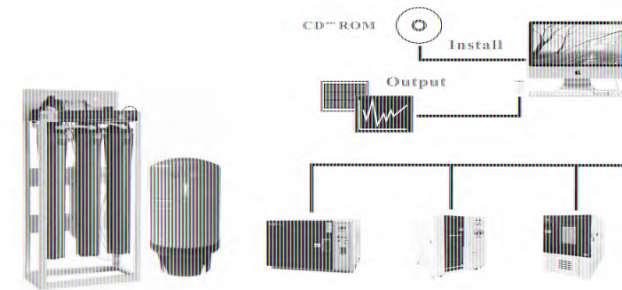


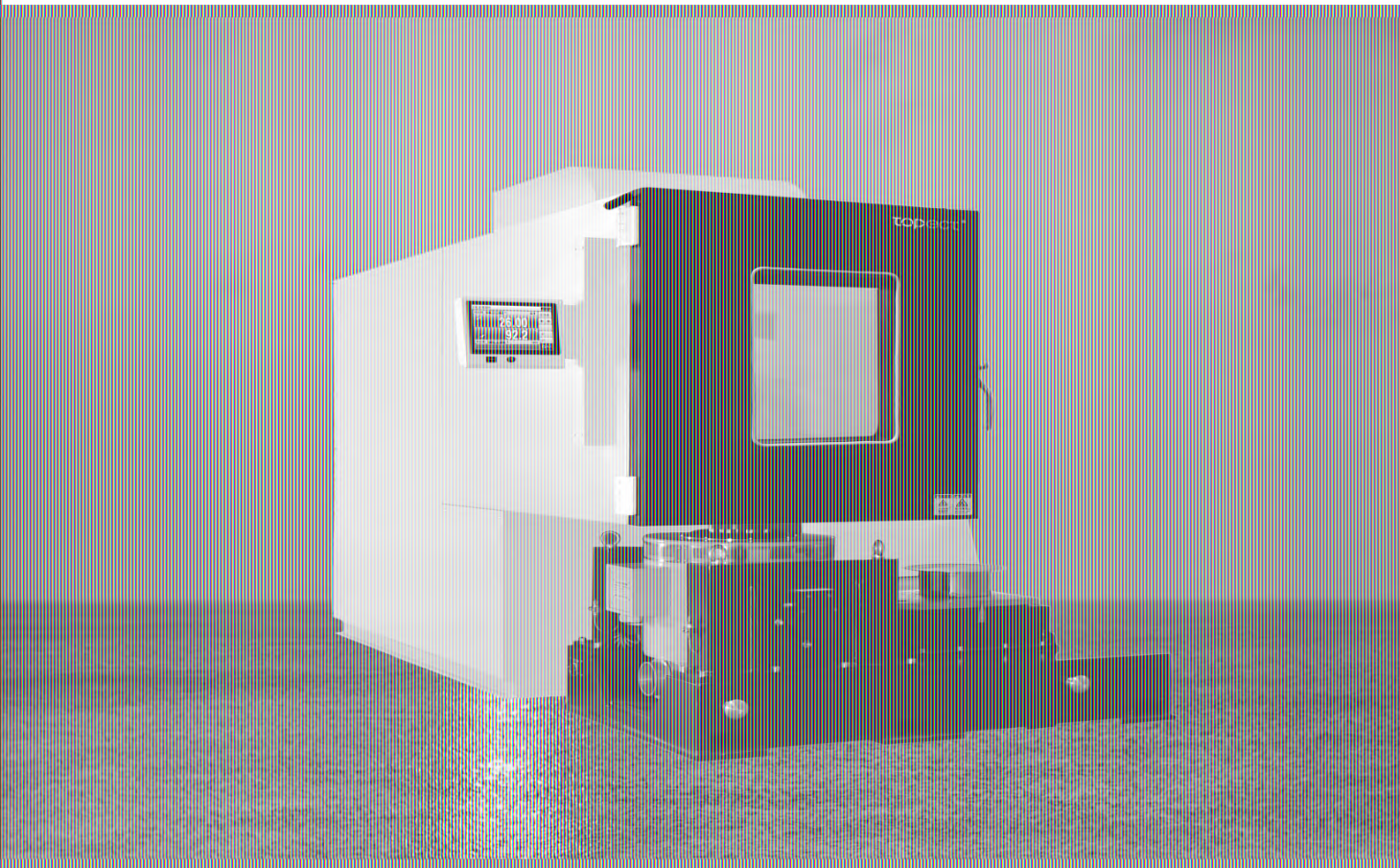
Fig. 1

Fig. 2

三综合系列 Three Comprehensive Series

温度、湿度、振动综合试验箱

Temperature, Humidity and Vibration Integrated Test Chamber



● 大尺寸观察窗
Large size observation window

● 可配接振动台
Vibration table is available

● 独特杠杆门锁
Unique lever lock

● 三重独立超温保护
Triple independent over-temperature protection

● 样品电源控制端子
Power supply control terminal of sample

● 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号* Model*		TCTH 300-70W5N	TCTH 500-70W5N	TCTH 1000-70W5N
内容积(L) Internal Volume (L)		300	500	1000
内箱尺寸(mm) Inner Dimension (mm)		W	700	800
		H	700	900
		D	600	700
温度范围(°C)Temperature Range (°C)				
湿度范围(%RH)Humidity Range (%RH)				
温度波动度(°C)Temperature Fluctuation (°C)				
温度偏差(°C)Temperature Deviation (°C)				
湿度偏差(%RH)Humidity Deviation (%RH)				
升降速率(°C/min)		5°C/min	5°C/min	5°C/min
Temperature Rising and Cooling Rate (°C/min)		5°C/min	5°C/min	5°C/min
调温调湿方式 Temperature and Humidity Regulation Mode		BTHC平衡调湿(SSR调湿)方式 BTHC Balanced tem		
使用环境Operating Environment		温度: (5~36)°C 湿度: (30~85)%RH 气压: (86~1		
材料 Material	内箱Inner Chamber	不锈钢板 SUS304 Stainless steel sheet SS304		
	外箱Outer Chamber	双面镀锌板, 表面处理静电喷塑处理 Two-sided ;		
	保温Thermal Insulation	纤维高温棉+聚氨酯发泡 High temperature glass/foe		
执行器 Actuator	风机Fan	加长轴离心风机 Extended shaft centrifugal fan		
	制冷机Refrigerator	低噪音活塞式压缩机或涡旋式压缩机 Low-noise pis		
	加热器Heater	进口镍铬合金电发热丝 Imported nickel-chrome		
	加湿器*Humidifier*	316不锈钢加湿器(外置式蒸汽发生器) 316 staine		
控制器系统 Controller System	触摸屏+PLC Touch Screen & PLC	7.0", 800×480分辨率, 混合输出PLC 7.0", 800×48		
	运行方式Running Mode	定值运行, 程式运行; Fixed mode, Program mode		
	设定方式Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese & En		
	程序容量Program Capacity	269组程序, 每组程序50段, 可设32000次循环, 程序		
	设定范围Setting Range	依据设备性能的最大范围值调整±5.0°C, 湿度范围(5		
	显示分辨率Display Resolution	温度: 0.01°C, 湿度: 0.1%RH(湿度设备), 时间: 8		
	传感器Sensor	PT100(铂电阻), 温度传感器; PT100(platinum re		
	控制方式Control Mode	低温冷平衡+抗积分饱和和PID+自整定 Low-tempera		
	曲线记录Curve Record	具有带电保存数据功能, 屏上可以滑动浏览数据, 却		
	附加功能Additional Function	故障报警及原因处理提示功能; 定时开关机, 断电保		
	通讯功能 Communication Function	支持RS485, LAN(网口), GPRS(手机)等方式通讯, 方		
	数据采集Data Acquisition	1. 配有USB接口, 可保存3个月的曲线数据, 可下载		
供水方式Water Supply Mode				
供水 Water Supply	储水箱Water Storage Tank			
	水质Water Quality			
循环水流量 ⁽¹⁾ (t/h)Circulating Water Flow ⁽¹⁾ (t/h)		6	8	
电源(V)Power Supply (V)	交流电压380V±38V 频率50Hz±0.5Hz 三相四			
最大电流(A)Maximum Current (A)	45	50	63	
功率(kW)Power (kW)	30	32	37	
重量(kg)Weight (kg)	850	900	1050	
标准配置Standard Configuration	Electric heating of			
安全装置Safety Device	Leakage switch, motor,			

a H表示有湿度功能; b, c 选择湿热功能才有此选项; d 选择循环水冷却才有此选项。注: 1.A表示 /min, 30°C/min或40°C/min.

a H: humidity function is available.

b, c: This option is available when humidifying and heating function is selected.

d: This option is available when circulating water cooling is selected.

Notes: 1.A refers to air exchange. W refers to circulating water cooling. 2. Three comprehensive series are for your choice.

三综合系列产品特点 Three Comprehensive Series Product Features

结构特点 Structural Features

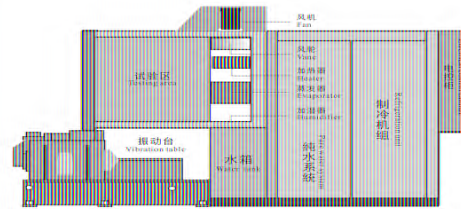
- 抽屉式水箱设计，方便实用。
Drawer-type water tank.
- 独特的门锁设计，操作方便，密封性好。
Unique door lock design is convenient to operate and better in sealing performance.
- 大尺寸观察窗，方便观察箱内的试验样品。
Large size observation window makes it convenient for operator to observe the test sample inside the chamber.
- 设备两侧开引线孔，方便在设备两侧置放测量仪器及引线等。
Lead holes are available on the two sides of the equipment, convenient for placing the testing apparatus, leads, etc.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by CRCS with electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化，且分布布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式采用45度斜下送风，使箱内温度快速均匀分布，温湿度恒定速度更快，导风片角度可以自由调节，有效保证箱内温度的均匀性。
Air is supplied into the chamber from below at the angle of 45. In this way, the internal temperature is distributed evenly and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适应负载范围广，运行功耗更小。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：谷轮、博克或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装和总装三个模块；建立弯管手册，保证系统的统一性。标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

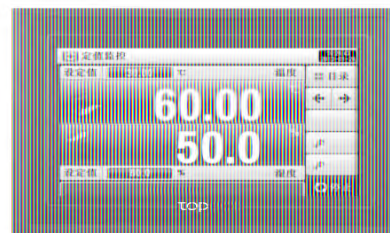
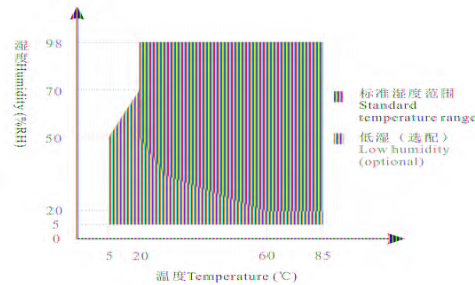
控制系统 Control System

- Topect触摸屏温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
- Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的锁错保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5) (6) (7)
TC T H 420 - 70 W 5

(1)	TC	三综合系列 Three comprehensive series
(2)	T	温度 Temperature
(3)	(RH)	带湿度功能 With humidity feature
(4)	420	内箱容积(L) Internal volume (L)
(5)	70	设备的最低负温(℃) Minimum negative temperature (°C)
(6)	W	W: 水冷式 W: Water cooling type A: 风冷式 A: Air cooling type
(7)	5	升降温速率(℃) Temperature rising and cooling rate (°C)



控制器 Controller

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 测试样品电源控制端子。
Power supply control terminal for test samples.
- 压缩机过热保护装置。
Overpressure & overheating protection device for compressor.
- 2个Φ50的测试孔。
2 Cable port holes of Φ50.
- 带电热膜的观察窗保证视线清晰。
Single leaf door with toughened glass inspection window for viewing the specimen under test inside the chamber with pre-heating system to avoid the condensation.
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber is coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in fault finding & solving the problem.
- 蒸发压力调节装置（防止湿热试验时蒸发器结冰）。
Evaporation pressure regulating device for preventing the evaporator from icing during heat and moisture test.
- 排气压力调节装置（防止压缩机运行时压力过高）。
Exhaust pressure regulating device for preventing overpressure during running of compressor.
- 冷凝压力调节装置（水冷型以适应冬夏不同环境）。
Condensation pressure regulating device (water cooling type device used to adjust winter and summer environment).
- 带有独特隔热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 门上的接水盘防止箱门打开时门上的水珠滴落。
Drip tray is provided on the door is used to prevent water from dripping when the chamber door is open.

选配件 Optional Accessories

- 湿热试验箱纯水自动供应装置(图1)。
Automatic pure water supply device for temperature-humidity test chamber (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 空气干燥机(图3)。
Air dryer (fig.3).
- 低湿、超低湿系统(可长时间运行超低湿5℃/5%RH)。
Low humidity condition & super low humidity condition can be achieved (it can run for a long time; super low humidity at 5°C/5%RH).
- 可选用不同规格的引线孔(Φ50、Φ80、Φ100、Φ160等)。
Lead hole of different specifications can be provided as per customer requirement (Φ50, Φ80, Φ100, Φ160, etc.).

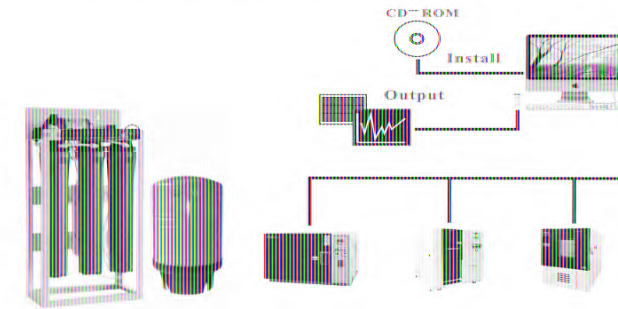
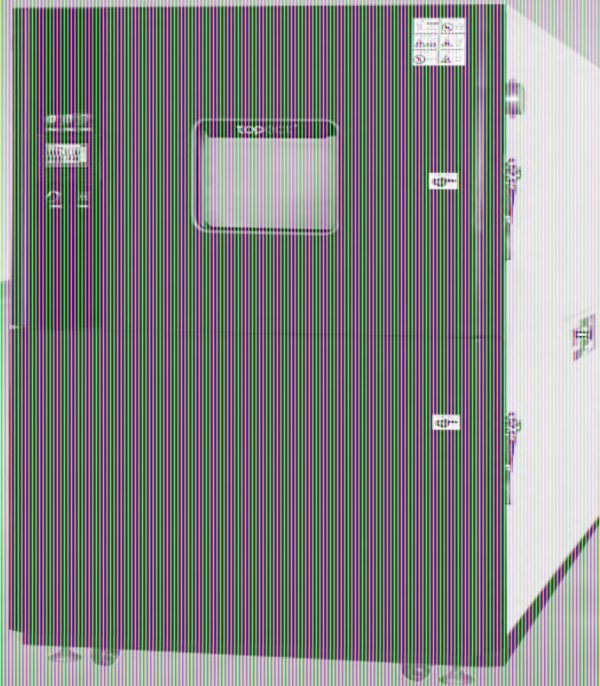


Fig.1

Fig.2

冲击系列 II Shock Series II

冷热冲击试验箱 Cold and Hot Shock Test Chamber



● 内尺寸可按客户要求定制
Inner dimension can be customized as required by the client

● 独特杠杆门锁
Unique lever lock

● 三重独立超温保护
Triple independent over-temperature protection

● 样品电源控制端子
Power supply control terminal of sample

● 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号 Model	T II 100-40W	T II 200-40W	T II 300-40W
内容积(L) Internal Volume (L)	100	200	300
内箱尺寸(mm) Inner Dimension (mm)	W	650	650
	H	460	460
	D	370	670
外箱尺寸(mm) Outer Dimension (mm)	W	1660	1660
	H	2050	2050
	D	2100	2400
试样最大重量(kg) Maximum Sample Weight (kg)	7.8	7.8	7.8
试验方法 Testing Method	试		
预热预冷温度 Preheating and Pre-cooling Temperature	预热: (6		
温度恢复/切换时间 Temperature Recovery/Switch Time	恢复时		
温度偏差(°C) Temperature Deviation (°C)			
暴露时间 Exposure Time	高温暴露: 30min		
重量(kg) Weight (kg)	1090	1480	1870
最大电流(A) Maximum Current (A)	46	60	75
电源功率(kW) Power (kW)	30	37	45
冷却水流量(l/h) Circulating Cooling Water (l/h)	5	8	12
材料 Material	内箱 Inner Chamber	不锈钢板 SUS304 Stainless steel sheet	
	外箱 Outer Chamber	双面镀锌钢板, 表面处理静电喷塑处理	
	保温 Thermal Insulation	纤维高温棉+聚氨酯发泡 High-temperature fiber wool + polyurethane foam	
执行器 Actuator	高温槽 High-temperature Tank	高温冲击风机, 预热时用轴流风机 High-temperature shock fan, use axial flow fan during preheating	
	低温槽 Low-temperature Tank	加热器-进口镍铬合金发热丝 蓄冷器: 片式风机; 耐低温风机 Fan: Low-temperature fan	
	风门驱动 Damper Driver	气动气缸; 试样区吊篮上下移动用 Pneumatic cylinder; Sample tray up and down movement	
	制冷系统 Refrigeration System	气源供应 Air supply	
控制器系统 Controller System	触摸屏+PLC Touch Screen & PLC	7.0"或10.0", 800×480分辨率, 混合输出	
	运行方式 Running Mode	程式运行 Program mode	
	设定方式 Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese + English, touch input	
	程序容量 Program Capacity	269组程序, 每组程序3段, 可设32000次程序组	
	设定范围 Setting Range	根据设备性能的最大范围调整±5.0°C	
	显示分辨率 Display Resolution	温度: 0.1°C, 时间: s	
	传感器 Sensor	PT100(铂电阻) PT100 (platinum resistor)	
	控制方式 Control Mode	低温冷平衡+抗积分饱和和PID-自整定	
	曲线记录 Curve Record	具有带电保存数据功能, 屏上可以滑动浏览	
	附加功能 Additional Function	报警会弹出报警原因处理方法, 定时开关机	
通讯功能 Communication Function	支持RS485, LAN(网口), GPRS(手机)等		
数据收集 Data Acquisition	1. 配备USB接口, 可保存3个月的曲线数据, 采样时间为1分钟, 可替代电脑存储, 方便数据查看, 可显示曲线, PC机可作为远程终端; 2. 通过USB接口, 曲线数据为3种格式: CSV, TXT, EXCEL; 3. 可连接到PC(可选)-记录测试数据, 实现远程监控。		
压缩空气 Compressed Air	压力: 0.5~0.7MPa 流量: 0.1m³/min		
冷却水 Circulating Cooling Water	供水水压: 0.25~0.4MPa 水温: ≤30°C		
电源(V)/(Hz) Power Supply (V)/(Hz)	交流电压 380V±38V 频率 50Hz±0.5Hz 三相 AC voltage 380V±38V Frequency 50Hz±0.5Hz		
标准配置 Standard Configuration	φ50测试孔1个, 样品架1套, 脚轮4个		
安全装置 Safety Device	漏电开关, 电机, 压缩机, 相序, 超温等		

a 恢复条件: 室温为+25°C. 试样为塑料封装集成电路(均匀分布)。注: 冲击系列试验箱可根据客户要求定制。
Note: Shock series test chamber can be customized according to client's requirements.

冲击系列产品特点 Shock Series Product Features

结构特点 Structural Features

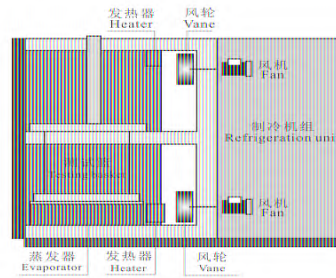
- 可以加装观察视窗。
Observation window can be added based on customer requirement.
- 采用两箱法，缩短了试样的温度恢复时间。
Use of 2-box method shortens the temperature recovery time of the sample.
- 采用试验篮上下移动方式并通过气缸平稳驱动。
Cylinder controlled steady "up and down movement method" of test basket.
- 风速高，试样温度均匀，有效保证箱内温度的均匀性。
High air speed and uniform sample temperature effectively guarantees the uniformity of temperature inside the chamber.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by CRCS with electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化，且分开布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式采用45度斜下送风，使箱内温度快速均匀分布，温湿度恒定速度更，导风片角度可以自由调节，有效保证箱内的均匀性。
Air vents are placed 45° in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed, the angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适用负载范围广，运行功耗更低。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：谷轮、博客或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装和总装三个模块；建立弯管手册，保证系统的统一性；标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

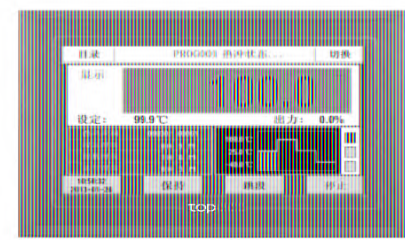
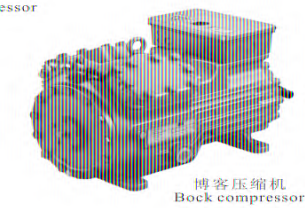
控制系统 Control System

- Topect触摸式温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
- 控制器具有强大的锁保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
- 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
- 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5)
T II 70 - 40 W

(1)	T	冲击系列 Shock series
(2)	II	II: 二箱式 II: 2-chamber type III: 三箱式 III: 3-chamber type
(3)	70	内箱容积(L) Internal volume (L)
(4)	40	冲击最低负温(°C) Minimum shock negative temperature (°C)
(5)	W	W: 水冷式 W: Water cooling type A: 风冷式 A: Air cooling type



标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for test samples.
- 压缩机超压保护装置及过热保护装置。
Overpressure & overheating protection device for compressor.
- 1个Φ50的测试孔1。
Cable port hole of φ50
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in solving the problem.
- 排气压力调节装置（防止压缩机运行时压力过高）。
Exhaust pressure regulating device (used for preventing overpressure when the compressor runs).
- 冷凝压力调节装置（水冷型以适应冬夏不同环境）。
Condensation pressure regulating device (water cooling type device used to adapt to different winter and summer environment).
- 带有独特断热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 空气调节通道安装超温保护（超温保护2）。
Over-temperature protection is installed for the air regulation channel (over-temperature protection 2).

选配件 Optional Accessories

- 温度记录仪(图1)。
Temperature recorder (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 观察窗(图3)。
Observation window (fig.3).
- 可选用不同规格的引线孔(Φ50、Φ80、Φ100、Φ160等)。
Lead hole of different specifications can be provided as per customer requirement (Φ50, Φ80, Φ100, Φ160, etc.).

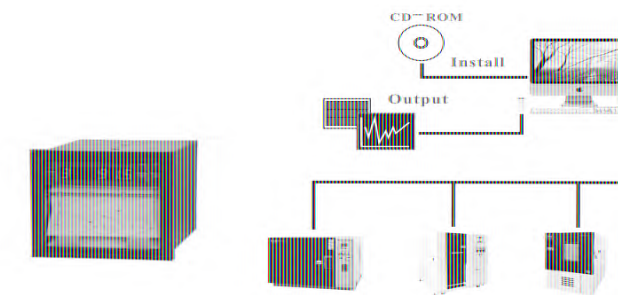


Fig. 1

Fig. 2

冲击系列 III Shock Series III

冷热冲击试验箱 Cold and Hot Shock Test Chamber



- 内尺寸可按客户要求定制
Inner dimensions can be customized as required by the client
- 左右两侧开引线孔
Lead holes can be provided on both sides

- 独特杠杆门锁
Unique lever lock
- 三重独立超温保护
Triple independent over-temperature protection

- 样品电源控制端子
Power supply control terminal of sample
- 控制器自主研发
Controller developed independently by Topect

III 技术规格 Technical Specifications

型号Model	T III 100-40W	T III 200-40W	T III 300-40W	T III 500-40W	T III 1000-40W	
内容积(L)Internal Volume (L)	100	200	300	500	1000	
内箱尺寸(mm) Inner Diameter (mm)	W	650	650	970	650	
	H	460	460	460	600	460
	D	370	760	760	860	370
外箱尺寸 (mm) Outer Diameter (mm)	W	1710	1570	1890	2030	1710
	H	2010	2010	2010	2300	2010
	D	1932	1932	1932	2100	1932
试样最大重(kg) Maximum Sample Weight (kg)	7.8	7.8	7.8	7.8	7.8	
试验方法Testing Method	气动机切换高温区或低温区					
预热预冷温度Preheating and Pre-cooling Temperature	预热: (60~200)°C 预冷: (60~200)°C					
温度恢复/切换时间Temperature Recovery /Switch Time	恢复时间: 2~5min					
温度偏差(°C) Temperature Deviation (°C)	±0.1~±0.5					
暴露时间Exposure Time	高温暴露: 30min 低温暴露: 30min					
重量(kg)Weight (kg)	980	1050	1400	1500	1100	
最大电流(A)Maximum Current (A)	40	45	60	60	50	
电源功率(kW)Power (kW)	26	29	37	37	30	
循环冷却水(t/h) Circulating Cooling Water (t/h)	2.8	3	3	3	5	
材料 Material	内箱Inner Chamber	不锈钢板 SUS304 Stainless steel sheet SS304				
	外箱Outer Chamber	双面镀锌板,表面处理后静电喷漆处理 Cold Rolled Carbon steel				
	保温Thermal Insulation	纤维高温棉+聚氨酯发泡 High-temperature Glass wool/Rockswool				
执行器 Actuator	高温槽 High-temperature Tank	加热器:镍铬合金发热丝 Heater: nickel-chrome electric heater 高温冲击风机, 预热时用轴流风机 High-temperature shock fan High-temperature axial flow fan				
	低温槽 Low-temperature Tank	风机: 耐低温风机 Fan: Low-temperature resistance fan				
	风门驱动 Damper Driver	气动气缸: 高低温, 常温冲击时驱动风门用 Pneumatic cylinder				
	空压机 Air compressor	气源供应用途 Air supply				
	制冷系统 Refrigeration System	制冷方式: 低噪音活塞式压缩机+二元复叠式制冷 Refrigeration system 环保制冷剂R404A, R23 Refrigerant: Environmental protection				
触摸屏+PLC Touch Screen & PLC	7.0"或10.0", 800×480分辨率, 混合输出PLC 7.0"或10.0", 800×480 resolution, mixed output PLC					
运行方式Running Mode	程式运行, 定时运行 User can define the program as per Test					
设定方式Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese & English, input					
程序容量 Program Capacity	269组程序, 每组程序3段, 可设32000次循环, 程序具有链接功能 link function.					
设定范围Setting Range	依据设备性能的最大范围调整±5.0°C Adjusted by ±5.0°C according to the equipment's performance					
显示分辨率 Display Resolution	温度: 0.1°C, 时间: s Temperature: 0.01°C; time: s					
传感器Sensor	PT100(铂电阻) PT100 (platinum resistor)					
控制方式Control Mode	低温冷平衡+抗积分饱和和PID+自整定 Low-temperature cold balance					
曲线记录Curve Record	具有带电保存数据功能, 屏上可以滑动浏览数据, 抓图功能 available.					
附加功能 Additional Function	故障报警及原因处理提示功能: 定时开关机, 断电保护, 用户自定义报警及原因处理提示功能: 定时开关机, 断电保护, 用户自定义报警及原因处理提示功能: 定时开关机, 断电保护, 用户自定义					
通讯功能 Communication Function	支持RS485, LAN(网口), GPRS(手机)等方式通讯, 方便远程监控 Support RS485, LAN (internet port), GPRS (phone) and other compatible machine. CPU above PIII, memory above 128M, operation system above WinXP					
数据采集 Data Acquisition	1. 有USB接口, 可保存3个月的曲线数据, 可下载历史曲线. 历史数据可替代电脑存储, 用户可用U盘导出历史数据(时间可选), 生成报告, 实现远程监控. 1. With USB interface, curve data of three months can be saved, and historical data can be downloaded. Historical data can be replaced by computer storage. Users can use U-disk to export historical data (time selectable), generate reports, and realize remote monitoring.					
压缩空气Compressed Air	压力: 0.5~0.7MPa 流量: 0.1m ³ /min Pressure: 0.5~0.7MPa					
循环冷却水 Circulating Cooling Water	水压: 0.25~0.4MPa 水温: ≤30°C Water pressure: 0.25-0.4MPa					
电源(V)(Hz)Power Supply (V)(Hz)	交流电压 380V±38V 频率 50Hz±0.5Hz 三相四线+接地保护 AC					
标准配置Standard Configuration	φ30测试孔1个, 样品架2套, 脚轮4个 1 Testing hole of φ 30; 2 sets					
安全装置Safety Device	漏电开关, 电机压缩机, 相序, 超温等保护功能 Leakage switch					

a 恢复条件: 室温为+25°C, 试样为塑料封装集成电路(均匀分布)。注: 冲击系列试验箱可依客户需求定制。 Recovery condition: Room temperature +25°C The sample is plastic encapsulated integrated circuit (uniformly distributed). Note: Shock series test chamber can be customized according to client's requirements.

冲击系列产品特点 Shock Series Product Features

结构特点 Structural Features

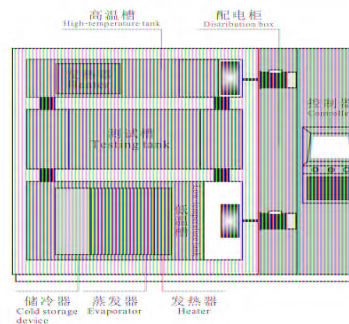
- 采用三箱试验样品静止式结构。
3-chamber sample static structure.
- 风速高，试样温度均匀，有效保证箱内温度的均匀性。
High air speed and uniform sample temperature effectively guarantees the uniformity of temperature inside the chamber.
- 独特的门锁设计，操作方便，密封性好。
Unique door lock design is convenient to operate and better in sealing performance.
- 设备左侧开引线孔，方便在设备左侧置放测量仪器及引线等。
Lead holes are available on the two sides of the equipment, convenient for placing the testing apparatus, leads and others on the two sides of the equipment.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by CRCS with electrostatic powder coating.
- 箱体制冷系统、电控系统已经模块化，且分开布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式采用45度斜下送风，使箱内温度快速均匀分布，温湿度恒定速度更快，导风片角度可以自由调节，有效保证箱内的均匀性。
Air vents are placed 45° in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适用负载范围广，运行功耗更低。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：谷轮、博客或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内做到这个标准的厂家之一。
Before welding, all pipelines shall be charged with nitrogen to protect the interior of the copper part from oxidation. The weld junction is sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装、总装三个模块；建立弯管手册，保证系统的统一性；标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly. Standardized modules are convenient to install, debug and maintain.

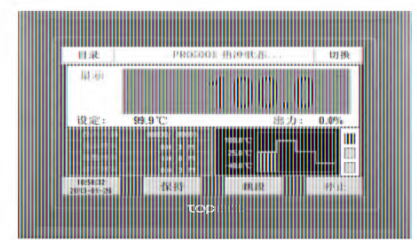
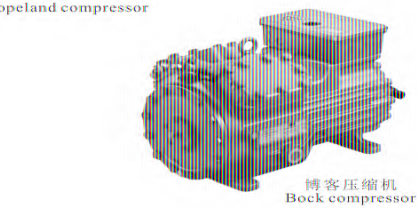
控制系统 Control System

- Topect触摸式温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
- Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I&O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的锁保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I&O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5)
T III 70 - 40 W

(1)	T	冲击系列 Shock series
(2)	III	II: 二箱式 II: 2-chamber type III: 三箱式 III: 3-chamber type
(3)	70	内箱容积(L) Internal volume (L)
(4)	40	冲击最低温度(°C) Minimum shock negative temperature (°C)
(5)	W	W: 水冷式 W: Water cooling type A: 风冷式 A: Air cooling type



标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for test samples.
- 压缩机超压保护装置及过热保护装置。
Overpressure & overheating protection device for compressor.
- 1个φ50的测试孔。
1 Cable port holes of φ50.
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in solving the problem.
- 蒸发压力调节装置（防止湿热试验时蒸发器结冰）。
Evaporation pressure regulating device (used for preventing the evaporator from icing during heat and moisture test).
- 排气压力调节装置（防止压缩机运行时压力过高）。
Exhaust pressure regulating device (used for preventing overpressure when the compressor runs).
- 冷凝压力调节装置（水冷型为了适应冬夏不同环境）。
Condensation pressure regulating device (water cooling type device used to adapt to different winter and summer environment).
- 带有独特隔热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 空气调节通道安装超温保护（超温保护2）。
Over-temperature protection device is installed for air conditioning channel (over-temperature protection 2).

选配件 Optional Accessories

- 温度记录仪(图1)。
Temperature recorder (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 可选用不同规格的引线孔(φ50、φ80、φ100、φ160等)。
Lead hole of different specifications can be provided as per customer requirement (φ50, φ80, φ100, φ160, etc.).

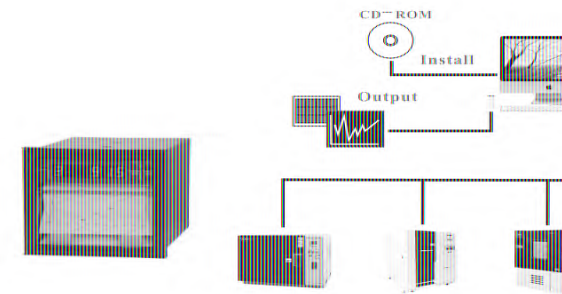


Fig. 1

极速系列 Rapid Series

快速温度变化试验箱 Rapid Temperature Change Test Chamber



- 大尺寸观察窗
Large observation window
- 左右两侧开引线孔
Lead hole can be available on both sides

- 独特杠杆门锁
Unique lever lock
- 三重独立超温保护
Triple independent over-temperature protection

- 样品电源控制端子
Power supply control terminal of sample
- 控制器自主研发
Controller developed independently by Topect

技术规格

型号*Model *		STH 300-70W5N	STH 500-70W5N	STH 1000-70W5N
内容积(L)Internal Volume (L)		300	500	1000
内箱尺寸(mm) Inner Dimension (mm)	W	700	800	1000
	H	700	900	1000
	D	600	700	1000
温度范围(°C)Temperature Range (°C)				
湿度范围(%RH)Humidity Range (%RH)				
温度波动度(°C)Temperature Fluctuation (°C)				
温度偏差(°C)Temperature Deviation (°C)				
湿度偏差(%RH)Humidity Deviation (%RH)				
升降速率(°C/min) Temperature Rising and Cooling Rate (°C/min)		5°C/min	5°C/min	5°C/min
调节调湿方式 Temperature and Humidity Regulation Mode		BTHC 平衡调湿 (SSR调湿) 方式 BTHC Balance		
使用环境Operating Environment		温度: (5~36)°C 湿度: (30~85)%RH 气压:		
材料 Material	内箱Inner Chamber	不锈钢板 SUS304 Stainless steel sheet SS304		
	外箱Outer Chamber	双面镀锌钢板, 表面处理静电喷涂处理 Two		
执行器 Actuator	保温Thermal Insulation	纤维高温棉+聚氨酯发泡 High temperature glass		
	风机Fan	加长轴离心风机 Extended shaft centrifugal fan		
	制冷机Refrigerator	低噪音活塞式压缩机或涡旋式压缩机 Low-noise		
	加热器Heater	进口镍铬合金电发热丝 Imported nickel-chromium		
控制器 系统 Controller System	加湿器Humidifier ^a	316不锈钢加湿器 (外置式蒸汽发生器) 316		
	触摸屏+PLCTouch screen & PLC	7.0", 800×480分辨率, 混合输出PLC 7.0", 800		
	运行方式Running Mode	定值运行, 程式运行, 定时运行 Its runs in 3 modes		
	设定方式Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese		
	程序容量Program Capacity	269组程序, 每组程序50段, 可设32000次循环, groups of programs, each consisting of 50 sections		
	设定范围Setting Range	依据设备性能的最大范围值调整±5.0°C, 温度范围 Can be adjusted to ±5.0°C according to the maximum		
	显示分辨率Display Resolution	温度:0.01°C, 湿度:0.1%RH(湿度设备), 时间:0.1min		
	传感器Sensor	PT100 (铂电阻) 温度传感器; PT100 (铂电阻)		
	控制方式Control Mode	低温冷平衡+抗积分饱和和PID+自整定 Low-temperature		
	曲线记录Curve Record	具有带电保存数据功能, 屏上可以滑动浏览数据 With automatic data storage function. User can be		
	附加功能Additional Function	故障报警及原因处理提示功能; 定时开关机, 温度		
	通讯功能Communication Function	支持RS485, LAN(网口), GPRS(手机)等方式通信 Support RS485, LAN (interface port), GPRS (mobile phone)		
供水 ^c Water Supply ^c	供水方式Water Supply Mode			
	储水箱Water Storage Tank			
	水质Water Quality			
循环水流量 ^d (l/h)Circulating Water Flow ^d (l/h)		5	6	8
电源(V)(Hz)Power Supply (V)		交流电压380V±38V 频率50Hz±0.5Hz 三相四		
最大电流(A)Maximum Current (A)		45	50	63
电源功率(kW)Power (kW)		30	32	37
重量(kg) Weight (kg)		850	900	1050
标准配置Standard Configuration		电热观察窗1个, φ50测试孔左右各1个, 样品架 Electric heating observation window, 1 testing hole		
安全装置Safety Device		漏电开关, 电机, 压缩机, 相序, 超温, 干烧保护 Leakage switch, motor, compressor, phase sequencer		

a H表示有湿度功能, b, c选择湿热功能才有此选项。注: 1.A表示或40°C/min。
a H: Humidity function is available.
b, c: This option is available when humidifying and heating function is selected.
d: This option is available when circulating water cooling is selected.
Notes: 1.A refers to air exchange, W refers to circulating water cooling. 2. Rapid series of test chamber choice.

极速系列产品特点 Rapid Series Product Features

结构特点 Structural Features

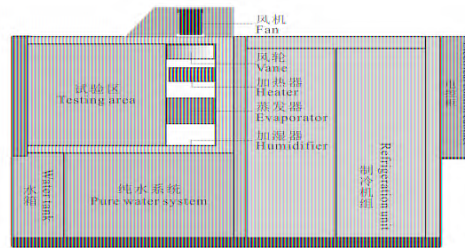
- 独特的门锁设计，操作方便，密封性好。
Unique door lock design for easy locking and better sealing performance.
- 抽屉式水箱设计，方便实用。
Drawer-type water tank.
- 大尺寸观察窗，方便观察箱内的试验样品。
Large size observation window makes it convenient for operator to observe the test sample inside the chamber.
- 设备两侧开引线孔，方便在设备两侧置放测量仪器及引线等。
Lead hole is available on the two sides of the equipment, convenient for placing the testing apparatus, leads and others on the two sides of the equipment.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by CRCS with electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化，且分开布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式采用45度斜下送风，使箱内温度快速均匀分布，温湿度恒定速度更快，导风片角度可以自由调节，有效保证箱内的均匀性。
Air vents are placed 45° in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适用负载范围广，运行功耗更低。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：谷轮、博克或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装和总装三个模块；建立弯管手册，保证系统的统一性；标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

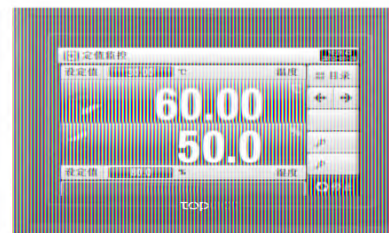
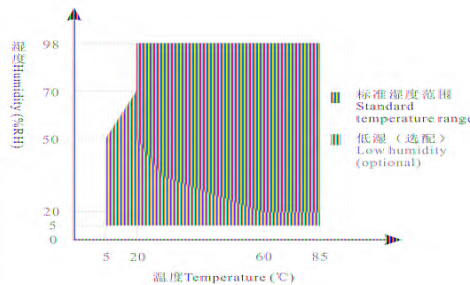
控制系统 Control System

- Topect触摸屏温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
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- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的锁保护功能，故障报警及解除说明，可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) (2) (3) (4) (5) (6) (7)
S T H 420 - 70 W 5

(1)	ST	快速变系列 Rapid Temperature Change Series
(2)	T	温度 Temperature
(3)	(H)	带湿度功能 With humidity function
(4)	420	内箱容积(L) Internal volume (L)
(5)	40	设备的最低负温(°C) Minimum negative temperature (°C)
(6)	W	W-水冷式 W: Water cooling type A-风冷式 A: Air cooling type
(7)	5	升降速率(°C) Temperature rising and cooling rate (°C)



控制器 Controller

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for test samples.
- 压缩机超压保护装置及过热保护装置。
Overpressure & overheating protection device for compressor.
- 2个Φ50的测试孔。
- 2 Cable port holes of Φ50.
- 带电热膜的观察窗保证视线清晰。
Single leaf door with toughened glass inspection window for viewing the specimen under test inside the chamber with pre-heating system to avoid the condensation.
- 不锈钢内箱和喷塑TOPECT标准色外箱。
Stainless steel inner chamber and external chamber is coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in fault finding & solving the problem.
- 蒸发压力调节装置（防止湿热试验时蒸发器结冰）。
Evaporation pressure regulating device for preventing the evaporator from icing during heat and moisture test.
- 排气压力调节装置（防止压缩机运行时压力过高）。
Exhaust pressure regulating device for preventing overpressure during running of compressor.
- 冷凝压力调节装置（水冷型为了适应冬夏不同环境）。
Condensation pressure regulating device (water cooling type device used to adjust winter and summer environment).
- 带有独特断热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 门上的接水盘防止箱门打开时门上的水珠滴落。
Drip tray is provided on the door is used to prevent water from dripping when the chamber door is open.

选配件 Optional Accessories

- 湿热试验箱纯水自动供应装置(图1)。
Automatic pure water supply device for temperature-humidity test chamber (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 空气干燥机(图3)。
Air dryer (fig.3).
- 低湿、超低湿系统(可长时间运行超低湿5°C/5%RH)。
Low humidity condition & super low humidity condition can be achieved (it can run for a long time; super low humidity at 5°C/5%RH).
- 可选用不同规格的引线孔(Φ50、Φ80、Φ100、Φ160等)。
Lead hole of different specifications can be provided as per customer requirement (Φ50, Φ80, Φ100, Φ160, etc.).

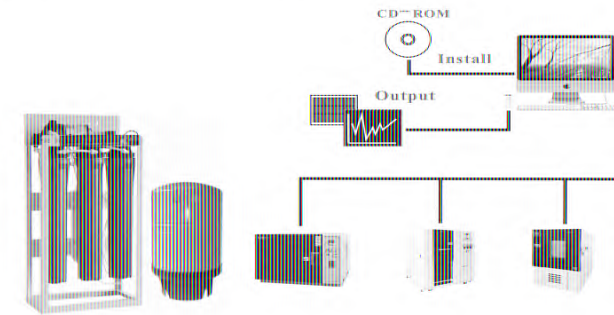


Fig.1

Fig.2

真空系列 Vacuum Series

高低温低气压试验箱 High and Low Temperature and Low Pressure Test Chamber



- 左右两侧开引线孔
Lead hole can be provided on both sides
- 内、外承压均可选择
Internal pressure or external pressure for your choice

- 独特杠杆门锁
Unique lever lock
- 三重独立超温保护
Triple independent over-temperature protection

- 样品电源控制端子
Power supply control terminal of the sample
- 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号 Model	VTL360-40W	
内容积 Internal Volume(L)	360	
内箱尺寸 Inner Dimension (mm)	W	600
	H	750
	D	800
外箱尺寸 Outer Dimension (mm)	W	1110
	H	900
	D	1900
性能 Performance	温度范围 Temperature Range (°C)	(-70~160)°C
	压力范围 Pressure Range	(常压~0.5)kPa (Constant pressure ~0.5kPa)
	温度波动度 Temperature Fluctuation (°C)	±0.3°C(常压时) ±0.3°C(constant pressure)
	温度偏差 Temperature Deviation (°C)	±2.0°C(常压时) ±2.0°C(constant pressure)
	压力偏差 Pressure Deviation	≤±0.1kPa(≤2kPa), ≤±5kPa(2~40kPa)
	升温时间 Temperature Rise Time	(25~160)°C ≤60min(常压时) (25~160)°C ≤60min(constant pressure)
	降温时间 Temperature Fall Time	(25~65)°C(常压时) (25~65)°C(at constant pressure)
	降压时间 Pressure Drop Time	≤45min(常压时) ≤45min(at constant pressure)
	快速卸压(选购) Quick Pressure Relief (Optional)	≤45min(常压时) ≤45min(at constant pressure)
	快速卸压(选购) Quick Pressure Relief (Optional)	≤15s(内式试验箱由75kPa快速卸压到18.8kPa) Within 15s, the pressure of the test chamber drops from 75kPa to 18.8kPa by GJB150.2A.
调温调压方式 Temperature and Pressure Regulation Mode	BTPC平衡调温调压方式 Balanced temperature and pressure regulation mode	
材料 Material	外箱 Outer Chamber	外箱采用锰钢,表面喷塑处理,外壳承压 The outer chamber is made by Manganese steel, surface spray plastic treatment, external pressure
	内箱 Inner Chamber	SUS304 不锈钢 SUS304 stainless steel
	保温 Thermal Insulation	真空专用复合承压保温材料 Vacuum special composite pressure bearing insulation material
使用环境 Operating Environment	温度: (5~36)°C 湿度: (30~85)%RH	
执行器 Actuator	风机 Fan	磁偶合传动轴流风机 Magnetic coupling axial flow fan
	制冷机 Refrigerator	低噪音活塞式压缩机或涡旋式压缩机 Low noise piston compressor or scroll compressor
	加热器 Heater	进口镍铬合金电发热丝, 壁加热器 Imported nichrome alloy electric heating wire, wall heater
触摸屏+PLC Touch Screen & PLC	7.0", 800×480分辨率, 混合输出PLC 7.0", 800×480 resolution, mixed output PLC	
运行方式 Running Mode	定值运行, 程式运行; Fixed mode, program mode	
设定方式 Setting Mode	简体中文+英文, 触摸输入 Simplified Chinese + English, touch input	
程序容量 Program Capacity	269组程序, 每组程序50段, 可设3200 groups of programs, each consisting of 50 segments, 3200 programs can be set	
设定范围 Setting Range	依据设备性能的最大范围调整 ±5.0°C Adjust according to the maximum range of the equipment performance ±5.0°C	
显示分辨率 Display Resolution	温度: 0.01°C, 压力: 0.01kPa, 时间: 0.01min Temperature: 0.01°C, Pressure: 0.01kPa, Time: 0.01min	
传感器 Sensor	PT100(铂电阻) PT100 (platinum resistor)	
控制方式 Control Mode	低温冷平衡+抗积分饱和和PID+自整定 Low temperature cold balance + anti-integral saturation and PID + self-tuning	
曲线记录 Curve Record	具有带电保存数据功能, 屏上可以滑动 With automatic data storage function. User can slide on the screen	
附加功能 Additional Function	故障报警及原因处理提示功能; 定时升 Fault alarm and cause handling prompt function; Timely temperature rise	
通讯功能 Communication Function	支持RS485, LAN(网口), GPRS(手机) Support RS485, LAN (internet port), GPRS (mobile phone)	
数据采集 Data Acquisition	1. 配备USB接口, 可保存3个月的曲线数据, 采样时间为1分钟, 可替代电脑存储。 2. 可显示曲线, PC机可作为选择终端。 3. 支持RS485, LAN, GPRS, 手机, 可远程监控。 1. With USB interface, curve data of the test chamber can be saved for 3 months. The sampling time is 1min. It can be an alternative to the recorder. 2. It can be an alternative to the recorder. The sampling time is 1min. It can be an alternative to the recorder. 3. Connect to PC (optional) - Record test data for remote monitoring.	
循环水流量 Circulating Water Flow (t/h)	0.4	
电源 Power Supply (V)(Hz)	交流电压 380V±3% 频率 50Hz±0.5Hz AC Voltage 380V±3% Frequency 50Hz±0.5Hz	
电源功率 Power (kW)	VTL:15 VTH:8	
标准配置 Standard Configuration	真空专用电热观察窗1个, 照明灯1个, 1 vacuum special electric heating observation window, 1 vacuum special electric heating observation window, 1 vacuum special electric heating observation window, 1 vacuum special electric heating observation window	
安全装置 Safety Device	漏电开关, 电机, 压缩机, 相序, 超温保护	

a: L表示有低温功能, H表示有高温功能。 b: 不包括外型凸出的部分。 c: 室温=25°C和循环水温度25°C。无试样时可用。 d: Only for VTL type.

Note: Vacuum series test chamber can be customized according to clients' needs.

真空系列产品特点 Vacuum Series Product Features

结构特点 Structural Features

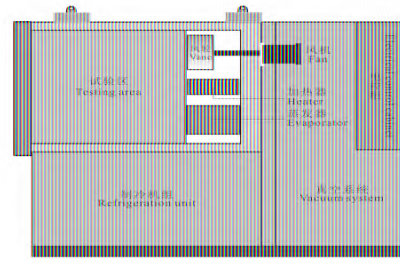
- 配视窗设计，方便观察箱内试验样品的状态。
Equipped with an observation window, it is convenient for users to observe the status of test sample inside the chamber.
- 采用真空专用复合承压保温材料。
Vacuum special composite pressure-bearing thermal insulation materials are adopted.
- 独特的门锁设计，操作方便，密封性好。
Unique door lock design is convenient to operate and better in sealing performance.
- 设备两侧开引线孔，方便在设备两侧置放测量仪器及引线等。
Lead hole is available on the two sides of the equipment, convenient for placing the testing apparatus, leads and others on the two sides of the equipment.
- 内箱材料采用SUS304不锈钢；外箱材料采用锰钢，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by SECC with electrostatic powder coating.
- 箱体制冷系统、水路系统、电控系统已经模块化，且分开布局，安全可靠。
Modularized Refrigerator system, waterway system and the electrical control system for safety and ease of maintenance.
- 箱内送风方式采用45度斜下送风，使箱内温度快速均匀分布，温湿度恒定速度更快，导风片角度可以自由调节，有效保证箱内的均匀性。
Air vents are placed 45° in the chamber for uniformity in temperature inside the chamber and the temperature and humidity can become constant at a much faster speed. The angle of guide vane can be adjusted freely, effectively ensuring the uniformity inside the chamber.

制冷系统 Refrigeration System

- 采用国际著名品牌进口零部件。
Major parts and accessories from internationally acclaimed brands.
- 采用对臭氧层破坏系数为零的R404A和R23制冷剂。
Refrigerant R404A and R23 are used in the system with the ozone depletion factor of 0.
- 冷凝器均安装过滤装置，保证机组长时间可靠运行。
All condensers are installed with filtration device, which ensures long-term reliable operation of the unit.
- 制冷系统智能控制，适用负载范围广，运行功耗更小。
Intelligent control of refrigeration system optimises power consumption.
- 选用进口压缩机：谷轮、博克或比泽尔，运行噪音更低更稳定，性能更强大。
Imported compressor: Copeland, Bock or Bitzer, low in noise, stable in operation and powerful in performance.
- 所有管路焊接前通氮气保护，确保铜管内部不氧化，焊口表面涂清漆保护，是行业内达此标准的厂家之一。
Before welding, all pipelines are charged with nitrogen to protect the interior of the copper part from oxidation. The weld joints are sprayed with varnish for protection.
- 制冷机组模块化生产，分为分装、部装和总装三个模块；建立弯管手册，保证系统的统一性；标准化模块，便于安装、调试和维护。
Refrigeration unit adopts modular production, including sub-assembly, part assembly and general assembly; standardized modules are convenient to install, debug and maintain.

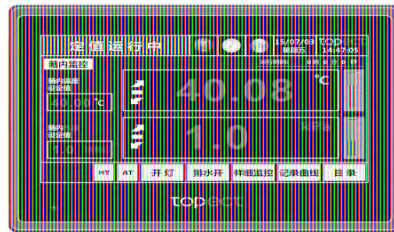
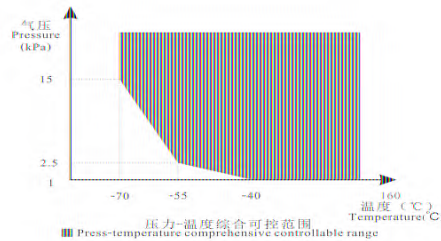
控制系统 Control System

- Topect触摸式温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩充输入输出、可扩充多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
- Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix; it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的侦错保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



(1) V (2) T (3) 360 (4) 40 (5) W
V T 360 - 40 W

(1)	V	真空系列 Vacuum series
(2)	T	温度 Temperature
(3)	360	内箱容积 (L) Internal volume (L)
(4)	40	设备的最低负温 (°C) Minimum negative temperature (°C)
(5)	W	W: 水冷式 W: Water cooling type A: 风冷式 A: Air cooling type



控制器 Controller

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for test samples.
- 压缩机超压保护装置及过热保护装置。
Overpressure & overheating protection device for compressor.
- 2个φ80的测试孔。
- 2 Cable port holes of φ50.
- 带电热膜的观察窗保证视线清晰。
Single leaf door with toughened glass inspection window for viewing the specimen under test inside the chamber with pre-heating system to avoid the condensation.
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber is coated with TOPECT standard color.
- 自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in fault finding & solving the problem.
- 排气压力调节装置（防止压缩机运行时压力过高）。
Exhaust pressure regulating device for preventing overpressure during running of compressor.
- 冷凝压力调节装置（水冷型为了适应冬夏不同环境）。
Condensation pressure regulating device (water cooling type device used to adjust winter and summer environment).
- 带有独特断热功能的门封条和测试孔减少凝露和结霜。
Door seal strip with unique thermal insulation function and testing holes are equipped to reduce condensation and frosting.
- 配盲法兰板，用户可依据需要在盲法兰板上安装各种接线柱和航空插座。
Equipped with the blind flange plate, a user can install various wiring terminals and aviation sockets on the plate as required.

选配件 Optional Accessories

- 真空密封连接器(航空插头) (图1)。
Vacuum sealing connector (aviation socket) (fig. 1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication interface and software for remote control and data transmission (fig. 2)
- 可选用不同规格的引线孔(φ50、φ80、φ100、φ160等)。
Lead holes of different specifications can be provided as per customer requirement(φ50, φ80, φ100, φ160, etc.)

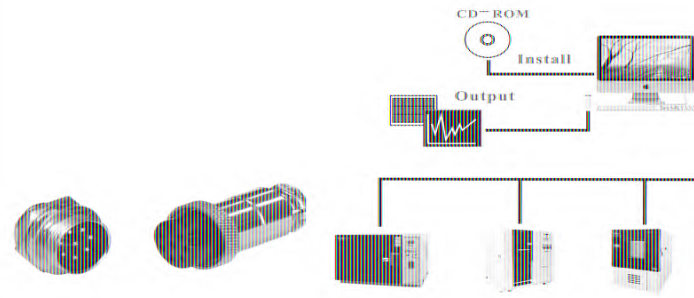
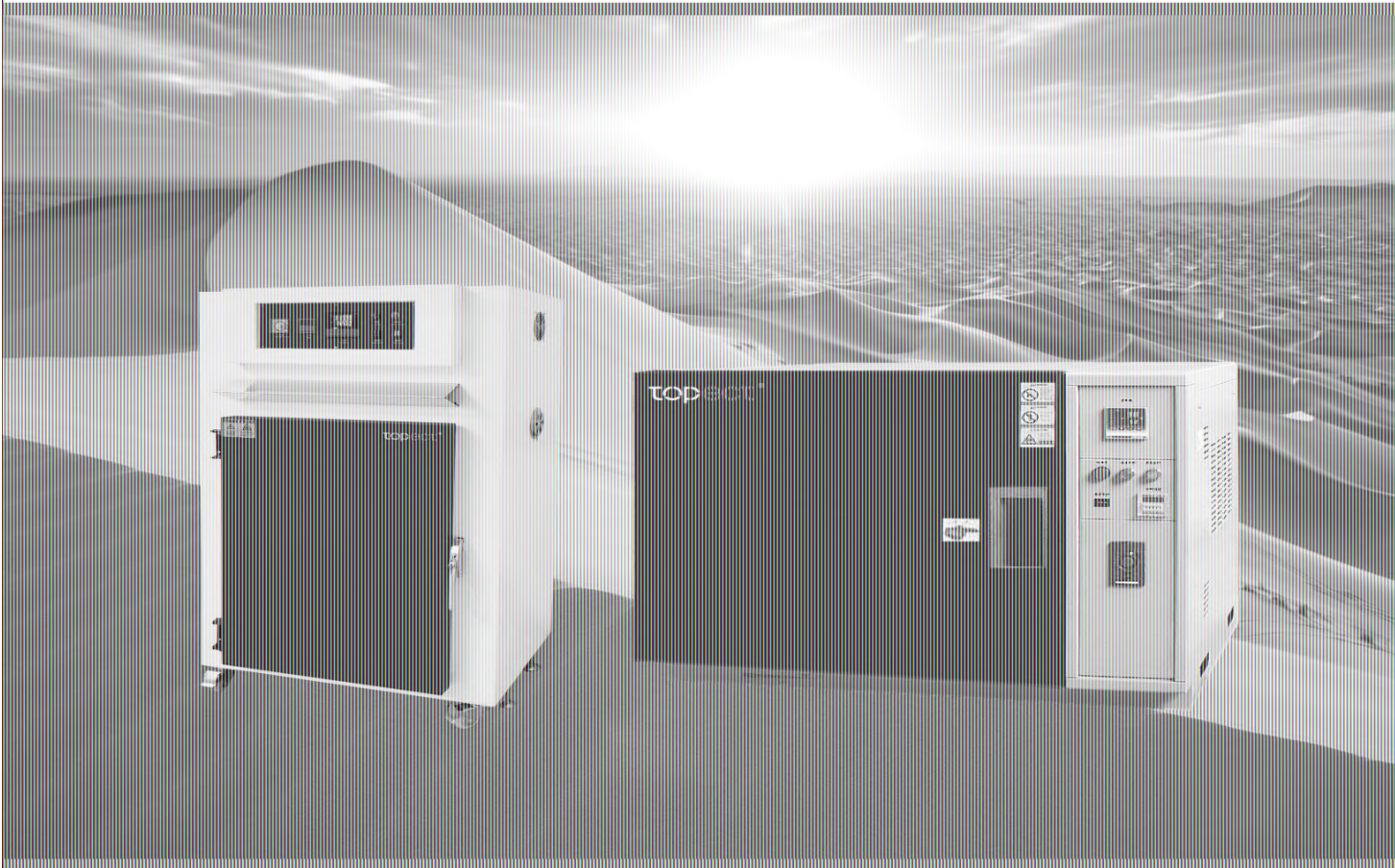


Fig. 1

Fig. 2

火山系列 Volcanic Series

高温试验箱/老化箱 High-temperature Test Chamber/Ageing Chamber



- 立式、卧式可供选择
Vertical type and horizontal type are available
- 箱内可设旋转支架,转速可调
Rotary rack can be set inside the chamber with adjustable rotation speed

- 独特杠杆门锁
Unique lever lock
- 三重独立超温保护
Triple independent over-temperature protection

- 样品电源控制端子
Power supply control terminal of sample
- 控制器自主研发
Controller developed independently by Topect

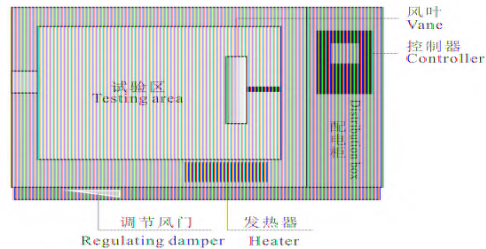
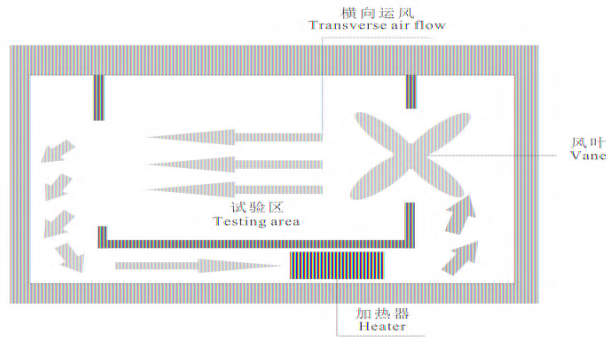
技术规格 Technical Specifications

型号 Model		VoT72-200N	VoT270-200N	VoT480-2
内容积(L) Internal Volume (L)		72	270	480
内箱尺寸(mm) Inner Dimension (mm)	W	450	600	800
	H	400	900	1000
	D	400	500	600
外箱尺寸(mm) Outer Dimension (mm)	W	700	860	1080
	H	960	1560	1740
	D	540	650	730
温度范围(°C) Temperature Range (°C)		(环温 Ambient temperature +20°)		
温度波动度 Temperature Fluctuation	≤100°C	±0.2°C		
	≤200°C	±0.2°C		
	≤300°C	-		
温度偏差* Temperature Deviation *	≤100°C	±1.5°C		
	≤200°C	-		
	≤300°C	-		
升温时间(min) Temperature Rise Time (min)		(环温 Ambient temperature +20°)		
		≤40/min		
调温方式 Temperature Regulation Mode		强制送风循环换热方式 Forced air circulation		
使用环境 Operating Environment		温度: (5~36)°C 湿度: (30~85)%RH 气压: (3~101.3)kPa Temperature: (5~36)°C Humidity: (30~85)%RH Pressure: (3~101.3)kPa		
材料 Material	内箱 Inner Chamber	不锈钢板 SUS304 Stainless steel sheet SS304		
	外箱 Outer Chamber	双面镀锌钢板,表面处理后静电喷漆处理 Cold-rolled galvanized steel plate, surface treated with electrostatic spray painting		
	保温 Thermal Insulation	纤维高温棉 High-temperature fiber cotton		
执行器 Actuator	风机 Fan	加长轴风机 Extended shaft fan		
	风门 Damper	手动调节换气+循环 Manual adjustment for ventilation+circulation		
	加热器 Heater	进口镍铬合金电发热丝 Imported nickel-chromium alloy electric heating wire		
控制器系统 Controller System	显示屏 Display Screen	LED屏 LED screen		
	运行方式 Running Mode	定值运行, 程式运行: Fixed mode, Program running		
	设定方式 Setting Mode	英文, 按键式输入 Input by push-button		
	显示分辨率 Display Resolution	温度: 0.1°C, 时间: min Temperature: 0.1°C, Time: min		
	传感器 Sensor	PT100 (铂电阻), 热电偶 PT100 (platinum resistance), Thermocouple		
	控制方式 Control Mode	抗积分饱和和PID+自整定 Anti-integral saturation and PID+auto-tuning		
通讯功能 Communication Function	(选购功能)RS485,方便远程和本地通讯监控, (线材最长700m) (Optional) RS485 makes it convenient for remote PC computer COM and one USB port are required			
附属功能 Additional Function	故障报警功能, 上限保护功能 Fault alarm function, Upper limit protection function			
电源(V) Power Supply (V)		交流电压 380V±38V 频率 50Hz±0.5Hz 三相四线 AC voltage 380V±38V Frequency 50Hz±0.5Hz Three-phase four-wire		
最大电流(A) Maximum Current (A)		3	4	7.6
功率(KW) Power (kW)		2	2.7	5
重量(Kg) Weight (kg)		95	130	240
标准配置 Standard Configuration		φ50测试孔, 样品架2套 1 testing hole of φ50mm, 2 sample racks		
安全装置 Safety Device		漏电开关, 电机, 相序, 超温, 等保护功能 Leakage switch, motor, phase sequence, over-temperature protection, etc.		
		a 室温+25°C, 无试样的条件下测得的数据。 a Room temperature +25°C data acquired in the absence of samples.		

火山系列产品特点 Volcanic Series Product Features

结构特点 Structural Features

- 独特的门锁设计，配备电子锁功能，操作方便，密封性好。
With unique door lock design and electronic lock function, it is convenient to operate and better in sealing performance.
- 箱内送风方式采用加长轴风机直吹送风方式，均匀度好。
Extension shaft fan direct blow air supply mode is adopted inside the chamber, thus guaranteeing better uniformity.
- 箱体气路系统，电气系统，分体式布局，安全性好。
Pneumatic system and electrical system of the chamber are distributed in a split mode with better safety.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by SECC with electrostatic powder coating.
- 箱体电控系统已经模块化，且分开布局，安全可靠。
Modularized and the electrical control system for safety and ease of maintenance.

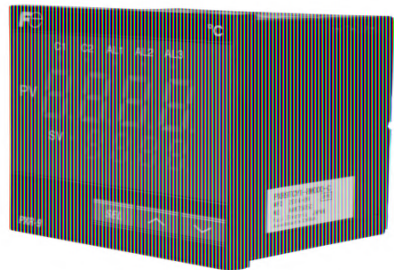


(1) (2) (3) (4)
Vo T 100 - 200

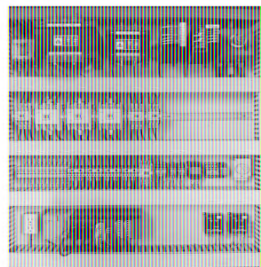
(1)	Vo	火山系列 Volcanic series
(2)	(T)	温度 Temperature
(3)	100	内箱容积(L) Internal volume (L)
(4)	200	设备的最高温度(°C) Maximum temperature (°C)

控制系统 Control System

- 控制器：进口仪表。
Controller: Imported instrument.
- 运行方式：定值/程序控制。
Running mode: Constant value/programming control.
- 显示精度：温度0.1°C。
Display accuracy: Temperature 0.1°C.
- 温度输入：K型热电偶。
Temperature input: K-type thermocouple.
- 控制方式：PID控制。
Control mode: PID control.
- 通讯方式（选件）：RS-232/RS-485。
Communication mode (optional): RS-232/RS-485.



控制器
Controller



电控工艺
Electrical control technology

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for sample.
- 1个φ50mm的电缆孔。
1 Cable hole of φ50mm.
- 出风口风门可调节。
Air vent and damper are adjustable.
- 不锈钢内箱和喷漆TOPECT标准色外箱。
Stainless steel inner chamber and external chamber coated with TOPECT standard color.
- 2套最大承重为45Kg的搁板搁条。
2 Sets of baffles with the maximum loading capacity of 45kg.
- 带有独特断热功能的门封条。
Door seal strip with unique thermal insulation function.
- 可调式超温保护装置（超温保护1）。
Adjustable over-temperature protection device (over-temperature protection 1).

选配件 Optional Accessories

- 温度记录仪(图1)。
Temperature recorder (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication port and software for remote control and data transmission (fig.2).
- 箱内可配置旋转支架，可调速(图3)。
Rotary rack can be equipped inside the chamber, with speed adjustable (fig.3).
- 观察窗。
Observation window.

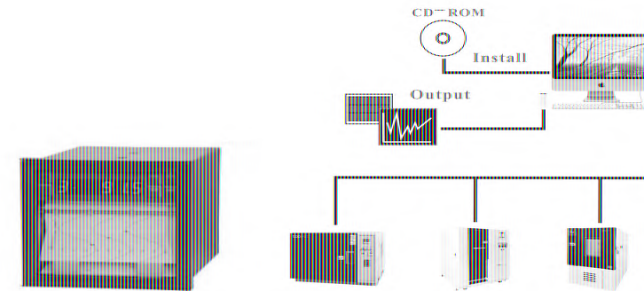


Fig. 1

Fig.

厌氧系列 Anaerobic Series

厌氧高温试验箱 Anaerobic High-temperature Test Chamber



- 超低耗氮气量，只需低压力，低流量
Super low consumption of nitrogen, low pressure and flow
- 氧气浓度分析仪
Oxygen concentration analyzer

- 独特杠杆门锁
Unique lever lock
- 三重独立超温保护
Triple independent over-temperature protection

- 样品电源控制端子
Power supply control terminal of the sample
- 控制器自主研发
Controller developed independently by Topect

技术规格 Technical Specifications

型号Model	AT91-200	AT216-200	AT516
内容积(L)Internal Volume (L)	91	216	516
内箱尺寸(mm) Inner Dimension (mm)	W	450	600
	H	450	600
	D	450	600
外箱尺寸(mm) Outer Dimension (mm)	W	1060	1210
	H	820	970
	D	635	785
温度范围(°C) Temperature Range (°C)	(环温+20~200)°C (Ambient temper		
升温时间(min) Temperature Rise and Time(min)	(环温+20~200)°C (Ambient temper		
	≤40min		
箱内残留氧气浓度≤100ppm,耗高纯度惰性气体(如:N ₂)流量 Residual oxy gen concentration ≤100ppm, consumption flow of high-purity inert gas (such as: N ₂)	≤20L/min (≤50min fall)		≤50
	≤7L/min(浓度保持)		≤12
	≤7L/min (concentration maintaining)		≤12
调温方式 Temperature Regulation Mode	强制送风循环换热方式+内部冷却系统 For		
使用环境Operating Environment	温度: (5~36)°C 湿度: (30~85)%RH 气压:		
材料 Material	内箱Inner Chamber	不锈钢板 SUS304 Stainless steel sheet SS304	
	外箱Outer Chamber	双面镀锌钢板, 表面处理静电喷塑处理	
	保温Thermal Insulation	纤维高温棉 High-temperature fiber cotton	
	箱门密封条 Chamber Door Sealing Strip	耐高温密封条(不含硅) High temperature re	
执行器 Actuator	风机Fan	加长轴风机 Extended shaft fan	
	风门Damper	手动调节换气+循环 Manual adjustment for	
	加热器Heater	进口镍铬合金电发热丝 Imported nickel-chr	
控制器 系统 Controller System	显示屏+PLCTouch Screen & PLC	7.0", 800×480分辨率, 混合输出PLC 7.0",	
	运行方式Running Mode	程式运行 (输入的温度和湿度程序运行) I	
	设定方式Setting Mode	简体中文+英文, 触摸输入 Simplified Chin	
	显示分辨率Display Resolution	温度: 0.1°C, 时间: s Temperature: 0.01°C	
	传感器Sensor	PT100(铂电阻) K型热电偶 PT100 (platinu	
	控制方式Control Mode	抗积分饱和和PID+自整定 Anti-integral satur	
	通讯功能Communication Function	(选购功能)RS485, 方便远程和本地通讯监控 (Optional) RS485 makes it convenient for rem 线材最长700m one PC computer COM and one USB port are 700m.	
附加功能Additional Function	故障报警提示功能, 上下限保护功能 Fault		
电源(V)Power Supply (V)	交流电压380V±38V 频率50Hz±0.5Hz 三相四 protection		
最大电流(A) Maximum Current (A)	3	4	7.4
电源功率(kW)Power (kW)	2	2.7	5
重量(kg)Weight (kg)	120	160	28
标准配置Standard Configuration	样品架2套, 脚轮4个, 保险丝4个氧气浓度分 2 sets of sample holders, 4 casters, 4 fuses, 1 s		
安全装置Safety Device	漏电开关, 电机, 相序, 超温等保护功能		

注: 氮气进气压力和空气进气压力都为1kgf/cm²。 Note: Both the nitrogen inlet pressure and

厌氧系列产品特点 Anaerobic Series Product Features

结构特点 Structural Features

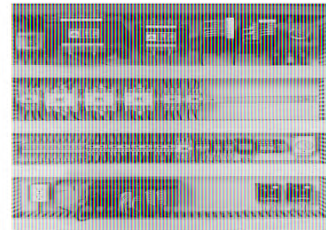
- 独特的门锁设计，配备电子锁功能，操作方便，密封性好。
Unique door lock design for easy locking and better sealing performance.
- 独特的三层箱体结构，能快速降温。
Unique 3-layer chamber structure allows to cool down quickly.
- 箱内送风方式采用加长轴风机直吹送风方式，均匀度好。
The inner chamber is made by SS304 stainless steel; the external chamber is made by two-sided CRCS sheet with electrostatic powder coating.
- 箱体气路系统，电气系统，分体式布局，安全性好。
Pneumatic system and electrical system of the chamber are distributed in a split mode for better safety.
- 内箱材料采用SUS304不锈钢；外箱材料采用双面镀锌钢板，表面静电喷塑处理。
The inner chamber is made by SS304 stainless steel; the external chamber is made by two-sided CRCS sheet with electrostatic powder coating.
- 箱体降温系统、电控系统已经模块化，且分散布局，安全可靠。
Cooling system and electrical control system has been modularized and for enhanced safety and reliability.
- 独特的气路设计，确保快速降温降低浓度，并且保持低氧浓度。
Unique pneumatic design ensures rapid cooling to reduce concentration and keep low oxygen concentration.

控制系统 Control System

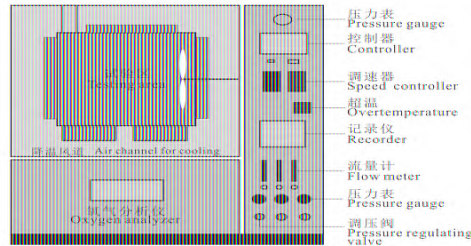
- Topect触摸屏温湿度控制器是大冷王公司针对环境设备行业开发；它由触摸屏、PLC、温度模块和湿度模块组成，功能强大。触摸屏自带可视编辑软件、PLC逻辑编程、可扩展输入输出、可扩展多点温度；具备USB接口，可以导出数据（时间可选），可通过RS485通讯与PC连接实现远程监控。
- Topect touch-type temperature and humidity controller is specially developed by Topect for the industry of environmental equipment; it consists of touch screen, PLC, temperature module and humidity module. The touch screen is equipped with visual editing software, PLC logic programmer, extendable I/O port and extendable multi-point temperature; USB interface allows users to export monthly/weekly data. Remote monitoring is realized through RS485 communication and PC connection.
- 本公司自行研发高性能控制器，65536色7"，TFT真彩触摸屏，800×480点阵，确保显示效果真，操作舒适，整个界面风格简洁清晰，操作方便，运行可靠。
The high-performance controllers are developed independently by TOPECT, characterized by 65536 color 7", TFT true-color touch screen and 800×480 dot matrix, it ensures real effects and easy in operation. In addition, the entire interface is concise and clear, convenient and reliable.
 - 控制器具有强大的侦错保护功能，故障报警及解除说明；可扩充的输入输出，可以依据要求编制不同控制程序来实现不同的功能；针对各种环境设备分别开发，可统一用软件集中电脑控制，控制器界面风格一致，方便用户操作。
Our controllers have powerful debugging protection function, fault alarm and troubleshooting description; extendable I/O port can be used to input different control programs according to requirement to realize different functions; they can be customized as per requirement.
 - 采用PLC程序控制，具有定时运行、停止功能，断电保护功能，断电保护好，稳定性好。
With PLC program control, this system has timed running & stop function and power failure protection function to improve stability of the system.
 - 可接集中监控软件，且提供通讯协议，便于用户进行二次开发；可远程监控多台试验箱。
It can be connected to a centralized monitoring software and supports communication protocol, it is convenient for users to develop the program once again; multiple test chambers can be monitored remotely.



控制器 Controller



电控工艺 Electric control technology



(1) (2) (3) (4)
A T 100 - 200

(1)	A	厌氧系列 Anaerobic Series
(2)	T	温度 Temperature
(3)	100	内箱容积(L) Internal volume (L)
(4)	200	设备的最高温度(°C) Maximum temperature of the equipment (°C)

标准配置及选配件 Standard Configuration and Optional

标准配置 Standard Configuration

- 试样电源控制端子。
Power supply control terminal for test sample.
- 氮气压力检测装置。
Nitrogen pressure testing device.
- 配备压差表1套。
Equipped with 1 set of differential pressure gauge.
- 配备两路氮气输入流量计、电磁阀、减压阀。
Two-way nitrogen input flow meter, solenoid valve and pressure relief valve are provided.
- 配备一路空气输入流量计、电磁阀、减压阀。
One-way nitrogen input flow meter, solenoid valve and pressure relief valve are provided.
- 不锈钢内箱和喷塑TOPECT标准色外箱。
Stainless steel inner chamber and external chamber coated with TOPECT standard color.
- 带自诊断功能报警器发现并协助解决问题。
Self-diagnosis function alarm is used to identify and assist in solving the problem.
- 2套最大承重为45Kg的搁板搁条。
2 Sets of baffles with the maximum loading capacity of 45kg.
- 配备三色闪烁信号灯，显示工作状态。
Tri-colour flashing signal lamp is given to display the running status.
- 箱体内外压力调节阀。
Internal and external pressure regulating valve has provided in the chamber.
- 带有独特隔热功能的门封条。
Door seal strip with unique thermal insulation function.
- 氮气压力检测装置。
Nitrogen pressure testing device is provided.

选配件 Optional Accessories

- 温度、氧气浓度记录仪(图1)。
Temperature and oxygen concentration recorder (fig.1).
- 远程控制及数据传输用通讯接口和软件(图2)。
Communication interface and software for remote control and data transmission (fig.2).
- 氧气浓度分析仪(图3)。
Oxygen concentration analyzer (fig.3).
- 金属过滤器。
Metal filter.

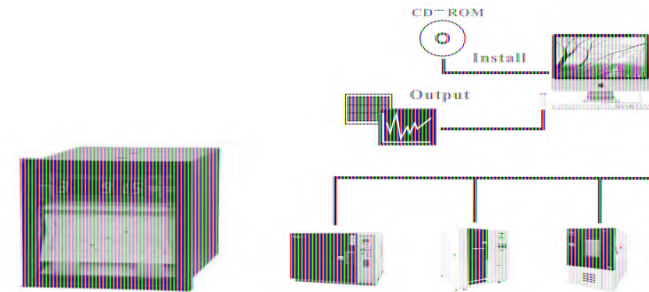


Fig. 1

Fig. 2