QUALITY BUILT BY

KSON

Programmable Temperature & Humidity Chamber

www.VoxTechnologies.com

Technology

LabVIEW™ Software Compatibility

Auto-switch between KSON and LabVIEW™ communication architecture

PC Control of Single or Multiple Chambers

Optional Web Communications Manager software allows complete "E-management"of up to 32 Chambers with single PC, through a LAN, or across the internet. Robust E-management software provides for local or remote PC control of disparate test programs run across multiple Chambers at physically separate sites, real-time view of multiple Chambers on a single monitor, and consolidated data recording and reporting.

Patented Technologies

Awarded patents for: "Continuous Prevention of Dew Congealment in Temperature Humidity Test Chambers" # M 245396 and "Device for Control of Ultra-Sonic Humidifier"# M 250186.

Flexible: A Variety of Sizes and Temperature Range Options

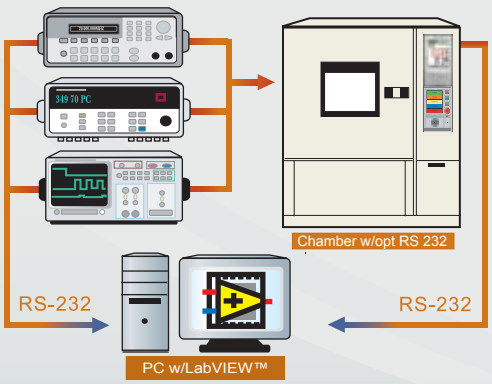
Inner chamber workspace sizes range 5.8 cu ft (165 L) to 35.3 cu ft (1000 L / 1.0 cu M), with available controllable temperature ranges from -70°C to 150°C and standard controllable RH range 10% to 98% with Ultra Low 5% RH optional. Temperature-Only models available in the same sizes and offer the same ranges of controllable temperatures.

Attention to Detail: Quality Materials - Intelligently Designed

Inner chambers constructed of 304 stainless steel with continuously welded seams. Exteriors powder coated 304 stainless steel with polyurethane or polyurethane +fiberglass insulation between inner chamber and exterior skin. Standard viewing window in door is heated and door is equipped with double silicone seals. Heavy duty swivel casters at chamber corners and adjustable leveling legs are standard. Refrigerants used are HFC, only. *Quiet operation: only 65 db(A) typical!*

ISO 9001, ISO 14001 Accredited Manufacturing Plants

Your assurance of reliability, consistent test results, and long service life. More than 7000 Chambers in operation - some in operation more than 15 years.



Example of "E-management" with single PC and data distributed over a LAN

Example of PC control and data collection with disparate test platforms using 3rd party software

Patents: "Continuous Prevention of Dew Congealment (Condensation) in Temperature Humidity Test Chambers" M 245396; "Device for Control of Ultra-Sonic Humidifier" M 250186.

Value

Touch panel

Automatic Sample Protection

Automatically restores chamber temperature to room ambient at completion of test program or if temperature program set points are exceeded. The optional programmable power receptacles protect powered sample/DUT and Chamber by shutting off power when test program ends.

Continuous Automatic Self Diagnostics

Chamber operating software continuously checks system resources, monitors performance and records all system faults. A log of system fault occurrences is stored for future review. All system resources are polled for status at start-up.

Smart System Resources Management

Software calculates resources required for test program selected and issues alert message if a resource is not sufficient. For example, if test program in progress causes humidity water level in reservoir to drop below 15 hour usage safety level an alarm message displays on the controller or controlling PC monitor.

Easy program parameter editing

Status monitor

Individual test parameter selection: power plug programming

Laboratory class - precision

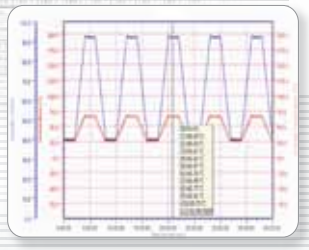
Tight control of temperature stability: +/- 0.2°C, and humidity stability: +/- 2% RH, allow reliable replication of test results every time.

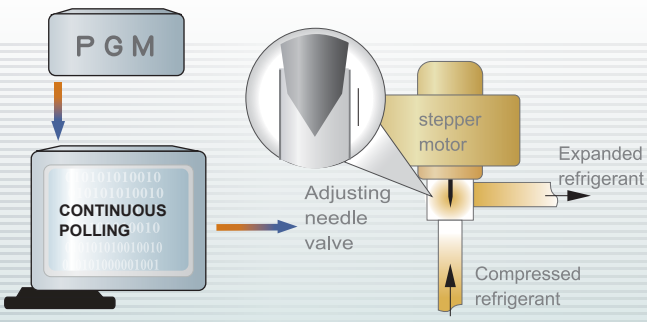
Laboratory class - result accuracy & consistency

Patented [M 245396] non-condensing chamber design provides routinely accurate, unambiguous and highly repeatable test results.

Enhanced Laboratory class - stabilization speed

Microprocessor's continuous, high-speed sampling of test sample intrinsic heat load and precise, rapid adjustment of refrigerant flow reduces stabilization cycle time and the potentially damaging effects of hysteresis.





▲ Microprocessor controlled refrigerant adjustment to test sample heat load ▲

Programmable Temperature & Humidity Chamber Specification Table

MODEL:	THS-A	THS-B	THS-C	THS-D	THS-G
PHYSICAL, TEMPERATURE & HUMIDITY SPECIFICATIONS					
Inside dimensions (W x D x H) cm [in]	50 × 55 × 60 [19.7 x 21.7 x 23.6]	50 × 60 × 75 [19.7 x 23.6 x 29.5]	60 × 80 × 85 [23.6 x 31.5 x 33.5]	100 × 80 × 100 [39.4 x 31.5 x 39.4]	100 × 100 × 100 [39.4 x 39.4 x 39.4]
Outside dimensions (W x D x H) cm [in]	114 × 88 × 147 [44.9 x 34.6 x 57.9]	114 × 93 × 162 [44.9 x 36.6 x 63.8]	127 × 113 × 172 [50 x 44.5 x 67.7]	167 × 113 × 187 [65.7 x 44.5 x 73.6]	170 × 133 × 187 [66.9 x 52.4 x 73.6]
Inside capacity Liter [Cubic Ft]	165 [5.8]	225 [7.9]	408 [14.4]	800 [28.3]	1000 [35.3]
Net weight kg [lbs]	325 [717] / 300 [661]	380 [838] / 350 [772]	520 [1146] / 450 [992] / 410 [909]	610 [1345] / 525 [1158] / 495 [1091]	760 [1676] / 700 [1543] / 640 [1411]
Insulation material	Polyurethane; Polyurethane & Fiberglass				
Internal material	#304 Stainless Steel				
External material	Powder Coated #304 Stainless Steel				
High temperature (H.T.)℃	100 / 150	100 / 150	100 / 150	100 / 150	100 / 150
Heating time (20℃-H.T.) min	30 / 45	30 / 45	30 / 45	30 / 45	50 / 65
Low Temperature (L.T) C	-70 -60 -40 -20 0	-70 -60 -40 -20 0	-70 -60 -40 -20 0	-70 -60 -40 -20 0	-70 -60 -40 -20 0
Cooling time (20℃-L.T.) min	85 70 45 30 10	80 75 45 25 10	65 55 50 30 15	80 70 50 35 15	90 85 50 25 10
Humidity range	10 ~ 98 % RH				
Temperature uniformity ℃	±0.5℃(-40℃~100℃)/±1℃(-40.1℃~-70℃ ; 100.1℃~150℃)			±1.0℃(-70℃~100℃)/±1.5℃(100.1℃~150℃)	
Humidity uniformity %R.H.	±3				±5
Temperature stability ℃	± 0.2				
Humidity stability % R.H.	±2				
Temperature resolution ℃	± 0.01				
Humidity resolution % R.H.	± 0.1				
MAJOR SYSTEM COMPONENT DESCRIPTIONS/SPECIFICATIONS					
Air Circulation system	Mechanical convection system				
Cooling system	Air cooled Hermetic and Semi-Hermetic Compressors; Cascade when -40°C or lower HFC Refrigerants				
Heating system	Coil type, bi-metallic element with ceramic insulators				
Humidification system	Steam Generator				
Humidification water supply	20L Reservoir; Sensor-controlled solenoid valve; Recovery-recycle system				
Controller	THS-2005 Touch panel				
Electrical PowerRequirements	Please consult data table for requirements of specific models				
Water quality Requirements	R.O. or De-ionized water				
Environmental temperature	+ 5℃ ~ + 30℃				
Floor space (W · D) cm [in]	170 * 200 [66.9 x 78.7]	170 * 210 [66.9 x 82.7]	180 * 240 [70.9 x 94.5]	220 * 240 [86.6 x 94.5]	220 * 260 [86.6 x 102.4]
Optional	Programmable power sockets (3 X 3A ea), RS 485 Interface, Software for PC control of 1-32 chambers with data analysis, Extended temperature to 150°C, Ultra Low Humidity, LN2 insertion, extra ports 5mm or 10mm.				

For above accessories, their actual specifications may vary

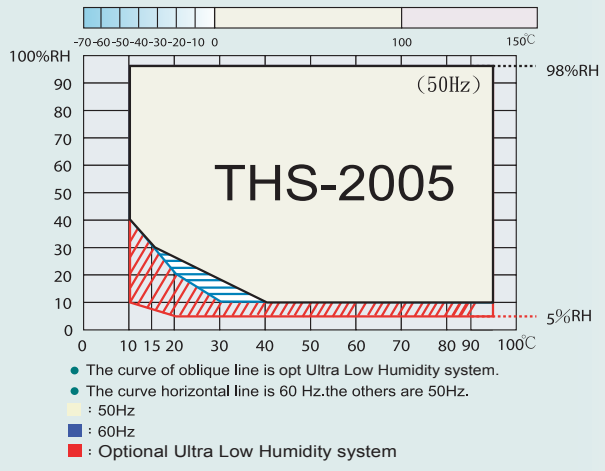
The temperature distribution uniformity is tested according to JTM KO1-1998(the performance standard for constant temperature & humidity trough set up by Japan Testing Instrument Industry Association)

Model Code

THS (TS) -A 4 T (S) -100 +(OPTIONS)

- +(OPTIONS): LH=Ultra-Low Humidity; LN=LN2 Insertion Device; BS=Special specification
- -100: High Temperature = 100℃ = 150℃
- (S): BITZER compressor
- T : Touch panel
- 4: Low Temperature #0= 0 ℃ #2= -20 ℃ #4= -40 ℃ #6= -60 ℃ #7= -70 ℃
- -A: Inner dimension(WxDxH) A=50×55×60cm B=50×60×75cm C=60×80×85cm D=100×80×100cm G=100×100×100cm E=Customer spec
- (TS): High-Low Temperature Chamber
- THS: Temperature & Humidity Chamber

temperature&humidity range



- The curve of oblique line is opt Ultra Low Humidity system.
- The curve horizontal line is 60 Hz.the others are 50Hz.
- : 50Hz
- : 60Hz
- : Optional Ultra Low Humidity system