



HOT & COLD CHAMBER

AN ISO 9001 : 2015 CERTIFIED CO. & CE MARK PRODUCT

Model No : SRL / HCCH-02



Construction :

The chamber is triple wall at back & bottom inner both the walls are stainless steel 304 quality duly polished with mirror finish buffing & outer wall is Stainless Steel 304 quality mat finish. This Construction avoids rusting problems caused due to condensation at -70°C Cold Chamber at the bottom & hot chamber on the top.

Heating :

Air Heaters are provided for heating above ambient temperatures condition.

Refrigeration system :

Cooling :

By hermetically sealed Danfoss / Embraco / Bitzer Make Compressors, for double stage compressor cooling system & humidity control.

Cooling coil:

Copper cooling coil is sandwiched between the "PUFF" insulation & the Outer side of Inner working Chamber to transfer the cooling by conduction process for ULTRA Low temperature range. A separate finned cooling coil is fitted behind the baffle wall below the blower fan for humidity control system.

Condensing Unit :

Heavy duty air cooled condensing unit with condensing fan will be provided at bottom side of the chamber. The complete assembly is fitted on base in such a way that any component can be replaced very easily.

Refrigerant :

CFC Free : 404A, 508B

Data Acquisition System : (Optional) :

Microprocessor based Electronic data acquisition system for recording high / Low temperature & humidity with respect to time & date for audit trial purpose also provided with the unit is RS 232 port for PC connectivity.

Sensors :

2 Nos PT-100 calibrated sensors for temp. -20°C to $+200^{\circ}\text{C}$ is provided inside the chamber. All sensors calibrated with traceable to ERTL / NABL accredited Laboratories.

Application

These equipments are used for climatic & durability tests of electrical & electronic components, corrosion test on mechanical assemblies, materials for simulated tropical & extreme tropical conditions.

Temp. Range :

-50°C to $+100^{\circ}\text{C}$

Accuracy : 0.2°C in time, Accuracy : ± 2 in space

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Controls :

Touch screen controller, 4.0" panel with 800*480 resolution, user-friendly, stable & easy use. Programs : Edit up to 100 PTNs (1000 steps per pattern), each PTN can be executed 999 times, could store logs at an interval from 1 to 60 seconds for 600 days (24 hr operation), logs downloaded by USB port. PLC & SSR control way, stable and easy use. PLC automatic calculation. The brightness of the LCD panel can adjustable. Programs auto- save function if power cut off suddenly. Password set function. Have HOLD & ADV buttons in programs. Micro computer multi function controller, main components data automatically output including compressors, solenoids, heating units, etc.

Air Circulation :

The chamber is provided with best air circulation to give better temperature uniformity this is achieved by using one set of motor & blower in baffle wall compartment to push treated air in working chamber. this system gives better than 1deg c. temperature uniformity in working chamber, evaporator, heaters & steam injection system is from back side, behind baffle wall, the air circulation blower is also fitted in this compartment only. This arrangement helps to mix air pass well mixed air inside the working chamber. Due to above system the temperature in complete chamber almost remains equal.

Certification :

ISO 9001:2015 Certified Co. D&B registered & CE mark product.

Calibration & validation certificates traceable to NABL / ERTL accredited labs.

Special Care :

Please note that this equipment has to be operated at an ambient temperature of +32°C +/- 2°C & suitable rating Servo Controlled Voltage Stabilizer has to be installed in case of voltage fluctuations.

Safety Features :

Supervisory Safety Monitoring System has been introduced for additional Safety measures. Individual additional micro - controlled is used for this supervisory system. If the temperature & humidity value crosses set Hi & Low limits for either or both parameters, safety control action will be taken over by this controller. If the parameters sets within the limit value, main control action will resume automatically.

- ELCB, MCB for Compressor, Boiler heater, Air heater & Mains.
- 2 Min. Compressor ON delay time for safety of compressor.
- Float switch to cutoff the main supply & audio visual alarms in case of low water level.

Documentation :

To comply with the documentation requirements, we provide IQ, OQ & PQ protocols to be executed before taking the chamber in to for regular use, and support the supply with the following documents with the detail operational and service manual.

Standard Operating Procedure (SOP)

Operational Manual for Controller

IQ,PQ,OQ protocols certificate.

Calibration certificate of all controlling modules with traceability. Certificate of MOC.

Test Report of chamber prior to supply with mapping certificate. wiring diagram for ease of service maintenance.

TECHNICAL SPECIFICATIONS

Model : HCCH-02	Internal Dimension (W X D X H)(cms)	Capacity
HCCH-A	45 x 45 x 50	100
HCCH-B	60 x 60 x 55	200
HCCH-C	55 x 55 x 100	300
HCCH-D	60 x 60 x 110	400
HCCH-E	60 x 60 x 140	500
HCCH-F	70 x 60 x 145	600
HCCH-G	70 x 70 x 145	700
HCCH-H	75 x 75 x 145	800
HCCH-I	80 x 75 x 150	900
HCCH-I	80 x 80 x 155	1000

Due to continuous development & improvements in design, we reserve the right to change the specification without notice.