



AUTOMATIC TEMP. BATH

AN ISO 9001 : 2015 / 14001 : 2015 / WHO-GMP CERTIFIED CO. & CE MARK PRODUCT

Model No : SRL / ULB-19

Construction :

Double walled in construction inner made of SS 304 & outer made of CRCA powder coated with PUF & ceramic wool Insulation in between two walls.

(I) Stainless steel 304 grade lid on top.

(ii) The unit will be made of double walled leak proof metal door with lock.

(iii) Lockable & Movable PU wheels for easy movement.

Insulation of Walls, ceiling and floor: 100mm thick puff plus ceramic wool Insulation with puff in-place density of minimum of 1kg per cubic foot or its equivalent. Insulation with expanded polystyrene or any equivalent material having R factor of minimum 34. Insulation material shall maintain its dimensional stability in an operating temperature range of Insulation puff.

Drain system in the floor : Insulated floor shall be provided with center drain exiting to drain out the condensed water or any spill over liquids / solvents.



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.

Refrigeration system : (Air Cooled)

Emerson / Danfoss / Tecumseh: make compressors, 1 or 2 stage cooling system with Cascade system for ULTRA LOW TEMP. Range & Single stage system for Humidity Control. All accessories such as HPCO/LPCO, Oil Separators, Dryers, Relays, OLP etc. of **Danfoss/Tecumseh Emerson** Make. CFC free refrigerant to be used to comply with the New Environmental Regulation. Will have suitable tonnage compressor for maintain temperature with lights on. Will have hermetically sealed condensing unit compressor coupled with Evaporation coil and condenser, safe guarded by time delay circuit. Cabinet shall be supplied with air-cooled condensing unit with extended compressor life and close temperature control. Cooling system will be split type to place condenser unit in a ventilated area to avoid hot air in growth chamber. Cooled air shall be delivered in such a way to reduce or eliminate condensation within media dishes and to provide maximum uniformity In different research vessels. This may be through silent and durable fan motors or through any kind of advanced air diffusers. Air Cooled Condenser with solenoid & LP to pass hot gas to the chamber for uniformity & long life of compressor for continuous usage. Phenolic coating for cooling & condensing coils (All weather proof).

Temp. Range :

-40°C to +50°C

Resolution : 0.1°C

Temp. Fluctuation : $\pm 0.2^\circ\text{C}$,

Temp. Uniformity : $\pm 2^\circ\text{C}$

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Controller : [PLC with HMI TFT screen]

PID Action : Provides Precise Temperature, Maintain Uniform And Accurate Growth Environment, Timer, Alarm, Auto-Tuning And Auto Start Stop Function. Technical Design and Construction Silent Fan Motor to Maintain Uniform Temperature Over Temperature and Current Protection Capability Ensure User Safety, Adjustable Sliding Rack, Alert Unexpected Interruption Of Electrical Power Or Unauthorized Change.

Provided precise temp. Data logger with RS 485/232 port for logging & transfer of data. Auto restart, power failure event logging, memory protection S.M.A.R.T/ SELF diagnostics system. Control system shall have audio/audiovisual warning/alarm when set temperature is below or above the set values. Ethernet communication port. Computer system : Computer with Windows operating system and colorful LCD and the matched testing software can work normally. It can display the temperature curve of bath in real-time; it displays detection data of thermostat and the time of switch; can judge or display qualified or disqualified results in color(Red-NG/Green-OK). It can store and print test result, moreover, it is also convenient for historical data detected. Can classify or analyze at per set conditions (such as supplier, type of product, data of detection). Type of product and control parameter menu can be set before detection. When the detection Begins, you can select and call directly.

Circulation :

The bath is provided with best 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 temperature uniformity in working chamber.

Safety Features :

- 2 minute compressor "on" delay timer to safeguard the Compressors overload relay protector. Electronic low water level cut off device to cut off the supply to boiler heater in case of low water level. Safety Temp. Controller. MCB for mains.
- (I) Unit will be provided with safety devices for temperature and humidity overshoot in case of malfunction.
 - (ii) Built-in temp. Deviation, audio/visual alarms. Safety thermostat for over shooting of temp. Safety circuit to cut off the whole system.
 - (iii) OLP (Overload Protector) & Time delay Circuit for safety of compressors.
 - (iv) HRC fuses for compressors, Heaters & Mains.

Power Supply :

Single Phase 230V AC, 50Hz / Three Phase 440V AC, 50Hz

Sensor :

Sensors : PT-100 'A' class for temp. calibrated from ERTL / NABL accredited labs.

Certification :

- MSME AWARD FOR BEST MANUFACTURING PRACTICES - 2023
- ISO/IEC 17025: 2017 / Electrical Safety IEC 61010.
- ISO 45001:2018 / ISO 14001:2015 & WHO-GMP.
- ISO 9001:2015 certified Co. & CE marked product.
- RoHS 2002/95/EC / UL (QAMS Certification).
- US FDA Certification.
- NSIC & MSME registered.
- D&B registered (Financial Certification).

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 traceable to NABL / ERTL accredited labs.
Certificate of MOC.
Test Report of chamber prior to supply with mapping certificate.
wiring diagram for ease of service maintenance.

