



# DUST CHAMBER

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

Model No : SRL / DC - 12



## Construction :

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

- (i) Door with silicon gasket sealing, metallic with PUF insulation.
- (ii) The unit will be made of double walled leak proof metal door with lock.
- (iii) Forced air circulation for uniform temperature.
- (iv) Lockable & Movable PU wheels for easy movement.

**Insulation of Walls, ceiling and floor:** 40mm thick puff puff or ceramic wool Insulation with puff in-place density of minimum of 1kg per cubic foot or its equivalent. Insulation with expended 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.

**Door :** Flush type doors of metal surfaces (as per above specification of metal) with proper puff insulation of above mentioned standard or its equivalent. Doors shall have magnetic snap-in perimeter gasket or its equivalent, self-closing cam lift gravity hinges or its equivalent, a posi-seal door closure or its equivalent. Door shall have key lockable latch handle. Doorjamb shall be made fiberglass reinforced plastic or any other suitable material compatible with constructed door.

**Viewing Window :** Suitable doors with together glass window with organ gas Coating to Prevent Coalesced on glass with its appropriate shutter.

## Application :

These equipments are used for tests of various sample in dust atmosphere with different temperature condition such as Automobile components, Civil Engineering Components, and mechanical assemblies materials for simulated tropical & extreme tropical conditions.

## Sensor :

**Sensors :** Rotronic Make Hygroclip non condensing type sensor for RH and PT-100 'A' class for temp. calibrated from ERTL / NABL accredited labs.

## Ecocentric System :

Chamber runs on the basis of Dewpoint control. Less deviations during short-term door opening & power failure. Less utility area Increased storage area. Low operating cost. Minimum power & water consumption. Reduced deviations. Less breakdowns due to standby refrigeration & humidification system. Due to PLC HMI & controlling through microprocessor based PID Temp. & RH operations the on time of both Temp. & RH system is reduced & efficiency of this system is increased with reduced energy consumption.

## Test Standard :

Dust Chamber (IP 5X , 6X)suitable to check dust - proof luminaires

(first characteristic IP numeral 5 and 6) and dust - tight luminaires for the entry of dust particles inside it

as per CI: 2.1.1and 2.1.2 of IS: 10322 (Part- 1:2014)

IS/IEC 60529 with latest amendments.

as per IS/IEC: 60529- 2001.

Dust test for First characterisc numeral 5 & 6.

[Fig 2 of IS/IEC 60529:2001.

## Salient Features : [Optional]

First time in **India** developed by **SR Lab Instruments**. Standby Refrigeration, Standby Humidification & Standby safety controller with auto changeover, In case of failure of the main system, To run the system for a longer with uninterrupted operation.

Also USFDA approved 21 CFR compliance software, where in case of temp. & RH fluctuation, SMS & Email alert shall be sent to registered user nos and minute details of operation of the chamber can be downloaded weekly, Monthly or Quarterly.

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## Controller : [PLC with HMI TFT screen]

**PID Action :** Provides Precise Dust Circulation, 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.

## Air Circulation :

Blower with motor will be provided to spray the dust in the chamber. The blower will suck the air (dust) from the chamber through a suction pipe and pass through the duct and will spray on top of the chamber .The amount of talcum powder used will be 2kg/cu- meter of the test chamber volume (talcum powder used can pass through sieve mesh of wire dia 50µm and dist b/w two wires 75µm). Suitable ducting will be provided for spraying the dust in the chamber. The blower will be suitable to make suspension of talcum powder in the chamber work space. Suitable capacity vibrator is provided to vibrate the chamber as and when required.

## Certification :

MSME Award For Best Manufacturing Practices 2023.

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

ISO 14001:2015 & WHO-GMP

ISO 45001:2018 & ISO/IEC 17025: 2017

NSIC & MSME registered / ROHS Compliance / UL Compliance

## Power Supply :

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

## Shelves & Trays :

Stainless Steel 304 quality bar type shelves will be fitted inside the chamber adjustable up to 0.5 inches Increment/Decrement. [Qty: 02 Nos]

**Illumination :** water & moisture proof lights.

## Safety Features :

2 minute compressor "on" delay timer to safeguard the compressor. 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.
- (v) Separate control panel will be provided fitted with Auto - transformer, Voltmeter, Rotameter (Flow meter), Vacuum gauge etc.

## 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.

