



PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

DESIGN QUALIFICATION PROTOCOL FOR WALK IN TYPE STABILITY CHAMBER

**DESIGN QUALIFICATION
PROTOCOL
FOR
WALK IN TYPE STABILITY CHAMBER**



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NAME OF THE CUSTOMER	
ADDRESS	
PURCHASE ORDER No.	
DATE	
EQUIPMENT SERIAL No.	



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The following format outlines the requirement for a Design Qualification for the equipment and equipment systems. The forms provide the information necessary to write a Standard Design Protocol for “WALK IN STABILITY CHAMBER”.

OBJECTIVE:

To ensure the Design of the systems / equipment with respect to the specifications given in the order by the client, and to report the relevant information.

SCOPE:

To be performed at the factory site, modification or relocation of any spares before Installation of the equipment's.

RESPONSIBILITY:

Person responsible for the design, manufacturing and assembling the equipment or system with respect to the records or information as per the specification. The supervisor will supervise the manufacturing / assembling activity study and verify the completion of the job, with the written deviation report.

Quality Assurance dept. / Maintenance Dept. / Electrical dept. will review and approve the DQ Protocol with its report.

CONSTRUCTING MATERIALS:

Triple wall constructions at back & bottom. Inner chamber & outer chamber made of stainless steel 304 quality Double door system, outer S.S. door with magnetic gasket & locking facility and inner full size see through Transparent door for viewing samples inside the chamber without disturbing inside Temperature conditions. Illumination light is provided with illumination On-Off switch. Air circulation blower, Heater, Cooling coils fitted on back side with cover, Compressor and other cooling system components are mounted on Top Panel. The glass wool insulation is provided to minimize the unwanted cooling losses.

10 nos. Perforated trays are provided with the unit.

Temperature range is 30°C to 75°C. Cooling is by hermetically sealed Compressor with cooling coil, Condenser coil & CFC free refrigerant. It is provided with Dual Refrigeration system as a standby unit.

Heating is by S.S. Tubular air heaters.

Motorized air circulation from back for uniform temperature throughout the chamber.

HMI display temp. & RH plus additional Safety Thermostat & Controller. Water heater safety – heater safety provided by float switch in the boiler tank.

The temperature is controlled by a PLC temperature controller with an acc. of $\pm 0.5^{\circ}\text{C}$ with pt-100 sensor. Additional safety thermostat provided for safety of unit.



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SAFETY CONTROLS: Dry

Temp. Safety Thermostat: 0°C to 100 °C.

Wet Temp. Safety Thermostat: 50 °C to 300 °C.

The “ELCON” make ON/OFF based safety hydraulic thermostat is designed to operate within the range given above with an accuracy of +/- 5 °C .

SIZE OF CHAMBER:

External Size:- W 1500* D 1860* H 1960 mm

SENSOR:-

Type	2type	i) 5 V. Capacitor Sensor: For RH	ii) PT- 100 Sensor: For Temp.
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HEATING EQUIPMENTS:

Dry heater	500 watts/ 230 VAC	Stainless steel tubular type
Wet heater	2000 watts/230 VAC	Stainless steel cattle type

ELECTRICAL:

Mains rocker switch	15 amps	Red
Illumination rocker switch	15 amps	Red
Chamber Tube Light Set	28 watts	Fluorescent tube
Mains cords	3 core cable 15 amps	Black
MCB	32 amps x 1	
Solid state relay	Input 3-32 mv / load -40 amp	I-therm
Indicator Buzzer	LED Lamp	Red
Double Shaft Motor	1/8 hp flinch type, 1400 rpm	3/8” x 6” long shaft
Safety	Hydraulic thermostat	On / Off
HMI	DELTA	



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Refrigeration System: Unit I

Compressor Make	Emerson	Filter Dryer	D.M 50
Compressor Model No	KCJ463HAG-U336H	With cooling coil	
Starting capacitor	36 MFD	Condenser fan blade	9" dia. with 4 nos. blade
Starting relay	Inbuilt	Blower Motor "Bharat Vidyut "	1/8 h.p , 1400 rpm
Over load protector	Inbuilt	Running capacitor for compressor	NA

Refrigeration System: Stand By Unit II

Compressor Make	Emerson	Filter Dryer	D.M 50
Compressor Model No	KCJ463HAG-U336H	With cooling coil	
Starting capacitor	36 MFD	Condenser fan blade	9" dia. with 4 nos. blade
Starting relay	Inbuilt	Blower Motor "Bharat Vidyut "	1/8 h.p , 1400 rpm
Over load protector	Inbuilt	Running capacitor for compressor	NA

The chamber is designed to operate at the temp. range of 30 °C . to 75°C., Accu. of +/- 2°C And 40 to 75 % RH with an accuracy of +/- 5 % RH.



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Approval of Design qualification:

Name	Designation	Department	Sign /Date

Remarks: _____

Meet the Acceptance Criteria [] Yes [] No

Tested by : _____ Date : _____

Verified by : _____ Date : _____