Photo Stability **Test Chamber**

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Test Chamber

Introduction

Weiber Photo Stability Test Chambers are widely used for confirmatory studies as per ICH GUIDELINES (ICH Q1B) for direct comparison of drug substance under controlled environmental conditions, where samples are exposed to light illumination level of 1.2 million lux ,which is effectively controlled through a programmable illumination controller and ulta violet light module incorporated in the same diffuser module with protection coating, designed to provide a UV light energy which can also be controlled from 200 watt hour per sq m.to allow direct comparisons to be made between the drug substance and drug product.

Material Of Construction: Castor wheel mounted cabinet is double walled with inner chamber of Stainless steel sheet of grade SS 304 and outer wall of heavy gauge PCRC steel. sheet duly degreased and pre treated with primers for rust proofing duly painted with attractive stove enamel or powder coated .

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Temperature Range

10 Degree C to 60 degree C (Accuracy: + 0.5o C)

Temperature Control : The temperature inside the photo stability test chamber is controlled by intelligent programmable temperature controller and indicator. This controller is based on the microcontroller nano watt technology and its ergonomic design suits for any specific requirement of the photo stability test chamber like Data logger facility, Thermal and DOT Matrix interface, direct dataload facility in computer office automation software like MS-Word and Excel and many other features listed in the specification bellow.

Humidity Range

40% to 95% RH (Accuracy: + 2%)

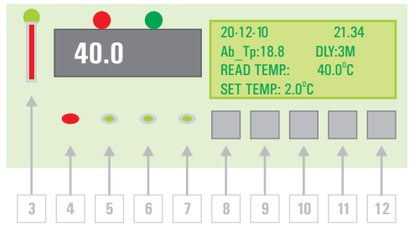
Accurate Micro processor Based Humidity Control System.

The WEIBER" Photo Stabiliy Chamber uses a microprocessor based, electronic humidity sensor detector is an exact logarithmic function of the humidity concentration in the environment of the chamber between source and detector.. Advanced design provides a very stable drift-free output requiring less frequent calibration.

Illumination

Our photo stability chamber conforms to the illumination requirement as per the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) ICH GUIDELINES (ICH Q1B). The unit is provided with four fluorescent light mounted in a diffuser enclosure at the top of the chamber providing minimum illumination level of 1.2 million lux ,which iseffectively controlled through a programmable illumination controller. This unit is combined with a ulta violet light module incorporated in the same diffuser module with protection coating, designed to provide a UV light energy which can also be controlled from 200 watt hour per sq

Interative ergonomic Control Unit based on Mocrocontroller



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1) Heater Mode : This LED indicates the heating system on condition and it light

up when the set temperature is higher than the ambient temperature.

2) Cooling Mode: This LED indicates the cooling system on condition and it light

up when the set temperature is lower than the ambient temperature.

3) Temperature Alarm: This LED indicated the extreme Ambient condition and the temperature failure condition.

4) Audio Alarm : This Alarm indicates the visual alarm and indiactes any failure and Temperature overshoot conditions.

5) Door Open : Visual indication with door open conditions.

6) A.C Power failure : This visual indicator light up when the mains power fail and the system working in the battery mode.

7) Low battery indicator : This LED indicates the battery backup status, This LED indicates when the battery charge capacity available at 25% of the total charge.

8) UP : Count up key.

9) SET : This is a set button to set any parameter on the screen, by pressing of this key a cursor blink on the corresponding parameter, So you can select any desired parameter and use UP and Down key to set specific value/setting.

10) Down : Down count key.

11) ESC : This key is used to exit from any menu, you are working right now.

12) Print/Data download : This key is used to transfer the stored data into the printer or Data download facility in the computer MS Excel/Word and Hyperterminal software.

13) Display Unit : This unit is a user intertractive interface system for easy operation and it displays the parameter like DATE, TIME, Ambient Temperature, Compressor ON Delay Time, Read and Set Temperature.

14) Temperature Display : This seven segment display indicates the read temperature value inside the chamber.

SYSTEM SETTING

1) DATE and TIME : From normal operational mode, press SET key ones,

The cursor blinks at

DATE (20), and for second press of KEY SET the cursor blinks at MONTH (12), and similary on Third press of key SET cursor blinks at YEAR and repeat the steps to move to any parameter.

Similary you move cursor on any parameter and set desired value for system operation.,

To increase any parameter use UP key and to decrease any parameter use DOWN key.

After completion of all correct setting press ESC key to return back to the main menu.

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Optional Features : (Can Be incorporated At Extra Cost If Desired)

XLV. Temperature set point controls relays for refrigeration compressor and evaporator fan

XLVI. Relays rated min. 200VAC:

a. Compressor: min. 8 A, min. 60 LRA

b. Fan: min. 4 A

c. B) High/low temp alarm

XLVII. Audio and Visual Alarm. Programmable

XLVIII. Alarm mute w/ ring back in 5 minutes

XLIX. Touch Button Control for Alarm Mute/Ring Back.

L. Keyed alarm silence switch

LI. External Keyed Alarm Mute. Alternate: Supervisor programmable code

LII. Door Buzzer alarm

LIII. IR Sensor/ Micro Switch Based Door open Alarm. Adjustable or fixed 30s delay before alarm

LIV. Power failure alarm: Automatic Power detection and Audio Visual Alarm. Adjustable or fixed 15 min delay before alarm

LV. Programmable temp range: Touch Button Control to Program Temperature. User Settable.

LVI. Battery backup: Automatic Battery Charging Facility inbuilt in circuit. Provides up to 24 hr of display power

LVII. Mounted temp probe

LVIII. Dual PT-100 sensor With Ambient Sensing by Semi-conductor Temperature Sensor. Set point display (program mode) LCD and Segment

LIX. Dry contacts(Remote Control) for central alarming.

LX. R.F based Remote Alarm System

LXI. Built-in chart recorder/Thermal Printer standard for blood bank units or data acquisition in the controller memory which can be down loaded on a computer through a suitable world standard interface like RS232 and/or RS485.

LXII. RS-232 I/O Port Provided,

LXIII. Serial Thermal Printing facility.

LXIV. 24 hr non-volatile temperature Record Storage Capacity, and Record Download facility in MS-WORD/Hyper terminal / MS-Excel.

LXV. Up to 1 MB data storage Facility.

LXVI. Seven Day Profile Timer with Real Time Clock.

Insulation

The gap of 75 mm between the outer and the inner wall is filled with special grade glass wool to prevent thermal losses.

Mineral Glass Wool Insulation

Glass mineral wool is one of the most environmentally friendly, stable and sustainable insulants available. Glass wool is incombustible by nature. Euro class classification is A. It does not propagate flames and toxic smokes. Thanks to a dense entanglement of materials with a low conduction and trapping a great amount of air, glass wool is a an excellent thermal insulant. The thickest it is, the best thermal resistance it has, thus reducing heat losses

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in our equipments for better sensitivity and economical operations. And its impact on the environment in manufacture, use and disposal is minimal.

Air circulation

Triple walled back of unit is fitted with two air circulation fans for maintaining temperature uniformly throughout the chamber

Features of Coaxial Circulation Fan

- Vacuum impregnated stator winding with dr. back varnish under red baktol
- non-hygroscopic.
- Best IR value
- Bright bar (EN - 8 class) shaft.
- Bush bearing of branded companies.
- Surge comparison testing in fans and pumps eliminates into turn short circulating of the stator.
- Pressure die-casted-rotor manufactured with zero error.
- Boats of high accuracy

Doors

Full view inner glass/perspex door permits inspection of specimens, without disturbing the chamber temperature . Lock and Key arrangement is provided in the double walled outer door.

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Illumination

Unit is fitted with door operated illumination lamp inside the chamber.

40 watt/120 volt replacement light bulb fits inside the illumination cavity of the chamber.

Refrigeration Unit

Refrigeration unit is formed by ISI marked compressor/cooling kit. Of Kioloskar Copeland or Tecumseh.

Features

- High Energy Efficiency
- Compact
- Ozone-friendly refrigerants
- Proven Technology
- Wide Voltage Range

Front Panel

The front panel is provided with separate indicator lamps for main heating and incoming voltage. Digital Temperature controller cum Indicator and voltmeter.

Shelves

The unit is supplied with three shelves of stainless steel sheet.

Voltage

To work on 220/230V A.C. supply.

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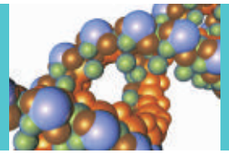

Technical Matrix

Temperature Control		
Temperature variation (time)	± °C	0.5
Temperature deviation (spatial)	± °C	0.5
Readability/ Set ability	°C	0.5
Temperature range ***	°C	10°C to 60°C
Sensor thermocouple		Type K
Controller		Solid State digital Controller/PID optional
Display		LED/LCD
Adjustable alarm limits (visual & acoustic)		Optional
Safety thermostats		
Temperature variation (time)	± °C	3 (With PID Controllers only)
Sensor thermocouple		Type K
Automatic setting		Yes (With PID Controllers only)
Adjustable limits		Yes (With PID Controllers only)
Light control		
Readabitity/Setability	%	5%
Light intensity	Lux	1.2 million lux
Light intensity (UV)	Min	200 Watt hour/square meter

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	W x H x D	CAPACITY
(a)	505X830X415 mm	6 Cu.ft
(b)	570x875x550 mm	10 Cu.ft
(c)	650x900x550 mm	12 Cu.ft
(d)	700x900x650 mm	15 Cu.ft
(e)	775x900x775 mm	20 Cu.ft
(f)	825x1200x825 mm	30 Cu.ft
(g)	900x1720x800 mm	45 Cu.ft

Accessories		
Automatic de-icing system		optional
Timer (1-999 minutes or hours)		optional
Real Time Program		Inbuilt
Printer Report Program		Inbuilt
Serieal Data Port	RS232	Inbuilt
Inspection window in door		Inbuilt
Shelves		
Standard/ max		2- 6 (depending on the internal size
Dimensions w,d	mm	As per the individual model
Max load per shelf	kg	20
Permitted total load	kg	80 kg (Max Internal Size)
Accessories		
Printer Report Program		optional
2 x 24 characters LCD Display		optional
Access Port 30 mm		optional
Inspection window in door with cover		optional
Castors, lockable		Yes
Power consumption		
Nominal power	W	950 -2250 W
Nominal voltage	V	230, 1~
Frequency	Hz	50/60

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APPLICATION	
Evaporating Temp Range	0-60 Degree C
Refrigerant	R- 134a
Refrigerant Control	CAPILLARY
Compressor Cooling	STATIC
General Applications	REFRIGERATOR/ DEEP FREEZER

RATED PERFORMANCE

Cooling Capacity -Rated	282 - 650 Btu/hr (Model specific)
Power input -Rated	80-110 Watts (Model Specific)
Energy Efficiency Ratio	3.53 Btu/Whr
Current - Rated	0.70 Amps
LRA -Rated	N/A
Evaporating Temperature	-23.30C
Condensing Temperature	540C
Liquid Sub Cooling Temp	320C
Return Gas Temperature	320C
Ambient Temperature	320C
Pressure - Suction	0.32 Kg/Cm2
Pressure - Discharge	12.9 Kg/Cm2
Liquid Sub Cooling Temp	320C
Return Gas Temperature	320C
Ambient Temperature	320C
Pressure - Suction	0.32 Kg/Cm2
Pressure - Discharge	12.9 Kg/Cm2

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MECHANICAL DATA	
Design	RECIPROCATING
Displacement/Revolution	3.14 CC
No. of Cylinders	One
Speed (Nominal)	N/A
Oil Charge	230 CC
Weight	7.3 Kgs
Internal Pressure	PROVIDED
Relief Valve	

MOTOR DATA

Motor Type	PTCSIR
Frequency	50 Hz
Phase	SINGLE
Voltage -Rated	230 Volts
Voltage -Range	N/A
High Potential Test	N/A

OVER LOAD PROTECTOR

Type	EXTERNAL

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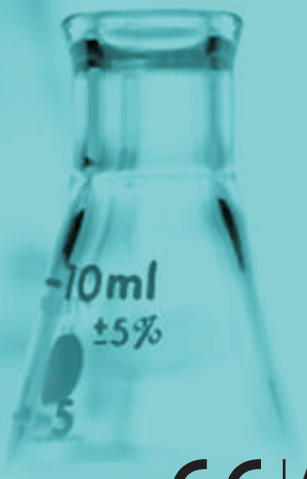

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SALES OFFICE (INDIA)

312-313, Vardhman Capital Mall, L.S.C. 10,

GulabiBagh, Delhi-110052, INDIA

Tel: 0091-11-23646703, 23643054

(M) +91-9313971681| Email: india@acmasindia.com

SALES OFFICE (HONG KONG)

Unit D 28 11/f Wing Tat Comm, Bldg 97,

Bonham Strand East, Sheung Wan, HONG KONG (PRC).

Tel: 0086-13929598046 | 0086-18922303099

Email: hk@acmasindia.com

SHOWROOM

141, Rai Industrial Estate, Rai, Sonepat,

Haryana-131029, INDIA

Tel: 0091-0-9312219738 (M) +91-9717741167

Email: info@acmasindia.com

SALES OFFICE (RUSSIA)

Inmed Trade Street, Ozerkovsky Embankment,

Unit No 50 Straine-1, Off-502, Moscow, RUSSIA

Tel: 0049-79592345 | Email: russia@acmasindia.com