SEED GERMINATION CHAMBER

Seed Germination Chamber

Meditech is the largest manufacturer and exporter of seed germination chamber in India. Meditech seed germination chambers is used for seed germination, seed development and seed storage. These are special chambers which can maintain temperature, humidity, lights and CO2 levels.

Features of Seed Germination Chamber

(1) These are designed exclusively for seed germination and seed storage and other research applications.

(2) parameters such as Temperature, Light, humidity (optional) and CO2 (optional) can be controlled.

(3) Touch Screen Controlled LED Controller with 12 types of alarms, RTC, Date and Calendar and data logging options

(4) Program can be set in real and elapsed time.

(5) Ramping mode is available for experiments

(6) Multi profiles can be linked to create complex programs

(7) SAIFIN program allows Seed Storage Chamber to access remotely.

(8) Fluorescent Lamps are mounted on each Shelf vertically.

(9) Light intensity upto 150 μmoles/m2/s can be achieved of light irradiance measured @ 6″ from lamps of seed storage chamber.

(10) Programming is done using 7 Inch Touch screen controller

Airflow and circulation

(1) Air is circulated horizontally throughout the chamber to maintain the desired temperature, humidity and CO2 levels.

Cabinet construction

(1) Interior is constructed using 22-gauge 304 stainless steel.

(2) Exterior is constructed using 18-gauge bacteria resistant powder coated CRCA aircraft steel

(3) The Seed germination Chamber is completely self contained

(4) The Thickness of cabinet is 3″ (75 mm)

(5) Two 2″ diameter access ports are provided on Right side wall of the cabinet.

(6) The Chamber floor is designed for drain which eventually end in a hose assembly.

(7) The Chamber is supported with 4 castor wheels on with height adjustment facility.

Insulation

Insulation

(1) The seed germination chamber is insulated using high density CFC free PUFF insulation.

Door

(1) A single door provides full access to the chamber interior.

(2) Gaskets with Magnetic strips provides a tight seal to door.

shelving

(1) Fifteen tiers of Stainless Steel SS304 wire shelving

Refrigeration

(1) The chamber is fitted with air-cooled refrigeration unit.

(2) The refrigeration system allows easy access for maintenance and cleaning

Temperature range

(1) 10°C to 44°C (±0.1°C) lights on and 2°C to 44°C (±0.1°C) lights off

(2) Temperature controls, audible alarms, and visual indicators provided

(3) Safety emergency Controls will shut down all the power to the chamber, and activates the alarms.

humidity control (optional)

(1) humidity system for higher than ambient to 85% (±3%) lights on for set temperatures between 15° to 60°C

(2) Humidity system for higher than ambient to 90% (±10%) lights off for set temperatures between 15° to 30°C

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SEED GERMINATION CHAMBER

The MTBBR Advantage

The Chamber series of equipment has been developed to provide the researcher and producers with dedicated technology for the development, storage and Germination of Seeds. Multi tiers of growing space maximize the chamber's footprint, making the MTBBR extremely space-efficient and ideally suitable where laboratory space is limited. Engineered and tapered air-handling plenums ensure consistent air-flow into the chamber. This, in combination with lamp configurations and canopies that are designed to maximize light dispersion, ensure a high degree of uniformity of all conditions within the growing area. This degree of uniformity has proven to be necessary for the efficient growth of modified forms of this species. All controlled parameters are managed and logged through Meditech's reliable 7" Touch screen controller giving the researcher maximum flexibility and documented results. Sound manufacturing principals, quality components and our ISO9001 quality control program ensures that this equipment performs as specified.
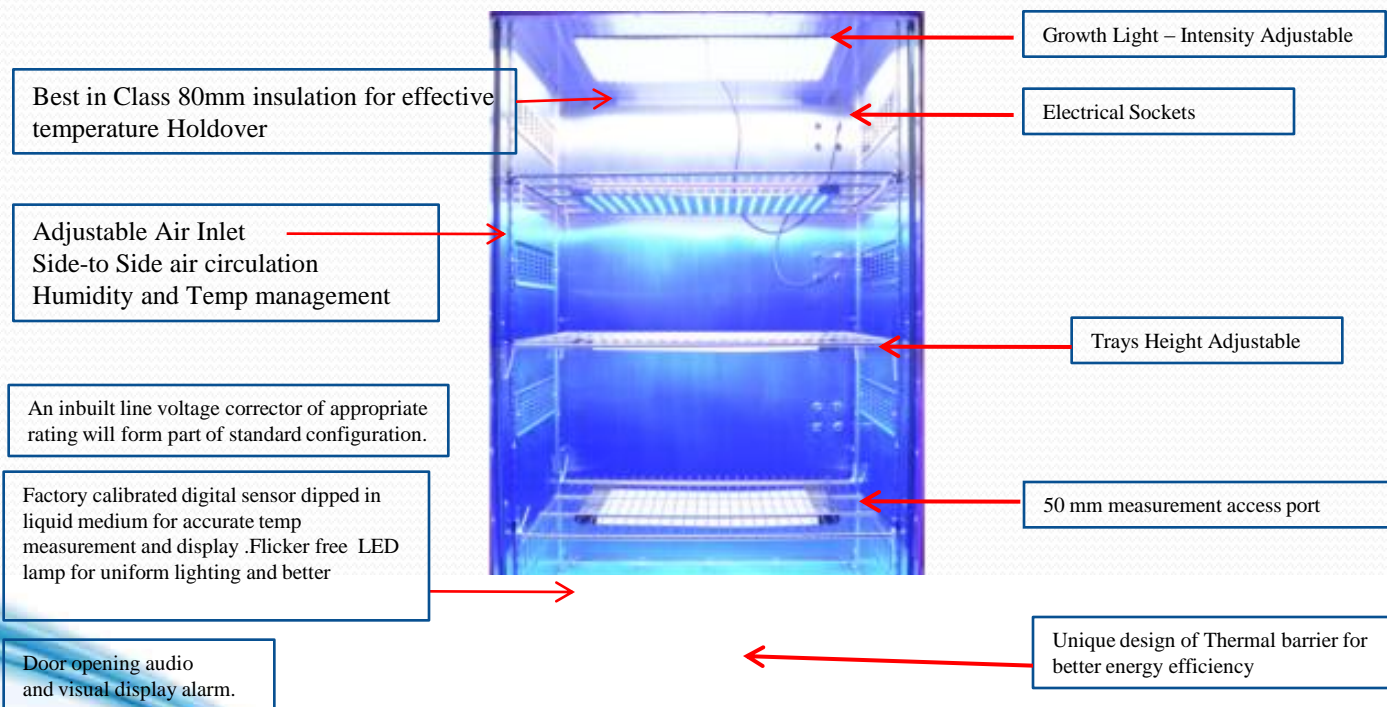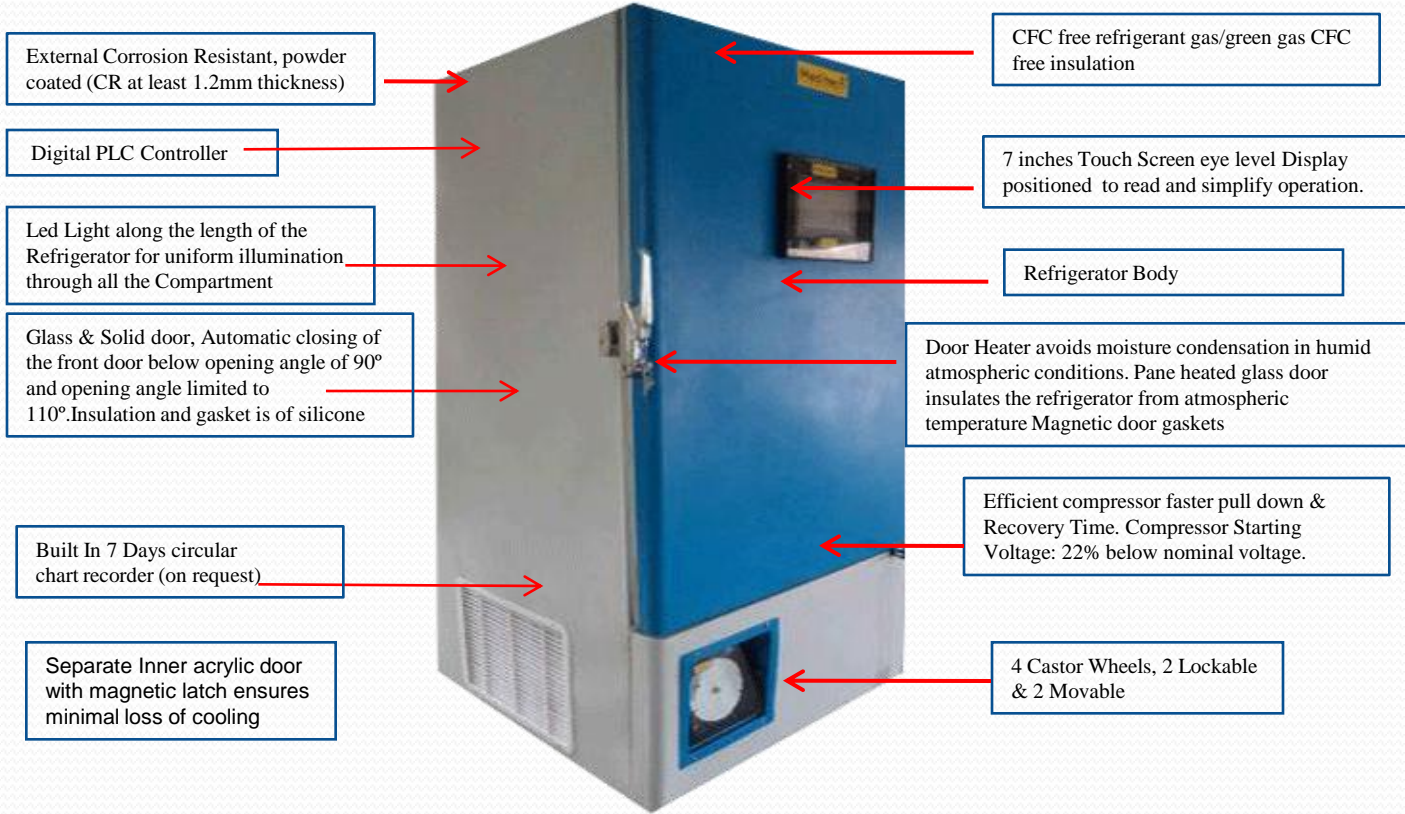
Lighting

The standard light intensity is 150 micromoles/m2/s using T8 fluorescent lamps or LED Lamps adjustable from 10% to 100%. Dimming ballasts provide precise control over light intensity. Meditech's own Closed-Loop Light Control maintains precise intensity of programmed levels.

Model	370 Litres	1000 Litres
Growth Range	3 growth areas (>1.1m2)	8 growth areas (>3.3m2)
Temperature Range	+10°C - +45°C	+10°C - +45°C
Temperature Fluctuation	±0.5°C @ 25°C	±0.5°C @ 25°C
Temp. Control Accuracy	±0.1°C	±0.1°C
Humidity Range	50% - 95% RH	50% - 95% RH
Humidity Uniformity	±5%	±5%
Humidity Control Accuracy	±1%	±1%
Humidifier Type	Ultrasonic Humidifier	Ultrasonic Humidifier
CO2 Control Range (optional)	Ambient - 5000ppm	Ambient - 5000ppm
Light Type	LED or FL T8 (blue, green, red, white)	LED or FL T8 (blue, green, red, white)
Light Intensity	up to 150 umols-1m-2 @15cm	up to 150 umols-1m-2 @15cm
Light Control	ON / OFF or 0% to 100% programmable	ON / OFF or 0% to 100% programmable
Program	Multi programs - multi steps	Multi programs - multi steps
Alarm	High and Low Temperature, Humidity alarm	High and Low Temperature, Humidity alarm
Data	Data Export by USB port	Data Export by USB port
Remote Control	Direct connection to unit by LAN to control HMI (by Internet and Wifi in option)	Direct connection to unit by LAN to control HMI (by Internet and Wifi in option)
Cooling System	Air cooled condensing unit / CFC free refrigerant	Air cooled condensing unit / CFC free refrigerant
Overview Dimensions	W890 x D720 x H1950mm	W1500 x D900 x H2100mm
Working Volume	370L	>1000L
Interior Material	Stainless Steel #304	Stainless Steel #304
Exterior Material	Coated steel / Stainless Steel	Coated steel / Stainless Steel
Insulation	PUF insulation	PUF insulation
Door	Insulated door	Insulated doors
Growth Area	3 growth areas (>1.1m2)	8 growth areas (>3.3m2)
Growth Height	25-30cm adjustable (2.5cm steps)	25-30cm adjustable (2.5cm steps)
Safety Device	Overheat protection and low temperature protection / Door open alarm / Over load protection / Compressor delay start protection	Overheat protection and low temperature protection / Door open alarm / Over load protection / Compressor delay start protection
Power	Adapted to the user electric system	Adapted to the user electric system

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SEED GERMINATION CHAMBER

Equipment meets electrical safety specification such as that of IEC (ClassI)

External Corrosion Resistant, powder coated (CR at least 1.2mm thickness)

Digital PLC Controller

Led Light along the length of the Refrigerator for uniform illumination through all the Compartment

Glass & Solid door, Automatic closing of the front door below opening angle of 90° and opening angle limited to 110°.Insulation and gasket is of silicone

Built In 7 Days circular chart recorder (on request)

Separate Inner acrylic door with magnetic latch ensures minimal loss of cooling

CFC free refrigerant gas/green gas CFC free insulation

7 inches Touch Screen eye level Display positioned to read and simplify operation.

Refrigerator Body

Door Heater avoids moisture condensation in humid atmospheric conditions. Pane heated glass door insulates the refrigerator from atmospheric temperature Magnetic door gaskets

Efficient compressor faster pull down & Recovery Time. Compressor Starting Voltage: 22% below nominal voltage.

4 Castor Wheels, 2 Lockable & 2 Movable

Best in Class 80mm insulation for effective temperature Holdover

Adjustable Air Inlet
Side-to Side air circulation
Humidity and Temp management

An inbuilt line voltage corrector of appropriate rating will form part of standard configuration.

Factory calibrated digital sensor dipped in liquid medium for accurate temp measurement and display .Flicker free LED lamp for uniform lighting and better

Door opening audio and visual display alarm.

Growth Light – Intensity Adjustable

Electrical Sockets

Trays Height Adjustable

50 mm measurement access port

Unique design of Thermal barrier for better energy efficiency

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SEED GERMINATION CHAMBER

Green
Technology for life

Technical Data
Standard Model(S): Inside S.S.304 with mirror polish & outside mild steel powder coated.
GMP Model(G):Inside and outside with SS 304 matt buff.

Models	Temp	Capacity	Dimensions in meters					
			Internal			External		
MTBBR	°C	ltrs.	W	D	H	W	D	H
MTBBR80	+10°C to +45°C	8000	2	2	2	2.16	2.95	2.16
MTBBR125	+10°C to +45°C	12500	2.5	2.5	2	2.7	3.45	2.16
MTBBR187	+10°C to +45°C	18750	2.5	3	2.5	2.7	3.95	2.7
MTBBR225	+10°C to +45°C	22500	3	3	2.5	3.16	3.95	2.7

Note: Other sizes are available on request.

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SEED GERMINATION CHAMBER

Web Based Software (SAIFIN53) - Remote Chamber and Room Management

Access Anywhere Anytime!! Around the Globe

Instantly connect and control your Chambers and Rooms without installing software

For more than a decade, Meditech SAIFIN53 software has gained popularity among operators and end users for its reliability and ease. SAIFIN53 is available remotely via a web browser using internet facility. SAIFIN53 is designed to meet the increasing demands for improved efficiencies. This web based software also adds extra capabilities of data logging, user-configuration and features of all alarm notifications via SMS and Email.

Features

•Eliminate the need for multiple software installations and Qualifications
•Web based software accessible through browser
•Compatible with server-based OS, android, Windows-7/8/9/10
•Ensure one-time software installation on your plants server and access the software anytime, anywhere through a web browser from any Desktop/Laptop (same LAN Network)
•View Status, take printouts or execute any of your tasks from anywhere
•Department wise segregation of users, equipment & Data
•Harmonization of reporting format (header,footer,etc) and other such operations through the plant

Centralized user defined Alarms,alerts and Notifications through SMS & emails
Configure the type & no.of alarms to be sent via email/SMS & configure delay time too
Running time calculation of MKT and Moving Average
Component running hours to determine the shelf-life of major components
Real-time display of all connected equipment in single screen
Automatic data backup facility
System Diagnosis for troubleshooting via Team Viewer
Ethernet communication with chambers
Complying US FDA 21 CFR Part11

Key Features
•A Truly innovative data handling and communication options
•Plug and Play fashion via Ethernet to connect local or plant networked PC or Laptop
•One can view LIVE system parameters and historical graphs as well as receive alarms, reports, data log files over email
•Settings with just a standard browser
•Access live or stored data remotely within the facility (LAN network) of from anywhere in the world

FEATURES AND FUNCTIONS

A REVOLUTIONARY MONITORING & ALARM SYSTEM

Say No To Manual Recording
-Error Free
-Separate signatures for data reviews & data approval
-No mistake in record maintaining
-Data analysis
-Tabular and graphical data representation

Secure audit trails
-Audit protection
-Provide certified proof of process control

View Data from Any part of the World
-Browser base application software
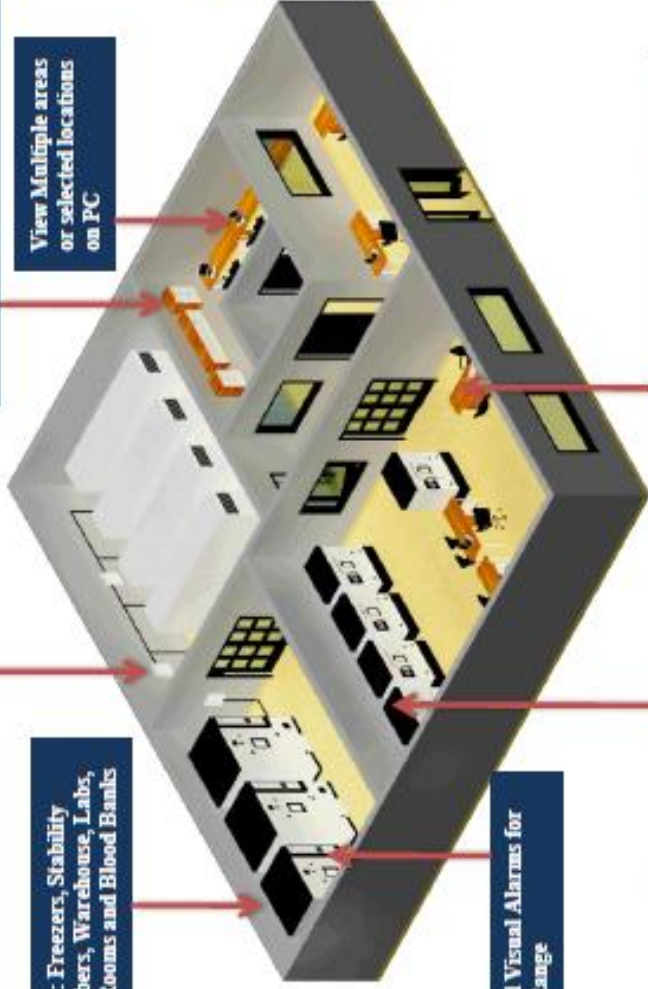-view from PC, smart phones and tablets

Alarms
Alarms for parameter derivation
SMS Alerts
Alarm log with acknowledgement and user comments
Email alerts for supervisor
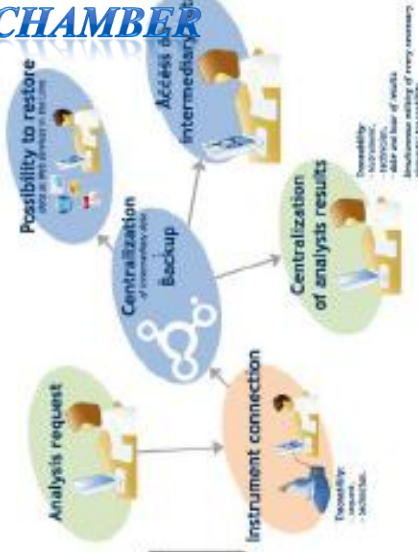
Traceability
-Instant response to data request
-Continues Data saving
-Data Protection and backups

Supervisor Function
Alerts users for pending activity
Escalates unattended issues to higher authority

Record and alarm Temperature, Relative Humidity, Flow, Differential Pressure, CO2, O2, LN2, Status and Contacts

View Multiple areas or selected locations on PC

Wireless Display with Humidity, Temperature CO2 Sensors for Visibility and audit

USES : Freezers, Stability Chambers, Warehouse, Labs, Cold Rooms and Blood Banks

Audio and Visual Alarms for Settable Range

Compact size chart recorders and alarms system

Data recorders are easy to relocate and swap for service and calibration

Receive SMS and Email alarm notification

Possibility to restore

Access of intermediary data

Centralization Backup

Centralization of analysis results

Analysis request

Instrument connection

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Screen Shots of Touch Screen Controller

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ISO 9001:2008, ISO 14001, ISO 13485
WHO-GMP & CE Certified Company

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	16/02/15	PARAMETERS			17:50:31	

DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE	UNIT
Heater On Time	±99999	Min			
Temp Set RTD1	±9999.9	°C			
Temp Set RTD2	±9999.9	°C			
Comp. Sel.	Comp1				
Comp 1 Time	±9999.9	Min			
Comp 2 Time	±9999.9	Min			

MENU

Screen Shots of Touch Screen Controller

16/02/15				🕐 17:50:30
Programs	Alarms	USB	Help	Parameters
Trends	Clock	Calendar	SMS	Main

TRENDS

16/02/15   17:50:31

REAL TIME

HISTORICAL

200.0		200.0		
144.0		144.0		
88.0		88.0		
32.0		32.0		
-24.0		-24.0		
-80.0		-80.0		

HH:MI:SS   HH:MI:SS   HH:MI:SS   HH:MI:SS

HH:MI:SS
DD/MM/YY

HH:MI:SS
DD/MM/YY

RTD 1 PV ——— ±999.9

RTD 2 PV ——— ±999.9

	DD	MM	YY	HR	MIN	SS
START	99	99	99	99	99	99
END	99	99	99	99	99	99

MENU

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Email: info@newmeditech.com. Website: www.newmeditech.com

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SEED GERMINATION CHAMBER

Screen Shots of Touch Screen Controller

16/02/15	**SMS**	17:50:32

ENTER MOBILE NO:- `#################`

SEND SMS:-

RECEIVE MESSAGES

`###########################################`

MENU

16/02/15	**ALARMS - REALTIME**	17:50:33

ALARMS	ON DATE TIME	OFF DATE TIME	Y/N
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DD/MM/YY HH:MM:SS	DD/MM/YY HH:MM:SS	Y/N
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DD/MM/YY HH:MM:SS	DD/MM/YY HH:MM:SS	Y/N
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DD/MM/YY HH:MM:SS	DD/MM/YY HH:MM:SS	Y/N
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XXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DD/MM/YY HH:MM:SS	DD/MM/YY HH:MM:SS	Y/N

ACK   ACK ALL   HISTORICAL

MENU

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