



EIE INSTRUMENTS PVT. LTD.
(An ISO 9001:2015 Certified Company)

DUAL CHAMBER-COMBINED REFRIGERATOR CUM DEEP FREEZER-GMP-HMI, PLC & 21 CFR SOFTWARE- 60 X 45 X 45 CM-121 LITERS CAPACITY



Applications

Refrigerator Cum Freezer are designed for bio sample storage applications in pharmaceutical, microbiology, biotechnology, chemical industries & research labs.

Salient Features

- Standalone instrument comprises of (Upper & Lower chambers) **Twin chambers** i.e. Refrigerator Cum Freezer
- Both Chambers are equipped with separate **PLC controller & Touch screen HMI display**
- Upper chamber works as a deep freezer While the lower chamber works as laboratory refrigerator.
- Interior of both the chambers are fabricated from **Mirror Polished Stainless Steel (S.S.-316 Grade) material**.
- Exterior body of the instrument is also fabricated from **Stainless Steel material (S.S.-304 Grade)**
- Both upper & lower chambers are filled with 65-75 mm PUF insulation on all sides to avoid thermal leakage
- Both upper & lower chamber are Fitted with special heavy duty Stainless steel lock and door hinges with spring-roller mechanism
- Both chambers are fitted with Sponge - type silicon gasket for air-tight sealing to avoid leakage of chamber uniformity

Corporate Office:

A-1301, BVR Ek, Opp. Hotel Inder Residency,
Near Gujarat College, Ellisbridge,
Ahmedabad-380 006.
Phone : (079) 6621 1234
Website : www.eieinstruments.com

Calibration Laboratory:

Survey No. 1098, Nr. Mahakali Temple,
Opp. Primary School, Village Kubadthal,
Tal-Daskroi, Ahmedabad-382 433.
Phone: (079)-3520 8300
E-mail : info@eieinstruments.com

GST TIN No. : 24AABCE4018L1ZU
I.T. PAN No. : AABCE 4018L
IEC No. : 0813026598 Dt. 04/03/2014
CIN No. : U29199GJ2004PTC045078
TAN No. : AHME00572F



- Both Chamber illumination is provided by LED light with door switch
- Both chambers are equipped with Adjustable Shelves to place the Test Samples/Glass wares of varying dimensions
- Laboratory Refrigerator (lower chamber) is fitted with forced air circulation blower such to achieve uniform temperature distribution throughout the working chamber
- In case of refrigerator, Electric Motor for blower is located at the back side of unit, which is protected with safety cover to avoid accident
- Refrigerator is fitted with Full size polycarbonate sheet inner door to inspect the samples without affecting the chamber temperature.
- Properties of polycarbonate sheet door (**Unbreakable, Un-scratchable, High temperature resistant, Robust, Air tight and Transparent**)
- Entire Unit is mounted on castor wheels for easy movement.
- Internal circuit wiring as per international norms
- Aesthetic external appearance
- Complete with pilot indicating lamps, 2 meter cord wire and power plug.
- Operation on 220/230 Volt, 50 Hz, Single phase, AC Supply
- Supplied complete with IQ OQ DQ documents.

Following advance features are available:

- **Equipped with Touch screen HMI Controller and PLC System**
- Equipped with **Magnetic Door Lock Mechanism in both the chambers**
- Password protected door access system
- Supplied complete with **21-CFR (PART-11) Compliance PC Software**
- Audit trail generation in PC Software
- Auto resume after power failure
- Provision for GSM MODULE (Mobile alert configuration) system for parameter deviation (**shall be procured at extra cost**)
- Provision for In-Built Data logger (Uniformity module) system (**shall be procured at extra cost**)

Salient Features of 21-CFR Compliance Software:

- Multi Chamber data - Acquisition Software
- Generates graphical analysis of DATA as per - 21 CFR Compliance guidelines
- File encryption Facility
- Secure login facility
- Password protected. System access is controlled by the system supervisor
- Limit system access
- Limit module access
- Password expiration
- Bilateral user ID and password identification

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- Unilateral user ID and password identification
- Access failure lock out
- System access logs
- System audit trail report.
- System Input / Output logs
- Mean kinetic temperature calculation
- Maintains log of user activities like users logged in, login/logout time, and changes made by the user in software settings Audit Trail Reports.
- Ensure Gap-free Records
- Schedule Reports via Email
- Meet Tough Standards
- View Environments in Real-Time
- Flexible Alarm Management
- Consistent Alarm Acknowledgements
- Highly Secure & Temper proof
- Protection From Data Loss

Air Circulation in refrigerator:

Temperature is maintained by a quiet running blower for better air circulation throughout the chamber. Forced air circulated vertically down and re-circulated throughout the chamber for uniform temperature distribution.

Trays for samples:

- Trays of the refrigerator and deep freezer will be manufactured from strong Stainless steel sheet - strong enough to with-stand heavy load of test specimens, which should be equally distributed among trays.
- Such trays will also facilitate better air circulation.
- The distance between trays will be 15-20 centimeters.

Safety Features:

Electrical overload safety (Fuse 10 Amperes)

Pre installation mandatory requirement : (Guarantee void in case of non compliance):

1. An operator shall maintain Room temperature around machine preferably at 25 °C with air conditioning system or shall arrange for a well ventilated room with exhaust fan. However, surrounding temperature should not exceed 30 °C .
2. Stabilized Input Voltage of 230 Volt, 50 Hz, 20 Amps, AC Supply must be available for error less performance of the instrument. Use of Servo Controlled Stabilizer is recommended.

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Technical Specification

•Mobility	:	On castor wheels
•REFRIGERATOR (LOWER CHAMBER)	:	
•Inner working size	:	60 X 45 X 45 CM (H X W X D)
•Chamber volume	:	121 liters
•Inner chamber	:	Fabricated from Stainless Steel S.S. 316 - mirror polished material.
•Exterior body	:	Fabricated from Stainless Steel S.S. - 304 Matt finishes material
•No. of trays	:	3 Nos. (Additional shelf at extra cost)
•Temperature Range	:	2 °C to 8 °C
•Temperature Resolution	:	0.1°C
•Temperature Accuracy	:	± 1°C or better
•Temperature Sensors	:	High Quality PT-100 Sensor
•Observation window	:	Polycarbonate Sheet observation window
•Blower	:	For Forced Air circulation
•Temperature controller	:	PLC Controller & Touch screen HMI Display
•Temperature Display	:	LCD Display
•Door lock	:	Ergonomic and secured key lockable door lock
•Power Consumption	:	220/230 Volt, 50 Hz, Single phase, AC Supply
•DEEP FREEZER (UPPER CHAMBER)	:	

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•Exterior body	:	Fabricated from Stainless Steel S.S. - 304 Matt finishes material
•No. of trays	:	3 Nos. (Additional shelf at extra cost)
•Temperature Range	:	-10°C to -20°C
•Temperature Resolution	:	0.1°C
•Temperature Accuracy	:	± 3°C or better
•Temperature Sensors	:	High Quality PT-100 Sensor
•Temperature controller	:	PLC Controller & Touch screen HMI Display
•Temperature Display	:	LCD Display
•Blower	:	For Forced Air circulation
•Door lock	:	Ergonomic and secured key lockable door lock
•Power Consumption	:	220/230 Volt, 50 Hz, Single phase, AC Supply
•Weight (Approx.)	:	145 kgs
•Overall Dimensions	:	1910 x 760 x 1120 mm (H X W X D in mm)approx

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