

# RINAC's WALK-IN FREEZER

*Where freshness comes to stay...*

Rinac walk in Cold rooms are designed to store for long term duration of large quantity of vaccines at a temperature between  $-15^{\circ}$  to  $-20^{\circ}\text{C}$ . Size 8' x 8' x 8 Ht.

## Features

These cold rooms are constructed out of RPUF pre-fabricated and modular complete with floor and ceiling panels, mounted on a flat, solid concrete base.

The cold room equipped with two completely independent refrigeration systems. Necessary control instrumentation, to ensure proper operation of each respective refrigeration system.

Provided with additional control which permits simultaneous operation of both refrigeration systems in case of any excursions of room temperature.

There is manual & automatic switchover to the standby system by programmable Microprocessor based controller.

## Wall Panel

Rigid Poly Urethane Foam Insulation (RPUF) with Tongue & Groove joinery of thickness is 100mm with Corrosion Resistant Pre-painted G.S. (PPGS/PPGS) Sheet Lamination (Zinc Coated Steel) finish on both sides, colour RAL9002.

Sheet Metal Thickness is 0.5mm [TCT] with micro serration on outer side and plane finish inside, manufactured under controlled ambient condition using CFC free [Pentane] blowing agent and should have overall Foam density  $40 \pm 2 \text{ Kg/m}^3$ . The foam should have K-Value not more than 0.021-0.023 (w/m deg K).

## Roofing Panel

Rigid Poly Urethane Foam Insulation with double Tongue & Groove joinery of thickness is 120 mm Plus 38 mm crown, with PPGS/PPGS (zinc coated steel) finish, colour RAL9002.

### Model No. RINWIF-16



\*Images are indicative only

Sheet metal thickness is 0.45mm, manufactured under controlled ambient condition using CFC free [Pentane] blowing agent and should have overall Foam density 40 +/-2 Kg/m<sup>3</sup>. The foam should have K-Value not more than: 0.021-0.023 (w/m deg K).

## Floor

RPUF insulation with 100mm thick RPUF panel with PPGI lamination on outside and antiskid GRP sheet lamination on the its interior surface)

## Door type and size

Door type and size are 35" x 79" clear opening with self-closing, flush type door with kick Plate on inside, to have latch with lock and Lock defeat mechanism. SS finish Door lock & Hinges of superior finish. It should have suitable type PVC strip curtains with 50% overlap. The unit will be having 1 door.

## Product storage racking system

Product storage racking system - Frames of Anodised Aluminium of minimum size 700mm\*500mm\*350mm (L\*W\*H) with Poly Ethylene shelf for hygienic storage. Shelves should be minimum 4 levels adjustable and each leg



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should have load spreading structural member for easy distributing of material load to floor panel. Alternately SS-316 material Frame & shelf also can be considered. The racks should be detachable for easy cleaning.

## Refrigeration unit

Refrigeration unit selected and details of its Ref capacity: Factory built and commissioned Monobloc (Unitary type) of 3 kW / 10,000 BTU refrigeration capacity at above operating

condition, with 2 nos condenser fan and fan regulation system for extreme ambient condition operation suitable for 50°C ambient operation. Compressor will be Emerson / Tecumseh make Hermetically sealed type reciprocating compressor operating with Single phase / Three phase power supply [230 V / 380-420 V, 50 Hz]. One working and one standby refrigeration system with auto changeover mechanism. Automatically come "ON" in case temperature goes high at the time of vaccine loading or any other time. Refrigerant is Eco- Friendly low GWP grade refrigerant R407C / R404A / R410A.

### Unit will have:

- Automatic duty sharing system designed to ensure even load on the refrigeration units
- Time Operated Electric Defrosting System
- Airtight seal between monobloc units and wall panel cut outs
- Airtight seal around all pipes and cables penetrations through wall and/or roof panels

## Electrical safety

Certified electrical system (panel & components) of the refrigeration system to IS 8623 or IEC 61439-1/IEC 60335-1/IEC 60364-1.



## Temperature Controller and monitoring

Microprocessor based programmable controller with multiunit control option. This controller should be capable of monitoring operating time of compressors and operate in rotation for equalized operating time, dual compressor operation control in case of temperature excursions. It should have data logging and uploading option to a cloud server which can be reviewed remotely in mobile hand set or Computer and records parameters. Should have option for High or low temperature alerts, through SMS or email. Audio-visual alarm for low/high temperature will be provided.

### Temperature Control & Holdover

All part of the room designed for vaccine storage maintain between +2 to 8 degree C when measured under any loading condition between empty and full and over the full ambient temperature range. Equipment is designed to have a holdover time (doors locked condition) of minimum 6-8 hours in the event of power failure

### Cold climate freeze prevention

Low temperature protection system to prevent the temperature of the cold room dropping below +2 under low ambient temperature.

### Lighting

Unit will be provided an internal mounted low energy fluorescent or LED luminaries with an external switch and pilot light. The minimum illumination level on the vertical face of the shelves are 150 lux.

### Alarm & Buzzer

Provided with a mains-operated audible and visible loud alarm with battery backup and automatic recharge, which is triggered in the event of mains failure or when the cold room temperatures are outside set limits.



We, at Rinac, begin with seamless solutions for cold chain and modular construction. Soon, a relationship develops, empowered by our domain expertise, service excellence, and customising capabilities. As the bond deepens, you will discover that we invest in curiosity, innovation, and ingenuity; constantly questioning perfection, and leveraging our resources to nurture each relationship into a win-win proposition. What's more - warm, pro-active support is always just a call away through our customer care, a dedicated relationship service group.

For more than two and a half decades, Rinac has been the chosen partner for industry leaders, providing an unrivalled range of solutions and superior value. But that's just the tip of the iceberg.