Biomedical Freezer for reliable preservation of plasma and other biologics

- High freezing power
- Stable & Uniform temperature design
- Ideal freezing environment for biologicals
- Alarm and safety devices

Temperature
(Ambient temperature 30°C)

-40°C

Effective capacity

482 liters/17.0 cu.ft.

280 pcs
300ml frozen plasma bag

PHC Corporation, Biomedical Division

Life Science Innovator Since 1966
Features
PHCbi MDF-U5412 provides an ideal freezing environment for preservation of plasma, vaccines, test samples, and other biological specimens.

Stable & Uniform Temperature Design
- Double outer doors
- Full-height storage containers on each shelf
- Cooling tubes under every shelf
- Direct cooling system for stable temperature control
- Fine-controllable refrigeration circuit with valve

Large Storage Capacity
- 300ml FFP* bag x 280 pieces.
*Fresh Frozen Plasma

User Friendly Design
- Built-in door latch for each door
- Easy calibration through the control panel

Visual and Audible Alarm System
- High & Low temperature alarm
- Power failure alarm with non-volatile memory back up
- Self-diagnostic system

Safety Function
- Remote alarm contact
- Re-activating buzzer, lamp and remote alarm contact (30min. after buzzer stops)
- Standard door lock and independent padlock
- Cooling tubes under every shelf
- Full-height storage containers on each shelf
- Double outer doors

Stable & Uniform Temperature Design
- -18˚C to –45˚C
- -20˚C to –40˚C (Ambient temperature 5˚C to 30˚C)
- Cooling method: Direct cooling
- Refrigerant: HFC refrigerant
- Temperature control range: –20˚C to –40˚C (Ambient temperature 5˚C to 30˚C)
- Settable range: –18˚C to –45˚C
- Power failure alarm: Buzzer and lamp (Automatic rechargeable battery), Memory back up

Remote alarm contact: Allowable contact capacity: DC 30 V, 2 A, Temperature alarm or power failure alarm

Access hole: ø30, Rear side

Accessories:
- Door lock key, Defrost spatula, Storage containers
- Interface board*2 (MTR-L03-PW, MTR-480-PW),
- Strip chart recorder (MTR-4015LH-PE), Circular chart recorder (MTR-480C-PE),
- Strip chart recorder (MTR-4015LH-PE), Circular chart recorder (MTR-480C-PE),
- Recorder fixing (MPR-S30-PW),
- Recording paper (RP-40-PW), Circular chart recorder (MTR-485C-PE),
- Recorder mounting kit (MPR-S7-PW), Recording paper (RP-G85-PW),
- Interface board*2 (MTR-L03-PW, MTR-480-PW),
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- Recorder mounting kit (MPR-S7-PW),

PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.

Environment friendly
- HCFC-Free refrigerant and insulation

Performance Data

Pull-down characteristics

Ambient temp. 30˚C, No-load

Pull-up characteristics during power failure

Ambient temp. 30˚C, No-load

Specifications

<table>
<thead>
<tr>
<th>Features</th>
<th>Model No.</th>
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<tbody>
<tr>
<td>220 V, 50 Hz</td>
<td>MDF-U5412-PB</td>
</tr>
<tr>
<td>220 V, 60 Hz</td>
<td>MDF-U5412-PK</td>
</tr>
<tr>
<td>230 V/240 V, 50 Hz (CE)</td>
<td>MDF-U5412-PE</td>
</tr>
</tbody>
</table>

External Dimensions (W x D x H)**
- 804 x 712 x 1652 (mm) / 31.7 x 28.0 x 65.0 (inch)

Internal Dimensions (W x D x H)
- 468 x 607 x 1272 (mm) / 18.4 x 23.9 x 50.1 (inch)

Net weight 154 kg (295.4 lbs.)

Effective capacity 482 liters (16.5 cu.ft.)

Exterior cabinet Galvanised steel with baked-on finish

Cabinet insulation Rigid polyurethane foamed-in place

Door lock 2, Insulated and magnetic sealed

Storage container 6 pcs. (Upper room), 4 pcs. (Lower room)

Casters 4

Adjustable leveling feet 2

Compressor Hermetic, 400 W (PB & PE models), 450 W (PK & PR models)

Refrigerator HFC refrigerant

Temperature control range –20˚C to –40˚C (Ambient temperature 5˚C to 30˚C)

Settable range –18˚C to –45˚C

Cooling method Direct cooling

Temperature control Microprocessor control

Temperature alarm High / Low (±5˚C to ±15˚C, adjustable)

Power failure alarm Buzzer and lamp (Automatic rechargeable battery), Memory back up

Remote alarm contact Allowable contact capacity: DC 30 V, 2 A, Temperature alarm or power failure alarm

Access hole ø30, Rear side

Options
- Interface board*2 (MTR-L03-PW, MTR-480-PW),
- Strip chart recorder (MTR-4015LH-PE), Recorder fixing (MPR-S30-PW),
- Recording paper (RP-40-PW), Circular chart recorder (MTR-485C-PE),
- Recorder mounting kit (MPR-S7-PW), Recording paper (RP-485-PW),
- Recording pen (PG-R-PW)

*Cooling performance is indicated by the temperature reached at the center of the freezer at ambient temperature of 30˚C with no load. In order to use the freezer at a stable temperature for a long time, it is recommended that the temperature be set to at least 5˚C higher than the indicated lowest temperature.

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*Appearance and specifications are subject to change without notice.

*1 External dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

*2 Interface board is for the data acquisition system MTR-5000 user only.

DISTRIBUTED BY:

PHC Corporation, Biomedical Division is certified for:
- Environmental management system: ISO14001

https://www.phchd.com/global/biomedical/

Printed in Japan   1302-2018-04-CB