Panasonic

-86°C ULTRA-LOW TEMPERATURE FREEZERS

TwinGuard®

Added Protection
Redundant cooling systems based on patented auto-cascade refrigeration technology provide a wider circle of valuable specimen protection.

-50°C to -86°C

25.3 cu.ft. (715 L)  12.7 cu.ft. (360 L)  18.6 cu.ft. (528 L)  25.7 cu.ft. (729 L)
Model MDF-DU702VXC-PA shown with one additional shelf to create five levels. Additional configurations of four or five inner doors are available.

**Cabinet Design Features**

1. VIP Plus composite wall insulation increases interior storage volume
2. An automatic vacuum breaker permits immediate re-entry into the upright freezer following door openings
3. Two insulated inner doors create additional protection. Optional inner door configurations include four and five inner doors
4. Upright freezer cabinets include three high-capacity stainless steel shelves to create four interior compartments
Refrigeration System Features and Benefits

Each of the two TwinGuard auto-cascade systems is powered by a single compressor designed and engineered specifically to achieve and maintain ultra-low temperatures.

- TwinGuard internal heat exchangers provide ample surface area to move energy from one stage to another.
- Components are engineered to tolerate broader voltage deviations typical of real-world installations.
- TwinGuard condensers are dust resistant and require no filter or regular cleaning.
- Environmentally friendly, non-CFC refrigerants are used exclusively.

TwinGuard Operating Mode

<table>
<thead>
<tr>
<th>Status</th>
<th>A and B ON, Full</th>
<th>A and B ON, Cycling, ECO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>Pull-down and Recovery</td>
<td>Energy over Performance</td>
</tr>
<tr>
<td>Performance</td>
<td>Maximum cooling power to -86°C or setpoint, maximum power for recovery following door opening</td>
<td>Useful when low-ambient temperature opportunity permits</td>
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**TwinGuard Operating Mode**

Status A and B ON, Full A and B ON, Cycling, ECO

- A and B ON, Cycling, Normal
- A ON, B Standby
- B ON, A Standby

- Performance over Energy
- Standard operation, stability at -86°C or at setpoint

- Backup for B
- Maintains minimum -70°C temperature with B offline
- Backup for A
- Maintains minimum -70°C temperature with A offline

**TwinGuard Ultra-Low Temperature Series, -50°C to -86°C**

TwinGuard models are available in three, space-saving upright cabinets and one, low-profile chest cabinet, each designed for both new laboratories, renovation and replacement installations.

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>CONFIGURATION</th>
<th>VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDF-DU302VX-PA</td>
<td>Upright</td>
<td>12.7</td>
</tr>
<tr>
<td>MDF-DU502VXC-PA</td>
<td>Upright</td>
<td>18.6</td>
</tr>
<tr>
<td>MDF-DU702VXC-PA</td>
<td>Upright</td>
<td>25.7</td>
</tr>
<tr>
<td>MDF-DC700VXC-PA</td>
<td>Chest</td>
<td>25.3</td>
</tr>
</tbody>
</table>

TwinGuard ultra-low temperature freezers are managed by a microprocessor-based digital controller designed for touchscreen interface. Menus are password protected for setpoint security, temperature display, system status, alarm functions and predictive performance advisories.
TwinGuard ultra-low temperature freezers are designed for long-term storage of high value biologicals including mammalian and plant cell cultures, stem cells, cell lines and subcellular components.

Applications include pharmaceutical and biotech laboratories, biorepositories, medical research and academic institutions, government installations, blood and tissue banks, hospitals, clinics and industrial research facilities.

Engineered for Performance and Reliability

The Panasonic Healthcare TwinGuard is specifically designed to assure high performance ultra-low temperature cooling to achieve uniform temperatures, quick recovery following door openings and continuity of operation through platform redundancy and electronic oversight.

Model MDF-DC700VXC-PA
Advanced Frost Control System, Upright Cabinets

- Insulated inner doors with gaskets minimize cold air loss during door openings and include positive latches to hold firmly against the two main compartments.

- The multi-point peripheral gasket mounted on the face of the cabinet is designed for *in situ* field replacement if required.

**For More Information**

www.panasonic-healthcare.com/us/biomedical/twinguard-freezers