

TwinCool ULT Freezer

Scope of Application

The TwinCool ULT freezer can be used for the storage and protection of valuable samples which require strict and continuous storage conditions, designed to operate even in the event of a compressor failure. Suitable for viruses, pathogens, blood cells and other biological sample cold storage applications found within hospitals, disease control, research institutions and biomedical engineering. Also used to store special materials and other products within electronics and chemicals industries

Friendly Design

- Safe and secure
- Cloud data storage available
- Low noise design, reducing the noise down to 53dB
- Optimized insulation

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Dual independent refrigeration systems for maximum sample safety

The dual refrigeration systems run independently and alternately, both reaching -80°C, such that if one system fails the other will maintain temperature to ensure sample storage safety.

B High speed refrigeration system for faster pull down and temperature recovery after door opening

Utilizing auto-cascade hydrocarbon (HC) refrigeration technology to deliver fast temperature pull down. From an ambient of 25° C it takes just 180 minutes to reach -80°C. It provides a quick temperature recovery after door opening, with the internal temperatures returning to -75°C within 1 minute, guaranteeing the safety of samples.

World-leading energy saving refrigeration technology

The HC refrigeration technology coupled with superinsulation, increases the insulation efficiency by 30%, and the cabinet is designed to reduce heat loss ensuring an energy efficient freezer. The 578L model has a power consumption of 11 kWh/day and is certified by The National Quality Certification Center for Energy Saving and Environmental Protection.





Advanced Hardware System (





Smart Full-size Touch Screen

10-inch touch screen with state-of-the-art user interface design, coupled with a sample management system which provides an optimal user experience.

Optional IoT Software System





Simplified Sample Management Experience

Optional barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency.



Wireless Monitoring Connectivity

Check the real-time operating status via mobile phones or portable tablet, simple and reliable.

Friendly Design





Safe and secure

Equipped with key lock, padlock and electromagnetic lock as standard, with optional fingerprint lock, providing multiple safeguards for sample safety.



Cloud data storage available

Store hundreds of millions of scientific research and sample information in the cloud server.



Low noise design, reducing the noise down to 53dB

Special noise-reduction design plus super silent compressor technology and energy-saving fan, considerably lowers noise level.



Optimized insulation

Double foaming for both inner and outer doors and five-layer sealing design and optimized super-thick VIP thermal insulation technology, extends temperature holdover time during power failure and increases insulation efficiency by 30%.



| Defrost Mode Marual Marual Marual Marual Refrigerant HC HC HC HC HC HC HC H | | Model | | DW-86L578ST | | DW-86L578SAT | DW-86L728ST | | DW-86L728SAT |
|---|--------------------|-------------------------------|----|------------------|----|----------------|------------------|--------------|------------------|
| Cooling Type | | | | Upright | | Upright | | | Upright |
| Defrost Mode | Technical Data | | | | | N | | | N |
| Defrost Mode Marual Manual Manual Manual Refrigerant HC HC HC HC HC HC HC H | | Cooling Type | | Direct cooling | | Direct cooling | Direct cooling | | Direct cooling |
| Sound Level (dB(A)) | | Defrost Mode | | | | Manual | | | Manual |
| Performance Cooling Performance (°C) -86 -86 -86 -40~ | | Refrigerant | | HC | | HC | HC | | HC |
| Performance Temperature Range (**C) | | | | 53 52 | | 53 | 50 53 | | 53 |
| Control Control Cont | Performance | Cooling Performance (°C) | | -86 | | -86 | -86 | | -86 |
| Display Touch Screen LCD | | | | -40~-86 | | -40~-86 | -40~-86 | | -40~-86 |
| Display Touch Screen LCD | Control | | | Microprocessor | | Microprocessor | Microprocessor | | Microprocessor |
| Electrical Data | | Display | | Touch Screen LCD | | · | Touch Screen LCD | | Touch Screen LCD |
| Electrical Current (A) | Electrical Data | Power Supply (V/Hz) | | | | 208~230/60 | 208~230/50 | 120/60 | 208~230/60 |
| Capacity (L/CuFt) | | | | 14 | 00 | 1800 | 14 | 400 | 1800 |
| Capacity (L/CuFt) | | Electrical Current (A) | | | | | | | |
| Net/Gross Weight (approx) | Construction | Capacity (L/Cu.Ft) | | - | | 578/20.4 | | | 728/25.7 |
| Net/Gross Weight (approx) Ibs 716.5/782.6 7716.5/782.6 7716.5/848.8 7716.5/848.8 | | | ka | | | | | | |
| Construction Interior Dimension (W*D*H) mm 620*716*1310 766*716*1310 | | Net/Gross Weight (approx) | | | | | | | 771.6/848.8 |
| Interior Dimension (W*D*H) in 24.4*28.2*51.6 30.2*28.2*51.6 30. | | Interior Dimension (W*D*H) | | | | | | 766*716*1310 | |
| Exterior Dimension (W*D*H) | | | | | | | | | |
| Exterior Dimension (W*D*H) in | | | mm | | | | | | |
| Packing Dimension (W*D*H) | | Exterior Dimension (W*D*H) | - | | | | | | |
| Packing Dimension (W*D*H) | | | | | | | | | |
| Container Load (20/40/40/H) 12/24/24 12/24/24 10/20/20 10/20/20 High/Low Temperature | | Packing Dimension (W*D*H) | | | | | | | |
| High/Low Temperature | Loading Quantities | Container Load (20'/40'/40'H) | | | | 12/24/24 | | | |
| Alarms Power Failure Power Failure Power Failure Pigh/Low Voltage Y Y Y Y Y Y Y Y Y Y Y Y Y | Alarms | | | Υ | | Y | Υ | | Y |
| High/Low Voltage | | Hot Condenser | | Υ | | Y | Y | | Y |
| Sensor Error | | Power Failure | | Y | | Y | Y | | Y |
| Sensor Error Y | | High/Low Voltage | | Υ | | Y | Y | | Y |
| High Ambient Temperature | | Sensor Error | | Υ | | Y | Y | | Y |
| Door Ajar Y Y Y Y Y Y Y Y Y | | Low Battery | | Υ | | Y | Y | | Y |
| Caster Y Y Y Y Y Y Y Y Y | | High Ambient Temperature | | Υ | | Y | Y | | Y |
| Foot | | Door Ajar | | Υ | | Y | Y | | Y |
| Porthole | Accessories | Caster | | Υ | | Y | Y | | Y |
| Shelves/Inner Doors 3/4 3/4 3/4 3/4 3/4 USB Interface Y Y Y Y Remote Alarm (Dry contacts) Y Y Y Y 5V Power Supply Port Y Y Y Y Temperature Recorder Optional Optional Optional RS485 Port Y Y Y Y CO2 Backup System Optional Optional Optional LN2 Backup System Optional Optional Optional CE Y / | | Foot | | Υ | | Y | Y | | Y |
| USB Interface | | Porthole | | Y/2 | | Y/2 | Y/2 | | Y/2 |
| Accessories Remote Alarm (Dry contacts) Y | | Shelves/Inner Doors | | 3/4 | | 3/4 | 3/4 | | 3/4 |
| 5V Power Supply Port Y Y Y Y Y Temperature Recorder Optional Optional Optional Optional Optional RS485 Port Y Y Y Y Y CO2 Backup System Optional Optional Optional Optional Optional LN2 Backup System Optional Optional Optional Optional Optional CE Y / / Y / Y / Y Certifications UL / Y Y Y Y Y Y | | USB Interface | | Y | | Y | Υ | | Y |
| Temperature Recorder Optional Optional Optional Optional Optional RS485 Port Y Y Y Y Y Y CO2 Backup System Optional Optional Optional Optional Optional LN2 Backup System Optional Optional Optional Optional Optional CE Y / / Y / Y / Certifications UL / Y Y Y Y Y | | Remote Alarm (Dry contacts) | | Υ | | Y | Y | | Y |
| RS485 Port Y Y Y Y CO2 Backup System Optional Optional Optional Optional LN2 Backup System Optional Optional Optional Optional CE Y / Y / Y / Certifications UL / Y Y / Y Y | | 5V Power Supply Port | | Υ | | Y | Y | | Y |
| CO2 Backup System Optional Optional <td colspan="2">Temperature Recorder</td> <td colspan="2">Optional</td> <td>Optional</td> <td colspan="2">Optional</td> <td>Optional</td> | | Temperature Recorder | | Optional | | Optional | Optional | | Optional |
| LN2 Backup System Optional Optional Optional Optional Optional CE Y / / Y / / / / Y / Y / / Y | | RS485 Port | | Υ | | Y | Y | | Y |
| CE Y / Y / Y / Certifications UL / Y Y Y Y Y | | CO₂ Backup System | | Optional | | Optional | Optional | | Optional |
| CE Y / / Y / / Certifications UL / Y Y Y Y Y | | LN₂ Backup System | | | | Optional | Optional | | Optional |
| | Certifications | CE | | Y | / | | | | / |
| ENERGY STAR / Y Y / Y Y | | UL | | / | Υ | Y | / | Y | Y |
| | | ENERGY STAR | | / | Υ | Y | / | Υ | Y |

 $\label{product} \mbox{Product appearance and specifications are subject to change without notice}$