

ULTRA.GUARD™ ultra low temperature freezer

The new BINDER ULTRA.GUARD™ ultra low temperature freezer ensures safe long-term storage of samples at -86 °C. This ultra low temperature freezer is based on a multi-stage security concept, which offers everything that laboratory staff want from reliable operation to ease of use and system integration!



Advantages:

- GUARD.CONTROL™ opens the freezer by pressing a button
- GUARD.CONTROL™ RFID technology personalizes access and records user traffic
- DATA.SECURE Data logger with USB connection
- 5-year warranty

Areas of application:



Biotechnology



Clinics / University
Hospitals



Pharmaceuticals
Industry

| Features | Customer benefits | Characteristics |
|-------------------------|---|---|
| GUARD.CONTROL™ | <ul style="list-style-type: none"> • Freezer can be opened and closed effortlessly • Automatic door system permits comfortable and safe operation • Rapid access • Secure sample storage • Defined user group • Access records • Extended data storage | <p>“Push-button“ operation</p> <ul style="list-style-type: none"> • Automatic electronically controlled door mechanism <p>Unique: advanced RFID Technology</p> <ul style="list-style-type: none"> • RFID key card controlled access and availability of a large protocol database |
| VIP.COMPLETE™ | <ul style="list-style-type: none"> • Superior energy efficiency • Low energy and operating costs | <p>Insulation design: Internal vacuum insulation panels (VIP)</p> <ul style="list-style-type: none"> • Large surface insulation around all 5 sides • Optimized utilization of internal space due to the narrow VIP design (can accommodate up to 52.800 samples) |
| DATA.SECURE | <ul style="list-style-type: none"> • Easy data transmission with PC requires no extra software (PDF Reader) • Supports FDA guideline 21 CFR Part 11 • Different network versions adaptable to customer specific requirements | <p>Easy Data Monitoring</p> <ul style="list-style-type: none"> • Recording of temperature using a USB data logger • Integrated PT 100 provides independent data recording • Communication interfaces as part of standard equipment |
| Noise level | <ul style="list-style-type: none"> • Quiet operating environment | <ul style="list-style-type: none"> • 49 dB(A) |
| Operation | <ul style="list-style-type: none"> • Easy operation • Prevents manipulation • Simple relocation • Leveling and positioning at point of application | <ul style="list-style-type: none"> • Password protection • Solid, large casters for in-situ positioning with adjustable feet • Easy air filter access, no tools needed |
| Deicing kit | <ul style="list-style-type: none"> • Comfortable and easy deicing routine requires no personnel | <ul style="list-style-type: none"> • Deicing tray for convenient discharge of water from deicing |
| Service | <ul style="list-style-type: none"> • Increased safety features • In the long term high quality guarantees | <ul style="list-style-type: none"> • 5-year warranty |
| Options and accessories | <ul style="list-style-type: none"> • A single-source solution • Maximum process safety | <ul style="list-style-type: none"> • Extensive accessories • Validation and documentation records • FDA-compliant APT-COM™ documentation software |

- Temperature range: -86 °C to -40 °C
- GUARD.CONTROL automatic door mechanism for easy door opening and closing
- Personalized access control with RFID technology
- Vacuum Insulation Panels (VIP) on 5 sides
- Two-stage cascade refrigeration system with hermetically-sealed compressors
- Non-flammable refrigerant, CFC-free, proven industrial standard
- User-friendly microprocessor controller with LED display
 - Easy to read digital display
 - Alarm test system
- Built-in visual and audible alarm system for power failure, impermissible temperature deviation or battery failure
- Battery-operated back-up system
 - provides full functionality of alarm functions in case of power failure for 72 hours
 - Improved battery life due to controlled charging
- Heated duplex door gasket reduces icing
- Multiple standard communication interfaces:
 - RS 422 interface
 - Potential-free contact
 - Analog output 4-20 mA
- Inner chamber made of high-quality stainless steel
- Robust, adjustable and lockable casters
- Easy air filter replacement without tools
- BINDER test confirmation

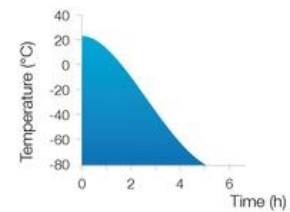
UF V 500

| | |
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| ▶ Exterior dimensions | |
| Housing | |
| Width (mm) | 830 |
| Height (incl. feet/castors) (mm) | 1975 |
| Depth (plus connections and fittings) (mm) | 885 |
| Depth (incl. connections and fittings) (mm) | 1035 |
| Wall clearance rear (mm) | 100 |
| Wall clearance side (side without hinges) (mm) | 100 |
| Wall clearance side (side with hinges) (mm) | 245 |

| | |
|---|------|
| ▶ Interior dimensions | |
| Number of compartments | 4 |
| Number of shelves | 3 |
| Width of interior (mm) | 619 |
| Width of shelf (mm) | 588 |
| Height of interior (mm) | 1300 |
| Depth of interior / Depth of shelf (mm) | 600 |
| Interior volume, total (l) | 483 |
| Permitted load of individual compartment (kg) | 50 |
| Permitted total load (kg) | 200 |
| Weight of the unit (empty) (kg) | 320 |

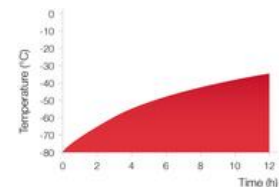
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| ▶ Temperature data | |
| Control range (°C) | -86 to -40 |
| Setting range (°C) | -90 to -40 |
| Average temperature variation (±K) 3) | 2,5 |
| Cooling down time from +25 °C to -80 °C (h) 1) | 6 |
| Heating up time in case of power failure from -80 °C to -60 °C (h) | 2,5 |

Pull-down-time



Pull-down-time with no load at 25 °C ambient temperature

Pull-up-time



Pull-up-time at power failure with no load at 25 °C ambient temperature

UF V 500

| | |
|---|------|
| ▶ Electrical data | |
| IP protection class according to EN 60529 | 20 |
| Nominal voltage ($\pm 10\%$) 50 Hz (V) | 230 |
| Energy consumption at $-80\text{ }^{\circ}\text{C}$ and $T_u = 25\text{ }^{\circ}\text{C}$ (KWh/day) | 13,9 |
| Average heat dissipation at set value $-80\text{ }^{\circ}\text{C}$ and $T_u = 25\text{ }^{\circ}\text{C}$ (W) 2) | 535 |
| Noise level (dB(A)) | 49 |

1) to 98% of the set value with empty freezer

2) These values can be used for evaluation of air-conditioning systems.

3) at $-80\text{ }^{\circ}\text{C}$

All technical data are specified for unloaded units with standard equipment at an ambient temperature of $+25\text{ }^{\circ}\text{C}$ and a voltage fluctuation of $\pm 10\%$. The temperature data are determined in accordance to BINDER factory standard following DIN 12880 respecting the recommended wall clearances of 10% of the height, width and depth of the inner chamber. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.



PDF Data logger

All in one Data logger with USB port. Independent temperature data recording compliant with FDA guideline 21 CFR Part 11. Plug-and-play data transfer requires no software (PDF reader).



Freezer racks and boxes

- Side Access Racks made of stainless steel or aluminum for 50 mm boxes, for 5x4 or 6x4 boxes, empty or filled with standard boxes
- Sliding Drawer Racks made of stainless steel, for 50 mm boxes, for 5x4 or 6x4 boxes, empty or filled with standard boxes
- Standard boxes 50 mm, with dividers (9x9 grid) for 81 samples made of water-repellent cardboard, white



Defrosting kit

The de-icing kit consists of a scraper, a wiper and a deicing tray that is easy to install and that guarantees controlled water runoff – ideal for clean and easy de-icing.



Freezer gloves

For easy and safe handling of Freezer racks, medium size.

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| Access port 30 mm, rear panel | <input type="radio"/> |
| Sealing kit for access port 10 mm, rear panel | <input type="radio"/> |
| Door hinge right or left | <input type="radio"/> |
| 36 boxes with dividers | <input type="radio"/> |
| Side Access Rack UF V 5x4, for 50 mm boxes | <input type="radio"/> |
| Side Access Rack UF V 5x4, filled with 50 mm boxes | <input type="radio"/> |
| Side Access Rack UF V 6x4, for 50 mm boxes | <input type="radio"/> |
| Side Access Rack UF V 6x4, filled with 50 mm boxes | <input type="radio"/> |
| Aluminium Side Access Rack UF V 5x4, for 50 mm boxes | <input type="radio"/> |
| Aluminium Side Access Rack UF V 5x4, filled with 50 mm boxes | <input type="radio"/> |
| Aluminium Side Access Rack UF V 6x4, for 50 mm boxes | <input type="radio"/> |
| Aluminium Side Access Rack UF V 6x4, filled with 50 mm boxes | <input type="radio"/> |
| Sliding Drawer Rack UF V 5x4, for 50 mm boxes | <input type="radio"/> |
| Sliding Drawer Rack UF V 5x4 mm, filled with 50 mm boxes | <input type="radio"/> |
| Sliding Drawer Rack UF V 6x4, for 50 mm boxes | <input type="radio"/> |
| Sliding Drawer Rack UF V 6x4, filled with 50 mm boxes | <input type="radio"/> |
| Deep temperature gloves, medium size | <input type="radio"/> |
| Magnetic bag, DIN A4 | <input type="radio"/> |
| CO2 back up system | <input type="radio"/> |
| Ethernet interface | <input type="radio"/> |
| Additional PT 100 sensor with lemo socket | <input type="radio"/> |
| Remote alarm box GSM | <input type="radio"/> |
| Advanced voltage booster | <input type="radio"/> |
| Read-out box RFID system | <input type="radio"/> |
| PDF Data logger with USP port | <input type="radio"/> |
| Chart recorder | <input type="radio"/> |
| Defrosting kit including de-icing tray, wiper and scratch | <input type="radio"/> |
| Water cooling | <input type="radio"/> |



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