

Specifications

| Model | MDF-136 | MDF-236 | MDF-436 | MDF-U537 | MDF-U537D |
|--|---|---|--|---|---|
| Exterior dimensions (W x D x H) | 640 x 687 x 881 (mm) 25.2 x 27.0 x 34.7 (inch) | 905 x 687 x 881 (mm) 35.6 x 27.0 x 34.7 (inch) | 1265 x 807 x 905 (mm) 49.8 x 31.8 x 35.6 (inch) | 800 x 772 x 1802 (mm) (31.5" x 30.4" x 70.9") | 804 x 772 x 1802 (mm) (31.7" x 30.4" x 70.9") |
| Interior dimensions (W x D x H) | 525 x 440 x 715 (mm) 20.7 x 17.3 x 28.1 (inch) | 790 x 440 x 715 (mm) 31.1 x 17.3 x 28.1 (inch) | 1140 x 550 x 735 (mm) 44.9 x 21.7 x 28.9 (inch) | 658 x 607 x 1272 (mm) (25.9" x 23.9" x 50.1") | 658 x 607 x 589/Top (mm) 658 x 607 x 603/Bottom (mm) (25.9" x 23.9" x 23.2") (25.9" x 23.9" x 23.7") |
| Capacity | 138L (4.9 cu. ft.) | 221L (7.8 cu. ft.) | 426L (15.0 cu. ft.) | 482L (17.0 cu. ft.) | 452L (16.0 cu. ft.) |
| Cooling performance | -35°C (1/2h chamber air temp. Ambient temp.: 35°C, no load) | | | -30°C (1/2h chamber air temp. Ambient temp.: 35°C, no load) | |
| Control range | -20°C to -35°C | | | -20°C to -30°C | |
| Baskets | 2 (MDF-13B) | 3 (MDF-13B) | 4 (MDF-43B) | Top: 6 medium. Bottom: 8 small | |
| Access ports | 17mm diameter, right-hand side and bottom left | | | 30mm diameter, rear | Two 30mm diameter, rear |
| Cooling system | Hermetic rotary compressor | | | | |
| Refrigerant | R-404A (HFC) | | | R-407D (HFC) | |
| Alarm system | • High/low temperature alarm (SV ±5°C to ±15°C adjustable) • Power failure • Remote alarm contact | | | | |
| Calibration | Zero adjustment via control panel | | | | |
| Options | 7-days recorder (MTR-G85), Recorder mounting kit (MDF-S740), Baskets (MDF-13B2/13B3/43B2/43B3) | | | 7-days recorder (MTR-G85), Recorder mounting kit (MPR-S7) | |

| Model | MDF-U333 | MDF-U442 |
|--|--|--|
| Exterior dimensions (W x D x H) | 614 x 733 x 1620 (mm) 24.2 x 28.9 x 63.8 (inch) | 800 x 832 x 1810 (mm) 31.5 x 32.8 x 71.3 (inch) |
| Interior dimensions (W x D x H) | 490 x 485 x 1290 (mm) 19.3 x 19.1 x 50.8 (inch) | 640 x 615 x 1090 (mm) 25.2 x 24.2 x 42.9 (inch) |
| Capacity | 274L (9.7 cu. ft.) | 426L (15.0 cu. ft.) |
| Cooling performance | -30°C | -40°C (AT: 35°C) |
| Control range | -20°C to -30°C | -15°C to -40°C |
| Baskets | 4 large, 1 small | — |
| Access ports | 30mm diameter, left-hand side | 40mm diameter, left-hand side |
| Cooling system | Hermetic rotary compressor | |
| Refrigerant | R134a (HFC) | R134a/R404A (HFC) |
| Alarm system | • High/low temperature alarm (SV ±5°C to ±15°C adjustable) • Power failure • Remote alarm contact | • High temperature alarm • Power failure |
| Calibration | Zero adjustment via control panel | — |
| Options | 7-day recorder, Recorder mounting kit (MDF-S740T) | Chart recorder (MTR-85H) |

* Appearance and specifications are subject to change without notice.

Options

Storage Baskets
For MDF-136/236
MDF-13B2 (set of two)
MDF-13B3 (set of three)

Outer dimensions: 255(W) x 420(D) x 205(H)mm
Inner dimensions: 210(W) x 370(D) x 200(H)mm

Temperature Recorder:
MTR-G85 (except MDF-U442)
-100°C to +40°C
• Mounting kit for chest: MDF-S740
• Mounting kit for upright: MPR-S7 (for MDF-U333; MDF-S740T)
• Recording paper: RP-G85
• Recording pen: PG-R

Storage Baskets
For MDF-436
MDF-43B2 (set of two)
MDF-43B3 (set of three)

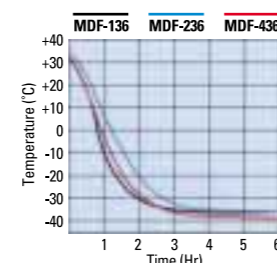
Outer dimensions: 275(W) x 530(D) x 205(H)mm
Inner dimensions: 230(W) x 480(D) x 200(H)mm

Temperature Recorder:
MTR-4014LH (except MDF-U442)
-40°C to +14°C
• Mounting kit for chest: MDF-S3040
• Mounting kit for upright: MPR-S30 (No kit required MDF-U333)
• Recording paper: RP-40

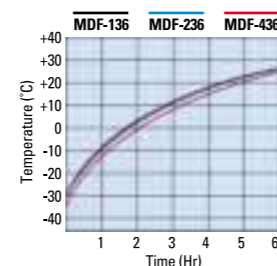
Temperature Recorder:
MTR-85H (for MDF-U442 only)
-100°C to +50°C
• Recording paper: RP-85
• Recording pen: DF-38FP

Performance Data

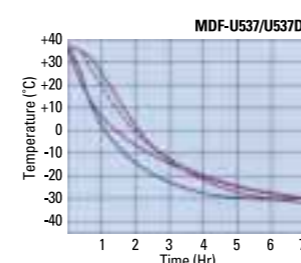
Pull-down characteristics under no-load condition



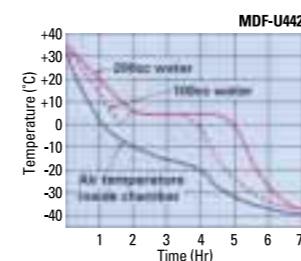
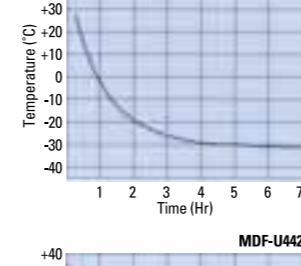
Pull-up characteristics under no-load condition



Pull-down characteristics under no-load condition



Pull-up characteristics under no-load condition



Biomedical Freezers



We design and manufacture products in accordance with ISO9001 & 14001 requirements.

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Biomedical freezers

SANYO's MDF Series Biomedical Freezers offer the outstanding reliability and performance required in a wide variety of storage and research applications. In the medical field, they provide effective storage of life-saving fresh and frozen blood supplies and vaccines, as well as samples for diagnosis. In the biotechnology field, they provide effective storage of enzymes for genetic research, as well as culture media, reagents and samples for testing. In the industrial field, they are ideal for aging and temperature tests on electronic components, precision devices, and compound resins. As a storage environment, with excellent safety features, easy operability, and a host of other features, these freezers offer unsurpassed reliability and functionality. If you are looking for precision temperature controlled storage equipment, look to SANYO.

Enhanced Operation

- Front-mounted display/control panel (with new microprocessor) located at convenient waist height



Photo is MDF-U537D

- Memory backup
- Temperature display
- Front access calibration for 7-day temperature recorder
- The control panel, alarm system and non-volatile memory are the same for all three models in the series.
- Single electrical box makes servicing simpler.
- The chamber temperature is displayed for five seconds if BUZZER key is depressed during power failure alarm.
- After a power outage, operation resumes at pre-outage settings (non-volatile memory for temperature and alarm temperature settings)
- Control panel can be reset to zero for validation.
- Two access ports (right-hand side and bottom left)
- Four casters and two adjustable feet

Recording Features (Optional)

Recorder can be fitted in convenient position that will not interfere with installation. Choice of optional recorders

- 7-day circular recorder (MTR-G85)
- 7-day temperature recorder with auto recharging battery
- Removable Pt100 sensor for recorder
- Front access calibration for 7-day temperature recorder
- Chart recorder (MTR-4014LH) is also available.

Environment-Friendly

- HFC refrigerant R-404A (non-CFC, non-HCFC refrigerant) is environment-friendly but offers superb performance.
- Pre-coated metal body causes less environmental damage than conventional paint coating.

Safety Features

- Alarm & Recording System
- High/low temperature alarm ($\pm 5^{\circ}\text{C}$ to $\pm 15^{\circ}\text{C}$, adjustable)
- Power failure
- Remote alarm contact
- Self diagnostics ("E" messages shown in red figures)
- Breaker switch turns power off in event of over current abnormality.
- Balance hinge door stops at any angle from 35° to 90° for convenience and safety.

Balance hinge allows a free choice of opening angle (Chest type)



To make this chest freezer easier to use, the balance hinge keeps the door open at whatever angle you choose. That means you have both hands free for work.



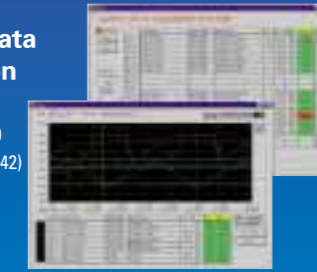
Lockable door latch for extra security (Upright type)

By adding a commercially available lock, you can safeguard the contents of the freezer and keep hazardous items out of harm's way.

Temperature Monitoring Features

- Unified remote monitoring system for SANYO Biomedical products (optional)

SANYO Data Acquisition Software MTR-2000 (except MDF-U442)



Interface board MTR-480

Exclusive Option for SANYO Biomedical Products RS232C & RS485 Selectable Easy installation



(except MDF-U442)

Powerful fan ensures temperature uniformity throughout the freezer cabinet.

Chest type Power to cope with frequent door openings

- Data transmission
- Balance hinge
- Temperature alarm
- Power failure alarm



Effective capacity:
MDF-136 138 liters (4.9 cu. ft.)

- Small size suitable for personal use**
- Digital temperature display as standard feature
 - Compact, personal size

Effective capacity:
MDF-236 221 liters (7.8 cu. ft.)

- Versatile mid-size model**
- Digital temperature display as standard feature
 - Easy-to-use 200-liter mid-size model

Effective capacity:
MDF-436 426 liters (15.0 cu. ft.)

- Jumbo-size 400-liter class**
- Digital temperature display as standard feature
 - Large-capacity, economical size



Effective capacity:
MDF-U537 482 liters (17.0 cu. ft.)

- Large-capacity, economical, space-saving model**
- Top/bottom twin door design prevents cold air escaping
 - Individual freezer circuits for each of the five drawers

Effective capacity:
MDF-U537D 452 liters (16.0 cu. ft.)

- Independent top/bottom control meets differing freezer needs simultaneously**
- Two independent freezer cabinets in one body, with separate defrost and operation
 - Individual freezer circuits for each of the five drawers

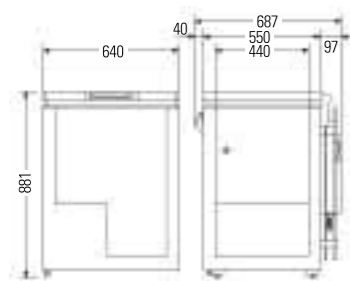
Effective capacity:
MDF-U333 274 liters (9.7 cu. ft.)

- Easy-to-use, compact upright model**
- Microprocessor digital temperature display
 - Convenient storage drawers

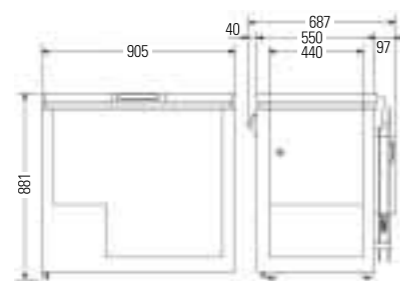
Effective capacity:
MDF-U442 426 liters (15.0 cu. ft.)

- Forced air circulation & auto defrost**
- High freezing power increases temperature uniformity
 - Auto defrost for easy maintenance

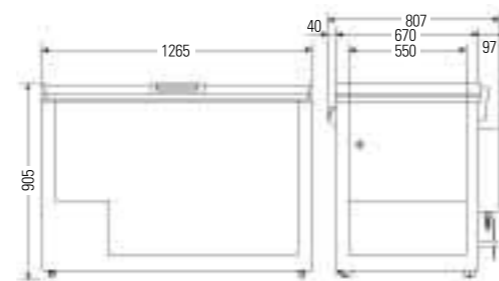
Dimensions Unit: mm



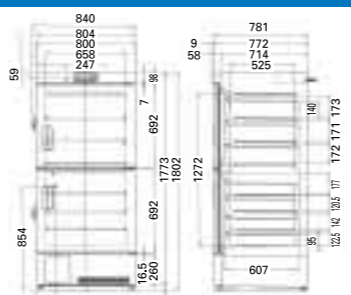
MDF-136



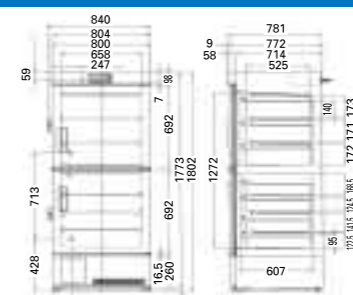
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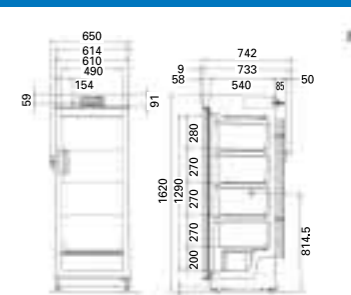
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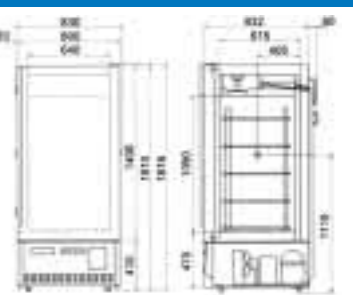
MDF-U537



MDF-U537D



MDF-U333



MDF-U442