MarkEn™

MARK ENTERPRISES

Ultra Low Temperature Deep Freezer (-50˚C to -86˚C) Upright

Make: MarkEn
Model : MDFU-04

Certifications:
IEC 60529-2004, IP69, ISO:45001:2018, ISO 14001:2015, ISO 9001:2015, BIFMA INTERNATIONAL, BIFMA, CE, ISO 13849-1:2015, ISO 13485:2016, WHO-GMP,USFDA,

Factory Add: Shed No.1, Plot No.93/2, Street No.17, Satpur, MIDC, Nashik-422007.Maharashtra. India.
Contact us:
Web: www.markent.co.in, **Email:** info@markent.co.in, **Cont No**.+91 9309967021

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Ultra Low Temperature Deep Freezer

An ultra low temperature freezer is widely used for storage of various samples that require low temperature up to -86°C, sensitive stem cells, plasma, semen, virus, bone graft and other biological samples are stored for research purposes in such ultra low deep freezers. ULT is short form of Ultra Low Temperature; therefore, they are also called ULT Freezers. These freezers are used in life science research institutes, hospitals, Blood Banks and pharmaceutical and biotech companies and some industrial applications also.

Our company is one of known ISO certified **Ultra Low Temperature Freezer** manufacturers in India. The company has knowledge, experience and latest machines to construct an ultra low freezer best suited to your laboratory space and usage. It may further be able to be fitted with choice of accessories to take optimum use of the machine. Our ultra low temperature freezers provide uniform temperature for your critical samples (cell culture plasma, serum, sensitive stem cells, and other biological samples) and research applications that require low temperature up to **-80°C or -86°C.**

FDA

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Ultra Low Temperature Deep Freezer

- H-drive hydrocarbon refrigeration system provides sustainable performance with reliability you can count on
- Low peak variation helps ensure sample temperature protection throughout entire cabinet
- Fast door opening recovery in as little as 14 minutes
- Long warm-up time from -80°C to -50°C in up to 3 hours
- Decrease storage footprint up to 25%
- Capacity to Hold 24000 Cryo Vial of 2.0 ml

Designed to keep your samples safe

Worry-free storage; with low peak variation,
samples are protected throughout the entire cabinet.1
Secure freezer settings with sample security
FDA Class II Medical Device for Storage of Blood, Plasma,
Tissue, Skin, and Bone3
Backed by our Global Service and Support Team

Limit environmental impact and lower HVAC costs

Uses as low as 11.2 kWh/day, depending on size
Less heat emission lowers HVAC costs
Natural refrigerants compliant with EU F-Gas regulation
Environmentally-friendly, water-blown foam insulation
Manufactured in an award-winning, zero-waste-to-landfill facility

User-friendly and quiet

New HIC touch screen user interface
Quiet enough to reside directly in the laboratory; at just 55 dBA, the sound is comparable to a home refrigerator.2

Power Consumption

The combination of enhanced technology and design with additional vacuum insulation coverage has reduced the Power Consumption by 23%

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Intelligence Features

- It has option of connecting LN2/CO2 Backup system for maintaining the set temperature during power failure.
- Internal memory for storing temperature & Alarm data records which can displayed & transferred to PC
- Keyboard lock and password protection system: prevent from un-authorized change of the parameters.
- With lock prevent from the un-authorized opening.
- Triple-point gasket, air-tight seal without heat to reduce ice build-up, easier to maintain and prevent leakage of ambient air into freezing chamber.
- It has two minimum 10” axial fans to provide maximum cooling of the compressor housing.

Standards

CE (with 4 digit notified Number) USFDA Approved
Conformity to standard conforms to standards IEC- 61010 for electrical safety latest amendment

Performance Parameters

- 127 mm thickness non CFC Foamed polyurethane insulation cabinet.
- 115 mm thickness Puff insulated door for best temperature uniformity.
- Freezer have heavy duty lockable castors and leveling for adjustments and installation
- 4 shelves which are adjustable and made up of stainless steel.
- Compatible compressor of suitable HP (Cascade Refrigeration System)
- It has 4 Inner doors and sub-lids reduce cold air loss and provide best uniformity and 4" x 12" long heavy-duty hinge for ensuring positive closure and un-interruptive service
- Warranty of Freezer 3 Years

Additional Parameters

- Corrosion resistant racks
- Vacuum relief port for easy door opening and easy re-entry after door openings.
- Pairs of Cryo gloves and Ice scraper
- Automatic data logging facility.
- 7 Days Inkless Temperature Chart recorder

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Technical Specification of Ultra Low Temperature Deep Freezer	
○ Make	MarkEn
○ Model	MDFU-04
○ Capacity in Liter	370 L
○ Type of Cabinet	Vertical (Upright)
○ Freezer Body -	Corrosion resistance CRCA powder coated steel
○ Material of Inner tank-	Stainless Steel
○ Ground clearance	100 mm
○ Refrigerants	CFC-Free, HCFC-Free non flammable refrigerants
○ Pull down time in with full load	4.9 Hrs
○ Holdover time with full load	3.2 Hrs
○ Operating Temperature Range	-50˚C to -86˚C adjustable with setting accuracy of ±0.1˚C
○ Maximum cooling performance	-86˚C
○ Internal Dimensions (HxWxD) in mm	1308x586x490 mm
○ External Dimensions (HxWxD) in mm	1978x912x833 mm
○ Control System	Fully programmable microprocessor controlled with membrane keypad and eye level control panel
○ Digital temperature Display	Yes
○ Battery Backup for Display and Security lock and alarm monitoring system	24 Hours In-Built Battery back-up
○ Power supply	230 V, 50 Hz AC
○ Door Style	Single Outer door and 4 Inner door
○ Inner Shelves	04 Nos
○ Temperature uniformity	±3˚C or Less
○ Temperature stability of system	±3˚C
○ Alarms-	Audible and visual alarm system for over and under temperature, sudden power failure, system failure, Door open, filter block and battery low
○ Noise level	55 Db
○ Power Consumption rate-	11.2 KW-Hr/Day
○ Net weight	200 kg

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Silent Features

- It has external Single door design with RFID operated security lock on the control panel for unauthorized tampering
- Automatic/Manual defrost mechanism.
- Sufficient internal memory for storing temperature data and alarm data (including door opening) with provision of SMS alert and remote and central monitoring, recording and controlling system.
- There is the facility to collect the Temperature data through a RS485 port /USB drive (4-20mA remote contact) for remote and central monitoring, recording and controlling system
- Deep Freezer have Integrated door handle and latch assembly to allow for easy right-or left- handed operation, and includes standard key lock and provision for padlock
- Blocked Filter indicator lights with filters which are removable and washable for cleaning.
- It have industrial grade, high efficiency dual compressor.
- Alarm history: Temperature maximum and minimum, average temperature during alarm period time of duration of alarm and door opening and closing history also.
- Touch Screen Display
- External 5KVA servo voltage stabilizer
- Four independent interior compartments (SS304 material) with individual doors, with sealing silicone gasket to prevent cold loss.

Accessories:

- Steel racks for full capacity.
- Polypropylene cryoboxes
- USB drive
- Pre-Filter

Documentation:

- Will provide operator manuals with machine.
- Will give training to users at the time of installation.
- Will provide list of important spare parts and accessories with their part number and costing.

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