



DEEP FREEZER -40°C



Quality, Management, Environment, Health & Safety Standards



CDSCO MD 5 License



USFDA Listed



European CE



ISO 9001: 2015
IAF



ISO 13485:2016
NABCB/IAF



ISO 45001 : 2018
IAF



7 Electric Safety Certifications
IEC 60335-1 and IEC 60335-2-24, IEC 61010-1,
IEC 61010-2-020 and 61010-2-101, IEC 61326-1,
IEC 61326-2-6.

INTRODUCTION

MarkEn Deep Freezers set the gold standard for safe, reliable, and energy-efficient preservation of the most sensitive biological materials including stem cells, plasma, semen, viruses, bone grafts, and other irreplaceable samples. Operating within a precisely controlled temperature range of -10°C to -40°C , these advanced units are engineered to meet the uncompromising demands of life science research institutes, hospitals, blood banks, pharmaceutical and biotech companies, and high-precision industrial applications. With robust performance, cutting-edge technology, and meticulous quality standards.



TECHNICAL EXCELLENCE



Wide Temperature Range: Offering precise cooling from -10°C to -40°C .



Tropical Climate Adaptation: Engineered to maintain peak performance even in high-temperature environments.



Heavy-Duty Weight Capacity: Uniformly distributed load-bearing trays for maximum efficiency.



Advanced Freezing Technology: Compression cycle system ensuring rapid, frost-free freezing.



Eco-Conscious Design: 100% CFC-free refrigeration and insulation for a greener planet.



Premium-Grade Tubing: Constructed with 99.97% pure copper for superior durability and efficiency.

CUTTING-EDGE FEATURES



Anti-Condensation Innovation: Hot line at the cabinet mouth prevents moisture buildup, safeguarding stored samples.



Intelligent Data Management: Internal memory captures temperature and alarm records, easily transferable to a PC.



Defrosting: Deep freezer chamber with automatic defrosting without manual override.



Auto Door Closure: Ensures consistent internal temperatures by preventing accidental exposure.



Unmatched Longevity: Designed for a minimum 10-year lifespan with guaranteed spare parts availability.

RIGOROUS SAFETY AND CERTIFICATIONS



CE Certified: Approved by European notified body No.1282.



Global Electrical Safety Standards: Fully compliant with IEC 61010, IEC 60335-1, and IEC 60335-2-24 standards.

ESSENTIAL ACCESSORIES



Precision Stem Alcohol Thermometer: Delivers accurate temperature monitoring for optimal sample preservation.



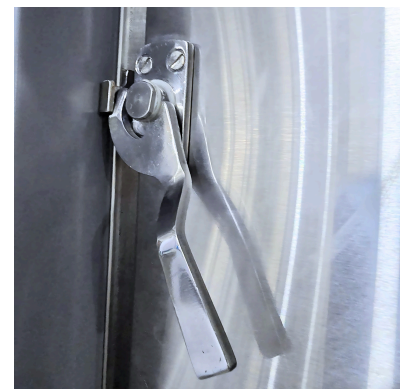
Advanced Voltage Stabilizer: Servo-controlled with automatic high-low voltage cut-off and time delay restart, ensuring uninterrupted performance.



Automated Vent Port



Heavy-Duty Door Hinges



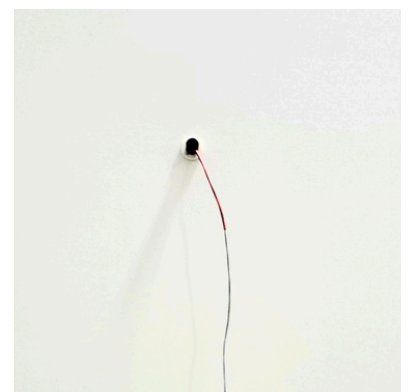
Secure Internal Door Locking



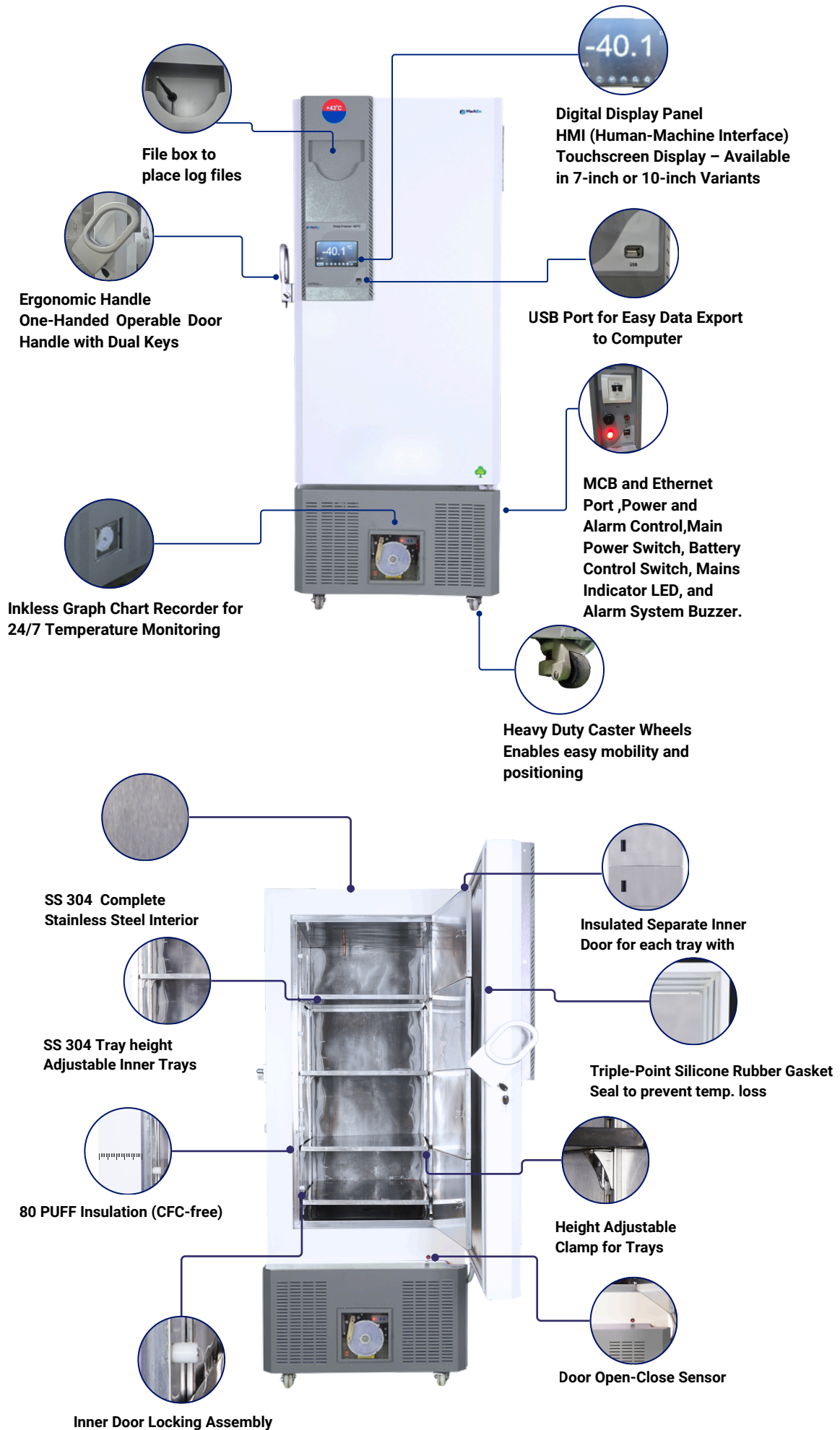
Inner Door with Thermal Protection



Optimized Storage Racking



Sensor Port For Centralised Monitoring



File box to place log files



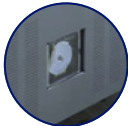
**Digital Display Panel
HMI (Human-Machine Interface)
Touchscreen Display – Available
in 7-inch or 10-inch Variants**



**Ergonomic Handle
One-Handed Operable Door
Handle with Dual Keys**



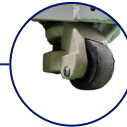
**USB Port for Easy Data Export
to Computer**



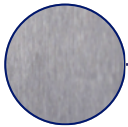
**Inkless Graph Chart Recorder for
24/7 Temperature Monitoring**



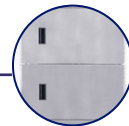
**MCB and Ethernet
Port, Power and
Alarm Control, Main
Power Switch, Battery
Control Switch, Mains
Indicator LED, and
Alarm System Buzzer.**



**Heavy Duty Castor Wheels
Enables easy mobility and
positioning**



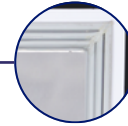
**SS 304 Complete
Stainless Steel Interior**



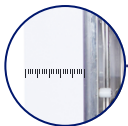
**Insulated Separate Inner
Door for each tray with**



**SS 304 Tray height
Adjustable Inner Trays**



**Triple-Point Silicone Rubber Gasket
Seal to prevent temp. loss**



80 PUFF Insulation (CFC-free)



**Height Adjustable
Clamp for Trays**



Inner Door Locking Assembly



Door Open-Close Sensor

DEEP FREEZER VERTICAL MODELS

Volume	180 liters	370 liters	425 liters	501 liters
Outer Dimensions (WxDxH) mm	613 x 797 x 1465	613 x 1007 x 1765	703 x 1007 x 1765	703 x 1007 x 1930
Inner Dimensions (WxDxH) mm	450 x 530 x 760	450 x 740 x 1060	540 x 740 x 1060	540 x 740 x 1210
PUF Size	Cabinet : 80 mm Door : 80 mm			
Wheel Height	120 mm	120 mm	120 mm	135 mm
Inner Tray	3	3	4	4
Insulated inner Door	3	3	4	4
Power Consumption	0.6 kW-hr/day	0.7 kW-hr/day	0.8 kW-hr/day	0.8 kW-hr/day
Net weight	90 Kg	110 Kg	115 Kg	125 Kg

Volume	690 liters	760 liters	810 liters	900 liters
Exterior Dimensions (WxDxH) mm	898 x 1007 x 1930	898 x 1057 x 1930	898 x 1057 x 2030	898 x 1007 x 2270
Interior Dimensions (WxDxH) mm	735 x 740 x 1210	735 x 790 x 1210	735 x 790 x 1310	735 x 740 x 1550
PUF Size	Cabinet : 80 mm Door : 80 mm			
Wheel Height	135 mm	135 mm	135 mm	135 mm
Inner Tray	4	5	5	5
Insulated inner Door	4	4	4	5
Power Consumption	0.9 kW-hr/day	1.3 kW-hr/day	1.3 kW-hr/day	1.7 kW-hr/day
Net weight	130 Kg	155 Kg	165 Kg	215 Kg

Volume	1000 liters	1300 liters	
Exterior Dimensions (WxDxH) mm	1044 x 1084 x 2354	1154 x 1083 x 2554	As per customer requirement
Interior Dimensions (WxDxH) mm	790 x 790 x 1500	900 x 790 x 1700	
PUF Size	Cabinet : 80 mm Door : 80 mm		
Wheel Height	135 mm	135 mm	
Inner Tray	5 to 7	6 to 8	
Insulated inner Door	6	6	
Power Consumption	1.9 kW-hr/day	2.4 kW-hr/day	
Net weight	240 Kg	270 Kg	

TECHNICAL SPECIFICATIONS

Make	MarkEn	
Type of Cabinet	Vertical/Upright	
Outer Material of Cabinet	Corrosion resistance CRCA/GI powder coated steel (18swg)	
Inner Material of Cabinet	Stainless Steel 304	
PUFF Insulation- CFC free	Cabinet: 127 mm	Door : 115 mm
Ground Clearance	100 mm with 4 castor wheels (2 lockable & 2 unlockable)	
Door	Solid lockable door with handle, provision for padlock, and four polystyrene-insulated inner doors, supported by electrically heated doors for quick opening in frost conditions.	
Inner Shelves	4 Rust-free stainless Steel Shelves	
Compressor	Heavy-duty, maintenance-free hermetically sealed compressors; cascaded refrigeration for reduced noise & vibration	
Refrigerants	CFC-free, high-efficiency non flammable dual refrigeration system for cooling and freezing, located at the bottom.	
Condensing	Air-cooled refrigeration unit with security lock to prevent accidental power switch-off.	
Pull down time	04 Hours	
Short cooling time	06 to 07 hours at ambient temperature	
Operating Temperature	-10°C to -40°C; control accuracy $\pm 0.1^\circ\text{C}$	
Temperature uniformity	$\pm 3^\circ\text{C}$	
Air Filtration	Convenient air filter grill for easy cleaning; CO ₂ access port	
Environmental Condition	Maximum +45°C with Humidity 5% to 95% RH	
Control System	Fully programmable microprocessor-controlled system with membrane keypad and password-protected eye-level digital display for precise temperature setting.	
Temperature Monitoring System	Integrated 24x7 temperature recorder/data logger with USB data download, 3 GB storage, and optional IoT (cloud-based) monitoring and 7-day inkless chart recording.	
Display	Digital Temperature Display 7" Touch Screen.	
Alarms	Integrated audible and visual alarm system for over/under temperature, overheat/overcool, power or system failure, door open, door ajar conditions voltage faults, and low battery conditions.	
Battery Backup(Optional)	24/48/72-hour backup for temperature display, security lock, alarm system, and temperature chart recorder to ensure continuous recording in case of power failure.	
Access port	Provision of connecting LN ₂ /CO ₂ Backup system for maintaining the set temperature during power failure.	
Noise level	<50 db	
Power supply	230 V AC, 50 Hz single-phase; compliant power cord included	

ALL-IN-ONE SOLUTION FOR

Cold Chain Solution
Medical Equipment
Blood Bank Equipment

Hospital & Scientific Equipment
Hospital Furniture & Infrastructure
Commercial Refrigeration



25+

Years of Excellence



400+

Product Range



500+

Service center



1000+

Committed Engineers



1,00,000+

Satisfied Users

CERTIFICATION



10 products tested by a WHO-PQS accredited laboratory



Intertek



ISO 14001: IAF



WHO GMP



BIFMA Certified, BIFMA Level 3



ASTM- Corrosion Free Products



ISO 2409

EN 13523-26,
ISO 13849-1,
IP 69, IP 65

& MANY OTHER...

OUR ESTEEMED CUSTOMERS



& MANY MORE...



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