

MEHROTRA GROUP



**HOUSE OF BIOMEDICAL RESEARCH
& SCIENTIFIC EQUIPMENT**



CENTRON

SureSeal™ SE120

TUBE SEALER

Versatility comes in standard

SureSeal™ SE120 is designed in consideration of multi tube sealing environment. Single SE120 consists of a sealing head unit and an AC powered main unit. Seperate configuration provides an ideal space-efficient solution.

■ Features

- Premium sealing quality - new wide sealing technology
- Multi tube sealer set up - automatic sequential sealing
- Variable sealing distance : 65mm - 90mm (5mm interval)
- Simple operation, fast sealing, no warm-up required
- Automatic tubing detection
- LED indicator to show sealing progress
- Applicable to wide range of blood bag tubing
- Head protector / Splash guard for user safety

New state-of-the-art sealing head

- New sealing technology ensures safe sealing of even thick and sensitive tubings with wide sealed surface
- With automatic tubing detection, sealing will automatically start when tubing is placed in the sealing head
- Semitransparent head protector for safe and easy operation (detachable, easy to clean)
- Applicable tubing diameter 2-6mm (1/4")



Splashguard

- protects users from accidental blood splash
- Detachable, easy to clean

Indication lamp

- shows sealing progress



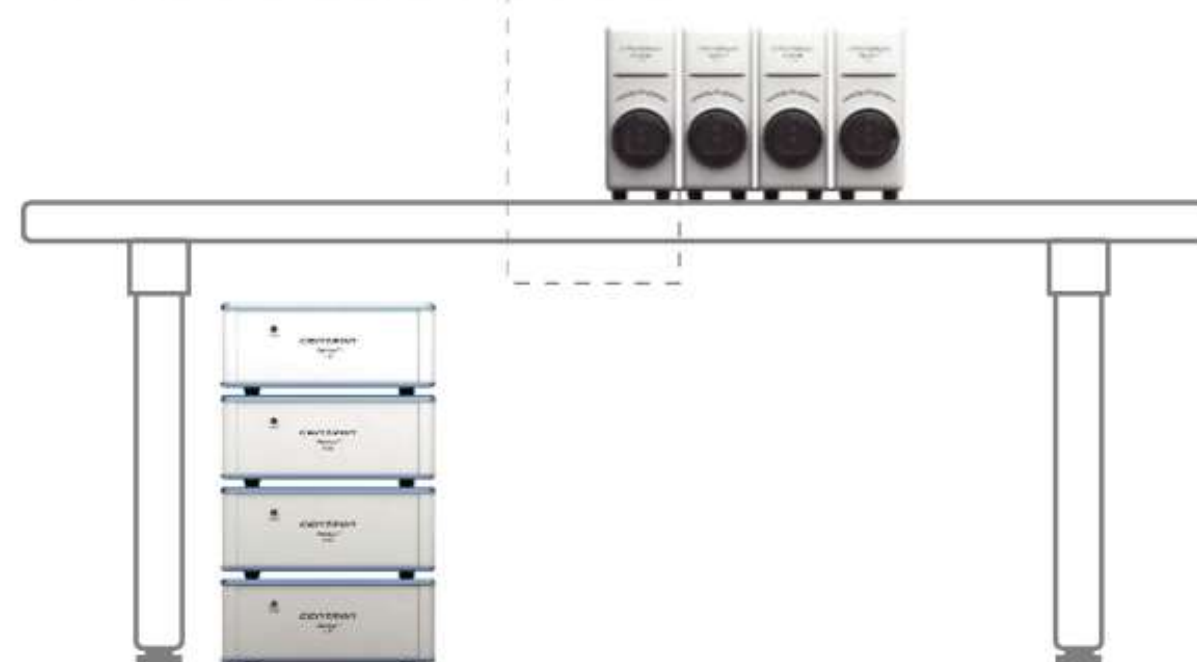
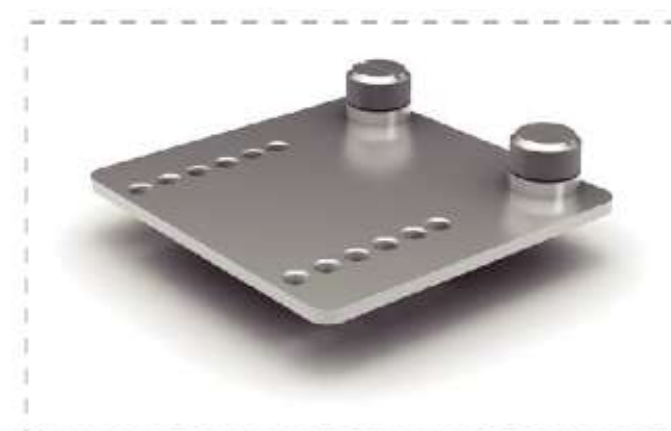
Wide sealed surface with notch at the center

- Reliable sealing quality prevents leakage
- Easy to segment



Multi tube sealing set up example

- Single SE120 comprises a sealing head unit and an AC powered main unit interconnected by a customized 1.8m (6ft) cable.
- Linkage bars are provided for easy multi sealing head unit installation.
- Main units are stackable. (Please refer to installation example)



Specification

Product	TUBE SEALER
Model	SE120
Power	100-240V~ 50/60Hz 250W
Dimension	Main unit: 200(W)mm/250(L)mm/90(H)mm
	Sealing head unit: 65(W)mm/172(L)mm/165(H)mm

Information



PENDING



CENTRON

AccuMix[™] **CM745**

BLOOD COLLECTION MIXER

Centron

Smart Solutions for Smarter Bloodbanking



Sample tube holder

- holds 2 sample tubes
- Detachable and left/right side interchangeable

State-of-the-art technology

- Reliable operation and simple set-up
- Compact solid design

Clear backlit LCD display

- Ergonomic viewing angle

LED indicators

- show % progress of collection

Standard medium tray

- supports most types of bloodbag in the market
- Easy to clean, easy to handle
- Large tray can be mounted

Interchangeable clamping module

- Detachable and left/right side interchangeable

Smart blood collection for everyone

*AccuMix*TM CM745

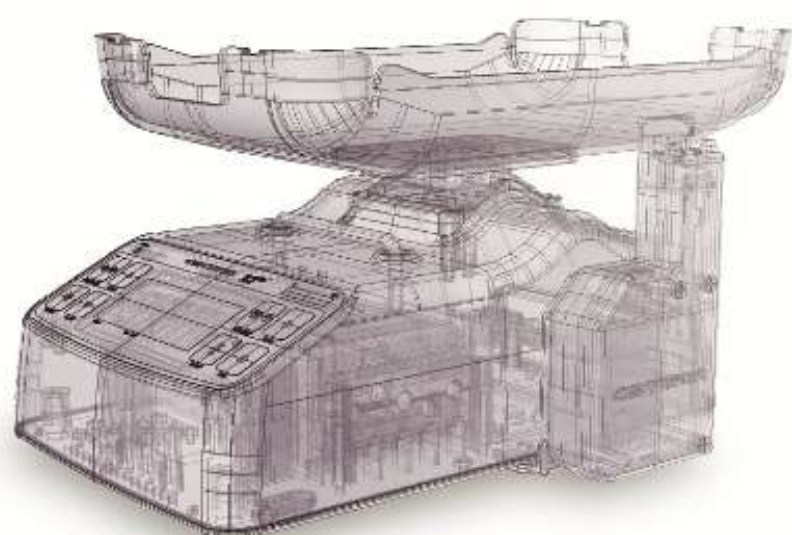
BLOOD COLLECTION MIXER

■ Features

- Perfect cost-efficient solution
- Proven accurate weighing and mixing technology
- Simple weight calibration in digital method
- Large capacity Li-ion battery for portable use
- Emergency onboard battery
- Visual/audible alarms
- Barcode scanner for label checking
- Canvas carrying bag

Refined simplicity meets robustness

- Just plug-in, switch-on and you're ready to go.
- Understanding user work flow and demands, CM745 has intuitive user interface and easy-to-follow set up menus.
- Our reliable weighing and mixing mechanism are protected by solid engineering grade plastic featuring enhanced shock resistance and long-lasting durability. Compact size based on optimized weight distribution makes CM745 the perfect fit for anywhere.



Interchangeable clamping module

- Clamping module clamps blood bag tubing when collected blood volume reaches user-selected preset volume. Also clamping module is detachable, so this can be mounted either left or right for user convenience.



Clear LCD Screen & LED indicators

- Ergonomically located LCD is backlit and easy to read in bright indoor. LCD screen displays collected blood volume, preset volume to collect, total weight of collected blood and blood bags, elapsed time of donation and alarm symbols.
- LED indicators on the main panel show % progress of collection.



Adjustable operational parameters & various visual/audible alarms

- Collection target volume, alarm triggering criteria, beep sound on/off and tray rocking speed are user adjustable.
- Alarm lamp flashing is visible from a distance.



Barcode scanner

- Barcode scanner for label checking
- Barcode scanner reads most standard barcode labels including blood bank-specified ISBT128 code.



Dual Battery System

- Onboard battery (rechargeable) is for emergency backup. In case of unexpected AC power failure, it guarantees supplying power for 30 more minutes to safely complete ongoing collection. No need to use BL101 battery pack all the time in case of AC powered indoor use.
- For portable or outdoor use, newly designed Li-ion large capacity BL101 battery pack (rechargeable & replaceable) is available. BL101 battery pack supports up to 15 hours of operation without AC mains.
- BL101 battery pack is charged through the main unit or BC165 fast battery charger.





CENTRON

AccuMixTM CM745

BLOOD COLLECTION MIXER

Optional Chart

	Selective Item	Note
Optional items	• BL101 battery pack	• Large capacity Li-ion battery (rechargeable & replaceable) supports up to 15 hours of operation
	• Barcode scanner	• For label checking
	• Canvas carrying bag	• Light weight durable canvas bag for transportation and storage
	• Large tray	• supports all types of blood bag in the market
	• Sample tube holder	• holds up to 2 sample tubes / Detachable & interchangeable
	• 500g weight	• Precise standard weight for weight calibration
Supporting Devices	• BC165 Fast Battery Charger	• AC powered fast multi-battery charger • Charging of 6 BL101 battery packs

※ For more information about the product and package customization, please visit our website.

Specification

Product	Blood Collection Mixer
Model	CM745
Power	18V 1.67A + -
Adapter	100-240V~ 50/60Hz 0.8A
Dimension	190(W)mm/290(L)mm/158(H)mm

Information





CENTRON

SureSeal™ SE160

TUBE SEALER

Versatility comes in standard

SureSeal™ SE160 is designed in consideration of multi tube sealing environment. It provides an ideal space-efficient solution.

■ Features

- Premium sealing quality - new wide sealing technology
- Multi tube sealer set up - automatic sequential sealing
- Variable sealing spacing: 70, 75, 80, 85, 90 mm
(or, any distance up to 200 mm upon request)
- Simple operation, fast sealing, no warm-up required
- Sealing hand unit ready
- Automatic tubing detection
- LED indicator to show sealing progress
- Applicable to wide range of blood bag tubing
- Head protector / Splash guard for user safety

New state-of-the-art sealing head

- New sealing technology ensures safe sealing of even thick and sensitive tubings with wide sealed surface.
- Sealing will automatically start when tubing is placed in the sealing head.
- Head protector for safe and easy operation (detachable, easy to clean)
- Applicable tubing diameter 2-6 mm (1/4")

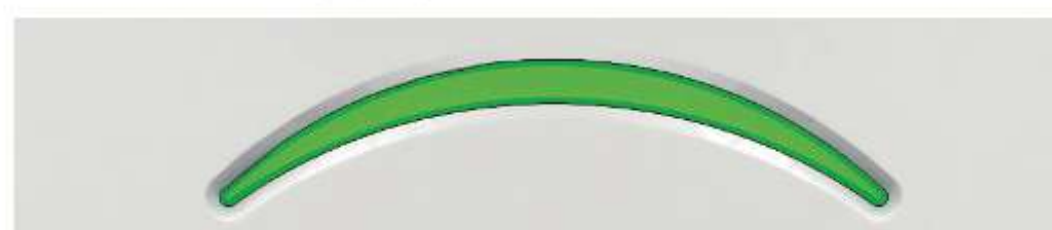


Splashguard

- protects users from accidental blood splash
- Detachable, easy to clean

Indication lamp

- shows sealing progress



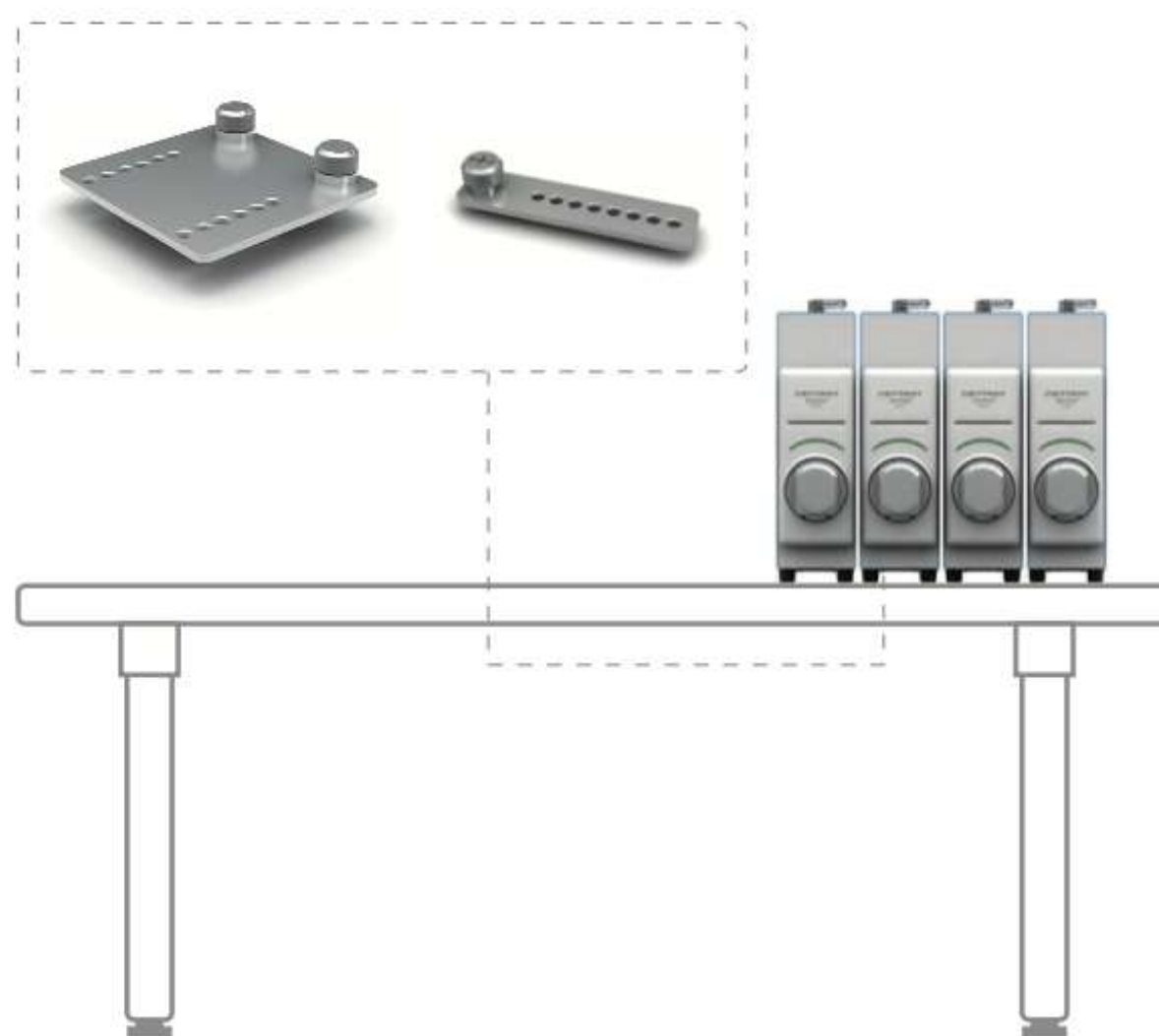
Wide sealed surface with notch at the center

- Reliable sealing quality prevents leakage
- Easy to segment



Multi tube sealing setup example

- Linkage bars are provided for easy multi sealing head unit installation.
- Sealing hand unit can be attached at any main unit.



Specification

Product	TUBE SEALER
Model	SE160
Main Power	100-240V~ 50/60Hz 200W
Dimension	Main unit: 69(W)mm/350(L)mm/245(H)mm
	Hand unit: 28(W)mm/204(L)mm/44(H)mm

Information



LOW SPEED REFRIGERATED BLOOD-BANK CENTRIFUGE

MB-6000R

Precision control system

High precision Microcomputer control with touch screen display.

Parameters can be modified at any time during the running without stopping the machine. Furnished with special key for display of centrifugal force to observe the centrifugal force at any time.

Ergonomic design

MB-6000R optional rotors and adapters

Electric door lock to ensure safe running, which automatically locks once the motor is started. All-steel construction with double steel plate protection.

Stepless speed regulation

Driven by brushless AC frequency conversion motor with quiet and clean running.

Up to max. 30g unbalanced eccentric weight without the need of special trimming by weighing.



- Microcomputer control, LCD display
- Driven by AC frequency conversion motor
- Imported refrigeration compressor
- Speed, centrifugal synchronous display
- Magnetic induction door lock, electric door
- Full steel structure, Stainless steel centrifugal cavity

Specifications	Details of MB-6000R
Max speed	4200rpm
Max RCF	5116xg
Swing rotor capacity	6 X 1000ml
Speed accuracy	±10rpm
Speed control system	Microprocessor, Frequency control of motor speed
Temperature range	-20 ~ +30°C
Temperature accuracy	±1°C
Noise	≤ 60dB
Timer range	1~99min/continuation
Power supply	AC 220V 50HZ
Power	2.0KVA
Weight	260kg
Construction	All-steel, stainless steel centrifuge chamber
Dimensions(LxWxH)mm	760x890x9300

Optional rotors and Adapters for MB-6000R

No.	Model	Capacity	Max speed	RCF	Note
1	Swing bucket rotor	6 X 1000ml	4200rpm	5116xg	Round hanging cup
2	Swing bucket rotor	6 X 1000ml	4200rpm	5116xg	Ellipse hanging cup



Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags "Megafriger-BLT-Blood" and "Macrofriger-BLT-Blood"



Original J.P. Selecta design. With maintenance free induction drive motor

SAFETY:

SAFETY, CONFORMS TO UNE-EN 61010-2-020.
PROTECTIVE INTERNAL CYLINDER BETWEEN THE CASE AND BOWL.
THE LID CANNOT BE OPENED WHILE THE ROTOR IS SPINNING.
THE MOTOR CANNOT SPIN WHILE THE LID IS OPEN.

IMBALANCE DETECTOR, AUTOMATICALLY STOPS IF THERE IS ANY IMBALANCE.
DOUBLE ELECTROMAGNETIC LID LOCK.
IF THERE IS A POWER FAILURE, A FAIL SAFE SYSTEM CAN BE USED TO OPEN THE LID.
EMERGENCY STOP BUTTON.

COMMON FEATURES

7" TFT touch screen.

Furniture: aluminum structure in Megafriger model and in steel tube with Dur-Al sides in Macrofriger model.

Internal Stainless steel bowl.

Aluminium windbreak cover.

Safety shield: 8 mm thick steel.

Swing-out rotor, buckets and adapters made of high-density material, engraved identification unalterable.

Suspended motor with silent-block and shock absorbers that guarantee smooth, quiet operation without vibrations.

Drive force: equipped with an induction drive maintenance free and highly efficient pollution free motor.

Semi-hermetically sealed, compressor pollution free with no hydrocarbons or fluorocarbons.

Mounted on an anti vibration adjustable rubber feet.

Microprocessor digital control of all functions: speed, acceleration, brake, R.C.F., temperature, time, 10 program memory, rotor identification, operation fault alarm.

Digital indicator of the rotor and blood bag buckets operating hours.

NEW SELF-CLOSING LID WITH AUTOMATIC LOCKING SYSTEM

APPLICATIONS

Specially designed for blood bank applications, where repeatability, precision and reliability of: speed, time, temperature, acceleration and deceleration are significant factors in obtaining perfect separations of the distinct blood fractions.

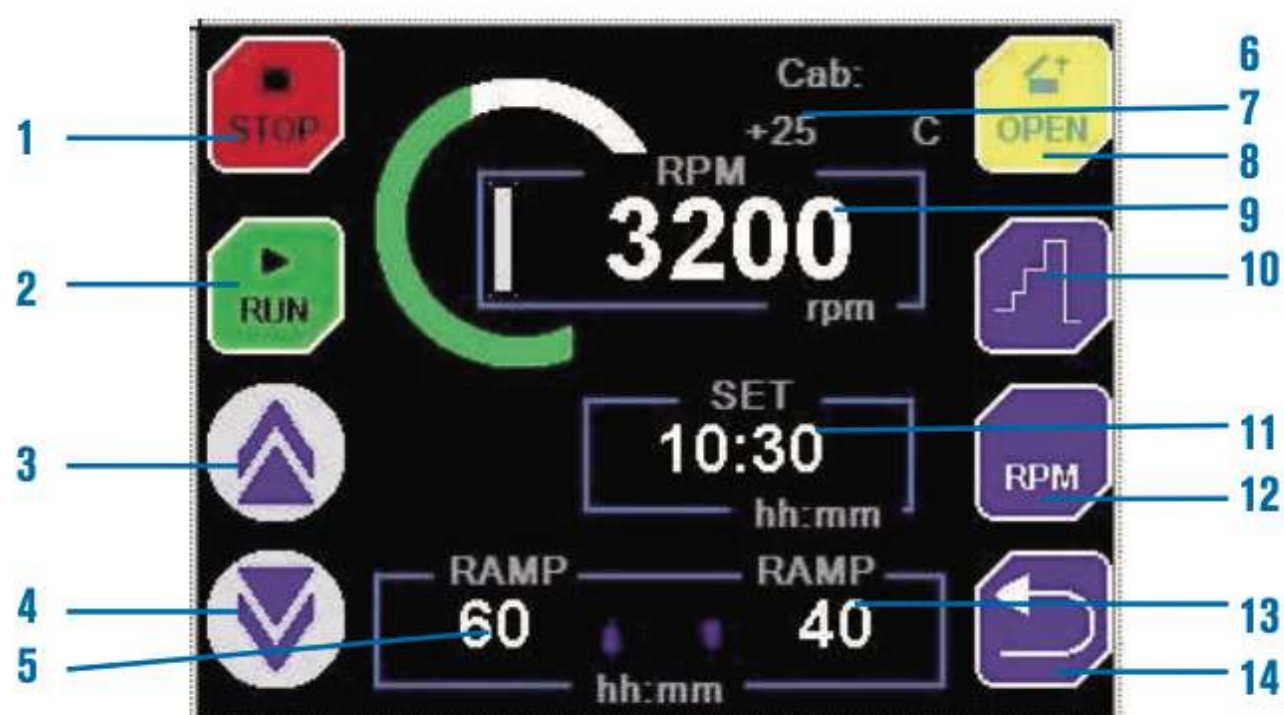
Serology investigations.

Molecular biology.

Serum separation, pharmaceutical applications.

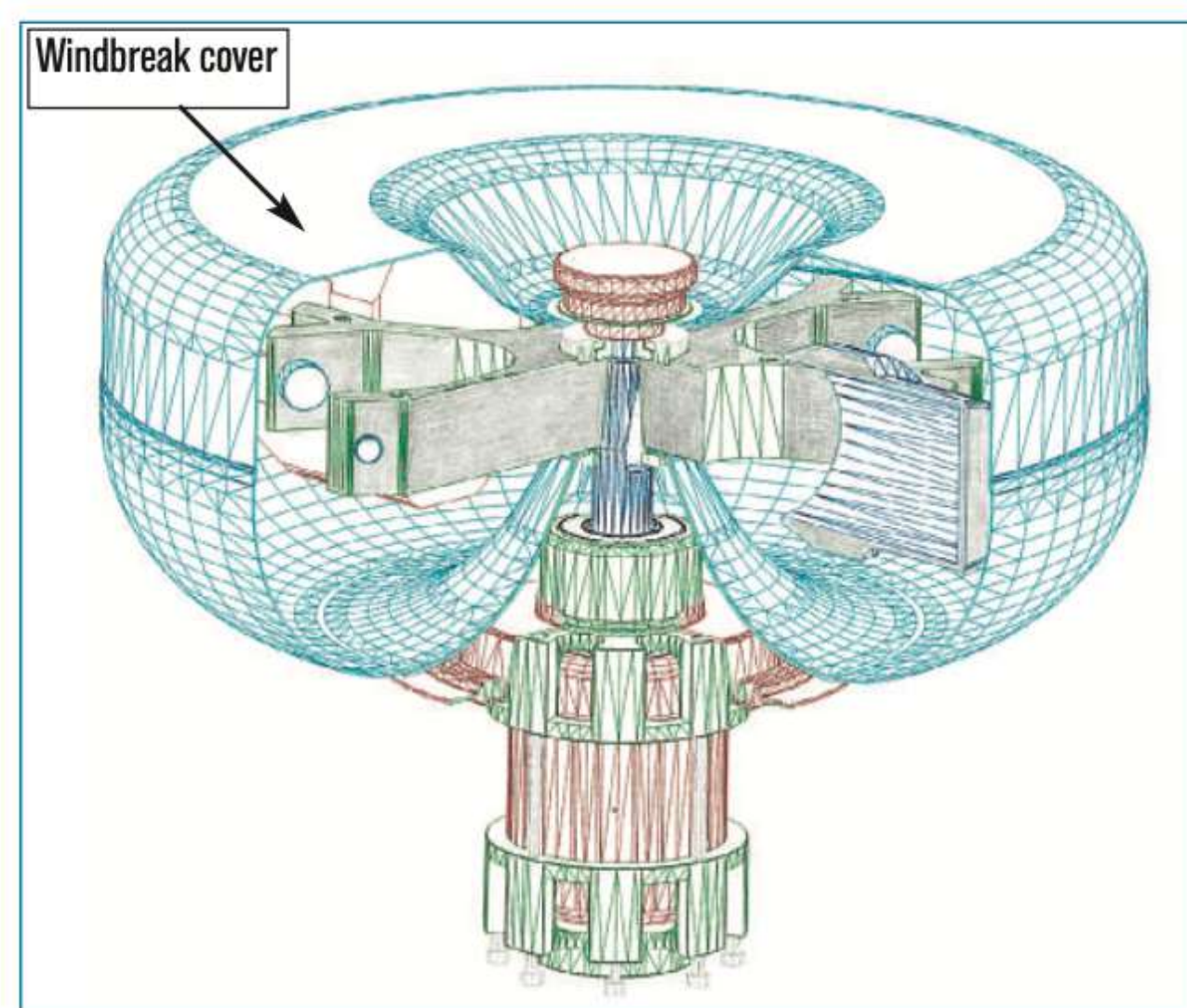
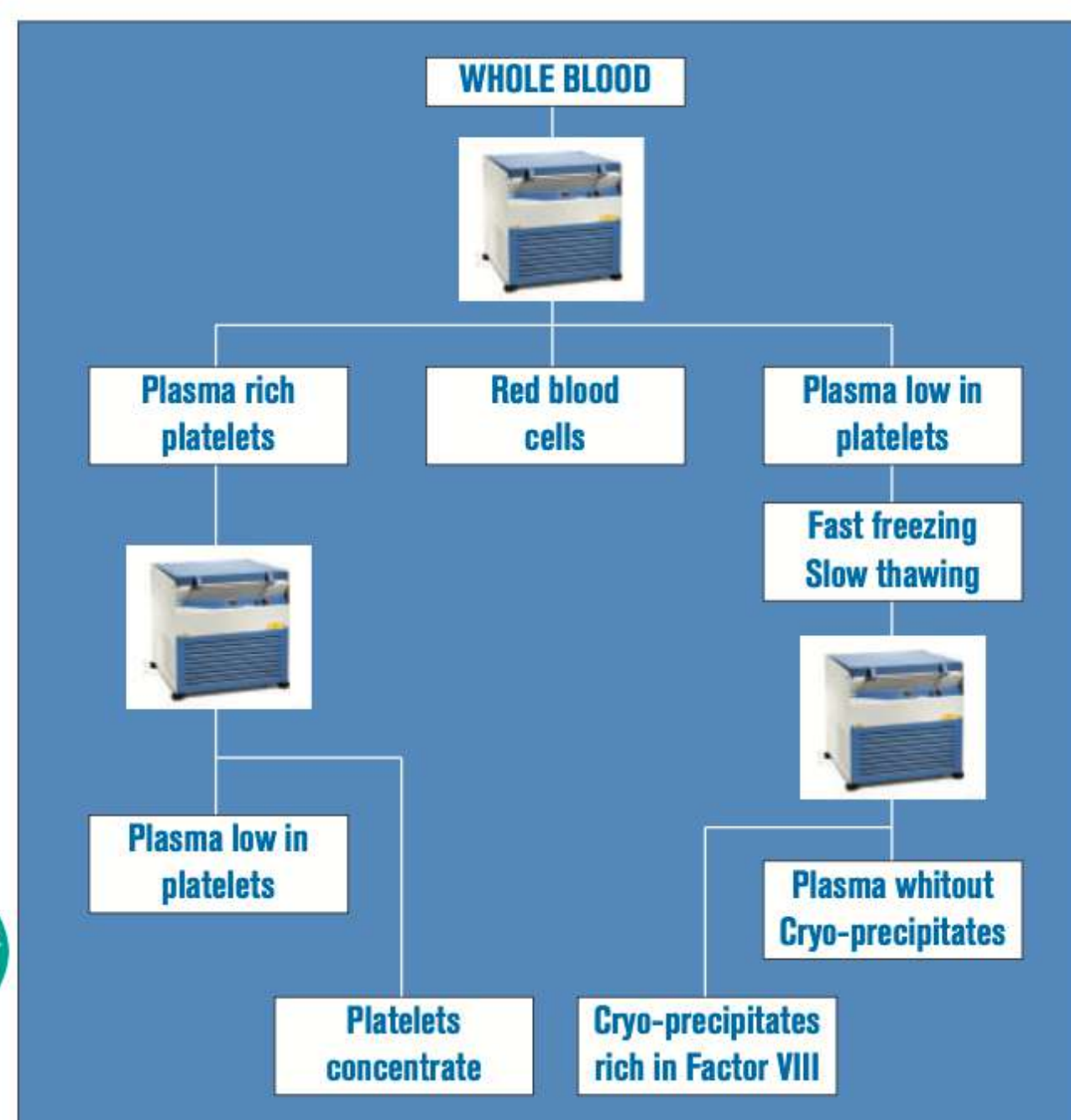
CONTROL PANEL

Touch screen



1. Stop process key.
2. Start process key.
3. Increase value key.
4. Decrease value key.
5. Scheduled acceleration ramp.
6. Rotor model in use.
7. Reading the real time temperature. (refrigerated models only).

8. Door opening key.
9. RPM or RCF real-time reading.
10. Sequential operation.
11. Time set-up in process.
12. Key to change RPM / RCF.
13. Braking ramp programmed.
14. Return key..



Cross-section of the motor, rotor drive mechanism, showing the windbreak protector with lid that reduces the air resistance and maintains a regulated temperature.



Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags “Megafriger-BLT-Blood”

ADJUSTABLE WORKING TEMPERATURES FROM -10 TO 40 ° C. (TEMPERATURE AT STANDSTILL -20 ° C).

CAPACITY UP TO 1000 ML BOTTLES AND SPECIAL FOR BLOOD BAGS OF 500 TO 800 ML.

MAXIMUM CAPACITY 4 BAGS.

NEW SELF-CLOSING LID WITH AUTOMATIC LOCKING SYSTEM



Swing out rotor 4 places detail



Features and control panel (see page 129).

TECHNICAL SPECIFICATION

Maximum volume:	4000 ml
Maximum bucket volume:	1000 ml
Speed 7001488:	from 300 to 4000 r.p.m.
Accuracy:	± 5 r.p.m.
Resolution r.p.m:	10 r.p.m.
R.C.F.:	from 24 to 4078
Imbalance:	± 5 g
Accuracy:	4 g
Temperature range:	from -10 °C to 40 °C
Temperature stability:	±4 °C
Resolution:	1 °C
Temperature range:	99 min. 59 sec.
Centrifuge radius:	241 mm
Acceleration profile:	5
Brake profile:	9 linear 6 quadratic
Voltage:	230.
Power:	1700 VA

MODEL

Part No.	Max. Volume ml	Max. Capacity	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7001488	4000	4 bags x 1000 ml	97 70 72	1700	190

ACCESSORIES FOR PART NO. 7001490

Swing out rotor 4 places, treated steel.



Part No. **7001343**

Interchangeable buckets and reducers with identification sign. Autoclavable.



Single bucket.
Bags of 500 to 800 ml.
Part No. **7001344**



Single bucket.
Capacity: 1 blood bag of 500 to 800 ml or 1 flask of 1 litre or with tube adapters.
Part No. **7001393**

Adapters for single bucket Part No. 7001393.

Bottle



1001394



7001395



7001396



7001397



7001398



7001399



7001400



7001401

Single Bucket	Part No. adapter	Total max. Volume (4 adapters)	Capacity: bags, tubes by adapter	Ø x Length mm	R.p.m. Min./Max.	R.c.f. (xg) Min./Max.
7001344	-	3200 ml	2 bag 500 or 800 ml	-	300/4000	24/4078
7001393 Capacity without adapter: 1 bag of 500 to 800 ml or 1x bottle 1000 ml	Bottle 1000 ml 1001394	4000 ml	1 bottle 1000 ml or 1 bag	98 x 175	300/4000	24/4078
	7001395	2000 ml	1 bottle 500 ml	70 x 165	300/4000	24/4078
	7001396	800 ml	1 bottle 200 ml	56.6 x 104	300/4000	24/4078
	7001397	800 ml	2 tubes 100 ml	44 x 104	300/4000	24/4078
	7001398	800 ml	4 tubes 50 ml	34 x 100	300/4000	24/4078
	7001399	900 ml	9 tubes 25 ml	24 x 100	300/4000	24/4078
	7001400	1020 ml	17 tubes 15 ml	16.5 x 100	300/4000	24/4078
	7001401	672 ml	24 tubes 7 ml	12 x 100	300/4000	24/4078

Note: All buckets and adapters come without tubes, see page 137 for tubes and accessories.
Other adapters can be manufactured as per customers specification.

COMPLEMENTS



Blood bank refrigerated cabinets "Blood Bank" C and D

FORCED AIR CIRCULATION.
FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 80 TO 480 BLOOD BAGS.



MODELS	Part No.	Capacity litres	Capacity bags	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Power HP	Number of shelves	Weight Kg
Blood Bank C	2101512	560	200	153	54	66	213	80	79	497	3/8	4	165
Blood Bank D	2101514	1240	480	153	124	68	213	139	79	1034	5/8	8	212

They are supplied with trays.

TD5G LOW-SPEED TABLE-TYPE CENTRIFUGE



FEATURES

- Brushless DC motor, maintenance free.
- Controlled by microcomputer with touching panel and digital display. Easy to operate
- Steel body, stainless steel centrifugal chamber, corrosion resistant and easy to clean, ensure safety, stability.
- Arbitrarily setting the parameter of speed, time and other parameters. Easy to use.
- Adjustable acceleration and deceleration from grade 0 to 9 , 40 kinds of self-defining operating programs can be stored and recall, to achieve the best centrifugal result.
- Hold-on and transient centrifuging, easy to diverse centrifugation.

TECHNICAL PARAMETERS

Model	TD5G
Max Speed	5000r/min
Max RCF	3550×g
Max Capacity	300ml
Speed Accuracy	±20r/min
Time Range	0-999min/sec
Power Supply	AC 220V 50Hz / AC110V 60Hz, 8A
Noise	≤60dB
Dimension	340×400×270mm
Weight	20kg

TD5G LOW-SPEED TABLE-TYPE CENTRIFUGE

➤ ROTOR OPTIONS

Rotor Type	Number	Capacity	Max Speed (r/min)	Max RCF (×g)	Dimension of tube (mm)
Angle Rotor	No.38	4×50ml	5000	3550	Φ38×124
	No.38	6×50ml	5000	3550	Φ38×124
	No.37	12×10ml	5000	3550	Φ16×82
	No.37	12×15ml	5000	3550	Φ16×115

MBCF01A GEL CARD CENTRIFUGE



FEATURES

1. Advanced Control System, Excellent separation

- 1) 10 kinds of Accel/Decel modes; User can set up the operate parameter by themselves, to achieve the best centrifugal result.
- 2) Short running function, easy to diversification centrifugation.
- 3) Proprietary SCT speed control technical, high efficiency.

4) Proprietary SBT soft brake control technique, to avoid mix up and ensure get maximum specimen.

5) Widely used in blood serology, blood typing routine test, red blood cell washing, microcolumn Gel immunoassay test and so on.

6) Timing control, the centrifugal time can be free to choose minutes or seconds, to achieve optimal centrifugation.

2. High Safety, Ease of use

- 1) Over speed, door lid and imbalance switch off and other protection functions, with sound and light alarm, to ensure human and instrument security.
- 2) Steel body, Stainless steel chamber, Steel Protective sleeve, three damping structure, to prevent accidents.
- 3) Unique airflow-oriented design makes small temperature rise.

3. Friendly Display, Humanity Operate

- 1) LED display, program group, Accel/Decel, RPM/ RCF, time and other parameters can be set without key combination, easy to operate.
- 2) Microprocessor control, operated data can be saved automatically, can start the instrument with RCF directly, 40 kinds of self-defining programs can be stored and recalled, reduce duplication of operation.
- 3) Three-stage damping, low vibration and low noise.

4. Good parts, Reliable and long-lasting

- 1) Brushless frequency converter motor, super speed bearing imported from Europe, high quality.
- 2) Aerospace rubber for damping, super duralumin alloy , extend the service life of the machine.

TECHNICAL PARAMETERS

Model	MBCF01A
Max Speed	4000r/min
Max Rcf	2180×g
Max Capacity	120ml
Speed Accuracy	±10r/min
Time Range	1-999min/999s
Power Supply	AC 220V 50Hz 5A
Noise	≤60dB
Dimension	350×420×270mm
Weight	18kg

ROTOR OPTIONS

Rotor Type	Rotor No.	Capacity	Max Speed	Max RCF	Dimension of tube (mm)
Specialized Rotor	No.39	12×10ml	4000 r/min	2180×g	Φ16×81
	No.41	12×7ml	4000 r/min	1690×g	SERO SERO Rotor
	No.86	12×(0.25-1)ml	4000 r/min	1740×g	Gel Card

ALL CENTRIFUGE MODELS
AVAILABLE HERE :



2019-Blood-line ENG



Shock freezer for
Plasma on
contact

KPFF Series



Medical devices for
transfusion centres



www.kwkw.it - kw@kwkw.it



BloodLine

Shock freezer for Plasma on contact



manages in the
MONTERIGGIONI (SI) - VIA DELLA RESISTENZA 119 (ITA) - Italy
assurance system ensuring the conformity of the
Blood bank refrigerators
K-Lab BBR Type ref. As to annex document dated 05/09 provided with IMQ stamp.
Trade mark KW
Type ref. SBB5 HPL
Trade mark KW
Plasma freezer (fast freezing)
Series: KPFF Type ref. KPFF 24B; KPFF 48B.
Trade mark KW
Freezer
Line PL-PLL Type ref. As to annex document dated 05/09 provided with IMQ stamp.
Trade mark KW
As to annex document dated 05/09 provided with IMQ stamp.



DIRECTIVE 2007/47 CE

CLINICALLY
VALIDATED



KPFF 48B
Plasma Shock Freezer

BloodLine

Shock freezer for Plasma on contact

The plasma bags, to be frozen, are immersed, vertically, in wells in which the walls are at -70°C .

The geometry of the wells is conical, to simplify extraction and formation of the solid bag, without any impediment for the increase in volume which happens when there is a passing in state from liquid to solid.

RAPID FREEZING

the bag is in contact with the surfaces of the wells and intense extraction of thermal energy is obtained in this manner, minimizing in this way the freezing time: **<45' for 24 or 48 (450 ml.) nominal standard bags, with a net content of plasma of at least 230 cc. and an initial temperature between $+25^{\circ}\text{C}$ and $+30^{\circ}\text{C}$ (KW has undertaken tests with bags with a mass of 260 gr. each).**

The storage solution in vertical encounters, in fact, all the freezing advantages of the horizontal freezers, leaving the vertical placement of the plasma bags salvaged.

The surface of the wells is smooth and in inox steel, without edges, and therefore permit the safe storage against accidental breaks or bumps of the bags; permits furthermore the eventual download of liquids exiting due to breakage, from the bottom, or the successive condensation to a freezing and maintenance stop, by means of outlets (one for each well), all gathered and leading to a single external tube.

Furthermore, the solution of the horizontal freezer maintains the following advantages:

• TEMPERATURE UNIFORMITY

minimum alteration of the internal T during the loading phase of the plasma bags seeing as the movement is minimal from the internal cold air, that tends to remain on the bottom of the wells guaranteeing good cooling – freezing during the bag contact – well walls.

• VERTICAL FREEZING

simplifies the bag immersion seeing as the operator does not feel the intense coldness from the wells and no air bubble inside the bags, with minimum breakage risk of the bags; the shape of frozen bag is like a tile, so the following phase of storage is easier.

• SPATIAL DISTRIBUTION of BAGS

In conventional freezer, with horizontal shelves, the plasma bags are often stored on one another and air distribution is not perfect. It follows that freezing of the individual pockets varies considerably. In contrast, the freezing procedure proposed by KW guarantees identical conditions of freezing for each individual bag, with consequent higher yields of factor VIII and more reliable.

The shape of the bag is very compact, in the form of a thin parallelepiped, and allows easy storage.

• AUTOMATIC STORAGE (option on request)

when the door is closed, the deflectors move automatically compressing pockets in the wells for optimum freezing. (increased safety and ease of use)

• MINIMUM MAINTENANCE

no ice formation in the area around the wells and in the retention gaskets, for minimum maintenance and an absolute guarantee of the maintenance of a constant T of $-75/-80^{\circ}\text{C}$; no necessity of defrosting, possibility of continuous freezing.



BloodLine

Shock freezer for Plasma on contact

- **MAX ERGONOMICS**

An handy load height eases the operator, without the introduction of any addition to a very low T and without contact with the cold air.

- **ENERGY SAVING**

minimum energy consumption in addition to the thermodynamic performance, thank to the high insulation and to the horizontal positions of the - 70°C wells.

- **PROCESS TRACEABILITY**

It's possible to equip the freezer with an electronic recorder and a bar code reader; the user can set a work schedule for single freezing batch, determining a) the single plasma units b) the operator c) the pulling down curve of T: all data are exportable whether in paper format or in digital format, which guarantee the full traceability of the freezing batch.

- **QUALITY OF FROZEN PLASMA**

The quality was evaluated through the values of concentration of fibrinogen, before and after freezing, and concentration of VIII factor post freezing.

The recovery of 96% of fibrinogen and 81% of concentration of VIII factor post, are very good results.

STRUCTURE:

Internal case, made of **6 wells** (in the **KPFF24B** model) and of **12 wells** (in the **KPFF48B** model) in inox AISI 304 steel (AISI 316 on request) with BA polished finishing, with rounded corners for easy cleaning.

The external structure is in glazed inox AISI 304 steel sheet; the insulation is in polyurethane CFC and HCFC free, expanded in situ, with density of 40 Kg./mc. and with a **minimum mean width of 175 mm.**

The door is mounted on the hinges with ABS cover, **auto balanced.**



Triple gasket (absolute retention guarantee against air entry) in silicon rubber with welded joints, warmed up by the refrigerant and of unlimited duration.



The handle has a very ergonomic design and has a key lock.

The freezer has pivoting wheels for easy transportation and internal movement in the laboratories.

KW's guarantee on the steel parts of the structure is for life.

BloodLine

Shock freezer for Plasma on contact

REFRIGERATION:

The refrigerant system is completely sealed up; **it uses a cascade circuit, innovative in its components and in the fluids to follow, together with, maximum reliability and maximum performance cooling;** with 2 hermetic compressors (of more than 2 HP of power) silent (the Leq dB (A) value < 65; at more than 3 metres < 55), at high capacity refrigerant, having magnetic-thermal protection and of a manostat of maximum/minimum pressure on both circuits: total reliability and absence of failures 1st stage.

The condensation surface of the 1st stage (air and thermal yield superior to 5000-10000 Watt, with environment T of about + 25° C), are very ample (with exchangers in tubeless execution) to overcome the most severe environmental and work conditions (functioning guarantee of environment T ≤ +35°C); this is also for the second stage, with more exchangers, both air, and counter current, between the two fluids in bi-phase conditions.

The expansion of the refrigerating fluids is obtained using special thermostatic valves; the evaporators made up of serpentine tube in cooper thermally connected – to the entire external peripheral surface of the freezing wells. The solution, together with the use of tanks for refrigeration, guarantees:

- **a great reserve of liquid, a consecutive fast response to the cold request in the act of introducing the bags and therefore a high refrigerant capacity (very rapid freezing)**
- **high internal temperature uniformity.**

The entire thermofluidodynamic circuit is made in order to have maximum functionality (efficiency, reliability) and of maximum ease on the maintenance operations, and furthermore for maximum safety to the environment and operators, by means of inter-stage thermostats, of HP and LP manostats, etc. etc.

The refrigerants used are not toxic, inflammable, not explosive and ecological (maximum respect for the environment) HC free, CFC free, HCFC free (ODP=0 OZONE POTENTIAL DEPLETION).

R404A in the first refrigeration stage

R508B in the second refrigeration stage

TERMOREGULATION AND CONTROLS:

The electrical command installations enabled by a switch under key (extractable in both conditions) for maximum safety in the management of the machine; and furthermore is present a light to signal the power supply. The internal T regulation is managed by a control panel that includes:

- **digital electronic control with μ P, having led display with both T set and actual -T values, with changeable hysteresis, with ON/OFF action.**

The thermal probes used are thermo resistant RTD Pt 100 Ohm, placed in the air. The user may read the process T (the actual one in the freezing wells) in the display above, with in the inferior may verify the predefined set point value.



KPFF 24B
Plasma Shock Freezer



BloodLine

Shock freezer for Plasma on contact

On the side of the display mentioned, there are functional leds:

- **COOLING** indicates that the refrigerator installation is working
- **ALARM** indicates the process value is out of acceptable range of T, with respect to the set point; having to do with the min /max alarm T default T set $\pm 10^{\circ}\text{C}$., this alarm is both optical and visual and may be turned off by acting on the BUZZER OFF. indicates the visual alarm (red led turned on) persists until the system does not exit from the alarm conditions.

- **TIMER** indicates that there is in act the counting of time (setted by the user) of freezing. The lab technician may read the count down (in minutes) on the lower display, while on the upper one remains the T indication of the process inside the wells. When the cycle is finished, i.e. when the time set by the user is over, the following visual signal appears End on the lower display. And an acoustic buzzer is activated to signal the end of the cycle; it may be turned off by pressing the RUN or FUNC buttons.

POWER FAIL

The rapid plasma freezer also has an energy acoustic alarm independent power supply (estimated battery life span of about 3 years) 12 Vdc 1.2 Ah that recharges automatically on the return of the electrical power supply, via a switching supply. the buzzer may be turned off, by pressing the BUZZER OFF button.

SIGNAL REMOTING

All the alarms are integrated and connected to distance signal repeating unit, having a plug and relative socket (5A), ready for cabling according to the user (sounders and visual signalling devices in the laboratory, tele- alarm unit, etc.).

ACCESSORIES: (available on request)

- open door alarm

• BAGS TEMPERATURE RECORDER (RTS SYSTEM)

Automatic recording of the pockets of fresh plasma or by bar code reader or by RFID reader

The "Bag Temperature Recorder" device, from now on called RTS System, use the tab **touch TFT display 7"** with dedicated software and the quick freezer board with dedicated firmware, as acquirer of temperature together with the compatibility of the application for PC Freezing Tracer for reading the graphs of the freezing process and the codes of pockets Functionality:

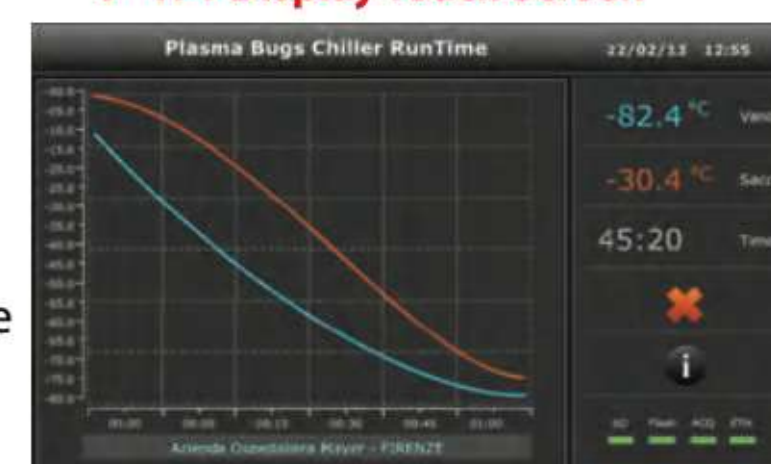
- **Reading and recording up to a maximum of 8 PT100 channels** (6 + 2);
- **Selection through display of the probe of active registration;** with exclusion of the visualization and tracking of the remaining probes excluded, with the exception of the probe in the cabinet that remains always enabled.

Association of barcodes relative to the bags in abatement related to the circuit temperature air/sample bag (there is a differentiation of the air probe and probe pockets sample)

- **Ability to select, along with the bar code, the type of bag:** large 650ml plasmapheresis or small by donation 260 ml.
- **Enabling a clean digital input for synchronizing the start of recording with the start of the unit abatement.**
- Enable output on/off switch to stop the cycle of freezing when the pre-set temperature is reached in all pockets connected during the test cycle of freezing data management
- **Historization cycles/codes on SD Card - Export of cycles/codes via USB port**
- Reading and printing cycles/codes through the application Freezing Tracer RTS
- Installing and configuring FTP server embedded on each machine



7" TFT Display Touch Screen



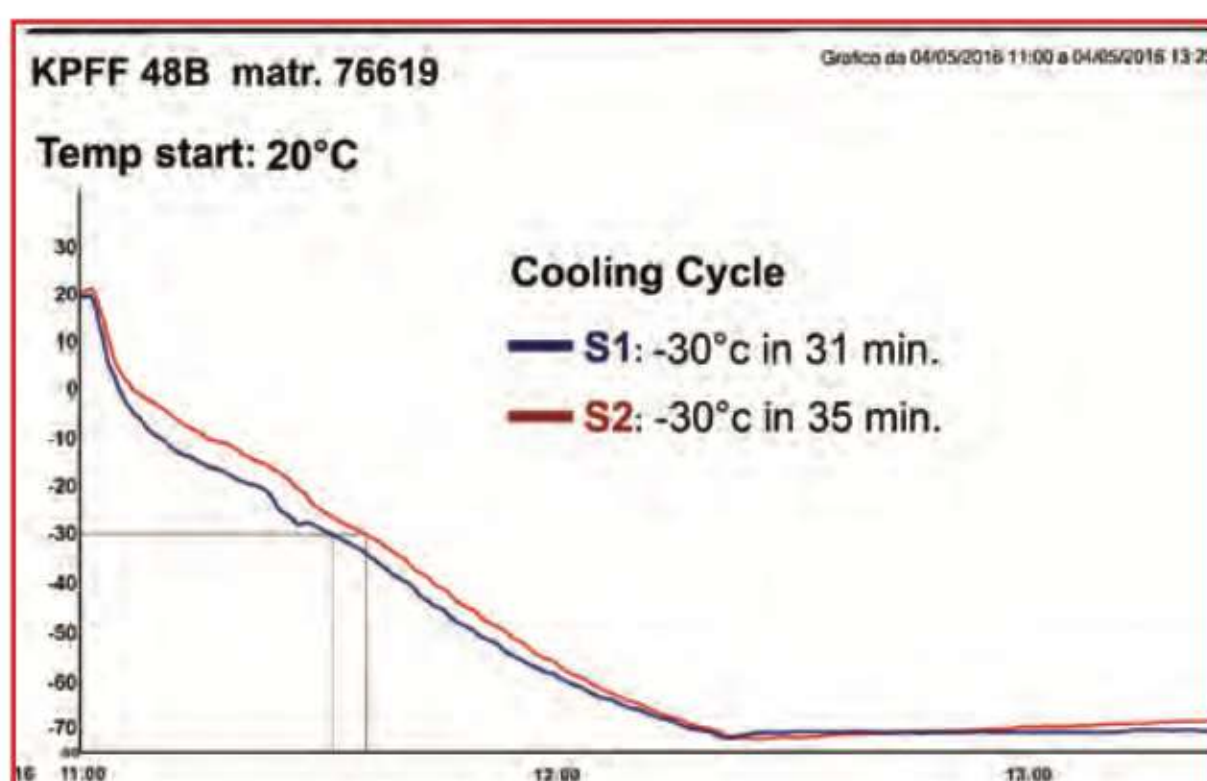
BloodLine

Shock freezer for Plasma on contact

Internal case of the rapid freezer with standard 450 ml. bags in freezing

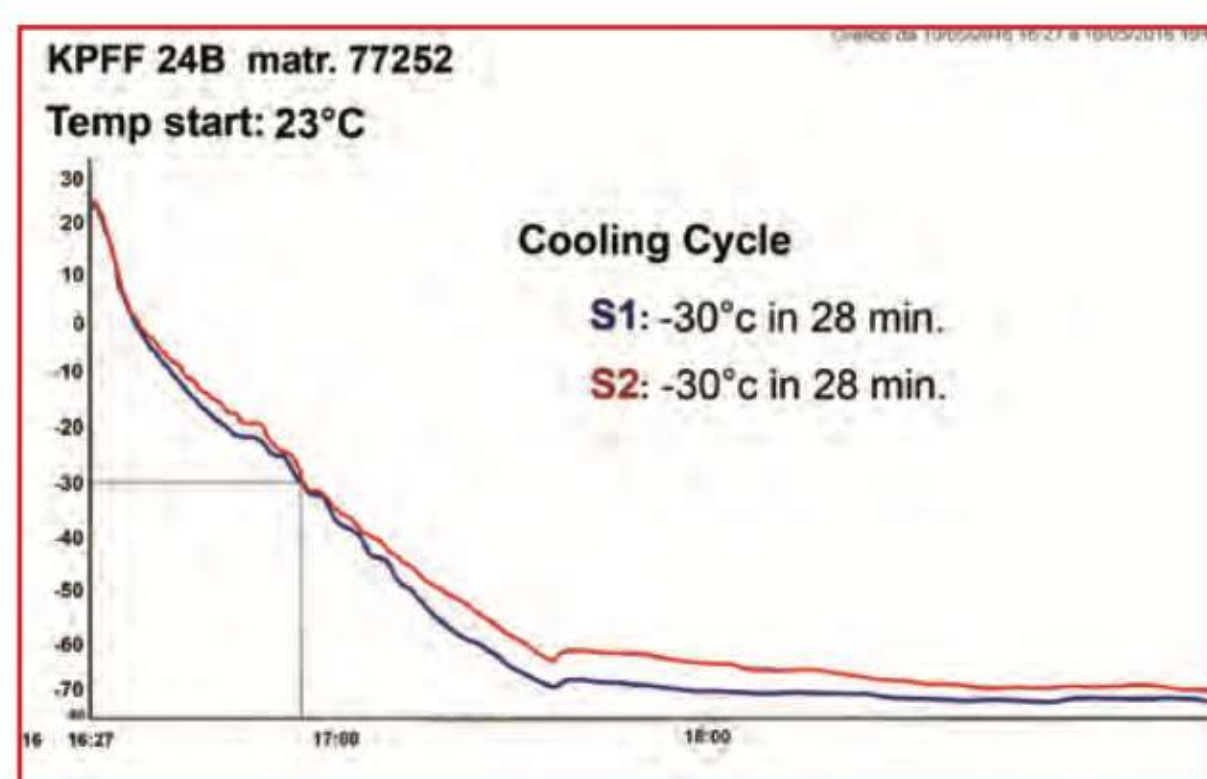


Standard 450 ml. bags after freezing



*Cooling curve in the freezing weels (model. **KPFF 48B**) with external registration system.*

N.48 standard bags (260/280 ml.) with start temperature of +20°C.



*Cooling curve in the freezing weels (model. **KPFF 24B**) with external registration system.*

N.24 standard bags (260/280 ml.) with start temperature of +23°C.

NOTE: Test performed with **S1** and **S2** probes placed inside the warmer wells.



BloodLine

Shock freezer for Plasma on contact

Internal case of the rapid freezer with standard 1000 ml. bags in freezing



Standard 1000 ml. bags after freezing



Standard 1000 ml. bags after freezing



NEW SYSTEM AUTOMATIC STORAGE KW (option on request)

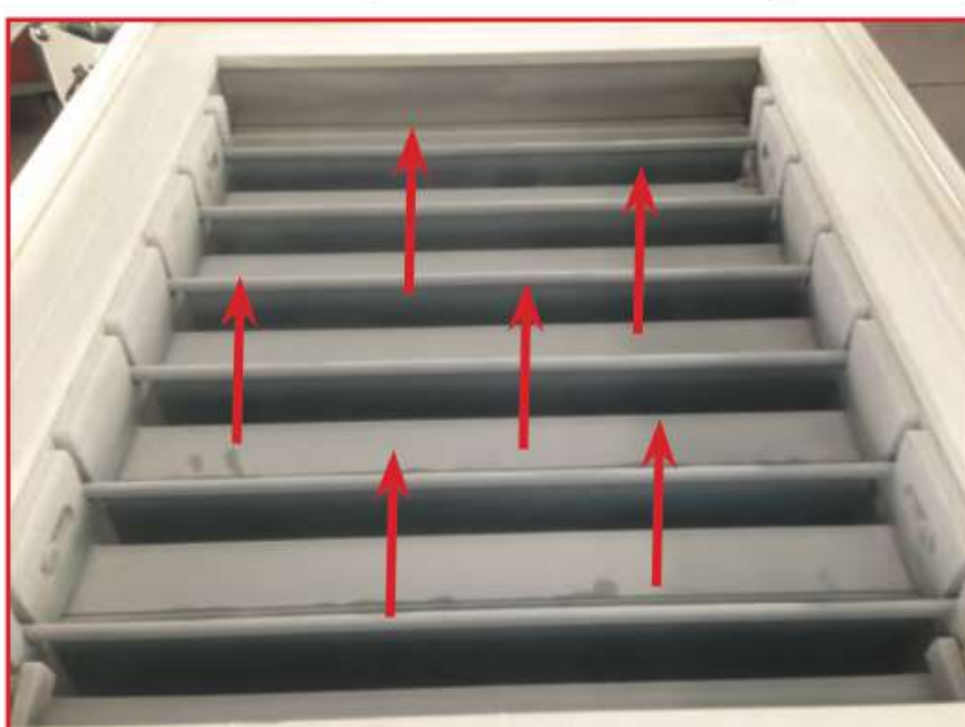
Opened door, wells free for introduction and/or extraction of plasma bags

OPEN



When the door is closed, the baffles automatically move, compressing plasma bags inside the wells, for the best freezing

CLOSED



Shock freezer for Plasma on contact



KPFF 24B
Plasma Shock Freezer

CONTROL PANEL

AUTOMATIC DATA DOWNLOADING

Possibility of automatic data downloading to the end of each cycle of freezing and availability/traceability of the plan of freezing on the internal laboratory network. At the same time of the refrigeration system action, time count on the digital electronic recorder is activated, without any further intervention by the operator



Touch Technology



GUARANTEED TRACEABILITY

With the recording of the procedure all operative phases, by a digital system touch screen and by a bar code reader, with many possibilities for the connection to the transfusion centre network.



KPFF 48B

Rapid freezers for Plasma on contact

K= Kalt P= Plasma F= Fast F= Freezer 24 - 48 (number of 450 ml. standard bags or 1000 ml.) B= Bags

Model	Max external dimensions (lxwxh)	Plasma bags shelf level	Internal wells	Used refrigerants	Power supply	Weight
KPFF 24B	cm. 120x84x126 h	117 cm	n.6 (to 4 bags cad.)	R404A ed R508B	V 230/1/Hz 50 max absorption 15 A (on request, execution 400V/3/50Hz+N+T)	Kg. 250
KPFF 48B	cm. 179x84x126 h	117 cm	n.12 (to 4 bags cad.)	R404A ed R508B	V 400/3/Hz 50 +N+T max absorption 10 A	Kg. 400



MANUFACTURE STANDARD, MANUFACTURE RELIANCE

RT-2100C

Microplate Reader



Features

- Easy Windows operation software, with touch screen or mouse, Large LCD display
- 8-channel optical fiber system enables 5 secs' reading for the whole plate
- Bichromatic measurement, calculation modes include Absorbance, Cut-off, Curve, Linear regression Index regression, Logarithm regression, Exponent regression, Power Regression, etc
- Large memory storage up to 100 programs, 1000 patients data, 10000 sample records
- Auto self-check when power on
- With lamp sleeping and wake-up function
- Random positive control and negative control setting
- Multi-assay feature enables up to 12 different assays on one plate
- Powerful QC function: Immediate, Elisa including Westguard Rules, Levey Jennings plot(optional)
- Multiform result output including patient comprehensive report
- Easy software upgrade by SD card, support USB mouse and keyboard
- Ability to communicate with PC for data management (optional)





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RT-2100C

Microplate Reader



Main Menu

Calibration

Program: Demo
Calculation mode: Reg

Print Cancel

Plate setting

Sample	Blank	NC	PC	STD	QC	CLR
1	2	3	4	5	6	7
8	9	10	11	12		
A	0.01	0.02	0.03			
B						
C						
D						
E						
F						
G						
H						

Program: ABS Calculation: Absorbance

New Select all Clear all Start Cancel

Programming

Program: HbsAg
Full name: Antigen
Reagent:
First wavelength: 450
Second wavelength: None
Calibration mode: Absorbance
☐ Double sample
Blanks: 0.050

>> Cancel

Report

Name: Susan Sex: Female Age: 25 Dept: xxx
Date: 20/10/2003 Sample: 05 Bed No: 006 Sender: xxx

Program	Full name	Result	Unit	Diagnosis	Reference range
HIV		0.163	s/co-	Neg-	(0.000-1.000)
HbsAg		0.283	s/co-	Neg-	(0.000-1.000)
HbsAb		0.634	s/co-	Neg-	(0.000-1.000)
T3		3.374			

Operator: Checker:

Technical Specifications

Read-out Range	0-3.500Abs
Resolution	0.001Abs(displayed), 0.0001Abs(calculated)
Light Source	Halogen lamp
Wavelengths	405,450,492,630nm, 4 more filters optional
Wavelength Accuracy	± 2.0nm
Band Width	< 10nm
Calculation Mode	ABS, Cut-off, Curve, Linear regression Index regression, Logarithm regression, Exponent regression, etc
Accuracy	± 0.03A (0-2.000Abs)
Reading Speed	5 secs for 96 well plate (Single wavelength)
Shaking Plate	Shaking time and speed adjustable
Memory	100 programs, 1000 patients data and 10000 sample records
Interface	RS-232, USB, SD card interface
Display	Large LCD
Input	Touch screen, mouse or external keyboard
Output	External printer(optional)
Net Weight	8KG
Dimensions L×W×H (mm)	460 × 330 × 190
Power Requirement	AC 110V-220V, 50/60Hz

Patient data setting

Input patient information

Date: 2003-06-09 Sample NO: 001
Name: Susan Age: 25
Sex: ☐ Male ☒ Female ☐ Unknown
Dept: xxx Operator: xxx
Bed ID: 006 Sender: xxx
ID: 008

Ok Cancel



MANUFACTURE STANDARD, MANUFACTURE RELIANCE

RT-2600C

Microplate Washer



Features

- Easy Windows operation system, large LCD display
- Washes flat, U and V-bottom strips and plates
- 12-way or 8-way manifold, automatic and manual positioning
- Large memory, up to 50 wash protocols can be programmed
- Automatic monitoring for vacuum and pressure, automatic rinse cycle
- Washing pressure volume and time adjustable
- Liquid level detection and alert function
- No special airtight bottle required for wash bottle
- Easy maintenance



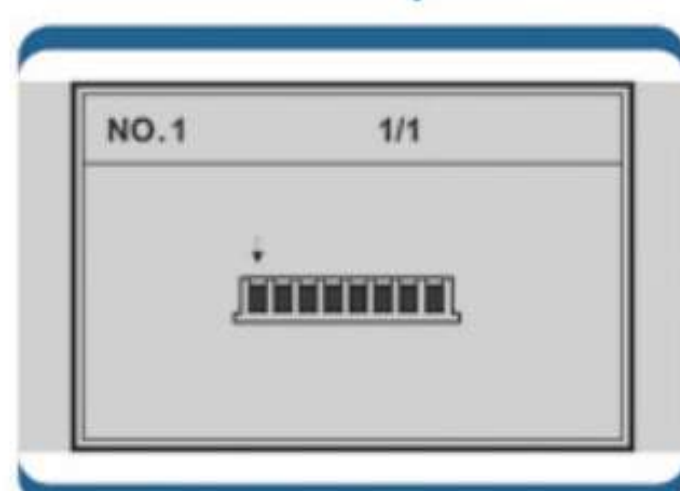
RT-2600C

Microplate Washer

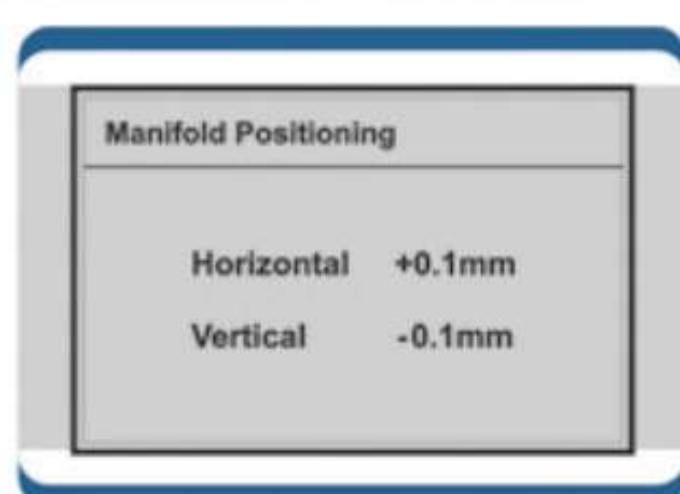
Program interface



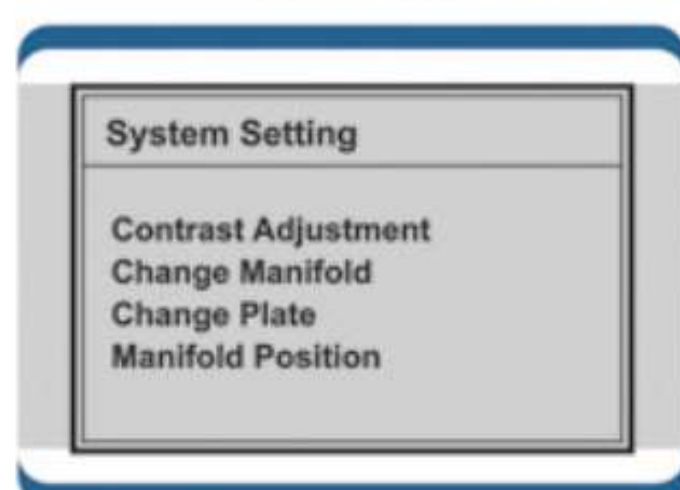
Select strip to wash



Manifold positioning



System setting



Technical Specifications

Plate Mode	96- or 48- well plate or strip
Dispense Precision	CV < 2%
Residual Volume	< 3 µl
Washing Volume	50-3000 µl for 8-way manifold
	50-2000 µl for 12-way manifold
Washing Cycle	Maximum 99 cycles
Strip Washing	1 to 12 channels adjustable
Soaking Time	0-24 hr
Display	5" LCD
Bottle Capacity	2 litres each
Memory	50 washing protocols
Interface	RS-232 serial port
Net Weight	9KG
Dimensions L×W×H (mm)	390×330×177
Power Supply	a.c. 100V-240V, 50Hz/60Hz



-86°C ULTRA LOW TEMPERATURE FREEZER

TARGETED REFRIGERATION

The new generation of ultra-low temperature refrigeration system can ensure fast refrigeration and was awarded with the Second Prize under State Technological Invention Award.

FIVE MAGIC WEAPONS FOR ENERGY SAVING

Imported high-efficiency compressor + separated evaporator + composite heat exchanger + optimized fractional condensation & separation system + high-efficiency thermal insulation system can save energy and reduce power consumption of the freezer by 40%.

LOW NOISE DESIGN

Low-noise direct cooling circuit + suspension frame & sound absorbing compartment & low-noise fan can reduce noise generated by the entire freezer to the largest extent.

THREE-DIMENSIONAL THERMAL INSULATION

The six sides of the cabinet are made from high-efficiency VIP vacuum thermal insulation plate, and the thermal insulation design of the inner door made from foaming material and the outer door system was awarded with multiple patents, which can improve the thermal insulation performance of the freezer.

OPTIONAL ACCESSORY(WIFI/BLEETOOTH PRINTER/MECHANICAL LOCK/SWIPE CARD/FINGERPRINT)

Connect Wi-Fi to upload data to the cloud space, monitor the device, check the status of the refrigerator faster, and ensure the safety of the samples;

Optional Bluetooth printer, real-time export temperature data, temperature graph, setting operation and other data, to understand the freezer operating status;

Optional functions such as card unlocking, fingerprint unlocking, and facial recognition unlocking are available to facilitate quick access to samples.



7" HD Intelligent Screen Control System

7-inch HD intelligent display touch screen, user-friendly interface and more accurate temperature control, with Bluetooth, Wi-Fi and other functions, more convenient operation and more comprehensive functions.

·Can add multiple user accounts to log in and record usage/operation records.

·The high-precision microcomputer control system and platinum resistor sensors enable users to set

temperature inside the cabinet within a range from -40 to -86°C.

·Optional functions such as card unlocking, fingerprint unlocking, and facial recognition unlocking are available to facilitate quick access to samples.



Refrigeration System

·The imported high-efficiency compressor and EBM fan are energy-saving and highly efficient.

·The large finned condenser with a space between fins $\leq 2\text{mm}$, providing effective heat dissipation.

·With twin-compressor, if one is damaged, the other one could keep the temperature at -70°C stably.

·Standard with VIP board for high efficiency cooling performance. Door with hot gas pipe surrounding for defrost.

Supplies for Cryo-preservation

Freezer racks/boxes for cryopreservation are optional.



Remote alarm contact, RS485

Equipped with RS485 and remote alarm interface to realize remote observation of freezer operation status, real-time reception of product operation information, and ensure the storage safety of samples.



Data Storage

The temperature data recorded by the system can be exported, the operating data of the system settings, the alarm data, and the temperature data can be recorded in 5 minutes, and the data can be recorded for up to 10 years, which can effectively record the running status of the product for you for a long time.



Thermal Insulation System



·2-layer heat insulating foamed door with inner and outer door seal and the insulation design of the outer door system with multiple patents can prevent loss of refrigerating capacity in an effective way;

·The 6 sides of the cabinet are made from high-performance VIP: Vacuum Insulation Panel material, improving thermal insulation performance to a large extent.



Security System

·The perfect audible & visual alarm system: high and low temperature, sensor failure, power failure, low battery, door ajar, main board communication error, high ambient temperature etc.

·Equipped with alarm self-recovery function, it reminds users of unhandled alarm problems in freezer many times.

·The compressor start delay and stopping interval protection can ensure reliable operation.

·The touch screen controller has password protection which can prevent any adjustment of operation without permission.



Human-oriented

·The new designed assisting handle and vacuum release port let the freezer be operated singlehanded to open and close the outer door

·The newly added file box makes recording easier and more convenient

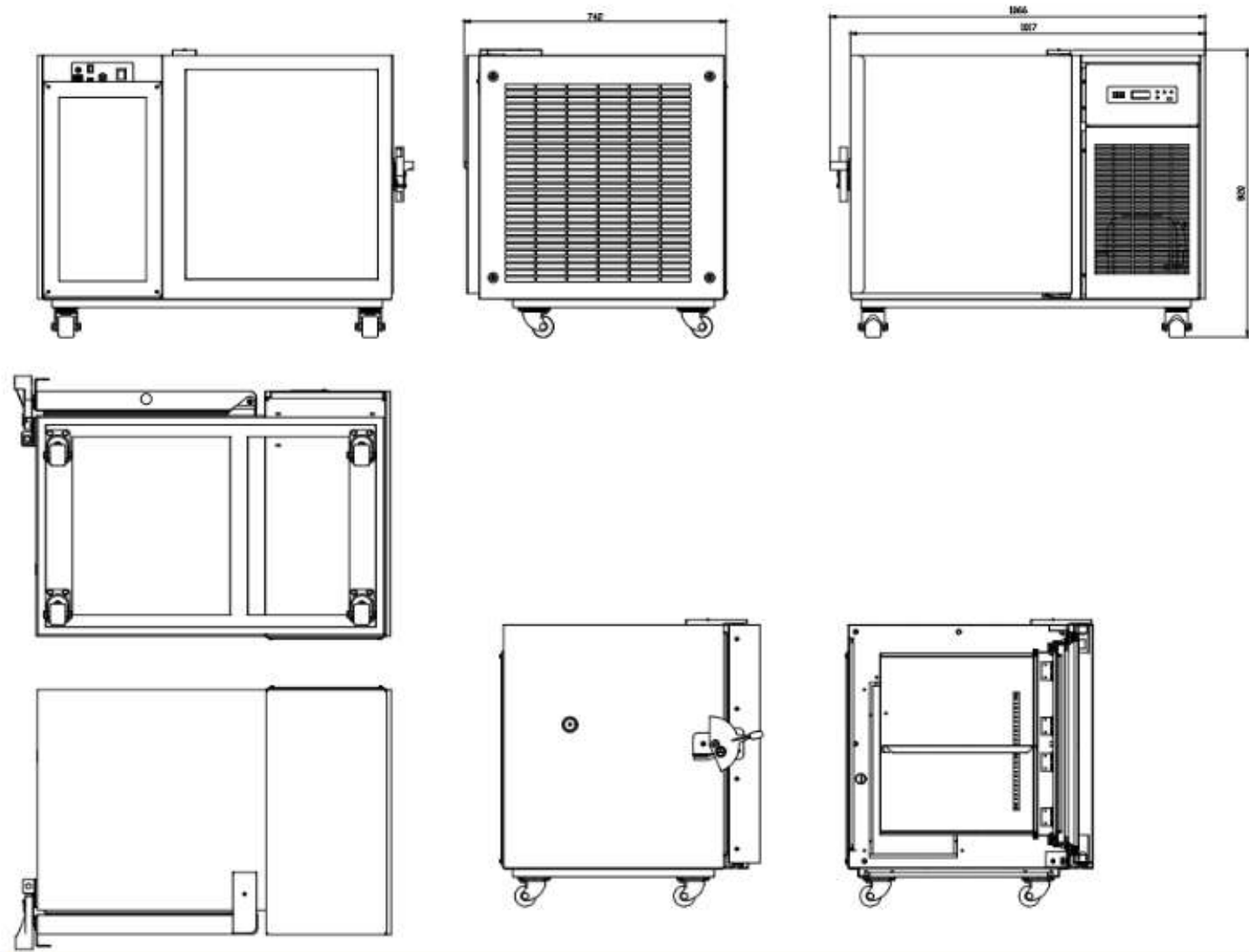
·The liner made from Stainless steel for medical use is low-temperature tolerant and corrosion-resistant, which has a long service life and is easy to clean

·The universal casters and leveling feet design are more convenient for movement and fixation.

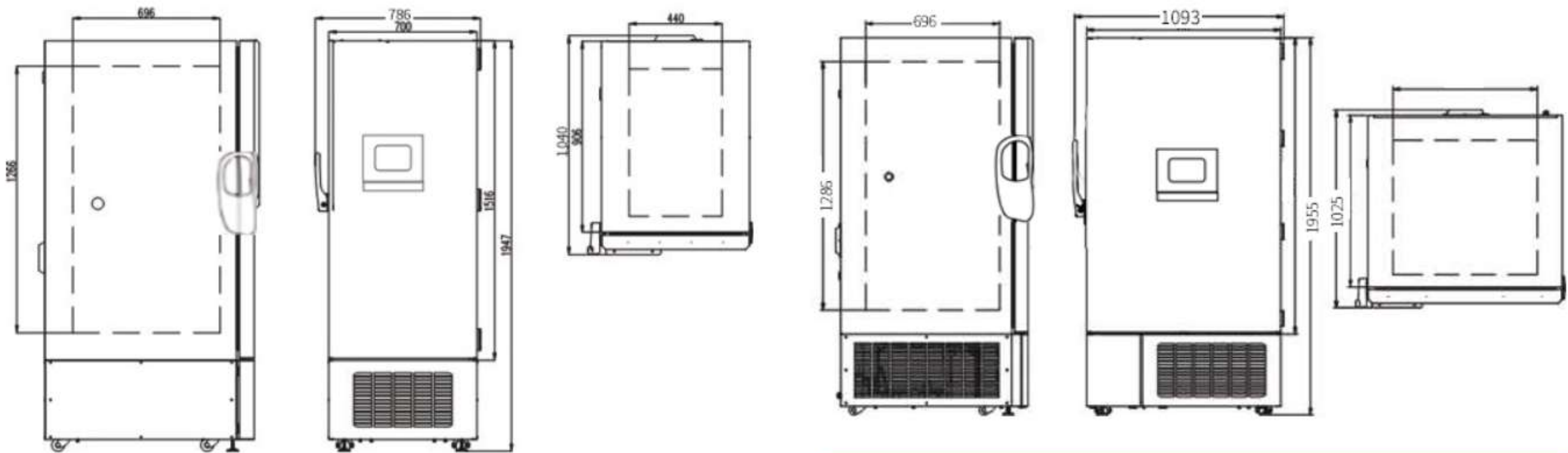
Scope of Application

Suitable for use in blood banks, hospitals, health and disease prevention systems, research institutions, colleges & universities, the electronic industry, biological engineering, laboratories in colleges & universities, military enterprises, deep-sea fishing companies, etc

GENERAL ASSEMBLY DRAWINGS

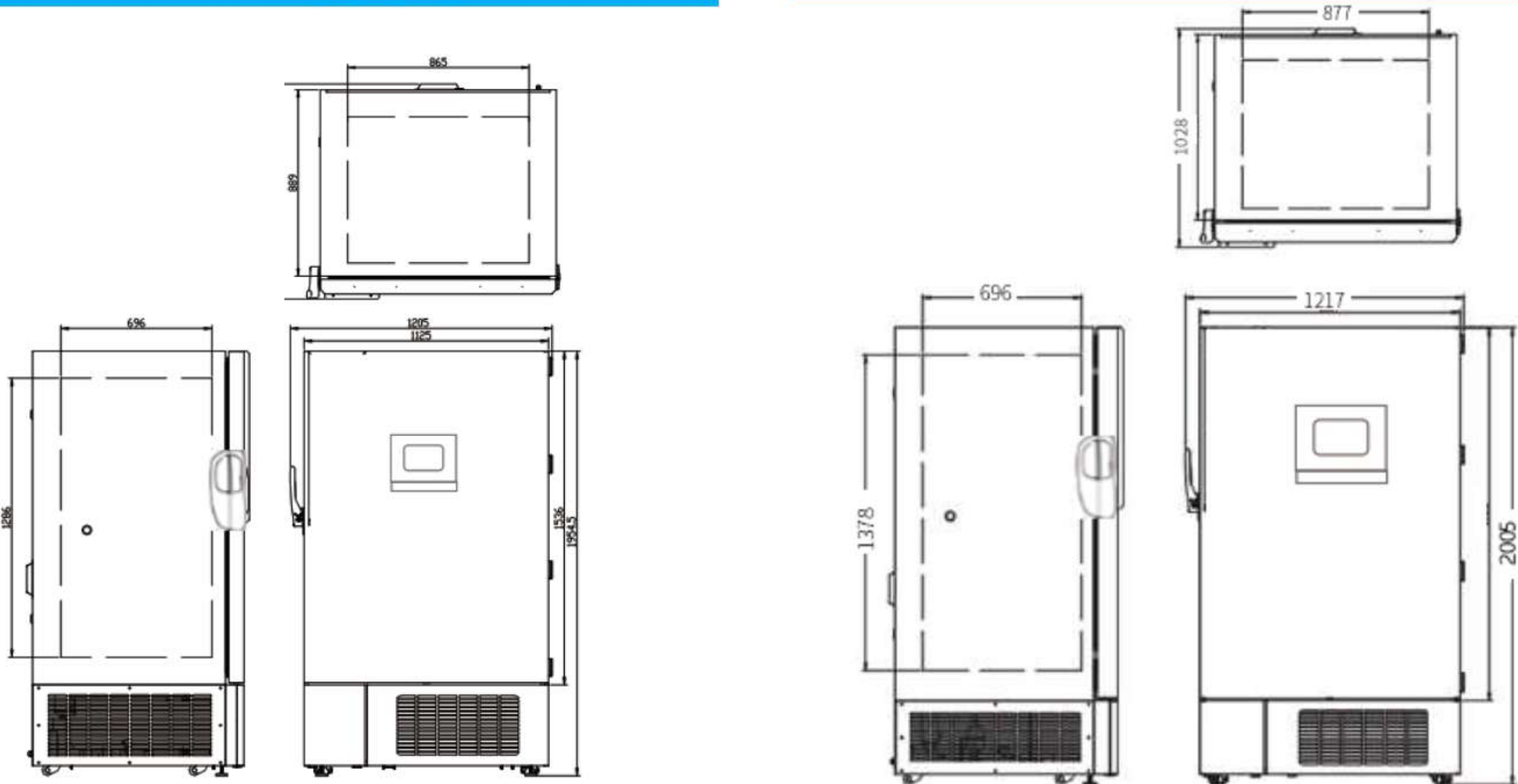


MDF86V100



MDF86V528

MDF86V678



MDF86V778

MDF86V858

TECHNICAL SPECIFICATION

MODEL	MDF86V100	MDF86V528	MDF86V678T	MDF86V778T	MDF86V858T
CABINET TYPE	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
CAPACITY	100L	528L	678L	778L	858L
INTERNAL SIZE(mm)	450x450x514	585x696x1266	750x696x1286	865x696x1286	877x696x1378
EXTERNAL SIZE(mm)	1066x742x820	931x1040x1947	1093x1025x1955	1205x1025x1955	1220x1028x1994
PACKAGE SIZE	1200x863x991	1035x1165x2158	1203x1155x2171	1320x1155x2171	1330x1155x2176
N W/GW(KG)	145/189	273/317	336/383	359/403	390
PERFORMANCE					
TEMP RANGE	-40°C—86°C				
AMBIENT TEMP	16°C—32°C				
COOLING	-86°C				
CLIMATE CLASS	N				
CONTROLLER	DIGITAL	DIGITAL/MICROPr.	MICROPROCESSOR		
DISPLAY	LED	LED/TFT TOUCH	HD INTELLIGENT TOUCH SCREEN		
REFRIGERATION					
COMPRESSOR	1 No	1/2 NOs	2 NOs		
COOLING METHOD	DIRECT COOLING				
DEFROST MODE	MANUAL				
REFRIGERANT	MIXTURE GAS				
INSULATION THICK	130MM				
CONSTRUCTION					
EXT. MATERIAL	COLD ROLLED STEEL SHEET				
INNER MATERIAL	STAINLESS STEEL				
SHELVES	1 NO. SS	3 Nos SS	3 Nos SS		
DOOR LOCK	YES				
PADLOCK	YES				
ACCESS PORT	1 No Ø25MM	2 Nos Ø25MM	3 Nos Ø25MM		
CASTERS	4+(2 LEVELLING FEET)				
DATA LOGGING	USB/RECORD EVERY 5 MIN / 10 YEARS				
BATTERY BACKUP	YES				
ALARM					
TEMPERATURE	HIGH/LOW TEMPERATURE, HIGH AMBIENT TEMPERATURE				
ELECTRICAL	POWER FAILURE, LOW BATTERY				
SYSTEM	SENSOR FAILURE, MAIN BOARD COMMUNICATION ERROR, CONDENSOR OVERHEATING, DOOR AJAR				
ELECTRICAL					
POWER SUPPLY	AC 220-240V/ ~50HZ				
RATED CURRENT	5.57A	10.97A	12.1 A	11.81A	11.46A
ACCESSORIES					
STANDARD	RS485, REMOTE ALARM CONTACT				
OPTIONAL	CHART RECORDER, CO2 BACKUP SYSTEM, Biometric Access System, Bluetooth Printer, Wifi etc				

DFS-450 Solid Door -40°C Deep Freezer



Temp. fluctuation



Pulling down to -40°C



Recovery time after 1 minute door open

**Typical freezer data based on internal testing with freezer set point at -25°C and ambient temperature at 25°C.*

Features



Temperature control system
Display temp. in 0.1°C increments



Built-in data logger
Store up to 100,000 groups of temperature data



Hydrocarbon refrigerant
Environment-friendly natural gas



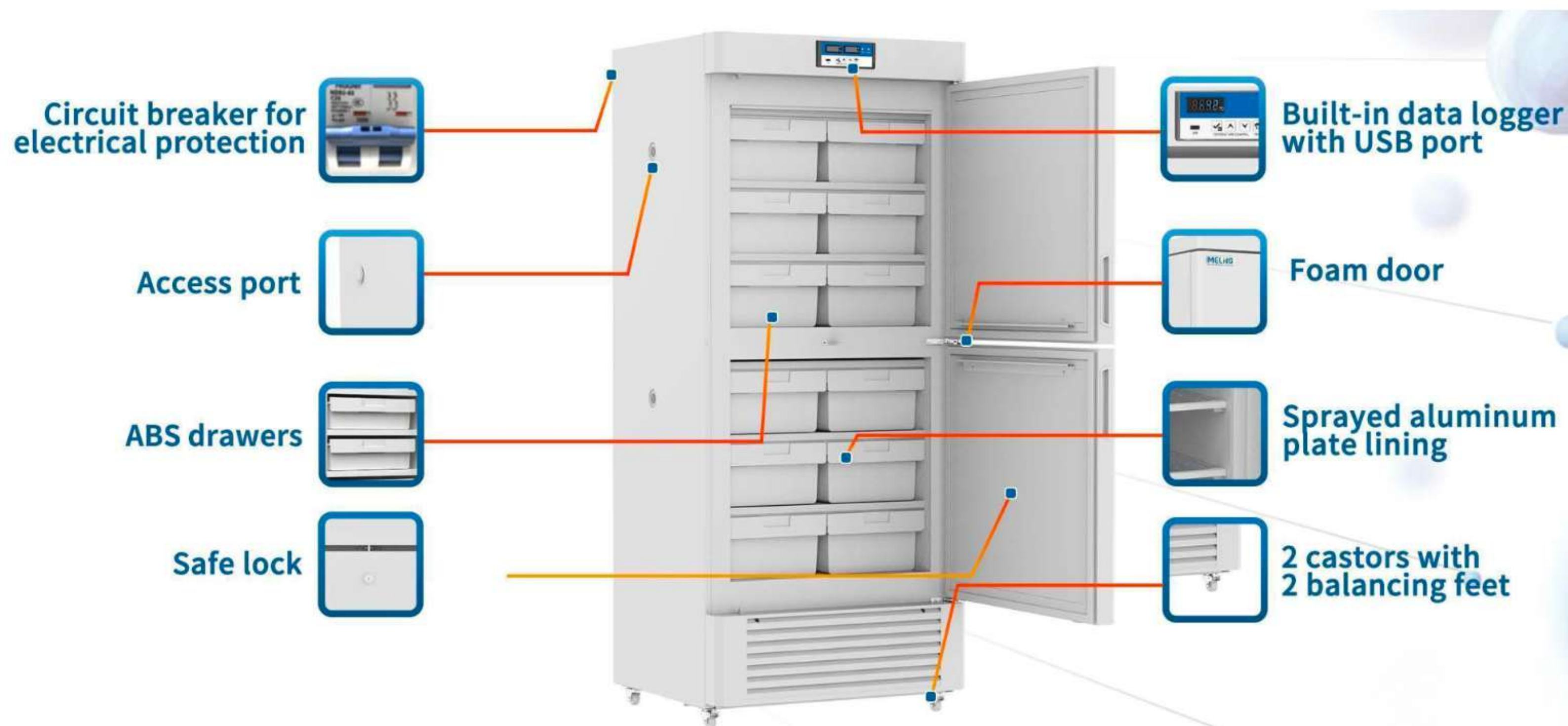
ABS drawers
12 ABS drawers



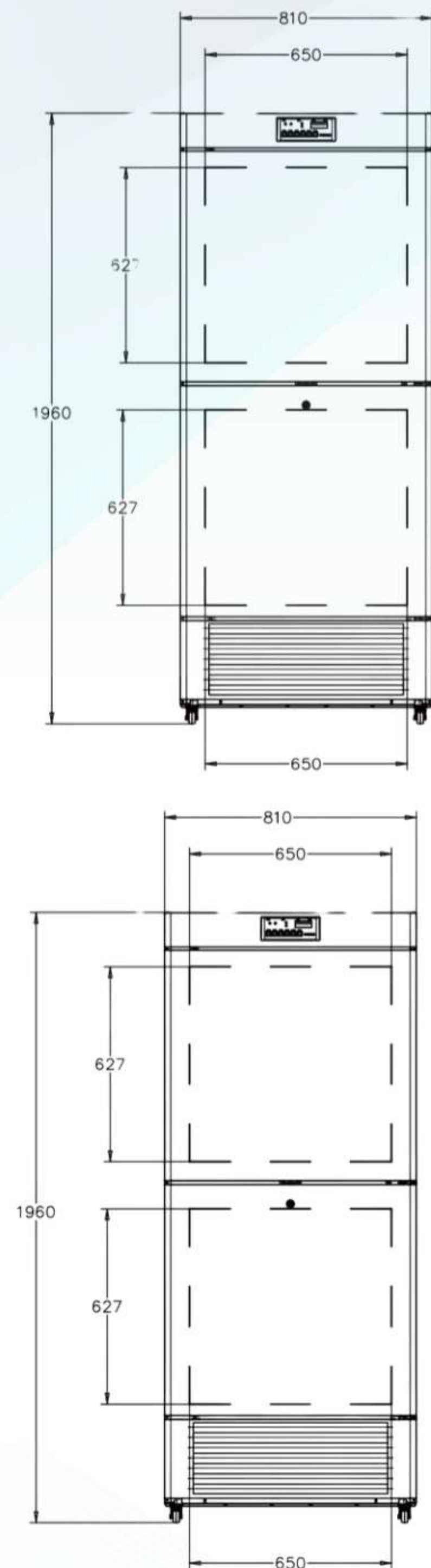
CE certificate



Alarms system
10 kinds of alarm functions



Dimensions



Specification

-20 to -40°C Biomedical Freezer		DFS-450 Solid Door	
Capacity	450L/15.89Cu.Ft.		
Internal size (W*D*H) mm/inch	650*570*627*2/25.59*22.44*24..69*2		
External size (W*D*H) mm/inch	810*741*1960/31.89*29.17*77.17		
Package size (W*D*H) mm/inch	895*820*2135/35.24*32.28*84.06		
NW/GW (kgs)	144/172		
Performance			
Temperature range	-20~-40 °C		
Ambient temperature	16~32°C		
Cooling performance	-40°C		
Climate class	N		
Controller	Microprocessor		
Display	Digital display		
Refrigeration			
Compressors	2pcs		
Cooling method	Direct cooling		
Defrost mode	Manual		
Refrigerants	R600a		
Insulation thickness(mm)	B: 76, L/R: 80		
Construction			
External material	PCM		
Inner material	Stainless steel		
Shelves	7(ABS)		
Access test Port	2pcs. Ø 25 mm		
Casters	4+(2 balancing feet)		
Data logging/ Interval /Memory capacity	USB/Record every 5 minutes/100,000 data		
Interface	Remote alarm contact		
Backup battery	Yes		
Alarms			
Temperature	High/Low temperature, High ambient temperature		
Electrical	Power failure, Low battery		
System	Sensor failure, Main board communication error, Door ajar		
Electrical Data			
Power supply(V/HZ)	220V-230V/50Hz	220-240V/60Hz	110V/60Hz
Rated current (A)	4.5A	5.26A	3.71A

Introducing Mehrotra Biotech's **BLOOD BANK REFRIGERATOR** Optimal Temperature Control For Preserving Life's Vital Fluids

Our Blood Bank Refrigerators are purposefully crafted to store whole blood, blood derivatives, and other essential biological materials. We understand the critical importance of preserving these valuable components, and our refrigeration system ensures consistent and precise temperature management.

When it comes to preserving the integrity and viability of blood and other biological materials, trust in Mehrotra Biotech's Blood Bank Refrigerator for unparalleled reliability and performance.

STATE OF THE ART CONTROLLER FEATURES

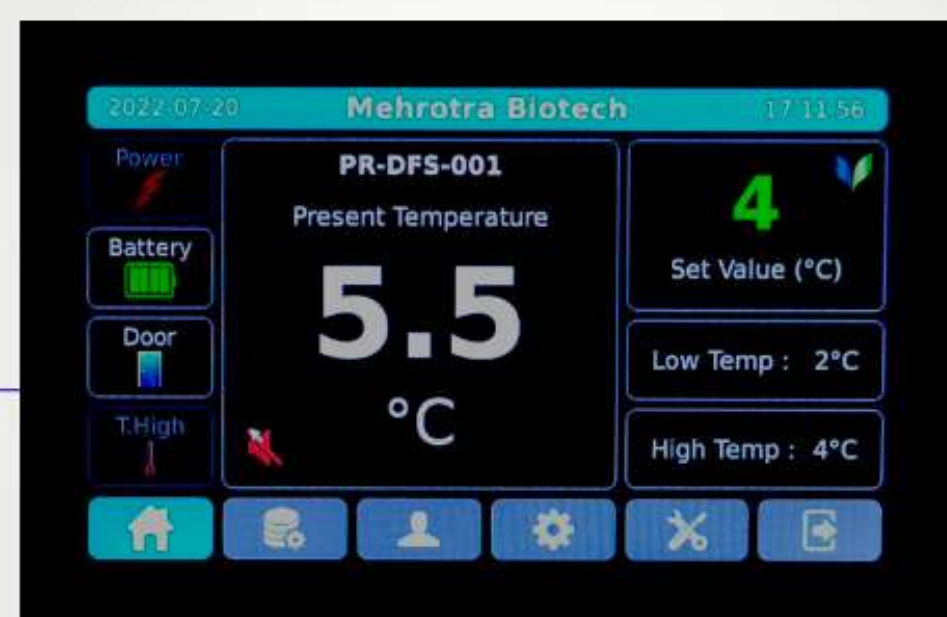
Our advanced microprocessor controller offers a host of features designed to provide precise temperature control and comprehensive monitoring capabilities. It features

- a large **5-inch touchscreen** color display for easy navigation.
- The controller ensures precise temperature control, with **out-of-range parameter** warnings and alerts for **door open, power failure, and low battery conditions**.
- Access control** with password protection allows multiple users to have secure access.
- The **in-built data logger** records temperature and system performance data, with the ability to download it to a USB device.
- Remote monitoring** is enabled through LAN connection, with data recorded in tabular and graphical formats.
- The controller also supports direct printing and complies with **21CFR Part 11** requirements. Additionally, it includes in-built sensor and battery calibration for accurate readings.



SMARTemp Controller with USB & LAN Connectivity with password protected access control. Get Access from anywhere using the same Network Connection.

Warning



Connectivity



KEY HIGHLIGHTS OF OUR ADVANCED BLOOD BANK REFRIGERATOR

Advanced Microprocessor-Based Controller: Our refrigerator is equipped with an advanced microprocessor-based controller. It intelligently detects usage patterns such as door openings, power cut-offs, and data storage, resulting in energy savings without compromising the protection of stored blood.

Energy-Efficient: With up to 40% less energy consumption compared to conventional refrigerant models, our refrigerator is not only reliable but also environmentally conscious, reducing your energy costs.

Optimal Storage Designed specifically for whole blood storage, our refrigerator ensures stable temperature control for various inventory loads, maintaining the integrity of blood products.

Consistent Cooling: Our forced air circulation system ensures consistent cooling throughout the refrigerator, preventing frost accumulation and maintaining the quality of stored blood.

User-Friendly Features: The refrigerator's microprocessor controller offers a user-friendly interface with set-point security, alarms, and USB data output, providing convenience and peace of mind.



Whisper-Quiet Operation Experience a peaceful work environment with our refrigerator's whisper-quiet operation, allowing end users to work alongside it without distractions.

Precise Temperature Control: The temperature inside the refrigerator is accurately controlled by a sensor located in the liquid-loaded monitor bottles at the center of the cabin, ensuring optimal storage conditions.

Environmentally Friendly Refrigerant: Our refrigerators use environmentally friendly R134a refrigerants, making them the preferred choice for scientists and drug research laboratories committed to sustainable practices.

Easy Maintenance: Cleaning is hassle-free with the refrigerator's easy-to-clean SS304 interior walls and removable spill-proof trays featuring convenient partition slots.

Enhanced Reliability: Built-in battery backup for the controller display and alarm function provides up to 8 hours of uninterrupted operation, safeguarding blood storage during power outages.

Optional Features: Additional features like Remote Monitoring, chart recorders and 21CFR compliant software are available as optional add-ons, offering enhanced functionality and regulatory compliance.



Mehrotra Biotech Lab Refrigerators are manufactured using only high-quality, stringently tested materials that are particularly suitable for low temperatures. The units are extremely quiet, have been approved with the CE mark and are maintenance-free.

All designs are subject to change. Special makes available on request.

TECHNICAL SPECIFICATIONS

MODEL FEATURES	BBR TC600	BBRTC450	BBRTC360
Material of Construction (I/O)	1. Powder Coated Exterior Finish with Glass Door. 2. Stainless Steel SS304 Interior with SS304 Steel drawers.		
Dimensions (Internal) (WxDxH)	585 x 540 x 1664mm	465x540x1660mm	455x490x1310
Dimensions (External) (WxDxH)	737 x 686 x 2058mm	576 x 685 x 2060mm	576 x 682 x 1890mm
Temp Range / Factory Set point	+2 ⁰ C to +8 ⁰ C / +4 ⁰ C		
Capacity (L)	590L	442L	340L
Blood Bag Storage Capacity	350 nos of 450ml 500 nos of 350ml	275 nos of 450ml 425 nos of 350ml	160 nos of 450ml 200 nos of 350ml
Door Closing	Self closure type		
Weight (kg)	130kg	115kg	102kg
Circulation	Forced air circulation with auto cut off when door is opened		
Shelves	6 nos. SS304	6 Nos SS304	5 Nos SS304
Display	5" TFT Touch Screen with USB & LAN		
Refrigerant	R134a		
Alarm	Power failure, Low Battery, High/Low Temp Alarm , Open door		
Battery backup	12 hours		
Voltage supply	230V, 50Hz.		
Power Consumption	550 W	590W	340W
Optional Accessories	Chart Recorder, Castor Wheels, Telescopic Channel Drawers		
USB Port	Yes		
LAN Port	Yes		

OPTIONAL ACCESSORIES

21 CFR COMPLIANT SCADA software System with unique controlling features: Email Configuration, Company Information, Distance monitoring, Event log App based mobile accessing monitoring features.

CIRCULAR CHART RECORDER



CASTOR WHEELS





LAB REFRIGERATOR +2°C to +8°C

- Temperature variations can reduce the shelf life and effectiveness of vaccines, medications, reagents, and other temperature-sensitive materials.
- Choosing a high-performance refrigerator or freezer is essential for laboratory and clinical environments.
- Mehrotra Biotech's PR Series Lab Refrigerator offers:
 - Reliable microprocessor-based temperature control
 - Built-in data logger with non-editable printing
 - Password-protected access control
 - Remote monitoring for enhanced performance.

OUR CUTTING EDGE CONTROLLER TECHNOLOGY

Our advanced microprocessor controller offers a host of features designed to provide precise temperature control and comprehensive monitoring capabilities. It features

- a large 5-inch touchscreen color display for easy navigation.
- The controller ensures precise temperature control, with out-of-range parameter warnings and alerts for door open, power failure, and low battery conditions.
- User Access Controls: The software allows administrators to define user roles and permissions, ensuring that only authorized personnel can access and modify parameters.
- The in-built data logger records temperature and system performance data, with the ability to download it to a USB device.

Data Integrity: The software ensures that data remains unaltered by providing mechanisms such as password protected access, audit trails, and data encryption.

- Remote monitoring is enabled through LAN connection, with data recorded in tabular and graphical formats. Furthermore, The PC software incorporates printing functionality, ensuring data integrity and compliance with 21CFR Part 11 guidelines.



KEY FEATURES

- Double layered toughened glass door: Provides insulation and visibility of the contents inside the refrigerator while maintaining temperature control.
- Adjustable shelves: Allows flexibility in organizing the storage space based on the size and quantity of items being stored.
- Dual FAN to prevent freezing: Ensures even distribution of cold air throughout the refrigerator, preventing freezing and maintaining consistent temperature levels.
- Silent operation: Operates quietly, minimizing noise disturbances in the lab environment.

- **Energy efficient:** Designed to consume less energy, reducing electricity costs and environmental impact.
- **Precise temperature control:** Offers accurate temperature settings to maintain specific storage requirements for different samples or substances.
- **Inbuilt LED illumination:** Provides bright and uniform lighting inside the refrigerator for easy visibility of the stored items.
- **Battery backup to controller:** Ensures continuous operation and temperature recording even during power outages, preventing spoilage of stored samples or substances.



TECHNICAL SPECIFICATIONS

MODEL FEATURES	PR 360	PR 450	PR 600	PR 1000
Material of Construction (I/O)	Galvanized metal sheets	Galvanized metal sheets	Galvanized metal sheets	Galvanized metal sheets.
Dimensions (Internal) (WxDxH)	476 x 531 x 1311 mm	492 x 540 x 1664 mm	655 x 540 x 1664 mm	941 x 644 x 1581 mm
Dimensions (External) (WxDxH)	572 x 686 x 1854mm	600 x 730 x 1986mm	750 x 686 x 2070mm	1029 x 724 x 2032mm
Set point	+4 ⁰ C	+4 ⁰ C	+4 ⁰ C	+4 ⁰ C
Capacity (L)	360	448	597	941
Door Type	Glass door	Glass door	Glass door	Glass door
Door Closing	Automatic	Automatic	Automatic	Automatic
Weight (kg)	83	101	115	187
Circulation	Forced air circulation	Forced air circulation	Forced air circulation	Forced air circulation
Shelves	4 (Adjustable)	5 (Adjustable)	5 (Adjustable)	10 (Adjustable)
Display	5" TFT Touch	5" TFT Touch	5" TFT Touch	5" TFT Touch
Refrigerant	R134a	R134a	R134a	R134a
Alarm	Power failure, Low Battery, Temperature variation, Open door	Power failure, Low Battery, Temperature variation, Open door	Power failure, Low Battery, Temperature variation, Open door	Power failure, Low Battery, Temperature variation, Open door
Battery backup	12 hours	12 hours	12 hours	12 hours
Voltage supply	230V, 50Hz.	230V, 50Hz.	230V, 50Hz.	230V, 50Hz.
Power Consumption	330 W	450 W	550 W	660 W
Chart Recorder	Optional	Optional	Optional	Optional
USB Port	Yes	Yes	Yes	Yes
Door Lock	Yes	Yes	Yes	Yes

Alternative Options



The previously cited models of laboratory refrigerators are also obtainable with digital controllers featuring restricted capabilities, such as solely providing door open alerts and high/low temperature alarms.

WATER BATH



Mehrotra Biotech make Water bath WB series provides precise temperature control to create a stable temperature environment for a variety of applications. Easy to use and maintain, leakproof stainless steel chamber available with a digital control system. Used in Ideal for warming reagents, bacteriological examinations, microbiological assays, sample thawing, coliform determinations and environmental and food technology applications.

TECHNICAL SPECIFICATIONS

Model	WB05	WB8	WB12	WB20	WB30
Capacity	5L	8L	12L	20L	30L
Temp Range	RT+5°C to 99°C				
Temp Stability	±1.5°C				
Temp Accuracy	±0.5°C				
MOC(Inner)	Stainless Steel AISI304				
MOC(Outer)	Stainless Steel AISI304				
Concentric Ring (Optional)	-	2 Rows, 4 Holes	2 Rows, 6 Holes	2 Rows, 8 Holes	2 Rows, 10 Holes
Ext Dimension (LxWxH) in	15x12x12	15x14x12	17x 14x13	22x15x13	22x10x15
Sensor	PTS100				
Controller	Dual LED Display programmable controller				
Power	500W	750W	1000W	2000W	2500W
Power Supply	220V, 50/60Hz 220V, 50/60Hz				

Note: Product is customizable as per user requirement.

AVAILABLE DESIGN OPTIONS



WATER BATH WITH STIRRER

ULTRASONIC WATERBATH

WATERBATH SHAKER

DOUBLE PAN WEIGHING BALANCE

Model DB-200

Mehrotra Biotech make Double Pan Weighing Balance is designed to provide accurate weighing of blood bag carrier\bucket prior to centrifugation in order to avoid imbalanced centrifugation operation. The actual weight of the contents is displayed in real time and can



be adjusted simultaneously by adding or removing weights. The differential weight in grams is also displayed at the same time. Double Weighing Scale increases the productivity in blood Banks by reducing the time required during balancing components separation process in bank centrifuge.

FEATURES

- Dual Load Cell for Independent measure with load tolerance of +/- 1 grams
- Large display monitor for better visibility
- Microprocessor based control system
- Auto Calibration
- Weighing capacity upto 5000grams
- Audio-Visual Alarm for accurate measurements.

TECHNICAL SPECIFICATIONS

Model No	DB200
Dimensions (WxHxD)	335 x 235 x 180 mm
No of Load Cells	2
Measurement Range	0—5000grams
Accuracy	+/- 1 gram
Control System	Microprocessor based control system with large display
Material of Construction	MS powder coated body with Acrylic pan
Electrical Rating	220V- 240V AC, 5A
Power Consumption	5W

HORIZONTAL LAMINAR AIR FLOW

Precision Protection for Sensitive Applications

The Horizontal Laminar Air Flow Cabinet, also known as a Tissue Culture Hood, is engineered to provide a clean and controlled environment for handling particle-sensitive materials such as biological samples and semiconductor wafers.

- **HEPA-Filtered Airflow:** Delivers ultra-clean air through a high-efficiency particulate air (HEPA) filter to ensure a sterile workspace.
- **Smooth Laminar Flow:** Ensures consistent, unidirectional airflow across the work surface, minimizing turbulence and contamination.
- **Sample Protection:** The horizontal airflow effectively shields your samples from external contaminants, including the user.
- **Application-Specific Design:** Ideal for microbiology, tissue culture, electronics, and other contamination-sensitive tasks.



TECHNICAL SPECIFICATIONS

Model No	HLF900	HLF 1200
Working area (Feet)	3x2x2	4x2x2
Direction of flow	Horizontal	
Velocity	100 FPM +/- 20%	
Noise level	<65 db A +/- 5%	
Material of construction	Outer material: MS Powder coated, Inner material made up of Stainless steel	
Working table	Made of perforated stainless AISI 304 grade.	
Front door	Protected acrylic door front window with dual hinged opening	
HEPA filter / Inflow and exhaust	H-14 filter present; Particle retention: 0.3 micron; grade with efficiency of 99.999% as per EN 1822 standards; Pressure drop: 23mm WG. Pre-Filter: G3 Washable Prefilter with upto 10 microns particle retention	
Blower assembly	Single phase, 2600 RPM Motor, directly coupled with a pair of aluminum centrifugal impeller.	
UV Management	Programmable UV Decontamination	
Control	Micro-processor controlled or Manual Operating	
Ultra violet lamp	3 feet, 30 watt (If Required)	
Illumination	LED 24W Internal Lighting	
Standard accessories	Base stand, Magnehelic differential pressure gauge, additional power points and wire chord.	
Power supply	220V, single phase, 50Hz.	
Sash Options	Acrylic Folding Glass or Vertical Roll Up	
Side Walls	8mm thick Glass	

PORTABLE DONOR COUCH



➤ APPLICATION AND ADUATAGES

1. Manual or electric control type for donors .
2. By the appearance of high-strength fiber material and poly-layer paint made of durable, easy cleaning.
3. Mattress using a high-quality medical polyurethane foam molding leather, easy cleaning and maintenance, anti-static anti-fouling properties superior to other similar products.
4. Design products with human-centered thinking to meet the safety and comfort needs of donors, alleviate their psychological pressure, and make the entire blood donation process more relaxed and enjoyable.
5. The best and ideal blood collection equipment chairs for blood donation centers and blood donation rooms at various blood stations.

PORTABLE DONOR COUCH

SPECIFICATIONS

Model	MBDC100	MBDC100A
Seat Section Size(mm)	1800x580	
	The widest part of the handrails on both sides:700mm	
Chair Height(mm)	480mm	
Dimensions of the Blood Collection Chair from front to back(mm)	100mm	
The Angle of the Back	0° -70°	
The Regulation Range of Leg Lifting	0° -90°	
The Chair front and rear Tilt Angles	8°-15°	
The Swing Angle of the Handrail	0°-45°	
Handrail Tilt Angle	-10°	
Handrails Plate Size(mm)	450x160	
Maximum Load Capacity	220KG	
Electrode Lifting Speed	\	80mm/min
Maximum Load of Motor	\	8000N
Power Supply	\	AC220/110V±10%, 50/60Hz
Standard Accessories	handrail rack、 Hand-operation、 Anti-slip table	
Optional Accessories	Soft velvet cushion cover	
Shipping size(W×D×H)(mm)	1500x8000x600	
G.W. (kg)	60	70

PLATELET AGITATOR INCUBATOR



MBIC-P5



MBIC-P10

➤ APPLICATION

Platelet Agitator Incubator widely used in hospitals and laboratories. To store blood platelet, biological reagent, chemical products stored suitable for hospitals, blood stations, research institutes and university labs.

➤ ADUANTAGES

1. Suction circulation system.
2. High-quality steel materials.
3. High-quality oscillation slide rail.
4. Precise temp. control, accurate to 0.1°C.
5. Thermal printer.
6. Universal castor wheels.
7. 4 types of alarm.
8. Lockable doors.
9. Eco-friendly.

PLATELET AGITATOR INCUBATOR

SPECIFICATIONS

Model		MBIC-P5	MBIC-P10
Performance	Cooling Method	Forced air cooling	
	Defrost	No frost	
	Power Failure Backup	72h	
	Temperature Range	20~24 ℃	
	Ambient Temperature	10~32 ℃	
	Noise(db)	49	50
Refrigeration System	Refrigerant	R134a	
	Temp. controller	Microprocessor	
	Sensor	NTC	
	Display	Digital display	
	External Material	SPCC sprayed steel	
	Internal Material	Stainless steel	
Alarms	High/low Temperature	Standard	
	Power Failure	Standard	
	Sensor Error	Standard	
	Door Ajar	Standard	
	Light	UV	
Other	Blood bags(450ml)/Drawer	10/5 layers	20/10 layers
	Thermal printer	Standard	
	Oscillation Amplitude	50±10mm	
	Oscillation Frequency	60±5e/min	
Electrical Data	Power Supply	AC220V,50/60Hz;110V,60Hz	
	Consumption(W)	197	280
	Current(A)	0.9	1.27
	Power consumption(kWh/24h)	2.69	4.4
Dimensions	Internal Dimension(W×D×H)(mm)	427x360x457	432x462x728
	External Dimension(W×D×H)(mm)	522x600x1035	520x340x1290
	Shipping size(W×D×H)(mm)	600x715x1230	605x720x1480
	CBM(m³)	0.5	0.8
	N.W./G.W. (kg)	65/95	85/120

MBPE-II MANUAL PLASMA EXPRESSOR



➤APPLICATION

Plasma Expressor is used for separating plasma in blood banks, hospitals, and other facilities. After the blood inside the blood bag is layered, the pressure of the plasma extractor can push out the different components of the blood from top to bottom.

Model	MBPE-II
Applicable Blood Bag Capacity	100 ~ 400ml
Clamping Force	20N
Material	Stainless steel
Dimensions(W×D×H)(mm)	250x165x250
Shipping size(W×D×H)(mm)	320x320x270
N.W./G.W. (kg)	2.5/3.1

BLOOD PLASMA THAWING MACHINE



MBTM-W



MBTM-D

➤ADUANTAGES

- 1.Thick film instantaneous water and electricity separation heating system,
- 2.Freely adjustable defrost barrier,
- 3.Intelligent operation management system,
- 4.Automatic water filling function,
- 5.USB data recording and storage,
- 6.Compact and flexible, easy to place and use

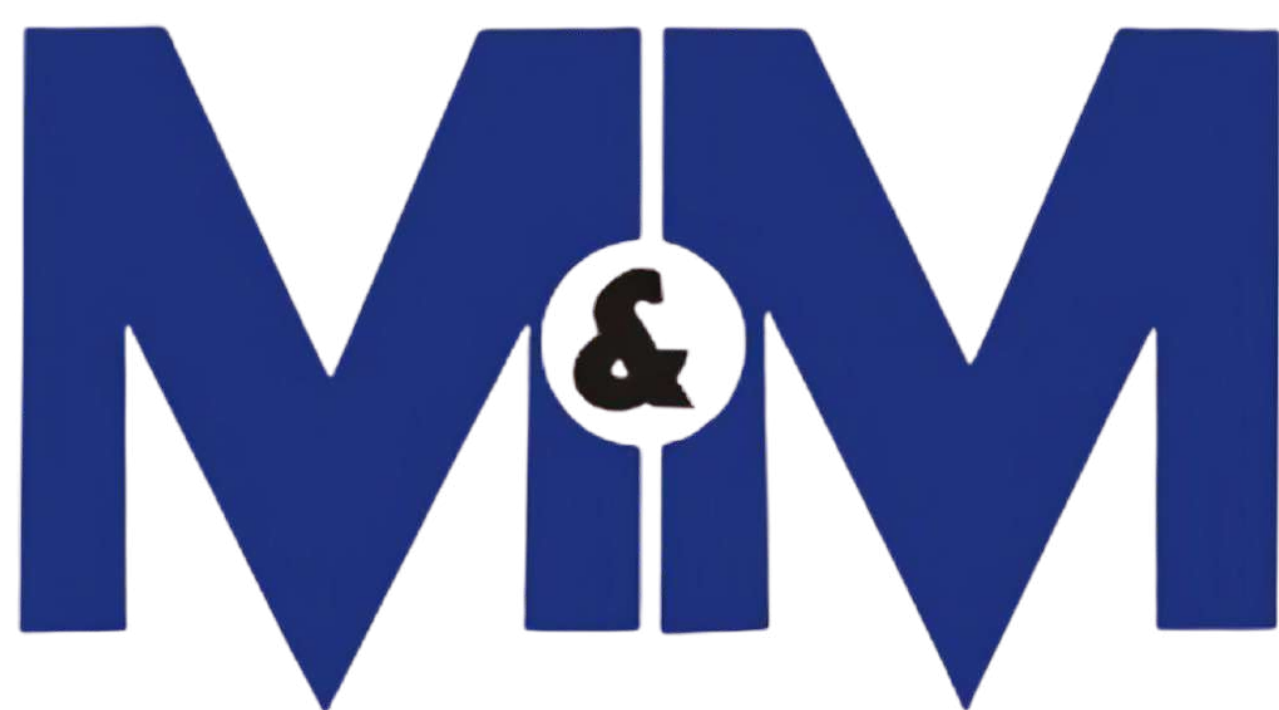
➤APPLICATION

MBTM series is mainly used for constant temperature heating and thawing of plasma, platelets and blood cells. It is also suitable for constant temperature heating of medical frozen products, blood transfusion bottles(bags), anesthetics and medicinal crystals.

This model is also suitable for constant temperature heating of fiber adhesives, medical frozen products, and operating room anesthetics.

Model	MBTM-W	MBTM-D
Thawing Quantity(Optimal/Maximum)	6 bags only	3/6 bags
Temperature Control Range	RT~60℃	
Temperature Control Accuracy	±0.1℃	
Water Storage Capacity	22kg	
Thawing Time	20~30 minutes	
Rated Consumption	1500W	
Power Supply	AC220/110V,50/60Hz	
Dimensions(WxDxH)(mm)	550x460x450	
Shipping Size(WxDxH)(mm)	670x560x580	
N.W./G.W. (kg)	30/35	

MEHROTRA GROUP



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