

Blood Bank Centrifuge



Exclusively Designed As Per
Blood Bank SOPs



KBM 80 Plus



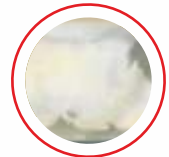
Packed Cells



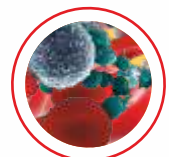
Platelet
Concentrate



Platelet Rich
Plasma



Cryoprecipitate



Buffy Coat
Separation



**STANDARD BLOOD COMPONENT YIELD
STANDARD COMPONENT VOLUME**

REMI
Healthcare



Specifications subject to change without notice

Blood Bank Centrifuge

KBM 80 Plus is the new generation microprocessor controlled blood bank centrifuge with forward thinking design and technology. Ideally used for centrifugation of whole blood for components separation like packed red cells, platelet rich plasma, platelet concentrate, cryoprecipitate and buffy coat etc.

Advance manufacturing techniques are used for mounting of brushless induction drive motor in PUF insulated, corrosion free, stainless steel armored chamber, resulting in minimized vibration and noise level. The smooth acceleration / deceleration helps in clear separation thus ensuring high quality component yield.

This centrifuge cater to the requirements of small, medium & large blood centers with flexibility to choose from 2 rotor options. The rotors are designed to accommodate specific type of oval shaped metal buckets & plastic carriers for holding eight & twelve blood bags of different volumes & configuration like 350 ml / 450ml, double / triple / quadruple, penta bags & inline-filter (quintuple) blood bags.

User-friendly software & controls helps in ease of operation. There is a unique facility for setting & controlling the centrifuge run either by RPM (speed) or RCF (g force) thus eliminating the need of manual calculations. Interactive menu driven program guides the operator through the setting process of run parameters & also the operational status while centrifuge is running.

Specially designed wing-shielded rotors reduces friction which helps in energy saving & better temperature management.

KBM 80 Plus comes with microprocessor controlled advanced HMI Touch Screen.

Features of Touch screen

- Facility to set 20 user profiles with identical password protected access
- Protected admin control for key parameters
- Display of realtime run graph with display set & run parameter
- Gloves friendly touch screen operation with option to connect with wireless mouse
- Onscreen manual, Troubleshooting & process guide

Performance

- Speed holding accuracy +/- 10 RPM
- Multiple acceleration & deceleration profiles
- Temperature range from -20°C to +40°C
- Low noise level ($\leq 55\text{db}$)
- Choice of 2 wind-shielded rotors to process 8 & 12 blood bags per cycle
- Tropicalized to run from 0°C to 40°C & RH up to 95%

Leading Technology

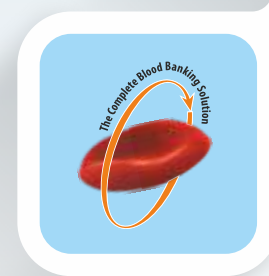
- Brush-less induction motor with frequency drive, practically maintenance free
- Advanced user friendly microprocessor control
- Programmable centrifugation parameters for accurate control
- Onboard real time user data log in with password protection
- Dedicated software for data analysis / PDF Reports, connectivity with USB
- Auto-adjustable effective centrifugal force irrespective of rotor load

User Friendly

- Facility to set and indicate RPM or RCF
- Simultaneous display of set & run parameters
- Self-diagnosis of program errors
- Microprocessor controlled automatic lid opening with touch button
- Log of 1000 run records on Touch screen
- Display of real time & Date
- Castor wheels with floor standing jacks for vibration free run
- Emergency lid opening provision in case of power failure
- Auto compressor cut off on lid opening

Safety

- Automatic lid interlocking and unlocking
- Imbalance cut-off with indication
- Safety key lock to prevent unauthorized use
- Rotor over speed protection
- Alarms for imbalance, lid open, over temperature
- Password protection for authorized access
- Tamper proof memory & last program recall
- Automatic Rotor identification & indication
- Automatic recovery of process in case of power interruption "Catch On Fly".



Blood Bank Centrifuge

Easy Setup Programming & Monitoring



7"
Touch Screen

Technical Specifications

Parameter	Unit	KBM 80 Plus
Process controls	Type	HMI Touch screen
Menu driven program	Nos	400
Acceleration profile	Steps	1-15
Deceleration profile (incl.coasting)	Steps	1-15
Max. speed	RPM	4200 settable ± 10 RPM
Max. RCF	g	6300
Max time	hh:min	0 to 99 hr 59 min 59 sec, Hold function
Compatible Rotors	Code	K 741e / K 751e
Dimension (W X D X H)	mm	840 X 940 X 950
Compliance	IEC 61010-2-020:2016, IEC 61010-1:2016, EN 60601-1, EN 60601-1-2, CE, US FDA	

Optional: Servo controlled voltage stabilizer

Supply : 220-240 volts, 50Hz, Single phase

Blood Bank Rotors, Metal Buckets & Plastic Buckets



Rotor Head & Bucket Set for 8 Blood Bag Capacity

PB 743 L / PB 743 M

Set of 4 Plastic buckets
(suitable for 2 blood bags of 450 / 350 ml each)



K 741e

4 place rotor to hold 4 metal carriers K 743



K 743

Set of 4 metal carriers each to hold 2 bag
(buckets volume 2 x 4 x 1000 ml)



PB 743 BF

Set of 4 Plastic buckets with hook adaptor
(for buffycoat component processing)

PB 743 XL

Set of 4 Plastic buckets
(suitable for Quadruple, Penta Inline filter bags)

Rotor Head & Bucket Set for 12 Blood Bag Capacity

PB 753 L / PB 753 M

Set of 6 Plastic buckets
(suitable for 2 blood bags of 450 / 350 ml)



K 751e

6 place rotor to hold 6 metal carriers K 753



K 753

Set of 6 metal carriers each to hold 2 bag
(buckets volume 2 x 6 x 1000 ml)

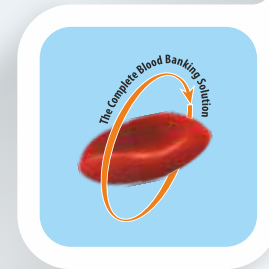


PB 753 BF

Set of 6 Plastic buckets with hook adaptor
(for buffycoat component processing)

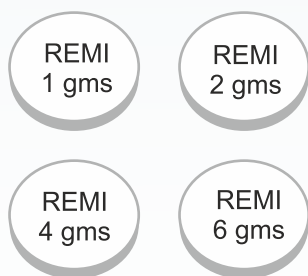
PB 753 XL

Set of 6 Plastic buckets
(suitable for Quadruple, Penta Inline filter bags)



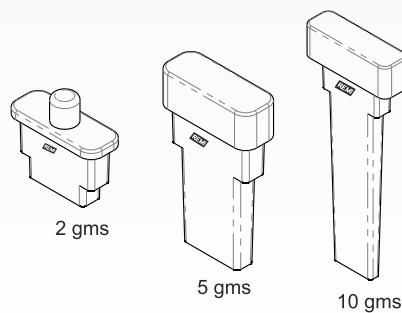
Blood Bank Centrifuge

Balancing Weights

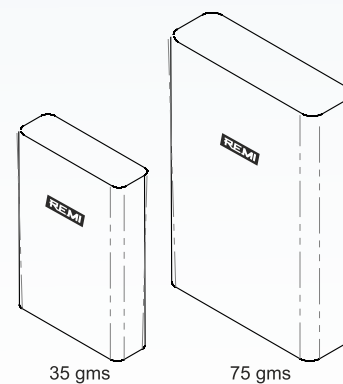


Disc Shaped Weights

Set of round cornered & soft weights ensures counter balancing with safety of blood bags during centrifugation



Rod Shaped Weights



High Capacity Compensation Weights

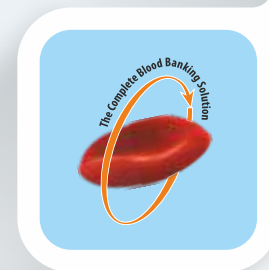
Data Acquisition System

These centrifuges have inbuilt system to collect & store all data related to centrifugation process like operator code, process type, time, temp, RPM, RCF, acceleration, deceleration & process status etc. The data from the centrifuge can be transferred to a computer using a data interface. This data can be used by blood centers for quality analysis & control.



Data Direct Download in Pen Drive via USB Port

Blood Bank Centrifuge



REMI KBM 80 Plus meets the component separation guidelines by AABB & DGHS

Important Parameter for Quality Components	Procedural Requirements (as per AABB & DGHS manual)*	Technical Features KBM 80 Plus
Centrifugal Force (RCF)	5000 g Heavy spin - Max. RCF	Up to 6300 g
Temperature Range	Need temperature 22°C±2°C to run PRP method & Buffycoat method, 4°C to run FFP & Cryoprecipitate method	Achieves both desired temperature of 22°C & 4°C with accuracy of ±1°C along with setting range of -20°C to +40°C
Calibration	Must be calibrated for speed & Time for various component preparation	Special eyelet window for quick calibration
Imbalance	Contents in opposing cups must be equal in weight to improve centrifuge efficiency	Imbalance Cutoff with indication to ensure component quality as well as safety



* AABB Technical Manual, 15th edition; 2005; Table 7.4-1. Centrifugation for Component Preparation; pg.827

* Transfusion Medicine Technical Manual DGHS, 2nd edition; 2003, Blood component preparation & Use, pg.195



Need of Centrifuge Optimization for Quality Enhancement

Each individual centrifuge must be evaluated for the preparation of the various components.

* AABB Technical Manual, 15th edition; 2005; Table 7.4-1. Centrifugation for Component Preparation; pg.827

Centrifugation Variables : Centrifugation speeds (relative centrifugal force) and times should be standardized for each piece of equipment.

* AABB Technical Manual, 15th edition; 2005; General Laboratory Methods; Centrifugation Variables; pg.716

High g forces are of theoretical concern because they may damage the platelets when they are forced against the wall of the container.

* AABB Technical Manual, 15th edition; 2005; Methods Section 6: Blood Collection, Storage, and Component Preparation; pg 817



REMI Provides Application Support for Quality Validation & Standard Results