



# Blood Technology



[www.lmb.de](http://www.lmb.de) [www.erysep.com](http://www.erysep.com)

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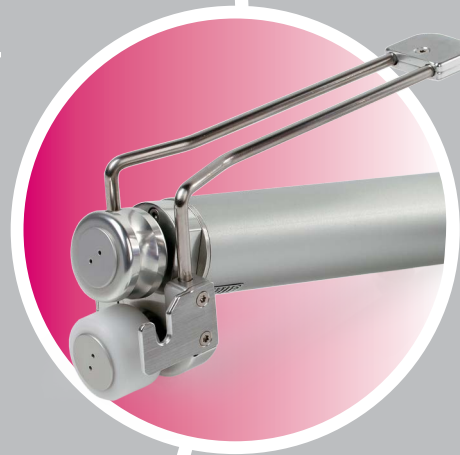
[www.lmb.de](http://www.lmb.de)



Mobile  
Donor lounge



Automatic  
Tube Stripper



Donor lounge  
Comfort



Agitator



## Welcome

**In August 2015.**

We are pleased to introduce our new product catalogue. We have produced the catalogue in response to requests from customers who wished to see our full range of products at one glance.

We very much hope that you find it informative and helpful, but respectively suggest that if you are interested in any particular item or solution, you call or email us directly and discuss your specific situation and demand.

Warmest regards,  
General Management



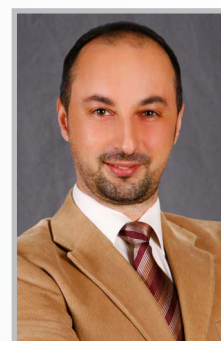
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## History

With over 30 years of experience in the field of blood banks, Lmb is a company with enormous knowledge of how to produce blood components of highest quality.

Founded in 1982, Lmb first concentrated on the German and Austrian market, later also gained reputation on the French market. First own developments in addition to the distribution of different products created an adequate product mix and set a start to a long-term success. Until the beginning of the nineties, Lmb focused on the development and production of blood group determination devices, while from the



beginning of the decade on, the importance of the field of donation and processing of blood began to grow constantly.

During the year 1995 a new production branch in Budapest, Hungary was established, aimed mainly to manufacture blood donation monitors. In 1996 Lmb acquires CE mark, first for Bagmatic SL, later for all their devices for the treatment of blood.

Later in the year 1999 a new branch for development and production opened its doors in Nis, Serbia to focus on software, engineering solutions, RFID technology and especially on the production of separation devices for whole blood. Strategic alliances with producers of bloodbags lead to constant growth of this affiliate and opened to Lmb the status of an OEM-producer.

After mid of the nineties, Lmb defined and carried out consequently a strategy of internationalization. From that days until today, Lmb has been constantly increasing its distributor network and partnerships from all over the world – nowadays Lmb products are used in more than 30 countries and this number is still growing today.

In 2002 Lmb Technologie GmbH installed the first device for separation of whole blood and closed a gap to offer devices for the entire process of blood production, from the donation to the distribution. Today Lmb's range of products comprises devices for the donation of blood, filtration, separation, irradiation, storage and transport to offer a global solution.

ErySep is the latest Lmb innovation which started a new era in blood management with a totally new method of blood separation technology without machinery.

**Products**



Blood Donation

**Blood Donation**

- Tube Strippers
- Tube Sealers
- SEALmatic M
- SEALmatic H
- Stationary donor lounge I
- Stationary donor lounge II
- Mobile donor lounge DL 100
- Bagmatic SL
- Bagmatic NOVO
- Bagmatic NOVO LS
- DONOpack

# Tube Strippers

## Manual Tube Stripper

### Safe and easy tube stripping

Blood Donation



Art: TS-10002

Art: TS-10003

The TS-Series Blood Tubing Stripper offers a comprehensive range of performance enhanced capabilities.

It is specifically designed to strip, crimp and cut tubing in the preparation of blood segments from the blood collection and processing procedures. The blood in the tubing segments is stripped into collection bags and mechanically sealed with the aluminum clips. Using the side jaws of the Hand Stripper, the segments are further separated by cutting between the seals.

### Product Features

- High quality aluminum alloy
- Anti-rust, light weight and sturdy
- Ease of cleaning by wiping or soaking in IPA
- Ergonomic design for good grip and stripping
- Ease fatigue over prolong use
- Self-centering roller system keeps tubing in position
- Smooth traction for effective stripping of blood components
- Internal spring system keeps handles in open position
- Minimize entanglement with blood tubing



TS - 003

TS - 002

| Technical data              | TS - 002                          | TS - 003        |
|-----------------------------|-----------------------------------|-----------------|
| <b>Base Material</b>        | Aluminum Alloy & Stainless Steel  |                 |
| <b>Rollers</b>              | Special Composite Steel, Non-Rust |                 |
| <b>Cutters</b>              | Not Applicable                    | Stainless Steel |
| <b>Features</b>             | Self-Centering Rollers            |                 |
| <b>Cutter</b>               | No                                | Yes             |
| <b>Net Weight (g) +/-5%</b> | 68                                | 70              |

# Tube Stripper

## Automatic Tube Stripper TS08



Art: TS-10008



### General technical data

|   |                   |
|---|-------------------|
| <b>Overall dimensions</b> (handle closed) | 51 x 79 x 175 mm  |
| <b>Overall dimensions</b> (handle open)   | 145 x 79 x 175 mm |
| <b>Max stripping tube diameter</b>        | 6.5 mm            |
| <b>Stripping wheel diameter</b>           | 33.5 mm           |
| <b>Stripping wheels angle opening</b>     | 25 deg            |
| <b>Tube stripper body diameter</b>        | 40 mm             |
| <b>Max stripping speed</b>                | 400 mm/sec        |
| <b>Weight without power supply</b>        | ~600 g            |
| <b>Operating temperature</b>              | 0 – +40 °C        |
| <b>Storage and transport temperature</b>  | -40 – +70 °C      |
| <b>Power supply voltage</b>               | 100-240V AC       |
| <b>Input frequency</b>                    | 50Hz/60Hz         |

### Features

- Easy handling (designed for right and left hand use)
- Non-tiring operation
- Swift and complete stripping of blood bag tubes
- Ideal for all commercial blood bag systems on the market
- Automatically centered tubing fed through pair of rollers by a guidance system
- Main purpose facilitating anticoagulation of blood in blood bag tubing prior to preparing segments
- Changeable stripping speed on power supply
- Power supply with stabilized output, low ripple & low interference, Short circuit & overload protection
- High efficiency and low energy consumption



# Tube sealers

## Model CR - 6

- Portable
- 12 Volt
- EMC tested
- Electro-shock fuse
- More than 1000 sealings per battery
- Adjustable sealing time
- Suitable for donation rooms, laboratories and external use



Art: SS-10001

**Ordering information:**

**SS-10005** Battery for CR6

## Model CR - 6 - PS

- Portable
- 12 Volt
- EMC tested
- Electro-shock fuse
- More than 500 sealings per battery
- Adjustable sealing time
- Attractive price



Art: SS-10000

**Ordering information:**

**SS-10006** Battery for CR6-PS

## Model CR - 4

- Static desk version
- 115 / 230 Volt
- EMC tested
- Electro-shock fuse
- Adjustable sealing time

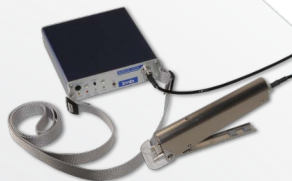


Art: SS-10002

Art: SS-10003

Blood Donation

# Tube sealers



| Technical data   | CR - 6 - PS                                      | CR - 6                          |
|--|--|---------------------------------|
| <b>Weight</b>  | 1,3 kg incl. batteries                           | 3,1 kg incl. batteries          |
| <b>Dimensions</b>  | 170x145x35 mm (incl. RF-outlet)                  | 266x119x88 mm (incl. RF outlet) |
| <b>Batteries</b>   | 2 x 12V 2Ah                                      |                                 |
| <b>Internal fuse</b>   | Overcharge protection type PTC, self-renewing    |                                 |
| <b>Effective consumption</b>                                 | 120W maximum                                     |                                 |
| <b>Sealing time</b>  | Adjustable from 0,5 to 5 seconds                 |                                 |
| <b>Frequency</b>   | 40,68 MHz crystal controlled                     |                                 |
| <b>Output power</b>  | 90W/50 Ohm maximum                               |                                 |
| <b>Operating temperature</b>                                 | 10 - 40°C  |                                 |
| <b>Storage temperature</b>                                   | -40 - +50°C                                      |                                 |
| <b>Operation</b>   | Max. 1 sealing in 3 seconds during permanent use |                                 |
| <b>Classification</b>  | Electro-shock protection: Class 2 type B         |                                 |
| <b>Safety control number</b>                                 | EN 60601-1 (EC601-1)                             |                                 |
| <b>EMC control number</b>                                    | EN 60601-1-2 (EC601-1-2)                         |                                 |
| <b>Emission control number</b>                               | EN 55011 Group 2 class B                         |                                 |
| <b>This device complies with MDD 93/42 EEC requirements.</b> |  |                                 |



| Technical data   | CR4   |
|--|---|
| <b>Weight</b>  | 4,1 kg  |
| <b>Power supply</b>  | 100/115/230/240 VAC 50/60 Hz                      |
| <b>Internal fuse</b>   | 2x T2,5 AL 250 V                                  |
| <b>Effective consumption</b>                                 | 220 VA  |
| <b>Sealing time</b>  | Adjustable from 0,5 to 5 seconds                  |
| <b>Frequency</b>   | 40,68 MHz crystal controlled                      |
| <b>Output power</b>  | 90W/50 Ohm maximum                                |
| <b>Dimensions</b>  | 290 x 220 x 88 mm (incl. RF outlet)               |
| <b>Operating temperature</b>                                 | 10 - 40°C   |
| <b>Storage temperature</b>                                   | -40 - +50°C                                       |
| <b>Operation</b>   | During permanent use<br>1 sealing every 3 seconds |
| <b>Classification</b>  | Electro-shock protection: Class 2 type B          |
| <b>Safety control number</b>                                 | EN 60601-1 (IEC601-1)                             |
| <b>EMC control number</b>                                    | EN 60601-1-2 (IEC601-1-2)                         |
| <b>Emission control number</b>                               | EN 55011 Group 2 class B                          |
| <b>This device complies with MDD 93/42 EEC requirements.</b> |   |

# SEALmatic M

Blood Donation



Art: SS-10151

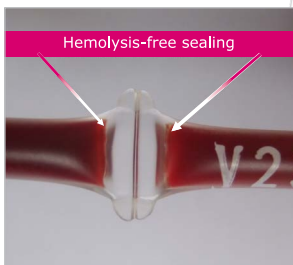
**Sealmatic M** is Lmb's solution to create perfect tube segments and offer a maximum of flexibility to the user – the individual devices can be combined freely, but also used as standalone devices. With its appealing design, carrying handle and low weight it offers a high level of mobility within the donation room. Device is ready for easy attach of the sealing handle. Outstanding low hemolysis figures and a very quick sealing time of less than two or three seconds round out Sealmatic M as the perfect assistant in blood donation.

## Features

- Ergonomic design
- User friendly
- Stand alone and segmentation work
- Sealing handle as an **option**
- Reliability
- Only 1-3 sec for one seal
- Tube diameter from 2,5mm to 6mm can be sealed
- Low hemolysis technology
- High precision start seal optical switch
- Easy to clean
- Impedance adjusted for high efficiency and small power consumption for battery operated devices and short sealing time
- Easy or no adjustment in the field, interchange of the parts, serviceability
- Detachable sealing head cover enables easy cleaning of sealing electrodes
- Easy access for the user to insert the tubings
- Small head for transparency of the sealing process



Illumination ring:  
for sealing monitoring



Sealing area shape



Successful sealing



Sealing error

# SEALmatic M



Cascade connection of the multiple devices



Wiring connection diagram



## Technical data

**Dimensions** 60(B) x 210(H) x 336(D) mm  
**Weight** 4,0 kg+handle

### Power Supply

**Voltage** 100-240 VAC  
**Frequency** 50-60Hz  
**Power consumption (sealing)** 200VA max  
**Power consumption (on standby)** 30VA max  
**Power fuse** 3,15 A/slow

### RF generator

**Nominal output power** 50W for load res. 50 Ohm  
**Sealing frequency** 40,68 MHz±5kHz

### Clamp & Sealing handle

**Sealing jaws gap (opened)** 5 ±0,2mm  
**Sealing jaws gap (closed)** 0,07mm  
**Length of RF cable:** 168 cm  
**Weight of handle with cable:** 0,45 kg  
**Dimensions:** 213 / 71 mm  
**Housing material:** stainless steel, brass and plastic  
**LED indicator in sealing head**

### RoHS compliant

### Environmental

**Temperature Working conditions** 10°C - +40°C  
**Temperature Storage conditions** -20°C - +50°C



# SEALmatic H



Art: SS-10400

Blood Donation

**SEALmatic** is Lmb's solution to create perfect tube sealing and offer a maximum of flexibility to the user as standalone devices. With its appealing design, carrying handle and low weight it offers a high level of mobility within the donation room. Outstanding low hemolysis figures and a very quick sealing time of less than two or three seconds round out SEALmatic as the perfect assistant in blood donation.

## Features

- Ergonomic design
- User friendly
- Reliability
- Impedance adjusted for high efficiency and small power consumption for battery operated devices and short sealing time
- Easy or no adjustment in the field, interchange of the parts, serviceability
- Easy access for the user to insert the tubings
- Only 1-3 sec for one seal
- Tube diameter from 2,5mm to 6 mm can be sealed
- Low hemolysis technology
- High precision switch to activate the seal
- Easy to clean
- Small head for transparency of the sealing process

Illumination ring:  
for sealing monitoring

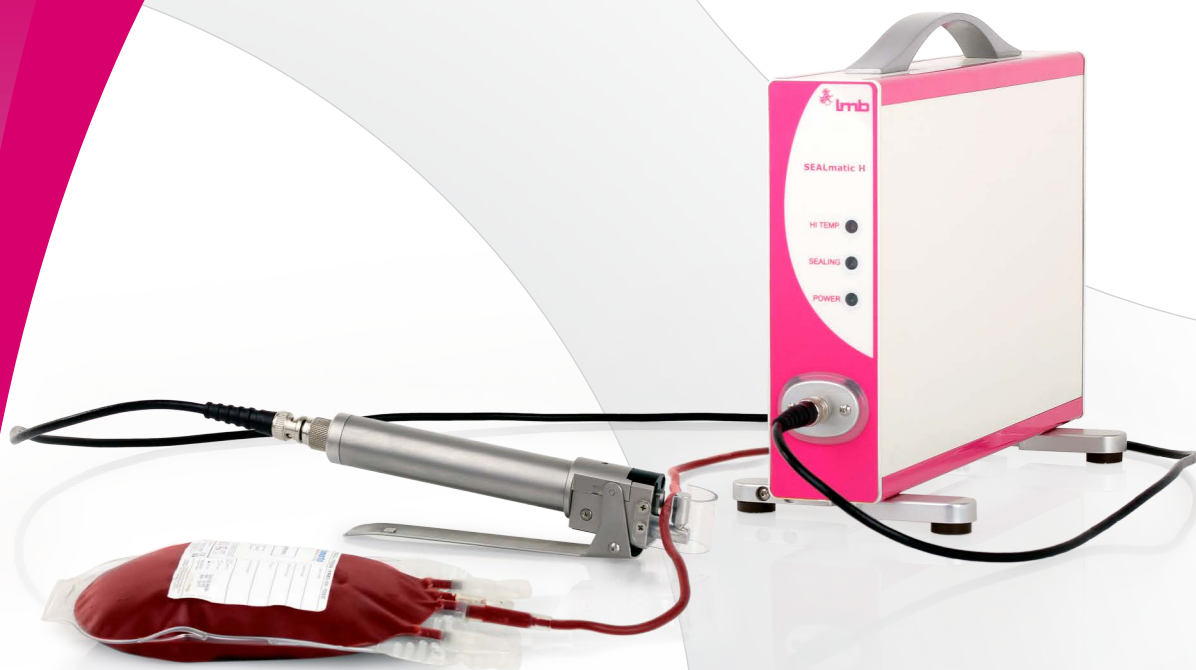


Successful sealing

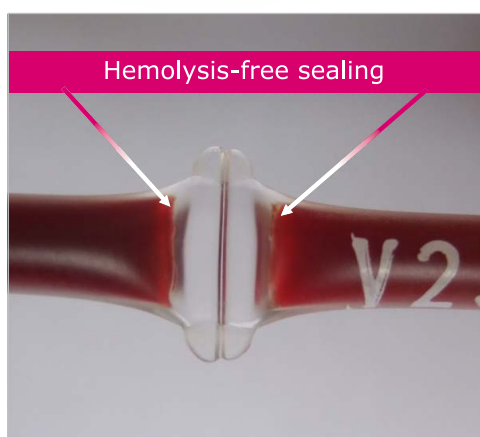


Sealing error

# SEALmatic H



Blood Donation



Hemolysis-free sealing

■ Sealing area shape



## Technical data

**Dimensions** 60(B) x 210(H) x 336(D) mm  
**Weight** 3,5 kg

### Power Supply

Voltage 100-240 VAC  
 Frequency 47-63Hz  
 Power consumption (sealing) 200VA max  
 Power consumption (on standby) 30VA max  
 Power fuse 3,15 A/slow

### RF generator

Nominal output power 50W for load res. 50 Ohm  
 Sealing frequency 40,68 MHz±5kHz

### Clamp & Sealing handle

Sealing jaws gap (opened) 5 ±0,2mm  
 Sealing jaws gap (closed) 0,07mm  
 Length of RF cable: 168 cm  
 Weight of handle with cable: 0,45 kg  
 Dimensions: 213 / 71 mm  
 Housing material: stainless steel, brass and plastic  
 LED indicator in sealing head  
 RoHS compliant

### Environmental

Temperature Working conditions 10°C - +40°C  
 Temperature Storage conditions -20°C - +50°C

# Donor lounge Comfort I



Art: LC-10000

### Ordering information:

- LC-10001** Additional motor for foot rest adjustment
- LC-10002** Side table (only Black Colour)
- LC-10003** Paper roll holder inox
- LC-10004** Halogen OSRAM reading lamp
- LC-10029** Extra large chair
- LC-10040** Memory foam

Economic, Performant and Stable. Developed to give comfort, security and wellness during long treatments such as Dialysis, Chemotherapy, blood transfusions and other medical treatments.

### Features

- Easy to use and maintain
- New design epoxy metal frame equipped with 3 motors adjustable head cushion Handset
- Trendelenburg position - 12°operated on the handset
- Manual foot rest adjustment
- Electric height adjustment from 55 cm to 75 cm
- Electric back rest adjustment
- Electric leg rest adjustment
- Steel frame structure with light grey epoxy finish
- Multi position arm rests
- Arm rest inclination adjustment
- Upholstery with 12 cm thickness foam with seams
- Individual locking system on the 4 castors of 10 cm diameter
- Tested and approved patient weight capacity: 250 kg (tested at a dynamic weight of 250 kg and a static weight of 500 kg)

### Advantage

#### Comfort

Foam thickness: 12 cm  
3 electrical motors: back rest, variable height and leg rest  
Smooth electrical motions

#### Accessibility

Variable height from 55 to 75 cm

#### Hygiene

Coated fabric Upholstery  
Easy to clean and maintain

#### Pricing

Excellent price/quality relationship

#### Options

Extra comfort upholstery  
Coated fabric M2 or M1  
Back movement handle  
Paper roll holder  
IV serum pole  
Battery  
Crash button  
Foot rest motor  
Foldable ABS tray

#### Security

Red key on the handset to operate the Trendelenburg position  
Granted stability



### Technical data

Power supply: 230V 50-60Hz  
Protection category: IP44  
Handset and MCL protection category: IP66

### Standard Dimensions

Width: 55 cm  
Overall width: 88 cm  
Height: 55 - 75 cm  
Overall length: 198-215cm  
Frame: 105x65x25 cm

### Logistic Data Net

Weight: 85 Kg  
Gross weight: 120 Kg  
Pallet dimensions: 80x120x160cm



### Available colors

### Improvements

- Arm rest support: stainless steel - option
- Foot rest: with metal structure protection and plastic protection options
- New Emergency button and new location for easier handling
- Back handle to move the chair easily and hook for the cable

# Donor lounge Comfort II



Art: LC-10033

Brakes on each individual wheel  
Very light steel construction

Light and flexible donor lounge.  
Developed to give comfort, security  
and wellness during blood donations  
and other medical treatments

### Available colours



### Features

- Easy to use and maintain
- New design epoxy metal frame equipped with 3 motors adjustable head cushion Handset
- Trendelenburg position - 12°operated on the handset
- Manual foot rest adjustment
- Electric height adjustment from 53 cm to 78 cm
- Electric back rest adjustment
- Electric leg rest adjustment
- Steel frame structure with light grey epoxy finish
- Multi position arm rests
- Arm rest inclination adjustment
- Upholstery with 12 cm thickness foam with seams
- Individual locking system on the 4 castors of 10 cm diameter
- Tested and approved patient weight capacity: 250 kg (tested at a dynamic weight of 250 kg and a static weight of 500 kg)

### Advantage

#### Comfort

Foam thickness : 12 cm  
3 electrical motors: back rest,  
variable height and leg rest  
Smooth electrical motions

#### Accessability

Variable height  
from 53 to 78 cm

#### Hygiene

Coated fabric Upholstery  
Easy to clean and maintain

#### Pricing

Excellent price/quality  
relationship

#### Options

IV serum pole  
Foot rest motor

#### Security

Brake on each individual  
wheel  
Granted stability

### Technical Specifications

Power supply: 230V I 50-60Hz  
Protection category: Ip44  
Handset and MCL protection  
category: IP66

### Logistic Data Net

Weight: 80 Kg  
Gross weight: 110 Kg  
Pallet dimensions:  
80x120x160 cm

### Standard Dimensions

Width: 55 cm  
Overall width: 88 cm  
Height: 53 - 78 cm  
Overall length: 198-215 cm  
Frame: 80x19x117 cm

# Mobile donor lounge DL100

The perfect lounge ...



Art: LM-10000

**Ordering information:**

LM-10003 Arm rest

... for every blood donation center

## Features

- **Portable:** The donor lounge is foldable.
- **Shock position:** A collapsed donor can be set into a shock position supported by a gas tube.
- **Donor slip:** Easy to clean and disinfect. The material has a net structure and is comfortable for the donor.
- **Head rest:** The upholstery of the lounge is integrated in the unit.
- **Arm rest:** The armrest is adjustable on both sides.



Easy to carry on rolls



**Shock position**  
Gas pressure supported

Adjustable armrest



## Technical data

|                                 |   |
|---------------------------------|---|
| <b>Material:</b>                | Stainless steel (round pipe) to prevent scratches and accidents |
| <b>Weight without arm rest:</b> | 17,8 kg   |
| <b>Arm rest:</b>                | 1,7 kg  |
| <b>Max. net load:</b>           | 130 kg  |
| <b>Dimensions:</b>              | 125 x 55 x 22 cm (HxWxD)  |
| <b>High of seat:</b>            | 58 cm   |
| <b>High of arm rest:</b>        | 75 cm   |
| <b>Seat extent:</b>             | 55 cm   |
| <b>Angle of seating:</b>        | approximately 140°  |



# Bagmatic SL



Art: BA-10000

### Ordering information:

- BA-10002** Chargematic
- BA-10005** Datatransfer via radio
- BA-10007** Data transfer transmitter for laptop
- BA-10003** Barcode reader
- BA-10044** Transport case
- BA-10022** Akku
- BA-10004** Plate for bag

### Blood donation genius

- Most reliable and stable technology worldwide
- Complete control of all donations
- 3 ways of safe data transfer
- Analysis of data of donation
- Entirely free programmable and adaptable to your needs
- Free configuration of the software

... and many other features!



**Barcode scanner**



**High capacity battery**



**Radio data transfer**



**Robust transport case**



**Chargematic**

### Technical data

|                                |                   |
|--------------------------------|-------------------|
| <b>Power Supply</b>            | 12 V DC           |
| <b>Power Consumption</b>       | 0,15 A/ 0,35 A    |
| <b>Fuse</b>                    | T 0.8A ; 250 V    |
| <b>Battery charger</b>         | FRIWO FW 7118M/12 |
| <b>Battery charging time</b>   | 6 hours           |
| <b>Surrounding temperature</b> | 10°C - 30°C       |
| <b>Humidity</b>                | maximum 85 %      |
| <b>Dimensions</b>              | 365x190x135 mm    |
| <b>Weight</b>                  | 5,1 kg            |

# Bagmatic NOVO

Blood Donation

Bagmatic NOVO is our new blood collection monitor serving the special needs of mobile blood donations. As a light weight device with outstanding long battery life, it is developed to take a predefined blood donation and mix the product in a three-dimensional way. For quality assurance, Bagmatic NOVO monitors the entire blood donation and registers all significant events that may occur during the process.



Art: BA-30000

## Features

- Best choice for field applications (battery driven, with no need for electricity)
- 8 hours of independent work, more than 50 donations autonomy
- 3-dimensional mixing of the blood donation
- OLED display with easy menu navigation
- Maximum and minimum flow detection ensures smooth treatment of the product
- Visual indication of error / warning / donation status
- Wireless connection for data transfer
- USB plug for data collection
- SD card data storage
- Powerful PC software ERYSYS for configuration of the device, data collection and analysis (option)
- PC software for collecting and exporting data (BNC)



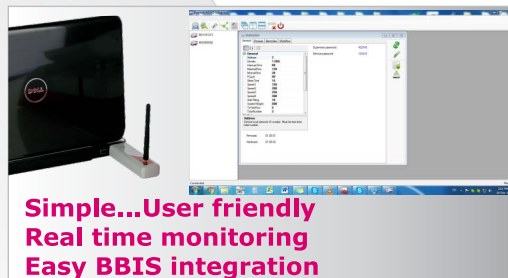
Modern intelligent battery concept with display



3-dimensional mixing for highest quality product

## Data collection

- With SD card (2GB included)
- USB connection
- RF Wireless Data communication (option)



Simple...User friendly  
Real time monitoring  
Easy BBIS integration

## Intuitive PC connection software



# Bagmatic NOVO



**Innovative and user friendly holder system**



**Safe and secure transport case  
Usable as device stand**



**Battery with fast charger**



**Compact power supply**



**Barcode scanner**



**Illumination ring for enhanced visual control of the process**



**Flow...Volume...Alarm  
Connection status  
Battery status**

**Head-up display with detailed info**

## Advantages

- Small size and extremely light weight
- High portability for mobile use
- Increased efficiency with all experience from Bagmatic SL
- Changeable battery system, no 220V/110V necessary
- Easy to clean and maintain
- Outstanding stability and long lifetime
- Bi-directional communication (option with full software ERYSYS)
- Modular design of software and customer adaptation possibilities

## Technical Data

### Power supply:

**AC/DC adapter:** (ACIN:85-260VAC; DCOUT:15V;0,5A)

**Li-Ion Battery:** 14,4V + fast charger (option)

**Battery capacity:** 3,4 Ah

**Battery charging time:** 2-4h

**Power consumption:** standby: 1-2mA  
working: 150-250mA

**Surrounding temperature:** 10 - 40° C

**Humidity:** maximum 85%

**Dimensions:** 320 x 240 x 187 mm

**Weight without battery:** 3,2kg

# Bagmatic NOVO LS

**NEW  
product**

Blood Donation



Art: BA-30300

Bagmatic NOVO is our new blood collection monitor serving the special needs of mobile blood donations. As a light weight device with outstanding long battery life, it is developed to take a predefined blood donation and mix the product in a three-dimensional way. For quality assurance, Bagmatic NOVO monitors the entire blood donation and registers all significant events that may occur during the process.

## Features

- Best choice for field applications (battery driven, with no need for electricity)
- 8 hours of independent work, more than 50 donations autonomy
- 3-dimensional mixing of the blood donation
- TFT touch screen 480x272 dots, 16-BIT 65,536 colors
- Maximum and minimum flow detection ensures smooth treatment of the product
- Visual indication of error / warning / donation status
- Wireless connection for data transfer
- USB plug for data collection
- Powerful PC software ERYSYS for configuration of the device, data collection and analysis (option)



**Modern intelligent battery concept with display**

## Data collection

- USB connection
- Wireless connection (option)



# Bagmatic NOVO LS

**NEW  
product**

## Precise flow control



## TFT touch screen display



## Advantages

- Small size and extremely light weight
- High portability for mobile use
- Increased efficiency with all experience from Bagmatic SL
- Changeable battery system, no 220V/110V necessary
- External or internal charging possible
- Easy to clean and maintain
- Outstanding stability and long lifetime
- Bi-directional communication (option with full software ERYSYS)



**Safe and secure  
transport case**



Blood Donation



**Barcode scanner**

## Technical Data

|   |  |
|---|--|
| <b>Power supply:</b>                                    | 14.4V Li-Ion Battery                     |
| <b>Power consumption:</b>                               | standby: 80mA;<br>during donation: 450mA |
| <b>Battery capacity:</b>                                | 3100/3400mAh or higher                   |
| <b>Battery charging time:</b>                           | 4h                                       |
| <b>Surrounding temperature:</b>                         | 10-40° C                                 |
| <b>Humidity:</b>  | 20÷95% non-cond                          |
| <b>Device dimensions with<br/>Bag tray(L x W x H) :</b> | 320 x 240 x 215 mm                       |
| <b>Weight without battery:</b>                          | 3,55kg                                   |

# DONOpack blood bag system

**NEW  
product**

Blood Donation

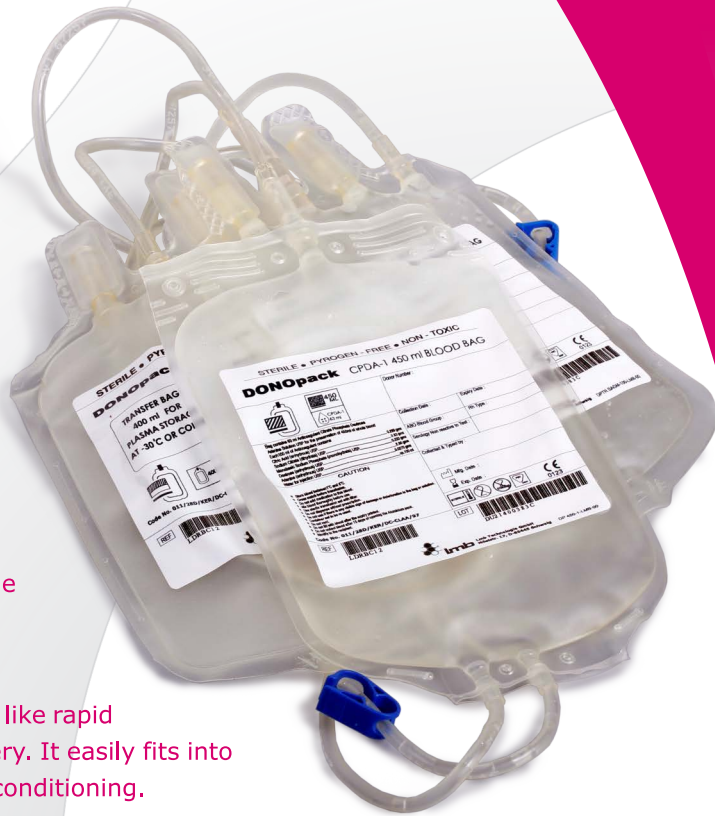
### DONOpack LD Bags

DONOpack bags with Leukodepletion filter helps to avoid complications that may arise due to leukocytes. Pre-process leukocyte filtration in a closed system in the blood bank allows for the early removal of leukocytes avoiding cytokine release.

DONOpack LD filter offers superior features like rapid filtration time, high RBC and plasma recovery. It easily fits into routine procedures and there is no need for conditioning.

DONOpack in-line whole blood filter can remove leukocytes from fresh or overnight-hold whole blood for preparing leuko-reduced red cells and leuko-reduced plasma.

DONOpack in-line RBC filter (soft housing) can remove the leukocytes from fresh or stored red cell concentrate for preparing plasma, platelet concentrate and leuko-reduced red cells.



### Technical Data

| Filter      | Whole Blood Filter (Hard Housing)   | Red Cell Filter (soft Housing)   |
|-------------|---|--|
| Housing     | Polycarbonate hard shell  | PVC sheet soft shell   |
| Performance | Residual WBC < 1 X1 0E6/unit (log4 reduction) RBC recovery rate > 90% Stable and rapid filtration | Residual WBC < 1X1 0E6/unit RBC recovery rate > 90% Stable and rapid filtration, centrifugable |

### Blood Bag With Inline Blood Sampling System

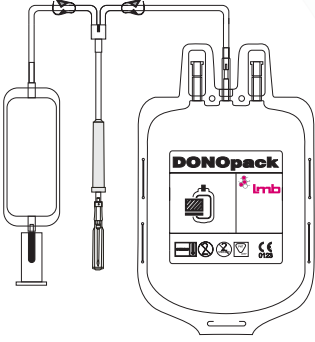
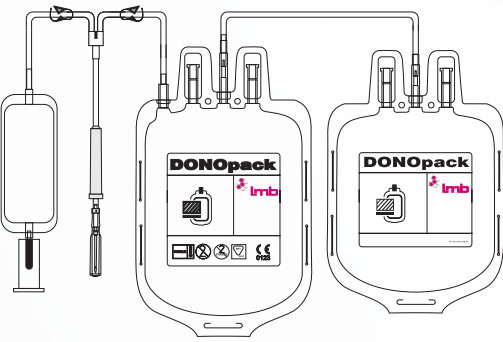
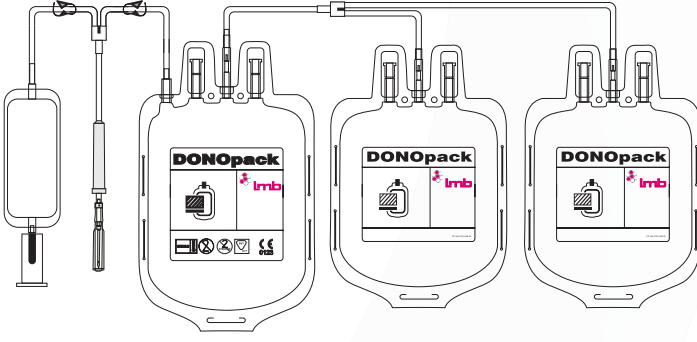
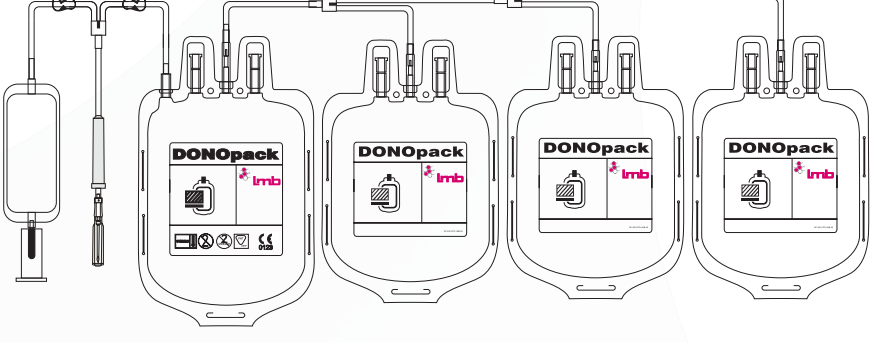
Safe inline blood sampling is made easy with the integrated Blood Sampling Tube Holder, Diversion bag and Needle Injury Protector. The unique user-friendly design helps in safe collection of blood and aseptic sampling. This system eliminates the need for 'cut and drip' sampling methods and other potentially dangerous needle sampling.

- Closed system ensures aseptic sampling
- Compatible for use with vacuum tubes, and leurdaptors
- Reduces contamination of the collected blood by diversion of the blood collected initially
- Protection from needle stick injuries with the needle shield
- DONOpack inline blood sampling system is available with all configurations from single to penta blood bags



# DONOpack blood bag system

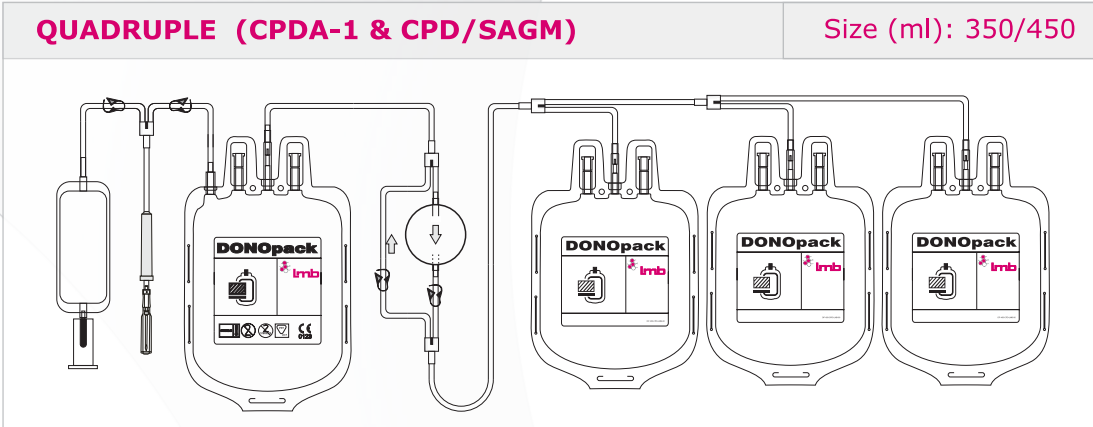
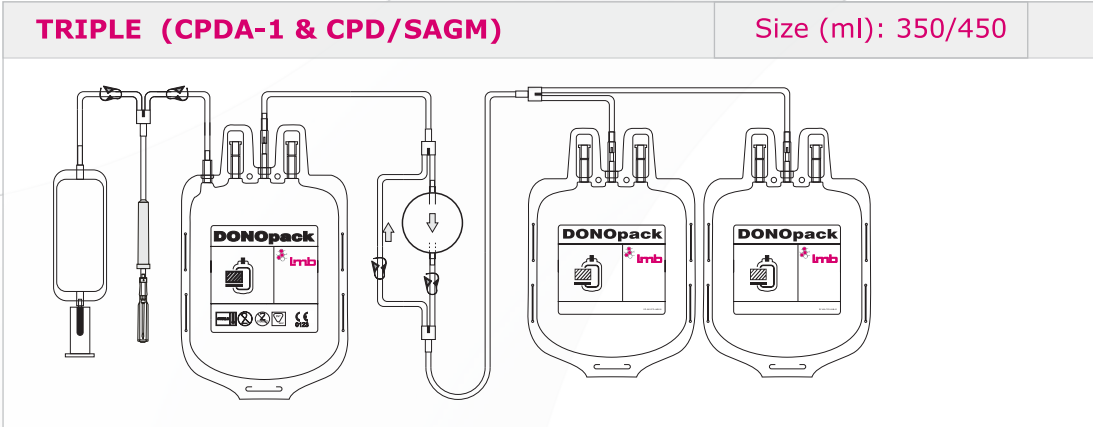
## TOP / TOP SPECIFICATIONS

|  |                              |  |                      |
|--|------------------------------|--|----------------------|
| <b>SINGLE CPDA</b>   | Size (ml)<br>100/250/350/450 | <b>DOUBLE<br/>Anticoagulant CPDA</b>   | Size (ml)<br>350/450 |
|     |                              |  |                      |
| <b>TRIPLE<br/>(CPDA-1 &amp; CPD/SAGM)</b>  |                              |  | Size (ml)<br>350/450 |
|  |                              |  |                      |
| <b>QUADRUPLE<br/>(CPDA-1 &amp; CPD/SAGM)</b>   |                              |  | Size (ml)<br>350/450 |
|  |                              |  |                      |

Blood Donation

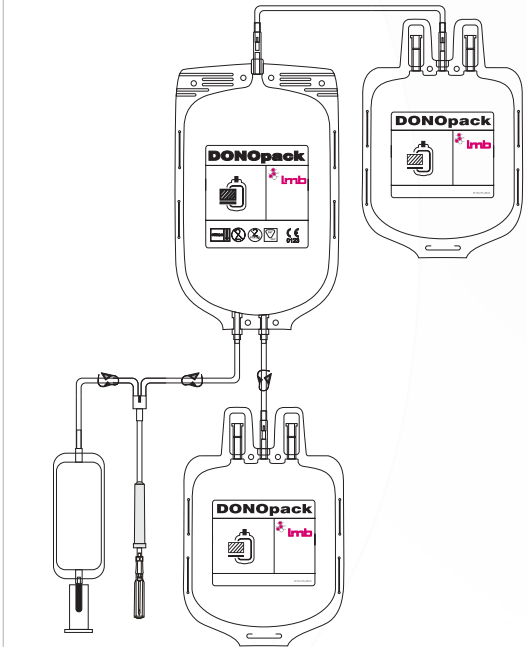
# DONOpack blood bag system

## TOP / TOP SPECIFICATIONS

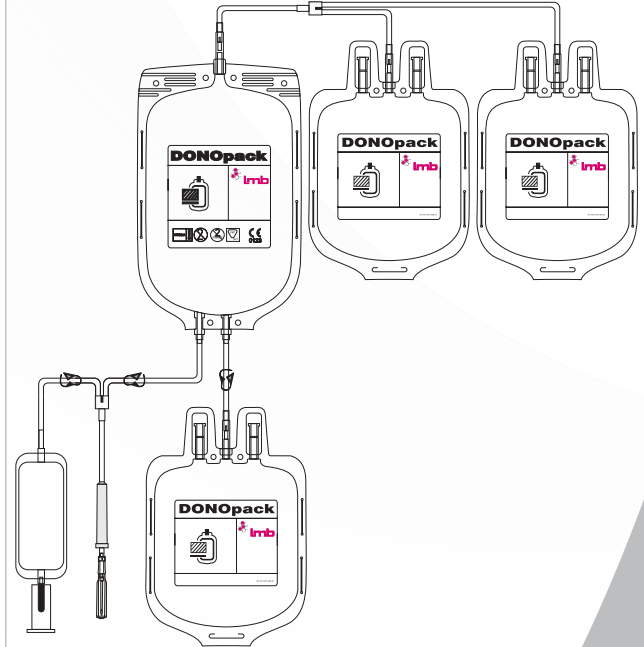


## TOP / BOTTOM SPECIFICATIONS

|                                      |                      |
|--------------------------------------|----------------------|
| <b>TRIPLE<br/>Anticoagulant CPDA</b> | Size (ml)<br>350/450 |
|--------------------------------------|----------------------|



|   |                      |
|---|----------------------|
| <b>QUADRUPLE<br/>Anticoagulant CPDA</b> | Size (ml)<br>350/450 |
|---|----------------------|



Blood Donation

# DONOpack blood bag system

## Needle protector

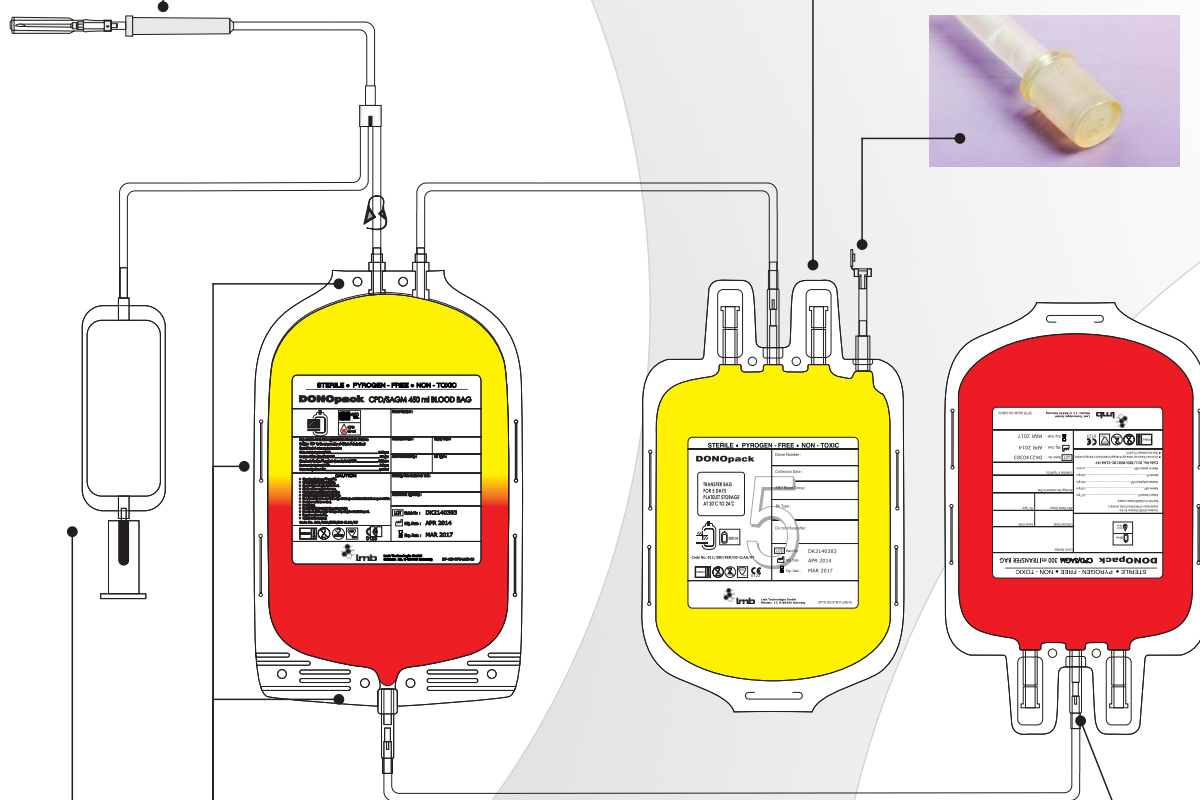


- Stabilize the needle during blood collection
- Reduce the risk needle stick injury
- Facilitate safe, fast needle withdrawal

## Outlet port and port cover



- Safe and easy to open
- Can connect with a transfusion set with closure-piercing device in accordance with ISO1135-4 without leakage

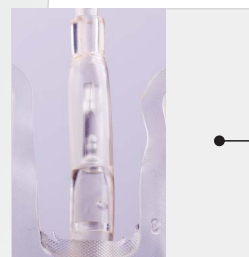


## Hanger slits and holes

## Sampling bag and vacuum tube holder



Samples can be taken safely before blood goes to primary bag



## Snap-to-open tip





### Blood Separation – Plasma Extractors

- LUXOmatic
- LUXOmatic V2
- Dualpress
- Sepamatic SL
- NOVOmatic
- New Separation features
- ErySep Classic
- Mikromatic
- Manual Plasma Extractor

# LUXOmatic

## dual press system

Space saver and adaptable system for individual applications



Art: LU-10000

Blood Separation - Plasma Extractor

### Features

- Blood separation on two places at the same time
- For the separation on an industrial scale
- Highest separation quality of whole blood
- Distance diagnosis and operation integrated – Possibility of remote maintenance, diagnosis and repair worldwide
- Selfadjusting sealing heads for each tube material or bag system
- Adaptive colormatic sensors for all different types of plasma, blood components and tube material
- LAN data transfer, network capability, integrated data storage and management, data connection
- Colour touchscreen with intuitive user navigation
- Control of optimum flow regulation for low hemolysis rates
- Multifunctional double press system with 4 bag press places, usable also for one process (baby blood separation)
- Open system for each type of blood bag
- Freely programmable application processes
- 6 balances for whole blood, plasma, red cells and buffy coat
- Safe and ergonomic work processes. Treatment of two bags of one centrifuge beaker directly on one device (holder optional).
- Ergonomic design for your operating cycle
- Automatic pressing of air out of the plasma bag (option).
- Integrated side balances, can be used as laboratory balances.
- Price and room advantage, as two devices are integrated in one housing
- Barcode reader connectable
- Smart label technology / RFID (option)

### Ordering information:

- SM-90019** Compressor (for 1-3 LUXOmatic)
- BA-10003** Barcode Scanner
- SW-90030** Console Application software for Datatransfer
- SW-90031** ErySys software licence



Barcode scanning through pressing plates



Calibration of the balance



Double press system

# LUXOmatic



Sealing and holding clamp



Sensor system

## Precise separation of blood components

- Quick blood separation process and high recovery of thrombocytes
- Precise treatment of all Top/Top and Top/Bottom processes
- CRYO application and thrombocytes from Buffy Coat and PRP
- Adaptive colormatic sensor system for best possible distinction between red cells, thrombocytes and plasma
- Precise mechanics for long endurance

## Blood products of highest quality

- Red cells – treated carefully and smoothly
- Plasma – cell free due to the best sensor system
- Thrombocytes – high recovery due to the special sensor system
- Perfect for inline filtration application



Self adjustable sealing clamp for all kinds of blood bags

## Process integration and operation

- All 4 separation places usable in different combinations
- Use of a clear and well-arranged color touchscreen
- Visual simulation of the user programmes for shortest period of user training
- Safe and ergonomic work processes. Treatment of two bags of one centrifuge beaker directly on one device
- Automatic separation of baby blood bags
- LAN data transfer, network capability, integrated data storage and management, data connection
- Conversion of Gramm to Milliliter



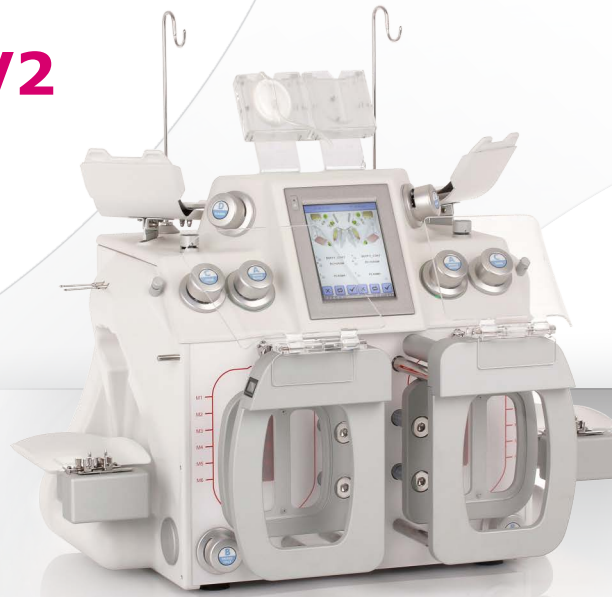
## Technical Data

|   |   |
|---|---|
| <b>Power supply</b>                             | 220V (+/- 10%)<br>50/60Hz single phase AC |
| <b>Dimensions</b>                               | 660 x 370 x 500mm                         |
| <b>Weight</b>                                   | 45 kg                                     |
| <b>Balances</b>                                 | 6   |
| <b>N° of sealing heads</b>                      | 8 +2                                      |
| <b>Sealing time</b>                             | 0,5 - 5 sec.                              |
| <b>Flow regulation</b>                          | From 0 to Maximum                         |
| <b>Data transfer</b>                            | LAN/WLAN                                  |
| <b>Sensor system:</b>                           |   |
| Reading performance for red cells in mother bag | 2x6 sensors in a row                      |
| Sensors in sealing heads                        | 4 pieces                                  |

Blood Separation - Plasma Extractor

# LUXOmatic V2

## dual press system



Art: LU-20000

### Space saver and adaptable system for individual applications

- **Sophisticated motor driven blood separator** for precise work and blood component results
- **Two independent separation places in one device** – Saves working space, time and provides best economic benefit
- **Highest quality** of separated **blood products**
- **Heavy duty** industrial scale **separations**
- **Pediatric bags extraction** possibility
- **Ergonomic design** for operating cycle

#### Technology information

- **Large color Touch screen LCD** – clear view and intuitive **animated user navigation**
- **Open system** for **any kind of blood bag** systems by any producer
- **Unlimited number of programs** fully optimized according to clients applications
- **Distance access over internet** – Possibility for remote diagnostics, maintenance, software, programs update and repair worldwide in shortest reaction time in the market
- **Automatically optimized blood product flow** – for Low hemolysis rate
- **LAN data transfer**
- **Separation data management solution** – Data download, storage, report and export to Blood bank information system
- **SAGM extraction by pressing bag** – faster than gravity

Blood Separation - Plasma extractor



Automatic valve breaker

Integrated barcode scanners

#### Splash guard



Top press

Filter holder

#### Optional add-ons for LUXOmatic

- **2x Top press** for automatic air extraction out of plasma
- **2x integrated barcode scanners, or 1x external barcode scanner**
- **6x automatic valve breakers** (3x left and 3x right side) – for all products and adjustable for any blood bag types
- **2x Hanging bag peels**
- **2x Splash guard** – operator protection against blood spills from broken blood bags and tubes
- **Smart label RFID technology**

# LUXOmatic V2

## dual press system



### Standard features

- **8x precise balances** (4x left side, 4x right side ) for all blood products
- **8x self-adjustable sealing clamps** (4 left side, 4 right side) with **2x non sealing clamps**
- **4x adaptive colormatic tube sensors for RBC detection** - any tube types and any color of plasma and RBC
- **12x adjustable HCT detection sensors**

### Blood products of highest quality

- Red cells – treated carefully and smoothly
- Plasma – cell free due to the best sensor system
- Thrombocytes – high recovery due to the special sensor system
- Perfect for inline filtration application

### Sealing and closing clamps



Informative illumination ring

Tube sensors system

### Precise separation of blood components

- Quick blood separation process and high recovery of thrombocytes
- Precise treatment of all Top/Top and Top/Bottom processes
- CRYO application and thrombocytes from Buffy Coat and PRP
- Adaptive colormatic sensor system for best possible distinction between red cells, thrombocytes and plasma
- Precise mechanics for long endurance

### Process integration and operation

- All 4 separation places applicable for different combinations
- Use of a clear and well-arranged color touch screen
- Visual simulation of user programs for shortest period of user training
- Safe and ergonomic work processes. Treatment of two bags of one centrifuge basket directly on one device
- LAN data transfer, network capability, integrated data storage and management, data connection
- Conversion of Gramm to Milliliter



Double press system

### Technical Data

|   |                      |
|---|----------------------|
| <b>Power supply</b>                             | 100÷240V AC 50/60Hz  |
| <b>Dimensions</b>                               | 661 x 372 x 504mm    |
| <b>Weight</b>                                   | 45 kg                |
| <b>Balances</b>                                 | 8                    |
| <b>N° of sealing heads</b>                      | 8                    |
| <b>N° of non sealing heads</b>                  | 2                    |
| <b>Sealing time</b>                             | 0,5 - 5 sec.         |
| <b>Flow regulation</b>                          | From 0 to Maximum    |
| <b>Data transfer</b>                            | LAN/WLAN             |
| <b>Sensor system:</b>                           |                      |
| Reading performance for red cells in mother bag | 2x6 sensors in a row |
| Sensors in sealing heads                        | 4 pieces             |

# Dualpress



Blood Separation - Plasma Extractor



Touchscreen

## Features

- High quality device for whole blood separation
- Quick blood separation process and high platelet recovery
- Blood flow control
- Bloodseparation on two places simoultaneously
- LAN data transfer, Network ability, Win Software LmbNet
- TOP/TOP and TOP/BOTTOM Process
- Touchscreen with easy menu navigation
- Open system for each type of bloodbag
- Colour learning sensors for each tube and bag system

Art: SM-90201

## Ordering information:

- SM-90019** Compressor (for 1-3 devices)
- BA-10003** Barcode Scanner
- SW-90030** Console Application software for Datatransfer
- SW-90031** ErySys software licence
- SW-90067** External Balance

# Dualpress



Precise weighing of all components with 4 integrated and 2 external balances

| Technical Data               |                                       |
|------------------------------|---------------------------------------|
| <b>Power Supply</b>          | 230 VAC +/- 10 %                      |
| <b>Frequency</b>             | 50 Hz                                 |
| <b>Power Consumption</b>     | 450 VA max                            |
| <b>Fuse</b>                  | 2 x 6,3A/250V                         |
| <b>Dimensions</b>            | 470 x 346 x 402 mm                    |
| <b>Weight</b>                | 45 kg                                 |
| <b>Clearance of balances</b> | 10 kg                                 |
| <b>Sealing clamps</b>        | 8                                     |
| <b>Sealing power</b>         | 90W / 50 Ohm                          |
| <b>Sealing time</b>          | 0,5 - 5,5 Sec.                        |
| <b>Flow regulation</b>       | First device, from 0 to max           |
| <b>Compressen air supply</b> | 6 bar min.                            |
| <b>Air quantity</b>          | 5l/min                                |
| <b>Data transfer</b>         | LAN/WLAN                              |
| <b>Sensor system</b>         | Colourmatic sensors                   |
| <b>Balances</b>              | 4 internal, opt. 2 external           |
| <b>Display</b>               | Color LCD 640x480 dots / touch screen |



12 M-Sensors keep buffy coat on the right level during separation



Blood Separation - Plasma Extractor



Sensorsystem installed in clamps - colourmatic sensors adapt automatically to different colour of plasma



# Sepamatic SL

**Precise, Fast,  
Compact**



**Art: SM-10000**

Blood Separation - Plasma extractor

### Precise separation of blood components

- Quick blood separation process and high recovery of thrombocytes
- Precise treatment of all Top/Top and Top/Bottom processes
- CRYO application and thrombocytes from Buffy Coat and PRP
- Adaptive colormatic sensor system for best possible distinction between red cells, thrombocytes and plasma
- Precise mechanics for long endurance

### Blood products of highest quality

- Red cells – treated carefully and smoothly
- Plasma – cell free due to the best sensor system
- Thrombocytes – high recovery due to the special sensor system
- Plasma filtration at the machine possible

### Ordering information:

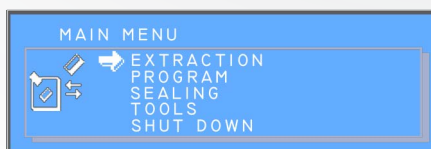
- BA-10003** Barcode Scanner
- SM-90019** Compressor (for 1-3 devices)
- SW-90030** Console Application software for Datatransfer
- SW-90031** ErySys software licence
- SM-90067** External Balance



Well designed slots for hanging of the tubes

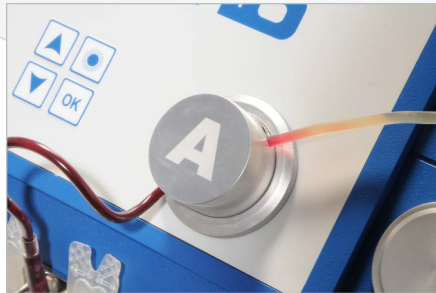


Easy three-sided access to bag hanging



Display with user friendly menu navigation

# Sepamatic SL



**Innovation:**  
Adaptive sensors for each tube and bag system

## Process integration and operation

- Compact bag hanging on 3 separation places
- Well-arranged and easy menu navigation
- LAN data transfer, network capability, integrated data storage and management, data connection

## Technical Data

|   |   |
|---|---|
| <b>Power supply</b>                             | 220V (+/- 10%) 50/60Hz<br>single phase AC |
| <b>Dimensions</b>                               | 470 x 346 x 402mm                         |
| <b>Weight</b>                                   | 40 kg                                     |
| <b>Balances</b>                                 | 4 + 1 ext.                                |
| <b>N° of sealing heads</b>                      | 5   |
| <b>Sealing time</b>                             | 0,5 - 5 sec.                              |
| <b>Flow regulation</b>                          | From 0 to Maximum                         |
| <b>Data transfer</b>                            | Wireless LAN                              |
| <b>Sensor system:</b>                           |   |
| Reading performance for red cells in mother bag | 6 Sensors in a row                        |
| Sensors in sealin heads                         | 4 Pieces                                  |

## Features

- For the separation on an industrial scale
- Highest separation quality of whole blood
- Access to bag hanging from three sides
- Distance diagnosis and operation integrated – Possibility of remote maintenance, diagnosis and repair worldwide
- Selfadjusting sealing heads for each tube material or bag system
- Adaptive colormatic sensors for all different types of plasma, blood components and tube material
- LAN data transfer, network capability, integrated data storage and management, data connection.
- Control of optimum flow regulation for low hemolysis rates
- Three bag press places per application
- Open system for each type of blood bag
- Freely programmable application processes
- Up to 5 balances for whole blood, plasma, red cells, additive solution and buffy coat
- Automatic pressing of air out of the plasma bag (option)
- Barcode reader connectable
- Smart label technology / RFID (option)

Blood Separation - Plasma extractor



External balance



# NOVOmatic

Clever, Simple, Precise



Art: NO-10000

Blood Separation - Plasma Extractor

Bottom RC bag balance



Scale pan for easy bag placement



Self adjustable clamps for all kinds of blood bag tubes



### Ordering information:

- SW-90030** Console Application software for Data transfer
- BA-10003** Barcode Scanner
- SW-90031** ErySys software licence
- NO-10037** Service package
- NO-10040** Air Extraction Balance with Short Sealing
- NO-10045** Adjustable additive solution rod



### System of highest quality

- Highest separation quality of the whole blood
- Press movement by motor drive (No air pressure necessary – space savings)
- Self-adjustable sealing heads for each tube material or bag system
- LAN data transfer, network capability, integrated data storage and management, data connection
- Colour touchscreen with intuitive user navigation
- Control of optimum flow regulation for low hemolysis rates
- Adaptive colormatic sensors for all different types of plasma, blood components and tube material
- Automatic pressing of air out of the plasma bag (option)
- Double press for separation of plasma and transfer of additive solution
- Processing of most complex filtration processes
- Distance diagnosis possible
- Barcode reader connectable
- Smart label technology / RFID (option)

# NOVOmatic



## Blood products of highest quality

- Red cells – treated carefully and smoothly
- Plasma – cell free due to the best sensor system
- Thrombocytes – high recovery due to the special sensor system
- Plasma filtration at the machine possible



Double press system



## Precise separation of blood components

- Quick blood separation process and high recovery of thrombocytes
- Precise treatment of all Top/Top and Top/Bottom processes
- CRYO application and thrombocytes from Buffy Coat and PRP
- Adaptive colormatic sensor system for best possible distinction between red cells, thrombocytes and plasma
- Precise mechanics for long endurance

## Process integration and operation

- Storage of up to 20 user programmes possible
- Barcode reader can be connected
- Use of a clear and well-arranged colour touchscreen
- Visual simulation of the user programmes for shortest period of user training
- Conversion of Gramm to Mililiter
- Easy connection to the local PC network
- LAN data transfer, network capability, integrated data storage and management, data connection

## Technical Data

|   |                                    |
|---|------------------------------------|
| <b>Power supply</b>                             | 85÷260V 50/60Hz<br>single phase AC |
| <b>Dimensions</b>                               | 551 x 357 x 415 mm                 |
| <b>Weight</b>                                   | 25 kg                              |
| <b>Balances</b>                                 | 2                                  |
| <b>N° of sealing heads</b>                      | 5                                  |
| <b>Sealing time</b>                             | 0,5 - 5 sec.                       |
| <b>Flow regulation</b>                          | From 0 from maximum                |
| <b>Data transfer</b>                            | LAN/WLAN                           |
| <b>Sensor system:</b>                           |                                    |
| Reading performance for red cells in mother bag | 6 sensors in a row                 |
| Sensors in sealing head                         | 4 pieces                           |

# New separation features



We have implemented new features on our separation devices, that alleviate the working procedures for the staff, save time, enhance the quality of the products and increase the safety of the production:

- Automatic Valve breaker for all blood bag brands RFID
- Pressure Profile Sensor
- Balances can be calibrated with an official DKS certificate
- Distance Diagnosis and Repair (DDaR)
- Bi-directionality

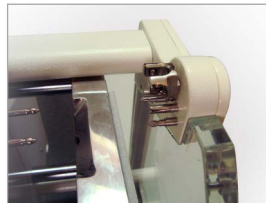
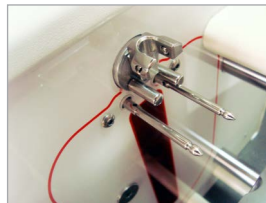
Blood Separation - Plasma Extractor

## Valve breaker: Truly independent from the blood bag manufacturers

Our Valve breaker is designed to break the valve on all places and for all blood bag brands. Motherbag, sagmanitol and erythrocyte bag (Top/Bottom separations).

The system further automates the component preparations and minimizes possible human errors. Especially the rate of haemolysis is decreased due to not correctly broken valves.

- Suites all kind of classical blood bag valves
- Reduces haemolysis
- Improves worker ergonomy
- Increases automation



## RFID: Your glimpse into the future

Our RFID system is suitable to read the RFID code of the bags, and is able to operate on all RFID systems. The System is placed, that by hanging the bag onto the machine, that the system catches the Dates from the partner RFID chip.



## New separation features

### Pressure Profile Sensor: The fastest and most secure way to separate

The system is designed to adjust the speed of the separator to the maximum pressure suitable and safe for the cells. Complex filter application can be performed, and a special pressure profile can be designed. The machine can set a safety level on the one hand side, as well as a special pressure determined to work. Currently we have initially released and implemented this feature on NOVOMATIC.

- Reduces and controls haemolysis.
- Not correctly broken valves are detected immediately.
- Complex inline filter operation can be safely organized.
- In accordance to the specification of each filter manufacture, a pressure profile can be performed.



### Balances can be calibrated with an official DKS certificate:

All weights that are measured by the machines can be used officially, because our balances can be calibrated and approved by a DKD certificate. This gives a big plus for plasma fractionation companies, and eases the working process, since you don't have to measure the Plasma additionally. Currently we have released and implemented this feature on LUXOMATIC as customers demanded this calibration possibility especially on LUXOMATIC series.



### Distance Diagnosis and Repair (DDaR)

Distance diagnosis and repair function is providing possibility to remotely make diagnose of devices behaviour and to do supported repair from any place on Earth that has any source of Internet. This powerful solution allows easy and fast error detection and repair of small failures for service technician on all devices installed in blood banks worldwide.

### Bi-directionality:

Our separators can receive commands from other working steps via Barcode or other defined information line.



# ErySep Classic

## Separation of whole blood without machinery



Whole blood separated in – Plasma  
– RC

- Components of excellent quality.
- Only with earth gravitation.
- Cell free plasma.
- RC with good HCT.

Blood Separation - Plasma Extractor

The innovation ErySep is a 3-Bloodbag -System with integrated filter that is able to separate whole blood into the components plasma and red cell concentrate. The donation is done directly into the ErySep mother bag. Afterwards the separation is effected only by hanging the bag system ErySep on a special IV pole infusion stand – without using any centrifuges or separation devices.

ErySep is designed for well-equipped transfusion centers and blood banks in larger cities as well as for village clinics, mobile hospitals, military service and disaster management.



**In about 60 minutes**

Blood components in accordance with the guide to the preparation, use and quality assurance of blood components, Council of Europe publishing.



# ErySep Classic

## No technical systems necessary

- No cost for centrifuges.
- No cost for plasma extractors.
- No cost for technical service.
- No cost for clean rooms.
- No electricity required.



## High quality of – Red Cell products – Plasma products

- Leukocyte depleted products.
- 1 separation takes 1-2 h.
- 100 or more separations take 1-2 h.

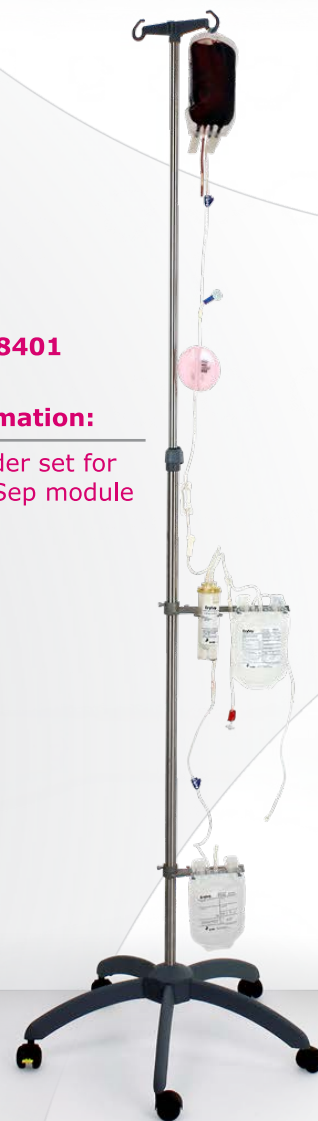


ErySep mobile hanger

Art: ES-08401

### Ordering information:

ES-10004 Holder set for ErySep module



Blood Separation - Plasma Extractor

### No Specialist Knowledge, No Special Storage, No Maintenance

Manufactured under sterile conditions, one ErySep package only accounts for 520g and is therefore portable around the country, to be operated by nurses during the donation of blood. Then the blood inside the ErySep system is separated by gravity, through a hollow fibre filtration set resulting in one unit of cell free plasma and one unit of erythrocytes with or without leuko-depletion, while the rest of the system becomes biomedical waste.



# Mikromatic

**NEW  
product**

Blood Separation - Plasma Extractor



Art: MM-10000

## Features

- Best choice for field applications
- Easy separation of whole blood
- Production of cell-free plasma as a result of high precision RBC sensor system
- Easy usage and maintenance
- Very fast extractions
- Designed for use in large blood banks and field service
- Wireless data connection optional
- Powerful PC software for configuration of the device, data collection and analysis (Optional)

## Mikromatic

Mikromatic is a new device to complete our range of products for blood separation. As a simple plasma extractor it was upgraded by an automatic clamping function to standardize separation results and facilitate working processes for simple plasma extractions. Various options can be added according to the special needs and demand of the blood bank to enhance the functionality of Mikromatic.

## Options

- WLAN data connection
- Barcode reader (for PC)
- PC Software for data monitoring



# Mikromatic

## Advantages

- Stable, functional and appealing housing.
- Bag holder with universal support for all types of bags on the market. Preventing damage to the edges of the bag during separation. Providing possibilities for easier valve breaking.
- User friendly system with acoustic and visual alarms. Intuitive and comfortable usage without any training procedures.
- Effective fast and leak free clamping.
- Ensures separation without red cell contamination.
- Both automatic and manual clamping modes.
- Highly sensitive sensor system ensures a precise separation.
- Tandem power supply. More than one device can be interconnected.

**NEW  
product**

Blood Separation - Plasma Extractor



## Technical Data:

|   |                     |
|---|---------------------|
| <b>Overall dimensions (WxDxH)</b>         | 260 x 252 x 310 mm  |
| <b>Dimensions (WxDxH) stand plate</b>     | 193 x 252 x 32 mm   |
| <b>Angle of opening</b>                   | 60 deg.             |
| <b>Useful area for blood bag pressing</b> | 160x194 mm          |
| <b>Weight</b>                             | 3,0 kg              |
| <b>Power supply</b>                       | DC 24V              |
| <b>Power absorption</b>                   | 8W                  |
| <b>Sensor type</b>                        | Optical Infrared    |
| <b>Storage and transport temperature</b>  | -40 +85 °C          |
| <b>Operating temperature</b>              | -10 +40 °C          |
| <b>Humidity at room temperature</b>       | 15 – 55 %           |
| <b>Data transfer</b>                      | Wireless connection |
| <b>Data collection</b>                    | Barcode reader      |

# Manual plasma extractor



Art: PE-10000

Blood Separation - Plasma Extractor

## Mechanical plasma extractor

- Easy to use
- Manual system - accepts all kind of blood bags
- Frame and construction in stainless steel
- Transparent plate for visual control of red cells and plasma
- Powerful spring



## Technical data

**Dimensions (cm)** 19 x 25 x 24

**Gross Weight** 2,5 kg





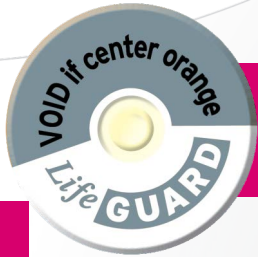
Blood transport

### Blood transport

- Life Guard
- Cooling boxes

# Life Guard

## Safe Handling – Save Blood



### Erythrocyte Temperature Control



Art: LG-10000

#### Ordering information:

- LG-10010 Stationary UV Light
- LG-10012 Cooling plate
- LG-10013 InfraRed Thermometer
- LG-10014 UV Handlight
- LG-10005 Distribution Package
- LG-10006 Validation Package

Blood transport

#### Features:

Shipping and handling at room temperature

Process and quality insurance due to activation only after sufficient cooling (approx. 7.5°C) with inherent functionality

Application in warm or cool environment activated or not activated

check of indicator:  
Activatable equals operational

Unique and explicit color code:  
not activated (light)  
activated (dark blue)  
critical temperature exceeded (bright orange)

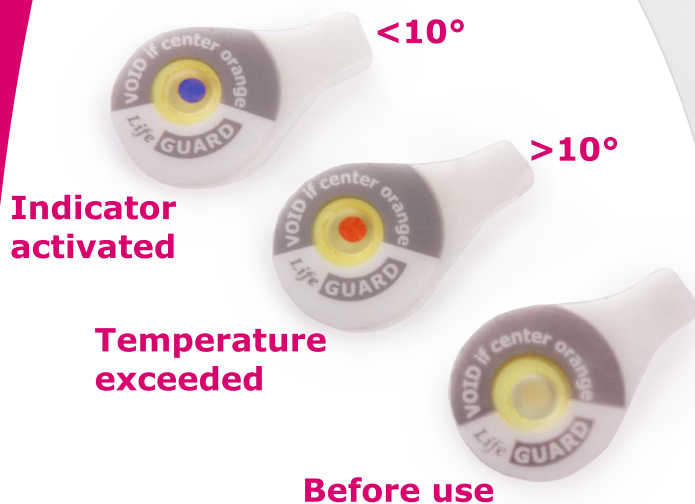
Easy, contactless, quick and clear activation including sterilization effect due to UV -C light source

Effective thermal insulation towards false outer temperature (e.g. hand or warm surface contact during handling)

Flexible procedures of application with multiple light equipment for activation (single vs. bulk activation, on bag vs. off bag activation, etc.). Full automation to be discussed

# Life Guard

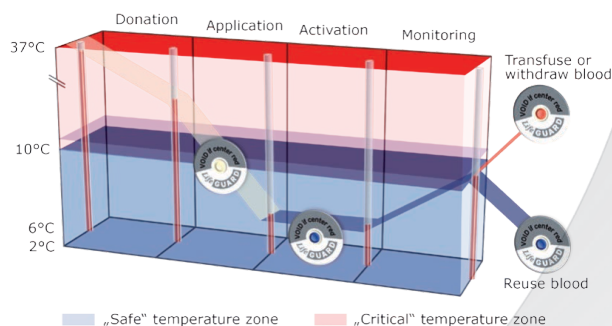
## Safe Handling – Save Blood



**Indicator activated**

**Temperature exceeded**

**Before use**



Stationary activation device  
TempMatic

### Application:

Life Guard indicators are best applied directly after whole blood is processed and prepared for storage in cool environment. Application is also possible in cool environment, both in activated or non activated form.

### Activation:

After sufficient cooling, Life Guard indicators can be activated contactless, quickly and clearly by means of a special light source. Indicators offer inherent quality assurance for sufficiently cooled blood (lower than approx. 7.5°C) and 100% proof of functionality when changing the center of the indicator into dark blue.

### Temperature monitoring:

Once activated, Life Guard indicator continuously monitors temperature abuse of Blood bags with direct mass contact to the blood bag surface and effective thermal insulation against false temperature influence from warm sources during blood bag handling.

### Temperature abuse:

When blood bag core temperature exceeds the critical threshold temperature of 10°C, the center of Life Guard indicators irreversibly changes color into bright orange to alert user of temperature abuse.

### Blood savings:

Blood bags with Life Guard indicators that do not show abuse of critical threshold temperature can be returned into blood bag life cycle for further use.

Blood transport

# Cooling boxes

## Portable refrigerators

### DESCRIPTION

- The portable refrigerator unit has been specially designed for sanitary purposes such as transportation of blood and organs. In fact, thanks to the possibility of being supplied by D.C. Current for the installation of ambulances and cars, it meets the most different requirements.
- In addition, its compactness, practicalness, elegance and highly insulation capability, guarantees the excellence of a high-quality product which offers high performance and extremely reduced consumption.



### Characteristic

- **STRUCTURE** Realized in an environment-friendly atoxic plastic material (inside and outside)
- **INSULATION** Foamed polyurethane
- **THERMOSTAT** Digital electronic thermostat with audible and visual alarm (not for power failure)
- **HANDLES** Made in PVC, sidemounted, retractable
- **OPERATION** Compressor
- **KEY LOCKING** standard fitted
- **INTERNAL LIGHTING** standard fitted
- **OPTIONS** 230V - 12 V Automatic feeder  
Temperature chart recorder

Blood transport



**C 26**

Art : KÜ-10002



**C 41**

Art : KÜ-10001



**C 65**

Art : KÜ-10000

| Technical data             | C - 26                 | C - 41                 | C - 65                 |
|----------------------------|------------------------|------------------------|------------------------|
| <b>Supply</b>              | 12V/24V<br>220V/1/50Hz | 12V/24V<br>220V/1/50Hz | 12V/24V<br>220V/1/50Hz |
| <b>External Dimensions</b> | 51 x 35 x 39 cm        | 60 x 37 x 40 cm        | 70 x 44 x 47 cm        |
| <b>Temperature</b>         | +10°C -10°C            | +10°C -10°C            | +10°C -20°C            |
| <b>Absorption</b>          | 33 W                   | 33 W                   | 42 W                   |
| <b>Refrigerant</b>         | R134A                  | R134A                  | R134A                  |
| <b>Weight</b>              | 15,5 kg                | 18 kg                  | 25 kg                  |
| <b>Capacity</b>            | 26 litres              | 41 litres              | 65 litres              |



### Blood storage and Cryoconservation

- Climax
- Agitators
- Freezers
- FREEZmatic BASIC
- FREEZmatic PLUS
- Pingu Refrigerators

# Climatic chamber CLIMAX

Blood storage and Cryoconservation



**Climax 120**

Art : KL-10035



**Climax 100**

Art : KL-10000

## Now with complete TEMPERATURE TRACKING

Climax climatic chambers keep together with fitting Agitators your thrombocytes in motion and at constant 22°C.

The compressor of Climax series works extremely efficient to keep energy consumption at a very low level. Strong air recirculation and connected quick temperature adaption also account for the low energy consumption.

The included temperature alarm system works independently from the temperature controller (double temperature control).

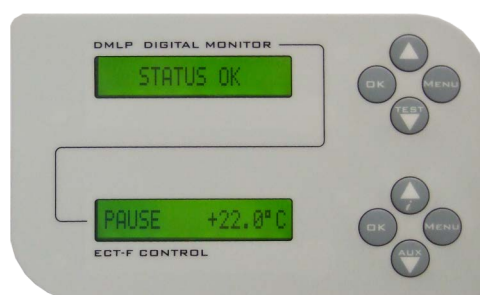
## Characteristics

- **Housing** made of double-side epoxy laminated steel
- **Interior:** made of stainless steel (18/19 AISI 304), exterior laminated in white
- Small **rolls** with fixing break
- Produced of **chrome-plated steel**
- **Temperature control** 22 °C +/- 1 °C.
- Electronically controlled **heating and cooling system**
- **Air circulating fan** for the fast assimilation of the target temperature
- **Isolation:** the cavity between the two metal walls is packed 5 cm with the foam material polyurethane
- **Hung-in Glass Door:** 3x isolation glass embedded in the aluminium frame
- **Framework:** lined with refrigerator seal; external door handle
- **Stained steel plating:** as footprint for Platelet agitator
- **Prepared inner wall:** for placing of an external measurement probe
- **Integrated Temperature Recording:** including separate temperature probe

## Ordering information

- KÜ-10069** Remote Panel
- KÜ-10070** Ext. Terminal Board for RS485/Dry contacts
- KÜ-10071** PT100 Extension module + 1 PT100 Class A 4-20mA output
- KÜ-10072** Web light server module (Ethernet)
- KÜ-10073** GSM communicator CF2008 module

# Climatic chamber CLIMAX



## The new Controller

- **The temperature controller at the highest stage**
- **0,1°C accuracy**
- **Menu with 5 language options**
- Self-monitoring on the main settings allows **to identify alarms and faulty conditions immediately**
- **Password to control access** (User, Service staff)
- **Stop-on-door, Second cooling und advanced defrosting** allow an efficient managing of the defrost cycles, reducing thermal variations and consumption

## Options

- Web light server allows access to the device from a computer and multiconnection of refrigerators
- Remote panel as option
- PT 100 extension module in combination with PT 100 sensors enables calibration of the device
- GSM Communication module (for sms communication)

## New features for more reliable and safe storage of thrombocytes:

- Door alarm included
- Temperature alarm included
- Faulty condenser alarm (too high condensing temperature)
- Faulty evaporator alarm (too high evaporating temperature)
- Faulty sensor alarm (Climax will work correctly in standard mode until technical interference)
- RS 485 In/Out Interface as extension module
- Complete temperature tracking with SD card incl. download interface software (memory of all temperature and operation data for a period of about 5 years)
- Back up battery in case of power failure for the alarm system for up to 12 hours
- 2 Output relays (dry contact)
- Memory of all temperature and operation data for a period of maximum 5 years
- Saves working status, open door logs and any change in parameter settings
- Digital printer for a weekly printout or other data

| Technical data                           | CLIMAX 100             | CLIMAX 120                           |
|--|------------------------|--------------------------------------|
| External dimensions (cm)                 | 60.5 x 61 x 86.5       | 121 x 71 x 87.5                      |
| Internal dimensions (cm)                 | 52,5 x 39 x 48         | 111 x 46,5 x 46                      |
| Capacity                                 | 1xAgitator 24/48       | 2xAgitator 24/48/60 or 1xAgitator 96 |
| Finished and packed unit                 | (cm) 66x70x109 (kg) 75 | (cm) 127x80x107 (kg) 137             |
| The weight without internal fitting (kg) | 66                     | 114                                  |

# Thrombocyte Shaker

Keeps your thrombocytes in motion

Blood storage and Cryoconservation

## Thrombocyte Shaker 60

Art : AG-20003



## Thrombocyte Shaker 96

Art : AG-10002

## Thrombocyte Shaker 48

Art : AG-20001



## Thrombocyte Shaker 24

Art : AG-20000



### Storage of thrombocytes – standstill or motion

- Upper section moves over 30mm at **~60 strokes at 50Hz / ~72 strokes at 60Hz per minute**
- Every shelf has a **capacity of 6 bags** (for models 24, 48, 60)
- Every shelf has a **capacity of 12 bags** (for model 96)
- **Built in drawer stopper** prevents accidental falling out
- Designed in **stainless steel**
- Each drawer can be **operated independently** from other drawers
- Designed for **silent and reliable long time use**

### Optional

#### No-motion alarm

- Acoustic warn signal
- D-sub connector for relaying alarms

| Technical data   | Thrombocyte Shaker 24 | Thrombocyte Shaker 48 | Thrombocyte Shaker 60 | Thrombocyte Shaker 96 |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Capacity (bags): | 24                    | 48                    | 60                    | 96                    |
| Dimensions (cm): | 38,1 x 44,8 x 25,9    | 38,1 x 44,8 x 38,8    | 38,1 x 44,8 x 45,3    | 33,8 x 87,7 x 39,3    |
| Weight (kg):     | 20                    | 25,5                  | 28,25                 | 37,2                  |

# Freezers

## Super ARTIC 700



Door key

| Characteristics  | Super ARTIC 700  |
|--|--|
| <b>Structure</b>   | White version or Stainless steel 18/10 int.+ext.                                     |
| <b>Insulation thickness</b>                                  | 60 (polyur. mm)  |
| <b>Doors number</b>  | 1  |
| <b>Door type</b>   | Fully Insulated  |
| <b>Refrigeration type</b>                                    | Ventilated   |
| <b>Refrigerant type</b>                                      | ISCEON 89  |
| <b>Temperature range</b>                                     | -20°C - 40°C   |
| <b>By Ambient temperature</b>                                | +10°C - +25°C  |
| <b>Temperature control/ adjustment</b>                       | Control: with Hi/Low Temp. alarm, door ajar, ON/OFF w/password                       |
| <b>Defrosting type</b>                                       | Automatic  |
| <b>Voltage</b>   | 230V/1/50Hz  |
| <b>Capacity (LT)</b>   | 544  |
| <b>Shelves nr.</b>   | suggested 3  |
| <b>Dimensions (cm)</b>                                       | 72 x 86 x 205  |
| <b>Net weight (kg)</b>                                       | 143  |
| <b>Humidity</b>  | 60%  |
| <b>Refrigerant gas</b>                                       | R404A, CFC free  |
| <b>Noise level</b>   | < 60 db  |
| <b>Instant power consumption</b>                             | 1,29 KW  |
| <b>Equipment in accordance with</b>                          | Directives 2006/42/CE, 2006/95/CE, 2004/108/CE, 93/42/CE and following modifications |
| <b>User protection password secured via touch</b>            |  |
| <b>Internal cabinet with shelves/drawers interchangeable</b> |  |

Blood storage and Cryoconservation

### Accessories / Options

- Additional open wire shelf realized in sheet steel plastic coated
- Kit of nr. 5 drawers realized in sheet steel white plastic coated
- Safety key locking
- Kit of castors with brakes
- PT 100 sensor
- Wifi modul
- GSM Communicator CF2008 module
- Interchange Rack System for Shelves/Baskets
- Internal steel wire basket
- Automatic water evaporation tray
- Frequency 60Hz
- Voltage 115V
- Digital Monitor (Alarm System)®  
Accessories for Digital Monitor®:
  - Printer (Graphic Temp. Printer)
  - Remote panel
  - Ext. terminal board for RS485/dry contacts
  - PT100 probe
- Digital monitor touch incl. PT100

# FREEZmatic Basic

Blood storage and Cryoconservation



Art : KÜ-10501

## Plasma-Shock-Freezer

FREEZmatic Basic is a medical device, CE marked as Class IIa upon the MEDICAL DEVICE DIRECTIVES 93/42 and subsequent, specially designed to freeze the blood plasma under  $-30^{\circ}\text{C}$  in 30 to 60 minutes, in compliance with the international standards to preserve the plasma factors.

### Overview

- Professional line
- Working temperature:  $-75^{\circ}\text{C}$
- Equipment certified according to 93/42/EEC directive and following amendments
- Maximum efficiency due to the innovative freezing shelves
- Full flexibility to freeze many different kinds of plasma bags
- Ergonomic and easy to use

### Features

#### Frame

Fully in metallic heavy-gauge phosphate-coated steel plate, powder-painted in grey. No. 1 service door with key lock and magnetic PVC rubber gaskets. Assembled on 4 wheels for easy moving.

#### Internal chamber

Internal chamber in AISI 304 polished stainless steel with rounded corners for easy cleaning. Four refrigerated shelves with uniformity plates made of anodized aluminium for maximum heat transfer and easy cleaning.

#### Thermal insulation

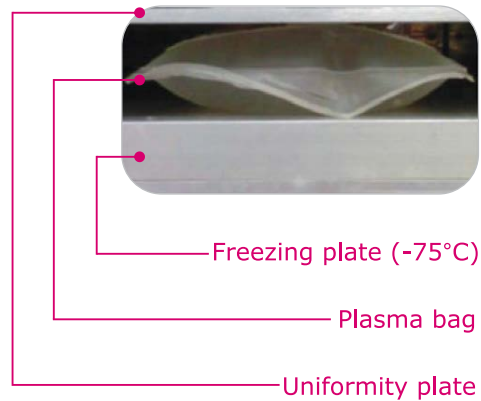
"Sandwich technique" with injected CFC-free polyurethane foam. 125 mm average thickness of insulation.

#### Cooling system

The shelves act as freezing surfaces. The refrigerant fluid flows inside each shelf for maximum freezing efficiency while the top covers push the bags from top creating a "sandwich" effect for exceptional temperature uniformity on both top and bottom sides. The refrigeration system is made with two high efficiency semi-hermetic compressors air cooled in cascade.

#### Refrigerants

Standard R404A and R23. Both gases are allowed by the Montreal Convention and are accepted as "environment friends gases" under the London amendment too.



### Internal shelf organisation



# FREEZmatic Basic



## Performance

### Plasma Bags capacity

up to N° 40 - 450/400 ml (nominal capacity) or,  
up to N° 16 - 1000 ml (nominal capacity)

### Mean freezing time fully loaded

with 40 bags 450 ml filled 250 ml = 30 minutes  
with 40 bags 450 ml filled 300 ml = 45 minutes  
with 16 bags 1000 ml filled 650 ml = 45 minutes  
with 16 bags 1000 ml filled 800 ml = 55 minutes

## Controller

- On/ Off the cooling system
- Shows on display the shelves temperature
- Bring the temperature of the shelves down to -75°C and hold it
- START a freezing cycle (auto stop after 60min.)
- SHOW a light ON when the cooling system is active
- SHOW a light ON + beep when freezing cycle is terminated (after 60 minutes from START)
- ALARM with light ON + beep in case of compressors high pressure

## Technical specification

|                                    |   |
|------------------------------------|---|
| <b>Internal shelves N°</b>         | 4   |
| <b>Bags capacity (450ml)</b>       | 40  |
| <b>Working temperature C°</b>      | -75   |
| <b>Net sizes &amp; weight</b>      | External: 895Wx1490Dx1760H mm<br>Internal: 600Wx565Dx770H mm<br>Weight: 675 kg<br>Shelf: 590Wx555Dx25H mm |
| <b>Shipping sizes &amp; weight</b> | 1400Wx1850Dx2150H mm, about 730 kg (with wooden box)  |
| <b>Main energy consumption</b>     | 5.4 KWh   |
| <b>Voltage</b>                     | 400 VAC, 3 phases, 4 poles, 50 Hz (60Hz optional)   |
| <b>Amperage</b>                    | 12A   |
| <b>VA</b>                          | 6000  |
| <b>Kcal/h emission</b>             | 4000  |
| <b>Noise level</b>                 | <62dB   |
| <b>CE Mark</b>                     | Class IIa Medical Device according to the EU Directive N° 93/42 and subsequent                            |
| <b>Ambient conditions of use</b>   | Temperature: +10° ~ +32°C<br>Relative humidity: 30 ~ 80% without condensation                             |
| <b>Stocking condition</b>          | Temperature: +2° ~ + 50°C<br>Relative humidity: 20 ~ 80% without condensation                             |
| <b>Alarms types</b>                | Acoustic and Optical  |
| <b>Data communication</b>          | None  |
| <b>In case of power black-out</b>  | Compressors OFF<br>(Controller is powered for 24-48h by a battery back-up)                                |

# FREEZmatic Plus

Blood storage and Cryoconservation



Art : KÜ-10500

Plasma Blast Freezer where the freezing process is certified (Patented) brings the plasma bags temperature to  $-30^{\circ}\text{C}$  in 30 to 60 minutes. According to the international norms and procedures to safeguard the active principles present into the plasma according to the n° R (95) 15 Recommendation and to the European Plasma Master File

## Usage purpose

The Fresh Plasma (FP) is a blood derivative obtained by centrifugal separation or directly through apheresis (plasmapheresis) and frozen (FFP) to correctly preserve the coagulation factors (factor VIII). The FFP is used in therapy to correct the coagulation disorders namely in presence of multiple coagulation deficiencies. These factors are purified as dosage forms through an industrial chromatographic separation. The EU Recommendation n° R (95) 15, tells that the temperature in the core of the bag must reach  $-30^{\circ}\text{C}$  in 60 minutes or less.

## Working principles

In FREEZmatic Plus models, the shelves act as freezing elements: the refrigerant flows inside the shelves for the best freezing efficiency while the uniformity plates press the bags to evenly distribute the temperature. The uniformity plates are pre-refrigerated with the chamber empty (i.e. between two freezing cycles). The bags are frozen by conductivity through a direct thermal exchange. The strict relationship between the temperature of the uniformity bag and the one in the core of the bag. The temperature profile of the uniformity plate gives a reliable and precise measure of the temperature of the bag below.

## The operation principle

The process detects the bag temperature in a specific algorithm. The temperature of the bag in that position assures that all the other bags of the batch have exactly the same freezing profile. The freezing cycle is controlled, monitored and registered. At the end, the PC on board prints a certificate of conformity or non conformity according to the results. The bags are loaded on the shelves of the FREEZmatic Plus after the reading of the bags barcodes. The certificate of conformity contains the codes of all the bags of the batch.

### The Probe

FREEZmatic Plus has an integrated probe that certifies the freezing profile of all the bags of the batch, "dummy bags" are not needed and all the positions available on the shelves are usable to freeze the plasma bags.

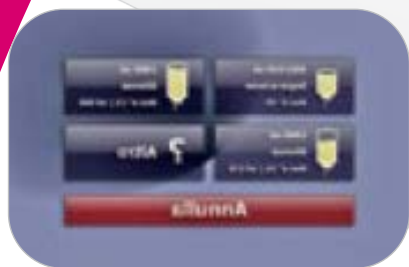


Freezing plate ( $-75^{\circ}\text{C}$ )

Plasma bag

Uniformity plate

# FREEZmatic Plus



Easy-to-use Interface

## Performance

### Plasma Bags capacity

up to N° 40 - 450/400 ml (nominal capacity) or,  
up to N° 16 - 1000 ml (nominal capacity)

### Mean freezing time fully loaded

with 40 bags 450 ml filled 250 ml = 30 minutes  
with 40 bags 450 ml filled 300 ml = 45 minutes  
with 16 bags 1000 ml filled 650 ml = 45 minutes  
with 16 bags 1000 ml filled 800 ml = 55 minutes

- Medical Device certified according to the EU Directive 93/42/CEE
- Complete back traceability of each freezing cycle
- Maximum freezing efficiency due to the innovative uniformity plates
- Horizontal freezing for the best temperature uniformity
- Possibility to freeze any kind and shape of soft plasma bags
- Increased productivity due the optimized freezing times
- Ergonomic easiness of use.

## Embedded PC and SW

At the end of the freezing cycle FREEZmatic Plus prints a certificate stating:

- Batch freezing Time,
- Plasma bags barcodes,
- Details of any step of the process,
- Operator ID,
- Date and time,
- Signature of the validating operator.

FREEZmatic Plus has a panel PC touch-screen, a barcode reader and a proprietary SW to:

- Identify all the bags of the freezing batch,
- Detect the temperature of each plasma bag of the freezing lot,
- Store and trace back all the data of the freezing processes,
- Protect all data from any external action,
- Share the data with the Hospital/Blood Center databases.

- Comply to EU Recommendation n° R (95) 15
- Certified Freezing Process
- Medical Device, class IIa, according to EU Directive 93/42
- Comply to the European Plasma Master File (PMF)

- Access control
- PIN Code protected
- FREEZmatic Plus freezes soft plasma bags of any volume and shape
- The freezing lot must process plasma bags of the same shape and volume

Blood storage and Cryoconservation

## Technical specification

**Structure:** phosphatated and epoxy painted carbon steel. Mounted on wheels for an easy moving. AISI 304 inner structure with round corners for an easy cleaning.

**Door:** equipped with a key lock and silicone gasket.

**Thermal insulation:** "sandwich" technique and polyfoam CFC- HCFC free. Insulation thickness: 125 mm.

**Control Panel:** located in the front of the unit; on/off switch with light; acoustic and visual signal of end-cycle high pressure refrigerant high/low stage alarm; digital display of the internal temperature; main switch on the left size.

|                                    |                              |
|------------------------------------|------------------------------|
| <b>Internal shelves N°</b>         | 4                            |
| <b>Bags capacity (450ml)</b>       | 40                           |
| <b>Working temperature C°</b>      | -75                          |
| <b>Suplly voltage (V)</b>          | 400V (+6/-10%) 50Hz/3+N+T(G) |
| <b>Maximu absorbed current (A)</b> | 12                           |
| <b>External dimensions (WxDxH)</b> | 895 x 1490 x 1760            |
| <b>Net weight</b>                  | 690                          |
| <b>Noise level (dBA)</b>           | 62                           |
| <b>Refrigerant:</b>                | R404A and R23                |
| <b>Data transfer:</b>              | Usb, ethernet                |

# Pingu Refrigerators

## Pingu 140 ÷ 400

| Characteristics                               | PINGU 140  | PINGU 170 touch | PINGU 250 touch | PINGU 400 touch |
|---|--|-----------------|-----------------|-----------------|
| <b>Structure</b>                              | Antibacterial, white steel or stainless steel  |                 |                 |                 |
| <b>Insulation thickness</b>                   | 40 (polyur. mm)  | 50/70           | 50/70           | 50/70           |
| <b>Doors number</b>                           | 1  |                 |                 |                 |
| <b>Door type</b>                              | Glass  |                 |                 |                 |
| <b>Refrigeration type</b>                     | Ventilated   |                 |                 |                 |
| <b>Refrigerant type</b>                       | R134A  | R404A           | R404A           | R404A           |
| <b>Temperature range</b>                      | + 4°C  |                 |                 |                 |
| <b>Alarms/Failures</b>                        | Door alarm, Temperature alarm, Power failure alarm, Dirty Condenser, Faulty sensors, Low mains*, discharged cooling system warning, high condenser temp, low evaporator, too high compressor working percentage, unbalanced probes*        |                 |                 |                 |
| <b>Defrosting type</b>                        | Automatic, with condensate water removal   |                 |                 |                 |
| <b>Voltage</b>                                | 230V/1/50Hz  |                 |                 |                 |
| <b>Castors</b>                                | Standard fitted  |                 |                 |                 |
| <b>Capacity (LT)</b>                          | 153  | 179             | 264             | 347             |
| <b>Electronic key locking</b>                 | Standard fitted, Electronic Digit. (170, 250, 400)   |                 |                 |                 |
| <b>Internal lighting</b>                      | Standard fitted, LED adjustable (170, 250, 400)  |                 |                 |                 |
| <b>Digital monitor (Alarm system)</b>         | Standard fitted: - DMLP Touch<br>- Rechargeable stylo back up battery with alarm*<br>- Temperature recording with SD card incl. download interf. SW (memory: all data, 10 years), frontal USB port*<br>- Dry contact/RS485 output included |                 |                 |                 |
| <b>Drawers nr.</b>                            | 3  | 3               | 5               | 6               |
| <b>Storage capacity (blood bags nr.450ml)</b> | 63   | 90              | 150             | 180             |
| <b>Dimensions (cm)</b>                        | 52x64x100  | 60x66x129       | 60x66x164       | 60x66x196       |
| <b>Net weight (kg)</b>                        | 85   | 127             | 131             | 150             |

Ballasted probe (aluminum cylinder) for product temperature simulation – External terminal board for RS485/dry contact/Rj45 Ethernet \*\*

Equipment in accordance with Directive 93/42/EEC and following modifications.  
Option: available as medical device.

\*Exception made for Pingu 140    \*\*No Rj45/Ethernet port for Pingu 140

### PINGU 140



### PINGU 170



### PINGU 250



### PINGU 400



Art: KÜ-10003  
KÜ-10004  
KÜ-10005  
KÜ-10006

### Touch Controller



### Accessories

- Printer (140)
- GSM Module (170,250, 400)
- PT100 probe
- Drawer perspex front (H=83 mm)
- Wi-Fi Module (170,250, 400)
- GSM Communicator CF2008 module
- Frequency 60Hz / Voltage 115V

# Pingu Refrigerators

## Pingu 700 ÷ 1500

### PINGU 700



Art: KÜ-10007

### PINGU 1500



Art: KÜ-10008



| Characteristics  | PINGU 700   | PINGU 1500      |
|--|---|-----------------|
| <b>Structure</b>   | Antibacterial, white steel or stainless steel   |                 |
| <b>Insulation thickness</b>  | 60 (polyur. mm)   | 70 (polyur. mm) |
| <b>Doors number</b>  | 1   | 2               |
| <b>Door type</b>   | Glass   |                 |
| <b>Refrigeration type</b>  | Ventilated  |                 |
| <b>Refrigerant type</b>  | R134A   |                 |
| <b>Temperature range</b>   | + 4°C   |                 |
| <b>Alarms/Failures</b>   | Control: Open door alarm, Temperature alarm, Power failure alarm, Dusty Condenser, Faulty sensors, high condenser temperature, low evaporator temperature, too high compressor working percentage                             |                 |
| <b>Defrosting type</b>   | Auto  |                 |
| <b>Voltage</b>   | 230V/1/50Hz   | 220V/1/60Hz     |
| <b>Feet</b>  | Standard fitted   |                 |
| <b>Capacity (LT)</b>   | 620   | 1355            |
| <b>Safety key locking</b>  | Standard fitted   |                 |
| <b>Internal lighting</b>   | Standard fitted, LED type   |                 |
| <b>Digital monitor (Alarm system)</b>  | Standard fitted: DMLP Digital Monitor. Rechargeable back up battery (alarm in case of power failure). Temperature recording on SD card incl. SW for downloading (memory: data for 5 years). Dry contact/RS485 output included |                 |
| <b>Drawers nr.</b>   | 7   | 14              |
| <b>Storage capacity (blood bags nr.450ml)</b>  | 336   | 672             |
| <b>Dimensions (cm)</b>   | 72 x 83 x 205   | 144 x 82 x 205  |
| <b>Net weight (kg)</b>   | 172   | 283             |
| Automatic water evaporation. Probe for product simulation.<br>Ext. terminal board for RS485/dry contacts. Available also with fully insulated door.<br>Equipment in accordance with Directive 93/42/EEC. |   |                 |

### Accessories

- Printer
- Kit of castors with brakes
- PT100 probe
- Drawer perspex front (H=83 mm)
- Frequency 60Hz
- Voltage 115V



# Pingu Refrigerators

## Pingu TWIN touch 250 ÷ 1500

Blood storage and Cryoconservation

| Characteristics  | Pingu TWIN 250 touch  | Pingu TWIN 700 touch | Pingu TWIN 1500 touch |
|--|---|----------------------|-----------------------|
| <b>Structure</b>   | Antibacterial, white steel or stainless steel   |                      |                       |
| <b>Insulation thickness</b>  | 50/70 (polyur. mm)  | 60 (polyur. mm)      | 70 (polyur. mm)       |
| <b>Doors number</b>  | 1   | 1                    | 2                     |
| <b>Door type</b>   | Glass   |                      |                       |
| <b>Refrigeration type</b>  | Ventilated  |                      |                       |
| <b>Refrigerant type</b>  | R404A   | R134A                | R404A                 |
| <b>Temperature range</b>   | + 4°C   |                      |                       |
| <b>Alarms/Failures</b>   | Door alarm, Temp. alarm, Power alarm, Dusty condenser, Faulty sensors, Low mains, discharged cooling system warning, high condenser temp, low evaporator temp, too high compressor working percentage, unbalanced probes      |                      |                       |
| <b>Defrosting type</b>   | Automatic, with condensate water removal  |                      |                       |
| <b>Voltage</b>   | 230V/1/50Hz 220V/1/60Hz   |                      |                       |
| <b>Castors</b>   | Standard fitted   |                      |                       |
| <b>Capacity (LT)</b>   | 264   | 620                  | 1355                  |
| <b>Electronic key locking</b>  | Standard fitted, Electronic Digit.  |                      |                       |
| <b>Internal lighting</b>   | Standard fitted, LED adjustable   |                      |                       |
| <b>Digital monitor (Alarm system)</b>  | Standard fitted: DMLP Touch. Rechargeable stylo back up battery (alarm in case of power failure). Temp recording on SD card incl. SW for downloading (memory: 10 years). Frontal USB port. Dry contact/RS485 output included. |                      |                       |
| <b>Drawers nr.</b>   | 5   | 7                    | 14                    |
| <b>Storage capacity (blood bags nr.450ml)</b>  | 150   | 336                  | 672                   |
| <b>Dimensions (cm)</b>   | 60 x 66 x 164   | 72 x 83 x 205        | 144 x 82 x 205        |
| <b>Net weight (kg)</b>   | 131   | 172                  | 283                   |
| Ballasted probe (aluminum cylinder) for product temperature simulation – External terminal board for RS485/dry contact/Rj45 Ethernet |   |                      |                       |
| Equipment in accordance with Directive 93/42/EEC.  |   |                      |                       |

**PINGU TWIN 250**


Touch Controller

**PINGU TWIN 1500**


Touch Controller

**PINGU TWIN 700**

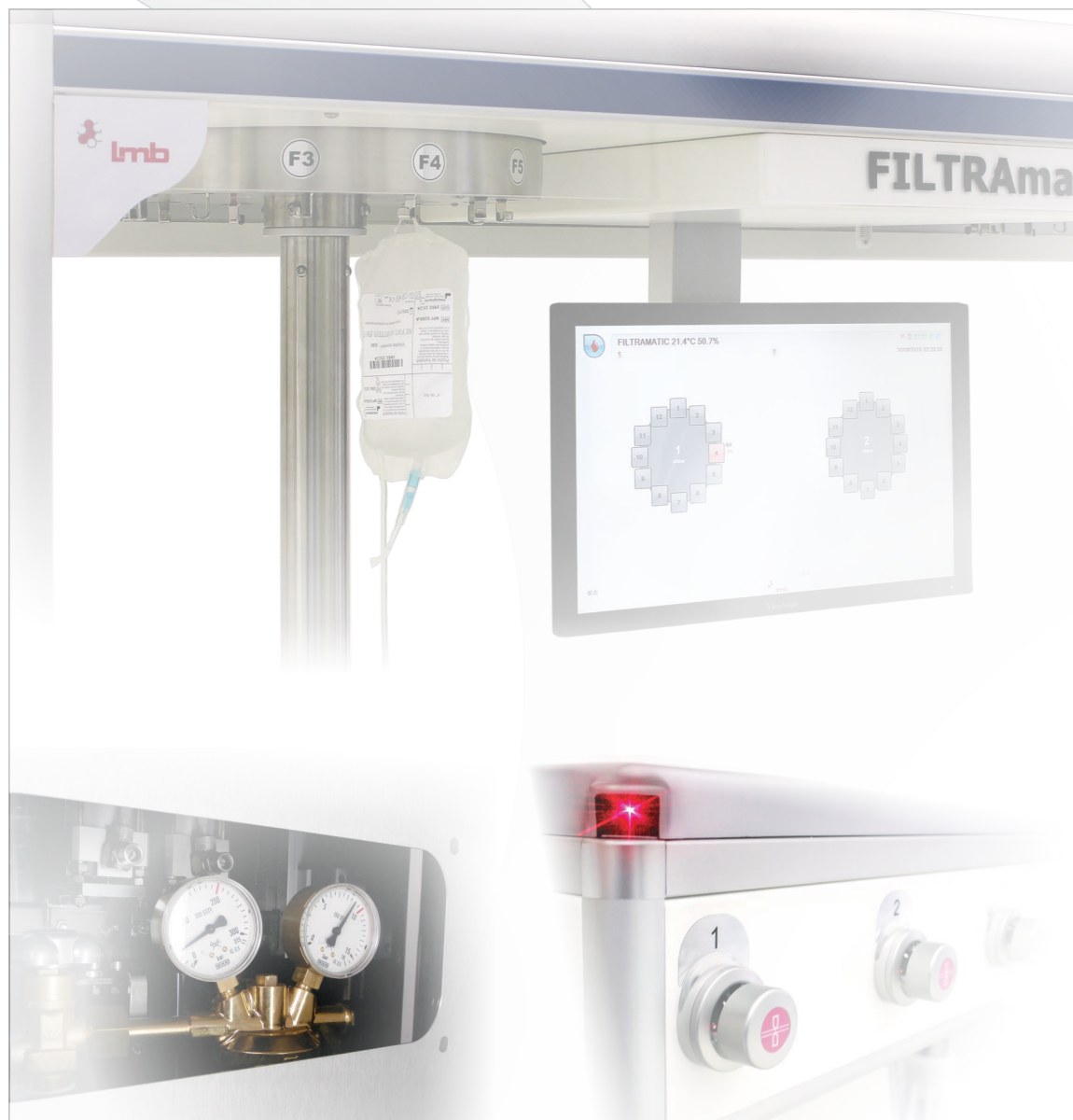

Touch Controller

 Art:  
 KÜ-10057  
 KÜ-10058  
 KÜ-10059

### Touch Accessories

- Kit of wheels
- PT100 probe
- Drawer perspex front (H=83 mm)
- Wi-Fi module
- GSM Communicator CF2008 module
- Voltage 115V
- Frequency 60Hz

The series Pingu Twin works with 2 autonomous cooling circuits (compressors, condensers, evaporator circuits) alternately during the normal cycles of operation, to maintain the performance of the equipment at its top. In case of temperature alarm and/or functional failure, there is an automatic switch-over of the 2 circuits.



### Engineering solutions

- Blood filtration - FILTRAmatic
- LEUCOmatic
- Hardware and Software Development for Blood bank systems
- Melodie

# FILTRAmatic

## Automation and Documentation of your filtration processes

### Overview

- All filter models supported
- One control unit per four filtration modules (48 filtration places total)
- Each filtration module provides twelve filtration places
- Modular concept allows system enlargements on demand
- Dimensions  
LxBxH(mm) 1750x640x1880



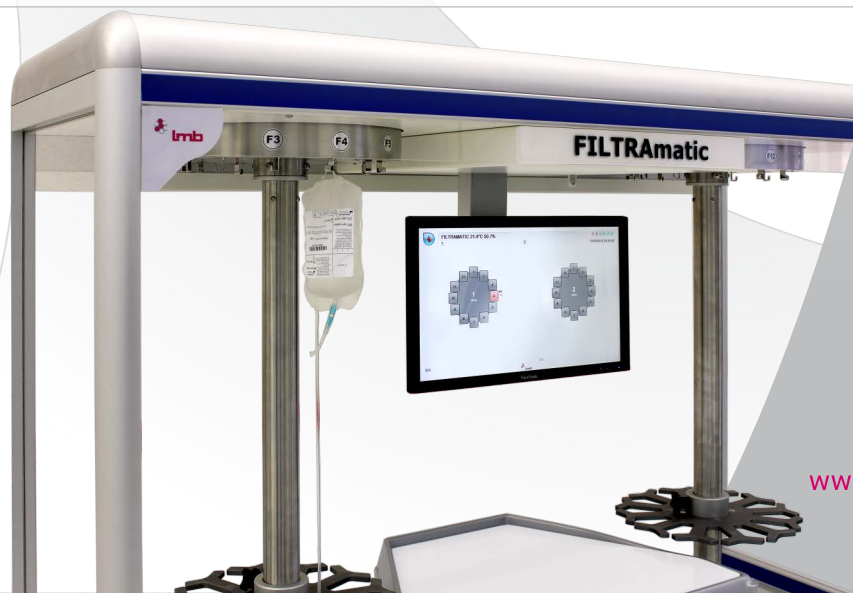
Engineering solutions

FILTRAmatic level of automation and system documentation in the field of filtration. FILTRAmatic measures the time that the whole blood needs to be filtrated entirely and compares it with the individual customer profile. If the filtration time lies within a certain predefined time corridor, the filtration process is acceptable. Mechanical errors, such as a filter breaking, result in a considerable lower filtration time and are indicated as unsuccessful filtrations.

### Filtration module

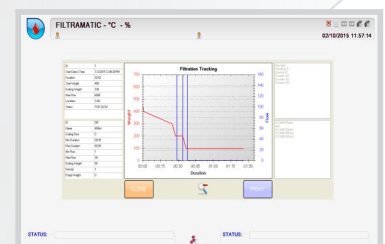
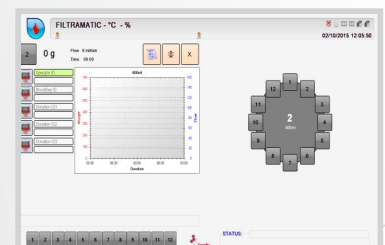
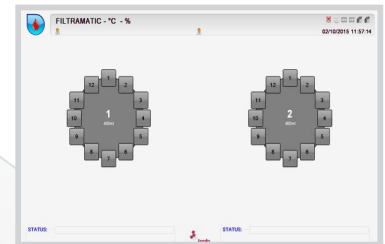
- Simultaneous filtration of as many blood bags as you need
- Twelve filtration places per one module
- Stainless steel construction
- High precision measuring:
  - Max. load: 5 Kg
  - Max. measurement range : 999 g
  - Resolution: 1 g
- Visual and audio indicators and alarms
- Filtration status 2 color LED
- Optional Tube sealer with handle for detaching used bags
- Adjustable height (up to 1700 mm) to fit any filtration system
- Total device height 2000 mm
- Width of one filtration module 400 mm

FILTRAmatic Automatic Blood Component Filtration Monitoring System is designed for monitor leukocytes filtration process in blood collection bags in order to ensure the performance of leukocyte reduction filter system.





# FILTRAmatic



## Control unit

- High industry standard PC based control unit
- HDD for local (on device) data storage
- Wireless LAN IEEE 802.11 b/g/n AES Encryption
- Integrated BARCODE reader
- Optional Wireless Barcode reader
- Touch screen interface
  - Size: 17" (19") LCD
- Adjustable arm for easy positioning to the operator



## Software user interface and functionality

- Easy to use operator interface
- Automatic filtration monitoring with minimum of operator intervention
- Filtration profiles for different blood bag and filter types
- Multilanguage support
- Quality management
- Filtration progress graph in real time
- Production data collection with transfer to BBIS (TCP/IP)
- Reports
- Simple setup and adjustments
- Data link to BBIS
- Self test

# LEUCOmatic

## Automatic Filtration stand

LEUCOmatic wheels with rubber tread provide smooth and quiet rolling and will not leave marks on flooring. All wheels have brakes for locking the device in position.

Art: FM-10001



Engineering solutions

### Overview

- All filter models supported.
- LEUCOmatic Automatic filtration stand for Blood Component Filtration is designed mainly for leukocytes filtration process in blood collection bags in order to ensure the good performance of leukocyte reduction filter system and easy operator manipulation. LEUCOmatic can be used also as a help for all blood bag, not only filtration, process found suitable.
- Filtration process for the leucodepletion of whole blood and red cells can be done at core temperatures in the range +4°C up to +30°C. Device is designed to be operated in a 4°C cold room as well as standard room temperatures.
- Complete stainless steel construction, with removable lower trays for easy and thorough cleaning.
- A pneumatic mechanism powered by CO<sub>2</sub> gas raises and lowers the shelves to operational and filtration height. Loading, unloading and lifting of the units is easy and safe



control levers

pneumatic system

Device significantly reduces the physical strain and effort of lifting and bending compared with simple stands thereby reducing the risk of injury to staff.

# LEUCOmatic

## Automatic Filtration stand



### Device has 2 working positions

- Load position, bring shelves up to comfortable height for each operator.
- Filtration position, bring shelves to working position according to manufacturers requirements for overall filtration height.

### Technical data

| Parameter                         | Value   |
|-----------------------------------|---|
| Capacity                          | 48 bags   |
| Max. load of upper shelf          | 30 kg   |
| Max. load of lower shelf          | 25 kg   |
| Maximum load per hook             | 1 kg  |
| Max Filtration length             | 185 cm  |
| Total Dimensions(LxHxW)           | 1275 x 1735 x 750 mm  |
| Weight (unloaded)                 | 150kg   |
| Housing material                  | Stainless steel   |
| Max travel of upper shelf         | 55 cm   |
| Max travel of lower shelf         | 55 cm   |
| Movement mechanism                | Pneumatic   |
| Air Power                         | <ul style="list-style-type: none"> <li>• CO<sub>2</sub> 7L (140-7L) bottle (standard) or</li> <li>• Connection to pneumatic air insullation 5-6 bar (on request)</li> </ul> |
| Movement control                  | by levers   |
| <b>Environmental</b>              |   |
| Working temperature               | 0°C – 40°C  |
| Humidity                          | 20% – 95%non condensed  |
| Storage and transport temperature | -20°C – +60°C   |
| No of cycles with full bottle     | 100   |

## Hardware and software development for bloodbank systems



### Development at Lmb

LMB development offers on demand top quality contract-based services for hardware and software development. We are able to take into account all requirements and wishes of our clients and provide our services for all stages of the product engineering cycle, including development, quality assessment, documentation and support. Although transfusion technology is our focus, we are able to challenge and to respond to various demands in other areas.

### Hardware development

Technologies and tools:

- Analog and digital based design and development.
  - Embedded solutions based on microcontrollers.
  - 8/32 bit processors
  - 51 based processor (Atmel, Silabs, ect.)  
PIC Microchip, ect.
  - PC based embedded single board computer units
  - TCP/IP, C, C++
  - Low level Firmware
  - System Integration
  - Software Development
  - Windows XP
- RF ID systems and software solutions.
- Printed circuit board design.
- Fast prototyping.
- Small series production.



Our mechanical engineering team at first supports solving different problems in electronic hardware design and extends its range to design the most complex mechanical components in the line. Mechanical processing and design is the process combining 3D CAD software with engineering expertise, transforming an idea from conception to design and finally to implementation. This activity is performed concurrently with 3D simulation, engineering processing, engineering design, control system design with a defined project management process for our customers.

Our team is able to guide the development process until the final prototype is finished. We are open for small series production.

Mechanical design tools:

- Autocad, Standard, Mechanical Desktop & Inventor, SolidWorks, Solid edge.

## Development at Lmb

### Software development

The software team offers you customized application development and outsourcing services. Our team is specialized in building various multi-purpose software solutions. We are constantly looking for new technologies.

| Rapid prototyping   |   |
|---|---|
| Description   | Skills  |
| ISO Certified development of various products from start to end, from the list of requirements to the full documented and full functional prototype.<br>Examples: Prototyping of robotic systems for blood banks in hospitals.  | HW and SW designing skills, PCB designing, coding in different languages and on different platforms (microcontrollers, PC, etc.), Management skills.  |
| Embedded design   |   |
| Description   | Skills  |
| ISO Certified development of various modules, from start to end, from the list of requirements to the full documented and full functional prototype.<br>Examples: Distance maintenance, Remote analysis tools, GPS module, RFID reader, USB switch, Communication module...   | HW and SW designing skills, PCB designing, coding in different languages and on different platforms (microcontrollers, PC, etc.), Management skills.  |
| Windows desktop PC applications   |   |
| Description   | Skills  |
| Making of applications for various areas:<br>Standalone programs (Erysys, Extraction player, Separator control panel; All PC applications)<br>Client – Server applications (Network applications, like Skype, VNC, etc.)<br>Database designing and administration (All applications that require databases, from application for Libraries to Information systems for companies.                | High programming skills in different languages, database design knowledge, familiarity with network protocols.  |
| Web oriented systems  |   |
| Description   | Skills  |
| Designing and implementing dynamic web sites, based both on Microsoft and on free technologies (Complex web sites that requires databases support, has e-commerce implementation, has customer interaction and has customer side interface for contents customisation).<br>Applications based on web services technology (Public interaction and information systems (Info-kiosk, E-ticketing). | High programming skills in different web oriented languages, database design knowledge, familiarity with network protocols, graphic design abilities. |



# MELODIE SOFT



Software solution by Lmb

## Blood supply chain management solutions



**MELODIE - BBIMS**  
blood bank  
information  
management  
system



**MELODIE-Donor**  
Donor volunteer  
recruitment  
system



**MELODIE  
- LIS BLOOD**  
Bank laboratory  
management  
system



**MELODIE-SmartTx**  
Smart  
transfusion  
management  
system



**MELODIE - CHAIN**  
cold chain  
monitoring  
system



**MELODIE - GIS**  
Spatial Information  
Systems for  
Centralized  
Management of  
Blood Supply  
Chain



**MELODIE-Vigilance**  
National  
Haemovigilance  
System

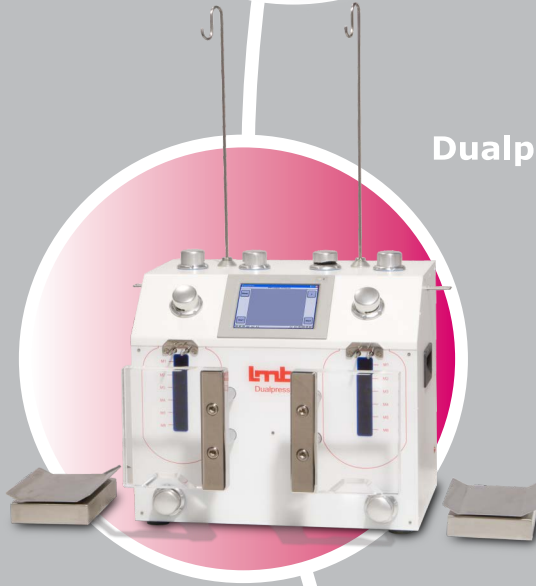


**MELODIE-Quality**  
Quality  
Management  
System

- Over 4000 users
- Over 14 years of experience
- Validated in more than 1000 blood establishments
- Product range validated through local, regional and national implementation



Mikromatic



Dualpress



DONOpack



Refrigerators