Fresenius CATS plus
more than only saving cells

Intra- and postoperative Autotransfusion

Autologous platelet harvesting

Datamanagement

MEDICAL DEVICES
The contin... more

1st Separation Phase
- initial separation stage
- blood is concentrated to an hematocrit of approx. 80%
- separation of the majority part of blood plasma, cellular debris, white blood cells, platelets, anticoagulant and other unwanted constituents
- complete removal of non-emulsified fat

Washing Phase
- here the red blood cells are resuspended with saline
- further removal of blood plasma and other soluble components
than only saving cells in a continuous washing process.
Consistant high hematocrite
– independent from processing speed and type of surgery –

Fastest processing time
– 100 ml Autologous PRC / min –

Complete elimination of unemulsified fat
– safety for the patient –

Lowest cell trauma
– low g-forces and short remaining time of red cells –

Volume independent, ideal for small blood volumes
– no partial bowls, no leftover blood –

Plasma sequestration
– fully automatic procedure to obtain autologous platelets –

Data transfer management
– bar code scanner + USB-Mo.U.S.E –

Easy and save set up
– one set for all purposes –
A new performance standard

Need blood fast? C.A.T.S (Continuous AutoTransfusion System) sets a new performance standard! Fresenius has developed innovative technology that is revolutionizing autotransfusion.

Intraoperative autotransfusion has traditionally been accomplished utilizing bowl systems. Now, C.A.T.S allows you to set new standards for performance.

Advances in “washing chamber” technology are replacing batch processing in favor of continuous washing and processing.

- No stopping to fill or empty bowls
- Fastest processing time

Due to the volume independent blood processing the same set can be used in all applications from pediatrics to trauma.

Consistent high hematocrit

Due to the advantages of the continuous processing system, the Fresenius C.A.T.S produces Autologous PRC with higher hematocrit than bowl systems. The high and constant Hct (65%) obtained with C.A.T.S is in the same range as PRC provided by the blood bank.1,2,3

Fastest processing time

The continuous processing allows the fastest access to the Autologous washed PRC. The emergency wash program produces 100 ml of packed red cells per minute without interruptions.3,4

Complete fat elimination

Non-emulsified fat, originating from bone marrow or subcutaneous tissue, will be eliminated by the continuous washing process. Due to the geometry of the unique washing chamber the fat is never in contact with the PRC.5,6,7,8

Lowest cell trauma

The low centrifuge speed and the resulting lower g-forces will produce much less stress to the red cells than in bowl systems. This, together with the short processing time of the cells inside the washing chamber, result in a positive effect on the vitality of the red cells.9

Volume independent, ideal for small blood volumes

Due to the volume independence of the C.A.T.S washing chamber, the initial volume of packed red cells required the chamber is very small (15 – 30 ml). Blood processing can start with minimal quantities of shed blood. The continuous process allows the quantitative processing without any leftover blood which is ideal for low volumes and paediatrics.10,11,12

Plasma sequestration

Fully automatic procedure to separate the patients blood into packed red cells (PRC), platelet rich plasma (PRP) and platelet poor plasma (PPP) as a multi component donation or processing of the PRP to 100 % autologous products.

Data transfer management

DTM allows documentation and traceability of used disposables and the washing processes C.A.T.S with its barcode scanner and the USB-Mo.U.S.E can easily transfer data to PCs and interfaces of the hospital management systems.

Easy and save set up

The standardized user concept and the automatic functions, e.g. pump loading and centrifuge locking, mean fast and save handling is guaranteed even in critical situations.

References:
1. Florio G: The Fresenius continuous autotransfusion system (CATS): preliminary studies and application; J Clin Anesth 1996;8:431-434 (English)
3. Shulman G: Quality of processed blood for autotransfusion, JECT 2000, 32(111-9) (English)
9. Rosolli K et al: Blood separation with two different autotransfusion devices: effects on blood cell quality and coagulation variables, Int J Antifl Organs 1998; 21:820-824 (English)
The Fresenius C.A.T.S offers three types of fully automatic programs for washing, transferring blood and for Plasma Sequestration.

### Wash Programs: PRC Flow
- High Quality Wash: 20 – 40 ml/min
- Low Volume Wash: 25 ml/min
- Quality Wash: 20 – 45 ml/min
- High Flow Wash: 30 – 70 ml/min
- Emergency Wash: 100 ml/min

### Transfer Programs: Blood Flow
- Blood Transfer 190: 190 ml/min
- Blood Transfer 350: 350 ml/min

### Plasma Sequestration (PSQ) Programs:
- PSQ From Blood Bags
- PSQ Direct Draw

### Delivery Flow Rates:
- Red Blood Cell Pump: 0 – 190 ml/min
- Shed Blood Pump: 0 – 350 ml/min
- Washing Solution Pump: 0 – 400 ml/min
- Centrifuge Speed: 0 – 2400 RPM
- Anticoagulant Removal: > 96% (HQW)

### Power Supply:
- 230 V AC, +6 – 10%, 50 Hz
- 120 V AC, +/- 10%, 60 Hz

### Operating Conditions:
- 15°C – 27°C

### Dataport:
- RS 232, 2400 Baud
- USB

### Weight & Dimensions:
- Cabinet: 68 kg (H x W x L) 51 cm x 42 cm x 70 cm
- Cabinet with cart: 96 kg (H x W x L) 88 cm x 42 cm x 88 cm

### Safety:
- IEC 601-1-2, 0750-1/12.91
- Class 1
- CF
- IPX1
- CFA 6011 / UL 2601

### EMC:
- EN 60601-1-2 (IEC 601-1-2)

### Immunity:
- Immunity to radiated RF electromagnetic fields according to EN 61000-6-2 and EN 61000-4-3 + A1
- Immunity to electrical fast transients according to EN 61000-6-2 and EN 61000-4-4 + A1 + A2
- Immunity to conducted disturbances induced by RF fields according to EN 61000-6-2 and EN 61000-4-6 + A1
- Immunity to power frequency magnetic fields according to EN 61000-6-2 and EN 61000-4-8 + A1
- Immunity to voltage dips and voltage interruption according to EN 61000-6-2 and EN 61000-4-11 + A1

### Technical Information

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<tr>
<td>9005401</td>
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