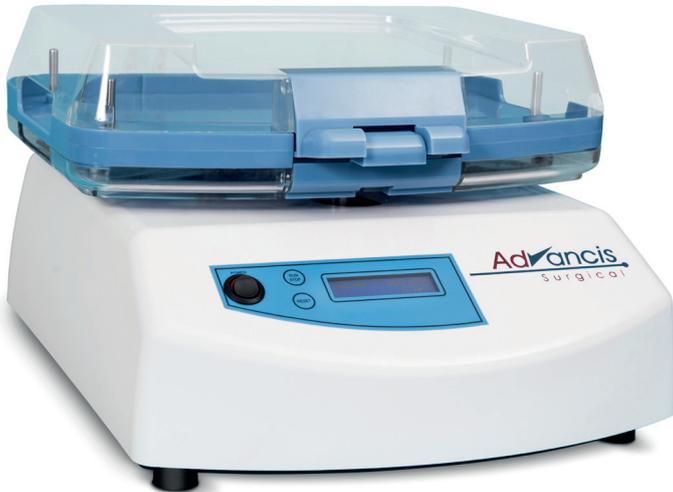


# Hemosep

## Cell Saver for all blood components



Traditional cell savers use a centrifugal and wash method to process salvaged surgical blood, or the remaining reservoir blood from the heart-lung machine in cardiac surgery. While there are slight variations in design (eg, discontinuous flow bowl processing and continuous flow rotary methods), all traditional devices process the salvaged blood and produce red blood cells (RBC) suspended in saline to be transfused back into the patient. The process removes platelets, albumin, clotting factors, heparin, potassium and white blood cells (WBC) in liquid form into a waste bag.

Since platelet and clotting factors are important for the control of post-operative bleeding, their removal, along with the unwanted constituents, increases the requirement for donor blood products such as platelets and fresh frozen plasma (FFP). This increases the risk of transfusion reactions or administration errors (see box 1) as well as having cost implications for hospitals<sup>1</sup>.

### Box 1: Transfusion reactions/administration errors associated with donor blood products

- Anaphylaxis
- Transfusion Transmitted Infections
- Transfusion Associated Dyspnoea
- Wrong blood group transfused
- Handling and storage errors
- Delayed transfusion

In addition, traditional cell savers are complex to use, requiring highly trained and competent staff not always available outside cardiac theatre. They also produce a significant amount of liquid waste that needs to be disposed of.

### Why choose Hemosep?

**Hemosep**<sup>®</sup> from Advancis Surgical is a cell saver for all blood components. It still processes salvaged blood from the surgical field and reservoir blood from the heart-lung machine in cardiac surgery but uses a modified ultrafiltration method, concentrating the blood through a membrane controlled superabsorber.

The end product is a haemocentrated mix of all cell species<sup>2</sup>, not just washed red blood cells. Cell species lost using the centrifuge method, such as platelets and clotting factors are retained<sup>2,3</sup> and a Hematocrit (HCT) of clinically acceptable levels of 33 to 45%<sup>3,4</sup> is achieved.

Retaining a mix of all cell species, including platelets and clotting factors, offers the potential benefits of reducing the need for donor transfusions of FFP and platelets, and reducing post-operative bleeding.<sup>2,3</sup>

**Hemosep**<sup>®</sup> is simple to operate, requiring minimal training and no complex technical knowledge or skills. As a standalone cell saver or in conjunction with current cell saver systems, **Hemosep**<sup>®</sup> is easy to incorporate into current protocols.

### Hemosep at a glance

- Retains all cell species
- Hematocrit (HCT) of 33 to 45% achieved
- Reduces the need for donor transfusions
- Reduces post-operative bleeding
- Simple to operate
- Can be incorporated into current protocols

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	Hemosep	Traditional Cell Savers
<b>Method of use</b>	Ultrafiltration	Bowl or continuous rotary system centrifuge
<b>Ease of Use</b>	Simple with minimal training required	Complex with high level of technical knowledge required
<b>End product</b>	<b>All cell species<sup>2,3,4,6</sup></b>	Red blood cells
<b>Hematocrit (HCT)</b>	33% to 45% Dependent on processing time <sup>3,4</sup>	50% to 65% Dependent on model
<b>Heparin retention</b>	Residual amounts correlating to % plasma filtered out <sup>6</sup>	0.1%
<b>Where blood is processed</b>	Processing bag	Centrifugal bowl or wash chambers
<b>Processing time</b>	20 minutes	5-10 minutes
<b>Emergency fast mode</b>	No but can halt processing to administer unprocessed blood in an emergency	Yes
<b>Maximum fill volume</b>	500ml per bag	Up to 800ml dependent on bowl size
<b>Collection reservoir size</b>	3 litres	3-4 litres
<b>Collection reservoir filters</b>	Defoamer, 40 micron & 120 micron filters	Defoamer, 40 micron & 120 micron filters
<b>Surgical aspiration &amp; anticoagulation kit available</b>	Yes	Yes
<b>Waste product</b>	Gel contained within the processing bag	Large bag of liquid effluent

Table 1. compares Hemosep to traditional cell savers.

#### References

1. Data on file
2. Gunaydin S, Gourlay T: Novel Ultrafiltration Technique for Blood Conservation in Cardiac Operations : Ann Thoracic Surg 2013; 95:2148-51
3. Hemosep for Cell Salvage - NICE Med Tech Innovation Briefing Published 03 May 2017
4. Data on file
5. Data on file
6. Data on file

#### Get in touch

+44 (0)1623 751 500

info@advancissurgical.com www.advancissurgical.com

#### Find us online

