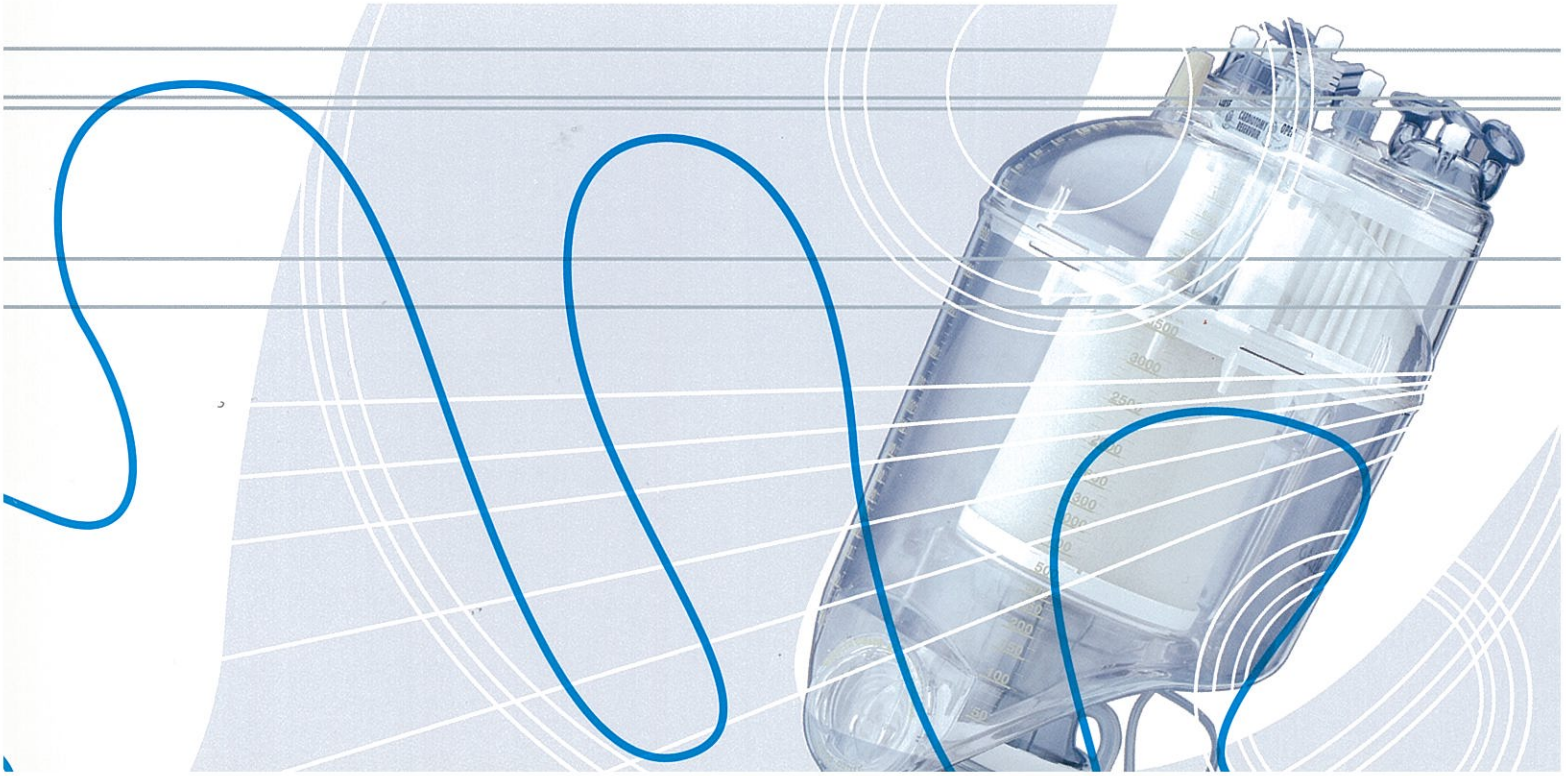
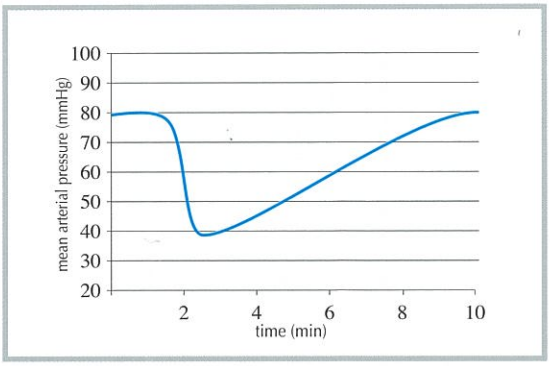
D903 AVANT

Adult Hollow Fiber Oxygenator



Suction blood Management

Suction blood is one of the most relevant issue in ECC today.
Suction blood is now recognised as the first culprit in plasma free haemoglobin and platelet activation.
Activated coagulation factors as well as activated mediators are largely present in suction blood.
It has been demonstrated that the separation and the washing treatment of suction blood is of real benefit to the patient. Avant sets a new standard by giving you this choice at no extra cost.



Monitor Pressure

When suction blood is mixed with venous blood and then reinfused into the patient after being oxygenated, the patient's mean arterial pressure drops by 40%. The original value is then re-established over about 10 minutes. 200 mls of reinfused blood is enough to note this phenomenon.

Haemolysis and coagulation system activation is greatly reduced by means of suction blood separation

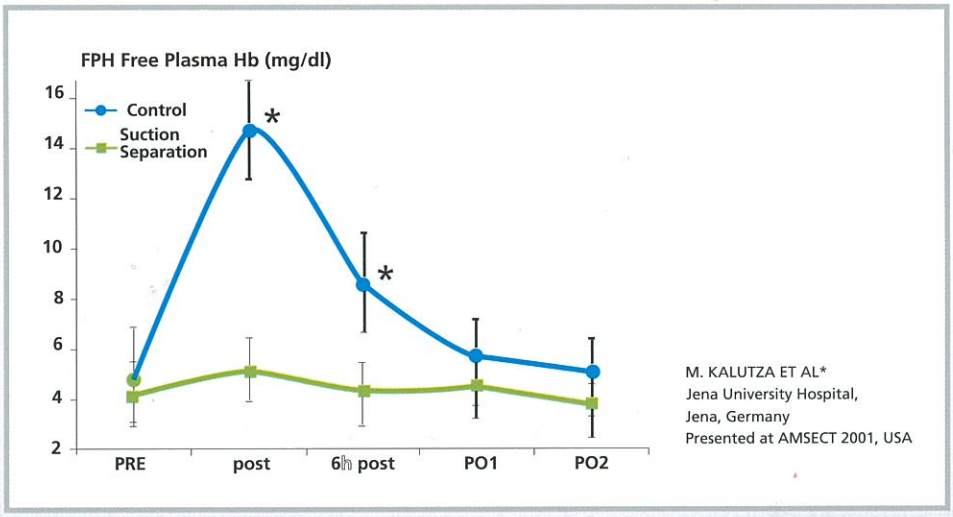
Exclusive dual reservoir with separate management.

Simple circuit set-up meets any operating theatre configuration.

Reduced tubing lengths.

True management of suctioned blood.

Perfect management of air emboli.



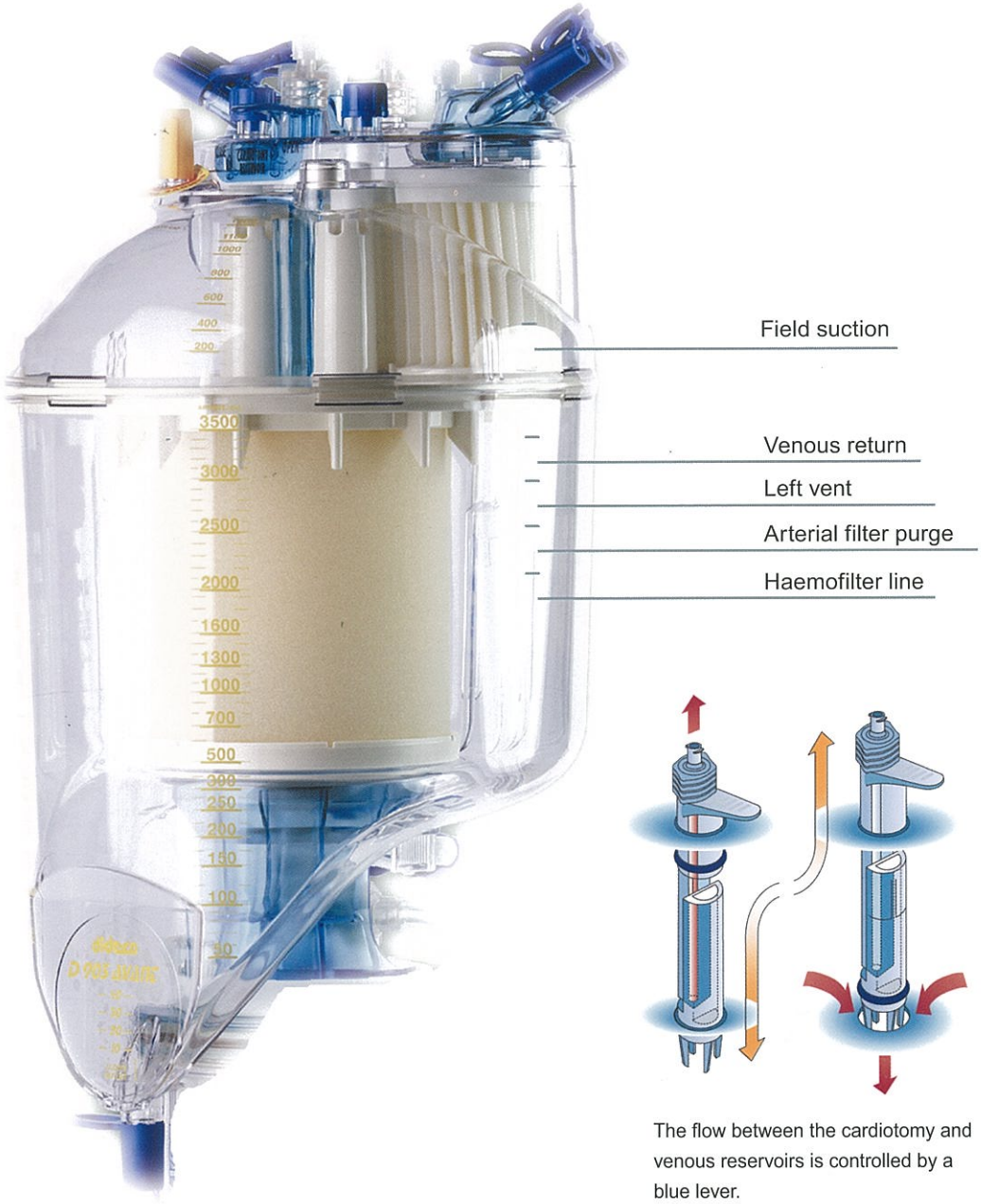
M. KALUTZA ET AL*
Jena University Hospital,
Jena, Germany
Presented at AMSECT 2001, USA

References

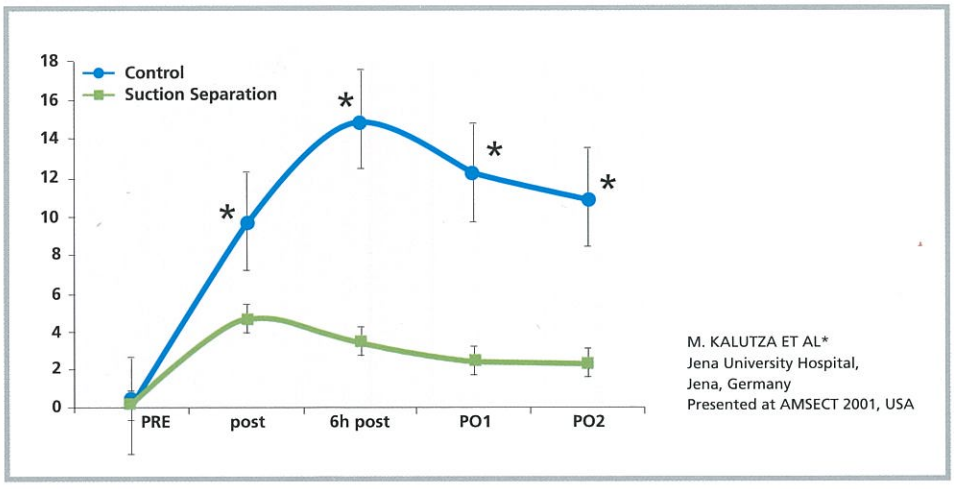
Perfusion 2001; 16: 519-524
Haemolysis during cardiopulmonary bypass: how to reduce the free haemoglobin by managing the suctioned blood separately
A Pierangeli et Al - St. Orsola University Hospital, Bologna

The Journal of Thoracic and Cardiovascular Surgery - May 2002
Tissue factor as the main activator of the coagulation system during cardiopulmonaty bypass
De Somer et Al - University Hospital Gent

When you begin an ECC you never know how much suction blood you will get back. Avant gives you the possibility of deciding at any time whether it is wiser to reject the blood or wash it, at no extra work.



The flow between the cardiotomy and venous reservoirs is controlled by a blue lever.
The connection is fully open when the key is up and closed when down.

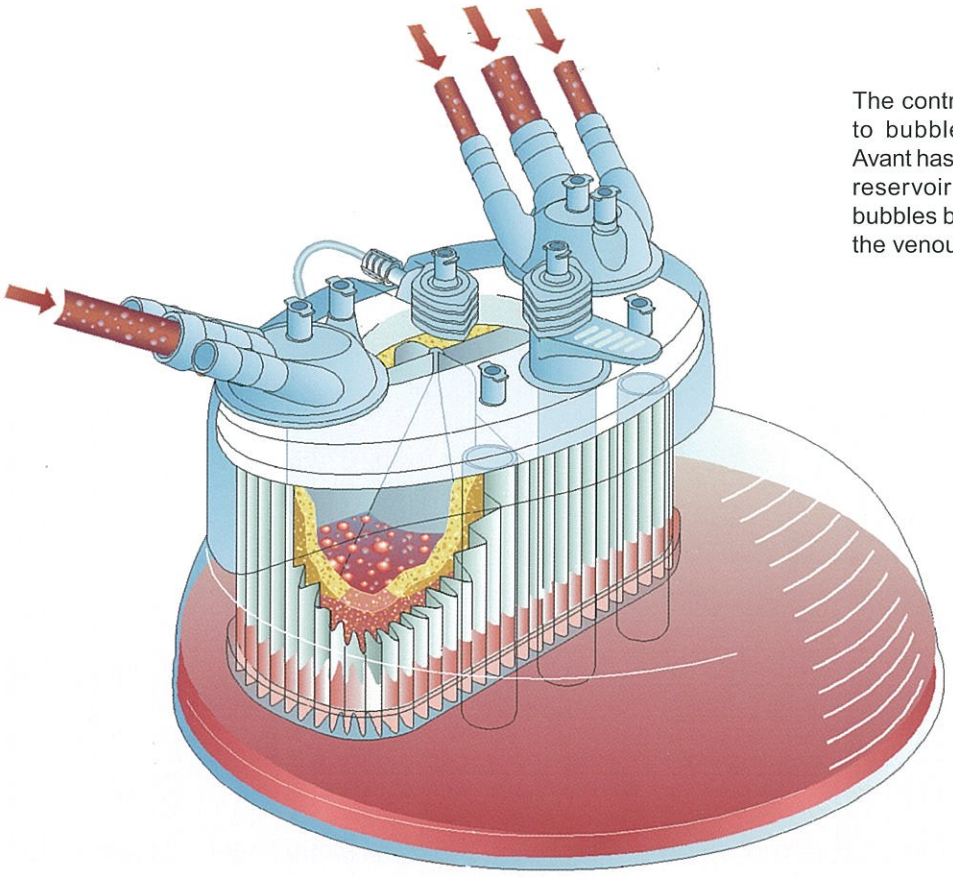


"Aspirated blood contaminated by tissue contact is the most important activator of the coagulation system and the principal cause of hemolysis during cardiopulmonary bypass."
(J Thorac Cardioasc Surg 2002; 123:951-8)

Safety and Flexibility

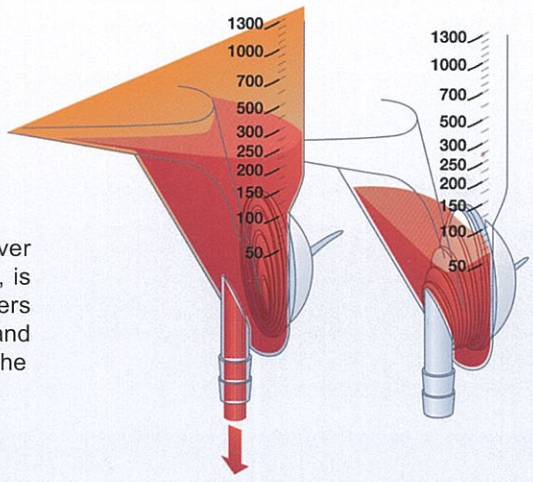
Safe.

The safety of the patient is fundamental during bypass.



The contribution of the suckers to bubble activity is evident. Avant has a separate cardiotomy reservoir which helps remove bubbles before the blood enters the venous reservoir.

In an open system the risk of emboli to the patient due to a low level within the reservoir is often reduced by a low level detector. When, however, this system is not available or fails, Sorin Group patented safety valve comes to your help.

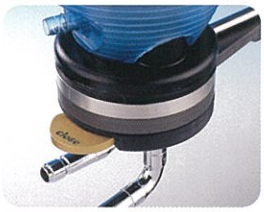


The clinical experience of this valve over 1.500.000 cases during the last decade, is proof of its value. Past and present users confirm the absence of valve collapse and the benefits to patient safety provided by the safety valve.

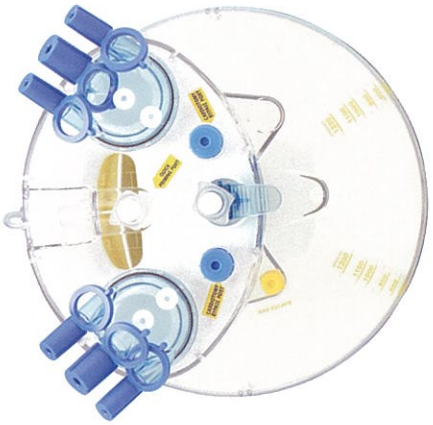
FLEXIBLE.

Flexibility of the system, together with the Avant holder, allow you to move the oxygenator in any position and to reduce tubing length to easily adapt to any operating theatre configuration.

The 180° rotatable venous return connector gives access and visibility to the venous line whichever side you want it.



The holder has integrated Hansen water connectors which secure Avant when the gold indicates "closed".



The 250° independent rotation of the oxy module and hard shell venous reservoir matches any pump configuration.
Left or right handed devices are now a thing of the past.

The 360° rotatable turrets help shorten suckers and therefore simplify the circuit.

When Avant is set on the holder it is possible to independently rotate the oxy module and venous reservoir as well as the whole unit.

The holder has been designed to make life easier.

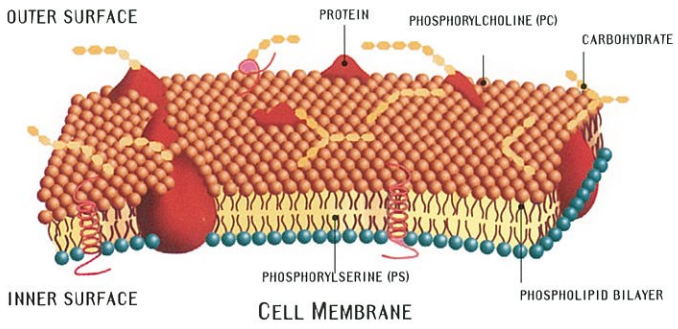
COATING

Once the suctions have been managed, the patient can truly benefit from a non-thrombogenic surface in ECC. Ph.I.S.I.O. is a second generation, truly biomimetic coating which aims at improving the haemocompatibility of surfaces in contact with blood

Thanks to the presence of phosphorylcholine polar groups in the Ph.I.S.I.O. polymer there is a phospholipid-like structure that creates a biomembrane on the surfaces when they come in contact with the blood cell membrane phospholipids.

The polymer's physical structure consists of hydrophilic and hydrophobic parts and contains balanced presence of positive and negative charges. In this way it performs as an optimal interface between polymeric surfaces and blood.

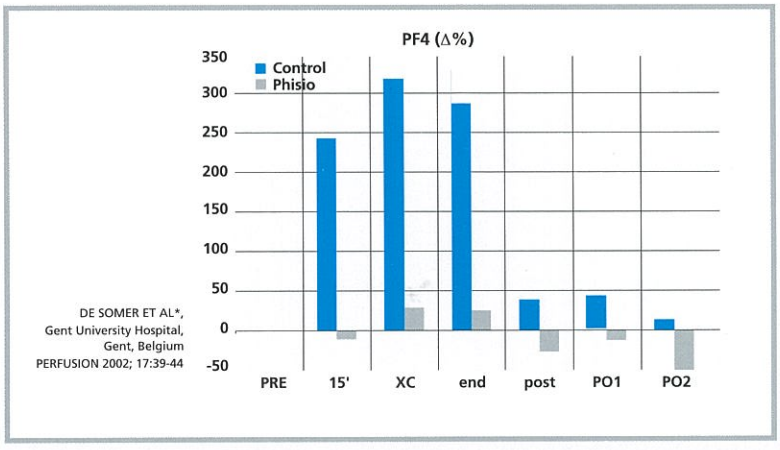
PHOSPHORYLCHOLINE INERT SURFACE



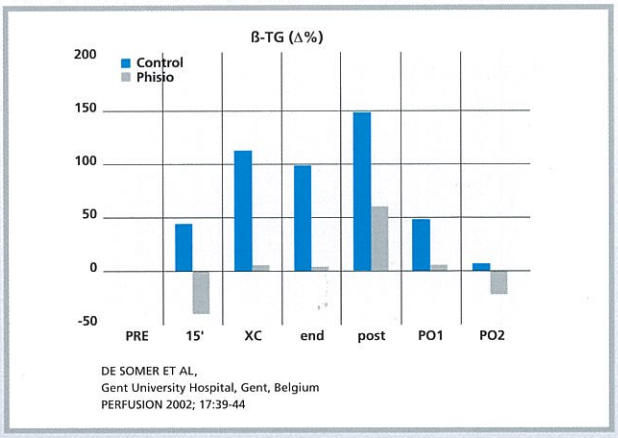
Reduced platelets adhesion.

Only one kind of surface in contact with blood.

Phisio coating and Avant suction separation held in reducing post-op. bleeding. (Perfusion 2002; 17:39-44)



DE SOMER ET AL*,
Gent University Hospital,
Gent, Belgium
PERFUSION 2002; 17:39-44



DE SOMER ET AL,
Gent University Hospital, Gent, Belgium
PERFUSION 2002; 17:39-44

REFERENCES

Perfusion 2002; 17: 39-44
Phosphorylcholine coating offers natural platelet preservation during cardiopulmonary bypass
De Somer et Al - Gent University Hospital

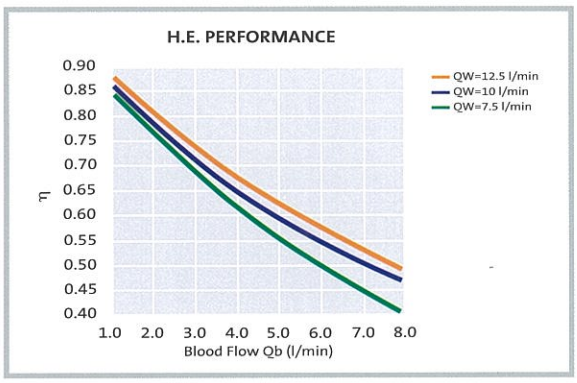
The Journal of Thoracic and Cardiovascular Surgery - November 2003
Physiological coagulation can be mantained in extracorporeal circulation by means of shed blood separation and coating
Albes et Al - Gena University Hospital

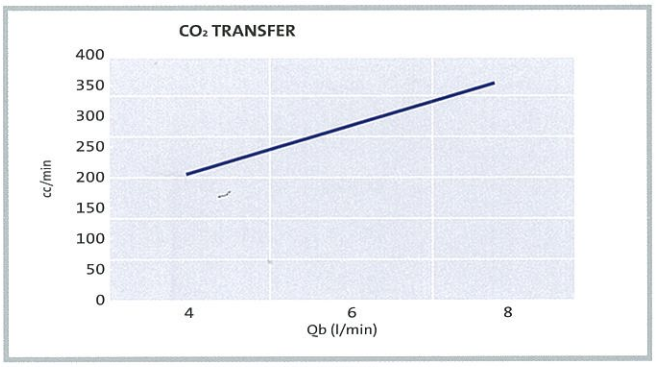
European Journal of Cardio-thoracic surgery 18 (2000) 602-606
Phosphorylcholine coating of extracorporeal circuits provides natural protection against blood activation by the material surface
De Somer et Al - Gent University Hospital

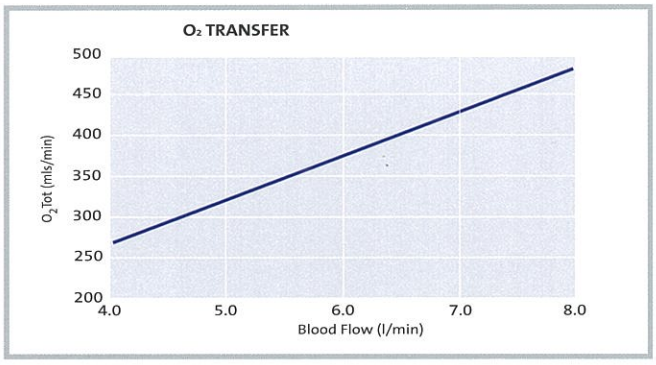
Phisio has proven to be extremely effective in reducing platelet activation and platelet foreign surface adhesion.

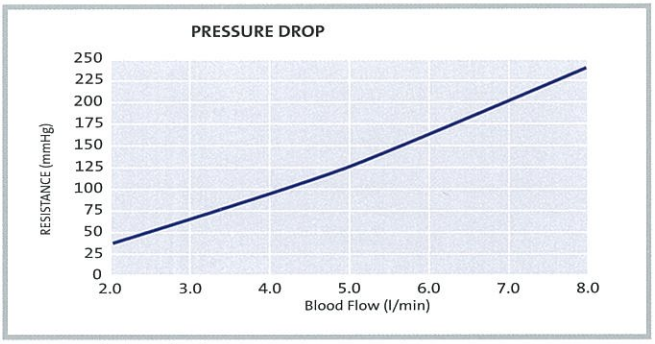
"Combination of coating and avoidance of shed blood recirculation mantained physiological coagulation levels and markedly reduced red blood cell trauma in extracorporeal circulation procedures. These combined modalities may therefore offer an alternative for off-pump procedures in patients with contraindications for conventional extracorporeal circulation"
(J Thorac Cardiovasc Surg 2003; 126:1504-12)

Performance

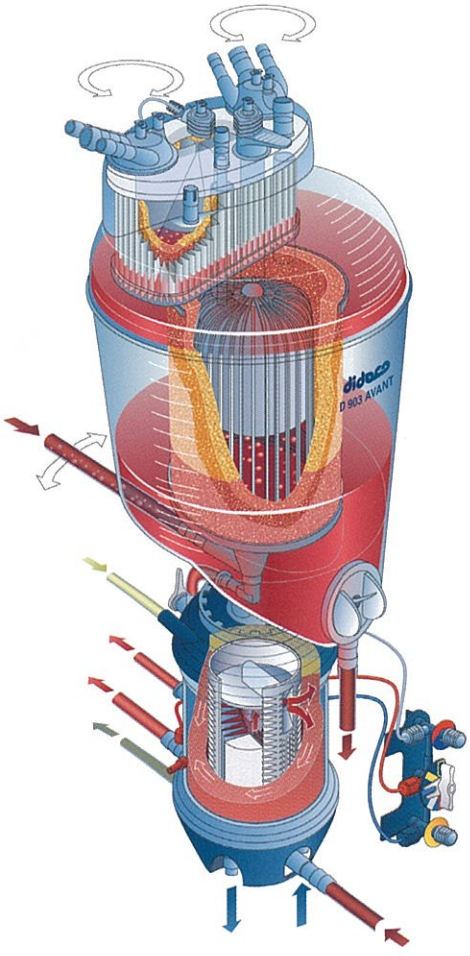








Technical Features



Max
Blood Flow
7.5 l/min

Static
Priming Volume
(recovered)
250 ml

Membrane
Surface Area
1.7 sq.m.

H.E. Performance
Factor
h 0.68 (4 l/min)

Cadiotomy Filter
Pore Size
30 um

オーダーガイド

製品番号	型番	製品名
05332J	D903	D903アヴァント フィジオ*(人工肺・リザーバー　一体型、セーフティバルブ付)
05331J	D903	D903アヴァント フィジオ*(人工肺モジュール)
		*フィジオ:リン脂質ポリマーコーティング『フィジオ』付
05365J	D970	D903アヴァント(ハードシェル静脈リザーバー単体)

ホルダー:

05046	D632	成人肺一体型ホルダー(熱交換器カプラー付)
05047	-	成人肺一体型ホルダー(熱交換器カプラー無)
050128	-	成人肺単体用ホルダー
05042	D628	D903アヴァント ハードシェル静脈リザーバー単体用ホルダー

付属品:

05490J	D890	サンプリングマニホールド
05069	D712	サンプリングマニホールド用ホルダー

販売名	医療機器承認番号
D903アヴァント	20900BZY00560000
D903アヴァントPhisio	21700BZG00006000
選任製造販売業者	ソーリン・グループ株式会社 〒100-6110東京都千代田区永田町2-11-1 Tel:03-3595-7630(代) Fax:03-3595-7631
外国特例承認取得者	ソーリン・グループ・イタリア社:イタリア

09295-67 04/10

CE 0123 according to MDD 93/42/ECC emended by Directive 2007/47/EC

SORIN GROUP
AT THE HEART OF MEDICAL TECHNOLOGY

The Sorin Group Italia Quality System complies with:
EN ISO 13485:2003/AC:2007

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