

ADAsorb® – Therapeutic Apheresis



ADAsorb

The unique universal system worldwide.

ADAsorb®

Leading technology combining tradition and innovation

The medicap clinic GmbH belongs to medicap GmbH located in Ulrichstein, Germany.

Our 1981 founded owner-lead enterprise is committed to a challenging special range: **the therapeutic apheresis**. The product systems we have developed for this field of application have conquered a firm part in **clinics and specialised practices** all over the world. Our specialists know the needs in practice and maintain close contact to practitioners. Thus medicap stands in expert groups for needs-oriented and user-friendly medical technology of highest quality.

Due to an extremely **high in-house production depth** and our own software engineering, it is possible to fulfill the continuously changing market demands **fast and with utmost flexibility**.

medicap – market-driven and future-oriented



Therapeutic apheresis: a plasma therapy procedure with high selectivity and effectiveness.

The therapeutic apheresis with ADAsorb® is a procedure for the **targeted removal** of pathogens from the blood plasma. This blood purification is carried out outside the body therefore called **extracorporeal circulation**. The efficient procedure offers numerous predominantly for serious diseases a safe and effective therapy and differs fundamentally to a medical treatment. Only **highly specified** pathogens are removed without supplying the organism with agents. This minimises possible side effects, which often for example occur with medication. The **high selectivity** of this procedure enables to treat large amounts of plasma as the important components of the plasma are maintained.

This allows target value oriented treatment.

This procedure influences verifiably the clinical picture and the quality of life of the concerned person in a positive way. An adsorption system of **high effectiveness combined with good agreeableness**.



Tip technology for the benefit of the patient

Numerous modern adsorber technologies, that can be operated with ADAsorb®, serve ADAsorb® as a platform for a wide range of treatment possibilities. The ADAsorb® concept is and stays a forward-looking system due to continuous development of the adsorber technology as well as promising research for new areas of application.

ADAsorb® operators can in future easily establish new therapy procedures based on the accustomed treatment process.

Following a range of established areas of application:

Metabolism / LDL-Apheresis

- Familial hypercholesterolemia
- Elevated lipoprotein (a)
- Defect apolipoprotein B-100

Nephrology

- Goodpasture's syndrome

Rheumatology

- Systemic lupus erythematosus (SLE)
- Wegener's granulomatosis
- Rheumatoid arthritis

Transplantation

- HLA Hyperimmunisation
- Acute Humoral Rejection (AHR)
- ABO-incompatibility

Cardiology

- Dilated Cardiomyopathy (DCM)

Dermatology

- Pemphigus

Haematology

- Acquired inhibitor against coagulation factor, i.e. Haemophilia with a factor VIII-inhibitor
- Thrombotic Thrombocytopenic Purpura (TTP)

Neurology

- Guillain-Barré Syndrome (GBS)
- Myasthenia Gravis (MG)

ADAsorb® has convinced me. This system guides me intuitively through the treatment process.

The Product

In the past it was necessary to utilise different secondary devices for therapeutic apheresis depending on the type of therapy and the needed adsorber. The groundbreaking innovation from medicap clinic consists in the development of a **highly flexible system, which enables in just one secondary device the application and the precise management of different adsorbers.** At the same time - and this is yet another crucial advantage - ADAsorb® is compatible to **various primary separation systems.**

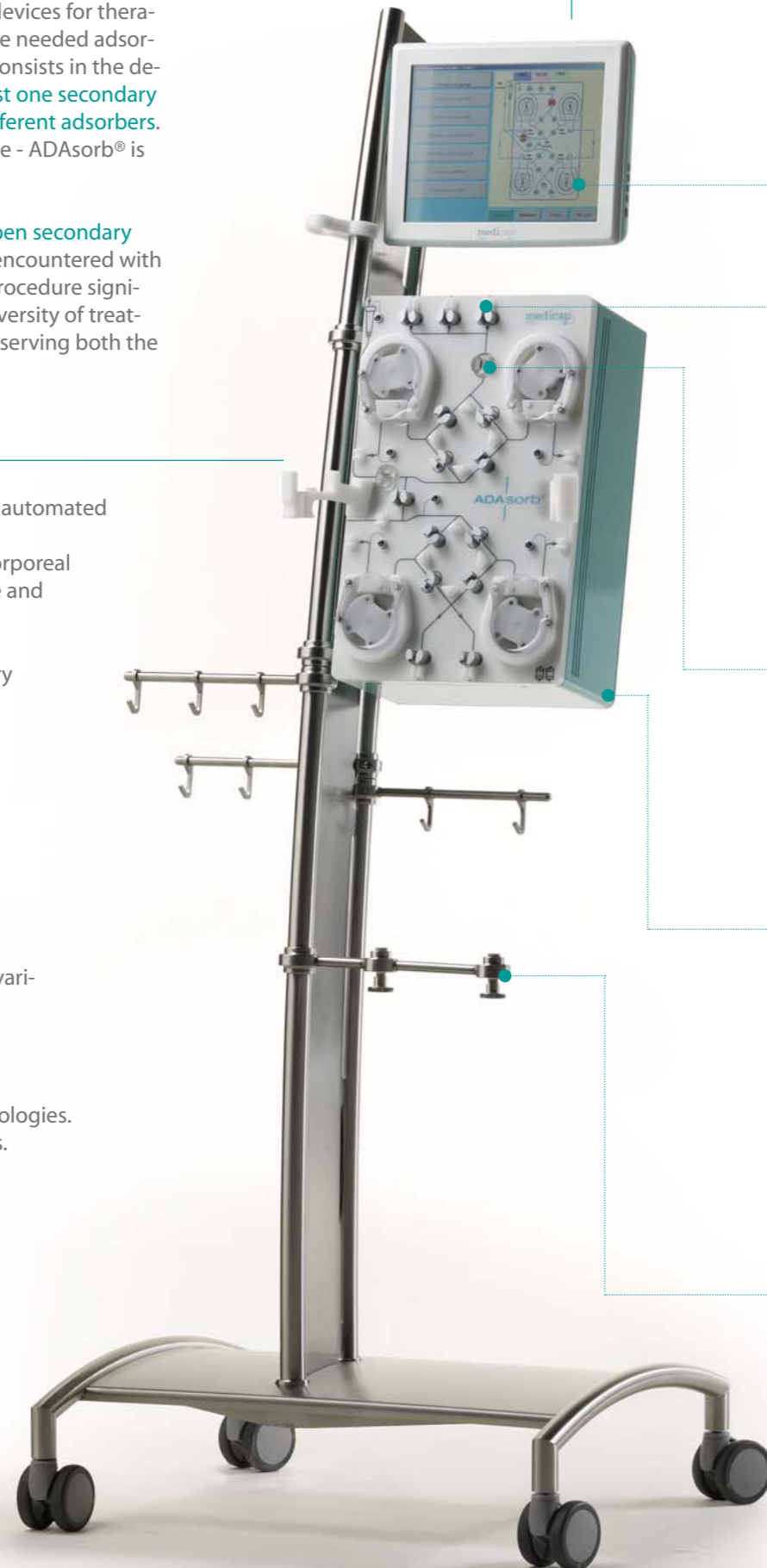
This development makes ADAsorb® the worldwide **first open secondary system for different plasma adsorbers** and thus has been encountered with great interest amongst experts. ADAsorb® simplifies the procedure significantly and reduces investment costs considerably. The diversity of treatment options enables a high efficiency of the device, thus serving both the patient and the operator.

ADAsorb® – a universal secondary system for precise and automated management – according to the guidelines of adsorber manufacturer – of your choice of adsorbers for the extracorporeal treatment of patients with various (auto-) immune disease and lipid metabolism disorders.

You can combine different filtrative and centrifugal primary separation systems with **ADAsorb®.**

Advantage Overview:

- **Convincing innovative technology**
First open apheresis system worldwide, which means various adsorber types and technologies from different manufactures can be managed with ADAsorb®.
- **Flexibility, the way you want it**
Application of different adsorbers and adsorber technologies. Compatibility with diverse primary separation systems.
- **Efficiency that counts**
Only one secondary system is required
 - reduced training time
 - reduced personnel expense
 - reduced overall costs



User-friendliness as a big help.

ADAsorb® unites practical product details with intelligent software programming to create a compact device with **high user-friendliness and safety.** This supports you helping and ensures **freedom for the operators.** Many treatment

steps occur fully automated: whether filling or rinsing during preparation, loading and eluting the adsorbers or cleansing and conserving the adsorbers after treatment.



Colour coded tube system: facilitates equipping and prevents confusion



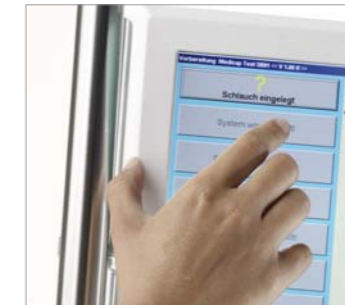
Acoustical and visual safety systems control the system during usage.



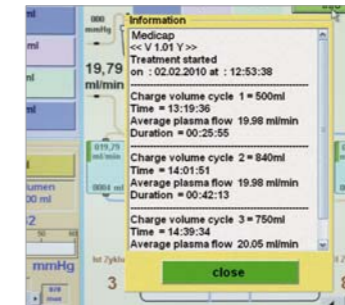
Future-proof USB-interface for fast service and data transfers.



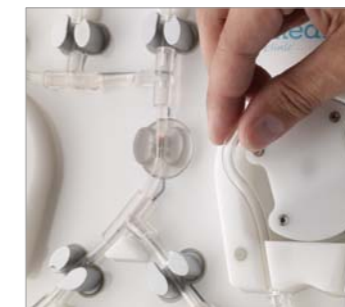
Special holders make adsorber handling easy and enable a simple and safe storage for reusable adsorbers.



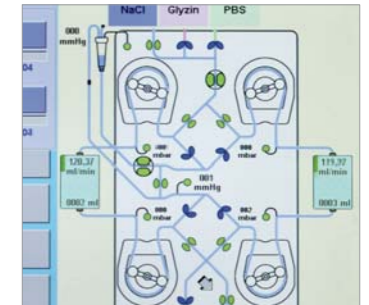
Touch screen for a safe and intuitive systems operation



Information box accessible at all times: displays the data of all performed treatment cycles.



The graphical guidance of the tubes supports the tried equipping.



Good clarity due to graphical presentation of the extracorporeal ADAsorb® cycle and display of all parameters of the current treatment step.



Simple adjustment of predetermined parameters for an individual coordination of the treatment.

ADAsorb® guides you through the complete treatment process **step by step** – from preparation phase onto the

treatment until the accomplished task. Text messages offer assistance through out the whole procedure.



Primary separation system

ADAsorb® works closely with different in clinics common primary separation systems and technologies:

1

Therapy approach 1 One-Adsorber-System

- For one-time application
- For single load or multiple loading of the column

Application example: (AB0-incompatible) transplantation

2

Therapy approach 2 Two-Adsorbers-System

- For one-time application or re-use
- For cyclical, multiple loading and eluting of the column pair

Application example: Immunoabsorption, LDL-Apheresis

Therapeutic Apheresis: Treatment protocol with ADAsorb®

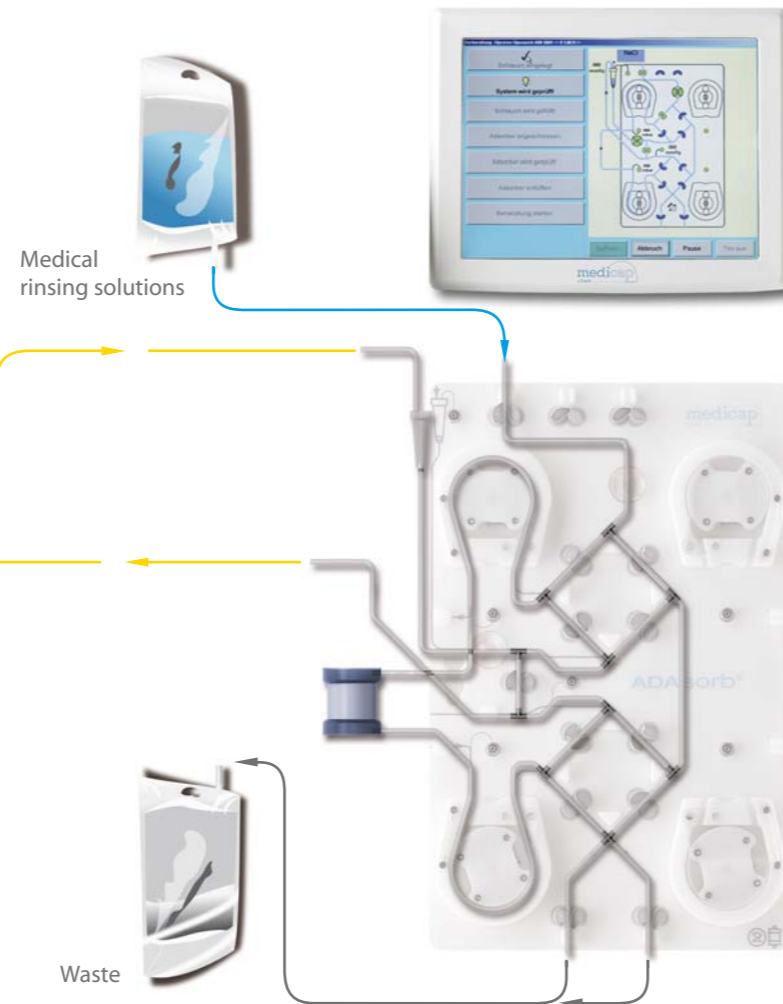
Centrifugation

Centrifugal primary separation device for a continuous whole blood separation into its components plasma and cells.

or

Filtration

Filtrative primary separation device continuously separates the plasma from blood components via a plasma filter.

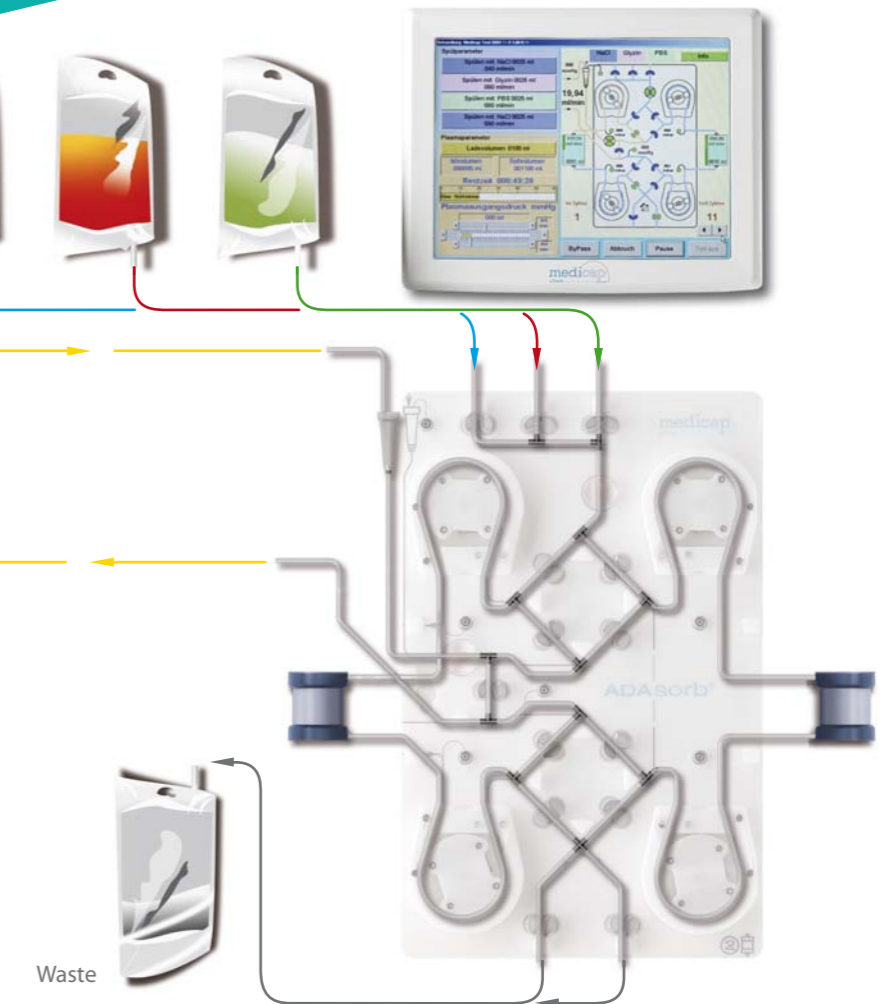


Medical rinsing solutions

Centrifugation

or

Filtration



The 4 treatment steps:

1 Adsorber Selection

Depending on the indication, a suitable adsorber type for the patient is selected and assigned. Depending to the adsorber manufacturer, these columns may be reusable or for single use only.

2 Blood and Plasma

Venous blood is drawn from the patient, mixed with appropriate anticoagulants, and subsequently separated into cells and plasma by a filtrative or centrifugal blood cell separator device.

3 Treatment Management and Monitoring

Controlled by the ADAsorb®, a predefined volume of plasma is directed to the first column. As soon, the loading volume is reached, the loading of second adsorber starts automatically.

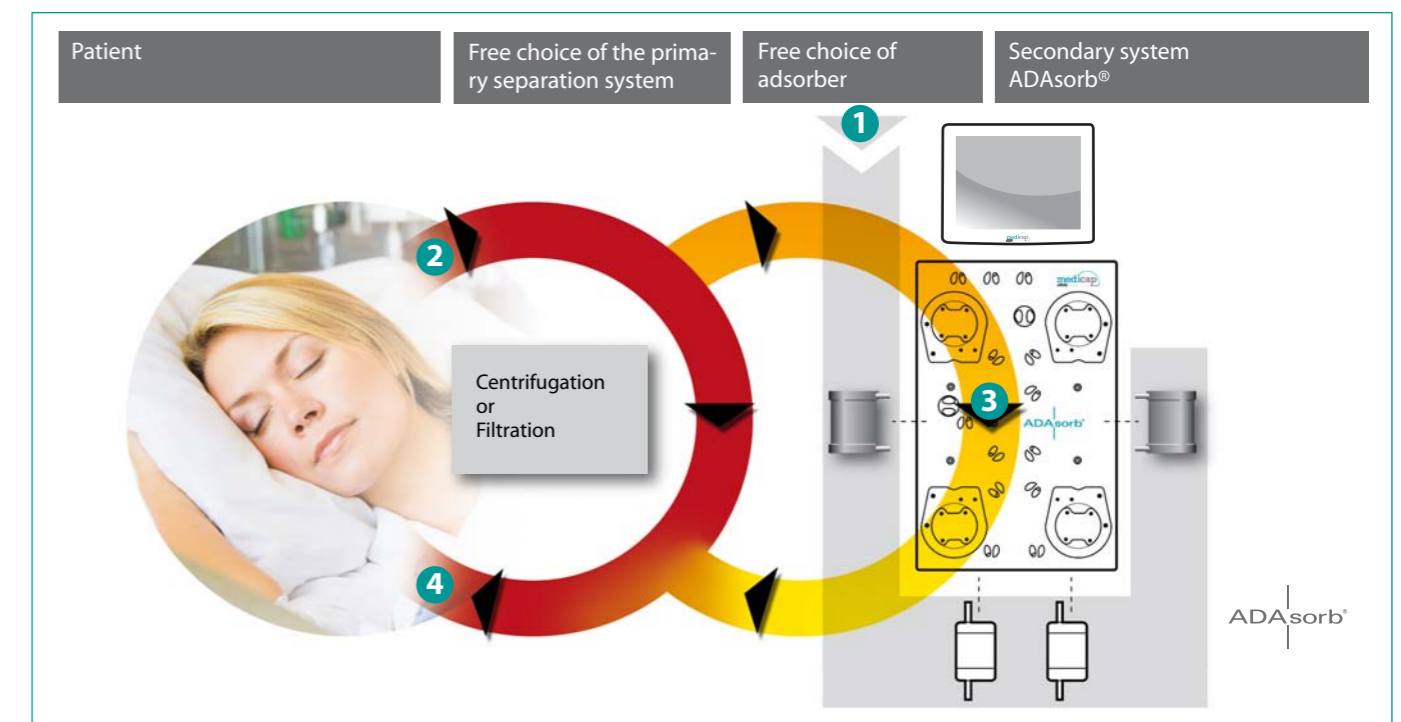
While loading the second adsorber, the first adsorber is regenerated at the same time with various solutions.

The treatment is a continuous procedure which allows the adsorbers to be loaded and regenerated as often as needed, as per the instructions of the treating medical doctor and the respective adsorber manufacturers.

4 Recirculation of the Plasma

Via the primary plasma separation device, the cleansed plasma is then returned to the patient continuously as whole blood along with the cellular components.

The principle of the open secondary system



ADAsorb® – Overview Features and Advantages

- ✓ Compact and highly flexible device.
- ✓ Applicable for various indications.
- ✓ Computer managed and monitored treatments.
- ✓ Specially developed treatment software for every single adsorber type.
- ✓ Clearly structured menu: simple and intuitive handling via touch screen monitor.
- ✓ The operator is guided step by step through the treatment with ADAsorb®.
- ✓ Easy adjustment of therapy parameters for an optimal adaption to each patient.
- ✓ Text messages and information offer a clear support.
- ✓ Information box: displays the data of all performed treatment cycles.
- ✓ Treatment protocol can be saved.
- ✓ Graphical presentation of the extracorporeal ADAsorb® cycle ensures an overview any time.



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