SAHARA-III
Dry thawing and warming of blood components

Safe warming procedure

- The risk of contamination from water-borne pathogens, as can occur with traditional water baths, is avoided
- Active drying of the storage bag surface provides hygienic conditions in the area immediately surrounding the blood product
- The temperatures of the heating plate and circulating air are adjusted so that an equivalent blood product quality can be achieved in comparison with the water bath procedure
- Standardized thawing and heating process
- Delayed key response prevents unintentional interruption of the heating process

TRANSMED
Product Range
SAHARA-III

The hygienic alternative

What sources are there for microbial contamination of blood products by exogenous pathogens?

Exogenous bacteria originate from the skin of the blood donor, from water, the air or from elsewhere in the environment, from surfaces or even from the hands of medical personnel. These can be inoculated during the blood collection and during the processing and storage of blood products.

Mechanical influences during processing and storage can cause multiple small tears to form in the bag systems (predominantly in the frozen state), through which micro-organisms can subsequently penetrate into the products. Contamination may occur when blood components are warmed (see figure), namely when:

- the immediate environment of the blood product (e.g. the warming medium) is itself contaminated or
- the outer surface of the blood bag is contaminated with germs.

Various cases of the transfer of Pseudomonas bacteria have been observed during the thawing of previously uncontaminated FFP and cryoprecipitates using water baths.1,4


Contactless determination of the blood product temperature using an infrared sensor
Quick availability of thawed frozen blood products via ice-free identification
Display of the blood product temperature in the range between 29°C and 37°C in 1°C increments
Documentation via optional protocol printer possible

SAHARA-III The hygienic alternative

- Modular design
  - Rapid conversion between the heating plate and MAXITHERM modules
  - Additional functions such as infusion heating possible

- Temperature monitoring
  - Quick thawing or heating of blood products via additional contact heat
  - Heating to 37°C of infusion solutions, tubes, instruments, contrast agents etc.
  - Storage bag agitation
    - Gentle agitation in order to achieve a homogeneous temperature distribution within the blood products and to prevent a mechanical alteration
  - Storage bag agitation
    - Contactless determination of the blood product temperature using an infrared sensor
  - Quick availability of thawed frozen blood products via ice-free identification
  - Display of the blood product temperature in the range between 29°C and 37°C in 1°C increments
  - Documentation via optional protocol printer possible

- Protocol printer module
  - Documentation of the progression of the blood product temperature
  - Documentation of the system test
  - Documentation of the error message in the event of a malfunction

- Integrated system test
  - Inspection of device functions
  - Calibration of the temperature sensors
  - Use of additional measuring apparatus not required
  - Documentation via optional protocol printer possible

- Infusion heater module
  - Heating to 37°C of infusion solutions, tubes, instruments, contrast agents etc.

- MAXITHERM module
  - Expands the capacity of the SAHARA-III to up to 6 storage bags

- Stainless steel collecting tray
  - Allows for the collection of plasma leaking from defective storage bags
  - Facilitates cleaning of SAHARA-III

Bioinformatic Simulations of Blood Product Temperature Using an Infrared Sensor

TRANSMED Medizintechnik GmbH & Co. KG guarantees that operation of the dry warming systems SAHARA-III basic model and SAHARA-III MAXITHERM does not require disposable and consumable items.

Maintenance
TRANSMED Medizintechnik GmbH & Co. KG guarantees that there is no regular maintenance for the dry warming systems SAHARA-III basic model and SAHARA-III MAXITHERM with the exception of technical safety inspections.

The inspection of the device functions, calibration of the temperature sensors can be carried out by the user by activating the integrated system test independently and without using additional measuring apparatus.
## Ordering information

<table>
<thead>
<tr>
<th>Order number</th>
<th>Article name</th>
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<tbody>
<tr>
<td>97.8710.500</td>
<td>SAHARA-III basic model with heating plate</td>
</tr>
<tr>
<td>97.8710.502</td>
<td>SAHARA-III basic model 115 V with heating plate</td>
</tr>
<tr>
<td>97.8710.800</td>
<td>SAHARA-III MAXITHERM with expanded capacity</td>
</tr>
<tr>
<td>97.8710.802</td>
<td>SAHARA-III MAXITHERM 115 V with expanded capacity</td>
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## Accessories

<table>
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<tr>
<th>Order number</th>
<th>Article name</th>
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<tbody>
<tr>
<td>97.8710.501</td>
<td>Stainless steel collecting tray</td>
</tr>
<tr>
<td>97.8710.550</td>
<td>Infusion heater module for SAHARA-III</td>
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<tr>
<td>97.8710.570</td>
<td>Protocol printer module for SAHARA</td>
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<tr>
<td>79.8710.575</td>
<td>Paper roll protocol printer</td>
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<td>79.8710.577</td>
<td>Ink ribbon for the protocol printer SP742MD</td>
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<tr>
<td>97.8710.580</td>
<td>MAXITHERM module</td>
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<tr>
<td>97.8710.590</td>
<td>Heating plate module</td>
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## Technical data

<table>
<thead>
<tr>
<th>Exterior dimensions:</th>
<th>W x H x D: 320 mm x 325 mm x 493 mm</th>
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<tbody>
<tr>
<td>Weight:</td>
<td>SAHARA-III basic model: 13.7 kg</td>
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<tr>
<td></td>
<td>SAHARA-III basic model 115 V: 13.7 kg</td>
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<tr>
<td></td>
<td>SAHARA-III MAXITHERM: 13.4 kg</td>
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<td></td>
<td>SAHARA-III MAXITHERM 115 V: 13.4 kg</td>
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<td>Nominal voltage (±10%):</td>
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<tr>
<td></td>
<td>SAHARA-III basic model 115 V: 115 VAC</td>
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<tr>
<td></td>
<td>SAHARA-III MAXITHERM: 230 VAC</td>
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<tr>
<td></td>
<td>SAHARA-III MAXITHERM 115 V: 115 VAC</td>
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<tr>
<td>Max. power consumption:</td>
<td>655 W</td>
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