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

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PRODUCT RANGE

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- Pre-settings of heating times and ambient temperatures are not required

Temperature monitoring

- 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

Storage bag agitation

- Gentle agitation in order to achieve a homogeneous temperature distribution within the blood products and to prevent a mechanical alteration

Quick warming function

- Quick thawing and heating of blood products

37°C function

- Warming at a constant ambient temperature of 37°C
- Simultaneous warming of different blood products
- Simultaneous warming of storage bags with different filling quantities

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

Modular design

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

Heating plate module

- Quick thawing or heating of blood products via additional contact heat

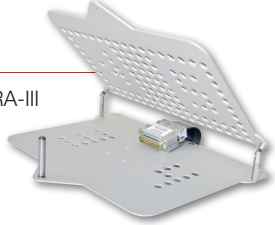
Infusion heater module

Heating to 37°C of

- infusion solutions
- tubes
- instruments
- contrast agents etc.

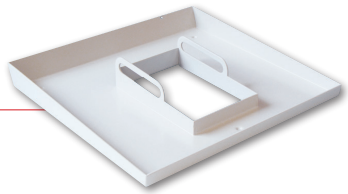
MAXITHERM module

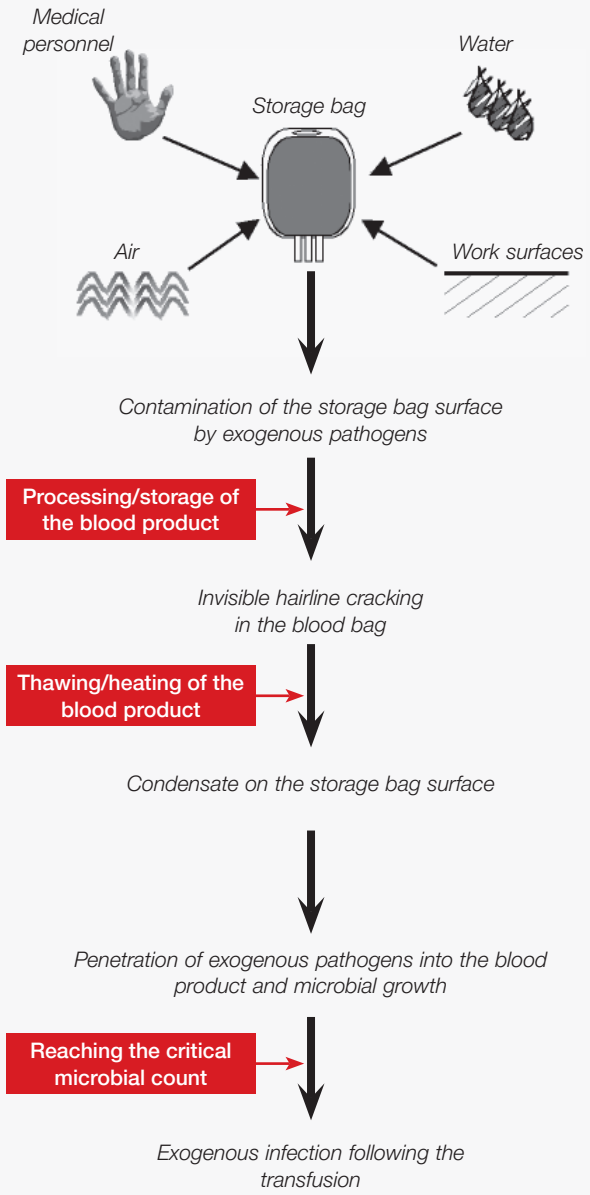
- Expands the capacity of the SAHARA-III to up to 6 storage bags



Stainless steel collecting tray

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





Inoculation of exogenous bacteria during the heating of blood products

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 even 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.[4,5]

1. Montag T. et al. **Bakterielle Kontamination von Blutkomponenten** (Bacterial contamination of blood components), Bundesgesundheitsbl. - Gesundheitsforsch. - Gesundheitsschutz 42, 132-142, 1999
2. **Sazama K. Bacteria in Blood for Transfusion,** Arch. Pathol. Lab. Med., 118, 350–365, 1994
3. **Puckett A. Bacterial contamination of blood for transfusion:** a study of the growth characteristics of four implicated organisms Med. Lab. Sci. 43, 252-257, 1986
4. Centers for Disease Control **Follow-up on nosocomial Pseudomonas cepa cia infection,** MMWR Morb. Mortal Wkly Rep., 28, 409, 1979
5. **Casewell M. W. et al. Operating theatre water-baths as a cause of Pseudomonas septicaemia,** J. Hosp. Infect., 2, 237-240, 1981Centers for Disease Control Follow-up on nosocomial Pseudomonas cepacia infection, MMWR Morb. Mortal Wkly Rep., 28, 409, 1979

No follow-up costs

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 incl. 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.

SARSTEDT

SAHARA-III

Ordering information

Order number	Article name
97.8710.500	SAHARA-III basic model with heating plate
97.8710.502	SAHARA-III basic model 115 V with heating plate
97.8710.800	SAHARA-III MAXITHERM with expanded capacity
97.8710.802	SAHARA-III MAXITHERM 115 V with expanded capacity

Accessories

Order number	Article name
97.8710.501	Stainless steel collecting tray
97.8710.550	Infusion heater module for SAHARA-III
97.8710.570	Protocol printer module for SAHARA
79.8710.575	Paper roll protocol printer
79.8710.577	Ink ribbon for the protocol printer SP742MD
97.8710.580	MAXITHERM module
97.8710.590	Heating plate module

Technical data

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

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