

HIGH QUALITY  
BETTER CARE  
MORE SUSTAINABILITY  
FOR LESS MONEY



DUVAIR

THAT IS COMMON SENSE



# THE GENESIS OF DUVAIR WARM AIR DUVETS



DUVAIR warm air duvets came into the world because the anesthesia department at Bornholm Hospital lacked an alternative: the single use products were expensive and a poor solution for the environment. – and Liza Gibler was not impressed by the products currently on the market. With the support of her good colleagues at Bornholms Hospital and after an invitation from old colleagues at Copenhagen university Hospital Rigshospitalet occurred the idea of, and the courage to create DUVAIR warm air duvets. Liza Gibler is a trained surgical nurse, intensive care nurse and nurse anesthetist which is her current occupation and provided the inspiration for creating the duvets.

# ADVANTAGES OF DUVAIR WARM AIR DUVETS

It is important to avoid unintended hypothermia because it may cause the following complications:

- Increased blood loss and hence increased risk of cardiovascular complications
- Chills (shivering) which leads to greatly increased oxygen consumption and strain on the heart
- Increased wound healing duration and increased risk of infection
- Extended awakening Time

It is widely recognized that the use of forced air warming is the most effective method for preventing unintended hypothermia.

DUVAIR warm air duvets provide patients with optimal conditions and increased comfort. The duvets ensure a constant body temperature during surgery - and they allow for a faster recovery. DUVAIR warm air duvets are washable and can be reused **at least 150 times** and they offer a much improved overall financial value compared to single use blanket. Plus, it is an environmentally sound concept, as DUVAIR warm air duvets long life-cycle reduces the amount of waste, conserves resources and minimizes CO2 emissions. Additionally, the materials of worn-out duvets can be recycled.

## ECONOMY

➤ There are substantial cost saving achieved by using DUVAIR warm air duvets. When all the costs of purchasing, washing and handling is included, it is more cost effective to use DUVAIR in comparison to single use products. Please contact DUVAIR for a precise calculation of the economy in the current case.

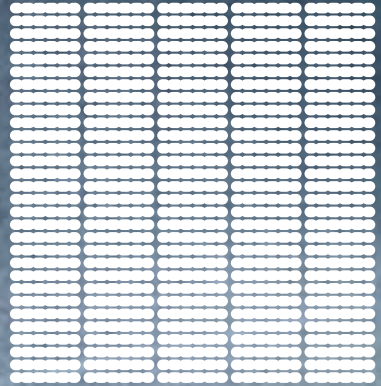
## CONCLUSION

Since function, comfort and economy create a competitive advantage for DUVAIR, it can be concluded that:

- The functional advantages of DUVAIR reusable duvets results in enhanced warm air therapy and saving valuable time, which translates into more effective anesthesia and rapid awakening.
- DUVAIR reusable duvets great comfort means increased patient satisfaction.
- The economic advantages make it possible to offer more patients warm air therapy.
- For environmental reasons, reusable products should be used rather than single use products.

DUVAIR

SINGLE USE BLANKETS



DUVAIR warm air duvets are washable and can be reused at least 150 times in comparison to single use blankets, offering a far better value proposition.

+ Significant space savings associated with storage

+ No waste and thus less environmental impact

Therefore DUVAIR is the most viable choice

# FACTS ABOUT WARM AIR BLANKETS VERSUS DUVAIR REUSABLE WARM AIR DUVETS

## FUNCTION

Single use blankets made from paper and plastic:

- Have relatively large holes, which introduce a substantial draught when the air flows through the holes at high velocity.
- Are non-sterile. The only acceptable reason to use single-use articles is to ensure sterility.
- Are only available in a few standardised shapes and sizes. Very often there is not a suitable blanket for the patient's bed location, and valuable time is wasted by trying to fit an unfit blanket to the patient.
- Has to be tied and taped to stay in place. Tape is also necessary to exclude the draught from the surgery field. It is difficult and time-consuming to apply this tape.

## COMFORT

Single use blankets made from paper and plastic:

- Are not comfortable and patient friendly, because the stiff materials makes it difficult to shape the blanket around the patient and adapt it to the particular bed position.

DUVAIR reusable warm air duvets made from textiles:

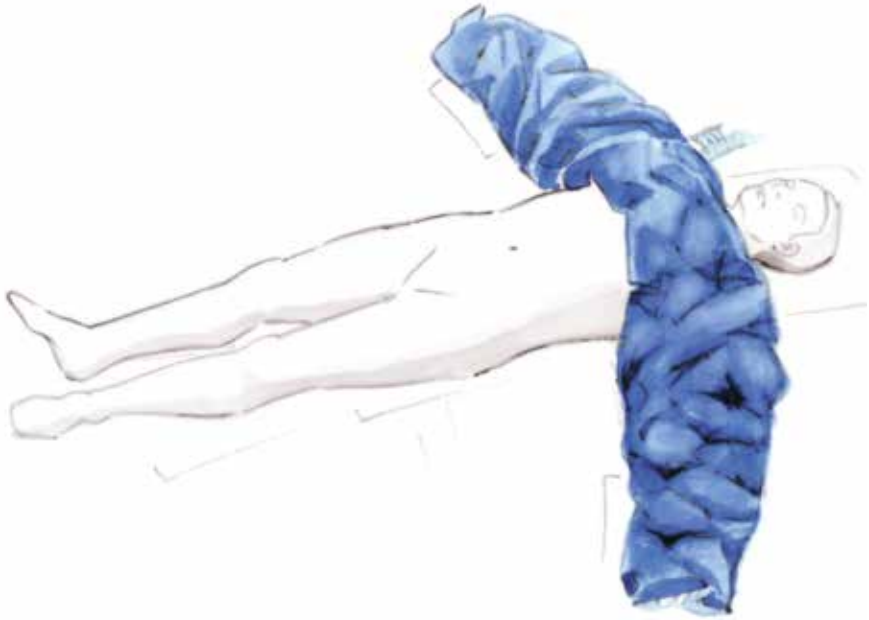
- Disperses the warm air around the patient by applying a low impulse blowing; a concept well known from the ventilating technique to obtain a complete non-draught blowing. Based on the numerous microscopic holes in the textile, the feeling of draught has been eliminated.
- Will not release fluffs or other particles in the operating theatre.
- Special designed duvets can be supplied according to customer need.
- The warm air duvets are available in many shapes to accommodate different bed locations as being used at various types of operations. This means the duvets can easily be adjusted to suit the actual bed location.

DUVAIR reusable warm air duvets made from textiles:

- Are comfortable and patient friendly as the soft material makes it easy to form the duvet around the patient. The patient will experience a high degree of well being when surrounded by the soft textile materials.

# UPPERBODY DUVET

ORDER NO. 92056



## PRODUCTDESCRIPTION

Covers chest, arms and shoulders during surgical procedures on the lower part of the body.

Size approx. 70 x 210 cm.

Weight approx. 300 g.

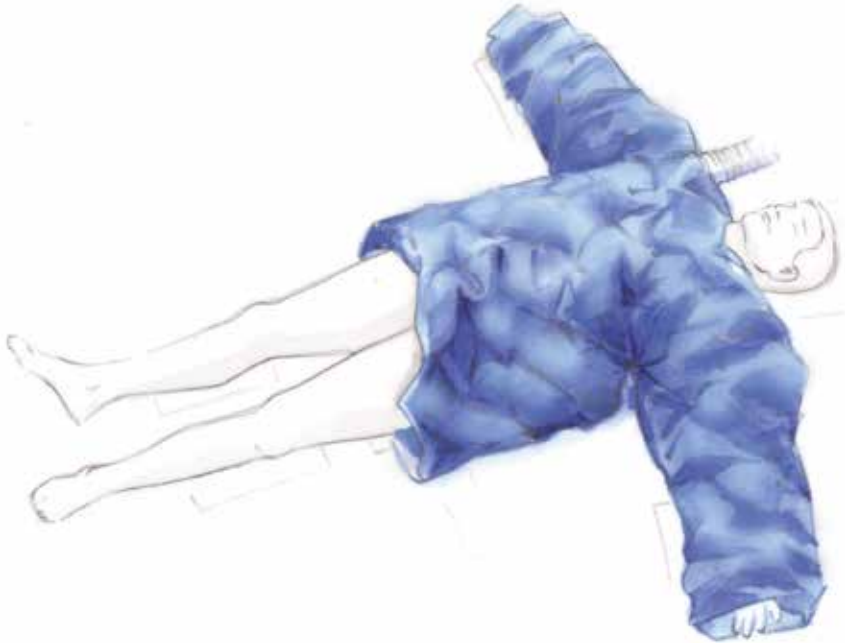
Order no. 92056

## DIRECTIONS FOR USE

- 1 To be used for patients lying on the back or on the stomach.
- 2 Place duvet to cover upperbody, arms and hands.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Close the unused connection, by pulling the string.
- 5 Start warm air blower and select suitable air temperature.

# LONG UPPERBODY DUVET

ORDER NO. 92066



## PRODUCT DESCRIPTION

Covers chest, stomach, arms and shoulders during surgical procedures on the lower part of the body.

Size approx. 120 x 210 cm.

Weight approx. 400 g.

Order no. 92066

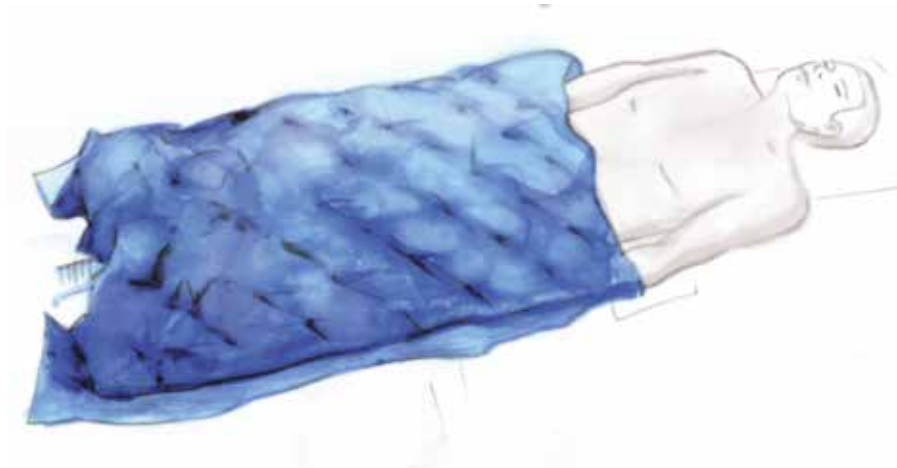
## DIRECTIONS FOR USE

- 1 To be used for patients lying on the back or on the stomach.
- 2 Place duvet to cover arms, shoulders, chest and stomach or back.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Close the unused connection, by pulling the string.
- 5 Start warm air blower and select suitable air temperature.



# ¾ BODY DUVET

ORDER NO. 92057



## PRODUCT DESCRIPTION

Covers lower part of the body for surgery in chest, shoulders, arms, neck or head.

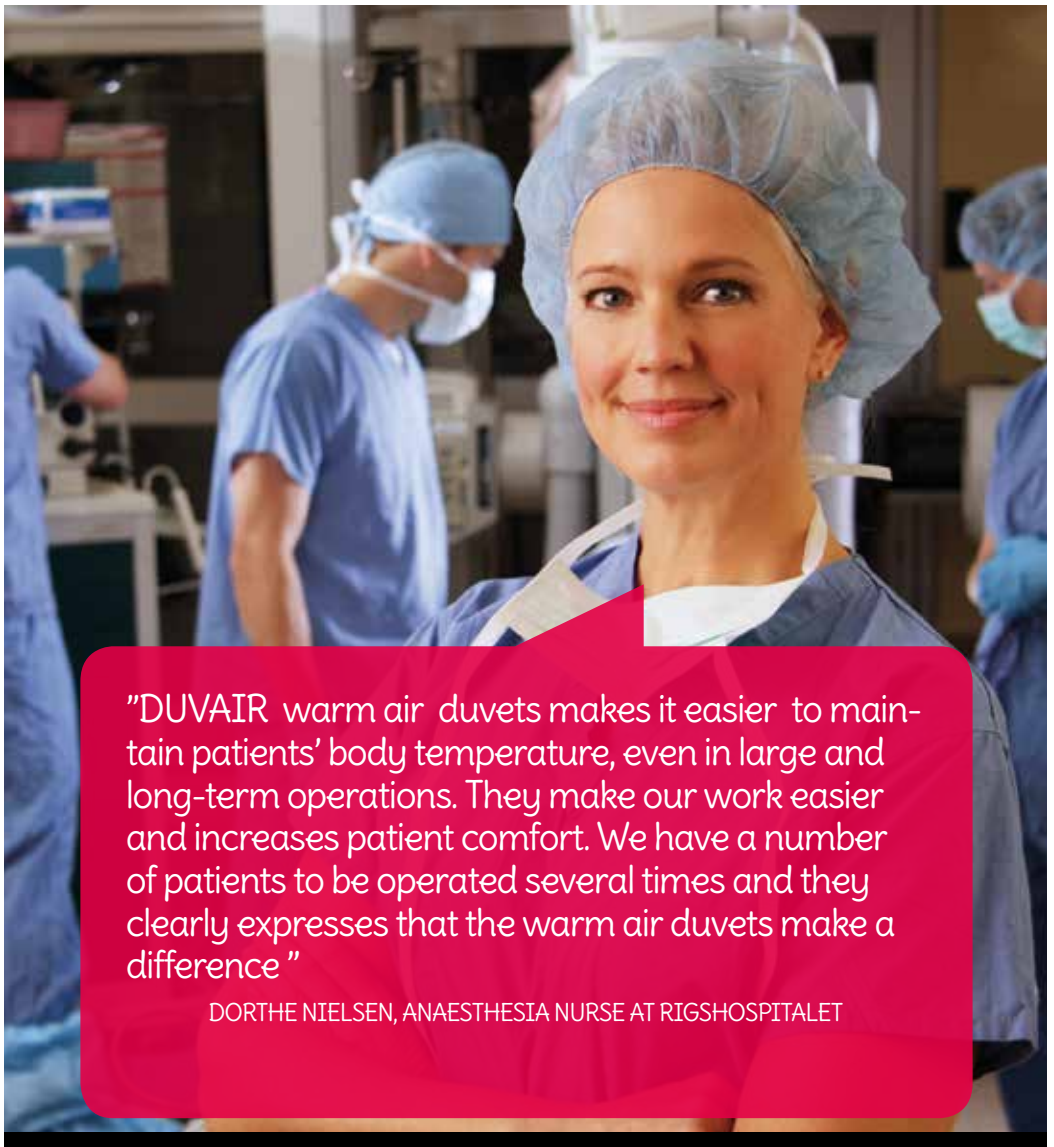
Size approx. 110 x 150 cm.

Weight approx. 350 g.

Order no. 92057

## DIRECTIONS FOR USE

- 1 To be used for patients lying on back or stomach, with arms alongside the body.
- 2 Place duvet to cover the wanted part of the body, except the head.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Start warm air blower and select suitable air temperature.



"DUVAIR warm air duvets makes it easier to maintain patients' body temperature, even in large and long-term operations. They make our work easier and increases patient comfort. We have a number of patients to be operated several times and they clearly expresses that the warm air duvets make a difference"

DORTHE NIELSEN, ANAESTHESIA NURSE AT RIGSHOSPITALET

DUVAIR warm air duvets give your patients the best possible conditions and increased comfort.

The duvets ensure a constant body temperature during surgery

- It allows for a faster recovery.

Therefore nurses prefer DUVAIR

# FULLBODY DUVET

ORDERNO. 92157



## PRODUCTDESCRIPTION

Covers whole body for surgery in neck and head or for recovery and intensive care.

Size approx. 110 x 200 cm.

Weight approx. 500 g.

Order no. 92157

## DIRECTIONS FOR USE

- 1 To be used for patients lying on back or stomach, with arms alongside the body.
- 2 Place duvet to cover the wanted part of the body, except the head.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Start warm air blower and select suitable air temperature.

# INSULATED FULLBODY DUVET

ORDER NO. 92557



## PRODUCT DESCRIPTION

Covers whole body. Specially for rewarming of very cold patients and for transportation.

Insulated with 3M Thinsulate™.

Size approx. 120 x 220 cm.

Weight approx. 1.100 g.

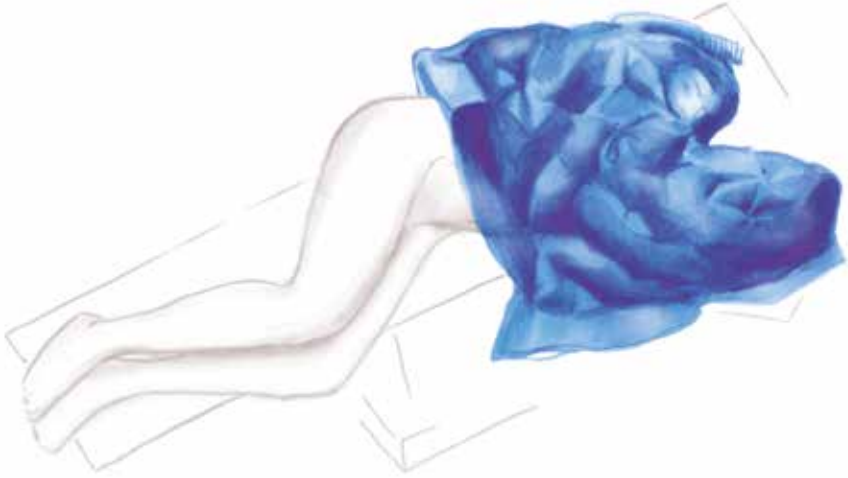
Order no. 92557

## DIRECTIONS FOR USE

➊ To be used for hypothermic patients lying on back or stomach, with arms alongside the body. ➋ Place duvet to cover the wanted part of the body, except the head. ➌ Connect hose from warm air blower to duvet connection and secure the hose by pulling the string. ➍ Start warm air blower and select suitable air temperature.

# UNIVERSAL DUVET

ORDER NO. 92556



## PRODUCT DESCRIPTION

Covers head, back, shoulder and arms for patients in simple sidelying. Can also be used for back operations.

Size approx. 120 x 150 cm.

Weight approx. 300 g.

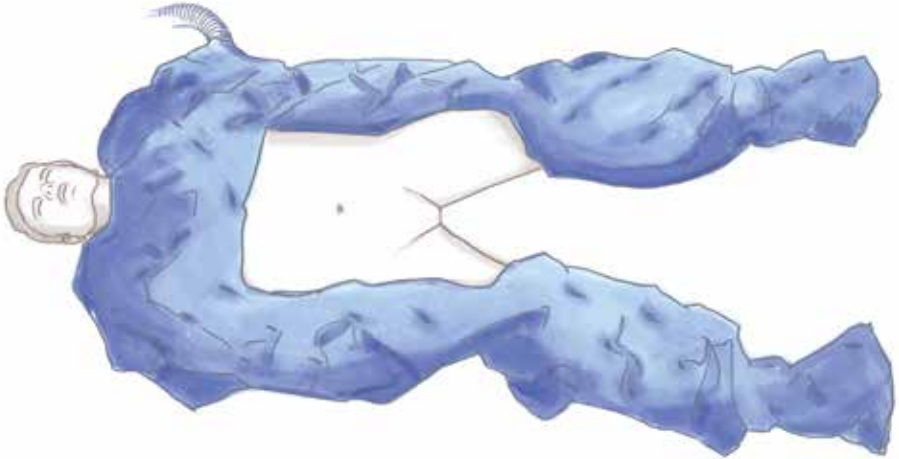
Order no. 92556

## DIRECTIONS FOR USE

- 1 To be used for patients lying on the back, on the stomach or sidelying.
- 2 Place duvet to cover upperbody, arms and hands. At sidelying cover also the head.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Close the unused connection, by pulling the string.
- 5 Start warm air blower and select suitable air temperature.

# HYBRID DUVET

ORDER NO.92356



## PRODUCT DESCRIPTION

Special duvet for use with robot assisted surgery. Covers whole body except abdominal region on patient lying on the back.

Size approx. 120 x 235 cm.

Weight approx. 550 g.

Order no.92356

## DIRECTIONS FOR USE

- 1 To be used for patients lying in gynaecology bed.
- 2 Place duvet to cover feet, legs, stomach and upperbody.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Close the unused connection, by pulling the string.
- 5 Start warm air blower and select suitable air temperature.

“The OR staff tried the DUVAIR warm air duvets on board in all the different surgical rooms last week. They LOVE the DUVAIR warm air duvets. We would really like to switch to using these instead of purchasing plastic disposable blankets for each surgery”

PROCUREMENT OFFICER FOR MERCY SHIPS



The environment is spared an unnecessary burden.  
The warm air duvets' long life cycle reduces the amount of waste,  
saving resources and minimizing CO2 emissions.  
It's one of the reasons why Mercy Ships prefer DUVAIR.

Read about Mercy Ships at [www.mercyships.org](http://www.mercyships.org)

# EXTENSION BED DUVET

ORDER NO. RIGHT EXTENSION BED: 92256 / LEFT EXTENSION BED: 92266



## PRODUCT DESCRIPTION

Special duvet to be used during surgery made in extension bed.

For example collum femoris surgery.

Covers upperbody, arms and opposite leg.

Size approx. 170 x 180 cm.

Weight approx. 500 g.

Right extension bed: Order no. 92256

Left extension bed: Order no. 92266

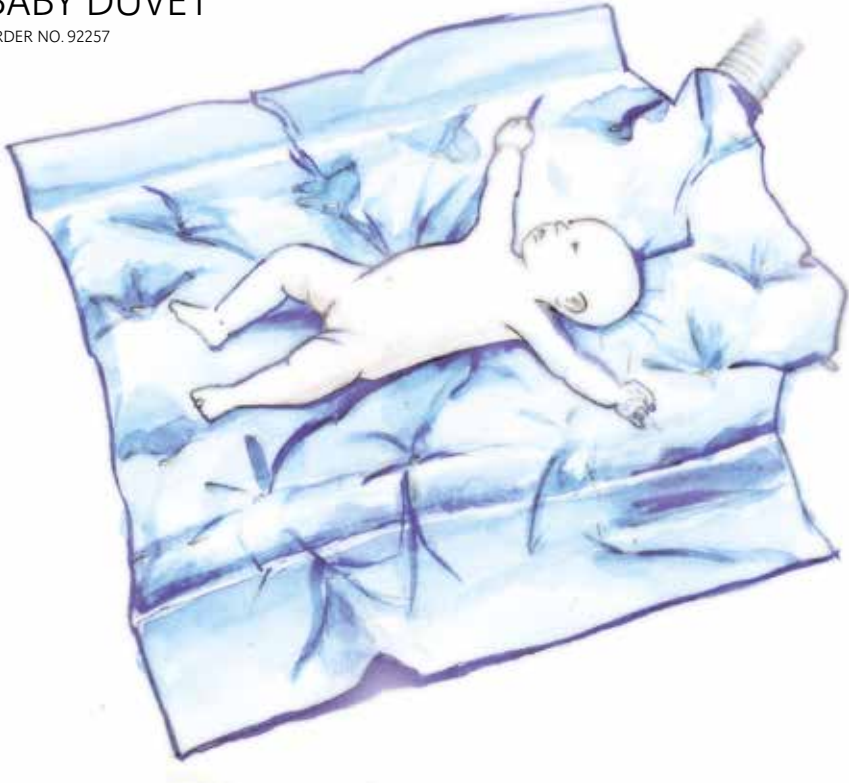
## DIRECTIONS FOR USE

- 1 To be used for patients lying in extension bed, with arm placed on support, leg on support and the other arm on the chest.
- 2 Place duvet to cover chest, shoulders, arms, hands and supported leg.
- 3 Place foot-pocket over foot on the supported leg.
- 4 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 5 Start warm air blower and select suitable air temperature.



# BABY DUVET

ORDER NO. 92257



## PRODUCT DESCRIPTION

Small duvet for surgery on babies and small children

Size approx. 90 x 110 cm.

Weight approx. 200 g.

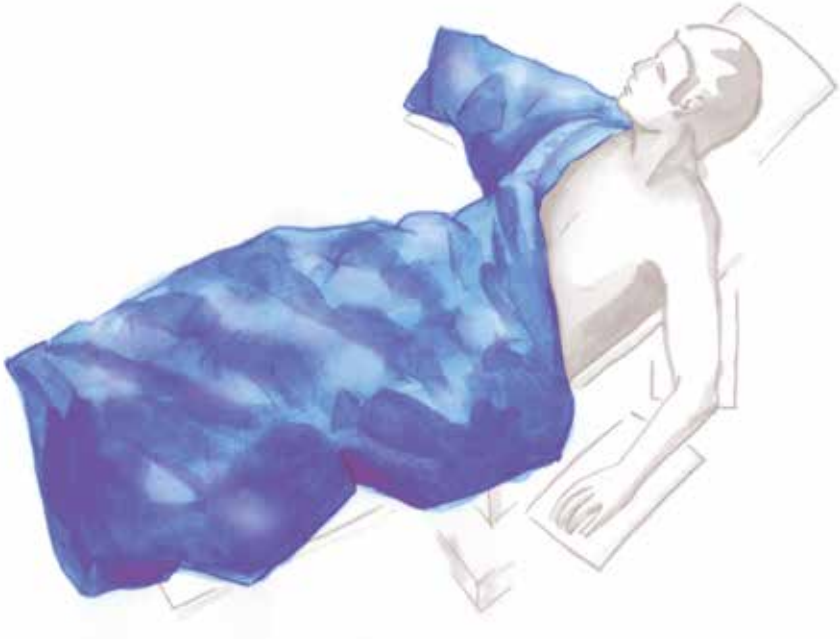
Order no. 92257

## DIRECTIONS FOR USE

- 1 To be used for operation at babies or infants.
- 2 The patient is placed on top of the duvet.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Close the unused connection, by pulling the string.
- 5 Start warm air blower and select suitable air temperature.

# SHOULDER DUVET

ORDER NO. RIGHT SHOULDER: 92456 / LEFT SHOULDER: 92466



## PRODUCT DESCRIPTION

Covers whole body except head and the shoulder and arm to be operated on.

To be used on patients sitting, half sitting or lying on the back for surgery in the shoulder.

Size approx. 180 x 220 cm.

Weight approx. 600 g.

Right shoulder: Order no. 92456

Left shoulder: Order no. 92466

## DIRECTIONS FOR USE

- 1 To be used for patients sitting, half sitting or lying on the back at surgery in the shoulder.
- 2 Place duvet to cover the full body except the head and the shoulder and arm to be operated on.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Start warm air blower and select suitable air temperature.

# TUBE DUVET

ORDER NO. 92167



## PRODUCT DESCRIPTION

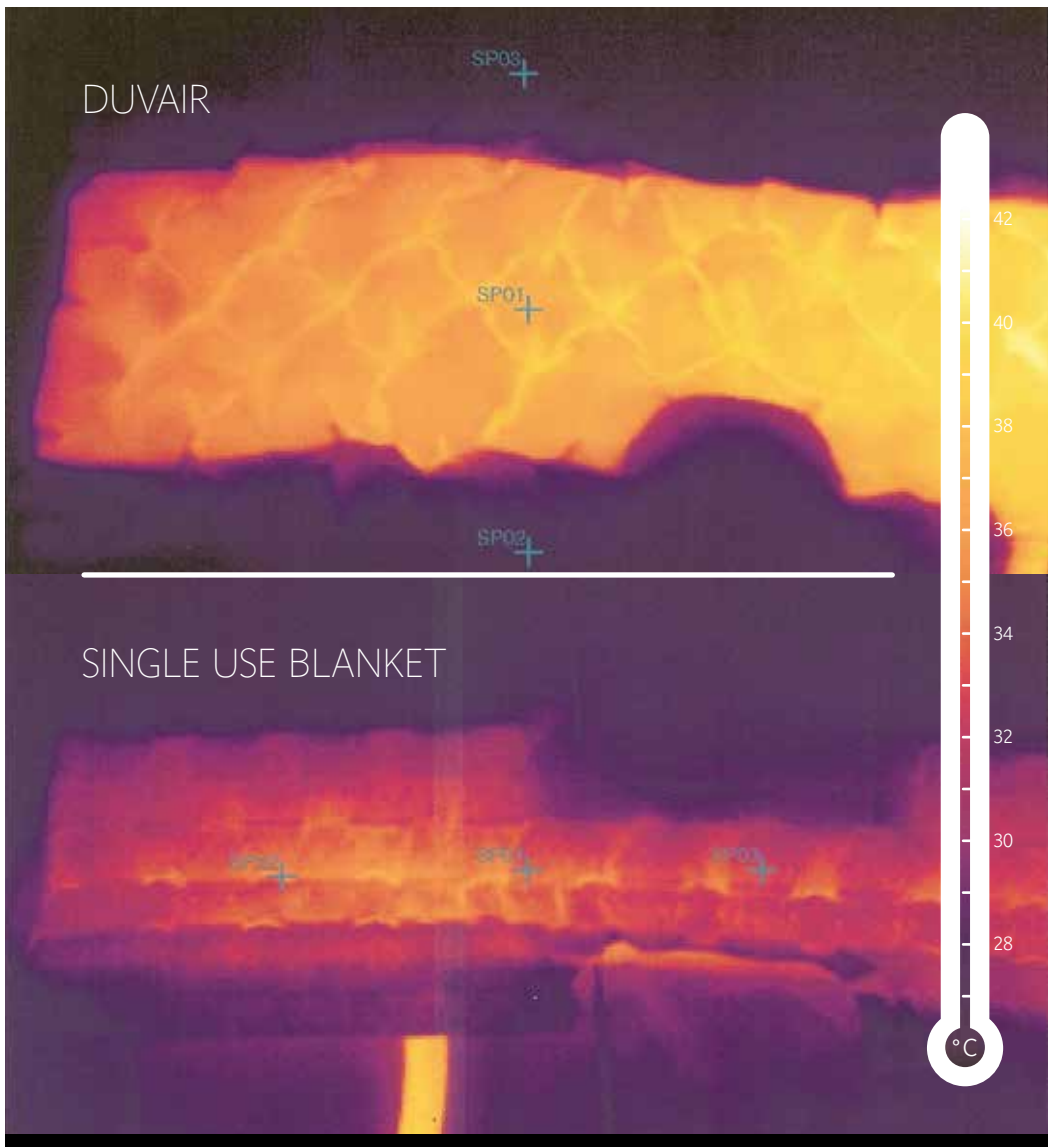
Surrounds the body and the legs from the side with patient lying on the back  
Size approx. 30 x 400 cm.

Weight approx. 300 g.

Order no. 92167

## DIRECTIONS FOR USE

- 1 To be used for patients lying on back or stomach.
- 2 Place duvet to surround the legs and the body from the sides.
- 3 Connect hose from warm air blower to duvet connection and secure the hose by pulling the string.
- 4 Start warm air blower and select suitable air temperature.



In a DUVAIR duvet the warm air is distributed evenly over the entire area. Compared to single use blankets DUVAIR feels much warmer and therefore it is a more efficient solution.

Patients prefer DUVAIR

# MATERIAL SPECIFICATIONS AND WARRANTY

The light blue side, which is always used towards the patient, is made from Polyester micro fibre: MicroPES. The dark blue side, which is always facing away from the patient, is made from Polyurethane coated microPES. These materials are woven from fibres which have the Oeko-tex approval class 1 (products for babies). For more information about the Oeko-tex standards, we refer to [www.oeko-tex.com](http://www.oeko-tex.com) where all values of the examined harmful substances are listed. But in summary: extremely low values of all known harmful substances are achieved, also for allergenic, carcinogenic etc.

The dark blue side of the baby duvet (REF 92257) is made from uncoated microPES, because this duvet, as the only one, is used by placing the patient on top of the duvet during surgery, and the dark blue side is then facing down towards the operation table. Because the material is uncoated, blood and other fluids can be transported through the duvet down to the operation table drapes.

A measurement of airborne particles has been made at a distance of 10 cm from an inflated duvet in a clean room. This measurement confirms that the duvets do not produce any airborne particles. This applies also to duvets, which have been washed many times. The full measurement report can be provided at request. Danish Technological Institute has made a series of measurements concluding that DUVAIR duvets do not compromise any safety-functions in the most common warm air blowers on the market. Please ask for a copy of the report.

## **Observe:**

The light blue side of the duvet shall always be used towards the patient. The Duvet is used for optimization of the patient's body temperature when it is connected to a warm air blower with the following characteristics: Maximum air flow: 100 m<sup>3</sup> / hour and maximum air temperature: 46° C. The Duvet must be washed according to the washing instructions before initial use and after each use.

## **Warning:**

Monitor the patient's body temperature at regular intervals. Do not use warm air therapy on ischemic limbs, as heat injuries may occur. Special attention must be given to patients with poor circulation. Always connect the hose to the duvet, so the warm air passes horizontal over, and not directly towards, the skin. Never obstruct the patient's free respiration with the duvet.

In 2 years from the date of purchase, we offer the right to complaint against errors in the manufacture or in the materials used. Protection of proprietary design is in effect where applicable.

The duvets are CE marked as medical devices class 1.

GMDN code: 36931

# WASHING INSTRUCTIONS

MATERIALS: Polyester micro fibre: MicroPES and Polyurethane coated MicroPES.  
MicroPES fibres have Oekotex approval class 1.

The duvets can be washed at least 150 times without degrading the technical qualities, provided the washing instructions are followed. We do not guarantee against small changes in colour and other cosmetic changes during the lifetime of a duvet.

All of the DUVAIR duvets should be washed in a washing machine at 95° C and can be dried in a tumbler drier at temperatures up to 120°C. Please observe that the duvets should be washed separately, although together with other duvets, for the first 2 washes due to surplus dye in the microPES material.



Experience shows that the duvets become completely clean by this washing procedure, but a problem with turmeric-dyed spirit, (often by mistake referred to as Iodine spirit) may arise, because this powerful yellow dye can be very difficult to wash out. Attention should be paid by the personnel involved to avoid spilling of dyed spirit.



The duvets can be autoclaved at max. 134° C / 2 bar, but no sterility testing has been performed after autoclaving. We issue no guarantee that the duvets are sterile after autoclaving, but we confirm that the duvets will withstand the temperature and pressure mentioned.








The duvets can be ironed at low temperature as recommended for synthetic material.



The duvets must not be dry-cleaned and do not tolerate chlorine bleaching.



# COLOUR CODING OF STRINGS AND HOLDERS

Model	Order no.	String	Holder	
Upperbody	92056	White	White	
Long Upperbody	92066	Black	White	
¾ body	92057	Black	Blue	
Fullbody	92157	White	Blue	
Insulated Fullbody	92557	White	Green	
Universal	92556	White	Black	
Rigth extension	92256	Black	Green	
Left extension	92266	Black	Red	
Hybrid	92356	Black	Black	
Baby	92257	White	Red	
Rigth shoulder	92456	White	Green	
Left shoulder	92466	White	Red	
Tube	92167	White	Dark blue	



DUVAIR