



USER INSTRUCTIONS

OptiCell SMART

Air mattress system
Mattress series N, R and T



Järven Health Care

Thank you for choosing the OptiCell air mattress system. We want you to be completely satisfied with the mattress in terms of both function and longevity. Please therefore take a few minutes to read through these user instructions to ensure you handle your OptiCell air mattress correctly.

If you have any questions that are not answered in these user instructions, please contact us at Järven Health Care. Our contact details can be found at the back of these instructions.

Warning and information boxes

In these instructions, boxes are used to highlight information of a safety nature or that is important for the function and performance of the system.

Examples are shown below:



Warning box that highlights an important safety aspect or danger. If you do not understand or follow these instructions, you may cause an injury to yourself or others.

Information box with instructions that, if not followed, may damage the product and/or impair system function and performance.

Carefully read these user instructions in full. The user instructions should be kept readily accessible in a place known to everyone who will work with the system.

CE marking

OptiCell's air mattress systems and covers are CE-marked according to MDR 2017/745. The label means that OptiCell AB has the manufacturer's responsibility and assures that the product meets the essential requirements and that there is technical documentation and insurance that must be preserved for at least ten years.



Quality assurance

Our quality assurance work and customer focus are posited on responding to customer needs and expectations and by doing our utmost to cooperate based on trust and adopting a long-term approach.

Current and future customer satisfaction is based on the improvement of our products and services. Our basic quality assurance also includes finding evaluation methods and standards that guarantee customer quality in terms of comfort, function, useful life and price.

In particular, OptiCell focuses on developing professional and committed employees via regular training and skills development of healthcare personnel. Our hope is that this will lead to high-quality care with a focus on preventing pressure sores and care-related infections, as well as reducing incidences of fire in healthcare.

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**Is there anything you need an answer to but are unable to find in these user instructions?
CONTACT US FOR ASSISTANCE. WE ARE HERE FOR YOU!**

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Safety directives

Please read the following information before using the care mattress.

- **The product must only be used in accordance with these instructions for use.**
- The product should be assessed visually before and after each use.
Find out more about inspecting your mattress on page 29.
- The product must not be combined, assembled or repaired with other parts, accessories or spare parts than those described in these operating instructions or other documentation from Järven Health Care.
- Ensure that the mattress does not get pinched or damaged during storage.
- Avoid sharp objects near the mattress.
- Avoid mechanical impact.
- To avoid risk of damage, our products must not come into contact with hot sources or fire, e.g. lighted cigarettes and hot light bulbs.
- Ensure that you use the correct size of mattress for the bed and the correct model for the user concerned.
- Always check the power cable before use.
- Do not use if the cable is damaged or cracked.
- Comply with electrical safety standards.
- Do not cover the pump with blankets, clothing or similar items.
- Connect the product to an earthed wall socket to minimise the length of cable along the floor.

According to the Medical Products Agency's regulations on medical devices, the manufacturer is obliged to report accidents and incidents that can be linked to the manufacturer's product. **This is why any incidents or accidents associated with our products must be reported to us immediately.**

Product information

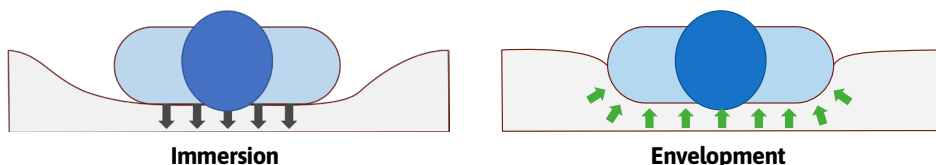
THE OPTICELL range of air mattress systems consists of:

- **Replacement cell-on-cell mattresses** that are placed directly on the bed base.
- **Replacement mattresses, cell and foam** that are placed directly on the bed base.
- **Bed mattresses, single-cell** that are placed on top of the existing care mattress.

The mattresses are developed for inclusion in preventive and therapeutic care.

THE mattresses have different levels of pressure relief and are suitable for all healthcare environments.

The mattresses conform to the contours of the body to distribute pressure across the entire body surface through envelopment and immersion, the two most important biomechanical properties for reducing the risk of pressure sores^[1].



OptiTex mattress cover

The OptiCell air mattress system is supplied with an OptiTex PU hygiene cover.

A stretch cover with a structure that enhances the pressure-relieving properties of the mattress.

The OptiTex cover has an integrated, waterproof cable duct that helps to improve hygiene, keeps the power cable out of the way and protects the air hoses.

The top and underside are made of PU and the cover has a drip-proof waterproof zip on all four sides. All seams are welded.

The cover for the replacement mattress has an underside with anti-slip function and four straps to attach the mattress to the bed frame. There are also four handles along the length of the cover to move and transfer the mattress.

The bed mattress cover has four elastic bands on the underside corners to attach the mattress to a foam mattress. **IMPORTANT Take into account the gate height – at least 22 cm between the unloaded mattress and the upper edge of the gate.** (Standard for healthcare mattresses.)

OptiTex Evac, with evacuation feature (for SMART Evac mattress). Equipped with underside with sliding function, handles for moving the mattress and well-placed evacuation handles, as well as straps for securing the user.



The mattress cover must always be right side up for the drip edge to act as a protective “roof” over the zip

[1] Wounds International 2020 | Vol 11 Issue 4 |, Gefen A and Soppi E, p 39

“The two main biomechanical properties that determine how effectively a support surface reduces the risk of pressure sores in patients with reduced mobility or sensory functions are immersion and envelopment.

- *Immersion* is the depth that a patient’s body penetrates when placed on a support surface.
- *Envelopment* is the ability of the support surface to mould itself around the patient’s body.”

Fire safety standard

The OptiCell mattress system is fire tested to standard SS 876 00 01, EN 597-1 & 2. The customer is responsible for performing a fire risk assessment and using the right products accordingly. Please contact us if you have any questions.

Intended use

General information about OptiCell SMART

The OptiCell SMART has been designed as an aid in the prevention and treatment of pressure sore care up to and including bedsores category 4 depending on the mattress chosen.

The mattresses are available in different models, see summary under Guide – Mattress systems on page 27.

The mattresses are intended to be used with a sheet between the user's skin and the surface of the mattress.

The mattress systems covered by these instructions are intended for use in emergency medical treatment and after-care environments, including long-term care, care in the home and private homes.

The systems have been developed as aids for prevention and treatment of pressure sores up to and including category 3 and 4 (depending on model) when combined with an individually tailored and comprehensive pressure sore treatment programme (e.g. repositioning, dietary supplements and skin care).

The products are part of the routines for handling pressure injuries (bedsores). Other care aspects should be taken into account by the prescribing physician. If existing pressure sores do not improve or if new sores arise, the entire treatment programme should be reviewed by the prescribing physician.

In all pressure sore care, a clinical assessment and experience should form the basis for whether an air pressure system should be used, and which one.

OptiCell air mattress systems can be used as in the following environments, defined in standard IEC 60601-2-52

- Application area 1 (emergency medical treatment).
- Application area 2 (short-term care in a hospital or other healthcare clinics).
- Application area 3 (long-term care in a hospital or clinic).
- Application area 4 (care in the home).
- Application area 5 (outpatients or outpatient care).

In accordance with the NPUAP/EPUAP Directive, checking the condition of the user regularly is recommended.

Contra indications

The systems covered by these instructions must not be used by users with unstable cervical, thoracic and/or lumbar fractures, cervical traction or skeletal traction.

Precautionary measures

If the user has other unstable fractures or conditions that may be complicated by a soft or moving surface, the appropriate physician should be consulted before use.

Expected useful life

Under normal conditions and correct care, our OptiCell air mattress systems have an expected useful life of 5-10 years.

Before use

Receiving and unpacking

OptiCell SMART mattresses are delivered rolled up in cardboard.

First check the product for any damage.

In the event of transport damage, *see page 42*.

An OptiCell SMART air mattress system contains

- 1 x pump
- 1 x power cable (6 metres) for pump
- 1 x mattress, with air hose and CPR valve



OptiCell mattresses can be installed and used immediately.*

*For SMART bed mattress – Be sure to have a foam mattress (at least 5 cm high) as a base before placing it in a bed.

Avoid using a knife when unpacking and handling the product due to the risk of damage to the mattress and/or cover.

To think about...

- **The air pump must not be used in damp areas**, nor left outdoors during inclement weather. Avoid handling the pump that has been exposed to damp until it is dry again.
- **Be careful when handling pump and power cables/air hoses.** Air hoses can be squashed and damaged by the bed frame etc.
- **The comfort and performance of the mattress** will change in relation to the air pressure in the mattress and the weight of the user. Also remember that a tall user may have a similar weight to a smaller user but need a different pressure. This must always be checked carefully for each user.
- **It is important that the user does not “lie through” the mattress.** If the user bottoms out, the mattress will not work properly.
See page 18 for information on the Hand test.

The user must not be positioned so that their respiratory tract faces the mattress.

If the pump is not new

Perform factory resets, if the pump was previously in use. Follow the instructions on *page 15*.

Prevention of pressure sores

Mandatory nursing measures (Care Manual)

The care manual sets out the following mandatory nursing measures to reduce the risk of pressure sores associated with care:

- Carry out a visual skin assessment.
- Conduct a structured risk assessment which includes a clinical assessment together with a risk assessment tool.
- Reduce pressure, shear and friction, e.g. by repositioning the patient and relieving pressure.
- Keep the skin dry, soft and supple by means of preventive skincare.
- Meet and monitor nutritional and hydration needs.
- Involve the patient and/or relatives in prevention of pressure sores.
- Communicate risk factors and preventive measures to the next care unit. See the section on collaborative care for more information on discharge.
- Document, regularly monitor and evaluate all actions in a personalised care plan.

Repositioning for pressure relief

Repositioning reduces pressure on sensitive areas and promotes comfort, hygiene and mobility. Patients should be encouraged to be active, as movement is the body's natural defence against pressure sores. Patients who lack the ability to spontaneously reposition themselves need regular assistance according to a personalised turning schedule.

The skin must be inspected every time the patient is repositioned in order to identify pressure-related redness. The frequency or the surface should be adjusted if the person does not respond as expected. Avoid positioning the person on an existing pressure sore or skin redness.

Positioning in bed:

Lateral positioning: 30-degree angle with pillow support.

Supine positioning: Wedge pillows to reduce pressure, head end max. 30 degrees except at mealtimes.

Heels: Release heels with Multi Zone Relief or relieve pressure with pillows/heel protectors to prevent injury.

Even a minor amount of repositioning is important and should be included in the care plan.

See page 45 for positioning aids

Consult the Care Manual for more information.

Installation

Before installation, check that the bed frame is compatible with the size of the mattress in question. Using the wrong size mattress for the bed frame can lead to undesirable effects.

Inspection of the system

At the time of installation, a visual inspection of the hose set, cover and cells must be made. If any damage or contamination is suspected, a more thorough check must be carried out before using the system. If the air pressure system is damaged, the product must not be used and must be replaced. In the event of contamination, the system should be cleaned if possible. *(See Care and cleaning of the rescue mattress, page 30)*

Placement of replacement mattress

(SMART N6-N8, R6-R10 and T7 models)

Replacement mattresses are placed directly on the bed frame. Then use the fastening straps on the underside of the mattress to fasten the mattress to the bed frame. This is to secure the mattress in the bed frame.

The care provider is responsible for ensuring the mattress is secured to the bed frame.

(SMART Evac model)

Placed directly on the bed frame. The care provider is responsible for ensuring the mattress is secured to the bed frame.

Placement of bed mattress

(SMART N4, N5 and T5 models)

The bed mattress should be placed on a good quality foam mattress (at least 5 cm high), after which the bed mattress elastic band is threaded around the corner of the foam mattress *(the elastic bands are on the underside of the bed mattress)*. This is to secure the bed mattress in place. The bed mattress must not be used with a spring mattress as they cannot be satisfactorily attached together.

The care provider is responsible for ensuring the mattress is secured to the bed frame.

Positioning of pump

We recommend hanging the pump on the foot end of the bed frame via the pump suspension hooks.

(See illustration) If it is placed otherwise, ensure the pump is not at risk of damage due to falling, or being kicked or struck.

The care provider is responsible for ensuring the pump is in a safe position.



Care in the home

Before the OptiCell air mattress system is fitted and used in a home environment, the personnel or family members who will manage the system must carefully read and understand the user instructions and be given training by knowledgeable personnel or Järven Health Care.

The air pump must not be covered and unauthorised persons must not be allowed access to the system. Also ensure that pets do not come in contact with the air mattress to prevent the risk of damage to the cover and cells.

Other safety aspects that these instructions address also apply to home care.

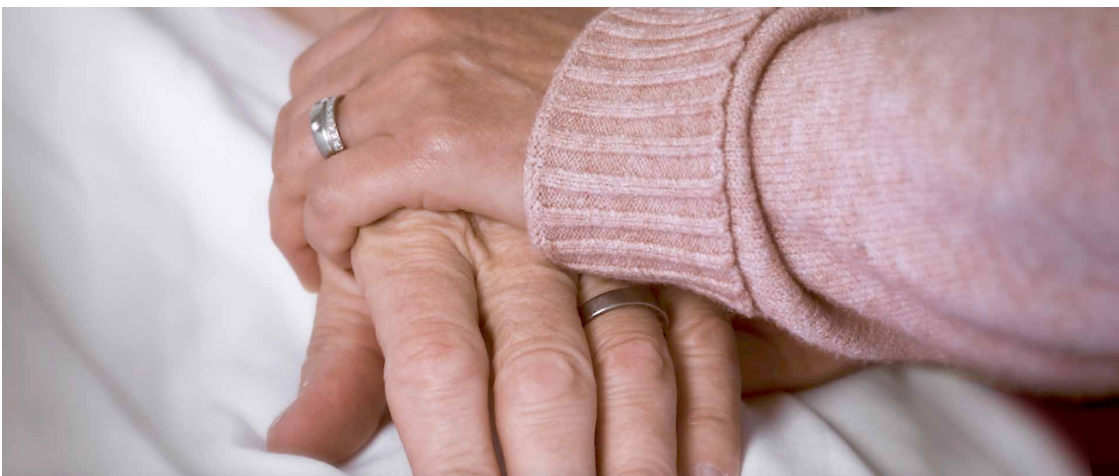
What to think about when installing a mattress in a home environment

When installing an air mattress system in a home, the following are to be specifically checked:

- **The mattress user/occupant should be taller than the width of the mattress to avoid the risk of falling between the air cells.**
- That there is no damage to any power cable and air hoses and that they are securely protected.
- That the cable and air hoses do not pose a risk of suffocation for a child.
- That the pump is not placed such that it can fall onto the floor.
- That the pump is visible and not covered.
- That no unauthorised person can access the pump.
- Pets do not come into contact with the mattress.
- That the user instructions are available.



Beds in private homes often have spring mattresses. These must not be used as there is a risk that the air mattress and user could slide off the bed.



Connection and start-up

- Place the pump power cable in the mattress cable channel together with the air hose to prevent anyone tripping over a loose cable. For the same reason try to run the power cable to the power socket as discreetly as possible.
- The power cable and air hose are connected to the air pump. Check that the CPR valve is not pressed in.
- With the pump switch in the off position, connect the power cable to a working, earthed socket.

Checking for correct pump connection

To ensure proper functioning, healthcare professionals must always check that the correct pump is used for the mattress.

- Check the mattress label (see illustration). The label shows the product name.
- Connect the air hose for the mattress to the pump labelled with the same name on the front of the pump. (See page 38 for a picture of the pump label)

Example: a mattress labelled OptiCell SMART is to be connected to a pump labelled OptiCell SMART.

- The air hose is designed so that it can only be connected to the correct pump.

IMPORTANT It is important always to check the labelling to avoid mix-ups.



(Example of a mattress label)



When installing a new air mattress system

1. Start the pump.

2. Place the patient on the mattress.

Bed mattresses and combination mattresses can be started with the patient already in place, as they have a foam core at the bottom that provides support during start-up. Alternatively, wait until the mattress has been inflated and the READY light is on before placing the patient on the mattress. (See page 34 for information on the pump display.)

3. Perform the hand test.

When the READY light is on and the patient is lying on the mattress, a hand test is performed to check that the patient is not bottoming out – that is, not sinking so deeply that the body is putting pressure on the surface under the mattress. (See hand test instructions on page 18.)

IMPORTANT The hand test is an important check to ensure that the mattress is providing adequate support.

When installing a previously used air mattress system

If another user has been using the system, the pump should be restored to factory settings to clear any previous settings (see “Restoring factory settings” on page 15). Then follow the steps above for “When installing a new air mattress system”.

When reinstalling at the same user

Start the pump, which automatically returns to the previous settings.

Check the pump setting, especially comfort mode and cycle time, to ensure that they match the user’s needs.

Then follow the steps above for “When installing a new air mattress system”.

Restore factory settings

To restore the pump to its factory settings, proceed as follows:

1. Press and hold the “SILENCE ALARM” button.

(see “Overview – Pump OC55”, page 34 position H.)

2. Start the pump, with the “SILENCE ALARM” button still pressed.

If this is done correctly, three beeps will be heard at start-up indicating that the pump has been restored to its factory settings.

If the pump does not make a sound, start again with the same procedure.

If it still does not beep, contact Järven Health Care.

Perform a factory reset of the pump every time a new mattress system is installed. This will ensure that any stored user settings in the pump built-in memory will be deleted.

The pump presets (factory setting) are on comfort mode “0” and a 10-minute cycle time.

Connecting the air hoses

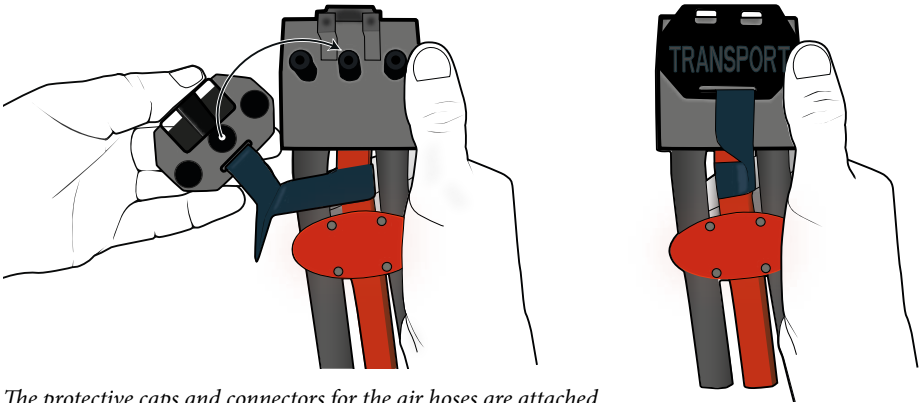
Connect the air hoses to the pump

Press the connector firmly to connect the air hoses to the pump. (See illustration)

Press the button on the top of the connector to disconnect the air hoses from the pump and to remove the protective cap on the connector. (See illustration)

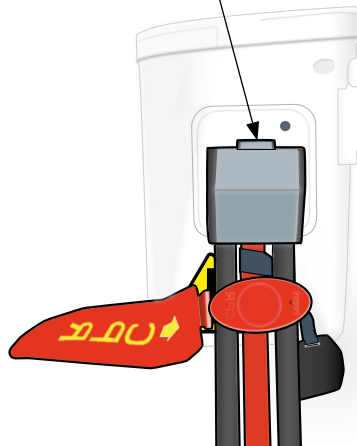
To minimise the risk of air leaks at the connector, check:

- That the hook is not damaged and retains its tension.
- That the black O-rings on the three air tubes at the connector are not missing, misaligned or worn.
- That no debris is blocking the air tube or preventing a good seal.



*The protective caps and connectors for the air hoses are attached with a simple hand movement.
No special tools required.*

Press the button on the top of the connector to release the air hose.



Handling

The mattress can be inflated and used immediately on delivery.

It takes around 15 minutes to inflate the mattress and this should be done without a user lying on the mattress.

Automatic setting

When you start the pump, it is set to automatically adjust the air pressure to the weight, height, location, movement and position of the user in the bed. If the user is sitting upright, the air pressure is adjusted automatically to manage the increased load. The pump's factory settings are described on page 8 of this manual. Its preset factory sets make it easy to start using the mattress straight away.

Both comfort mode and the cycle time can be adjusted via the pump control panel (see page 34, "Overview – pump").

Static mode

The mattress can be set to a static mode if needed, for instance during patient care activities or if the user is disturbed in any way by alternating pressure. The mattress is simply switched to static position via the pump control panel (see page 34, "Overview – pump").

Low pressure alarm

If the mattress pressure becomes too low, the Leaking light will come on and a sound alarm will start.

Start by pressing the "Silence alarm" button (see position H on page 34) to silence the alarm. Then check the following points to find the cause.

- Check that the air hoses are correctly connected to the pump. Also check that the rubber seals around the plug are not missing, incorrectly positioned or badly worn. Make sure that there is no leaks between the air cells and the air hoses.
- Check that the CPR valve is properly connected.
- Check all air cells for leaks. This is easiest when the pump is set to care mode (see position D, page 34).

If no fault / leakage can be detected, the mattress should be replaced, contact Järven Health Care for further advice. Contact information can be found on the last page of the user instructions.

In case of power outage

In the event of a power outage, whether planned or not, the mattress will, under normal conditions, retain air pressure for a period of time. This enables e.g. the bed to be moved to another room.

Disconnect the hose from the pump and replace the protective cap to ensure that the air in the mattress is retained for as long as possible.

A replacement mattress will maintain an acceptable air pressure for at least 12 hours. Bed and combination mattresses will maintain the air pressure for about 8 hours. These mattresses rest on a foam core, which ensures that the user will not lie through.

These times are guidelines and the air pressure of the mattress should be checked at regular intervals to ensure that the user does not lie through the mattress during power outages.

Hand test

Check that the mattress is working with a simple hand test

Checking the mattress is providing the correct therapeutic treatment is done via a simple hand test.

This test should be done every time a mattress is used to enable any problems with the air pressure in the mattress to be detected. The test ensures that the user does not “bottom out”.

How to perform the hand test

The hand test is always done with a user on the mattress. It is important to ask the user not to try to raise their body during the test and to lie still as usual. *(The user will often look to raise their body thinking this will make it easier for personnel, however this will give an incorrect test result.)*

- Fold the sheet out of the way and open the mattress cover to access the cells.
- Insert your hand between the cells *(see illustration)* with the user on the mattress.
- Check that your hand fits between the bed base and the user.



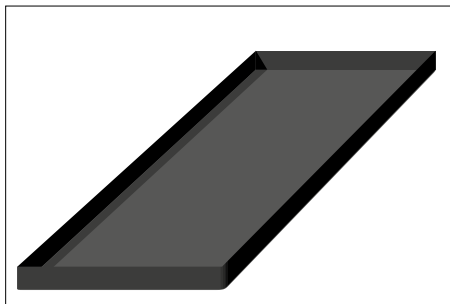
If the hand test shows that the user has bottomed out

If the user has bottomed out and the alarm has not sounded, the comfort setting needs to be raised. If the comfort setting is at max and the user does not weigh more than the recommended max weight, the mattress and pump need to be checked by authorised personnel.

The mattress structure

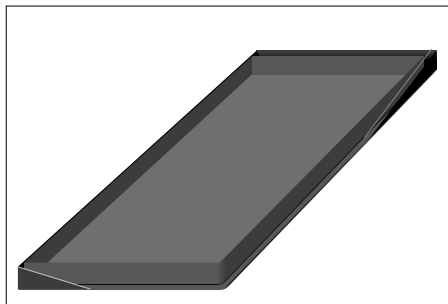
OptiCell air pressure mattresses are structured as below.

Underside of the cover (PU)



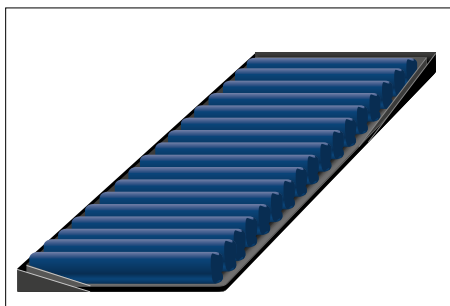
The underside of the mattress is made of hardwearing PU with four sturdy handles (not the bed mattress) for moving the mattress without the user. The underside is black or red depending on the model.

Crib



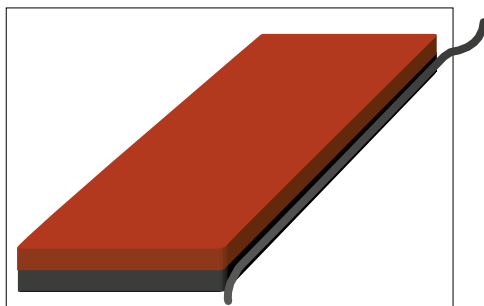
The crib is made of sturdy PU-coated nylon and can be lifted out for cleaning and inspection.

Cells



Depending on the model, the hose set has one or two non-return valves for connecting cells and is made of soft polyurethane or nylon.

Top of the cover (PU)



The mattress top is made of a soft, rustle-free, vapour-permeable, elastic polyurethane fabric and has an integrated cable channel with waterproof zip and drip edge. The colour is red or blue, depending on model.

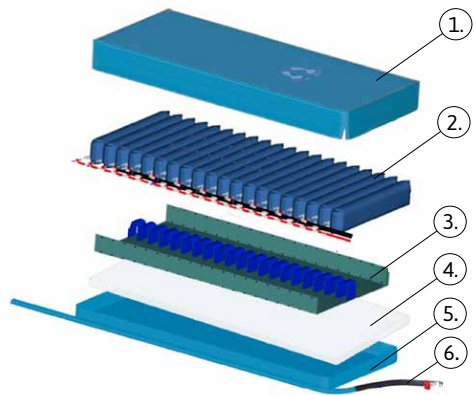


The four handles at the bottom are designed to move the mattress without a user. These must not be used with a user on the mattress.

Mattress structure, Cell & foam

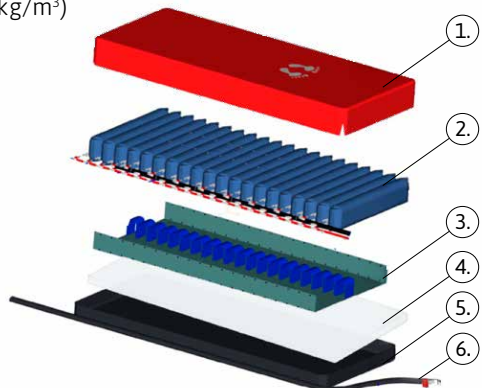
The OptiCell SMART Evac is structured as follows:

1. Upper part of cover (PU)
2. TPU cells and hose set
3. Inner base
4. Foam core (HR foam 50 kg/m³) with LENTEX laminate® (see page 21)
5. Lower part of cover with integrated evacuation function
6. Hose set (PU)



The OptiCell SMART N7/T7 is structured as follows:

1. Upper part of cover (PU)
2. Nylon/TPU cells and hose set
3. Inner base
4. Foam core (high-resilience foam 35 kg/m³)
5. Lower part of cover (PU)
6. Hose set (PU)



LENTEX® foam mattress core

Your OptiCell SMART Evac mattress has a highly elastic (50 kg/m³) foam base with a LENTEX® surface layer.

LENTEX® is a flexible laminate whose structure boosts the pressure-relieving properties of the mattress. The laminate envelops the entire mattress and has no perforating seams or zips. Our Active Membrane technology allows the mattress to breathe without compromising hygiene.

The light colour of LENTEX® makes it easier to detect contaminants on the surface of the mattress. If the mattress is contaminated, it is cleaned and disinfected with a detergent intended for this purpose

LENTEX® care and maintenance

LENTEX® hygiene mattresses have a transparent surface layer that makes dirt and contaminants clearly visible, even if they have penetrated into the mattress beneath the surface layer. The surface is easy to clean, too.

Soap-based detergents are used to clean the surface layer of the foam mattress core. Disinfect with alcohol-based detergent with surfactants.

If odours remain after the mattress is cleaned, put a little lemon essence on a damp rag and dry off the mattress.

Recommended detergents:

- Dax Ytidesinfektion Plus
- Virkon
- Dismozon Pur

Avoid detergents containing chlorine and phenols, as these may adversely affect the surface layer.

Expected useful life

LENTEX® mattresses have a useful life of 5 years, but this may vary depending on the load and care.

It is important that no sharp objects come in contact with the surface layer. Avoid contact between the foam mattress and knives, keyrings or other objects with cutting or piercing edges in order to prevent damage to the surface layer.

Repairing damage to the surface layer

Any damage must be repaired immediately using **Lentex®Hygiene Tape** in order for the warranties to remain valid. Follow the instructions below:

1. Ensure that no contamination has penetrated the foam core.

The mattress must be discarded if this has happened. Follow local instructions for handling contaminated products.

2. Clean the area around the damage using surface disinfectant. Leave it to dry.

3. Cut an appropriate length of repair tape to cover the damage with a margin.

4. Remove a small piece (e.g. a corner) of the green protective layer and peel off the rest as the material is glued into position.

The repair tape must not be stretched during installation.

5. When the material is fully covering the damage, rub over it with your hand to ensure it bonds to the surface. Ensure that the repair tape has bonded over the entire surface and that there are no sticky edges.

LENTEX® REPAIR TAPE

A very strong and elastic repair tape, developed for Järven's unique surface layer LENTEX.

Item no.: 11-019900-002 (25 m / 6 cm wide)



The different parts of the pump

The pump described in this manual has a number of different external parts as shown below.



USB port (may only be used by qualified technicians)

Port for hose set

Hooks to hang the pump at the foot of the bed

Power button

Electric plug

Cover for pump fuse



Cover for air filter

Features, OptiCell SMART

OptiCell SMART air mattress systems are designed to enable individual cells to be disconnected simply while a user is lying on the mattress. The mattresses have three different types of cells with different functions. (See page 26 – *Functional description, air cells*)

Air hoses from the pump

The OptiCell SMART has a connector with three hoses from the pump to the mattress.

The intermediate hose (red), is used to inflate the main cells under the patient's head and to inflate the lower cell chambers in the other cells. This is to ensure there is always air in the mattress irrespective of the pump setting or if the pump were to stop working (*power outage or similar*).

The two other hoses supply either alternating or static pressure to the standard and ventilation cells. See section "Air hose connection" on page 25 for further information.

The different pump settings

The electric pump is fully automatic and can be used for the mattress with both static and alternating air pressure at different pressure levels. (See *Overview Pump*, page 33)

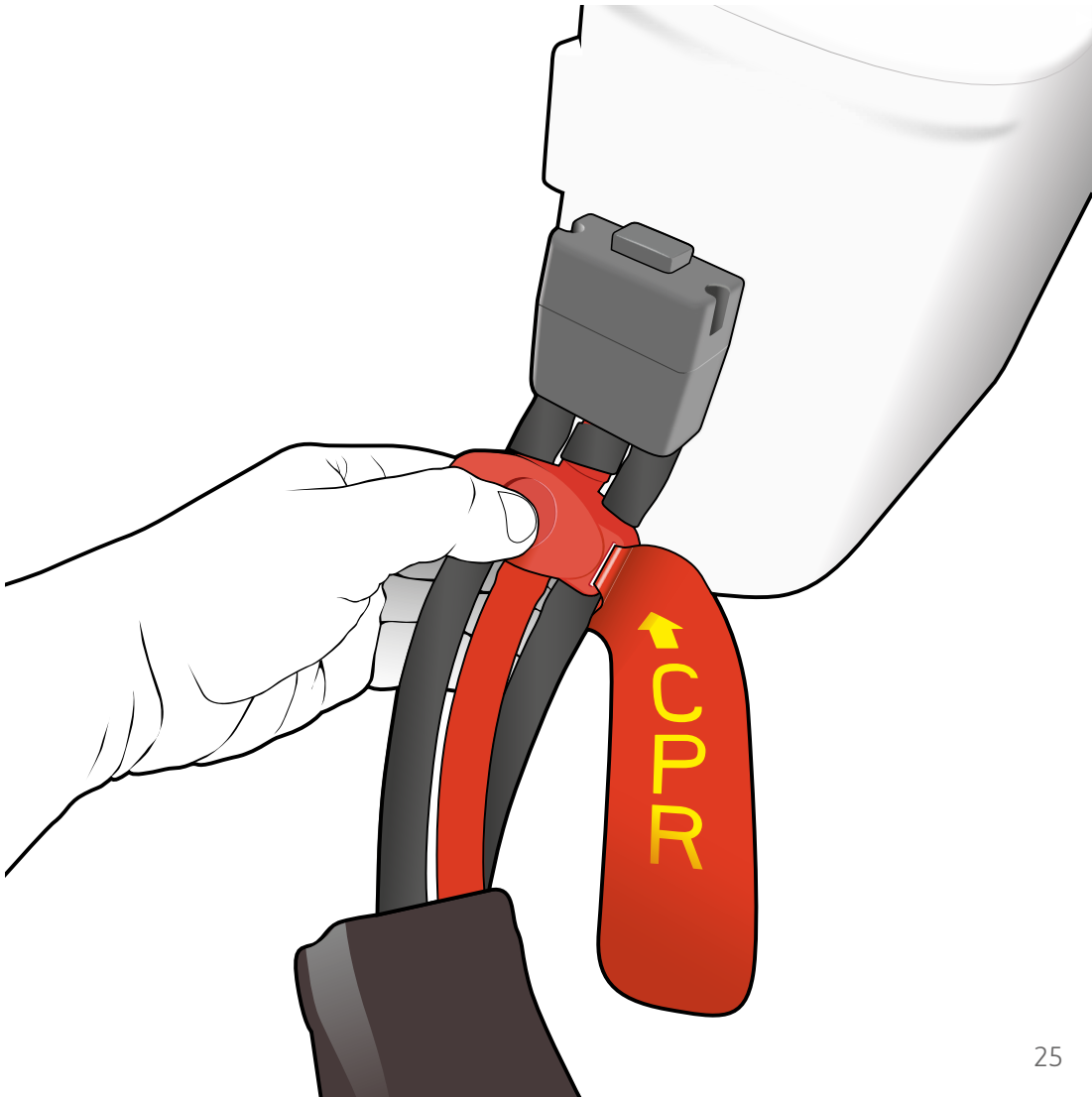
Function of the CPR valve

In the event of a cardiac arrest, start CPR immediately!
If possible, ask another person to perform the steps below:

To deflate the mattress quickly:

1. **Switch off the pump.**
2. **Press the button on the CPR valve.** *(see the illustration below)*

The cells are emptied within about 15 seconds of the CPR button being pressed.



Functional description, air cells

Air cells

The mattresses have three different types of cells.

- **Main cells** – air cells (16/18/20 or 25 cm high) with continuous air pressure which are mainly used under the head of the user.
- **Standard cells**
The cell-on-cell replacement mattress has two-chamber cells (16/18/20 or 25 cm high) that have a lower part with constant air pressure and an upper part that can provide alternating air pressure.
The bed mattresses and replacement mattresses with cell and foam standard cells (10/13 cm) do not have the lower section.
- **Ventilation cells** – act as standard cells, but have ventilation holes that blow small amounts of air upwards into the cover to create air circulation that helps keep the top side of the cover dry. These cells are marked “*Ventilated bladder*”

Easily disconnect individual cells without tools (*see illustration below*) while the user remains on the mattress.

INDIVIDUAL CELLS CAN BE EASILY RELEASED OR REPLACED



1. Press the black button on the air hose connector.



2. Disconnect the hose connector from the cell valve. **Finished.**

Guide – Mattress system

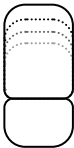
OPTICELL MODEL

		Single-cell bed mattress	Replacement, Cell-on-Cell	Replacement, Cell & foam	Height (cm)	Wound category	Max user weight (kg)	Evacuation feature	TPU cells	Nylon Cells
OptiCell SMART	N4	●			11	3	210			●
OptiCell SMART	N5	●			13	4	230			●
OptiCell SMART	N6		●		16	4	230			●
OptiCell SMART	N7			●	18	4	230			●
OptiCell SMART	N8		●		20	4	250			●
OptiCell SMART	T5	●			13	4	230		●	
OptiCell SMART	T7			●	18	4	230		●	
OptiCell SMART	Evac			●	20	4	250	●	●	
OptiCell SMART	R6		●		16	4	230		●	
OptiCell SMART	R7		●		18	4	240		●	
OptiCell SMART	R8		●		20	4	250		●	
OptiCell SMART	R10		●		25	4	350		●	

- Single cell The mattress consists of several individual cells.
- Cell-on-Cell The mattress consists of several individual cells where each cell has two air compartments.
- Cell & foam The mattress comes with a built-in foam core (5 cm or 8 cm) under the air cells.
- Bed Bed mattresses are to be used in combination with a separate foam mattress (5-8 cm high) underneath.
- Replacement The mattress is placed directly on the bed base.



SINGLE CELL
The cell consists of an alternating air chamber.



CELL-ON-CELL
The cell consists of two air chambers where the upper one is an alternating cell. The lower air chamber is designed to prevent the user “lying through”.

Caring for your air mattress

Regular inspection and cleaning of the cover is not sufficient, as liquids can penetrate invisible damage or leaky seams. That is why the cell pack and any foam core should be systematically checked, particularly if the surface layer is showing signs of wear or if leakage is suspected.

By regularly checking mattresses, healthcare providers can improve the work environment and reduce the risk of infection, benefiting both staff and patients. Therefore, remove the mattress cover regularly and check the cells and any foam core. Look for wet spots, discolouration, signs of damage and wear and tear, or if the mattress smells unpleasant due to bodily fluids. **Immediately discard mattresses with contaminated foam cores to reduce the risk of spreading infection.**

Mattress review for the benefit of the patient

Checking the foam in a healthcare mattress for contamination is crucial to ensure patient safety and hygiene. The foam can absorb fluids such as blood, urine and wound fluid, creating an environment where bacteria and mould can grow. If the mattress is contaminated, there is a risk of infection transmission and impaired wound healing in patients.

Mattress review for the benefit of the staff

A contaminated mattress can impair the work environment and increase the workload for healthcare professionals:

- There is an increased risk of infection if staff are exposed to bacteria and mould spores that may be present in the contaminated mattress. This may increase the risk of illness amongst staff.
- The potential stress of working with potentially infectious surfaces may impact the psychosocial work environment.
- Unpleasant odours and (in)visible contamination can create an unpleasant work environment.
- Additional care may be required when a healthcare associated infection occurs.
- The physical burden on staff increases if a patient needs to be moved more frequently due to a contaminated mattress, or if mattresses need to be replaced urgently.

Mattress review for the benefit of cost-efficiency

Regular mattress checks can reduce the risk of healthcare-associated infections (HAIs), which in turn can result in shorter hospitalisation times and lower costs for antibiotics and intensive care. The initial cost of inspections and mattress replacements is then offset by savings due to fewer infections and complications if the number of patients with healthcare-associated infections is reduced as a result of the mattress review.

Care – Inspection and troubleshooting

Inspection of your pressure relieving mattress

An inspection plan ought to be established for the mattress to ensure your pressure air mattress stays in good condition and lasts as long as possible. If you would like help with this, please contact us at Järven Health Care. See back page of the manual for contact details.

Inspection of mattress systems

- **Check the electric cable and plug** for any damage or abnormal wear.
- **Check the cover** for any damage or abnormal wear.
- **Check the mattress cells** are correctly connected to the air hoses.
- **Start the pump and check the air flow** from the pump (with air hose disconnected). The air flow should alternate between the upper and lower hole (of three) each cycle time. The hose from the middle hole is switched off.
- **Check the air hoses** for any damage or abnormal wear.
- **Check the connection of the air hoses.** (See page 16)

Inspection of OptiTex hygiene cover

Regularly check the cover for visible signs of damage or wear, such as rips, cracks, holes, spots or discolouring. Check all sides of the mattress (including underside).

Troubleshooting

Pump not working/will not start

- Check the plug is fully connected, then turn on the pump switch.
- If the power indicator is not lit up, there may be a problem with the power socket. Try a different power socket.
- If the power indicator is lit up but the pump still does not work, contact your salesperson.

Mattress does not inflate as it should do (pressure too low).

- Turn the pressure up to maximum, check if the air hoses are kinked or if any cell is leaking. Check that the CPR valve is closed.

Poor air flow

- A dirty air filter can reduce the air flow. Clean the air filter with a mild detergent to keep it clean. The air filter is easy to access on the back of the pump (see page 30) and can be removed very easily by hand.

Care – Cleaning

Cleaning the pump

Use a damp cloth and gentle detergent to clean the pump, pump housing and electric cable.

Cleaning the OptiTex cover

The entire PU cover (both top and bottom sides, for OptiTex Evac only the top side) can, if needed, be easily wiped down and cleaned with disinfectant. Use an alcohol-based disinfectant agent.

Healthcare textiles that can harbour micro-organisms harmful to health, (mattress covers, bedding etc.) should be washed at min 70 °C for at least 10 minutes with unperfumed detergent, in accordance with standard “*SS-EN 14065:2016 Textiles – Laundry processed textiles – Biocontamination control system*”.

The cover is machine washable at max 95° C.

For OptiTex Evac – Make sure the Velcro fastenings are secured before washing.

Cleaning of cells and air hose

The cells can be washed individually or together. Use a damp cloth and gentle detergent.

The air hose can be wiped clean with a damp cloth and mild detergent.

Cleaning the air filter

The pump has an air filter that is easy to access via an inspection cover on the back of the pump. (See illustration below). Wash the filter using a mild detergent.



Protective
cover for air
filter.



The air filter is on the inside of the
protective cover and can be easily
removed.



What to do if the alarm sounds



The alarm indicates that the system is not working properly.
START TROUBLESHOOTING TO FIND THE CAUSE IMMEDIATELY.

Check the air pressure in the mattress

Depending on what has happened, the mattress may have lost air pressure, it is therefore important to ensure that the patient does not lie through to reduce the risk of complications. An assessment must be made on if the user should be moved to another mattress or that the fault can be rectified within a reasonable time.

Most faults can usually be quickly corrected, and moving the user will not be necessary.

If the alarm indicates an electrical failure

- **Check that the power cable** is attached correctly to both the pump and wall socket.
- **Check the wall socket.** Test other equipment (*e.g. a bedside lamp*) to check the wall socket is working.
- **Check the pump fuse.** (*See Figure 1, page 33*)

If after performing all the above checks, the fault cannot be found, the pump should be replaced.

If the alarm indicates a fault with the air pressure

This alarm is triggered when the pump cannot deliver the required air pressure. This will be due to a leak or if the pump is damaged. Leaks are more common, so this should be checked first.

- **Check the connection of the air hoses at the pump.** Make sure the connector is in place correctly. Check the black rubber rings (O-rings) on the connector. (*See Figure 2, page 33*)
- **Check the CPR valve** to make sure it has not been accidentally opened.
- **Check the hose set.** Check that the hoses are connected to each cell in the correct way. Also open the cover's cable channel and ensure that the three quick release connectors on each hose are in the correct position. (*See Figure 3, page 33*)
- **Check the cells.** Inspect the cells for any damage causing air leakage.

If after performing all the above checks, the fault cannot be found, the pump should be replaced.

Air pressure fault alarm has a delay of 30 minutes at start-up and 20 minutes thereafter. This is to prevent the alarm from going off when the bed and mattress are moved.

Alarm reset

When the cause of the alarm has been detected and remedied, the alarm is reset by restarting the pump. If the alarm is activated again, either the fault has not been corrected rectified or there is an additional fault. The checks listed on the previous page should then be performed again for further troubleshooting. Contact Järven Health Care if no fault can be detected.

Detailed illustrations



Figure 1

The pump fuse is inside a cover, located under the power connector. The cover can be twisted open with a small screwdriver or similar.



Photo 2 Pump connector with transport cover

The connector of the hose set has black rubber rings (O-rings) that ensure the connection is sealed. If these rings are missing, incorrectly fitted or damaged, air may leak out. The transport cover should be used when the mattress is disconnected from the pump when e.g. moving a user and when being sent to storage to protect the plug.



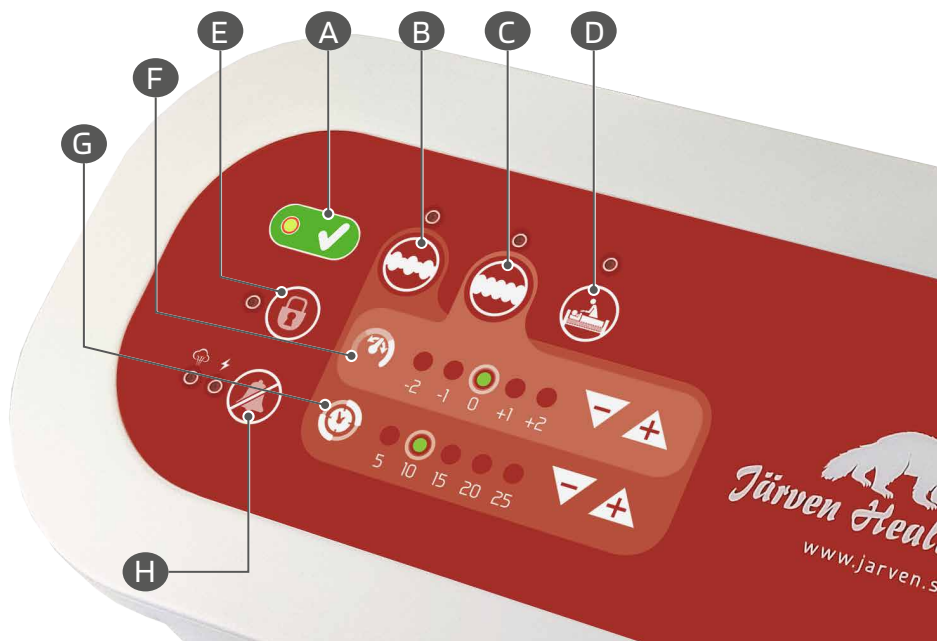
Photo 3 Hose set connectors

The hoses have three quick release connectors that should be checked in the event of an alarm for a drop in air pressure. Check that the O-rings of the connectors are not missing, incorrectly fitted or damaged.

Overview – Pump OC55

Inflating the mattress normally takes approx. 15 minutes.

- A** “Ready”, when the light is on, the mattress is inflated – ready to use.
- B** Dynamic/alternating mode.
- C** Static mode.
- D** Nursing mode, provides maximum static pressure to facilitate nursing care times. The mattress automatically returns to the previous settings after 30 minutes.
- E** The buttons on the panel are locked to prevent unauthorised adjustment of pump operation. To unlock the panel, press and hold the button for 5 seconds.
- F** Adjust comfort mode, there are five comfort modes to choose from. Reduce the air pressure by pressing “▽”. Increase the air pressure by pressing “△”.
- G** Select the cycle time for switching in minutes. Reduce the interval by pressing “▽”. Increase the interval by pressing “△”.
- H** Silence alarm, press to silence any alarm. The “🔊” light comes on when the air pressure in the mattress is low. Check for any leaks. The “⚡” light comes on in the event of a power failure.



Specifications, pump

PUMP OC55	SPECIFICATIONS
Size	28.0 x 11.0 x 20.5 cm
Weight	3.4 kg
Pressure range	20 ~ 70 mmHg
Cycle times	5, 10, 15, 20 or 25 minutes
Classification	Class II; IP21, Type BF
Power specification	AC 220-240 ~ 50 Hz 1A, 17W
Fuse specification	250 V, T 1 A
Degree of protection against electric shock	Class II, double insulated and without functional earth. Connects to the mains power supply. Type BF
Degree of protection against liquid ingress	IP 21
Operating requirements	TEMPERATURE Usage: 10° ~ 35° C Retention: -15° ~ 50° C Transport: -15° ~ 70° C HUMIDITY Usage: 20% ~ 80% without condensation Retention: 10% ~ 90% without condensation





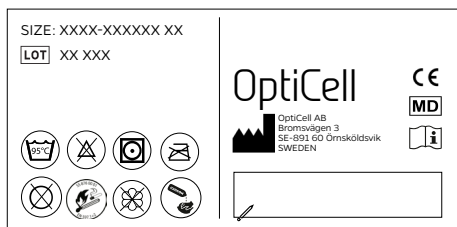
Marking

Mattress labels

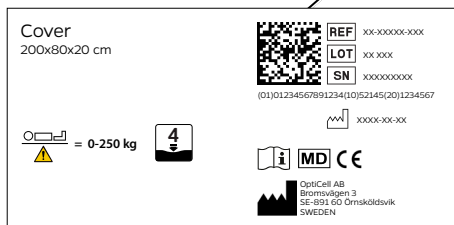
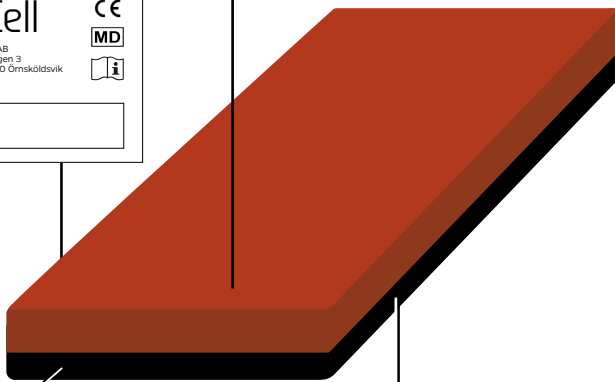
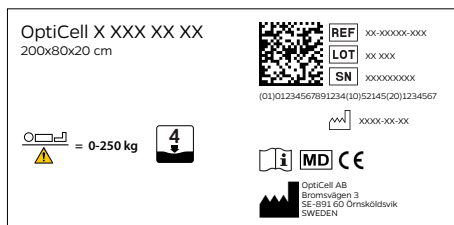
Your OptiCell mattress system has several labels. Below is a schematic of where to find them.

Note that the number of labels and their individual design vary from model to model.

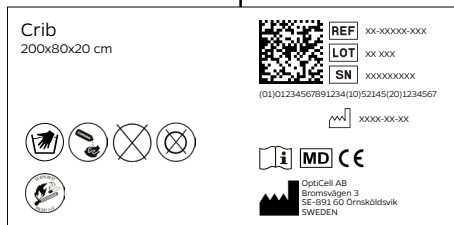
The label for the system is located at the foot of the upper part.



The label with the cover washing instructions can be found in a plastic sleeve inside the cover.



The label for the underside of the hygiene cover is located inside the underside.



The crib label is placed on the inside of the crib. See page 19 for information on the mattress structure

Pump labels

On the front of the pump there is a *Quick Reference Guide* with the pump designation which describes the functions of the pump buttons, among other things. You can also see here which mattress type is suitable for the pump.

On the back of the pump is a label with the pump serial number and general information, e.g. pump model number and date of manufacture (year and month).



Key to symbols



Product code



Serial number



Batch number



The product is a medical device product



Date of manufacture



Name of manufacturer



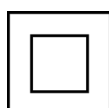
This product is CE marked according to MDR 2017/745



Read user instructions before use



Type BF
Applicable part:
Protection from electric shock in accordance with IEC 60601-1.

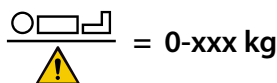


Electrical equipment class II, double-shielded.

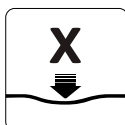


2... Protection against the intrusion of fingers and solid objects larger than 12.5 mm

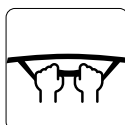
...1 Protection against the effects of water droplets falling vertically.



Maximum user weight.



Bedsore category the mattress is suitable up to.



Evacuation feature



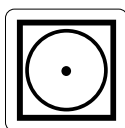
Machine washable at 95 degrees



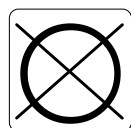
Machine washable at 70 degrees, max 95 degrees



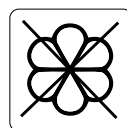
Do not use chlorine-based detergents



Can be tumble dried at low temperature



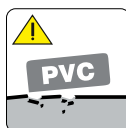
Do not dry clean



Do not use rinsing agent



Disinfect using alcohol-based or similar detergents containing surfactants



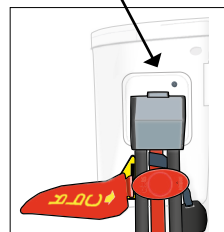
Plaster must not come in direct contact with the mattress

Evacuation with OptiTex Evac

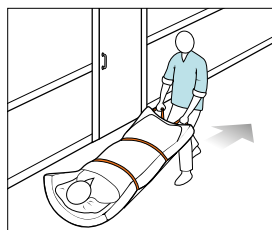
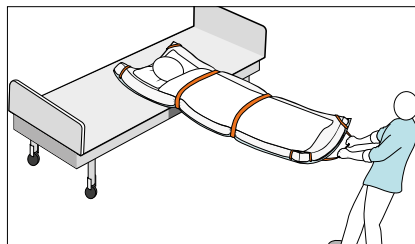
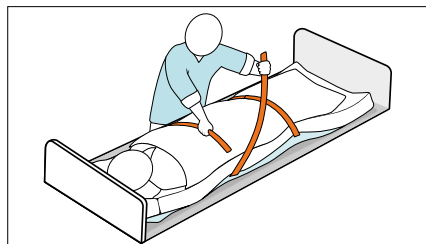
Evacuation from bed:

1. Inform the user about what is happening.
2. Unplug the power cable from the wall socket.
3. Place the power cable on the mattress.
4. Disconnect the air hose (see pump illustration) and the power cable from the pump.
5. Put the transport cover on the air hose. (see page 16)
6. Place the air hose on the mattress.
7. Lower the bed as far as it will go (if there is time to do so).
8. Pull out the straps on the long side of the mattress cover.
9. Secure the user, cable and hose set using the straps. (see the illustration below)
10. Grasp the pull handles at the foot end and pull the mattress, at a 45-degree angle, from the bed onto the floor. (see the illustration below)

Press the button on the top of the connector to release the air hose.

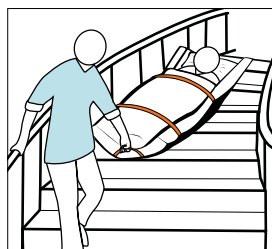


For evacuation on stairs – follow the illustrated instructions at the bottom of the page for safe evacuation.



EVACUATION ON A LEVEL SURFACE

1. Pull the mattress with the handles at the foot end.
2. Tilt your body back slightly. This facilitates evacuation and relieves strain on the arms. **Walk at normal speed – do not run!**



EVACUATION ON STAIRS

1. **Go backwards** until most of the mattress has slid down over the top step.
2. **Turn completely** so that you are facing in the direction of travel, **without letting go** of the mattress.
3. Hold one hand firmly on the handrail and pull with the other hand.
4. Follow the stairs down and let the mattress stop against your legs if necessary. **Walk down at a normal speed – do not run!**



Other information

OptiCell's product liability

Product liability refers to the manufacturer's, importer's or vendor's statutory liability for any damage caused by the product. The Product Liability Act establishes the manufacturer's, importer's or vendor's statutory liability for any damage caused by the product. The rules apply to physical products in the form of movables, and products that are connected to other movables or fixtures. If no product has caused any kind of property or personal injury, product liability legislation is not relevant.

Recycling

All materials in OptiCell air mattress systems, except for certain parts in the pump, are suitable for energy recovery via combustion at waste to energy power stations. The product does not contain PVC.



Pump

Used OptiCell® pumps must not be dismantled, but deposited at a recycling station. Disposed of as "Electronic waste".

Mattress

OptiCell air mattresses can be deposited at a recycling station and disposed of. For products made of both textile and combustible materials, please separate the components before disposal.

Textile components: To be disposed of as textile waste. Drop them off at a municipal textile collection facility or at recycling stations for textile recycling.

Combustible material: If the product contains foam or other combustible materials, please dispose of these as combustible waste. This must be disposed of through regular waste collection for incineration or energy recovery, as "Combustible waste". For more information please contact Järven Health Care.

Returns and claims

Claims must be made in writing to Järven Health Care. Product returns are to be done according to our instructions once a claim has been approved.

If the product is returned before the claim is approved, the case is considered closed and no compensation will be paid to the customer.

Transport damage

Transport damage must be noted on the waybill before signature to be valid. Please then contact customer service at Järven Health Care (+46 (0)660 22 28 50, healthcare@jarven.se) and provide relevant information. To process your claim more quickly, we kindly request that you photograph any transport damage as thoroughly as possible before contacting customer service.

Accessories



OPTIEX HYGIENE COVERS

Hygiene covers made of PU with integrated, watertight cable channel to reduce the risk of bacterial spread. The cover has drip-proof, waterproof zips on all four sides. All seams are welded.



TRANSPORT CASE

A practical case for use during transport and storage. The case is made of a durable material and is washable.

Related products

In addition to the product-specific accessories, we have a selection of products that can be combined with our OptiCell mattresses.



RESCUE MATTRESS

If the OptiCell mattress does not have the OptiTex cover with evacuation handle, we recommend the JÄRVEN RESCUE MATTRESS to facilitate patient evacuation in the event of danger (fire, gas leak, etc.)



ZUZZA PILLOW

A soft, comfortable and breathable pillow designed to provide excellent comfort and long service life. The entire pillow can be boiled to allow for effective cleaning.



RXP PILLOWCASE

A wipeable PU pillowcase.



FLAME-RETARDANT TEXTILES TCS

We have a selection of flame-retardant textiles made of Trevira, a material which comes with built-in fire protection. These textiles include blankets, pillowcases and sheets. Contact Järven Health Care for more information.

Associated products, positioning



FLEXIBLE HEEL PAD

Provides effective pressure relief for patients with pressure-sensitive areas from the lower leg to the foot/heel. The heel pad comes with LENTEX laminate for additional hygiene control.



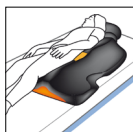
THE SCHAMPI SUPPORT PILLOW

Offers a safe sitting position for patients who are unable to sit up without support. Järven Health Care, in collaboration with healthcare professionals, has developed the Schampi pillow, which is easy to place behind the user's back.



JÄRVEN WEDGE PILLOW

The Järven wedge pillow helps to position the user and relieve pressure to reduce the risk of pressure sores. It can be used as a lateral support or to raise the head or foot end.



30° POSITIONING WEDGE – SYST'AM P910L

A sturdy aid for healthcare staff performing frequent patient repositioning. The wedge helps to prevent pressure sores and other complications that often occur with prolonged bed rest.



HEEL SUPPORT BOOT – SYST'AM P903T

A comfortable heel support specifically designed for patients with normal or slightly limited mobility. It reduces pressure on the most vulnerable areas of the foot and reduces the risk of pressure sores.

Contact Järven Health Care for information on our full range of positioning aids and to place an order.

Summary, warning boxes



Please read and understood these instructions before using any of the mattress systems covered here. This also applies to care in the home.



If the mattress is used with other medical devices, the user is liable for ensuring safety and compliance requirements are satisfied.



Beds in private homes often have spring mattresses. These must not be used as there is a risk that the air mattress and user could slide off the bed.



The four handles at the bottom are designed to move the mattress without a user. These must not be used with a user on the mattress.



In accordance with NPUAP/EPUAP directives, the condition of the user must be checked regularly.



The alarm indicates that the system is not working properly. Start troubleshooting to find the cause immediately.



OptiCell SMART user instructions. All trademarks are the property of their respective owners.
OptiCell AB reserves the right to update these user instructions if necessary
and / or to correct any typographical or factual errors.

**Additional copies can be ordered from Järven Health Care.
Copying for internal use is permitted**

 ***Järven Health Care***



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