

VENDLET®

VENDLET V5 AND VENDLET V5+



MANUAL

Declaration of Conformity

As manufacturer of the products listed below VENDLET ApS, Egelund 33, DK-6200 Aabenraa, hereby declares that the products comply with the EU Directives 93/42/EEC on Medical Devices:

Product:	VENDLET V5 and VENDLET V5+
Designation:	Electronic device for handling/turning patients in bed
Classification, rule:	Class I according to Annex IX, rule 1 and 12
The product is tested according to following standards:	IEC 60601-2-52: 2009 Medical electrical equipment - Parts 2-52: Particular requirements for basic safety and essential performance of medical beds

Vendlet ApS maintains the technical documentation according to Annex VII in the EU Directives 93/42/EEC on Medical Devices.

This declaration of conformity is valid from the date of signature.

Aabenraa, 14 june 2012



Peter Maindal
Director

Congratulations on your new VENDLET V5 or VENDLET V5+.

The VENDLET V5 and VENDLET V5+ are used for handling bedridden patients, for example:

- turning
- moving from one side of the bed to the other
- repositioning the patient up in the bed
- mobilizing the patient in and out of the bed
- transferring the patient from one bed to another

The VENDLET V5 has a load capacity of 200 kg.

The VENDLET V5+ has a load capacity of 400 kg and is designed for bariatric patients; otherwise, the VENDLET 5+ has exactly the same functionalities and use as the VENDLET V5.

The instructions in this manual must be followed. VENDLET ApS shall not be liable should the VENDLET V5 or VENDLET V5+ be used, modified, or assembled in a way that is not described in this manual.

This manual is divided into three parts:

Part 1 contains general information that is useful to everyone responsible for the purchasing, examination, use, assembly, and maintenance of the VENDLET V5 and VENDLET V5+.

Part 2 is a user manual containing information about the operation and daily maintenance of the VENDLET V5 and VENDLET V5+.

Part 3 is a technical manual containing information about the assembly, maintenance, and service of the VENDLET V5 and VENDLET V5+.

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PART 1 - General information

INTENDED USE

The VENDLET V5 and VENDLET V5+ may be used for moving patients to a lateral, prone, or supine position, from one side of the bed to the other, or, reposition them further up in bed. The VENDLET may also be used in connection with mobilisation in and out of bed and when transferring patients from one bed to another.

The VENDLET V5 and VENDLET V5+ protect the caregiver from physical strain and heavy lifting in connection with the handling of immobile patients. Patients are turned/handled by pressing a hand control whereby the caregiver may support a patient and ensure their correct and comfortable positioning. This provides room for increased awareness in the care, which boosts employee job satisfaction and patient well-being.

To the patient, the turning process becomes uniform and steady as the sheet supports the body over its full length.

The target group is patients who are being cared for dressed, washed etc. in bed. This will often be patients who are lifted in and out of bed or patients who are mobilised using a standing aid. Hence, the user will typically be patients with few physical and/or cognitive resources and palliative patients.

The VENDLET is also suitable for patients at risk of developing pressure ulcers in that the uniform and steady transfer in the sheet minimises friction and the associated shear that can damage the tissue and cause pressure ulcers. Furthermore, the VENDLETs often seem to have a positive effect on patients suffering from spatial awareness.

The VENDLET is intended for patients weighing at least 40 kg. The VENDLET V5 has a load capacity of max. 200 kg, whereas the VENDLET V5+ has a load capacity of max. 400 kg. Consequently, the target group of the VENDLET V5+ is bariatric patients.

For safety reasons, the patients should not operate the VENDLET.

Prior to the first use of the VENDLET V5 or VENDLET V5+, it is important to assess whether the VENDLET is suitable for the patient in question. It may be necessary to take special precautions, for example if a patient is very restless in bed.

PART 1 - General information

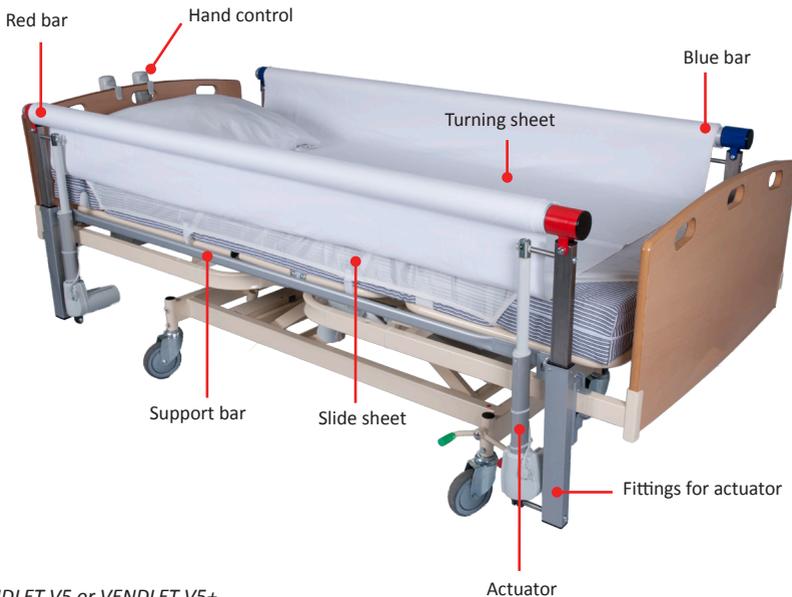
PRODUCT DESCRIPTION

The VENDLET V5 and VENDLET V5+ consist of two bars fitted with motors. The bed is fitted with a motorised bar on both sides; the bar on the left side of the patient has a blue colour marking and the bar on the right side of the patient has a red colour marking. Each motorised bar is fitted with a long velcro strip which makes it possible to attach a long turning sheet between the two bars. The turning sheet is wrapped around the two bars, making it possible to move it from side to side.

A slide sheet is inserted under the turning sheet in order to reduce the friction of the turning sheet against the mattress.

The bars are fitted with an actuator at each end in order to raise and lower the bars.

To allow the individual adjustment of each VENDLET V5 or VENDLET V5+ to any bed and mattress, the actuators are mounted on height-adjustable brackets.



VENDLET V5 or VENDLET V5+

PART 1 - General information

Furthermore, the VENDLET V5 and VENDLET V5+ consist of a control unit and a hand control. The control unit is placed underneath the bed.

The VENDLET V5 and VENDLET V5+ may be used as side rails in which case each bar must be fitted with two plastic sides before the patient is left in the bed.

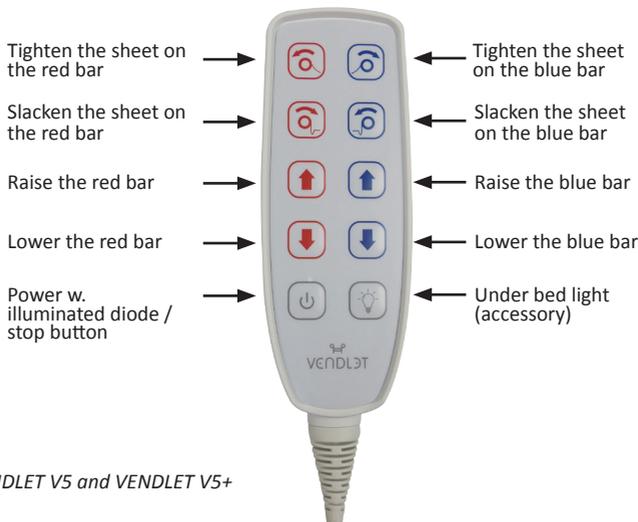
How the VENDLET V5 and VENDLET V5+ work

The VENDLET V5 and VENDLET V5+ are switched on by double-clicking the  on the hand control. The VENDLET V5 and VENDLET V5+ produce an acoustic signal, a “beep”, upon activation and the green diode over the power symbol turns on.

When a VENDLET V5 or VENDLET V5+ has been inactive for 90 seconds, the system produces another acoustic signal, a “beep-beep” sound, the diode turns off, and then the VENDLET system is off again.

When the VENDLET V5 or VENDLET V5+ has been turned on, the bars may be turned in both directions or raised or lowered. The colour coding on the bars relates to the colours on the hand control buttons.

Press and hold the individual buttons long enough to obtain the desired operation; the motors will stop when the button is released. Likewise, you may stop an activated function by clicking the .



Hand control VENDLET V5 and VENDLET V5+

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When the bar is up on the side where the turning sheet is being tightened, the patient will be turned. If, on the other hand, the bar is down on the side where the turning sheet is being tightened, the patient will be moved towards the edge of the bed. These fundamental principles provide you with a number of ways to move and/or transfer patients. See the “How to Use the VENDLET V5 or VENDLET V5+” section in Part 2 – User Manual for further details.

The VENDLET V5 and VENDLET V5+ can be operated by only one carer.



For safety reasons, patients should not operate the VENDLETs. Consequently, the hand control should be placed on the outer side of the headboard or outside the bed before the patient is left alone.



Lowering the bed to a very low position may leave the actuator bracket very close to the floor. Consequently, you should not place your feet under the actuator fittings.



Accessories

Height extensions, spacers and brackets:

If particularly thick mattresses are used, it may be necessary to use height extensions, see page 37. Likewise, it may be necessary to use spacers if the distance between the VENDLET system and the mattress is insufficient, see page 34. Spacers and height extensions are available as accessories.

If you use a Volker Bed you need special brackets, see page 41.

Use special brackets to restrict the height adjustment of the bed, see page 41.

Wider sheets and side rail cover:

Wider turning sheets and slide sheets are also available if the VENDLET V5 or VENDLET V5+ is to be used on wider beds, see page 24. If you need it you can purchase covers for the side rails, see page 22.

Battery backup and under bed light:

Additionally, a battery backup is available to operate the VENDLET V5 or VENDLET V5+ without a connection to the supply network. We also provide an under bed light that may be activated via the VENDLET hand control, see page 41.

PART 1 - General information

BED AND MATTRESS COMPATIBILITY

VENDLET V5 and VENDLET V5+ are intended for mounting on a wide range of hospital and care beds and with a wide range of mattresses.

The following bed and mattress requirements must be met.

Bed requirements

1. The bed must meet the established EN 1970, EN 60601-2-38, or EN 60601-2-52 standards.
2. The maximum occupant weight and maximum load requirements of the bed manufacturer must not be exceeded following the installation of the VENDLET V5 or VENDLET V5+ system.
3. The bed must have a square steel frame (dimensions H 45-50 mm, W min. 20 mm, L min. 195 cm. without protrusions). The bed width is not crucial as extra wide turning sheets and slide sheets are available.

Mattress requirements

1. The mattress(es) must meet the requirements of the bed manufacturer and be suitable for the bed.
2. The maximum occupant weight requirements of the mattress manufacturer must not be exceeded.
3. Following the installation of the VENDLET V5 or VENDLET V5+, the distance between the mattress sides and the support bar must be minimum 2.5 cm and maximum 4 cm.
4. If the mattress is soft and easily compressible, it must be ensured that there is no crush hazard due to extra compression at the edge of the mattress.
5. When alternating air mattresses are used, it should be possible to inflate the mattress to a firm state before the VENDLET V5 or VENDLET V5+ is operated. Soft mattresses will increase the friction against the mattress and create an uneven base for the patient which will be uncomfortable for the patient when the VENDLET system is operated.
6. If the patient changes mattresses, the VENDLET installation must be evaluated. A new mattress might change the conditions and necessitate the reinstallation of the VENDLET system.

PART 1 - General information

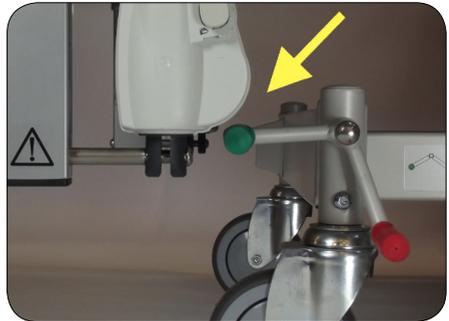
WARRANTY AND SERVICE LIFE

Vendlet ApS provides a 1-year factory warranty on all electric parts. Opening the control unit, actuators, or hand control will void the warranty.



Certain types of care and hospital beds have a particularly long bed frame, which means that the actuator may collide with the bed brake, when the bed is lowered. Further, the mattress frame may in some cases collide with the actuator, if the bed head or foot is lowered considerably.

Damages to the actuator, due to collision with bed parts, are not covered by the warranty.



Vendlet ApS provides a 3-year warranty on all mechanical parts (except sheets and side rails).

The normal VENDLET V5 and VENDLET V5+ service life is 10 years. The service life may be significantly extended if the product is used and handled with care and maintained in accordance with the guidelines in this manual.

IN THE EVENT OF AN INCIDENT

In case of an adverse event or a near-accident involving the VENDLET V5 or VENDLET V5+ system, the accident must be reported to the competent authority in the country in which the accident happened and to the Danish Health and Medicines Authority.

Likewise, we kindly request that you also inform Vendlet ApS on tel. +45 9631 0050 or vendlet@vendlet.dk.

PART 1 - General information

SYMBOLS

	Warning triangle indicates when special attention is necessary
	CE marking: The product complies with the Medical Device Directive (93/42/EEC)
	C-Tick marking: Certification trademark - Australia / New Zealand
	Recognised Component Mark for Canada and the United States
	China RoHS
P.O.	Serial no.
	According to EN 60601-1 the product is Type B equipment
	For indoor use
	Safety isolating transformer
	Product with a thermofuse
	User weight max.
	Electronics scrap. When disposing of the products, sub-components should be recycled
	Operating instructions
	Power / stop button
	Tighten the sheet on the red or blue bar
	Slacken the sheet on the red or blue bar
	Raise the red or blue bar
	Lower the red or blue bar

OPERATION

Handling patients with a VENDLET V5 or VENDLET V5+ system enables care takers to work on a one-to-one basis: one hand is used to operate the hand control and the other hand is free to guide the arms and legs of the patient. In order to improve the safety and well-being of the patient, we recommend that you place the hand holding the hand control on the shoulder of the patient or similar.

You should always use the resources of the patient. For example, if the patient can move his/her arm to the side, he or she should do so. You should also consider letting the patient operate the hand control and thereby involve him/her in the process if this is feasible.

How to use VENDLET V5 and VENDLET V5+

Turning

The VENDLET V5 and VENDLET V5+ may be used to turning patients. Follow this procedure to move a patient from a supine position to lying on his/her right side:

1. Double-click the  button to activate the VENDLET V5 or VENDLET V5+.
2. Press the  button to raise the blue bar.
3. Press the  button to tighten the turning sheet on the blue bar.
4. Place the left arm of the patient on his/her stomach or chest the moment before he/she starts turning.
5. Immediately after this, guide the right arm of the patient to the side.
6. Then shift the left leg in parallel above the right leg.
7. The patient now lies on his/her right side.

The red bar does not necessarily have to be raised. But if this makes the patient or the care giver feel more safe, the red bar could be raised during the process.

Moving patients with the VENDLET V5 or VENDLET V5+ is ideally suited for dressing and access to care tasks and hygiene, applying a sling, and repositioning.

PART 2 - User manual



Guide the right arm of the patient to the side



Shift the left leg of the patient in parallel above the right leg

Watch instruction videos on our webpage vendlet.com or scan the QR-code.



Moving from one side of the bed to the other

The VENDLET V5 and VENDLET V5+ may also be used to move patients to the side of the bed.

1. Double-click the  button to activate the VENDLET V5 or VENDLET V5+.
2. Press the  and  buttons to lower the bars if they have been raised.
3. Use the bar on the side to which the patient should be moved and tighten the turning sheet.

In many situations, this will give the care giver a better work posture, for example in connection with examinations, training, care tasks, dressing, etc.



Sound work posture in connection with examination

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Repositioning the patient up in the bed

It is a well-known problem that patients often slide down to the foot of the bed, for example when the back support has been raised – even if the kneebreak on the bed was activated before the back support.

Typically, when a patient slides towards the foot of the bed, the turning sheet follows the body of the patient. In such situations, you may use the VENDLET to move the patient up in the bed again.

1. Ensure that bed surface is horizontal.
2. Double-click the  button to activate the VENDLET V5 or VENDLET V5+.
3. Press the  and  buttons to lower the bars if they are raised.
4. Press the  and  buttons to slacken the turning sheet.
5. Stand next to the headboard and press the  or  button to pull the patient from side to side while you gently guide the turning sheet towards the upper end of the bar.
6. Repeat the procedure on the opposite side and so on until the sheet has been completely repositioned and the patient is moved up in the bed again.

Watch instruction videos on our webpage vendlet.com or scan the QR-code.



Gently guide the slack turning sheet towards the upper end of the bar



The turning sheet is now almost back in place

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Applying a sling

It is easy to apply a sling on the patient when VENDLET is used.

1. Double-click the  button to activate VENDLET V5 or VENDLET V5+.
2. Use the turning function of the VENDLET system to move the patient onto his/her side.
3. Place the sling along the back of the patient and make sure that the sling is centred and correctly placed in accordance with the instructions of the sling manufacturer.
4. Use the VENDLET turning function to move the patient onto his/her back again.
5. Free the straps on the opposite side.
6. Place all straps in such a way that they are ready to be placed on the lifting beam of the hoist.

Watch instruction videos on our webpage vendlet.com or scan the QR-code.



Place the sling along the back of the patient



Pull the straps out on the opposite side



All straps are in place, and the patient is ready for transferring

PART 2 - User manual

Mobilizing out of bed

The VENDLET V5 and VENDLET V5+ may also be used for moving patients in and out of bed – preferably in combination with a turntable.

1. Double-click the  button to activate the VENDLET V5 or VENDLET V5+.
2. Use the VENDLET turning function to place the turntable under the patient.
3. Press the  and  buttons to lower the bars if they are raised.
4. Press the  and  buttons to slacken the turning sheet.
5. Raise the head-section of the bed to make the patient sit up.
6. Turn the patient on the turntable; stop when his/her feet protrude over the side of the bed.
7. Lower the head-section of the bed while supporting the patient.
8. Press the  or  button to move the patient to the edge of the bed.
9. Lower the bed until the feet of the patient reach the floor.
10. Press the  or  button to move the patient closer to the edge of the bed and raise the bed at the same time. This helps the patient to stand up.

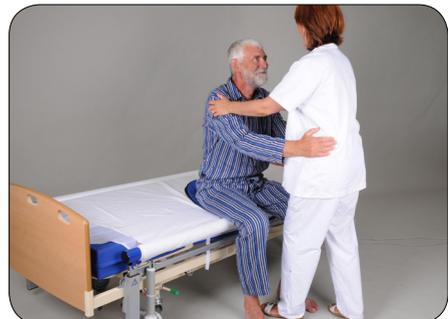
Watch instruction videos on our webpage vendlet.com or scan the QR-code.



Place the turntable under the patient



Raise the back of the bed to move the patient to a sitting position.



Raise the bed and help the patient exit the bed

PART 2 - User manual

Transferring from one bed to another

When the patient lies in a VENDLET V5 or VENDLET V5+, the VENDLET - in combination with a slide board and a slide sheet - may be used to transferring the patient onto another bed.

1. First use VENDLET's turning function to place the sliding board underneath the patient. Insert the sliding board from the side that is turned towards the new bed.
2. Press the  or  button to lower the bar facing the other bed.
3. Press the  or  button to raise the opposite bar.
4. Place a slide sheet on the other bed.
5. Place the other bed right next to the bed with the VENDLET and lower or raise the bed to a slightly lower position relative to the bed with the VENDLET.
6. Remember to lock the wheels on both beds.
7. Press the  or  button to pull in the turning sheet on the bar facing the other bed. Now, the VENDLET transfers the patient and the slide board to the other bed and the slide sheet.
8. Hold the slide board with your hands and pull to move the patient to the centre of the bed.
9. Remove the slide board and the slide sheet.

PART 2 - User manual

Using the VENDLET in combination with bed functionality

Neither the VENDLET V5 nor the VENDLET V5+ interferes with the functionality of the bed. Slacken the turning sheet before raising the back, thigh, and/or foot part of the bed. If the VENDLET V5 or VENDLET V5+ is being used as side rails, you must remove the plastic sides before raising the back, thigh and/or foot part of the bed.



Under normal circumstances, the bed surface must be level before you use the VENDLET V5 or VENDLET V5+. In some situations, however, it may be advantageous to use the back or foot part of the bed when moving or turning patients. For example, if the patient has wide hips and frail shoulders, he/she will rest more comfortably on the bed if the head and foot parts are raised a little before the process.

Stop button

The power button  also functions as a stop button.



If the hand control button controlling the tightening of the sheet fails, the operation can be stopped by pressing the  button.

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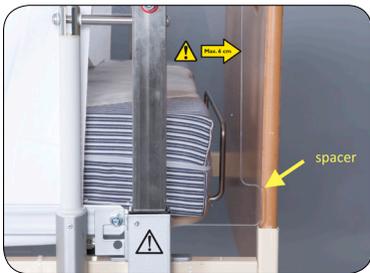
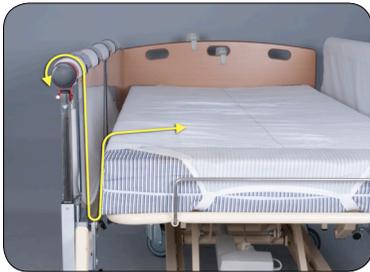
Side rails

Using the VENDLET system as side rails

If side rails are required for a given patient, you may use the VENDLET V5 or VENDLET V5+ system for this purpose as the side rail properties of both systems have been tested and approved.

When the VENDLET is being used as side rails, the bars must be raised to secure a distance between the surface of the mattress and the upper edge of the bars of min. 22 cm. Install the plastic sides before leaving the patient unattended in bed. Use two plastic sides on each bar. If the head end or foot end of the bed will be raised while the patient occupies the bed, the plastic sides at that end must be removed.

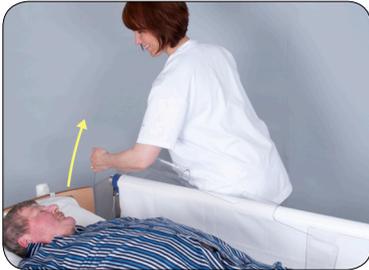
How to attach the plastic sides:



1. Adjust the height of the bed to ensure a correct work posture.
2. Press the  and  buttons to slacken the turning sheet enough to insert the plastic sides between the mattress and the support bar as shown in the figure.
3. When the plastic sides are inserted between the mattress and the support bar, the spacer at the bottom of the plastic side must press against the headboard and footboard. This position ensures that the fingers of the patient will not get caught. 
4. The plastic sides are attached by pressing them down over the bars; the easiest way is to do it one bracket at a time. Start with the bracket closest to the headboard or footboard and press it down over the bar.
5. Always remember to attach the foot end plastic side first, followed by the head end plastic side, as this prevents the patient from getting his/her hand or similar caught in the overlap between the two plastic sides. 

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How to remove the plastic sides:



1. Adjust the height of the bed to ensure correct work posture when the plastic sides are removed from the bars.
2. Remove the plastic sides by grabbing them by the side and pulling upwards, slightly slanted.
3. The plastic sides may break if they get caught. Consequently, plastic sides not in use should always hang on the support bar under the bars.

If the plastic sides are not used when the bars are raised, there is a risk that:

- The gap between the headboard/footboard and the VENDLET will exceed 6 cm which could cause the patient to get pinned between the parts.
- The distance between the bed frame and the lower edge of the bar will exceed 12 cm. This could cause the patient to fall through this opening, head or feet first, with a risk of getting pinned between the parts.



If side rail support bars have not been mounted when the plastic sides are used, there is a risk that:

- The plastic sides will be pressed out, and the sheet will be rolled out which could cause the patient to slide down onto the floor in the sheet.



Vendlet ApS shall not be liable if the plastic sides and support bars are not used on beds with raised bars where patients are left unattended.

When the VENDLET system is not used as side rails

If the VENDLET system is not used as side rails, the bars must be lowered when a patient is left unattended in the bed.



Pressure-relieving mattresses

The VENDLET V5 and VENDLET V5+ systems do not reduce the effect of either pressure-relieving mattresses or alternating air mattresses. We have performed pressure measurements which unambiguously show that the VENDLET systems do not have a negative impact on the pressure-relieving properties of the mattresses.

To prevent interference with the function of alternating air mattresses, the turning sheet must be sufficiently slackened before a patient is left unattended in the bed. At the same time, the velcro band on the slide sheet must not be fastened too tightly around the steel frame under the mattress.

If the alternating air mattress is very thick (i.e. approx. 22 cm or more), the VENDLET V5 / VENDLET V5+ must be installed with height extensions.

We recommend that alternating air mattresses are firmly inflated before patient handling as this brings higher comfort to the patient during the process.

Incontinence

VENDLET V5 and VENDLET V5+ can also be used for patients using incontinence sheets. The incontinence sheet should have a minimum width of 125 cm so that it can follow the patient's movements during turning. You should not use two small incontinence sheets as the patient in this case will lie on a double edge, which increases the risk of developing pressure ulcers.



The incontinence sheet must not be wrapped around the bars, but instead must hang loosely out over the bars.

Urine bag and drainage tube

If the patient has a catheter or a drainage tube, it may be necessary to adjust the tubes, etc. individually.

Placing the urine bag or drainage tube at the foot of the bed will often be an optimal solution. Should this not be possible, however, you could use long tubes with a view to hanging the urine bag or drainage bag on the outer surface of the VENDLET system. In such cases, the bag should be placed on the bed frame by the footboard and the tube routed between the footboard and the VENDLET bracket. Be careful to avoid squeezing the tube.

ATTACHING THE SHEETS

Place a slide sheet directly on top of the mattress, followed by the turning sheet which is then attached to the two bars. Slide sheets and turning sheets are available in standard bed sizes and with increased width which makes the VENDLET V5 and VENDLET V5+ systems suitable for wider beds as well.

Turning sheet width	Slide sheet width	Fits mattress widths
350 cm (standard)	95 cm (standard)	80-90 cm (standard)
400 cm	115 cm	95-110 cm
450 cm	135 cm	115-130 cm

You can also purchase disposable turnings sheets and slide sheets. The disposable sheets are only available in one size.



Slide sheet

1. Fold the slide sheet corner elastic straps around the mattress.
2. Check that the surface is smooth and even without creases and folds. Make sure that slippery side is facing upwards.
3. Fasten the velcro tapes around the mattress frame. It is important that the tapes are fastened around the frame under the mattress and not around the bed frame as this will prevent the back, thigh, and foot parts of the bed from being raised. The tapes are long enough for thick mattresses.



The slide sheet is subject to extensive wear and must be checked regularly. The friction of the turning sheet against the mattress will increase and the comfort of the patient will be reduced during moving and other forms of handling if the bed is not fitted with a slide sheet or the slide sheet has been damaged.

When an alternating air mattress is fitted with a slide sheet, it is important that the velcro tapes are not fastened around the frame under the mattress too tightly as this could disrupt the function of the alternating air mattress. Consequently, the mattress should be fully inflated during fitting.

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Turning sheet

Attaching the turning sheet before use



1. Place the turning sheet in the middle of the bed, velcro tape facing downward.
2. Press the turning sheet onto the velcro strip on one of the bars; begin at the head of the bed and work your way down to the foot of the bed.
3. The turning sheet must always be placed **OVER** the bars to prevent the fingers, hair ect. of the patient from getting caught under the sheet. The pulling power will be reduced and the motors will switch off when the turning sheet is pulled in by the bar if the sheet is placed under the bars. 
4. Press the  or  button on the hand control and allow approx. two-thirds of the sheet to be pulled in by the bar.
5. Press the turning sheet onto the velcro strip on the opposite bar.
6. Use this bar to pull in the turning sheet by pressing the  or  button until the sheet covers the mattress evenly with the red line at the centre of the mattress.

The red line should be at the centre of the mattress to the extent possible as this will not only ensure as much manoeuvrability as possible when the VENDLET is used but also facilitate the attachment of side rails on the bars if these are to be used.

What should I do if the turning sheet is rolled askew on the bars?

Occasionally, the turning sheet will roll askew on the bars. As such, this is insignificant and the VENDLET V5 / VENDLET V5+ system will still be operable.

This could result in turning sheet creases under the patient, however, this is not desirable. Hence, we recommend that you aim to smooth the turning sheet if the sheet is askew on the bars by more than a hand's width.

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In this situation, you will have to slacken the sheet that has been pulled askew and pull it in again while guiding / smoothing it with your hand.

Changing the turning sheet on an occupied bed

1. Position the patient on his/her side and then move him/her to the centre of the bed.
2. Remove the old turning sheet from the bar facing the back of the patient and fold the sheet in layers with a width of approx. 15 cm. Place it behind the back of the patient.
3. Attach the new turning sheet to the bar and press  or  button to roll the new turning sheet onto the bar. Allow approx. half of the new turning sheet to roll onto the bar and stop when the red line on the sheet is at the centre of the mattress. Fold the remaining part of the new turning sheet in layers of 15 cm and place it under the turning sheet being replaced.
4. Move the patient to a supine position on top of the folded new and old turning sheets, and then on to the opposite side by activating the bar with the old turning sheet.
5. Remove the old turning sheet and attach the replacement sheet to the bar.



Fold the old turning sheet behind the back of the patient



Place the new turning sheet under the turning sheet being replaced



Remove the old turning sheet



Attach the new turning sheet to the opposite bar

DAILY MAINTENANCE

The VENDLET V5 / VENDLET V5+ system is reusable medical equipment intended for long-term use, requiring safe procedures in connection with cleaning and maintenance as well.

Daily inspections

The VENDLET V5 / VENDLET V5+ system must be checked daily in accordance with the checklist below. If a "Yes" checkbox is marked, this indicates a desired result. If a "No" checkbox is marked, this indicates a risk in which case the VENDLET system must not be used.

In case of malfunctions, faults, missing parts, or improper fitting, contact a qualified technician with a view to an inspection.

	Checklist for daily inspections	In case of No, do not use the VENDLET
1	Is the VENDLET free from visible damage and crooked brackets and fittings?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	If the VENDLET is used as side rails: are all 4 side rails in place and in use?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the condition of the turning sheet sound and does the sheet run over the bars	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	Is the slide sheet fastened around the frame under the mattress and in good condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	Double-click the  on the hand control. Does the green diode on the hand control illuminate? Does everything work when you press the matching hand control buttons?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Has it been verified that the condition of the patient and the mattress/bed/patient combination have not changed relative to when the VENDLET was mounted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Are the care givers familiar with the instructions of this manual and have they received training in the use of the VENDLET?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8	Is the quick guide located at an easily accessible spot near the bed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9	Has it been verified that the date of the next annual inspection has not come and gone?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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Cleaning and washing instructions

Cleaning of electric and mechanical parts

Clean the electrical and mechanical parts with a damp cloth with water or a mild soap solution and then wipe the parts with a dry cloth. You could also use a dry cloth with ethanol.

Never hose down or steam clean a VENDLET V5 or VENDLET V5+ system.

Washing instructions, slide sheet



Recommended washing temperature: 60°C



Do not tumble-dry



Do not iron

Washing instructions, turning sheet



Recommended washing temperature: 95°C
Max. 4% shrinking



Always tumble-dry at normal temperatures to ensure the continued function of the velcro band. Stretch 2-3 times during the drying process to prevent the turning sheet from losing its shape.



Iron or mangle at low/medium temperatures - approx. 150°C - to ensure the continued function of the velcro band.

Troubleshooting

Problem	Checklist
The VENDLET does not run	Is the control unit connected to 230V outlet and is the power on? Is the green diode on the control unit illuminated?
	Are all plugs properly connected on the control unit?
	Is the green diode on the hand control illuminated? Double-click the  button to activate the system.
One of the bars does not turn	Are all plugs properly connected on the control unit?
One or both bars do(es) not turn when the patient is lying on the turning sheet	Is the turning sheet running under the bars? The sheet must be over the bars.
	Are all plugs properly connected on the control unit?
One of the bars will only turn in one direction	Are all plugs properly connected on the control unit?
The symbols on the hand control do not match when the VENDLET is activated	Are all plugs properly connected on the control unit?
The actuators cannot be raised/ lowered or do not go together	Are all plugs properly connected on the control unit?

1. If nothing else helps, try resetting the system by simultaneously pressing and holding the  and  buttons until you hear 10 beeps. Try using the system again.
2. Contact a qualified technician or your distributor if the above does not solve the problem.

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UNPACKING

The VENDLET V5 / VENDLET V5+ system is delivered in 2 boxes.

The VENDLET systems are partially assembled on delivery, ready for mounting on the bed. Remove any loose packaging from the boxes. Check the packaging and contents for signs of damage and contact the distributor in case of obvious damage.

Store the VENDLET system in the original packaging until mounting. Always store the VENDLET system in a dry place, cf. the “Environmental Considerations” section.

Parts list for VENDLET V5 / VENDLET V5+

1	unit	Bar, red side
1	unit	Bar, blue side
2	unit	Actuator fittings, blue side
2	unit	Actuator fittings, red side
4	set	Mounting bracket with mounting plate
2	unit	Support bars
1	unit	Suspension plate for the control unit
1	unit	Control unit with transformer
1	unit	Power cable - 220 V
1	unit	Hand control
1	unit	Slide sheet
1	unit	Turning sheet
4	unit	Plastic side rails
1	bag	Mounting bolts ect.
1	unit	Quick guide
1	unit	VENDLET V5 / V5+ manual

MOUNTING

The VENDLET V5 / VENDLET V5+ system should always be installed by a qualified technician. The VENDLET systems are only intended for mounting on care and hospital beds complying with the EN1970, EN60601-2-38, or EN60601-2-52 standard.

The bed must be equipped with a rectangular steel frame with the following dimensions: Height 45 – 50 mm, width min. 20 mm, and length min. 1950 mm. Although the VENDLET systems are suitable for mounting on most beds with the above dimensions, the VENDLET V5 / VENDLET V5+ may not be suitable for mounting on some beds.

Before using a VENDLET V5 / VENDLET V5+ system with a patient, it is important to assess whether the system is suitable for the given patient and whether the situation at hand requires special considerations. For example, it could be necessary to take special precautions if the patient is restless in bed.

Likewise, it must be ensured that the care givers have been trained in the proper use of the VENDLET V5.

Preparations

Tools

You need an Allen key 5 and a 13 mm single-end wrench to mount the VENDLET V5. Use an Allen key 4 if spacers are used.

Overview of bolts, washers and nuts

The following bolts, washers and nuts are included in the delivery:

Button head bolts:

12 8 x 20 mm button head bolts (for support bars and mounting brackets)

4 8 x 35 mm button head bolts (for bars)

8 M8 lock nuts

4 M8 washers

NOTE:

Replace the 8 x 20 mm button head bolts by 8 x 30 mm bolts if 1 spacer is used.

Replace the 8 x 20 mm button head bolts by 8 x 40 mm bolts if 2 spacers are used.

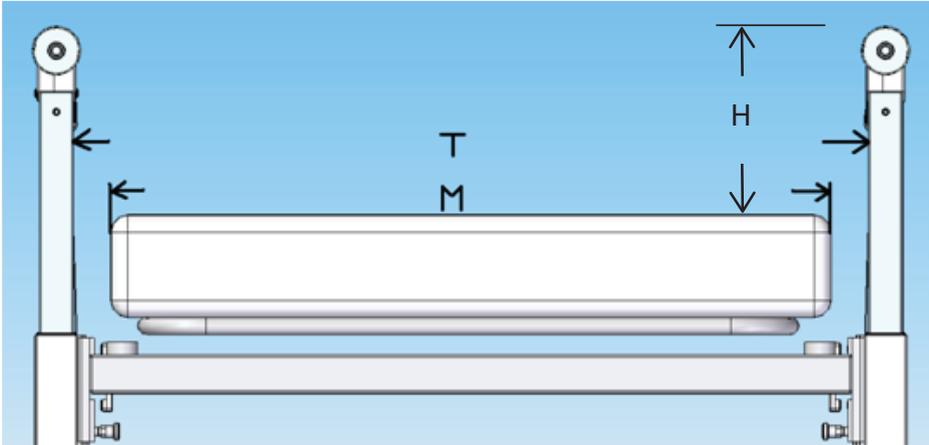
Replace the 8 x 20 mm button head bolts by 8 x 50 mm bolts if 3 spacers are used.

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Dimensional requirements, side rails

If the bed is equipped with side rails, these must be removed before mounting the VENDLET V5. The VENDLET V5 system has been tested and approved to function as side rails in accordance with the requirements of EN60601-2-52.

Mounting the VENDLET V5, you should take the following dimensions into account:



A distance of 2.5 – 4 cm is required between the mattress and the VENDLET on both sides of the mattress, meaning that the difference between the T and M measures must be between 5 cm and 8 cm. Likewise, it is important that the mattress guides are suitable for the mattress and will hold the mattress in place.

In order to meet the side rail requirements, the upper edge of the bars must be mounted 22 cm above the mattress surface, meaning that the H measure must be between 22 cm and 23 cm.

Maximum loads

The max. VENDLET V5 user weight is 200 kg.

The max. VENDLET V5+ user weight is 400 kg.

Since the VENDLET systems are always mounted on beds, it is important to consider the whole solution.



You should always check the maximum load of the bed and ensure that the combined weight of the patient, the VENDLET V5 / V5+ system and any other equipment on the bed never exceeds this limit.

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Mechanical parts

Attaching mounting brackets

Fit the bracket closest to the headboard first. Remember to allow for the distance between the VENDLET V5 / VENDLET V5+ system and the mattress; use spacers if the distance is insufficient (< 2.5 cm) – see section "Adjustment of width of mounting brackets".

1. Place the mounting bracket contact face on top of the bed frame as close to the headboard as possible. The mounting bracket must be perpendicular to the bed frame.
2. Insert the 8 x 20 mm (or longer if spacers are used or the bed frame is wider than 30 mm) button head screws in the holes and hold the mounting plate against the inner side of the bed frame. Attach it.
3. Place the support bar on the bed frame against the mounting bracket.
4. Place the foot end mounting bracket against the support bar. Mount the foot end bracket.
5. Repeat the above procedure on the other side of the bed.



The mounting bracket contact face



Insert the button head screws in the holes



Place the support bar on the bed frame against the bracket

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Adjustment of width of mounting brackets

Use up to 3 10 mm spacers if necessary to pull the mounting bracket away from the bed frame, cf. the “Dimensional side rail requirement” description on page 32.

Mount the spacers on the mounting bracket with the provided button head screws before attaching the mounting bracket to the bed.



One spacer



Two spacers and one top plate



Three spacers and one top plate

Spacers are delivered in sets of four for which you need one bolt set.
The bolt set contains the following items:

4 6 x 6	mm button head	For 1 spacer
4 6 x 16	mm button head	For 2 spacers
4 6 x 26	mm button head	For 3 spacers

When using spacers the button head bolts for support bars and mounting brackets must be replaced as described on page 31.

You will need to use top plates if you are using 2 or 3 spacers.

Insert the two pins of the top plate in the holes on the top of the second spacer, with the biggest cutout facing away from the mounting bracket.

Push the spacers towards the mounting bracket contact face and attach them to the mounting bracket using the button head screws.

It is now possible to mount the mounting bracket on the bed frame.

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Mounting the actuator fittings with actuator

The four actuator fitting cables are colour-coded.

Actuator fittings with green actuator plug O rings are mounted to the right-hand side of the patient. Actuator fittings with yellow actuator plug O rings are mounted to the left-hand side of the patient.

1. The actuator fitting and actuator is inserted into the mounting bracket from the bottom. Push the red button and pull out the adjustment screw to guide the actuator fitting to the desired position.
2. Release the adjustment screw and allow it to fall into place to fix the actuator fitting in the desired position/ at the desired height. Apply pressure to the adjustment screw to ensure its full insertion. Apply pressure to the actuator fitting to check if it has locked in place. 
3. Use this procedure to attach all four actuator fittings

Mounting the support bars

Mount the support bar on each side between the two actuator fittings. You will need two 8 x 20 mm button head bolts and two self-locking M8 nuts with M8 washers for the task.

Attach the support bar to the top hole of the angle bracket on the actuator fitting.

The flat side of the support bar should be facing the mattress.



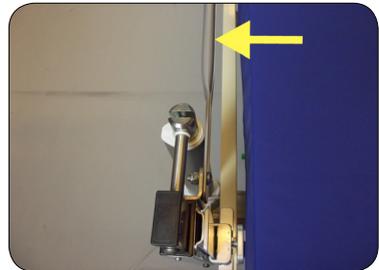
Insert the actuator fitting in the mounting bracket



Pull out the adjustment screw



Mounting the support bar



The flat side of the support bar should be facing the mattress

PART 3 - Technical manual

Mounting the bars

Use two 8 x 35 mm button head bolts.

The red bar must be placed to the right-hand side of the patient, corresponding to the actuator fitting with a green O ring on the actuator plug.

The blue bar must be placed to the left-hand side of the patient, corresponding to the actuator fitting with a yellow O ring on the actuator plug.

The bar end with the motor cable must be facing the headboard. Mount the bar on the actuator fittings and tighten the button head bolts manually.

It should be possible to move the motor bracket on the actuator fitting which is why the nut should be tightened to the point only when the bolt meshes with the actual lock component.



Blue bar to the left-hand side of the patient; red bar to the right-hand side of the patient



Red bar = green plug



Blue bar = yellow plug

Adjustment of the height of the actuator fittings

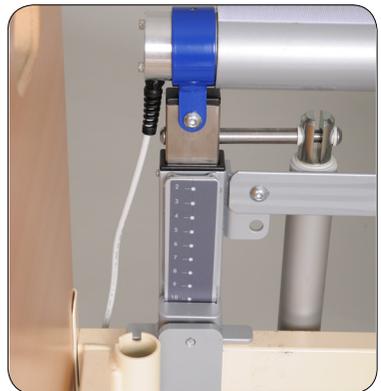
The bars must be mounted in such a way that their tops are 22 – 23 cm above the surface of the mattress. This is achieved by releasing the adjustment screw on the back of the mounting bracket and elevating the actuator fitting to the desired height.

The fitting has 13 adjustment holes, corresponding to a total adjustment range of 15.5 cm.

Please note that all 4 actuator fittings must be mounted at the same height.



Apply pressure to the adjustment screw to ensure its full insertion.



Adjustment holes specified on the back of the mounting bracket

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Height extension set:

A height extension set will be required when the height of the bars is insufficient, even if the actuator fittings are placed in the top most position.

A height extension set consists of the following items:

- 4 height extensions
 - 4 3-hole fittings
 - 4 8 x 35 mm button head bolts
 - 8 8 x 20 mm button head bolts
 - 12 8 mm self-locking nuts
 - 12 washers
1. Dismount the bars and the support bars.
 2. Mount a height extension on all four actuator fittings using the 8 x 35 mm button head bolts, self-locking nuts, and washers.
 3. Mount a 3-hole fitting on all four actuator fittings using two 8 x 20 mm button head bolts, self-locking nuts, and washers.
 4. Mount the support bar at the top of the 3-hole fitting.
 5. Mount the bars on the height extensions.
 6. Adjust the height of the actuator fittings to position the bar tops 22 – 23 cm above the surface of the mattress.



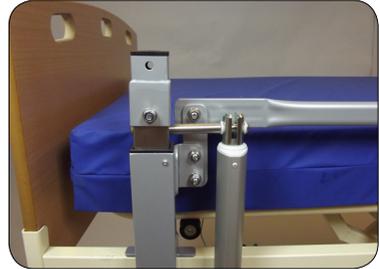
Height extensions set



Mount the height extension on the actuator fittings



Mount the 3-hole fittings on the actuator fittings



Mount the support bar at top of the 3-hole fitting



Mount the support bar on the height extension

PART 3 - Technical manual

Electrical parts

Mounting the control unit

The control unit is mounted under the bed, usually on the bed frame against the headboard but could also be placed in other locations with free space.

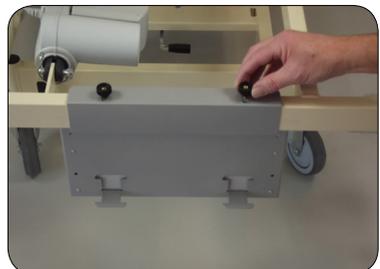
1. Mount the control unit on the suspension plate with 4 bolts. There are two different possible positions.
2. Raise the head end of the bed and choose an area under the bed for the control unit. The suspension plate is able to fit bed-frames that are between 1,7 and 4,1 cm wide.
3. Adjust the width of the suspension plate to suit the current bed frame. Tighten the suspension plate around the bed frame with the two fingerscrews.
4. The suspension plate will not fit all kind of beds. If it is not possible to mount the suspension plate any where the control unit must be attached with cable ties.



Suspension plate for the control unit



The control unit is mounted on the suspension plate. There are two possible positions.



Tighten the suspension plate around the bed frame with the two fingerscrews

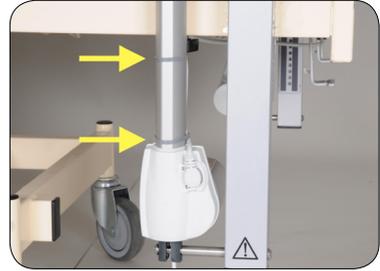
PART 3 - Technical manual

Routing actuator cables (including cable ties)

The actuator cables are routed along the inside of the bed frame to the control unit.

The VENDLET systems are delivered with eight grey cable ties - two for each actuator. Route the cable to the back of the actuator shaft and use two grey cable ties to attach it once the actuator leg has been adjusted to the right height.

Then attach the actuator cable to the bed frame using cable ties. It is important that the cables are routed tightly to ensure that they will rest firmly against the bed frame; use at least four cable ties on each side of the bed.



Cables attached using two grey cable ties



The actuator cable is fixed using cable ties

Connecting the hand control

Connect the hand control to the control unit in the plug by this symbol  on the control unit.

The hand control should always hang on the outside of the bed such as on the outside of the headboard.

The hand control should be connected before the actuator and power cables are connected. In case you need to replace a faulty hand control, begin by unplugging the power cable, replace the hand control and then reconnect the power cable to the mains outlet.



The hand control is connected to the control unit

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Connection of cables to control unit

The next step is to connect the actuator cables.

The red side actuator cables have plugs with green O rings; these are connected to the green control unit colour codes.

The blue side actuator cables have plugs with yellow O rings; these are connected to the yellow control unit colour codes.

The plugs on the blue bar motor cables are fitted with a blue O ring; these are connected to the blue control unit colour code.

The plugs on the red bar motor cables are fitted with a red O ring; these are connected to the red control unit colour code.



Proper plug location



The green diode on the control unit is illuminated

Connection of power cables

The last step is to connect the control unit power cable to an easily accessible 230V mains plug. The green diode on the control unit illuminates when the power is turned on.

Keep all cables away from the floor and the moving parts of the bed. Once the mounting is complete, all loose cables must be wrapped around the control unit mounting fixture cable guides and secured to prevent them from falling on the floor or getting pinched by the moving parts of the bed.



All cables must be kept away from the floor

Attaching the sheets

Please refer to page 24 for instructions on how to attach the sheets.

Attaching plastic side rails, if relevant

Please refer to page 21 for instructions on how to the attach the plastic siderails.

PART 3 - Technical manual

QUICK GUIDE LOCATION

The quick guide should always be placed where it will be visible from the bed and in proximity to the bed.

ADDITIONAL ACCESSORIES

Battery backup

If VENDLET V5 or V5+ is to be used in places where it can not always be connected to the power system, it is possible to attach a battery.



Under bed light

Under bed light can be connected and is operated by the hand control.



Height restriction bracket

On some bed types the VENDLET system can conflict with the bed wheels or brake when the bed is lowered. The height restriction bracket ensure that the bed can not be lowered too much to create a conflict.



Height restriction switch for Guldmann GB4

The height restriction bracket can not be used for the Guldmann GB4 care bed. Instead, this height restriction switch must be used for this type of bed.



Bracket for Volker 3080

You need to mount special brackets on a Volker 3080 bed before you can mount a VENDLET-system.



You can see more about all accessories on www.vendlet.com.

FINAL INSPECTION CHECKLIST

Always perform a final inspection after completing the installation. The final inspection is carried out by following the checklist below. The list may also be downloaded at www.vendlet.com.

The desired result of the procedure is a situation where all "Yes" checkboxes have been marked. If one or more "No" checkboxes have been marked, the matter should be investigated and you should consider stop using the VENDLET until the situation has been remedied and a solution found.

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Final inspection checklist	Yes	No
Was the VENDLET mounted by a qualified technician?		
Is the combined weight of the patient, the VENDLET and any other equipment on/in the bed below the max. load of the bed?		
Have the side rail dimensioning requirements been met?		
Are all actuator fittings mounted at the same height and at the same distance from the bed frame?		
Do both bars run freely up and down?		
Do both bars slacken and pull in the sheet?		
Does the timer activate when the button is pushed twice within 2 seconds?		
Does the timer turn off after 90 seconds of idle time?		
Is the control unit securely suspended?		
Are all cables securely attached to the bed with cable ties and away from the moving parts of the bed?		
Are all loose cables off the floor and wrapped around the cable guides on the control unit suspension plate?		
Is the slide sheet fitted on top of the mattress and properly attached?		
Is the turning sheet fitted in such a way that it turns properly on the bars?		
If the VENDLET is used as side rails: are all four plastic side rails in place and in good condition?		
Is the quick guide visible and located near the bed?		
Is the VENDLET manual available?		
Have the care givers been instructed on the use of the VENDLET and its functions?		
Has the VENDLET system been signed up for an annual service check?		

Date:

Carried out by:

Patient:

Date of next periodic check:

DISMOUNTING, STORAGE, AND REMOUNTING

Dismounting

The VENDLET V5 may be dismantled and transferred to another bed.

1. Disconnect the power cable from the outlet.
2. Disconnect all plugs from the control unit and remove the cable ties holding the cables.
3. Remove the suspension plate and remove the control unit from the suspension plate.
4. Remove the bars on both sides. Coil up the motor cables and attach them to the bars using cable ties.
5. Remove the two support bars.
6. Remove the actuator fittings from the mounting brackets. Coil up the actuator cables and secure them using cable ties.
7. Dismount the mounting brackets with mounting plate and spacers, if any.
8. Pack all parts carefully together. Store bolts, nuts, and washers in a bag. Check all bolts and nuts for signs of damage and discard all damaged parts.

Storage

The VENDLET system should be stored in a dry location.

Temperature:	-10°C - +50° C
Relative air humidity:	20% - 90% @ 30° C. No condensation.
Atmospheric pressure:	700 – 1060 hPa.

Remounting

Follow the procedure described in this manual if remounting is required.

Before the mounting, you should check all VENDLET V5 / VENDLET V5+ parts for damage and whether the date of the annual service check has not been exceeded.

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MAINTENANCE/CHECK

Annual check

The VENDLET V5 / VENDLET V5+ system must be service checked by a qualified technician annually. This check will ensure that the safety issues pertaining to the VENDLET system are in compliance with the standard as well as a long service life. The annual check includes the following:

Mechanical parts

	Check for signs of damage and crooked fittings and brackets.
	Check the bars and support bars for dents/deformations.
	Check whether the bar velcro tapes are attached and in good condition.

Sheets

	Is the turning sheet in good condition?
	Is the slide sheet in good condition?

Functional tests

	Do all bolts and nuts match the parts list and are they evenly tightened? Is there a 1 mm clearance between the end of the bar and the slide sleeve of the top fitting?
	Check whether all four side rails are in place and in good condition.
	Does the mounting meet all side rail dimension requirements?
	Check whether it is possible to raise and lower the bars freely and in a parallel. It might be necessary to remount the brackets to ensure proper height and width.
	Check whether the VENDLET works as intended when the hand control is activated.

PART 3 - Technical manual

Electrical parts

Control unit no.:			
	Check the control unit including plugs and mounting fittings for signs of damage.		
	Check whether the timer deactivates after 90 seconds of idle time.		
Transformer no.:		Hand control no.:	
	Check the transformer for signs of damage.		Check the hand control and mounting fixtures for signs of damage.
	Check all cables, plugs, and relief cables for signs of damage.		Check the functioning of all buttons and whether the green diode is illuminated when the system is active.
	Check whether the green diode is illuminated.		Check all plugs, cables, and relief cables.
	When using an extension cable, check whether the cable has the necessary quadrant (1.0 mm ²).		Check the stop function.
Bars		Red side	Blue side
	Check the motor for signs of damage.		
	Check all cables, plugs, and relief cables for signs of damage.		
	Check whether the bar may be operated manually when the motor is disconnected from the control unit.		
	Check whether the motor has full pulling power when you press the  /  and reduced pulling power when you press the  /  by stopping the bar with your hand.		
Actuators			
	Check the plastic covers for signs of damage.		
	Check all cables, plugs, and relief cables for damage. Check whether the cables are properly secured.		
	Check whether the cables are properly secured to the bed frame with cable ties.		
	Check the slide function – lubricate, if necessary.		

TROUBLESHOOTING

Problem	Checklist
The VENDLET does not work	Has the power been turned on?
	Is the green diode on the control unit under the bed illuminated?
	Is the green diode on the hand control illuminated?
	Are all cables properly mounted and intact?
	Replace the hand control.
	Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear 10 rhythmic beeps. Press and hold the buttons until the beeping stops.
	Contact a qualified technician or Healthcare Lifting Specialist.
One of the bars does not work.	Is the cable from the bar intact and correctly mounted?
	Switch the plugs of the two bars. If the same bar still does not work, then the motor of that bar is defective. If the other bar is not working, then the hand control or the control unit is defective. Replace the hand control. If this does not solve the problem, replace the control unit.
	Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping stops.
	Replace the bar motor.
	Contact a qualified technician or Healthcare Lifting Specialist.
One or both bars will not work when a load is applied	Does the sheet runs over the bar, cf. page 25 of the user manual? If the sheet runs under the bar, the motor disconnects when used. This is a safety feature.
	Switch the plugs of the two bars. If the same bar still does not work, then the motor of that bar is defective. If the other bar is not working, then the hand control or the control unit is defective. Replace the hand control. If this does not solve the problem, replace the control unit.
	Replace the bar motor.
	Contact a qualified technician or Healthcare Lifting Specialist.

TO BE CONTINUED →

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One of the bars will only move in one direction	Is the plug properly connected to the control unit and the actuator?
	Is the cable intact?
	Switch the plugs of the two bars. If the same bar still does not work, then the bar motor is defective. If the other bar is not working, then the hand control or the control unit is defective. eplace the hand control. If this does not solve the problem, replace the control unit.
	Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping rhythm changes.
	Replace the bar motor.
	Contact a qualified technician or Healthcare Lifting Specialist.
The hand control buttons are not working	Is the plug properly connected to the control unit?
	Is the cable intact?
	If the actuator still does not work, try changing the channel. Replace the actuator if this does not solve the problem.
	Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping rhythm changes.
	Replace the hand control.
	Contact a qualified technician or Healthcare Lifting Specialist.
One or more actuators will not go up or down	Is the plug properly connected to the control unit?
	Is the cable intact?
	If the actuator still does not work, try changing the channel. Replace the actuator if this does not solve the problem.
	Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping rhythm changes.
	Contact a qualified technician or Healthcare Lifting Specialist.
One or more actuators / actuator fittings will not move entirely down	Are the actuator fittings perpendicular to the bed frame?
	Have the side rail dimensioning requirements been met, cf. page 30? If not, the free movement of the actuator fittings may be affected.
	Dirt, dust etc. may obstruct the sliding function of the actuator fitting. Clean the actuator fitting and lubricate it with silicone spray.

PART 3 - Technical manual

REPAIRS

Only a limited number of VENDLET V5 / VENDLET V5+ system components need regular replacement. On the next pages, we will explain the more general repairs. Please do not hesitate to contact us or our consultants if you need assistance or guidance or a qualified technician from Healthcare Lifting Specialist to perform repairs or troubleshooting.

All repairs must be carried out by a qualified technician.

PART 3 - Technical manual

Replacing the motor in a bar

1. Raise the bar and remove the turning sheet from the bar on which the motor is to be replaced.
2. Disconnect the power cable from the mains outlet.
3. Disconnect the motor bar cable from the control unit and remove the bar from the two actuator fittings.
4. Remove the Allen screw at the motor end of the bar and pull the motor out.
5. Unscrew the small pivot screw on the motor fitting and remove it.
6. Mount the motor fitting on the new motor and attach it using the pivot screw.
7. Place the motor inside the bar and attach it using the Allen screw you removed earlier.
8. Mount the bar on the two actuator fittings and connect the cable to the control unit.
9. Reconnect the power cable to the mains outlet.
10. Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping stops.
11. Check whether the bar is working properly.



Remove the Allen screw



Remove the motor from the bar



Unscrew the small pivot screw and remove the motor fitting



Mount the motor fitting on the new motor

PART 3 - Technical manual

Replacing the actuator

1. Disconnect the power cable from the mains outlet.
2. Disconnect the cable from the control unit.
3. Disconnect the actuator cable from the control unit and release it from the bed, allowing it to hang freely.
4. Remove the 2 Allen screws securing the actuator to the actuator fitting and remove the actuator.
5. Remove the actuator cable from the defective actuator if you want to re-use the cable. The actuator cable is attached to the actuator with a locking device. Release the locking device by pressing a small straight blade screwdriver against the side of the locking device on both sides.
6. Remove the actuator cable from the defective actuator and install it on the new actuator.
7. Mount the new actuator on the actuator fitting and attach it using the two Allen screws.
8. Secure the actuator cable with two new cable ties and route it along the inside of the bed frame to the control unit. Use cable ties to secure the actuator cable along the bed frame in such a way that the cable will not get caught by the moving parts of the bed. See section "Routing actuator cables (including cable ties)" for further details.
9. Reconnect the power cable to the mains outlet.
10. Reset the system by simultaneously pressing the two top buttons on the hand control. You will hear a series of rhythmic beeps. Press and hold the buttons until the beeping stops.
11. Check whether the actuator is working properly.



Remove the Allen screws and free the actuator



Release the locking device

PART 3 - Technical manual

Replacing the velcro tape on a bar

The bar velcro bands are wearing parts that wear out over time. The velcro bands will have to be replaced when they no longer properly secure the turning sheet.

1. Release one end of the velcro band and pull it off the bar.
2. Use a sharp knife to remove the glue residue. Clean and degrease the bar.
3. Glue the new velcro strip onto the bar. Once the velcro tape is secured, run a hard roller over the velcro tape several times to ensure optimal adhesion to the bar and remove air pockets from the underside of the velcro tape.
4. You should always use original velcro tape from Vendlet ApS.



Run a hard roller over the velcro

SPARE PARTS

All individual components are delivered as complete units as spare parts.

Please contact Healthcare Lifting Specialist for further information.

TECHNICAL DATA

In accordance with the Danish Ministry of the Interior and Health Executive Order No. 1263 of 15 December 2008 on Medical Devices, the VENDLET V5 and VENDLET V5+ systems are class I products.

PART 3 - Technical manual

	VENDLET V5	VENDLET V5+
Product no.	6000000	6000021
Max. user weight	200 kg	400 kg
Power supply:		
Transformer	Class 1	Class 1
Mains supply	230 Volt AC/50 Hz	230 Volt AC/50 Hz
Power rating	Up to 200 VA	Up to 200 VA
Output voltage	24 Volt DC	24 Volt DC
IP class	IPX6	IPX6
Intermittence	10%	10%
Battery (optional):	1.2 AH / 24 Volt DC	1,2 AH / 24 Volt DC
IP class	IPX6	IPX6
Control unit:		
Output voltage	24 Volt DC	24 Volt DC
IP class	IPX6	IPX6
Intermittence	10%	10%
Weight:		
Total system weight	approx. 42 kg	approx. 42,5 kg
Actuator fittings w. actuator	3.75 kg	3,75 kg
Bar	6 kg	6 kg
Support bar, 2 units	3 kg	3 kg
Control unit	2.5 kg	2,5 kg
Plastic side rail, 4 units	8 kg	8 kg
Length:	195 cm	195 cm
Width:	May be adapted to beds between 70 cm and 130 cm.	
Expected service life	10 years	10 years
Noise level max. load	65 dB(A)	65 db(A)
Turning sheet:		
Standard length and width	350 cm/180 cm	350 cm / 180 cm
Material	100 % cotton	100 % cotton
Slide sheet:		
Standard length and width	210 cm/95 cm	210 cm / 95 cm
Material	100% nylon	100% nylon
System service check	Annually	Annually

ENVIRONMENTAL CONDITIONS AND DISPOSAL

Environmental conditions

Operation:	
Temperature	5 – 40 °C
Air humidity	20 – 90% at 30°C – no condensation
Atmospheric pressure	700 – 1060 hPa
Storage:	
Temperature	-10 - +50 °C
Air humidity	20 – 90% at 30°C – no condensation
Atmospheric pressure	700 – 1060 hPa
Transport:	
Take the necessary precautions to protect the electric components against rough jolts, shocks etc.	
During transportation in low temperatures, the actuators and motors in the bars might work irregularly until they have been warmed up to normal room temperature.	

Disposal

Do not discard a VENDLET V5 or VENDLET V5+ system with general household waste. On disposal of a VENDLET V5 or VENDLET V5+ system, Vendlet ApS recommends that the system be divided into individual parts and components with a view to recycling.

All mechanical steel components may be disposed of as metal parts.

The control unit must be disposed of as electronic waste. Furthermore, it may be divided into metal waste, cable waste, electronic waste, and reusable plastic.

The actuators may be disposed of as electronic waste. Furthermore, they may be divided into metal waste, electronic waste, and reusable plastic.

The hand control may be disposed of as electronic waste. Furthermore, it may be divided into cable waste, electronic waste, and reusable plastic.

The turning sheet and the slide sheet should be disposed of as combustible waste.



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