



Korpinen Duo Height adjustable Toilet, Electric




User manual

This manual should always be in close proximity of the product


Table of content

1. Symbols used in this manual	3
2. General safety	3
2.1 Product Unit label	5
3. General requirements	6
3.1 Product information	6
3.2 Product description	7
3.3 Intended use.....	7
3.4 Intended operator	7
3.5 Essential performance	7
3.6 Non-clinical functions	7
3.7 Clinical functions	7
3.8 Product dimensions.....	7
4. Instructions for use	9
4.1 Installation of product.....	9
4.1.1 Installation interface.....	9
4.1.2 Construction	12
4.1.3 Mounting the product.....	13
4.1.4 Pair the Bluetooth remote.....	16
4.2 Operating the product	21
4.3 Residual risks.....	21
4.4 Installation of accessories.....	22
4.4.1 Installation of height adjustable toilet support arms	22
4.4.2 Installation of backrest.....	Error! Bookmark not defined.
5. Troubleshooting	22
6. Cleaning	23
7. Maintenance	23
7.1 Periodic maintenance	23
7.2 Calibration of actuator.....	23
8. Component parts list	24
9. Environmental protection	24
10. Electromagnetic compatibility	24
10.1 Suitable Environments.....	24
10.2 Adjacent and stacked use.....	24
10.3 Cables.....	24
10.4 RF portable equipment	25
11. Accident reporting	25

1. Symbols used in this manual

<p>Warning!</p> <p>Indication of potentially hazardous situation. If not avoided, it can result in serious injury or death.</p>	
<p>Caution!</p> <p>Indication of potentially hazardous situation which may result in minor or moderate injury. It may also be used to alert against unsafe practices.</p>	
<p>Notification!</p> <p>This symbol is used to notify correct use and handling of the product.</p>	

2. General safety

	<p>This manual must be read and understood before use and installation. Always keep this manual in close proximity of the product.</p> <p>The use, installation and service of this product must be in compliance with this manual to avoid accidents and serious personal injury.</p> <p>Never use or handle this product in other ways specified in this manual as it can result in personal safety hazards and/or cause damage to the product.</p> <p>Persons installing and/or using this product either as operator or user should have the necessary safety information and access to this manual.</p> <p>If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified designated persons in order to avoid a hazard.</p>
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Do not perform repairs, disassembly or assembly operations, add-ons, re-adjustments or modification of the product beyond what is described in this manual. These must be carried out by Korpinen or Korpinen authorized personnel. Do not perform service while in use.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Do not use the product if it has defects or have become damaged before being repaired or replaced.
If the control box makes unusual noise or smells, switch off the mains voltage immediately.

Take care that the cables are not damaged.

Unplug the mains cable on mobile equipment before it is moved.

The products must only be used in an environment that corresponds to their IP protection..



The information in this manual is based on correct installation in accordance with installation instructions for this product.

Korpinen cannot be held liable if the product is used in any way that differs from stated in this manual and/or installation instruction.

Korpinen reserves the right to amend this manual and reference documents without prior notice.

2.1 Product Unit label



	<p>This product is CE-marked in accordance with:</p> <p>European Medical Device Directive 93/42/EEC, including amendments incorporated in Directive 2007/47/EEC.</p> <p>European Medical Device Regulation (EU)2017/745</p> <p>Council Directive 2006/42/EC on machinery</p> <p>Council Directive 2011/65/EU, RoHS</p>
	<p>Manufacturer name and address</p>
	<p>Date of production</p>
	<p>Stock number</p>
	<p>Serial number</p>
	<p>Consult manual before use</p>
	<p>Operating interval of electrically operated equipment. The use of electrical height adjustable equipment can run at maximum 2 minutes, followed by an 18-minute break.</p>
	<p>Type B applied part. The product complies with IEC 60601-1 requirements to provide protection against electric shock.</p>
	<p>Consult manual for important safety related information, warnings, and safety precautions.</p>
	<p>Class II, double isolated electrical components.</p>
	<p>Do not dispose as unsorted municipal waste. Product must be returned to a designated recycling station.</p>
	<p>Mobile phones or other portable RF emitting equipment should be no closer to the product than 30cm.</p>
	<p>Operating and storing temperatures may not exceed 5-40°C</p>

3. General requirements

3.1 Product information

Manufacturer	Väinö Korpinen Oy, Kalkkipellontie 6, FI-02650 Espoo Tel. +358 9 5491 4400 korpinen@korpinen.com		
Product models	Part number	Model	Configuration
	21273020 21273030	Height adjustable toilet Height adjustable toilet	Electric, floor drain Electric, wall drain
Expected service life according to ISO 17966:2016	5 years		
MDD Class 93/68/EEC MDR Class 2017/745	Class I		
Applied part classification 60601-1	Type B applied part		
MEE Class 60601-1	Class II		
Intended environments	This product is to be used only in: Professional Healthcare Environment Homecare Environment <i>The device is not intended for use in special environments as defined by IEC 60601-1-2</i>		
Maximum user weight according to ISO 17966:2016	400kg		
Power supply	100-240V ~50/60Hz		
I in	Max 2.0A		
Intermittence	2min use / 18min pause		
Height adjustment	400-650mm		
Speed of actuation	≈ 8mm/s		
IP rating	IPX6		
Ambient temperature range	-5 °C to +40 °C Transport and storage +5 °C to +40 °C Operation		
Relative humidity:	20% to 80% - non-condensing		
Materials in contact with patient	Components	Material description	Reference datasheet
	Covers	AMI ABS/PMMA plastic	

Accessories	
Item nr.	Model

3.2 Product description

The Korpinen toilet lifter electric can be set in heights ranging from 405-655mm by the use of the wireless handset. Height adjustment will meet different sitting height needs various patient heights.

3.3 Intended use

The Korpinen height adjustable toilet lifter is intended to be used in both homecare and professional healthcare environments. Adjusting the height will meet ergonomic demands emerging from various patient heights.

The toilet lifter is not intended for playing, or as a training device.

The Korpinen Toilet Lifter gives people with reduced mobility the possibility to extend their independence. It lowers and lifts the user to the best seated or standing position. Importantly it is straight-forward to set to the optimum height for both user and helper. It is a solution using modern welfare technology to help users become more self-reliant in their bathroom routines. The Toilet Lifter is an assistive aid which can support users to keep their privacy for as long as possible. The height adjustment has an adjustment range of 25 cm going from 40-65 cm.

3.4 Intended operator

The intended operator may include all that have read and understood this manual exempt kids.

3.5 Essential performance

The device does not have any function related to basic safety or essential performance. In case of loss or degradation of performance, the user can get of the toilet.

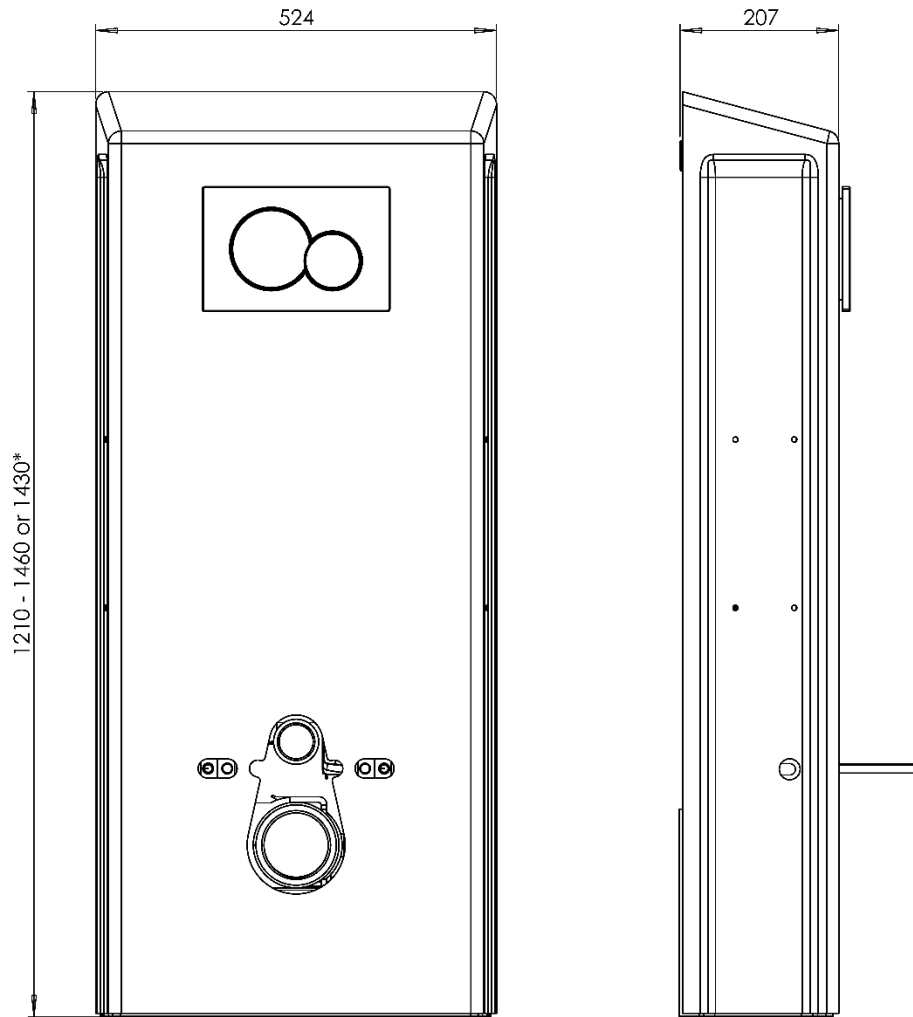
3.6 Non-clinical functions

Height adjusting offers better ergonomics to user and caretaker.

3.7 Clinical functions

This product does not offer clinical benefits for patients, when used as intended by the manufacturer.

3.8 Product dimensions

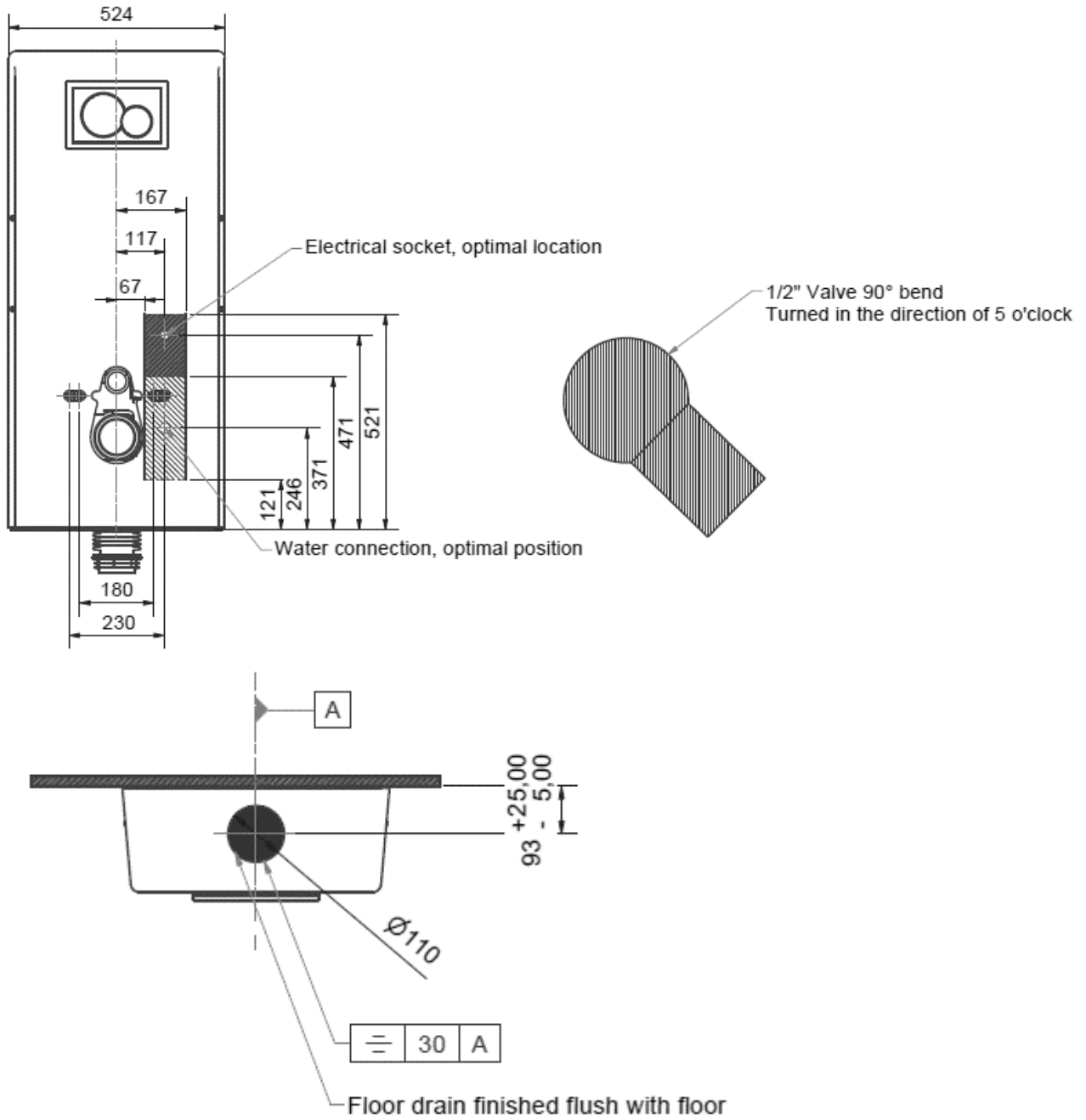


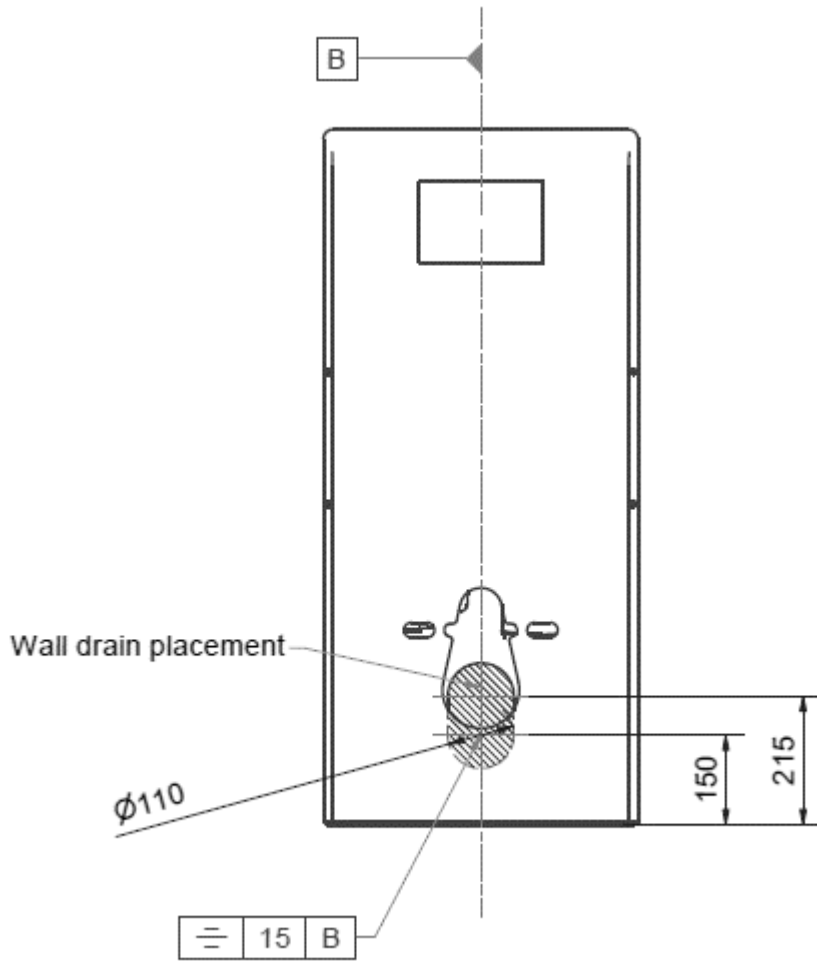
** Electrically adjusted model's seat height is adjustable between 400-650 mm. Manually adjusted model's seat height is adjustable between 400-620 mm*

4. Instructions for use

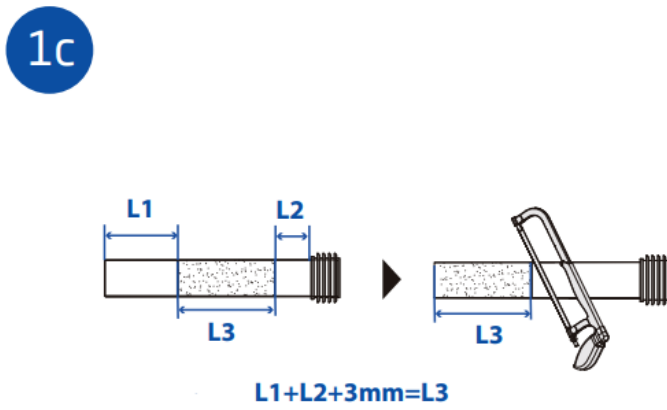
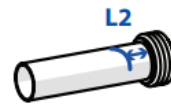
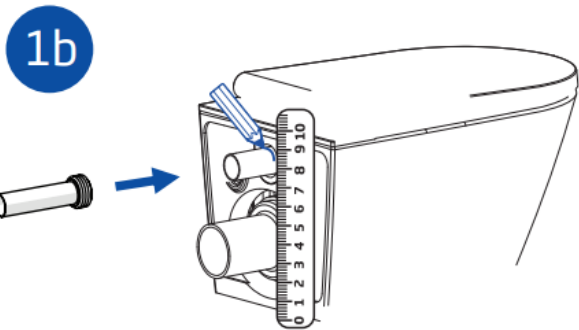
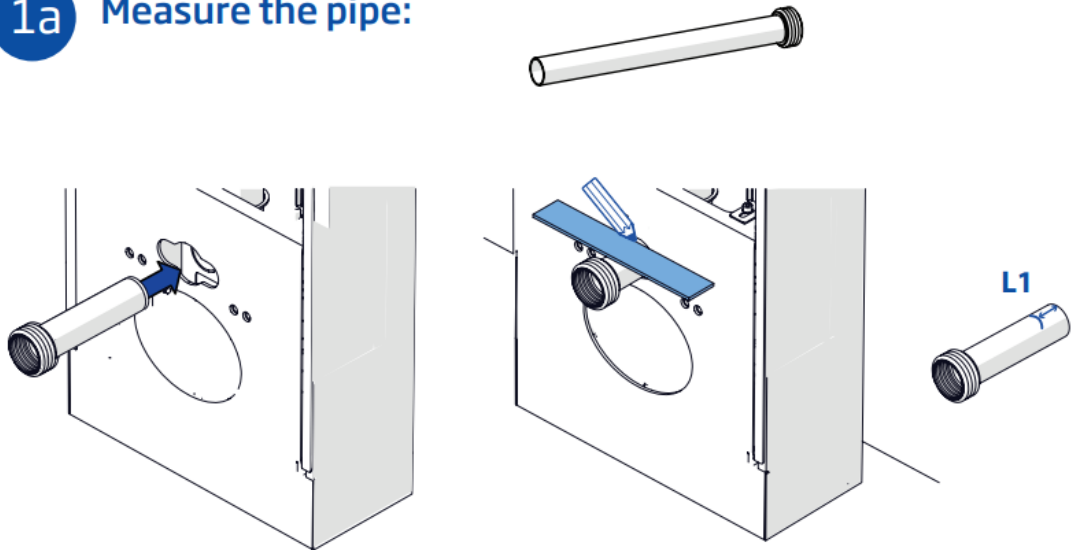
4.1 Installation of product

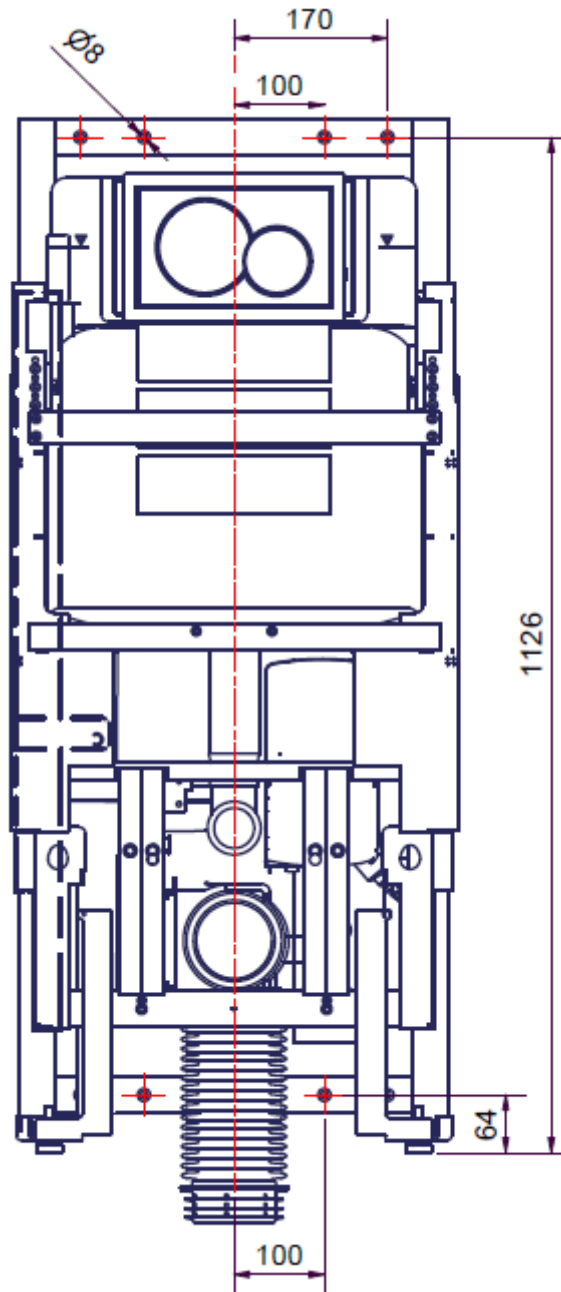
4.1.1 Installation interface





1a Measure the pipe:





Notification!

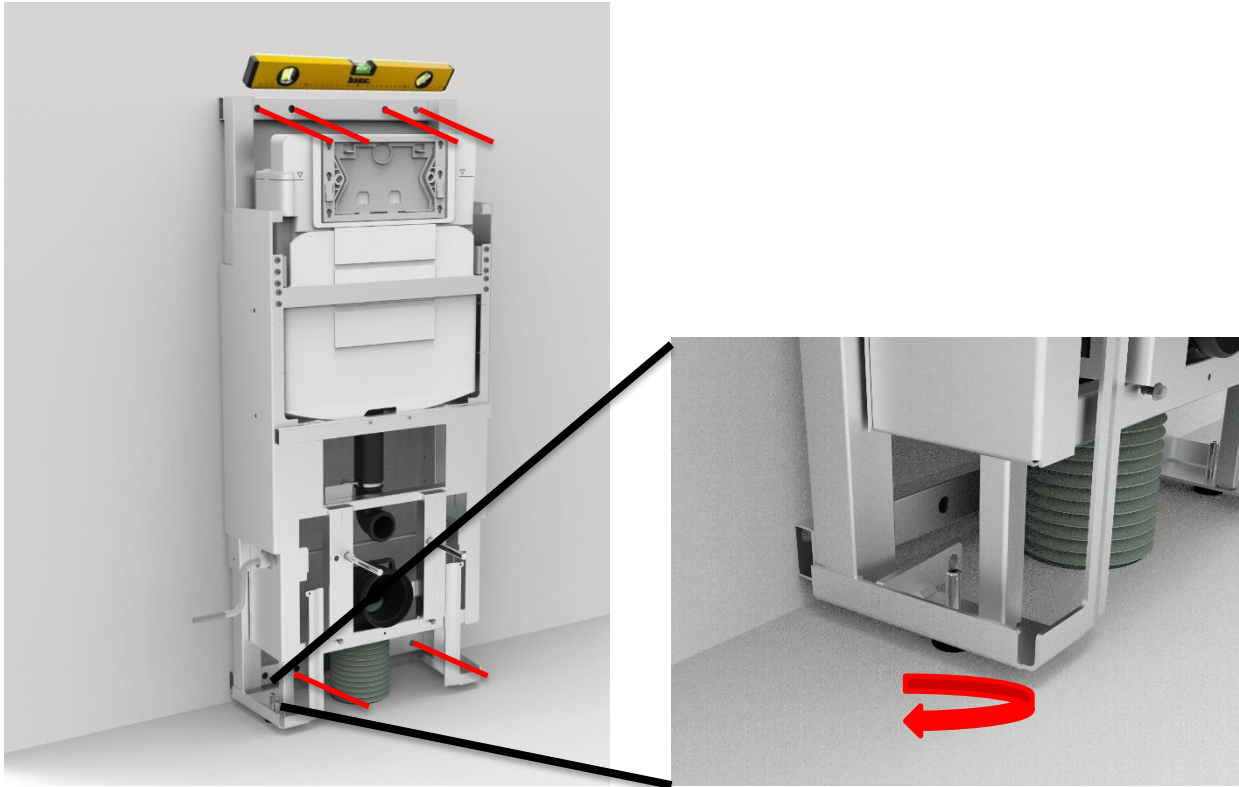
The toilet lifter is supplied with a set of 6 screws and rawplugs suitable for mounting in a concrete wall. The fitter should always consider the material, condition, and strength of the wall and use screws and rawplugs suitable for the specific wall type.



Caution!

Maximum pulling force per screw is 44kg, at 400kg max user weight according to ISO 17966: 2016

4.1.3 Mounting the product



- a. Line up frame with adjustment screws. Mark out 6 holes and drill holes for appropriate rawlplugs. Ensure that the center of the bottom 2 holes is at least 64mm above the floor.
- b. Connect water hose on wall outlet and electric outlet before securing frame to the wall.
- c. Secure frame to wall.

d1. If drain is in floor, mount the drain bellow as instructed below.

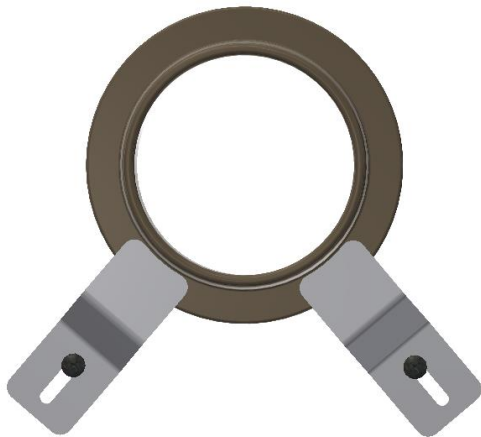
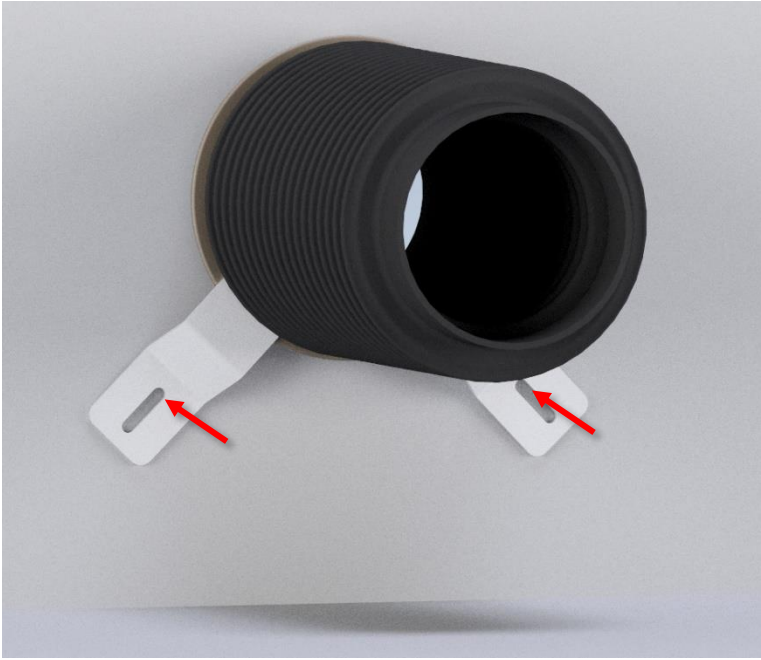


Make sure the bellow is not twisted




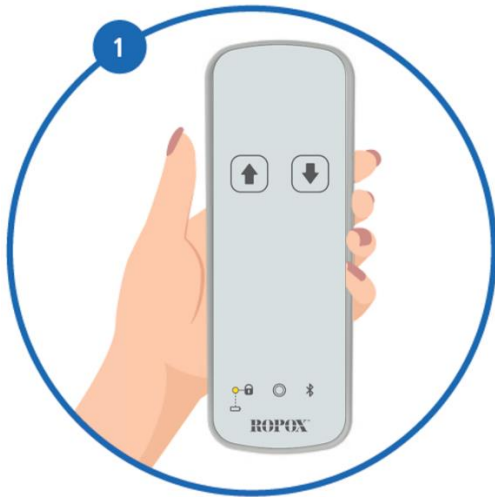
Mount the bellow as shown below for correct flow

d2. If drain is in wall, mount the drain bellow in wall drain, mount the accompanying brackets on the wall, so that the toilet flange is held in place.

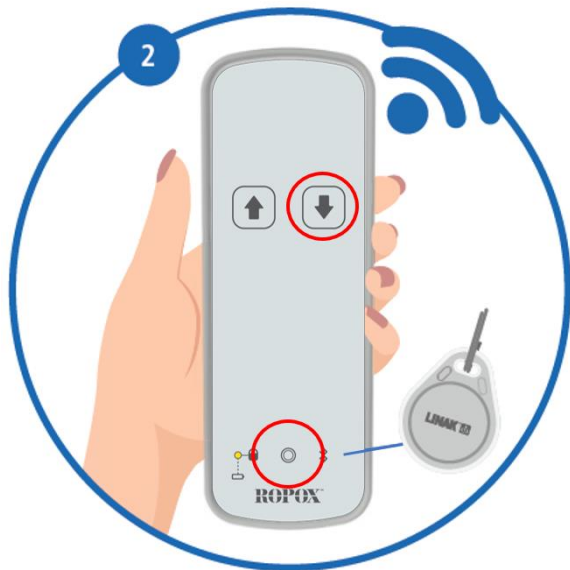


4.1.4 Pair the Bluetooth remote

	<p>Notification! Pair the remote to the product and test full travel length before continuing installation!</p>
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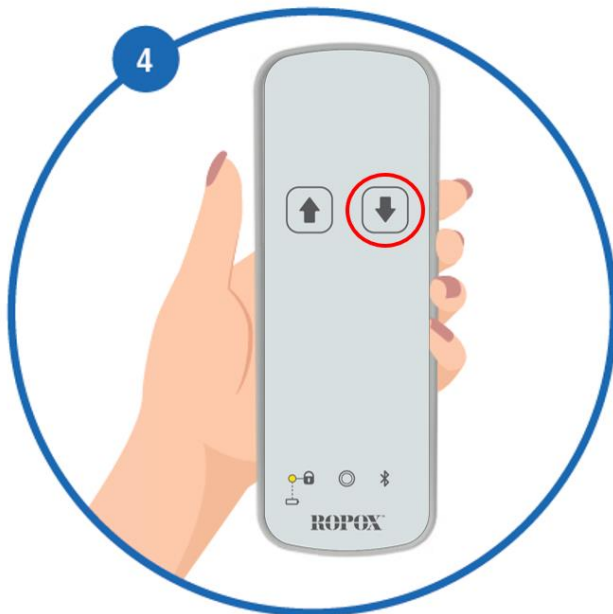
Move within 2 meters of application



Enter Direct pairing mode by activating "Down" button and holding the magnet key over its symbol for 3 seconds



Release "up" button and magnet key and move closer to the product until buzzer frequency change from slow to fast.



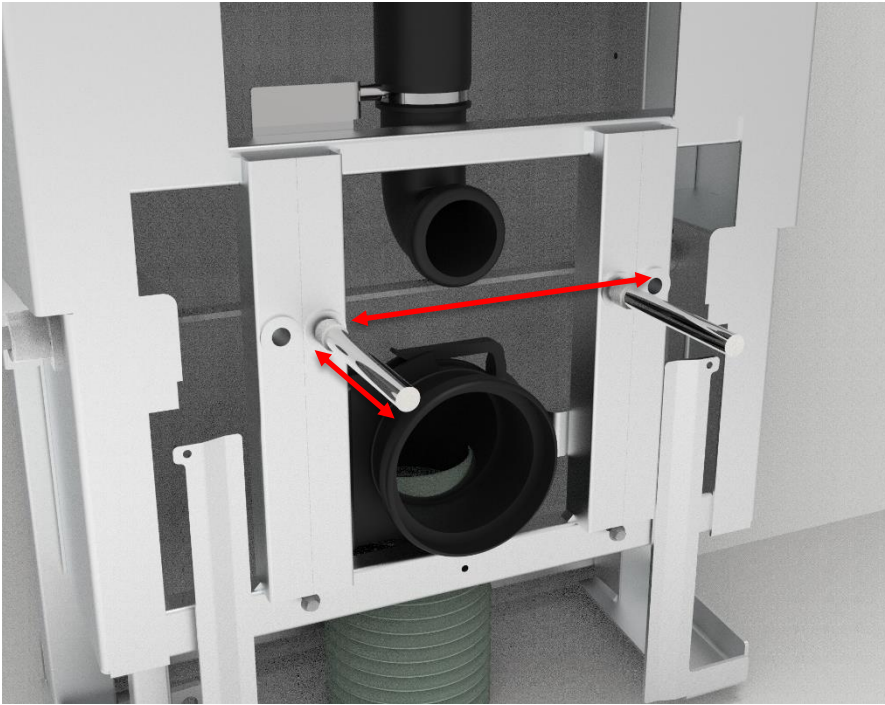
Confirm pairing by pressing "Down" button.
A double "beep beep" will confirm pairing OK



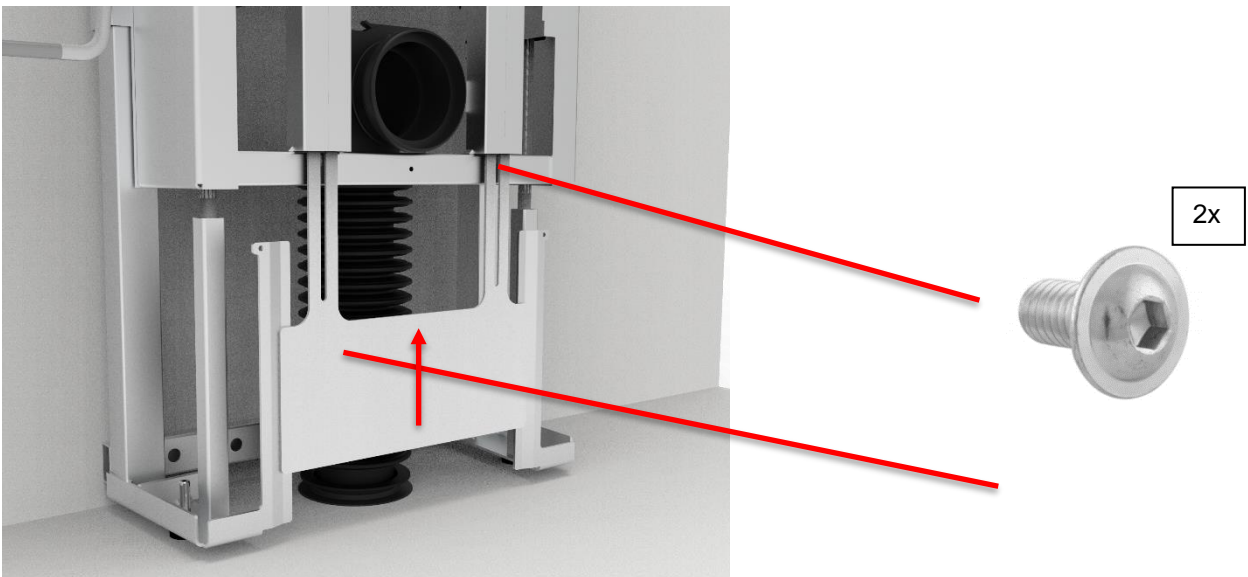
Notification!

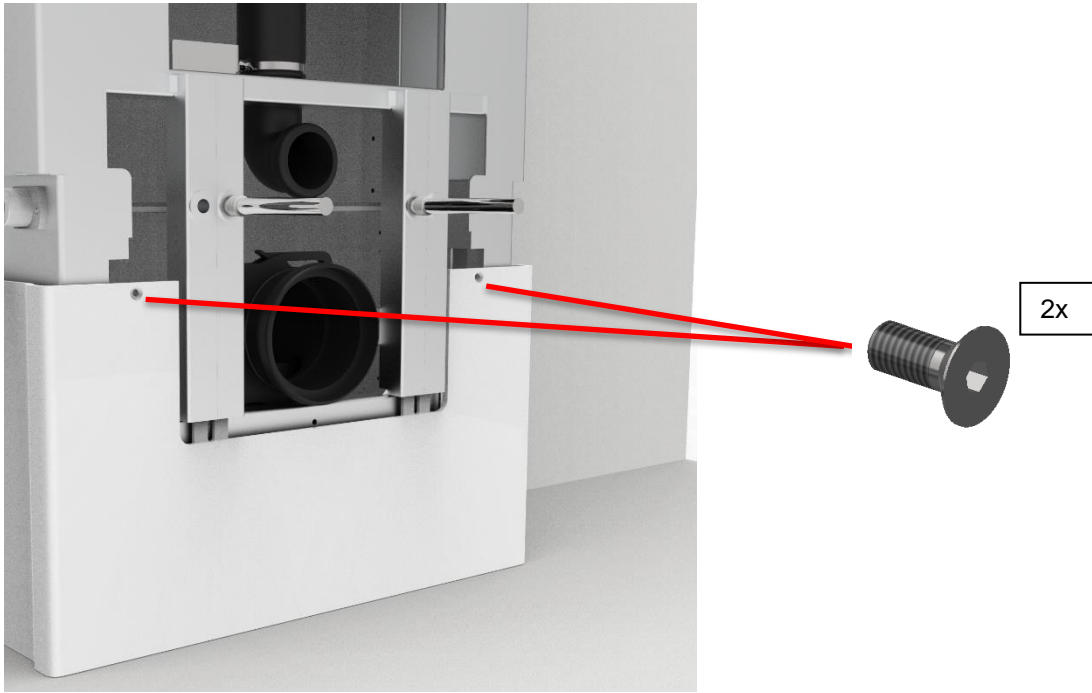
When pairing is complete test product travel. Make sure all cables, water connection and drain connection travels freely. The electrical connection shall travel unhindered and may not get entangled in other installations.

e. Cut threaded rods to length and secure them in the frame.



f. Mount inner cover 1 and 2.

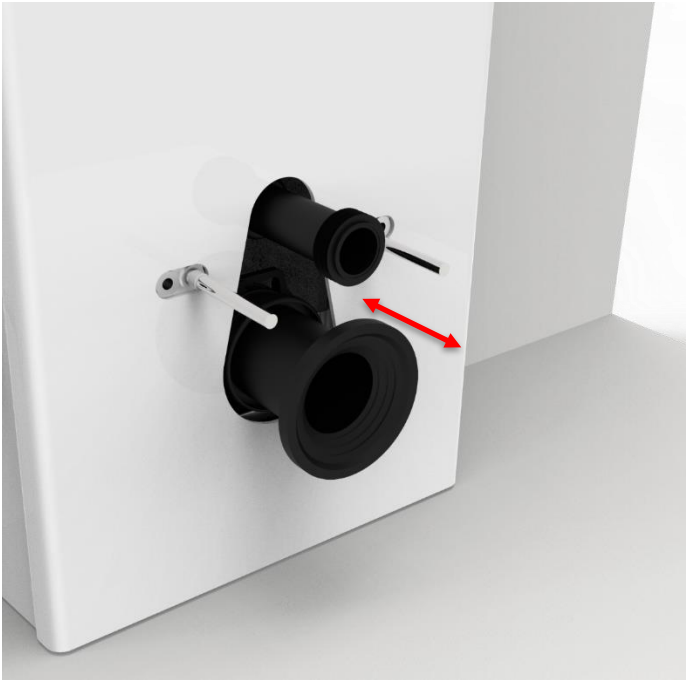




g. Mount outer cover.



h. Shorten ferrule and flush pipe to length and mount them.



i. Mount the toilet and press pad.




j. Finish the installation by checking the following:




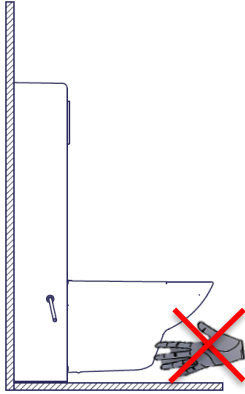

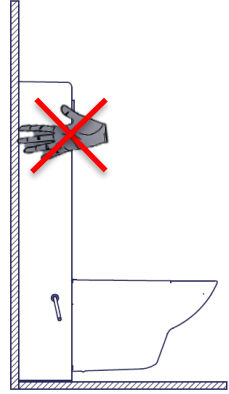


1. Rigidity test, sit on the toilet and check screw connections are firm.
2. Check that full travel of the product goes unhindered.
3. Check flushing and leaks.

4.2 Operating the product

Operating the product is done by using the wireless remote.

	<p>Warning! The product should always be able to travel the full range of actuation without colliding with objects. Failing to do so will compromise the product stability. Special care should be taken in ensuring that no children or adults are sited under the product as severe injury from entrapment may occur.</p>
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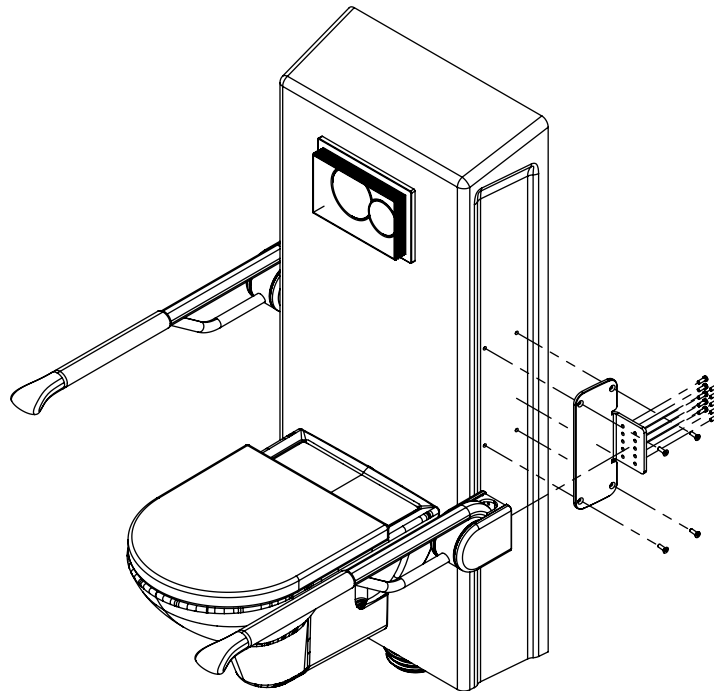
4.3 Residual risks

<p>Warning!</p>  <p>Be aware that there may be no person or body parts under the toilet when it is driven down, as it is a crushing hazard.</p>	
<p>Caution!</p>  <p>Do not place your hand/fingers between the wall and the movable cover, as you risk crushing your hand/fingers.</p>	
<p>Warning!</p>  <p>In case of incorrect installation of plumbing parts, water leaks can occur on the floor, which may increase the risk of falling.</p>	

4.4 Installation of accessories

4.4.1 Installation of the toilet support arms

- a. Attach the support rail to the mount with 10 x M6x16 and 10 x M6 washers.
- b. Attach the support rail and mount assembly to the lifter with 4 x M6x25 DIN 7991 screws




5. Troubleshooting

Product doesn't work	Check pairing of remote. Check that all wires are pressed in sockets.
Product stop working	Check batteries of remote.

6. Cleaning


Cleaning can be done with lukewarm water and a suitable all-purpose cleaning agent. Use a cloth or soft sponge to wash the product. Dry the product with a wrung cloth.

	<p>Notification! Do not use cleaning agents containing abrasive e.g. scouring powder, steel wool, scouring sponge.</p> <p>This product is not designed to be sterilized. Autoclaving and sterilization beyond normal means may change the product safety and function.</p>
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Preapproved cleaning agents

Tradename	Solution
Acticlor plus	1000ppm
S90 sanirens	1-3% peracid
FUTUR, Alkalic	1% Solution [pH 9,5]

7. Maintenance

	<p>Notification! Failing to comply with periodic maintenance may result in degradation of the product function and safety.</p>
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7.1 Periodic maintenance


Component	Maintenance activity	Maintenance interval	Registration date of maintenance
Geberit Sigma 12 cistern	Descaling / change of worn components	6-12 months dependent on calcium content in water	

7.2 Calibration of actuator

Actuator(s) are aligned and calibrated from the factory. In case they need calibration to run simultaneously use the following procedure.

Press and hold both UP and DOWN on the remote (▲▼) until the unit has beeped approx. ten times. Then adjust the product to the bottom position by pressing DOWN on the remote until movement of both columns are in the lowest possible position.

8. Component parts list

	<p>Notification!</p> <p>Korpinen will make part lists and circuit diagrams available for extraordinary maintenance and repair beyond what is described in this manual. Repair beyond what is described in this manual may only be done by Korpinen designated service personnel.</p>
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9. Environmental protection

The product is not intended to be disposed as municipal waste. Proper disassembly, sorting and disposal of components must be done by waste disposal professionals.




Part	Disposal recommendation
Frame	Steel
Cistern	Hard plastic Polystyrene
Covers	Antimicrobial hard plastic (ABS/PMMA)
Height adjustable toilet support arms	Steel

10. Electromagnetic compatibility

10.1 Suitable Environments


The device is suitable for use at home, at daycare centers, at day centers for people with physical or mental disabilities or at hospitals except near active HF surgical equipment and the RF shielded room of a medical electrical system for magnetic resonance imaging, where the intensity of electromagnetic disturbances is high.

10.2 Adjacent and stacked use


	<p>Warning!</p> <p>Use of this equipment adjacent to or stacked with other equipment should be avoided, as it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.</p>
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10.3 Cables

Cable component	Length
Power cable	1,2m
Remote spiral cable	Wireless

	<p>Warning!</p> <p>Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.</p>
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10.4 *RF portable equipment*

	<p>Warning!</p> <p>Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could occur.</p>
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11. Accident reporting

The manufacturer of this product recommends any accident with this product that meets all the following criteria reported to the appropriate authority as well as to the manufacturer.

1. There has been or could have been an accident
2. The medical device is considered to be a contributing factor to the case, and
3. The event resulted or could have resulted in one of the following outcomes:
 - Death - a patient, a user or a third party's death
 - A serious deterioration of a patient's health, a user's health or a third party's health status in the form of:
 - a. Life-threatening disease
 - b. Lasting damage or injury
 - c. Necessary medical or surgical treatment to divert life-threatening illness, permanent injury
 - d. Fetal death, fetal injury, or congenital abnormalities