

seca 684

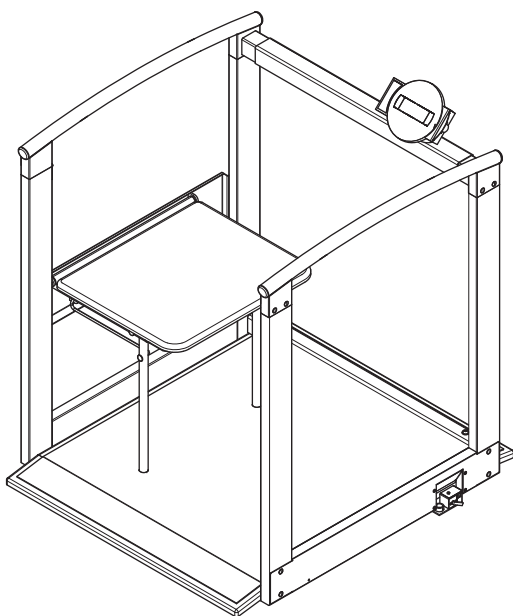


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1. SIGNED AND SEALED



With seca products, you are not only purchasing technology which has been perfected over 100 years, but also quality with official legal certification confirmed by institutions. seca products comply with European directives, standards and national laws. When you buy seca, you buy the future.



Products bearing this symbol meet the applicable regulatory requirements of the European Community, especially the following:

- Directive 93/42/EEC for medical devices

seca's professionalism is also recognized by official testing agencies. TÜV Süd Product Service, the appointed office for medical devices, confirms with this certificate that as a medical devices manufacturer, seca consistently complies with the strict legal requirements. seca's quality assurance system includes the areas of design, development, production, sales and service of medical scales and length measuring systems as well as software and measuring systems for assessing state of health and nutrition.



seca helps the environment. Saving natural resources is very important to us. We therefore make every effort to save on packaging materials wherever it makes sense and whatever is left over can be conveniently disposed of on site via the recycling system.



2. DEVICE DESCRIPTION

2.1 Congratulations!

With the **seca 684** electronic multi-functional scale, you have purchased a highly precise and simultaneously robust device.

For over 170 years, seca has used its experience in the service of healthcare and, as a market leader, it has always set standards in many countries of the world with innovative developments in weighing and measuring.

2.2 Intended use

Electronic multi-functional scale **seca 684** is mainly used in hospitals, medical practices and in-patient care facilities in accordance with national regulations.

The scale is for conventional determination of weight and establishment of general state of nutrition; it assists the physician supervising treatment in making a diagnosis or deciding on a course of treatment.

To make an accurate diagnosis, however, other specific examinations have to be ordered by the physician and their results taken into account, in addition to determining a weight value.

2.3 Description of function

On some variants of this scale, the weight display can be switched between kilograms (kg), pounds (lbs) and stones (sts). Weight is determined within a few seconds.

In addition to conventional determination of weight, the **seca 684** provides a function for determining body mass index. To this end, height is entered on the keypad and the body mass index associated with the weight value is calculated automatically. Length measuring devices from the **seca 360° wireless** system can transmit height to the **seca 684** wirelessly.

Via the **seca 360° wireless** wireless network, measuring results can be transmitted wirelessly to a seca wireless printer or to a PC equipped with **seca analytics** PC software and the seca USB wireless adapter.

The **seca 684** can be moved on casters.

Use the scale only for the purpose named in the section entitled "Intended use" on page 59.

2.4 User qualification

- Assembly** Devices that are shipped partially assembled may only be mounted by sufficiently qualified persons such as specialist dealers, hospital technicians or seca service technicians.
- Operation** The device may only be operated by healthcare professionals.

3. SAFETY INFORMATION

3.1 Safety information in these instructions for use

**DANGER!**

Used to identify an extremely hazardous situation. If you fail to take note of this information, serious irreversible or fatal injuries will occur.

**WARNING!**

Used to identify an extremely hazardous situation. If you fail to take note of this information, serious irreversible or fatal injuries may result.

**CAUTION!**

Used to identify a hazardous situation. If you fail to take note of this information, minor to moderate injuries may result.

ATTENTION!

Used to identify possible incorrect usage of the device. If you fail to take note of this information, you may damage the device, or the measured results may be incorrect.

NOTE:

Includes additional information about use of the device.

3.2 Basic safety instructions

Handling the instrument

- Please take note of the information in these instructions for use.
- Keep the instructions for use in a safe place. The instructions for use are a component of the device and must be available at all times.

**DANGER!****Risk of explosion**

Do not use the device in an environment in which one of the following gases has accumulated:

- oxygen
- flammable anesthetics
- other flammable substances/air mixtures

**CAUTION!****Patient hazard, damage to device**

- Additional devices which are connected to electrical medical devices must provide evidence of compliance with the relevant IEC or ISO standards (e.g. IEC 60950 for data-processing devices). Furthermore, all configurations must comply with the requirements of standards for medical systems (see IEC 60601-1-1 or Section 16 of the 3rd edition of IEC 60601-1 respectively). Anyone connecting additional devices to electrical medical devices is considered a system configurer and is therefore responsible for ensuring that the system complies with the requirements of standards for systems. Your attention is drawn to the fact that local laws take precedence over the above-mentioned requirements of standards. In the event of any queries, please contact your local specialist dealer or Technical Service.
- Have servicing carried out regularly as described in the relevant section of this document.
- Technical modifications may not be made to the device. The device does not contain any parts for servicing by the user. Only have servicing and repairs performed by an authorized seca service partner. You can find service partners in your area at www.seca.com or by sending an e-mail to service@seca.com.
- Only use original seca accessories and spare parts, otherwise seca will not grant any warranty.

**CAUTION!****Patient hazard, malfunction**

- Keep other electrical medical devices, e.g. high-frequency surgical devices, a minimum distance of approx. 1 meter away to prevent incorrect measurements or wireless transmission interference.
- Keep HF devices such as cell phones a minimum distance of approx. 1 meter away to prevent incorrect measurements or wireless transmission interference.

- The actual transmission output of HF equipment may require minimum distances of more than 1 meter. Details can be found at www.seca.com.

Preventing electric shock



WARNING! **Electric shock**

- Set up the device so that the power supply socket is easy to reach and the device can be disconnected from the power supply quickly.
- Ensure that your local power supply matches the information on the power supply unit.
- Do not touch the power supply unit with wet hands.
- Do not use extension cables or power strips.
- Ensure that the power cable is not pinched or damaged by a sharp edge.
- Do not operate the device above an altitude of 3000 m.

Avoiding infections



WARNING! **Risk of infection**

- Hygienically reprocess the scales regularly as described in the respective section in this document.
- Make sure that the patient has no infectious diseases.
- Make sure that the patient has no open wounds or infectious skin alterations, which may come into contact with the device.

Avoiding injuries



WARNING! **Risk of falling**

- Ensure that the device is positioned firmly and level.
- Route the mains cable so that there is no risk of tripping for the patient or user.
- The device is not designed as a standing aid. Assist people with limited motor skills when they are getting up, e.g. from a wheelchair.

- Make sure that the patient does not step onto the weighing platform directly at the edges.
- Make sure that the patient steps onto the weighing platform slowly and securely.



WARNING!

Danger of slipping

- Ensure that the weighing platform is dry before the patient steps onto it.
- Ensure that the patients feet are dry before he or she steps onto the weighing platform.
- Make sure that the patient steps onto the weighing platform slowly and securely.

Preventing device damage

ATTENTION!

Damage to device

- Ensure that no liquids enter the device. They can damage the electronics.
- Switch off the device before disconnecting the power supply unit from the mains socket.
- Disconnect the power supply unit from the mains socket if you intend to not use the device for a longer period of time. Only this way it can be ensured that the device is currentless.
- Make sure not to drop the device.
- Do not expose the device to any impacts or vibrations.
- Perform function controls regularly as described in the relevant section in this document. Do not operate the device if it is damaged or not working properly.
- Ensure that there is no heat source in the immediate vicinity. Do not expose to direct sunlight. The excessive temperature could damage the electronics.
- Avoid rapid temperature fluctuations. When the device is transported so that a temperature difference of more than 20 °C occurs, it must stay turned off for at least 2 hours before it can be turned on again. Otherwise, condensation water will form which can damage the electronics.

- Caustic detergents may damage the surfaces. Only use a soft cloth dampened with mild soapsuds to clean the surfaces of the device.

Handling measuring results



WARNING!

Patient hazard

This device is **no** diagnostic device. It simply assists the treating physician in establishing a diagnosis.

- In order to make a precise diagnosis and initiate therapeutic measures, besides determination of the weight, further targeted examinations must be set up by the physician, and their results must be considered.
- The responsibility for diagnosis and treatment lies with the treating physician.

CAUTION!

Patient hazard

In order to avoid misinterpretations, test results for medical use must be displayed and used in SI units only. Some devices offer the ability to display test results in other units. This is only an additional function.

- Use the results exclusively in SI units.
- The use of measurement results in non-SI units is the sole responsibility of the user.

ATTENTION!

Loss of data

- Before you save measurements acquired with this device and process them for further use (e.g. in the PC software **seca analytics** or in a hospital information system), make sure the measurement values are plausible.
- If measurement values are transmitted to the **seca analytics** PC software or a hospital information system, make sure prior to further use that the measurement values are plausible and are assigned to the correct patient.

Handling packaging material



WARNING!

Danger of suffocation

Packaging material made of plastic foil (bags) is a choking hazard.

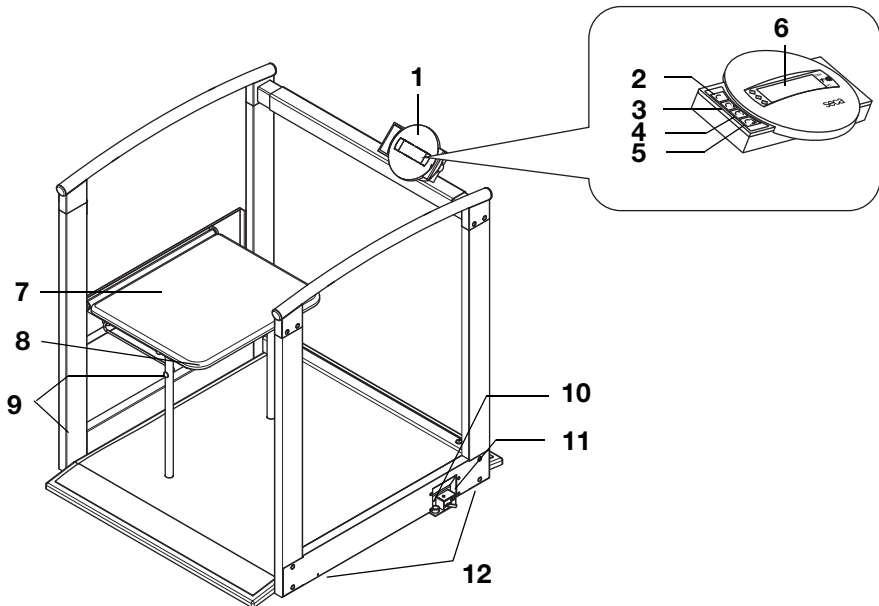
- Keep packaging material out of reach of children.
- In the event that the original packing material may not be available anymore, only use plastic bags with security holes in order to reduce the risk of suffocation.




NOTE:


Keep the original packing material for future use (e.g. returning for maintenance service).

4. OVERVIEW

4.1 Controls






No.	Control	Function
1	Display housing	Central control and display element, can be swiveled 180° to left and right
2		Switch scale on and off
3		Arrow key <ul style="list-style-type: none"> • During weighing: <ul style="list-style-type: none"> - press briefly: activate hold function - press and hold: activate tare function • In the menu: <ul style="list-style-type: none"> - select submenu, select menu item - increase value
4		Arrow key <ul style="list-style-type: none"> • During weighing: <ul style="list-style-type: none"> - press briefly: activate BMI function - press and hold: call up menu • In the menu: <ul style="list-style-type: none"> - select submenu, select menu item - reduce value






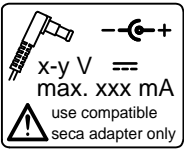



No.	Control	Function
5		Enter key During weighing (if wireless network is set up): - press briefly: send measuring result to devices ready to receive it (PC with USB wireless adapter) - press and hold: print out measuring result (wireless printer) • In the menu: - confirm selected menu item - save set value
6	Display	Display element for measuring results and to configure the device
7	Folding seat	For patients with restricted mobility who cannot stand for the whole measuring process
8	Latch	Secures the folding seat in the upright position
9	Transport casters	The scale can be moved on these casters.
10	Spirit level	Shows whether the device is horizontal
11	Power supply connection	Serves to connect the power pack supplied
12	Foot screw	4 pcs, for precise alignment

4.2 Symbols in the display









	Symbol	Meaning
A		Operation with power pack
B		Non-calibratable function active
C		Memory location currently in use

4.3 Marking on the device and on the rating plate

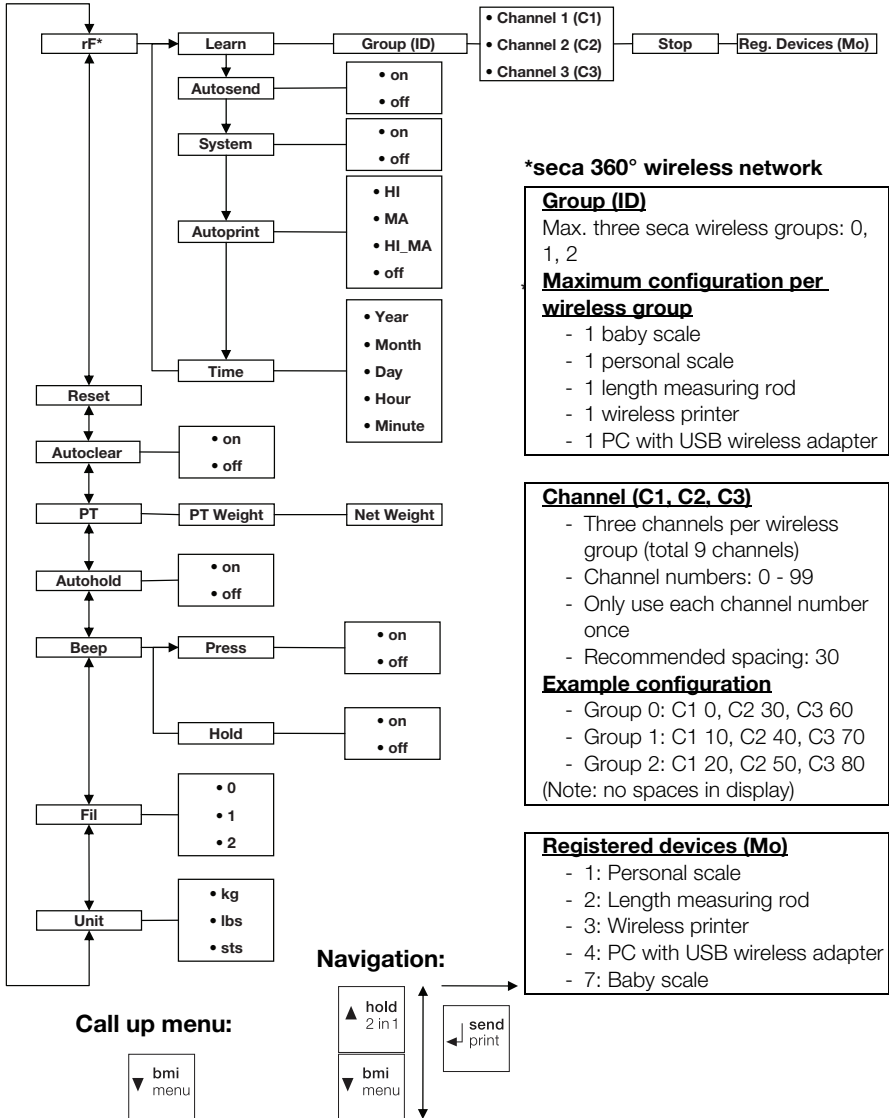
Text/symbol	Meaning
Model	Model number
Ser. no.	Serial number
	Follow instructions for use
	Electrical medical device, type B
	Insulated device, protection class II
d	Value which gives the difference between two consecutive display values
	Device conforms to EC directives <ul style="list-style-type: none"> • 0123: appointed office for medical devices: TÜV Süd Product Service
	Symbol of the US Federal Communications Commission (FCC)
FCC ID	Device license number from the Federal Communications Commission (FCC)
IC	Device license number from Industry Canada
	Rating plate on the power supply connection socket <ul style="list-style-type: none"> • x-y V: required supply voltage • max xxx mA: maximum current consumption • : note polarity of device plug • : operate device with direct current
	Do not dispose of device with household waste

4.4 Marking on the packaging

	Protect from moisture
	Arrows indicate top of product. Transport and store in an upright position.
	Fragile Do not throw or drop.
	Permitted min. and max. temperature for transport and storage
	Permitted min. and max. moisture for transport and storage
	Packaging material can be disposed of through recycling programs.

4.5 Menu structure

Other functions are available to you in the menu for the device. This enables you to configure the device perfectly to suit your needs (details from Page 89).



*seca 360° wireless network

Group (ID)

Max. three seca wireless groups: 0, 1, 2

Maximum configuration per wireless group

- 1 baby scale
- 1 personal scale
- 1 length measuring rod
- 1 wireless printer
- 1 PC with USB wireless adapter

Channel (C1, C2, C3)

- Three channels per wireless group (total 9 channels)
- Channel numbers: 0 - 99
- Only use each channel number once
- Recommended spacing: 30

Example configuration

- Group 0: C1 0, C2 30, C3 60
- Group 1: C1 10, C2 40, C3 70
- Group 2: C1 20, C2 50, C3 80

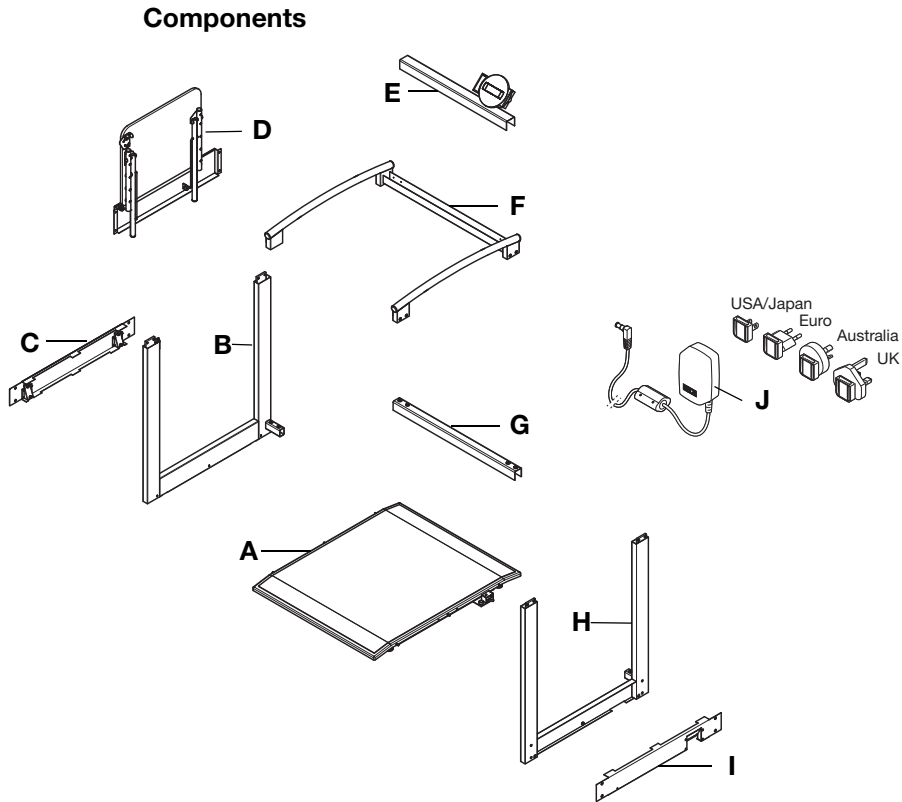
(Note: no spaces in display)

Registered devices (Mo)

- 1: Personal scale
- 2: Length measuring rod
- 3: Wireless printer
- 4: PC with USB wireless adapter
- 7: Baby scale

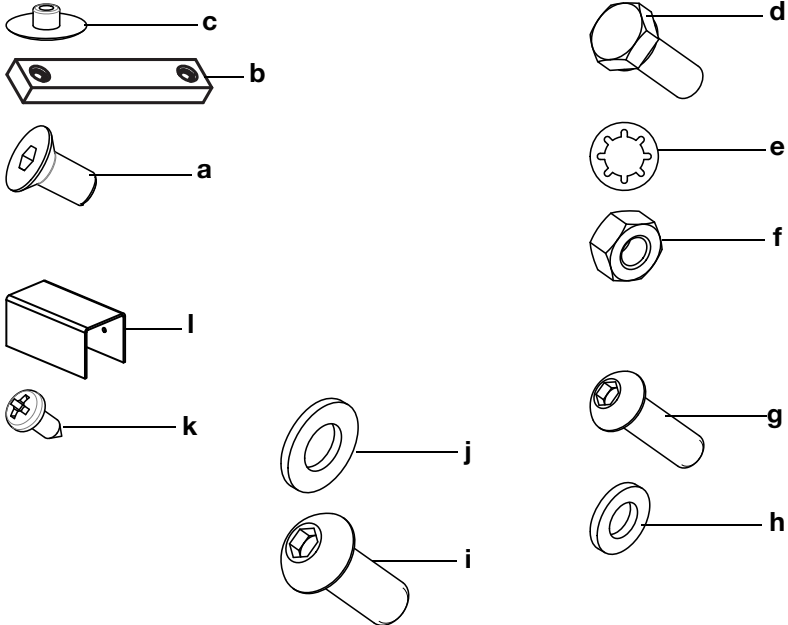
5. BEFORE YOU REALLY GET STARTED ...

5.1 Scope of supply



No.	Component	Pcs.
A	Weighing platform	1
B	Left-hand side part with casters	1
C	Left-hand cover with openings for casters	1
D	Folding seat	1
E	Display support with display housing	1
F	Railing with top cross-piece	1
G	Bottom cross-piece	1
H	Right-hand side part	1
I	Right-hand cover with opening for power supply connection	1
J	Power pack with adapters (model-dependent: power pack with Euro-connector)	1

Fastenings



No.	Component	Pcs.
a	Countersunk screw M6 x 12	16
b	Threaded plate	4
c	Cap to cover countersunk screws - black, for side covers - white, for railing	8 8
d	Hexagon bolt M6 x 16	6
e	Toothed ring J 6.4	6
f	Hexagon nut M6	6
g	Pan-head screw M6 x 20	4
h	Washer 6.4	4
i	Pan-head screw M8 x 20	4
j	Washer 8.4	4
k	Pan-head tapping screw B 3.5 x 9.5	4
l	Cap for display support	2
	Allen wrench, WAF 4 mm, not shown	1
	Allen wrench, WAF 5 mm, not shown	1
	Phillips screwdriver, size 1, not shown	1
	Socket wrench WAF 8/10, not shown	1
	Open-jawed wrench WAF 10, not shown	1
	Instructions for use, not shown	1

5.2 Assembling the device

We recommend that two people perform the assembly, as large individual parts have to be aligned with one another and screwed together.

Fitting the side parts

You need the following fastenings for this assembly step (fitted to the weighing platform):



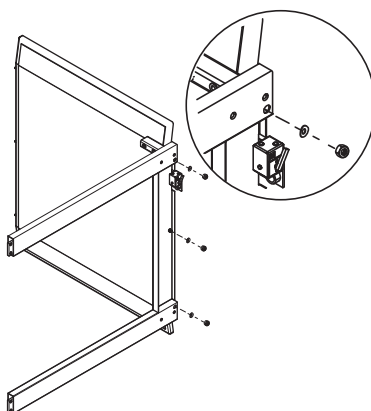
6 x M6 x 16



6 x J 6.4



6 x M6



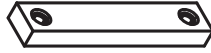
1. Remove the nuts and toothed rings on both sides of the weighing platform.
2. Leave the screws in the bores.
3. Place the weighing platform on its front edge and hold it in this position.
4. Put the right-hand side part on the screws on the weighing platform.
5. Put one toothed ring and one nut on each of the screws.
6. Tighten up the nuts.
7. Repeat steps 4. to 6. for the left-hand side part.

Fitting the side covers

You need the following fastenings for this assembly step:



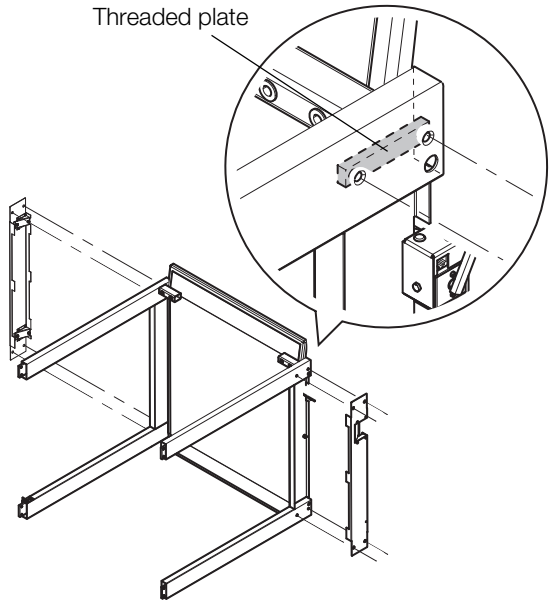
8 x M6 x12



4 x threaded plate



8 x black



1. Put one threaded plate on each end of the right-hand side part.
2. Ensure that the bores on the threaded plates and the bores in the side part are in line over one another.
3. Put the right-hand cover on the right-hand side part.
4. Secure the cover in position on the side part using the two screws at each end.
5. Repeat steps 1. to 4. for the left-hand cover.
6. Set up the weighing platform.
7. Put the black cover caps on the screws.

Assembling the railing

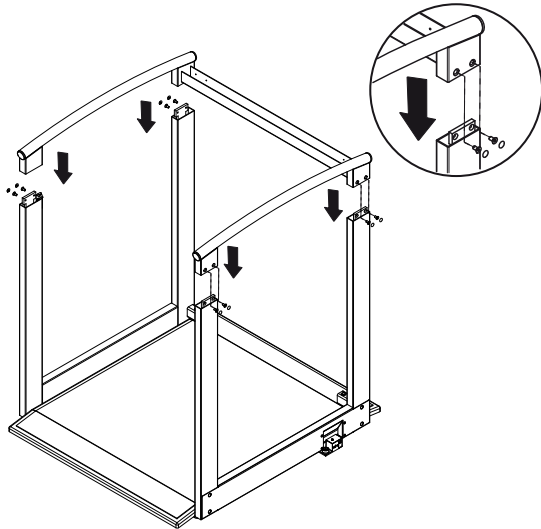
You need the following fastenings for this assembly step:



8 x M6 x12



8 x white



1. Put the railing on the uprights of the side parts.
2. Screw the railing onto the side parts using two screws per upright.
3. Put the white cover caps on the screws.

Fitting the bottom cross-piece

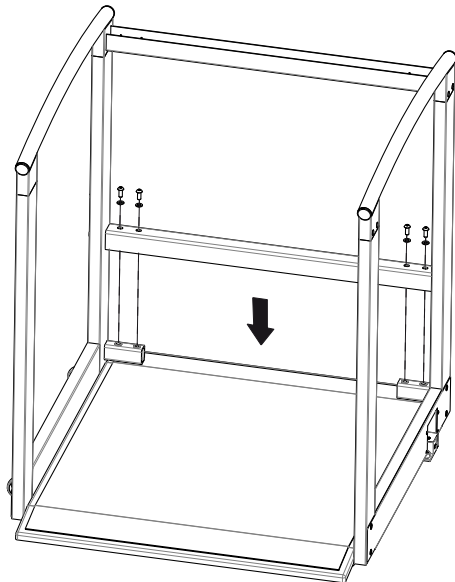
You need the following fastenings for this assembly step:



4 x M8 x 20



4 x \varnothing 8.4



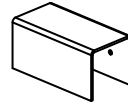
1. Put the bottom cross-piece on the side parts.
2. Ensure that the bores in the cross-piece and the bores in the side parts are in line over one another.
3. Screw the cross-piece firmly to the side parts.

Assembling the display support

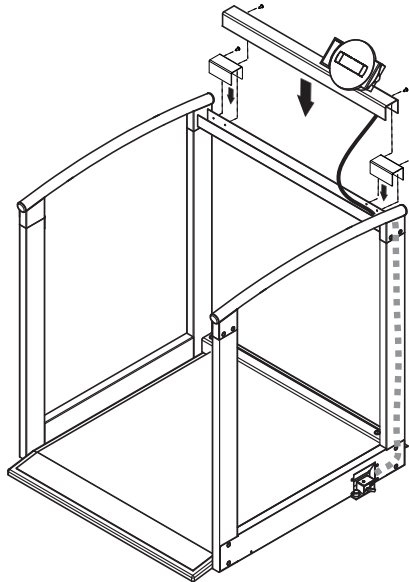
You need the following fastenings for this assembly step:



4 x B 3.5 x 9.5



2 x cap



1. Insert the loose end of the display cable in the top cross-piece so that the connector points towards the right-hand side part.

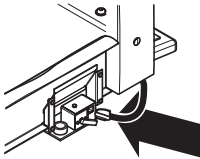
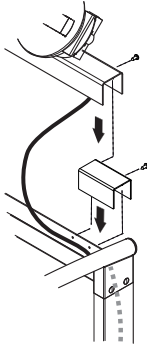
Caution!

Risk of tripping

If the display cable is pulled too far through the upright, it forms a loop which patients and users may trip over.

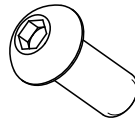
- Do not remove the cable ties on the display cable. The cable ties determine the length of the display cable. This allows it to be conveniently connected to the electronics box without forming a loop.
2. Push the display cable through the upright until the connector protrudes at the bottom end of the upright.

3. Ensure that the display cable is routed in the top cross-piece in such a way that it cannot become trapped in subsequent assembly steps.
4. Put the caps on the cross-piece.
5. Ensure that the bores of the caps are precisely over the bores of the cross-piece.
6. Put a screw in each of the outer bores of the caps and tighten them up.
7. Put the display support on the cross-piece.
8. Ensure that the bores in the cross-piece are precisely over the inner bores of the caps and of the cross-piece.
9. Put a screw in each of the bores of the display support and tighten it up.
10. Connect the display cable to the electronics box on the weighing platform.



Fitting the folding seat

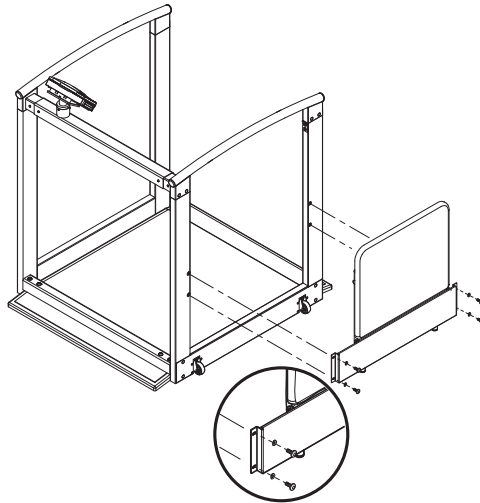
You need the following fastenings for this assembly step:



4 x M8 x 20



4 x \varnothing 8.4



NOTE

- The folding seat is intended for patients who cannot stand for the whole measuring process.
- The folding seat must be assembled so that it can be folded down in the direction of the weighing platform.

1. Screw the folding seat to the left-hand side part.
2. Remove the cable ties on the legs of the folding seat.

Final steps

1. Ensure that all parts are correctly located.
2. Ensure that all screws are fully tightened.

5.3 Establishing power supply

Power is supplied to the scale with a power pack.

Connecting the power pack

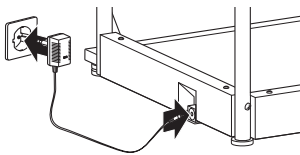
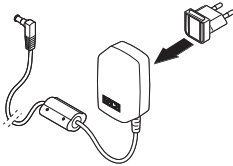


WARNING!

Using the wrong power packs may cause bodily injury or damage to the device

Conventional power packs may deliver a higher voltage than is indicated on them. The scale may overheat, catch fire, melt or short-circuit.

– Use only original seca plug-in power packs with a 9 V or controlled 12 V output voltage.



1. If required, insert the power supply connector necessary for your power supply into the power pack.
2. Insert the connector of the power pack into the connecting socket of the scale.
3. Plug the power pack into a power supply socket.
4. Perform a function check as described in the section entitled "Function check" on page 102.

6. OPERATION

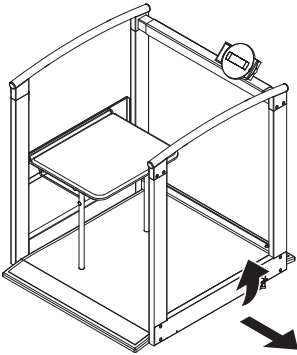
CAUTION!

Bodily injury

Perform a function check as described in the section entitled "Function check" on page 102 before using the device each time.

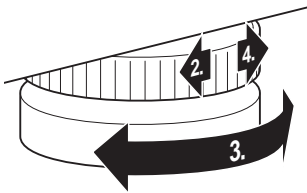
6.1 Making the scale operational

Moving the scale



1. Tilt the device until it can be moved freely on the casters.
2. Move the device in this position to the desired set-up or storage location.

Aligning the scale



ATTENTION!

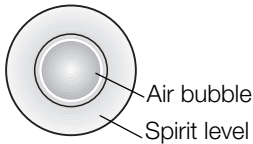
Incorrect measurement due to force shunts

If the scale and housing is in contact with something, e.g. a towel, weight will not be measured correctly.

- Set the scale up so that only its foot screws are in contact with the floor.

1. Place the scale on firm, level surface.
2. Undo the knurled wheels.
3. Level the device by turning the foot screws.

The air bubble in the spirit level must be located in the exact center of the circle.

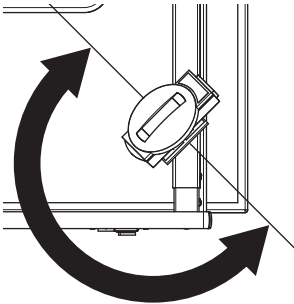


4. Tighten the knurled wheels in the direction of the arrow.

The foot screws are secured against being adjusted.

Swiveling the display housing

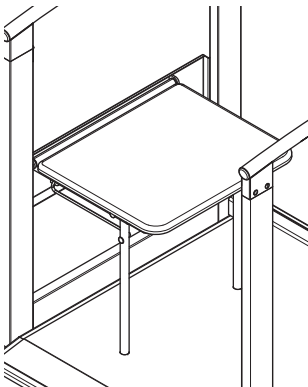
The display housing of the device can be swiveled. As a result, it can be perfectly positioned for every application.



- ◆ Swivel the display housing so that you can operate and read it conveniently.

Using the folding seat

Patients with restricted mobility can sit on the folding seat to be weighed.



CAUTION!

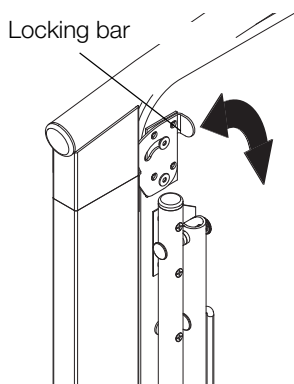
Bodily injury, damage to device

The maximum permitted load for the folding seat is less than the maximum permitted load for the device.

- Only load the folding seat to the maximum permitted load for the folding seat, see "Technical data" on page 105.
- Do not use the folding seat if you have to assume that the patient's weight exceeds the maximum permitted load of the folding seat.

Folding down the folding seat

1. Hold the folding seat steady so that it cannot drop down unintentionally.



2. Turn the locking bar of the folding seat clockwise until it no longer protrudes over the seat.
3. Fold the seat down.
4. Ensure that the legs of the seat are fully extended.

Folding up the folding seat



CAUTION!

Bodily injury

If the folding seat is not correctly secured, it may drop down unintentionally.

- Ensure that the folding seat is correctly latched when not in use.
- Ensure that the folding seat is not accidentally unlatched.

1. Fold the seat up.
2. Turn the locking bar of the folding seat counter-clockwise until it is securely engaged in the corresponding opening in the side part.
3. Ensure that the legs of the seat are fully folded away.

6.2 Weighing



CAUTION!

Patients can be injured if they fall

People with restricted mobility may fall if they try to step onto the scale or sit down on the scale.

- Support people with restricted mobility when they step onto the scale and when they sit down.

Switching on the scale



- ◆ Press the Start key.

All the elements of the display are shown briefly, then **SECA** appears in the display.

The scale is operational when **0.00** appears in the display.

Starting the weighing procedure

1. Ensure that the scale has no load.
2. Ask the patient to step onto the scale.
3. Ask the patient to keep still.



Determining extra weight (TARE)



Keeping the measurement result in the display (HOLD)

NOTE

If the patient is not steady on his or her legs, offer use of the folding seat. Support the patient as he or she sits down if necessary.

4. Read off the measurement result.

Using the TARE function, you can prevent any extra weight (e.g. a towel or a support on the weighing platform) from affecting the weighing result.

ATTENTION!

Incorrect measurement due to force shunts

If an extra weight, e.g. a large towel, contacts the surface on which the scale is placed, weight will not be measured correctly.

- Make sure that extra weights are only placed on the scale's weighing surface.

1. Switch on the scale.
2. Place the extra weight on the scale.
3. Hold the **(hold/tare)** arrow key down until the message "NET" appears in the display.
4. Wait until the display stops flashing and **0.00** appears instead.
5. Weigh the patient as described in the section entitled "Starting the weighing procedure".
6. Read off the measurement result.
The additional weight is automatically deducted.
7. To deactivate the TARE function, press the **(hold/tare)** arrow key until the message "NET" is no longer displayed or turn off the scale.

NOTE

The maximum weight which can be displayed is reduced by the weight of the objects already placed on the scale.

When you activate the HOLD function, the weight value continues to be displayed after the weight has been removed from the scale. As a result, you can attend to the patient before recording the weight.

1. Ensure that the scale has no load.
2. Switch on the scale.

3. Weigh the patient as described in the section entitled "Starting the weighing procedure".
4. Press the **(hold/tare)** arrow key briefly.



- The display flashes until a stable weight is measured. The weight is then continuously displayed. The Δ symbol (non-calibratable function) and the message "HOLD" are displayed.
5. To deactivate the HOLD function, briefly press the **(hold/tare)** arrow key. The Δ symbol and the "HOLD" message are no longer displayed.

NOTE

If the auto hold function is activated, the weight value is automatically displayed permanently until the scale switches itself off or is switched off, see "Activating the auto hold (Ahold) function" on page 91.

Determining and rating body mass index (BMI)

Body mass index relates height and weight to one another and consequently allows more accurate information than ideal Broca weight, for example. A tolerance range is quoted which is considered ideal for health.

The device has three memories for height. You can enter and save the height of specific patients. Alternatively, you can save different start values and thus set a patient's actual height more quickly.



1. Ensure that the scale has no load.
2. Switch on the scale.
3. Press the **(bmi/menu)** arrow key briefly. The message "BMI" appears. The last memory used is displayed (in this case, memory 2).
4. You can adopt the memory displayed or select a different memory using the arrow keys.
5. Confirm your setting with Enter **(send/print)**. Arrows flash in the display.



The last height saved to the selected memory is displayed.

6. You can accept the height displayed or use the arrow keys to set a different height.
7. Confirm your setting with Enter (**send/print**). The height entered is saved and will be available again for the next BMI calculation.

NOTE

Make a note of the memory number so that you can call up this height for another BMI calculation.

8. Weigh the patient as described in the section entitled Starting the weighing procedure. The patient's BMI is automatically calculated and displayed.
9. Read off the BMI and compare it with the categories quoted further down.
10. To deactivate the BMI function, briefly press the Enter key (**send/print**).



BMI	Rating
Below 18.5	Patient is underweight. There could be anorexic tendencies. Weight should be increased to improve well-being and performance. If in doubt, seek the advice of a consultant.
Between 18.5 and 24.9	The patient's weight is normal.
Between 25 and 30 (incipient obesity)	The patient is slightly to moderately overweight. He or she should lose weight if already suffering from a disease such as diabetes, high blood pressure, gout or disorders of fat metabolism.
Over 30	Weight needs to be lost urgently. The metabolism, the circulatory system and the bones are all under strain. A strict diet, lots of physical activity and behavioral training are all recommended. If in doubt, seek the advice of a consultant.

Sending measurement results to wireless receivers



If the scale is integrated in a **seca 360° wireless** network, you can send the measurement results to devices ready to receive them (e.g. wireless printer, PC with USB wireless adapter) at the touch of a button.

- ◆ Press the Enter key (**send/print**).
 - Press key briefly: send measurement results to all devices ready to receive them
 - Press and hold key: print out measurement result on wireless printer

Calculating and printing out BMI automatically

If you use this scale together with a wireless printer and a length measuring rod from the **seca 360° wireless** system, you can have BMI calculated and printed out automatically.

NOTE

The prerequisite for this function is that the devices are registered together in one wireless group (see "The seca 360° wireless network" on page 95).

1. Perform the weighing operation.
2. Briefly press the Enter key (**send/print**) of the scale.

The measured value is sent to the wireless printer but not printed.
3. Perform the height measurement.
4. Press and hold the Enter key (**send/print**) of the length measuring rod.

The measured value is sent to the wireless printer. BMI is calculated.
Height, weight and BMI are printed out.

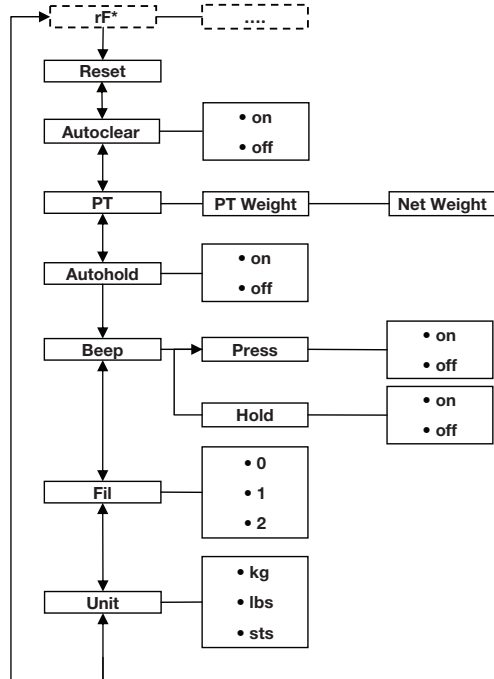
Switching off the scale



- ◆ Press the Start key.

6.3 Other functions (menu)

Other functions are available to you in the menu for the scale. This enables you to configure the scale to suit your conditions of use perfectly.



* The description of menu item "rF" can be found in the section entitled "Operating the scale in a wireless group (menu)" on page 97.

Navigating in the menu



AHOLD



FIL

1. Switch on the scale.
2. Keep arrow key (**bmi/menu**) pressed until the menu is called up.

The last menu item selected (in this case, auto hold "Ahold") appears in the display.

3. Press one of the arrow keys until the desired menu item appears in the display (in this case, filtering "Fil").



F I L 0



F I L 2



F I L 2

4. Confirm your selection with Enter (**send/print**).
The current setting for the menu item or a submenu are displayed (in this case, level "0").
5. To amend the setting or call up a different submenu, press one of the arrow keys until the desired setting (in this case, level "2") is displayed.
6. Confirm the setting with Enter (**send/print**).
You exit the menu automatically.
7. To make more settings, call up the menu again and proceed as described.

NOTE

If no key is pressed for about 24 seconds, you exit the menu automatically.

Deleting saved values automatically (AClr)

To prevent current measurement results remaining in the memory of the device and leading to an incorrect BMI calculation, you can set the scale so that measurement results are automatically deleted after 5 minutes.

NOTE

This function is activated at the factory on some models. You can deactivate the function if desired.

AClr

On

1. Select the item "AClr" from the menu.
2. Confirm your selection.
3. Select the desired setting:
 - on
 - off
4. Confirm your selection.
You exit the menu automatically.

Permanently saving the additional weight (Pt)

Using the Pre-tare function, you can permanently save an additional weight and automatically deduct it from a measurement result. For example, you can save an all-inclusive weight for shoes and clothing and then always deduct this from the measurement result if a patient is weighed fully-clothed.

The device has three memories for weights. You can save various weights and call them up individually depending on the initial situation, so that they are automatically deducted from the measurement result.

Pt

1. Select the item "Pt" from the menu.
The message "Pt" appears.



2. Confirm your selection.
The last memory used is displayed.
3. You can adopt the memory displayed or select a different memory.
4. Confirm your selection.
Arrows flash in the display.
The additional weight saved to the selected memory is displayed.
5. You can adopt the saved value or amend it using the arrow keys.

NOTE

When you enter the value "0", the function is switched off. The message "Pt" is no longer displayed.

6. Confirm your selection.
7. Ask the patient to position him or herself on the scale.
The patient's weight is displayed.
The saved additional weight has been deducted automatically.
8. To deactivate the function, select the item "Pt" from the menu again.
9. Confirm your selection.
The function is deactivated.
You exit the menu automatically.

NOTE

When you switch the scale off, the function is switched off. The message "Pt" is no longer displayed when you switch the scale on again.

Activating the auto hold (Ahold) function

When you activate the auto hold function, the measurement result for every weighing operation continues to be displayed after the weight has been removed from the scale. It is then no longer necessary to activate the Hold function manually for each individual weighing operation.

NOTE

This function is activated at the factory on some models. You can deactivate the function if desired.

AHOLD

On

1. Select the item "Ahold" from the menu.
2. Confirm your selection.
The current setting is displayed.
3. Select the desired setting:
 - on
 - off
4. Confirm your selection.
You exit the menu automatically.

Activating beeps (BEEP)

You can set whether a beep is heard every time a key is pressed and when a stable weight value is achieved. The latter is significant for the Hold/auto hold function.

NOTE

The "Beep when weight is stable" function is activated at the factory. You can deactivate this function if desired.

bEEP

PrESS

On

1. Select the item "BEEP" from the menu.
2. Confirm your selection.
3. Select a menu item.
 - Press: beep when key is pressed
 - Hold: beep when weight value is stable.
4. Confirm your selection.
The current setting is displayed.
5. Select the desired setting:
 - on
 - off
6. Confirm your selection.
You exit the menu automatically.
7. If you also want to activate beeps for the second function, repeat the process.

Setting filtering (Fil)

Filtering (Fil) allows you to reduce interference (e.g. as a result of patient movement) when determining weight.

FIL

FIL 0

1. Select the item "Fil" from the menu.
2. Confirm your selection.
The current setting is displayed.

3. Select a filtering level.
 - 0: no filtering
 - 1: moderate filtering
 - 2: high filtering
4. Confirm your selection.
You exit the menu automatically.

Switching unit of weight (Unit)

On non-calibrated scales, you can select the unit (Unit) in which you want weight to be displayed.

CAUTION!

Patient hazard

In order to avoid misinterpretations, test results for medical use must be displayed and used in SI units only. Some devices offer the ability to display test results in other units. This is only an additional function.

- Use the results exclusively in SI units.
- The use of measurement results in non-SI units is the sole responsibility of the user.

1. Select the item "Unit" from the menu.
2. Confirm your selection.

The current setting is displayed.

Select the unit in which you want weight to be displayed:

- kilograms (kg)
- pounds (lbs)
- stones (sts)

3. Confirm your selection.
You exit the menu automatically.

Restoring factory settings (RESET)

You can restore the factory settings for the functions below.

Function	Factory setting
Auto hold (Ahold")	Model-dependent
Beep (Press)	Off
Beep (Hold)	On
Filtering (Fil)	0
Autoclear (Aclear)	Model-dependent
Pre-tare (Pt)	0 kg
Height for Body Mass Index (BMI)	170 cm
Unit of weight	kg

Function	Factory setting
Wireless module (SYS)	Off
Autosend (ASend)	Off
Autoprint (APrt)	Off

NOTE

The wireless module is switched off when factory settings are restored. Information about existing wireless groups is retained. Wireless groups do not have to be set up again.

RESET

1. Select the item "Reset" from the menu.
2. Confirm your selection.
You exit the menu automatically.
3. Switch off the scale.
Factory settings are restored and are available when the scale is switched back on.

7. THE SECA 360° WIRELESS NETWORK

7.1 Introduction

This device is equipped with a wireless module. The wireless module allows wireless transmission of measurement results for evaluation and documentation. Data can be transmitted to the following devices:

- seca wireless printer
- PC with USB wireless adapter

seca wireless groups

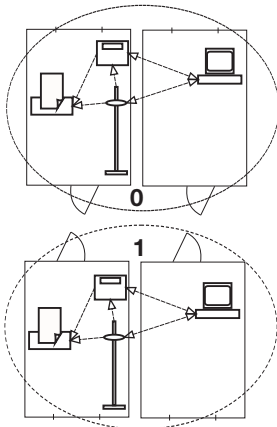
The **seca 360° wireless** network operates with wireless groups. A wireless group is a virtual group of transmitters and receivers. If several transmitters and receivers of the same type are going to be operated, up to 3 wireless groups (0, 1, 2) can be set up with this device.

Setting up several wireless groups ensures the reliable transmission of correctly-addressed measured values if you wish to use several examination rooms each with comparable equipment.

The maximum distance between transmitters and receivers is approx. 10 meters. Certain local circumstances such as the thickness and type of walls, may reduce the range.

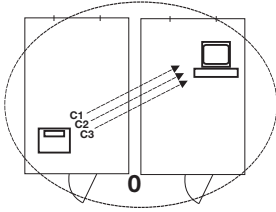
The following combination of devices is possible for each wireless group:

- 1 baby scale
- 1 personal scale
- 1 length measuring rod
- 1 seca wireless printer
- 1 PC with seca USB wireless adapter



Channels

Within a wireless group, devices communicate with each other on three channels (C1, C2, C3). This guarantees that data are transmitted reliably and without interference.



If you set up a wireless group with this scale, the device suggests three channels which will ensure optimal data transmission. We recommend adopting the channel numbers suggested.

You can also manually select the channel numbers (0 to 99), for example if you wish to set up several wireless groups.

To ensure interference-free data transmission, the channels must be spaced sufficiently far apart. We recommend a spacing of min. 30 between channel numbers. Each channel number may only be used for one channel.

Example configuration for channel numbers when setting up 3 wireless groups within a medical practice:

- wireless group 0: C1=_0, C2= 30, C3=60
- wireless group 1: C1=10, C2=40, C3=70
- wireless group 2: C1=20, C2=50, C3=80

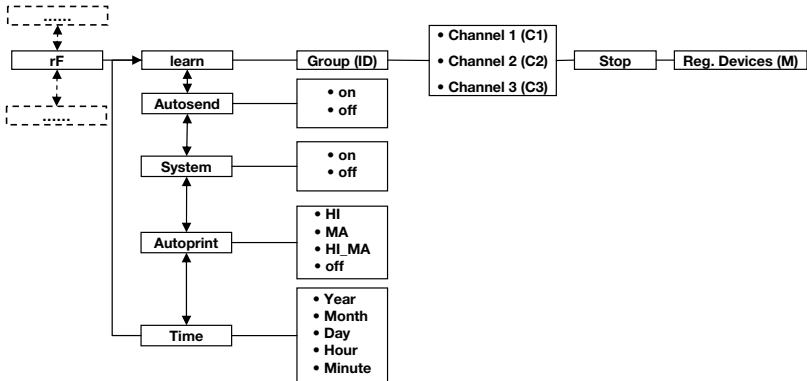
Device detection

If you set up a wireless group with the scale, it searches for other active devices from the **seca 360° wireless** system. The devices detected are shown in the display of the scale in the form of modules (e.g. MO 3). The numbers have the following meaning:

- 1: personal scale
- 2: length measuring rod
- 3: wireless printer
- 4: PC with seca USB wireless adapter
- 7: baby scale
- 5, 6 and 8-12: reserved for system expansion

7.2 Operating the scale in a wireless group (menu)

All the functions you need to operate the device in a wireless group can be found in the "rF" submenu. Information for navigating in the menu can be found on Page 89.



Activating the wireless module (SYS)

The device is supplied with the wireless module deactivated. You have to activate it before you can set up a wireless group.

1. Switch on the device.
2. Select the "SYS" menu item from the "rF" submenu.
3. Confirm your selection.
4. Select the "on" setting.
5. Confirm your selection.
You exit the menu automatically.

545

On

Setting up a wireless group (Lrn)

To set up a wireless group, follow the instructions below.

1. Switch on the device.
2. Call up the menu.
3. Select the item "rF" from the menu.
4. Confirm your selection.
5. Select the "Lrn" (learn) menu item from the "rF" submenu.
6. Confirm your selection.

rF

Lrn

A rectangular LCD display showing the text "ld 0" in a digital font.

The wireless group currently set (in this case: wireless group 0 "ID 0") is displayed.

A rectangular LCD display showing the text "ld 1" in a digital font.

If wireless group "0" already exists, use the arrow keys to select a different ID (in this case: wireless group 1 "ID 1").

A rectangular LCD display showing the text "C1 0" in a digital font.

7. Confirm your selection of wireless group.

The scale suggests a channel number for Channel 1 (in this case, C1 "0").

You can adopt the proposed channel number or use the arrow keys to set a different channel number.

A rectangular LCD display showing the text "C230" in a digital font.

8. Confirm your selection for Channel 1.

The device suggests a channel number for Channel 2 (in this case, C2 "30").

You can adopt the proposed channel number or use the arrow keys to set a different channel number.

NOTE

Double-digit channel numbers are displayed without a space. The display "C230" therefore means: Channel "2", channel number "30"

A rectangular LCD display showing the text "C360" in a digital font.

9. Confirm your selection for Channel 2.

The device suggests a channel number for Channel 3 (in this case, C3 "60").

You can adopt the proposed channel number or use the arrow keys to set a different channel number.

A rectangular LCD display showing the text "StOP" in a digital font.

10. Confirm your selection for Channel 3.

The message **StOP** appears in the display.

The device waits for signals from other wireless-capable devices in range.

NOTE

On some devices, a special switch-on procedure has to be followed if they are going to be integrated in a wireless group. Follow the instructions for use for the device in question.

11. Switch on the device, e.g. a wireless printer, you want to integrate in the wireless group.

When the wireless printer is detected, you will hear a beep.

NOTE

As soon as you have integrated a wireless printer in the wireless group, you then have to select a print option (Menu\rf\APrt) and set the time (Menu\rf\time).

12. Repeat step 11. for all the devices you want to integrate in this wireless group.
13. Press the Enter key to stop the search procedure.
14. Press one of the arrow keys to have the devices which have been detected displayed (in this case, Mo 3 for a wireless printer).
If you have integrated several devices in one wireless group, press the arrow keys several times to ensure that all devices have been detected by the scale.
15. Exit the menu using the Enter key or wait until you exit the menu automatically.

A rectangular LCD display showing the text "Mo 3" in a digital font.

Activating automatic send (ASend)

You can configure the device so that the measurement results are automatically sent to all receivers which are ready to receive and are registered to the same wireless group (e. g.: wireless printer, PC with USB wireless adapter).

NOTE

If you are using a wireless printer, ensure that "off" is not set as the print option (see "Selecting print option (APrt)" on page 99).

1. Switch on the device.
2. Select the "ASend" menu item from the "rf" submenu and confirm your selection.
3. Select the "on" setting and confirm your selection. You exit the menu automatically.

A rectangular LCD display showing the text "ASend" in a digital font.

A rectangular LCD display showing the text "On" in a digital font.

Selecting print option (APrt)

You can configure the device so that the measurement results are automatically printed out on a wireless printer registered to the wireless group.

NOTE

This function is only accessible if a seca wireless printer has been integrated in the wireless group via the "learn" function.

1. Switch on the device.

APr t

NA

2. Select the "APr t" menu item from the "r" submenu and confirm your selection.
3. Select the setting relevant for your device combination:
 - HI: measurement results from length measuring devices
 - MA: measurement results from scales
 - HI_MA: measurement results from length measuring devices and scales
 - off: no automatic printing, printing only possible by pressing and holding the Enter key during the weighing procedure.
4. Confirm your selection.
You exit the menu automatically.

Set the time (Time)

You can configure the system so that the wireless printer automatically adds a date and time to your measurement results. To do this, you have to set date and time once on this device and transmit it to the internal clock of the wireless printer.

NOTE

This function is only accessible if a seca wireless printer has been integrated in the wireless group via the "learn" function.

t ime

YEA 10

1. Switch on the device.
2. Select the "Time" menu item from the "rF" submenu.
3. Confirm your selection.
The current setting for "Year" is displayed.
4. Set the correct year.
5. Confirm your selection.
6. Repeat steps 3. and 4. accordingly for "month" (**Mon**), "day" (**dAy**), hour (**hour**) and minute (**Min**).
7. Confirm each of your selections.
After confirming the setting for minute, you automatically exit the menu.
The settings are automatically transmitted to the wireless printer.
The wireless printer automatically adds a date and time to every printout.

NOTE

Follow the instructions for use for the wireless printer for further information about operating it.

8. HYGIENE TREATMENT



WARNING!

Electric shock

The device is not de-energized when the on/off key is pressed and the display goes out. Use of fluids on the device may cause electric shock.

- Before each hygiene treatment, remove the mains cable to de-energize the device.
- Ensure that no fluids penetrate the device.



CAUTION!

Damage to device

Unsuitable cleaning agents may damage the sensitive surfaces of the device.

- Do not use aggressive or abrasive cleaning agents.
- Do not use white spirit or petroleum spirit.

8.1 Cleaning

- ◆ Use a soft cloth dampened with mild soapsuds to clean the surfaces of the device.

8.2 Disinfecting

1. Follow the instructions on the disinfectant.
2. Disinfect the device at regular intervals with a commercially available disinfectant, e.g. with 70% isopropyl alcohol.

Please take note of the following terms:

- Prior to every measurement with direct skin contact:
 - Weighing platform
- After every measurement with direct skin contact:
 - Weighing platform
- If required:
 - Display
 - Membrane keyboard

8.3 Sterilizing

The sterilisation of this device is not permitted.

9. FUNCTION CHECK

- ◆ Perform a function check before each use.

A complete function check includes:

- a visual inspection for mechanical damage
- a visual inspection and function check of the display
- Function check of all the controls shown in the section entitled "Overview".
- a function check of the optional accessories

If you find faults or deviations during the function check, as a first step try to remedy the fault with the aid of the section entitled "Troubleshooting" from page 103.

CAUTION!

Bodily injury

If you find faults or deviations during the function check which you are unable to remedy with the aid of the section entitled "Troubleshooting" from page 103, you may not use the device.

- Have the device repaired by seca service or an authorized specialist dealer.

10. TROUBLESHOOTING

Problem	Cause / Solution
No weight displayed with a load on the scale.	The scale has no power supply. - Check whether the scale is switched on.
0.00 does not appear before weighing.	A load was already on the scale before it was switched on. - Remove the load from the scale. - Switch the scale off and back on again.
One segment is illuminated either continuously or not at all.	The corresponding point has a fault. - Inform the service department.
The display "StOP" appears.	Maximum load has been exceeded. - Remove the load from the scale.
The display "tEMP" appears.	The ambient temperature of the scale is too high or too low. - Set up the scale in an ambient temperature between +10 °C and +40 °C. - Wait for around 15 minutes until the device has adapted to the ambient temperature.
After switching on for the first time, measurement results are transmitted and two beeps are heard.	<ul style="list-style-type: none"> • The device was unable to send measurement results to the wireless receiver (seca wireless printer or PC with seca USB wireless adapter). <ul style="list-style-type: none"> - Ensure that the scale is integrated in the wireless network. - Ensure that the receiver is switched on. • Reception is being interfered with by HF equipment (e.g. cell phones) in the vicinity. <ul style="list-style-type: none"> - Keep HF equipment at least 1 meter away from transmitters and receivers in the seca wireless network. The actual transmission output of HF equipment may require minimum distances of more than 1 meter. For details, go to www.seca.com. <p>NOTE If this fault is not eliminated, there will be no fresh acoustic warning when further attempts are made to send data.</p>
Only the "SYS" item is visible in the rf menu.	<ul style="list-style-type: none"> • The wireless module is deactivated. <ul style="list-style-type: none"> - Activate wireless module (see "Activating the wireless module (SYS)" on page 97).

Problem	Cause / Solution
Only the "SYS" and "Lrn" items are visible in the rf menu.	<ul style="list-style-type: none"> • The wireless module is activated and no wireless group is set up. <ul style="list-style-type: none"> - Set up wireless group (see "Setting up a wireless group (Lrn)" on page 97).
The items "APrt" and "Time" are not visible in the rf menu.	<ul style="list-style-type: none"> • No wireless printer registered to the wireless group. <ul style="list-style-type: none"> - Register the wireless printer to the wireless group via the "Lrn" menu item (see "Setting up a wireless group (Lrn)" on page 97).
After calling up the menu, the "rf" item is not displayed.	<ul style="list-style-type: none"> • The scale's wireless module is defective. <ul style="list-style-type: none"> - Inform seca service.
The display "Er:X:11" appears.	<p>The scale has too high a load or too high a load in one corner.</p> <ul style="list-style-type: none"> - Take the load off the scale or distribute the weight more evenly. - Restart the scale.
The display "Er:X:12" appears.	<p>The scale has been switched on with too high a load.</p> <ul style="list-style-type: none"> - Remove the load from the scale. - Restart the scale.
The display "Er:X:16" appears.	<p>The scale was caused to oscillate, the zero point could not be determined.</p> <ul style="list-style-type: none"> - Restart the scale.
The Enter key (send/print) is pressed and the display "Er:X:71" appears.	<p>No data transmission possible, wireless module deactivated.</p> <ul style="list-style-type: none"> - Activate wireless module (see "Activating the wireless module (SYS)" on page 97).
The Enter key (send/print) is pressed and the display "Er:X:72" appears.	<p>No data transmission possible, no wireless group set up.</p> <ul style="list-style-type: none"> - Set up wireless group (see "Setting up a wireless group (Lrn)" on page 97).

11.SERVICING



On leaving the factory, your seca scale has an accuracy of $\pm 0.15\%$ or better. To preserve this level of accuracy, the product must be set up with care and serviced regularly. Depending on how frequently the scale is used, we recommended servicing at intervals of 3 to 5 years.

ATTENTION!**Incorrect measurements as a result of poor servicing**

- Please only have servicing and repairs performed by an authorized service partner.
- You can find service partners in your area at www.seca.com or by sending an e-mail to service@seca.com.

12. TECHNICAL DATA

Technical data seca 684	
Dimensions of scale <ul style="list-style-type: none"> • Depth • Width • Height 	965 mm 910 mm 1100 mm
Dimensions of weighing platform <ul style="list-style-type: none"> • Depth • Width • Height 	850 mm 800 mm 57 mm
Net weight	approx. 59 kg
Temperature range <ul style="list-style-type: none"> • Operation • Storage • Transport 	+10 °C to +40 °C -10 °C to +65 °C -10 °C to +65 °C
Air pressure <ul style="list-style-type: none"> • Operation • Storage • Transport 	700-1060 hPa 700-1060 hPa 700-1060 hPa
Humidity <ul style="list-style-type: none"> • Operation • Storage • Transport 	30% - 80% no condensation 0% - 95% no condensation 0% - 95% no condensation
Height of digits	25 mm
Power supply	Power pack
Power consumption <ul style="list-style-type: none"> • with wireless module deactivated • with wireless module activated 	approx. 20 mA approx. 37 mA
Medical device in accordance with Directive 93/42/EEC	Class I with measuring function

Technical data seca 684	
EN 60601-1: <ul style="list-style-type: none"> • insulated device, protection class II • electrical medical device, type B 	 
Maximum load <ul style="list-style-type: none"> • Folding seat • Scale 	150 kg / 330 lbs / 24 sts 360 kg / 800 lbs / 57 sts
Minimum load	1.0 kg
Increments	50 g / 0.1 lbs
Tare range	360 kg / 800 lbs / 57 sts
Accuracy <ul style="list-style-type: none"> • 0 to 67 kg • 67 kg to maximum load • 0 to 147.7 lbs • 147.7 lbs to maximum load • 0 to 10.55 sts • 10.55 sts to maximum load 	± 100 g ±0.15% ± 0.2 lbs ±0.15% ± 0.2 lbs ±0.15%
Wireless transmission <ul style="list-style-type: none"> • Frequency band • Transmission power • Standards applied 	2.433 GHz - 2.480 GHz < 10 mW EN 300 328 EN 301489-1: EN 301489-17:

13. OPTIONAL ACCESSORIES

seca 360° wireless devices	Article number
Length measuring rods <ul style="list-style-type: none"> • seca 274 • seca 264 	Country-specific versions Country-specific versions
Access ramp	470-00-00-009
Wireless printers <ul style="list-style-type: none"> • seca 360° Wireless Printer 465 • seca 360° Wireless Printer Advanced 466 	Country-specific versions Country-specific versions
PC software <ul style="list-style-type: none"> • seca analytics 115 	Application-specific license packages
seca 360° Wireless USB Adapter 456	456-00-00-009

14. SPARE PARTS

Spare parts	Article number
Power pack with Euro-connector: 230 V~ / 50 Hz/12 V= / 130 mA	68-32-10-252
Switchmode power pack with adapters: 100 - 240 V~ / 50 -60 Hz / 12 V= / 0.5 A	68-32-10-265

15. DISPOSAL



Do not dispose of the device with household waste. The device must be disposed of properly as electronic waste. Comply with the national provisions applicable in your country. For further information contact our service department at:

service@seca.com

16. WARRANTY

We offer a two-year warranty from the date of delivery for defects attributable to faulty material or poor workmanship. This excludes all moveable parts such as (rechargeable) batteries, cables, power supply units, etc. Defects which are covered by the warranty shall be rectified free of charge for customers on production of the sales receipt. No further claims can be accepted. The costs of shipment in both directions shall be borne by the customer where the device is not located at the customer's premises. In the event of any damage during shipment warranty claims can only be asserted where the complete original packaging was used for shipment and the scales were secured inside in the same manner as in the original packaging. You should therefore keep all packaging.

The warranty shall become null and void where the device is opened by persons not expressly authorised to do so by seca.

We ask customers based abroad to contact their local sales agent direct in the case of warranty claims.