homecare

VENTI*motion* 2

Home ventilation device

Description of device and instructions for use
for devices from serial number 10,000

WEINMANN
medical technology

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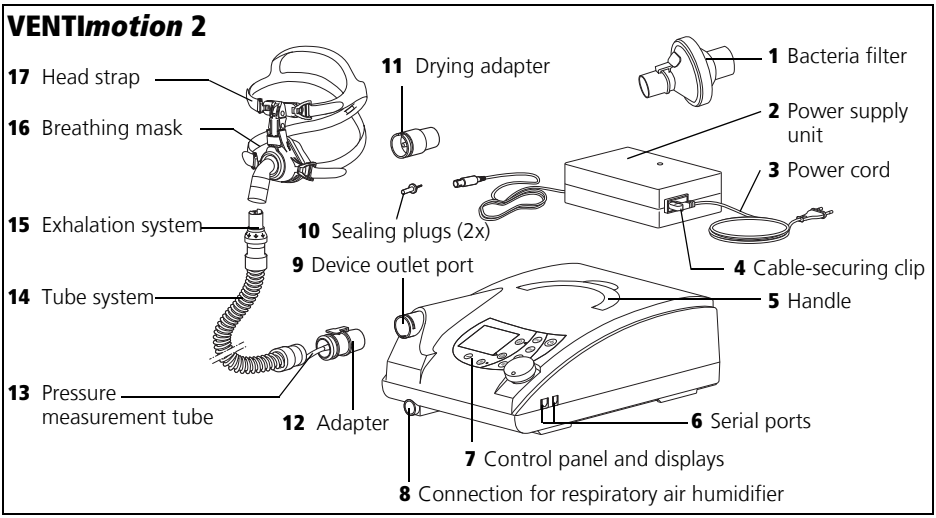
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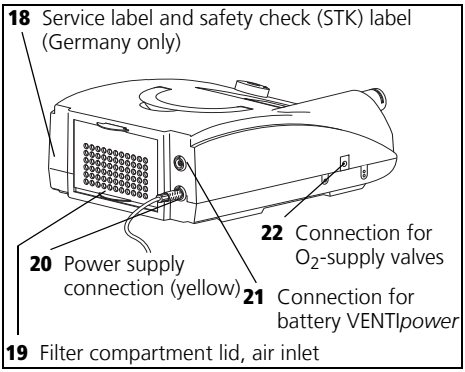
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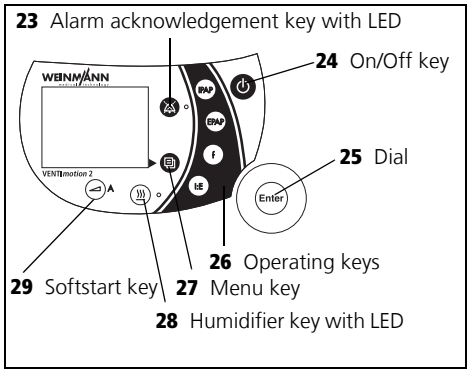
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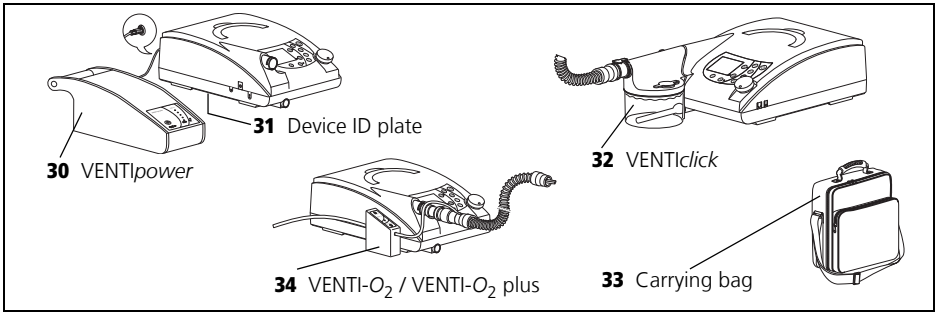
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1 Bacteria filter (accessory)

For protecting the device from contamination when several patients are using the device.

2 Power supply unit

For providing the device with power.

3 Power cord

Connects the power supply unit to the power supply.

4 Cable-securing clip

Prevents the device being disconnected from the power supply inadvertently.

5 Handle

For lifting the device.

6 Serial ports

For connecting to devices to display and evaluate therapy data.

7 Control panel and displays

For controlling and monitoring the device and connected accessories.

8 Connection for respiratory air humidifier

For connecting the VENTI*click* respiratory air humidifier.

9 Device outlet port

The respiratory air flows to the patient from here via the tube system and breathing mask.

10 Sealing plugs (2x)

For sealing the pressure measurement tube during cleaning.

11 Drying adapter

Required to dry the tube system and for the function check.

12 Adapter

For connecting the tube system to the device outlet port.

13 Pressure measurement tube

For measuring the pressure prevailing in the breathing mask.

14 Tube system

The air flows to the mask through the tube system. The tube system consists of a creased tube, pressure measurement tube and adapter.

15 Exhalation system (accessory)

This is where the exhaled air containing carbon dioxide escapes during therapy.

16 Breathing mask (accessory)

Respiratory air at the required therapy pressure is administered to the patient via the breathing mask.

17 Head strap (accessory)

For correct, secure positioning of the breathing mask.

18 Service label and safety check (STK) label (Germany only)

The service label indicates when the next service is required. The safety check [STK] label (Germany only) indicates when the next safety check as per §6 of the German law governing medical devices and their owners/operators is required.

19 Filter compartment lid, air inlet

For covering and securely positioning the coarse dust and fine filters.

20 Power supply connection (yellow)

This is where the connecting cable for the power supply unit is connected.

21 Connection for battery VENTI*power*

For the VENTI*power* electricity supply-independent power supply available as an accessory (accessory).

22 Connection for O_2 supply valve VENTI-O_2

For connecting the VENTI-O_2 and VENTI-O_2 plus oxygen supply valves available as an accessory (accessory).

23 Alarm acknowledgement key with LED

The alarm acknowledgement key is for the temporary muting of alarms. The LED is for displaying the alarms visually.

24 On/Off key

For switching the device on and off.

25 Dial

Central control element of the device, for navigating in the menu.

26 Operating keys

For the doctor to make rapid settings, disabled in Patient mode.

27 Menu key

For switching from the default display to the menu and back.

28 Humidifier key with LED

For setting humidifier stage. Six stages are available. The LED indicates whether the humidifier is activated.

29 Softstart key

For activating Softstart and for setting Softstart time up to the maximum value set by the doctor.

In TA mode, this key is for triggering an analysis phase manually.

30 VENTI*power* (accessory)

Obtainable as an accessory, for electricity-independent power supply of the device.

31 Device ID plate

Provides information about the device, such as serial number and year of manufacture.

32 VENTI*click* (accessory)

Obtainable as an accessory; for humidifying and heating respiratory air.

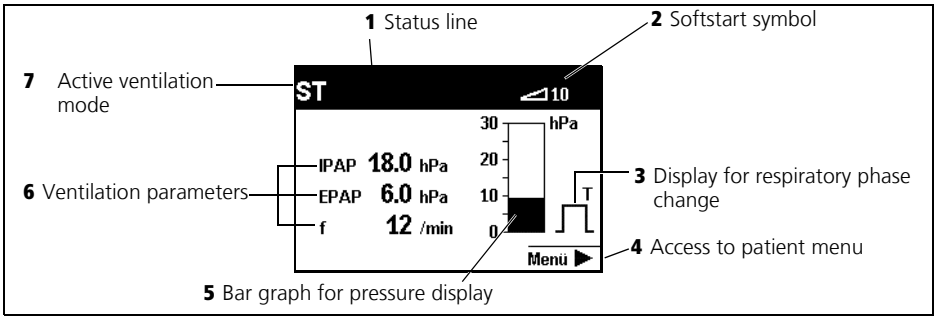
33 Carrying bag

For transporting the VENTI*motion* 2.

34 VENTI-O_2 /VENTI-O_2 plus (accessory)

For supplying oxygen to the breathing mask.

1.1 Default display during therapy



1 Status line

This is where information about device status, for example filter change or servicing due, is displayed.

2 Softstart symbol

Indicates that Softstart is activated, the number indicates remaining time in minutes.

3 Display for respiratory phase change

Indicates whether the current respiratory phase change is spontaneous or mandatory (spontaneous: S, mandatory: T); depending on the respiratory phase, the display switches from left (inspiration) to right (exhalation).

Likewise indicates whether the inspiration trigger at the start of an exhalation stage is blocked (▮),

due to trigger lockout time being activated, for example.

4 Access to patient menu

The key next to this menu item enables you to switch to the menu and back to the default display.

5 Bar graph for pressure display

For the graphical display of therapy pressure.

6 Ventilation parameters

Corresponding current ventilation parameters are displayed as a function of which mode is active.

7 Active ventilation mode

The ventilation mode which is active is displayed at this point in the status line.

1.2 Symbols used in the display

Symbol	Meaning
Status line	
	Softstart active, remaining time faded in
	Filter change required
	Acoustic signal for $IPAP_{min}$ and V_{Tmin} alarms silent
	Alarm for $IPAP_{min}$ and V_{Tmin} alarms deactivated
	Servicing required
	Physician functions enabled
	Physician functions locked
	Fan off
Main window	
	Low-priority alarm triggered
	Medium-priority alarm triggered

1.3 Abbreviations used in the display

Symbol	Meaning
Status line	
T	T mode active
TA	TA mode active
ST	ST mode active
CPAP	CPAP mode active
AA	Device in TA mode, automatic analysis phase running
AM	Device in TA mode, manual analysis phase running
+V	Volume compensation activated (comes after mode, e.g. **ST+V**)
+A	AirTrap control activated (comes after mode, e.g. **ST+A**)
Main window (default display)	
IPAP	Inspiration pressure
EPAP	Exhalation pressure
hPa	Pressure quoted in hectopascals; 1.01973 hPa correspond to 1 cm H_2O.
f	Respiratory frequency
S	Spontaneous triggering of respiratory phase change
T	Mandatory triggering of respiratory phase change
B	Inspiration trigger blocked during an exhalation

1.4 Safety instructions

Safety instructions indicate information relevant to safety.

You will find safety instructions within instructions before a step which includes a risk to people or objects.

Safety instructions consist of

- the warning symbol (pictogram),
- a word to indicate the level of hazard
- information about the hazard and
- instructions on how to avoid the hazard.

There are three levels of warning instruction, depending on the degree of hazard.

DANGER!

Indicates an unusually large hazard. If you do not follow this instruction, severe, irreversible injuries or death will result.

Warning!

Indicates an unusually large hazard. If you do not follow this instruction, severe, irreversible injuries or fatal injuries may result.

Caution!

Indicates a hazard. If you do not follow this instruction, slight or moderate injuries may result.

Note!

Indicates material hazards. If you do not follow this instruction, material damage may result.

2. Description of device

2.1 Intended use

VENTI*motion* 2 is a ventilation device for non-invasive ventilation in home care-type environments (not for life-support purposes) of adult patients with respiratory insufficiency who have a tidal volume of at least 160 ml and can be proven to have an independent respiratory drive. This corresponds to the following diseases:

- obstructive respiratory disorders such as COPD
- restrictive respiratory disorders such as scolioses, deformities of the thorax
- neurological, muscular and neuromuscular disorders, such as pareses of the diaphragm, for example
- central respiratory regulation disorders
- obstructive sleep apnea syndrome (OSAS)

VENTI*motion* 2 is **not suitable for life-support** use.

2.2 Owner/operator and user qualification

As an owner/operator or user, you must be familiar with the operation of this medical device.

Observe the legal requirements for operation and use (in Germany, the regulations governing owner/operators of medical devices apply in particular). Basic recommendation: get a person authorized by Weinmann to provide you with proper instruction about the handling, use and operation of this medical device.

You may only make individual settings to this device for a specific patient if you are the physician supervising treatment.

When the device is handed over to a patient, as the physician supervising treatment or a member of the hospital staff you must provide instruction in the function of the device.

2.3 Description of function

2.3.1 Display and operation

The parameters below can be read off the display.

- Therapy mode
- CPAP or IPAP and EPAP
- Respiratory frequency (f)
- Spontaneous or mechanical respiratory phase change
- Pressure change

Your doctor can set the ventilation parameters in standby and in normal mode.

Your doctor can set the device using several keys which allow direct access to the most important parameters:

- IPAP
- EPAP
- frequency
- inspiration time

The dial is used to control navigation through the menu.

2.3.2 Provision of therapy pressure

A fan takes in ambient air through a filter and pumps it to the device outlet port. The air flows to the patient from here through the tube system and the breathing mask.

Sensors detect the pressure in the breathing mask and in the tube system, as well as the respiratory phase change (trigger point). The fan provides the IPAP and EPAP pressures set by the doctor to suit this information.

2.3.3 Therapy modes

The device can be operated in the following therapy modes: T, TA, ST, CPAP. The mode required for your therapy will be set on the device by your doctor.

In adaptive, controlled TA mode, the device automatically adapts to your personal respiratory rhythm and provides therapy pressure at precisely this rhythm.

In time-controlled mode T and in assisted-controlled mode ST, your doctor can set respiratory frequency in a range from 6 to 45 breaths per minute and inspiration time in a range from 15 % to 67 % of respiratory period.

In assisted-controlled mode ST, your doctor can select one of 6 trigger stages for exhalation and inspiration. He can switch off the trigger for exhalation. Exhalation is then time-controlled.

In addition, the device also provides the option of completely blocking the inspiration trigger for the duration of exhalation. Once this adjustable trigger lockout time has elapsed, the inspiration trigger detects respiratory effort on inspiration at the set sensitivity as before.

Your doctor can set volume compensation. To this end, he sets minimum volume and maximum pressure rise. He can then set volume compensation in three stages (slow, medium, fast). If the minimum volume is undershot, the device continually increases pressure up to the maximum pressure set (therapy pressure + maximum pressure rise).

2.3.4 Other functions

The Softstart function makes it easier to fall asleep or to become accustomed to higher ventilation pressures. Your doctor will set initial pressures for inspiration and exhalation which will continuously rise to therapy pressures during the Softstart phase. This function can be disabled or limited by the doctor.

The device has an auto switch-on function. If this is activated, the device can be switched on by the patient taking a breath in the breathing mask. The device is still switched off by the On/Off key ⏻.

3. Safety instructions

3.1 Safety information

Read these instructions for use through carefully. They are a component part of the product. Use the device only for the intended use described (see "2.1 Intended use" on page 9).

For your own safety and that of your patients, and in accordance with the requirements of directive 93/42/EEC, observe the following instructions.

3.1.1 Operate the device

Caution!

- Check whether the power supply voltage on the device matches your local electricity supply. The device can work with voltages of 115 V and 230 V. It automatically adjusts to one of these voltages.
- Always secure the plug of the power cord on the power supply unit with the cable-securing clip to prevent the plug being disconnected inadvertently.
- The device must be connected to an easily accessible socket so that the plug can be disconnected quickly in the event of a fault.
- Do not set up the device close to a radiator and do not expose it to direct sunlight so as to stop the device overheating and forming condensation.
- Do not cover the device with blankets or similar. This blocks the air inlet and the device may overheat. This may lead to inadequate therapy and damage to the device.
- Maintain a safe distance between the device and devices which emit HF radiation (e.g. cellphones) (see page 64), otherwise there may be malfunctions.
- An alternative ventilation system should be kept to hand in case the device fails.

- Third-party makes of mask may only be used with the consent of the manufacturer, Weinmann. The success of therapy is jeopardized by the use of non-approved breathing masks.
- If a pneumotachograph with a high flow resistance is used to determine flow rate at the start of therapy or to check it, then trigger function may be restricted. In the event of questions, contact the manufacturer, Weinmann.
- No antistatic or conductive tubes may be used.
- The drying adapter supplied may not be used during ventilation, as this leads to inadequate therapy and the device may sustain damage.
- Using the VENTI*click*, bacteria filter and VENTI-O_2 and VENTI-O_2 plus O_2 supply valve accessories may change the characteristics of the device. Adding to these accessories subsequently may make it necessary to reset the device parameters. Consult your doctor if necessary.
- Follow the section entitled "6. Hygiene treatment" on page 32 to prevent an infection or bacterial contamination.

3.1.2 Transport/Accessories/Replacement parts/Repair

Caution!

- Do not transport the device with the respiratory air humidifier connected, otherwise residual water from the respiratory air humidifier may run into the device and damage it.
- If third-party items are used, functional failures and bioincompatibility may occur. In such cases, be aware that any claim under warranty and liability will be voided if neither the accessories nor the genuine replacement parts recommended in the instructions for use are used.
- Have servicing and repair work performed only by the manufacturer, Weinmann or professional staff.

3.1.3 Oxygen supply

Warning!

- If oxygen is being supplied to the respiratory flow, smoking and naked flames are prohibited. **Risk of fire.** Oxygen may become deposited in clothing, bedclothes or hair. It can be removed only by thorough ventilation.

Caution!

- Oxygen may only be supplied to the respiratory flow using the VENTI-O_2 and VENTI-O_2 plus O_2 supply valves.
- It is essential to observe the safety instructions in the instructions for use for your oxygen system.

3.2 Contraindications

The device should be used with particular caution or not at all with the following diseases. The decision about therapy is the responsibility of the supervising doctor in the individual case.

- Cardiac decompensation
- Severe cardiac arrhythmias
- Severe hypotension, especially in combination with intravascular volume depletion
- Severe epistaxis
- High risk of barotrauma
- Pneumothorax or pneumomediastinum
- Pneumoencephalus
- Skull trauma
- Status following brain surgery and following surgical intervention on the pituitary gland or the middle/inner ear
- Acute sinusitis, otitis media or perforated eardrum
- Dehydration

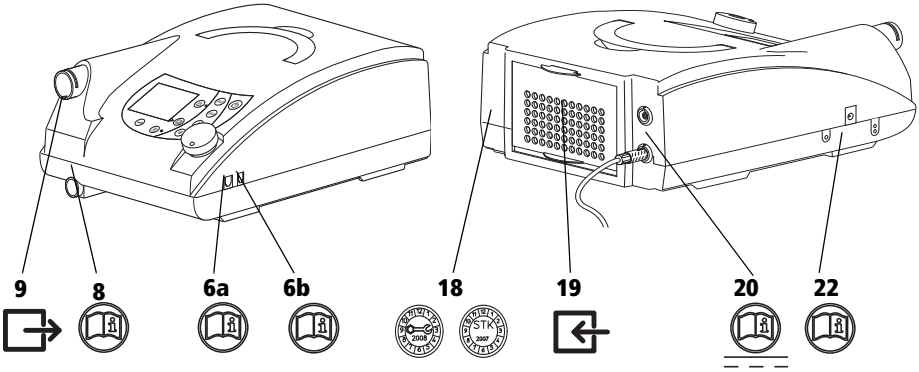
Dangerous situations involving this device have not yet been observed.

3.3 Side effects

When using the device, the following undesired side effects may occur in short-term or long-term use:

- pressure points on the face from the breathing mask and forehead cushion
- reddening of facial skin
- blocked nose
- dry nose
- dry mouth in the morning
- sensation of pressure in the sinuses
- irritation of the conjunctiva (mucous membranes of the eye)
- gastrointestinal insufflation of air (“bloating”)
- nosebleeds

3.4 Particular markings on the device



Front	
9	Device outlet port: ambient air outlet at 4 - 40 hPa
8	Socket: electrical rating for VENTI*click* respiratory air humidifier, WM 24365; max. current consumption at 40 V: 600 mA
Rear	
18	Service label: indicates when the next service is required.
18	Safety check [STK] label (Germany only); indicates when the next safety check as per §6 of the German law governing medical devices and their owners/operators is required.
19	Device input: inlet for ambient air at room temperature
20	Power supply with 12 V/40 V DC power supply unit/ connection for electricity supply-independent operation using VENTI*power*
Connecting sockets on the side	
6a	Connection for professionals to set therapy parameters using VENTI*support*; max. current consumption at 12 V: 15 mA
6b	Connection for optional auxiliary devices, such as Analogbox; max. current consumption at 12 V: 25 mA

22 	Connection for controlling O_2 supply valves; VENTI-O_2 maximum current consumption at 12 V: 125 mA VENTI-O_2 plus, maximum current consumption at 12 V: 135 mA
Device ID plate	
	Do not dispose of the device in domestic waste!
	Protection class BF
	Protection class II, protective insulation
	Manufacturer
	Follow instructions for use
CE 0197	CE 0197 symbol: Confirms that the product conforms to the applicable European directives

4. Set up device

4.1 Set up device

Note!

Material damage from overheating!

A blocked air supply can lead to overheating and thus to damage to the device.

- Maintain a distance of at least 5 cm between the wall and the rear of the device.
- Do not cover the device with blankets or other materials.

Place the device on a flat surface, for example a bedside table or on the floor next to the bed.

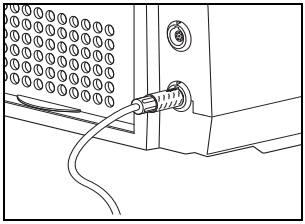
4.2 Connect device

Note!

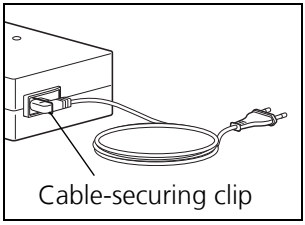
Material damage from incorrect parts being used!

If you operate the device with a power supply unit other than the one supplied, the device may be damaged.

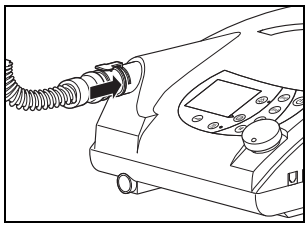
- Use only the power supply unit with yellow plug supplied. The yellow marking enables you to assign the power supply unit to the device correctly.



1. Plug the yellow plug of the power supply unit supplied into the yellow power supply socket of the device.



2. Connect the power cord to the power supply unit.
3. Always secure the plug of the power cord with the cable-securing clip to prevent the plug being disconnected inadvertently.
4. Connect the power supply plug to a power supply socket.
   The power supply unit automatically adjusts to the electricity supply voltage (115 or 230 V).



5. Plug the adapter of the tube system into the device outlet port.
   The device is now operational.

4.3 Put on breathing mask

The device is intended for operation with nasal cannulas, oro-nasal cannulas and full-face masks. Follow the instructions for use for the breathing mask in question.

Put on the breathing mask as follows.

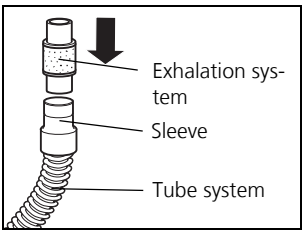
1. Adjust the forehead support of the breathing mask (if there is one).
2. Connect the head strap to the breathing mask.
3. Put on the breathing mask.
4. Adjust the head strap so that the mask cushion creates only a slight pressure, so as to avoid pressure points on the face.

4.4 Accessories

4.4.1 Separate exhalation system

A separate exhalation system is required if you are using a breathing mask without integrated exhalation system.

The used air which contains carbon dioxide (CO_2) escapes from the breathing mask through the exhalation system. Without an exhalation system, the CO_2 concentration in the breathing mask and tube may rise to critical values and thus inhibit your breathing.



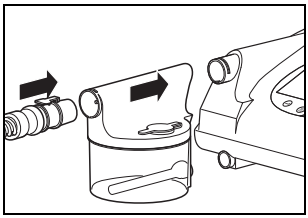
The exhalation system enables you to breathe through your nose or mouth, even if the device fails. In the case of full-face masks, breathing is effected through a safety valve on the breathing mask in the event of a fault.

The sleeve on the end of the tube system has a diameter of 19.5 mm and fits over a standard 22 mm ta-

pered connector. Push the exhalation system into the sleeve of the creased tube.

Follow the instructions for use for your exhalation system.

4.4.2 VENTI*click* respiratory air humidifier

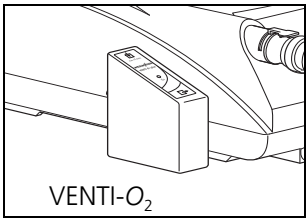


The VENTI*click* respiratory air humidifier is plugged between the device and the tube system. The input connector stub and the electric connection for the heating rod must be pointing towards the device. Follow the instructions for use for the VENTI*click*.

4.4.3 Oxygen supply with VENTI-O_2 / VENTI-O_2 plus

The supply of oxygen must have been prescribed by the supervising doctor.

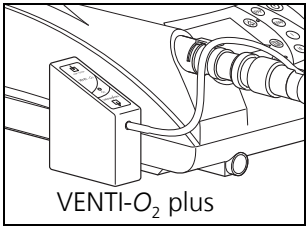
For safety reasons (risk of fire), it is not permitted to supply oxygen directly to the tube system or to the breathing mask without a special safety device.



VENTI-O_2

On this device, the supply of oxygen is permitted only using the VENTI-O_2 (WM 24200) and VENTI-O_2 plus (WM 27200) oxygen supply valves.

It is possible to supply up to 4 l/min of oxygen using VENTI-O_2. In the event of a fault, the VENTI-O_2 gives the oxygen off into the atmosphere, thus preventing it from accumulating in the device.



VENTI-O_2 plus

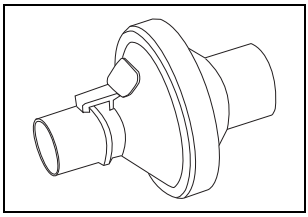
It is possible to supply up to 15 l/min of oxygen using VENTI-O_2 plus. In the event of a fault, the VENTI-O_2 plus switches off.

The oxygen can be supplied via an oxygen concentrator (e.g. Oxymat 3), the central gas supply facility, liquid oxygen with a continuous flow or an oxygen cylinder with the corresponding pressure reducer.

The external oxygen source must have a flow adjustment device independent of the VENTI-O_2.

It is essential in this process to follow the safety instructions for handling oxygen, as well as the instructions for use for the oxygen supply valves and the oxygen device used.

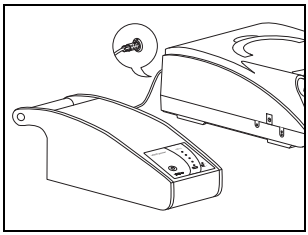
4.4.4 Bacteria filter



If the device is intended for use by several patients (e.g. in a hospital), your doctor must use bacteria filter WM 24148 to prevent infections. It is plugged between the tube system and VENTI*motion* 2/ VENTI*click*. You should also follow the instructions for use enclosed with the bacteria filter for this.

The bacteria filter represents an additional resistance to the air flow. This may effect a change in trigger response characteristics, so have the device parameters reset if a bacteria filter is fitted retrospectively.

4.4.5 VENTI*power*



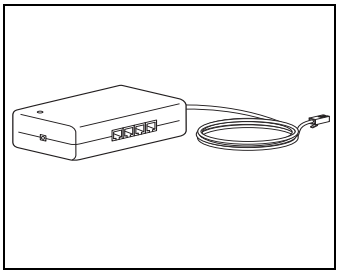
You can use VENTI*power* to operate the device independently of the electricity supply.

You can connect VENTI*power* to the device in parallel to the regular electricity supply (top socket). If the regular electricity supply fails, VENTI*power* undertakes the supply of power to the device after a delay of approx. 4 seconds. VENTI*power* must be switched on for this.

Follow the instructions for use for VENTI*power*.

We recommend NOT using the respiratory humidifier at the same time as operating the device using VENTI*power*. This considerably reduces the time for which VENTI*power* can supply power.

4.4.6 Analogbox D/A



The Analogbox makes it possible to transmit the following therapy parameters from the device to the PSG system.

- Mask pressure
- Flow
- Leakage flow
- Tidal volume
- Effort (in TA mode only)
- Fighting (in TA mode only)

The Analogbox converts the digital signals output by the device into analog signals. The analog signal output is proportional to the measured value.

The Analogbox is connected to the serial port of the device.

5. Operation

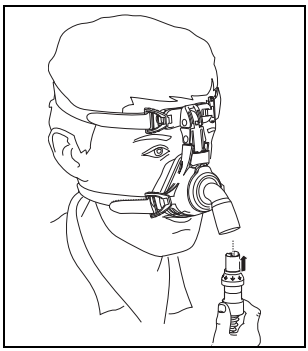
5.1 Start up VENTI*motion* 2

Caution!

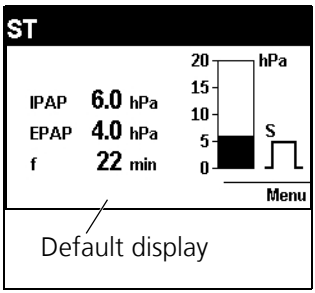
Risk of injury from missing exhalation system!

If there is no exhalation system, the CO_2 concentration in the breathing mask and tube rises to critical values and inhibits breathing.

– Always use an exhalation system.

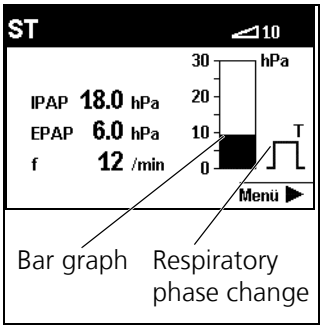


1. If your breathing mask has no integrated exhalation system, plug the exhalation system onto the end of the tube system (see "4.4.1 Separate exhalation system" on page 20).
2. Put on the breathing mask (see "4.3 Put on breathing mask" on page 20).
3. Connect the tube system including exhalation system to the breathing mask (tapered push-connector).
   Follow the instructions for use for the breathing mask and exhalation system in question.
4. Press On/Off key ⏻.
   If Auto switch-on is activated, you can also put on the breathing mask and switch on the device by taking a breath (see "5.2 Functions in the default display" on page 25).



Operating hours and the Weinmann software version appear in the display for approx. 3 seconds. The buzzer sounds and the device starts pumping air through the tube system. The display switches to the default display.

5.2 Functions in the default display



The following parameters are shown in the default display:

- set therapy mode (**T**, **TA, ST**, **CPAP**)
- therapy pressures (**IPAP** und **EPAP**) in hPa (only CPAP pressure in CPAP mode)
  Tip: 1,01973 hPa correspond to 1 cm H_2O
- current respiratory frequency (**f**) in 1/min
- Softstart display (if activated) with remaining Softstart time, maximum 30 minutes or the maximum Softstart time specified by the doctor (see "5.2.1 Set Softstart" on page 25)
- bar graph: shows the pressure curve for inspiration and exhalation

Display for respiratory phase change: indicates whether the current respiratory phase was triggered spontaneously by the patient (**S**) or by the machine (**T**). The display also shows whether the inspiration trigger is blocked at the start of an exhalation (**B**).

5.2.1 Set Softstart

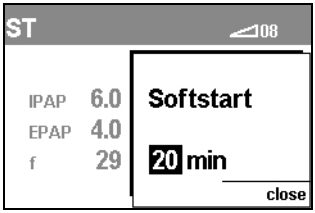
Note

The softstart function is not available in TA mode. In TA mode, trigger an analysis phase manually by pressing the Softstart key (see also "2.3.3 Therapy modes" on page 11).

The Softstart function makes it easier for you to fall asleep or to become accustomed to higher ventilation pressures. If Softstart is activated, pressures gradually rise to your therapy level.

If your doctor has enabled the Softstart function, you can select Softstart time in 5-minute increments up

to a maximum time of 30 minutes. Your doctor may limit the maximum time to less than 30 minutes.



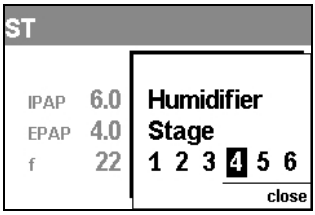
1. Operate the device.
2. Press the Softstart key until the **Softstart** window appears.
3. Change the Softstart time using the dial. Alternatively, press the Softstart key several times in succession to increase Softstart time in 5-minute increments.
4. To save the Softstart time, press the Menu key or the dial.
   The Softstart time displayed is saved and the Softstart window closes automatically.

Tip: if you press no key for 4 seconds, the Softstart time displayed is likewise saved. The settings are retained after the device is switched off.

The device automatically starts in Softstart mode if this was activated for the previous use. Softstart can be switched off or on at any time by a brief press of the Softstart key.

5.2.2 Set humidifier stage

You can use respiratory air humidifier VENTI*click* to humidify and heat respiratory air provided by the device. Heating output can be selected in 6 stages. Follow the instructions for use for VENTI*click*.



1. Operate the device.
2. Press the humidifier key until the **Humidifier Stage** window appears.
   If you press the humidifier key without a respiratory air humidifier being attached, the device does not switch on this function.

3. Set humidifier stage using the dial.
   Alternatively, press the humidifier key ♨ until the desired heating stage is reached.
4. Confirm your entry by pressing the dial or the menu key ▤.
   The window closes automatically. The setting is now active.

Tip: the device automatically starts with VENTIc*lick* activated if this was activated the last time the device was used. VENTIc*lick* can be switched off or on at any time with a brief press of the humidifier key ♨. If the humidifier is activated, the green LED next to the humidifier key comes on.

5.3 Functions in the menu

5.3.1 Drying process

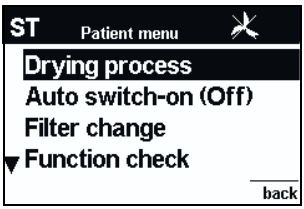
You need the drying process during the hygiene treatment to dry the tube system (see "6.2.1 Clean tube system" on page 33).

5.3.2 Activate/deactivate auto switch-on

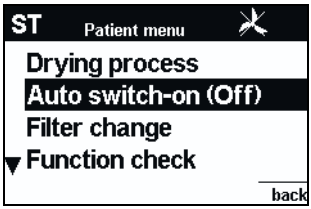
Auto switch-on switches on the device automatically as soon as you start breathing through the mask. You can still switch the device on using the On/Off key ⏻.

Note

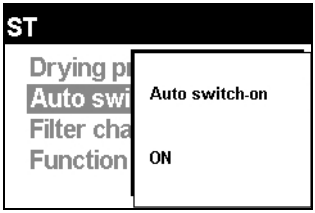
Auto switch-on can only be activated or deactivated in standby mode.



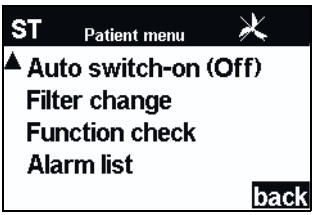
1. Press the Menu key ▤ to call up the **Patient menu**.
   Under the menu item **Auto switch-on** you see the current setting (On/Off).



2. To change the setting, use the dial to select the menu item **Auto switch-on** and press the dial to confirm.



The message **Auto switch-on ON/Auto switch-on OFF** appears for approx. 2 seconds. The device then switches back to the Patient menu. The current setting (On/Off) is shown in the **Auto switch-on** menu line.



3. To exit the menu, keep pressing the Menu key (**back**) until the default display appears. You can also select **back** with the dial and then press the dial to confirm.
   If you do not press any key for 5 minutes, the display switches back to the default display.

5.3.3 Filter change

You need the menu item Filter change in the course of servicing (see "9.2 Filter change" on page 51). This is where you reset the symbol for the filter change indicator.

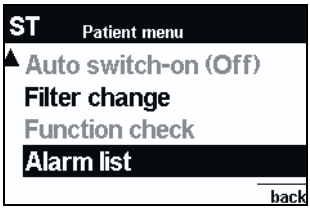
5.3.4 Function check

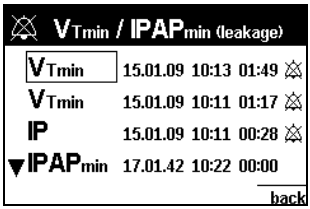
You need the menu item Function check in the course of the function check, so that you can check the function of the flow sensor and the pressure sensor (see "7.2.5 Flow sensor/pressure sensor" on page 41).

5.3.5 Alarm list

The **Alarm list** menu item is required to display all the alarms which have occurred.

1. Press menu key to call up the **Patient menu**.
2. Use the dial to select the **Alarm list** menu item and press the dial to confirm.



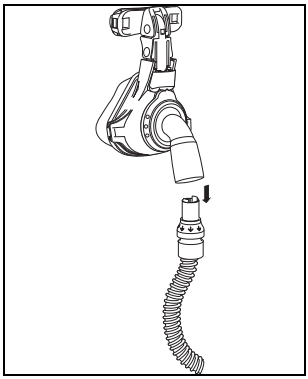


The **Alarm list** with all the alarms which have occurred to date appears in the display.

All alarm types listed in the "Physiological alarms" and "Technical alarms" tables are recorded in an alarm list with date, time and duration when the alarm threshold is reached. The alarm list is retained even if the entire power supply fails. In this case, the data can be called up for up to two years. The alarm list is cleared after two years or following a service. A maximum of 100 alarms is stored and displayed, after which the oldest alarms in each case are overwritten. Further information and a list of possible alarms can be found in the section entitled "8. Faults" on page 44.

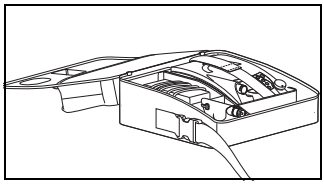
5.4 After use

1. Take off the head strap with the breathing mask.
2. Keep the On/Off key ⏻ depressed for 2 seconds to switch off the device.
   The fan switches off and the duration of the previous therapy appears in the display. The device then switches to standby mode. "WEINMANN VENTI*motion* 2" appears in the display.



3. Take the tube connection and the exhalation system (if present) off the breathing mask.
4. Clean the breathing mask and the exhalation system (see "6. Hygiene treatment" on page 32).
   Tip: to save electricity, you can disconnect the plug of the power cord from the socket when the device is not in use. The saved therapy parameters and settings will be retained.

5.5 Traveling with VENTI*motion* 2



VENTI*motion* 2 may be transported a relatively long distance only in the carrying bag provided for it. You need to pack the following in the carrying bag:

- device
- power supply unit
- power cable
- tube system incl. drying adapter
- breathing mask incl. exhalation system
- VENTI*click* respiratory air humidifier (if present)
- VENTI-O_2 /VENTI-O_2 plus oxygen supply valve (if present)

Take replacement filters and all the instructions for use, too.

If you want to take the VENTI*motion* 2 onto an aircraft as hand baggage, find out before departure whether any formalities are involved. You can obtain a certificate for transport in an aircraft from the manufacturer, Weinmann.

6. Hygiene treatment

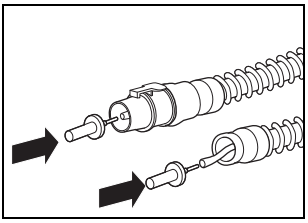
6.1 Intervals

You should check the filters at regular intervals and wipe down the housing and the filter compartment lid. You can wash the head strap. You should also observe the following intervals.

Intervals	Activity
Daily	– Clean tube system (see "6.2 Cleaning" on page 33) In accordance with the instructions for use in question: – clean breathing mask – clean bacteria filter – clean the exhalation system **after every use** – clean VENTI*click* respiratory air humidifier
Every 24 operating hours	– Change particulate filter in bacteria filter
Weekly	– Clean breathing mask thoroughly in accordance with the instructions for use – Clean coarse dust filter
Every 1,000 operating hours	– Change fine filter (filter change display ▒▒), earlier if dirty
Every 6 months	– Change coarse dust filter, earlier if dirty or worn – Replace pressure measurement tube – earlier if dirty – (see "9.3 Change pressure measurement tube" on page 53)
Annually	– Replace tube system

6.2 Cleaning

6.2.1 Clean tube system



1. Take the tube system off the device and the exhalation system.
2. Pull out one end of the pressure measurement tube (shake a little if necessary) and seal it with the sealing plug supplied.
3. At the other end, seal the small opening of the adapter with the second sealing plug so that no water can get in.
4. Clean the creased tube with a little detergent in hot water so that there are no residues. Rinse the inside of the tube thoroughly in the process.
5. Flush the creased tube thoroughly inside and outside with clean, hot water.
6. **Shake out the tube system thoroughly.**
7. Hang up the tube system and allow it to drip-dry well to prevent moisture penetrating the VENTI*motion* 2.
8. Remove the plugs from the pressure measurement tube.

6.2.2 Dry the tube system with the device

CAUTION!

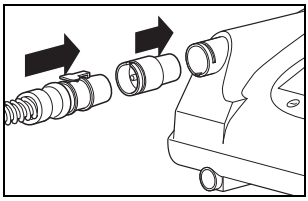
Risk of injury as a result of inadequate therapy!

If the red drying adapter is used during ventilation, inadequate supply to the patient and damage to the device may result.

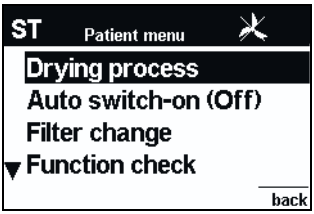
– Do not use the drying adapter during ventilation.

Note

The drying process can only run in standby mode.



1. If water gets into the pressure measurement tube accidentally, plug the red drying adapter supplied into the device outlet port.
2. Plug the adapter of the tube system onto the red drying adapter.



3. Press the Menu key. The selection bar is on **Drying process**.
4. Press the dial to start the drying process. The device now dries the tube system.

Remaining drying time is displayed. The device switches off automatically after 30 minutes. You can interrupt the process at any time by pressing the Menu key for 2 seconds.

5. If the tube system still has damp spots after drying, start the drying process again.
6. Remove the drying adapter from the device outlet port.

6.2.3 Clean housing

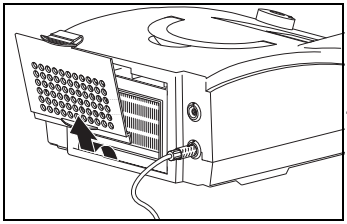
Warning!

Risk of injury from electric shock!

If the device is powered, liquids (e.g. cleaning agents) may cause an electric shock and injure people.

- Disconnect the connecting cable of the power supply unit from the power supply socket before cleaning the housing.
- Do not immerse the device in disinfectants or other liquids.

1. Wipe down the device, the power supply unit and the power cord with a soft, damp cloth.



2. Take off the filter compartment lid.
3. Remove the coarse dust filter.
4. Clean the filter compartment lid under running water until there are no residues.
5. Dry the filter compartment lid carefully.
6. Put the coarse dust filter and the filter compartment lid back in.

6.2.4 Clean coarse dust filter/change fine filter

1. Take off the filter compartment lid.
2. Remove the coarse dust filter from the filter compartment lid and clean it under clean running water until there are no residues.
3. Replace the fine filter.
   The fine filter cannot be cleaned. It must be replaced every 1,000 operating hours.
4. Leave the coarse dust filter to dry. The coarse dust filter must be completely dry before the device is started up.

5. Put the coarse dust filter back in and close the filter compartment lid.

6.2.5 Clean accessories

Cleaning of the accessories is described in the relevant instructions for use.

6.3 Disinfect, sterilize

You may disinfect the following parts when required, e.g. in the event of infectious diseases or unusual contamination.

- Housing
- Power supply unit
- Power cord
- Tube system
- Bacteria filter housing
- Accessories

Follow the instructions for use for the disinfectant used. We recommend wearing suitable gloves (e.g. household or disposable gloves) when disinfecting.

6.3.1 Device

Disinfect the housing, power supply unit and power cord simply by wiping with disinfectant. We recommend terralin® protect for this purpose.

Sterilization of the device is not permitted.

6.3.2 Tube system

- Creased tube WM 24130 (transparent): can be washed in hot water at a temperature of up to 70 °C. Sterilization is not permitted.

- Creased tube WM 24120 (gray): can be steam-sterilized in devices to EN 285. Temperature: 134 °C, minimum dwell time 5 minutes. Follow the instructions in EN ISO 17665-1 with regard to validation and monitoring.

Disinfecting

We recommend gigasept FF® as a disinfectant.

1. Perform the same steps as described in "6.2.1 Clean tube system" on page 33.
2. After disinfecting, rinse all parts thoroughly in distilled water.
3. Leave the parts to dry completely.
4. Allow the tube system to drip-dry.
5. Dry the tube system with the device (see "6.2 Cleaning" on page 33).

6.3.3 Accessories

For disinfecting/sterilizing the accessories, see the instructions for use in question.

6.4 Change of patient

If you are operating the device **with** bacteria filter, please note the following:

- change the bacteria filter

or:

- sterilize the bacteria filter and change the particulate filter inside it.

If you want to operate the device for a different patient **without** using a bacteria filter, you must subject the device to a hygiene treatment beforehand. This must be performed by the manufacturer, Weinmann, or by a specialist dealer.

- The procedure for the hygiene treatment is described on the servicing sheet and in the servicing and repair instructions for the devices.

7. Function check

7.1 Intervals

Perform a function check at least every 6 months. If you find faults during the function check, you may not use the device again until the faults have been eliminated.

7.2 Method

1. Assemble the device ready for use with tube system, exhalation system and power cord.
2. Seal the opening of the tube system, e.g. with a thumb or the palm of your hand.
3. Switch on the device by pressing the On/Off key ⏻.
4. If TA mode is active, wait approx. 4 minutes until the analysis phase is complete.
5. If Softstart is switched on, switch it off by pressing the Softstart key ◿.

Depending on the operating mode set, now check the functions below.

Function / Mode	CPAP	T	TA	ST
Pressure precision	•	•	•	•
Respiratory frequency/minimum frequency	–	•	•	•
Triggering	–	–	–	•
Softstart	•	•	–	•
Flow sensor	–	•	•	•
Alarms	•	•	•	•

If the values/functions quoted below are not met, contact your specialist dealer.

7.2.1 Check pressure precision

1. Wait about 1 minute.

2. Then read off the CPAP pressure displayed or, if appropriate, the IPAP/EPAP pressure displayed in the bar graph and check whether the values displayed match prescribed values.

7.2.2 Check respiratory frequency/minimum frequency

This check is not necessary if the device is being operated in CPAP mode.

1. Observe the following sequence: the device switches periodically between the IPAP and EPAP pressure levels.
2. Count the IPAP phases within one minute and compare them with the display. You can recognize the IPAP phase by the louder operating noise/the bar graph in the default display.

Specified values

– T, TA and ST mode: prescribed value

Permitted deviation

– Maximum ±1 phase/minute.

7.2.3 Check triggering

This check is only necessary if the device is being operated in ST mode.

1. Switch off the device by keeping the On/Off key ⏻ depressed for 2 seconds.
2. Fit the breathing mask.
3. Switch on the device by pressing the On/Off key ⏻.
4. Put on the breathing mask and breathe normally. In ST mode, your respiratory frequency must be above the prescribed frequency to stop the time-controlled trigger of the device becoming active.

Requirement

The device must react to the switch in respiratory phases by changing pressure level.

If the trigger for exhalation does not work, it may have been switched off, or trigger lockout time may have been activated. Ask your doctor whether this is the case.

7.2.4 Check Softstart

This check is not necessary if Softstart has been disabled by the doctor.

1. Switch on Softstart by pressing the Softstart key .

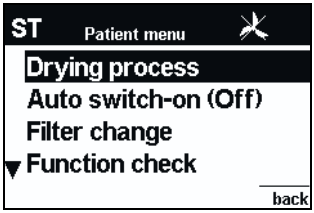
   The Softstart display appears and Softstart time is displayed.

7.2.5 Flow sensor/pressure sensor

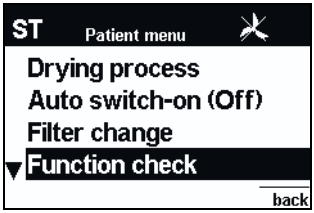
Note

A function check of the flow sensors/pressure sensors can only be carried out in standby mode.

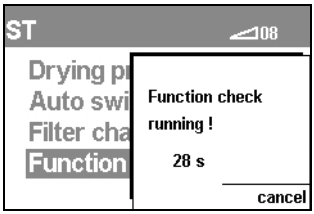
1. Plug the red drying adapter supplied into the device outlet port.



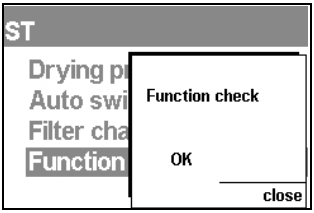
2. Press the Menu key to reach the menu.



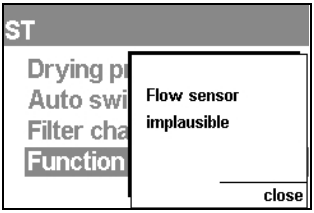
3. Use the dial to select the menu item **Function check** and press the dial.



The message window **Function check running!** opens. The remaining time for the function check is displayed.



Once the function check has been successfully completed, the message **Function check ok.!** appears and VENTI*motion* 2 returns to the default display.



If an implausible value is detected during the function check, the message **Flow sensor implausible!**, **Sensor system implausible!** or **Implausible pressure measurement!** appears. In this event, proceed as follows.

- Close the window using the Menu key ☰.
- Disconnect the power supply for 5 min.
- Check whether the drying adapter has been attached properly.
- Perform the function check again.

If the message **Flow sensor implausible!**, **Sensor system implausible!** oder **Implausible pressure measurement!** appears again, contact your specialist dealer immediately to have the device repaired.

7.2.6 Alarms

When you press the On/Off key ⏻, the device performs a self-test of the sensor system. This checks that the alarm system is working. If a fault occurs during the self-test, an error message appears in the main screen (see also "8. Faults" on page 44).

1. Check the buzzer and the status indicators:

   each time the device is switched on, listen for the buzzer and ensure that the status indicator has come on.

2. Check power failure alarm.
3. Starting up the device.
4. Then disconnect the power cord from the socket, the display goes out and the buzzer sounds.

Note

The device must have been connected to the power supply for at least 5 minutes before this test is performed.

Once the function check is complete, switch the device off again by pressing the On/Off key ⏻.

8. Faults

8.1 Faults

Fault/fault message	Cause of fault	Remedy
No running noise, nothing in display	No power to device.	Check power cord and power supply unit connecting cable are securely connected. Possibly check function of the socket by connecting another device (e.g. a lamp) to it.
Device cannot be switched on by a breath being taken into it	Auto switch-on not activated.	Activate auto switch-on.
Softstart cannot be switched on	Softstart function is disabled.	Clarify with your doctor whether the Softstart function can be enabled for your therapy.
Softstart time cannot be set to 30 min.	Maximum Softstart time limited by doctor.	Clarify with your doctor whether the maximum Softstart time can be extended to 30 minutes for your therapy.
Device running but not reaching set IPAP pressure	Filters dirty.	Clean/change filters (9.2, page 51).
	Breathing mask leaking.	Adjust head strap so that breathing mask seals, replace if necessary.
	Breathing mask defective.	Replace breathing mask.
Filter change indicator ⊠ appears	Filter dirty.	Clean or change filter as quickly as possible (9.2, page 51).
 Battery discharged	Internal battery of device exhausted.	Press alarm acknowledgement key, have battery replaced by a specialist dealer so that course of therapy is recorded correctly.

Fault/fault message	Cause of fault	Remedy
Clock not set	Internal clock of VENTI*motion* 2 not set.	Press alarm acknowledgement key, have clock set by your doctor so that course of therapy is recorded correctly.
Service indicator appears		The device must be checked over or serviced by Weinmann or a specialist dealer as soon as possible.
VENTI*click* humidifier not working	Incorrect power supply unit connected at battery connection.	Check whether the correct power supply unit (plug with yellow marking) is connected at the bottom socket (yellow). If appropriate, replace power supply unit and use correct socket.

If there are faults which cannot be remedied immediately, contact your specialist dealer immediately to have the device repaired. Do not continue operating the device to prevent greater damage.

8.2 Alarms

A distinction is made between two types of alarm:

- low-priority alarms, indicated by the symbol in the alarm window, a **continuous**, yellow status indicator and an acoustic alarm (buzzer).
- medium-priority alarms, indicated by the symbol in the alarm window, a **flashing**, yellow status indicator and an acoustic alarm (buzzer).

There are no so-called "high-priority alarms" on this device, as it may not be used for life-support ventilation.

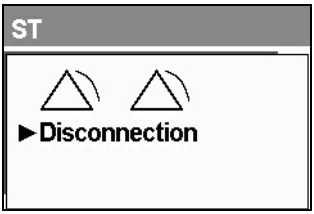
8.2.1 Mute alarms

The physician supervising treatment can deactivate the acoustic alarm of the physiological alarms V_{Tmin} and $IPAP_{min}$ (symbol in the status line). In this case, the corresponding alarm simply appears in the display and the yellow status indicator is permanently on.

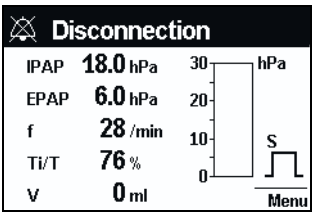
8.2.2 Deactivate alarms

If the symbol appears in the status line, physiological alarms V_{Tmin} and $IPAP_{min}$ have been deactivated.

8.2.3 Acknowledge alarms



If an alarm is triggered by a fault (in this case, disconnection alarm), press the alarm acknowledgement key. The acoustic alarm pauses for approx. 120 seconds.



Once the acoustic alarm has been acknowledged, the default display appears again. The fault which has not yet been eliminated continues to be displayed in the status line and the yellow status indicator flashes (or is on) until the fault is eliminated.

If the fault is not eliminated within 120 seconds of the acknowledgement, the acoustic alarm (buzzer) sounds again.

8.2.4 Sequence of displays with simultaneous alarms

If several alarms are triggered simultaneously, they are displayed in accordance with the hierarchy outlined below.

Medium-priority alarms

1. Device fault
2. Disconnection

Low-priority alarms

1. $IPAP_{min}$/V_{Tmin}
2. $IPAP_{min}$
3. V_{Tmin}

If medium-priority and low-priority alarms occur at the same time, medium-priority alarms are shown first.

8.2.5 Physiological alarms

Display	Alarm	Cause of fault	Remedy
V_{Tmin} 	Minimum respiratory volume undershot. Low priority	Filter dirty.	Clean or change filter.
		Breathing mask leaking.	Adjust head strap so that breathing mask seals, replace if necessary.
		Breathing mask defective.	Replace breathing mask.
		Settings implausible.	Check settings.
$IPAP_{min}$ (leakage) 	Minimum therapy pressure undershot. Low priority	Filter dirty.	Clean or change filter.
		Breathing mask leaking.	Adjust head strap so that breathing mask seals, replace if necessary.
		Breathing mask defective.	Replace breathing mask.
		Settings implausible.	Check settings.

8.2.6 Technical alarms

Display	Alarm	Cause of fault	Remedy
Device fault  Excessive pressure	Medium priority	Pressure sensor defective.	Have device repaired.
	Pressure measurement tube blocked. Medium priority	Drops of water in pressure measurement tube.	Dry pressure measurement tube as described in 6.2.
Disconnection 	Medium priority	Tube system not connected to the device correctly or not connected at all.	Check the tube connection on the device
		Device being operated with open mask (mask not put on).	Put on the mask or switch off the device.
Device fault  Excessive temperature	Medium priority	Device overheating as a result of direct sunlight.	Allow device to cool down, find a more suitable location to set it up.
	Medium priority	Device being operated outside permitted temperature range.	

Display	Alarm	Cause of fault	Remedy
Display vanished	Acoustic signal for at least 120 seconds, no display. Medium priority	No power to device.	Check power cord and power supply unit connecting cable are securely connected. If necessary, check the function of the socket using a different device (e.g. a lamp).
		VENTI*power* battery discharged.	Disconnect VENTI*power* from VENTI*motion* 2 and charge up again. Continue operating VENTI*motion* 2 via a power socket.
Device fault  Code …	Medium priority	Problems in the electronics or in the program sequence.	Disconnect the power supply and then reconnect it. Switch device back on.
		Drops of water in pressure measurement tube.	Dry pressure measurement tube as described in 6.2.
		Sealing plug(s) still on pressure measurement tube after hygiene treatment.	Remove both sealing plugs. Disconnect the power supply and then reconnect it. Switch device back on without tube system.

If there are faults which cannot be remedied immediately, contact your specialist dealer immediately to have the device repaired. Do not continue operating the device to prevent greater damage.

9. Servicing

9.1 Intervals

We recommend having servicing, safety checks and repair work performed only by the manufacturer, Weinmann or by authorized specialist dealers.

Check regularly whether the two filters are dirty.

- The coarse dust filter should be cleaned once a week and replaced at least every 6 months.
- The fine filter must be replaced after no more than 1,000 operating hours (filter change indicator ▨ appears in the status line).

For hygiene reasons, we recommend replacing the following parts at the intervals stated.

- Pressure measurement tube every 6 months – earlier if dirty
- Complete mask system every 6 to 12 months, depending on dirt
- Exhalation system in accordance with the associated instructions for use

Germany only

The device must be subjected to a safety check [Sicherheitstechnische Kontrolle – STK] at regular intervals. The legally specified intervals for performing the safety check as per §6 of the German law governing medical devices and their owners/operators is 2 years.
In addition, servicing must be performed as a preventative maintenance measure at the following intervals:

- after every 5,000 operating hours (service indicator 🔧 appears in the status line)

or

- after 2 years (see service label on rear of device),

whichever comes first.

The safety check and service include:

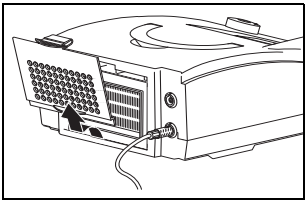
- check for completeness
- visual inspection for mechanical damage
- filter change
- cleaning the device
- replacing any defective parts
- complete check of device functions and pressure displays
- battery change
- final check as per test instruction WM 27811

9.2 Filter change

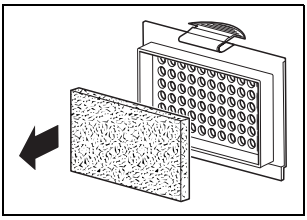
9.2.1 Change coarse dust filter

Use only genuine Weinmann filters. If third-party filters are used, any claim under warranty is voided and restricted function and biocompatibility may result.

1. If the VENTI*click* respiratory air humidifier is connected, disconnect it from the device. This will prevent water running into the device when you change the filter. You should also follow the instructions for use for VENTI*click*.



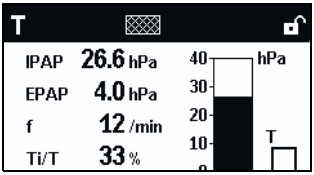
2. Push the latch of the filter compartment lid and take it off.



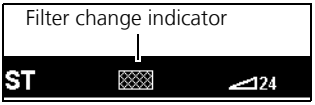
3. Remove the coarse dust filter from the filter compartment lid.
4. Dispose of it with ordinary domestic waste.
5. Place a clean coarse dust filter in the filter compartment lid.
6. Insert the filter compartment lid into the opening in the housing, bottom edge first.

7. Push the filter compartment lid into the housing until the latch engages.

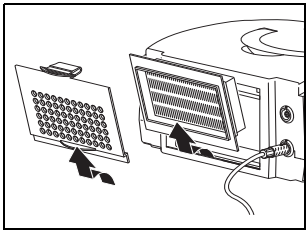
9.2.2 Change fine filter



The fine filter needs changing when it goes dark in color, but in any event after no more than 1,000 operating hours.



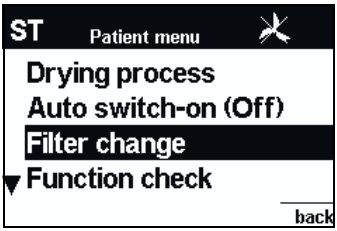
In this case, filter change indicator ▨ appears permanently in the status line. Proceed as follows to change the fine filter.



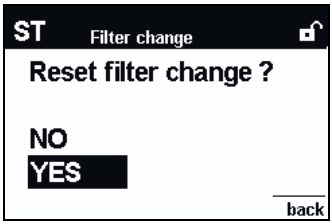
1. Push the latch of the filter compartment lid and take it off.
2. Replace the fine filter with a new fine filter.
3. Dispose of the old filter with ordinary domestic waste.
4. Insert the filter compartment lid into the opening in the housing, bottom edge first.
5. Push the filter compartment lid into the housing until the latch engages.

9.2.3 Reset filter change indicator

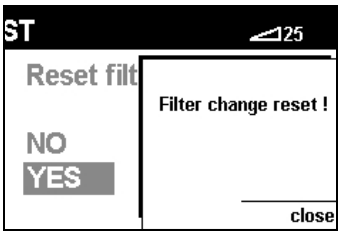
After you have changed the fine filter, you have to reset the filter change indicator. This is necessary even if you have replaced the filter before 1,000 operating hours have elapsed.



1. Press the Menu key to call up the **Menu**.



2. Use the dial to select the menu item **Filter change**.
   The query **Reset filter change?** appears.
3. Set **Yes** with the dial.
4. If you want to cancel the process, use the dial to select **No** and press the dial. The process is cancelled.

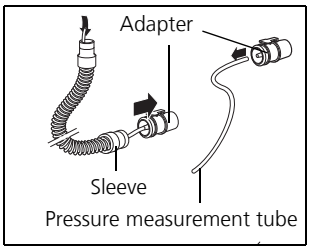


5. If you have selected **Yes** with the dial and confirmed it, the message **Filter change reset!** appears for approx. 3 seconds

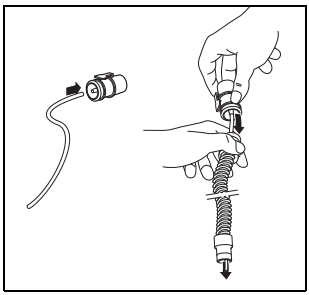
9.2.4 Bacteria filter

If bacteria filter WM 24148 is being used, change the particulate filter in the bacteria filter in accordance with the associated instructions for use.

9.3 Change pressure measurement tube



1. Release the sleeve of the creased hose from the adapter.
2. Pull the pressure measurement tube out of the creased tube.
3. Pull the pressure measurement tube off the adapter.



4. Push the new pressure measurement tube onto the adapter.
5. Hold up the creased tube and insert the free end of the new pressure measurement tube.
6. Push the sleeve of the creased tube onto the adapter.
7. Dispose of the old pressure measurement tube.

9.4 Disposal

Do not dispose of the device with domestic waste. To dispose of the device properly, contact an approved, certified electronics scrap dealer. You can obtain the address from your Environment Officer or your local authority. The device packaging (cardboard and inserts) can be disposed of in paper recycling facilities.

10. Scope of supply

10.1 Standard scope of supply

VENTI*motion* 2 **WM 27800**

Parts	Order number
VENTI*motion* 2, basic device	WM 27810
Tube system	WM 24130
Drying adapter	WM 24203
Carrying bag	WM 24995
Power cord	WM 24177
Power supply unit	WM 27804
Coarse dust filter	WM 24880
Fine filter, packed	WM 15026
Instructions for use for VENTI*motion* 2	WM 67011
Patient record	WM 67046

10.2 Accessories

The following accessories are not included in the scope of supply and must be ordered separately if required.

Parts	Order number
VENTI*click* respiratory air humidifier	WM 24365
VENTI*support* evaluation software (only for medical and technical professionals)	WM 93305
Tube system, sterilizable, consisting of: – creased tube, sterilizable – pressure measurement tube – adapter with pressure connector – sealing plugs (2x)	WM 24120 WM 24122 WM 24038 WM 24149 WM 24115
Bacteria filter, complete	WM 24148

Parts	Order number
VENTI-O_2 oxygen supply valve	WM 24200
VENTI-O_2 plus oxygen supply valve	WM 27200
VENTI*power* battery incl. case	WM 27630
Analogbox D/A	WM 27560
12 V inverter	WM 24616
24 V inverter	WM 24617
Silentflow	WM 23600
Sound insulation, complete (alternative exhalation system)	WM 23685
JOYCE*strap* head strap	WM 26290
HEAD*strap* head strap	WM 26360
JOYCE vented, size S	WM 26110
JOYCE vented, size M	WM 26120
JOYCE vented, size L	WM 26130
JOYCE vented, size XL	WM 26140
JOYCE vented 40 hPa, size S	WM 26111
JOYCE vented 40 hPa, size M	WM 26121
JOYCE vented 40 hPa, size L	WM 26131
JOYCE vented 40 hPa, size XL	WM 26141
JOYCE GEL vented, size S	WM 26112
JOYCE GEL vented, size M	WM 26122
JOYCE GEL vented, size L	WM 26132
JOYCE non-vented, size S	WM 26160
JOYCE non-vented, size M	WM 26170
JOYCE non-vented, size L	WM 26180
JOYCE non-vented, size XL	WM 26190
JOYCE non-vented 40 hPa, size S	WM 26161
JOYCE non-vented 40 hPa, size M	WM 26171
JOYCE non-vented 40 hPa, size L	WM 26181
JOYCE non-vented 40 hPa, size XL	WM 26191

Parts	Order number
JOYCE GEL non-vented, size S	WM 26162
JOYCE GEL non-vented, size M	WM 26172
JOYCE GEL non-vented, size L	WM 26182
JOYCE Full Face vented, size S	WM 26410
JOYCE Full Face vented, size M	WM 26420
JOYCE Full Face vented, size L	WM 26430
JOYCE Full Face vented, size XL	WM 26440
JOYCE Full Face vented 40 hPa, size S	WM 26411
JOYCE Full Face vented 40 hPa, size M	WM 26421
JOYCE Full Face vented 40 hPa, size L	WM 26431
JOYCE Full Face vented 40 hPa, size XL	WM 26441
JOYCE Full Face GEL vented, size S	WM 26412
JOYCE Full Face GEL vented, size M	WM 26422
JOYCE Full Face GEL vented, size L	WM 26432
JOYCE Full Face^{plus} vented, size S	WM 26413
JOYCE Full Face^{plus} vented, size M	WM 26423
JOYCE Full Face^{plus} vented, size L	WM 26433
JOYCE Full Face^{plus} vented, size XL	WM 26443
JOYCE Full Face non-vented 40 hPa, size S	WM 26461
JOYCE Full Face non-vented 40 hPa, size M	WM 26471
JOYCE Full Face non-vented 40 hPa, size L	WM 26481
JOYCE Full Face non-vented 40 hPa, size XL	WM 26491
JOYCE Full Face GEL non-vented, size S	WM 26462
JOYCE Full Face GEL non-vented, size M	WM 26472
JOYCE Full Face GEL non-vented, size L	WM 26482

When using other mask systems, follow the relevant instructions for use.

10.3 Replacement parts

Parts	Order number
Tube system, consisting of: – creased tube, can be disinfected – pressure measurement tube – adapter with pressure connector – sealing plugs (2x)	WM 24130 WM 24108 WM 24038 WM 24149 WM 24115
Coarse dust filter	WM 24880
Fine filter, packed	WM 15026
Set of replacement filters for a year, packed (3x fine filter, 2x coarse dust filter)	WM 15682
Carrying bag	WM 24995
Power cord	WM 24177
Power supply unit	WM 27804
Drying adapter	WM 24203

11. Technical data

	VENTI*motion* 2	**VENTI*motion* 2 with VENTI*click***
Product class to directive 93/42/EEC	IIa	
Dimensions W x H x D in mm	230 x 120 x 280	230 x 120 x 395
Weight	approx. 3.7 kg	approx. 4.0 kg
Temperature range – Operation – Storage	+5 °C to +35 °C –40 °C to +70 °C	
Air pressure range	600 – 1100 hPa (allows operation at up to 4000 m altitude) automatic altitude adaptation. (Keep leakages small below 700 hPa, as the device may no longer be able to compensate at very high ventilation pressures.)	
Electrical rating	115 – 230 V AC, 50–60 Hz Tolerance -20 % +10 %	
Current consumption in – operation – standby	**230 V** **115 V** 0.17 A 0.3 A 0.050 A 0.108 A	**230 V** **115 V** 0.34 A 0.6 A 0.050 A 0.108 A
Classification to EN 60601-1 – Type of protection against electric shock – Degree of protection against electric shock	Protection class II Type BF	
Electromagnetic compatibility (EMC) to EN 60601-1-2: – radio interference suppression – radio interference immunity	EN 55011 EN 61000-3-2, EN 61000-3-3, EN 61000-4-2 to 6, EN 61000-4-8, EN 61000-4-11	
Mean sound pressure level/ operation to EN ISO 17510 at a distance of 1 m from the device in the patient position	approx. 32 dB (A) at 20 hPa approx. 30 dB (A) at 15 hPa approx. 28 dB (A) at 12 hPa approx. 26 dB (A) at 10 hPa approx. 24 dB (A) at 7 hPa	
Sound pressure level of alarm	min. 62 dB (A)	

	VENTI*motion* 2	**VENTI*motion* 2 with VENTI*click***
IPAP pressure range EPAP pressure range CPAP pressure range Pressure precision Increment	6 to 40 hPa 4 to 20 hPa 4 to 20 hPa up to 35 hPa: ±0.6 hPa from 35 hPa: ±1.5 hPa 0.2 hPa (1 hPa = 1mbar ≈ 1 cm H_2O)	
Minimum stable limit pressure (PLS_{min}) (min. pressure in the event of a fault) Maximum stable limit pressure (PLS_{max}) (max. pressure in the event of a fault)	≥ 0 hPa ≤ 60 hPa	
Respiratory frequency Precision Increment	6 to 45 1/min ± 0.5 1/min 1 1/min	
I:E (Ti/T): inspiration time increment precision	 15 % to 67 % of respiratory period 1 % ±1 %	
Trigger stage	Adjustable in 6 stages, separate for inspiration and exhalation, exhalation trigger can be switched off in ST mode	
Speed of pressure rise	Adjustable in 6 stages	
Speed of pressure drop	Adjustable in 6 stages	
Precision of volume measurement	at 23 °C: ±15 %	
Flow at max. speed at: 22 hPa 16.5 hPa 11 hPa 5.5 hPa 4 hPa 0 hPa Tolerance	 200 l/min 220 l/min 240 l/min 260 l/min 265 l/min 285 l/min ±15 l/min	 190 l/min 205 l/min 220 l/min 240 l/min 240 l/min 260 l/min ±15 l/min
Flow at max. speed with bacteria filter at: 0 hPa Tolerance	 270 l/min ±15 l/min	 250 l/min ±15 l/min

	VENTI*motion* 2	**VENTI*motion* 2 with VENTI*click***
Heating of respiratory air as per HMV [Heilmittelverordnung – German regulations governing pharmaceutical products]	2.5 °C	Depends on heating stage
Short-term pressure constancy measured to prEN 17510:2005 and HMV [Heilmittelverordnung – German regulations governing pharmaceutical products] in CPAP mode	at 20 hPa: $\Delta p \leq 1$ hPa at 15 hPa: $\Delta p \leq 1$ hPa at 14 hPa: $\Delta p \leq 1$ hPa at 10 hPa: $\Delta p \leq 1$ hPa at 7 hPa: $\Delta p \leq 0.5$ hPa at 5 hPa: $\Delta p \leq 0.5$ hPa at 4 hPa: $\Delta p \leq 0.5$ hPa	
Long-term pressure constancy measured to prEN 17510:2005	$\Delta p = 0.2$ hPa	
Fine filter, degree of separation up to 2 µm	≥ 99.7 %	
Fine filter, service life	1,000 hours in normal ambient air	
Permitted humidity for operation and storage	≤ 95 % rh (no condensation)	
System resistance at an air flow rate of 60 l/min at patient connection opening	VENTI*motion* 2 with tube system WM 24130 and Silentflow WM 23600	VENTI*motion* 2 with tube system WM 23737, VENTI*click* WM 24365 and bacteria filter WM 24148
	$0.20 \frac{\text{kPa} \cdot \text{s}}{\text{l}}$	$0.31 \frac{\text{kPa} \cdot \text{s}}{\text{l}}$

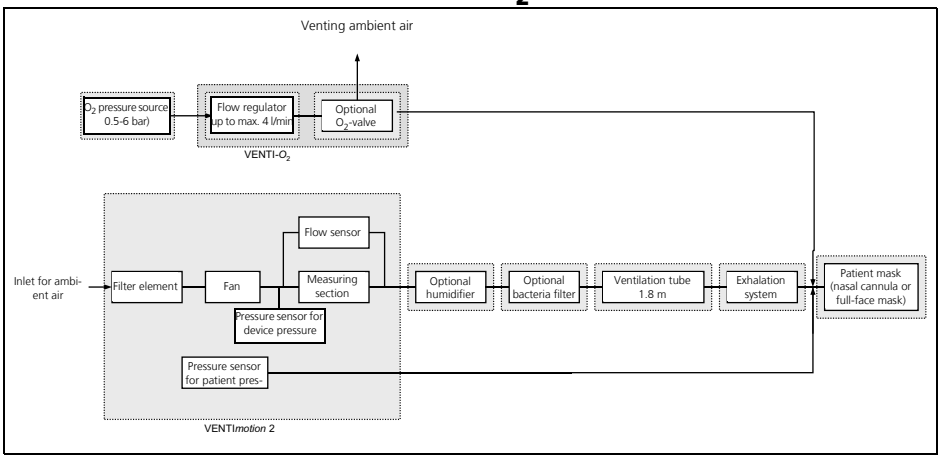
	VENTI*motion* 2	VENTI*motion* 2 with VENTI*click*
Filters and smoothing techniques	– Actual values: recalculated after every breath (no averaging) – Mean values: calculated across all breaths since the device was started up – Leakage: calculated continuously, updated after every breath – AirTrap statistics: calculated across all breaths since the device was started – Volume compensation: in the "slow" stage, the device checks after every 8 breaths whether the target volume has been reached and changes pressure by 0.5 hPa. If the pressure reaches a corridor around the target volume, the device switches to precise control. At the "moderate" stage, the device checks after every 5 breaths whether the target volume has been reached and changes pressure by 1.0 hPa. If the pressure reaches a corridor around the target volume, the device switches to precise control. At the "fast" stage, the device checks after every breath whether the target volume has been reached and changes pressure by 1.5 hPa. If the pressure reaches a corridor around the target volume, the device switches to precise control. – Physiological alarms: triggered in the event of the alarm limit being undershot during at least three of the last five breaths; reset if the alarm limit is exceeded during at least three of the five subsequent breaths	

All values determined under ATPD conditions (ambient temperature and pressure, dry).

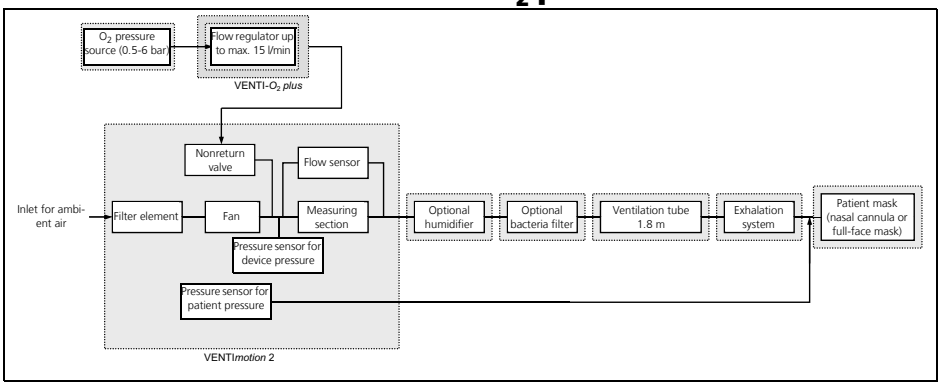
CE 0197 The right to make design modifications is reserved.

11.1 Pneumatic diagram

11.1.1 VENTI*motion* 2 with VENTI-O_2



11.1.2 VENTI*motion* 2 with VENTI-O_2 plus



11.2 Safety distances

Recommended safety distances between portable and mobile HF telecommunication devices (e.g. cellphones) and the VENTI*motion* 2			
Nominal power of HF device in W	**Safety distance depending on transmission frequency in m**		
	150 KHz - 80 MHz	**80 MHz – 800 MHz**	**800 MHz – 2.5 GHz**
0.01	0.04	0.04	0.07
0.1	0.11	0.11	0.22
1	0.35	0.35	0.70
10	1.11	1.11	2.21
100	3.50	3.50	7.00

Further technical data are available from the manufacturer, Weinmann, on request, or provided in the hospital manual and in the servicing and repair instructions.

12. Warranty

Weinmann gives the customer a limited manufacturer warranty on new original Weinmann products and any replacement part fitted by Weinmann in accordance with the warranty conditions applicable to the product in question and in accordance with the warranty periods from date of purchase as listed below. The warranty conditions can be downloaded from www.weinmann.de on the Internet. We can also send you the warranty conditions on request.

In the event of a claim under warranty, contact your specialist dealer.

Product	Warranty period
Weinmann devices including accessories (except masks) for sleep diagnosis, sleep therapy, home ventilation, oxygen medicine and emergency medicine	2 years
Masks including accessories, rechargeable batteries, batteries (unless quoted differently in the technical documentation), sensors, tube systems	6 months
Disposable products	None

13. Declaration of conformity

Weinmann Geräte für Medizin GmbH + Co. KG declares herewith that the product complies fully with the respective regulations of the Medical Device Directive 93/42/EEC. The unabridged text of the Declaration of Conformity can be found on our website at www.weinmann.de

Weinmann
Geräte für Medizin GmbH+Co.KG
P.O. Box 540268 ▪ D-22502 Hamburg
Kronsaalsweg 40 ▪ D-22525 Hamburg
T: +49-(0)40-5 47 02-0
F: +49-(0)40-5 47 02-461
E: info@weinmann.de
www.weinmann.de

Center for
Production, Logistics, Service
Weinmann
Geräte für Medizin GmbH+Co.KG
Siebenstücken 14
D-24558 Henstedt-Ulzburg

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