

EN Additional information for experts for WM 100 TD devices



prismaLINE

Sleep therapy devices
from firmware 5.05

The logo for Löwenstein medical, featuring a stylized arch above the text 'LÖWENSTEIN' and 'medical'.

LÖWENSTEIN
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1 Introduction

This document is intended as supplementary material for experts (hospital personnel and authorized dealers) and contains additional information about the prismaLINE sleep therapy devices.



Please note:

This document does **not** replace complete instructions for use. The following information can be found in the instructions for use for patients:

- Safety instructions for the safe handling of the device
- Description of the device
- Connecting up and operating the device
- Hygienic preparation
- Function check
- Troubleshooting
- Maintenance
- Storage and disposal
- Technical Data
- SCOPE of supply
- Accessories
- Warranty

1.1 User qualifications

As an expert (this includes hospital personnel and authorized dealers) you can completely operate the therapy device and the respiratory air humidifier. The maintenance work that you can do yourself is described in this Additional information for experts. Always perform all the operating steps in accordance with this **additional information**.

2 Safety

This chapter provides supplementary safety information for experts. Whenever using the therapy device, you should always also observe the safety information in the instructions for use for patients.

2.1 Safety information

2.1.1 Using the therapy device on the patient

Warning

Risk of injury for patients with impaired cardiac function!

For patients with impaired cardiac function, cardiac output can be decreased during the therapy.

⇒ Perform a blood pressure test when setting the device for the first time:

- Measure the blood pressure before performing overpressure therapy
- Measure the blood pressure after 20 minutes of therapy with the expected medium pressure (e.g., 7 cmH₂O)
- Measure the blood pressure after 20 minutes of therapy with maximum pressure (e.g., 15 cmH₂O)

A notable drop in blood pressure during the therapy or indisposition (dizziness, etc.) is an indication of decreased cardiac output. In this case, stop the therapy immediately. The patient is not suited to the therapy.

2.1.2 Safe use of the therapy device, components, and accessories

Warning

Risk of injury from electrical shock!

If the USB connection is connected, the PC can cause a higher leakage current. The therapy device cannot detect a USB cable connected to a switched-off PC and an increased leakage current.

⇒ Do not connect a USB cable to a switched-off PC when operating the therapy device.

Risk of injury due to incorrect alarm presets!

The use of different alarm presets for the same or similar devices can put the patient at risk.

⇒ Check the alarm presets again for each patient.

2.1.3 Safe handling of oxygen

Warning

The use of oxygen in combination with flammable substances poses a fire hazard!

Oxygen in combination with flammable substances can result in spontaneous explosions. In cases of insufficient ventilation, oxygen in the surrounding area (e.g., clothes, hair, bedclothes) can become enriched and cause fires and thus injuries to the patient, user, and others in the immediate vicinity.

⇒ Do not smoke.

⇒ Do not use naked flames.

⇒ Ensure sufficient ventilation.

⇒ Keep the device and screwed unions free from oil and grease.

⇒ Always replace splashguards immediately after use.

Risk of fire when oxygen supply unit is used without special safety equipment!

Supplying oxygen without special safety equipment can cause fires and injure people.

⇒ Observe the instructions for use for oxygen supply unit.

⇒ Set up oxygen sources more than 1 m from the device.

⇒ Only switch off the oxygen supply at the end of therapy.

Allow the device to run on briefly to flush residual oxygen out of the device.

Risk of poisoning from concentration of oxygen which is too high during ventilation!

Highly concentrated oxygen can poison the patient if administered for too long and depending on the age of the patient.

⇒ Do not ventilate the patient for too long with highly concentrated oxygen.

⇒ Adapt the oxygen flow to suit the patient's age.

⇒ The prescribed flow must only be set by the physician or specialist dealer.

2.2 General information

- Use of third-party products may lead to functional failures and restricted fitness of purpose. Biocompatibility may also be compromised. Please note that in these cases, any claim under warranty and liability will be void if neither the accessories nor original replacement parts recommended in the instructions for use are used.
- Repairs, servicing, and maintenance should only be carried out by the manufacturer or by a technician expressly authorized by the manufacturer.
- Only connect up the devices and modules permitted in accordance with these instructions for use. The devices must satisfy their respective product standard. Position non-medical devices outside of the patient's immediate vicinity.
- The operator is responsible for ensuring the compatibility of the therapy device and all the connected components and accessories prior to the application with the patient. Only have modifications to the device carried out by the manufacturer or by a technician expressly authorized by the manufacturer.
- The operator is responsible for ensuring that the therapy pressure setting is specified individually for each patient according to the device configuration, including accessories, that is to be used.
- The operator is required to regularly assess the effectiveness of the therapy settings.
- Please observe the chapter on hygienic preparation in order to avoid infection or bacterial contamination (see chapter "Hygienic preparation").
- Also observe the respective instructions for use of the device, the components, and the accessories.
- Always carry out a function check before using the unit (see chapter "Function check" of the instructions for use).

3 Product description

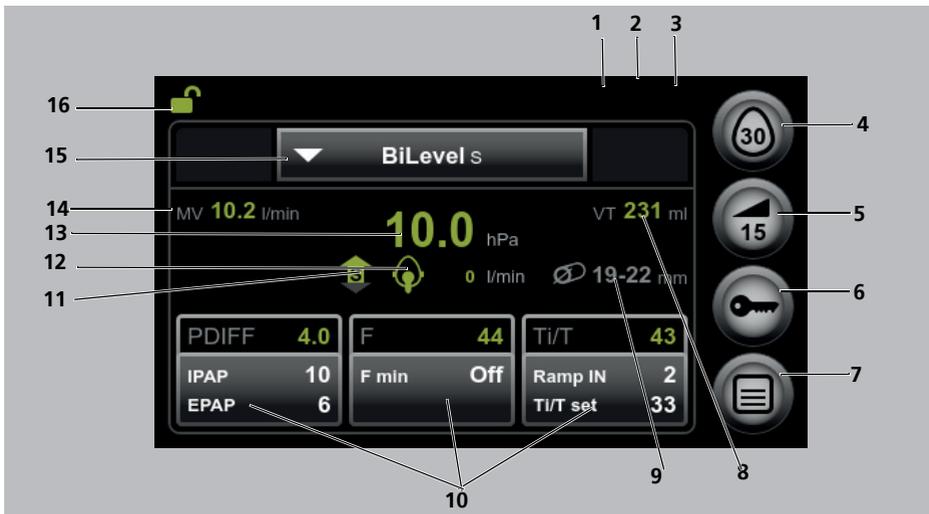
This section describes the elements which are important for experts on the display and the components and accessories which are used for applications in clinical areas.

A complete description of the whole therapy device and the respiratory air humidifier can be found in the instructions for use for patients.

3.1 Display in the expert sector



Please note that the screens may differ slightly depending on the set ventilation mode and device mode.



3-1 Display in expert sector (screen in BiLevel S/T mode in Therapy device mode)

No.	Designation	Description
1	PSG symbol	prismaCONNECT module is connected, prismaPSG module is not connected.
2	CONNECT symbol	prismaCONNECT module is plugged in.
3	Network symbol	Network connection available.

No.	Designation	Description
4	Mask test button	Starts the mask test and stops it prematurely. Shows the remaining time in seconds.
5	softSTART button for prisma30ST, prisma30ST-C, prismaLAB only: softSTART/ softSTOP button	Switches the softSTART on and off. Shows the set/remaining softSTART time in minutes. In addition for prisma30ST, prisma30ST-C, prismaLAB: Switches off the current softSTOP. Shows the remaining softSTOP time in minutes.
6	Lock button	Exits the settings menus and locks the parameter setting function.
7	Menu button	Offers access to the settings menus (only available after login (see 5.2.1, p. 16)).
8	VT display	Displays the tidal volume. Please note that if an oxygen supply unit is used, the supplied quantity of oxygen is not taken into consideration.
9	Hose diameter display	Displays the set diameter of the respiration hose used.
10	Info fields	Display the set therapy parameters. (They can be changed here following login).
11	Respiration status symbol	Indicates the current respiration status.
12	Mask status symbol with leak indicator	Displays how well the respiratory mask is positioned and the extent of any leak.
13	Actual pressure display	Shows the actual pressure.
14	rAMV display/MV display	Shows the relative or absolute respiratory minute volume (not available in CPAP or APAP mode).
15	Ventilation mode display	Displays the set ventilation mode. Allows selection of another ventilation mode.
16	Expert sector symbol	Shows that the expert sector is open and it is possible to set the parameters.
Not visible in image	Ti display	Shows the inspiration duration.
	Te display	Shows the expiration duration.
	Ti/T display	Shows the relative duration of inspiration.
	I/E display	Shows the ratio of inspiration to expiration.
	Ti status	Shows whether triggering of breathing was spontaneous or mandatory at Ti min or Ti max.

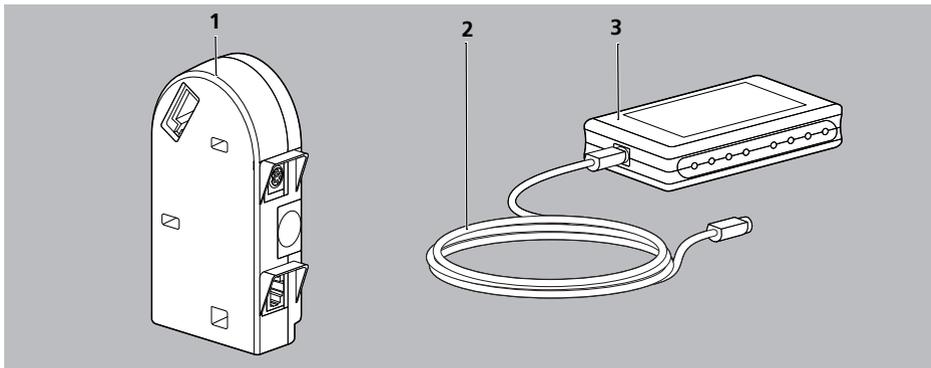
3.2 Symbols on the display

Symbol	Designation	Description
Device status symbols (shown on the top line of the display)		
	Access symbol	The expert sector is open and the parameters can be set.
		The expert sector is open and the settings are locked. It is not possible to set parameters.
	Bacteria filter symbol	Bacteria filter is connected and active.
	Filter change symbol	Air filter replacement required. (Symbol only appears if you have activated the reminder to change the air filter).
	Maintenance symbol	Maintenance required (symbol only appears when maintenance function is active).
	Connect symbol	prismaCONNECT module is plugged in.
	(Green symbol) prisma2CLOUD symbol	prisma2CLOUD module is plugged in
	(Gray symbol)	No connection to prisma2CLOUD module established.
	(Green symbol) PSG symbol	prismaPSG module is plugged in.
	(Gray symbol)	No connection to prismaPSG module established.
	(Green symbol) Network symbol	Network connection available.
	(Gray symbol)	No network connection available.

Symbol	Designation	Description
	SD card symbol	SD card in SD card slot. Symbol flashes: Data is being saved to the SD card.
Symbols on the rest of the display		
	(Gray symbol)	Respiratory air humidifier is connected and switched off. Smart AQUA Control climate control is activated. The last set humidifier level is displayed.
	Respiratory air humidifier symbol (Green symbol)	Respiratory air humidifier is connected and switched on. Smart AQUA Control climate control is deactivated. The currently set humidifier level is displayed.
	(Green symbol)	Humidifier is connected and switched on. Smart AQUA Control climate control is activated. The humidifier level currently set is shown.
	(Orange symbol)	Respiratory air humidifier is connected and empty of water.
	Respiration status symbol	Displays the respiration status (in the expert sector): <ul style="list-style-type: none"> • S=Spontaneous • T=timed • Arrow pointing upward: Inspiration • Arrow pointing downward: Expiration
		Displays the status in the vertical text next to the arrow: <ul style="list-style-type: none"> • min=inspiration extended to Ti min • max=inspiration ended by Ti max • max=inspiration ended by Ti timed
		Apnea in the expert sector
	Mask status symbol with leak indicator symbol	Mask position is good, no leaks
		Mask is not well positioned, considerable leaks, the efficacy of the therapy is not guaranteed
	Hose diameter symbol	Indicates the diameter of the hose in mm.

Symbol	Designation	Description
	Menu level symbol	Shows the menu level that you are currently in: The more green dots, the deeper you are in the menu structure.
Alarm window		
	Alarm symbol	Low-priority alarm triggered.
	Alarm pause symbol	Alarm paused for 2 minutes.
	(Black symbol) Mute symbol	Indicates that the acoustic signal for an alarm can be muted. Acoustic signal for alarm is muted.
	(Orange symbol)	

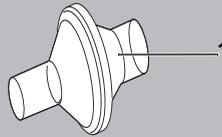
3.3 Components



3-2 Additional components in clinical areas

No.	Designation	Description
1	prismaCONNECT module	Creates the connection between the therapy device and PC and between the therapy device and prismaPSG module.
2	PSG connection cable	Connects the therapy device to the prismaPSG module.
3	prismaPSG module	Used to convert digital signals from the therapy device into analog data.

3.4 Accessories



3-3 Additional accessories in clinical areas

No.	Designation	Description
1	Bacteria filter	Protects the patient against contaminations and infections, if the therapy device is used by more than one patient.

4 Preparation

4.1 Connecting up a bacteria filter

A bacteria filter prevents against renewed infection of the patient in cases of infectious diseases and prevents contaminations or infections being passed on to the next patient when changing between patients.

1. Insert the bacteria filter between the device outlet and the respiration hose.
2. Switch on the therapy device.
3. Set in the menu that a bacteria filter is being used (see "5.3.1 Setting therapy parameters", page 24).

Result The bacteria filter is connected.

The bacteria filter symbol  is shown on the therapy device display.

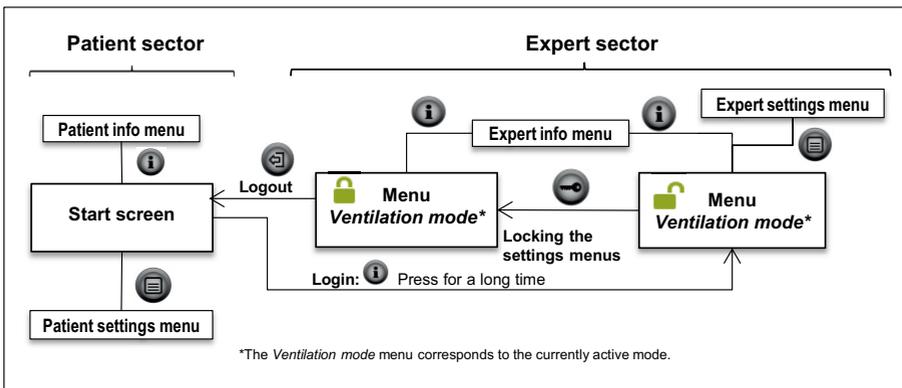
The other preparation and setup steps for the therapy device and the components and accessories can be taken from the instructions for use for patients.

5 Settings in the expert sector

As an expert, you can view all the parameters and values for a patient and change the settings to set the therapy device up optimally for the therapy of the respective patient in the **expert sector**.

The **patient sector** is described in the instructions for use for patients.

5.1 Menu structure in the expert sector



5-1 Menu structure in the expert sector

Alongside the screens for the currently active ventilation mode, the expert sector is divided into an info menu and a settings menu.

- In the **Info menu**, you can view information about the therapy quality (compliance, leaks, AHI, pressure statistics in ventilation modes with automatic pressure adaptation, and volume and frequency parameters) within a selectable period of time and general information about the device and network.
- You can set the parameters in the **Settings menu**.

The values and setting options shown on the display depend on the mode the therapy device is in at that time:

- **Standby** mode (no therapy in progress)
- **Therapy** mode (therapy in progress)

5.2 Navigating in the expert sector

You configure all the settings in the menu via the display. Press the required field directly on the display.

5.2.1 Opening and exiting the expert sector

Requirement The therapy device is in the **Standby** or **Therapy** mode.

1. Hold down the info button  for > 4 seconds.
2. To confirm the login, press **Login**.

The  symbol appears in the top left of the display. The expert sector is opened and you can set the parameters.

3. Press the lock button  to prevent unauthorized access to the setting options. (In the case of the device versions prisma20A and prisma20C, the settings can only be locked by leaving the expert sector.)

The  symbol appears in the top left of the display. The expert sector is opened and the settings are locked. It is *not* possible to set parameters.

4. To exit the expert sector, press the Logout button  .
5. To confirm the logout, press **Logout**.
The patient sector is now opened.

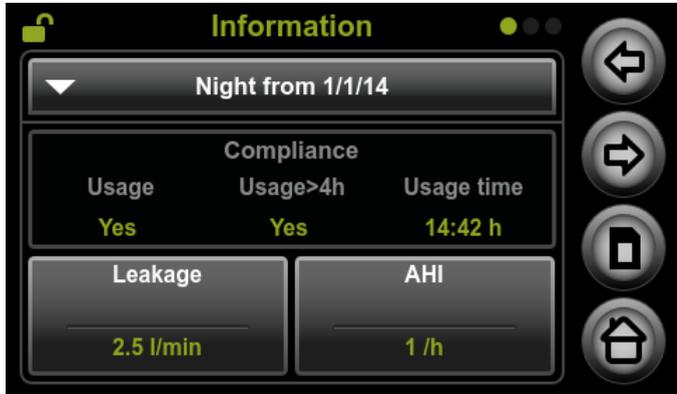
5.2.2 Navigating in the expert sector

Button	Function
Button 	Go back a screen
Button 	Go forward a screen
Set the exact value using the  and  buttons.	<p>Select values:</p> <ul style="list-style-type: none"> • If the parameter can have exactly 2 possible values (e.g., on/off): Press the button. The value changes to the other one. • If the parameter can have several different values, press the button and select the value from the overview. • If the parameter can have a range of different values, press the approximate value on the scale. 
Use the  button to open the list, select the setting from the overview.	Select the setting from the list
Button 	Confirm values
Button 	Reject values
Home button 	Go back to start screen (Standby or Therapy mode)

5.2.3 Viewing the therapy data and device information in the expert info menu

In the expert info menu, you can view information about the therapy quality (compliance, leaks, AHI, pressure statistics in ventilation modes with automatic pressure adaptation, and volume and frequency parameters) within a selectable period of time, and general information about the device and network.

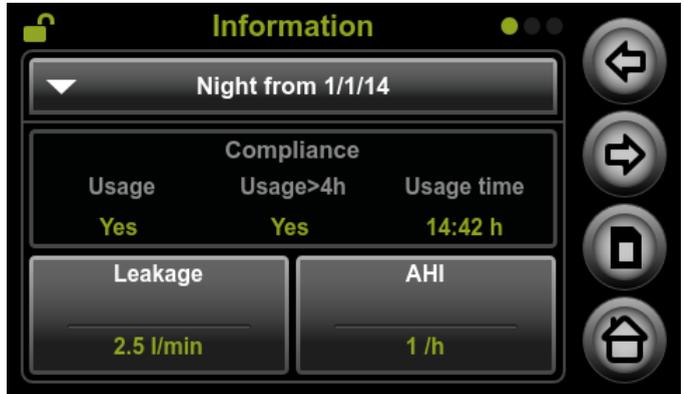
- Requirement*
- The therapy device is in **Standby** mode.
 - The expert sector is opened (see "5.2.1 Opening and exiting the expert sector", page 16).
1. Press the info button  .



2. If necessary: To view therapy data from a night other than the previous night, select the desired date in the list .
3. If necessary: To view a longer period of time, navigate to the second screen .



4. Select the required period.
5. Navigate back with the  arrow key.



6. Press the respective field to see more detailed information.



The content of the fields and the additional information vary in the different device versions.

7. In some modes, there are also additional pages displaying the required pressures and statistical parameters on respiratory rate and volume. If present: Use  2 to navigate to the second and third screens.
8. To view the device information, navigate using the arrow keys  and  and press the **Device** field.



Abbreviation	Description
DV	Device version
SN	Serial number
HW	Hardware version
FW	Firmware version
PM	Only relevant for service technicians
MC	Only relevant for service technicians
SID	System identification of the device.
N1	Therapy hours without artifacts or open mask. This counter is reset when therapy data in the device are deleted or the device is reset to the factory settings.
N2	Therapy hours with respiratory air humidifier (without artifacts or open mask). This counter is reset when therapy data in the device are deleted or the device is reset to the factory settings.
N3	Patient operating hours: Period of use including artifacts and open mask. This counter is reset when therapy data in the device are deleted or the device is reset to the factory settings.
N4	Fan running time. Determines the age of the device and cannot be reset.
FU	Date of first therapy. In combination with the current counter readings you can use this to determine the compliance, for example, the daily usage. This is especially important when therapy data in the device have been deleted since the last compliance check. In this case, you can see the date of the first therapy after the data were deleted and can reconstruct the compliance as of this date.

9. To exit the info menu, press the Home button .

Result The therapy data and device information are called up.

5.2.4 Changing the ventilation mode

Depending on the device version, you have the possibility of changing between different ventilation modes.

Device version	Ventilation mode									
	CPAP	APAP	AcSV	S	autoS	autoS/T	S/T	T	aPCV	HFT
prisma20C	X									
prisma20A	X	X								
prismaCR	X		X							
prisma25S	X	X		X	X					
prisma25S-C	X			X						
prisma25ST	X	X		X	X	X	X	X		
prisma30ST-C	X			X			X	X	X	
prisma30ST	X	X		X	X	X	X	X	X	
prisma30ST-HFT	X	X		X	X	X	X	X	X	X
prismaLAB	X	X	X	X	X	X	X	X	X	

- Requirement*
- The therapy device is in the **Standby** or **Therapy** mode.
 - The expert sector is opened (see "5.2.1 Opening and exiting the expert sector", page 16).
1. To open the list with the ventilation modes, press the  button.
 2. Select the required ventilation mode.

Result The new ventilation mode is selected.

5.2.5 Setting the SCOPE (therapy goal)

It is possible to select a therapy goal in some modes. The therapy device sets certain pressure and therapy parameters to appropriate starting values automatically. This saves the time-consuming and complicated optimization of individual parameters for many patients.

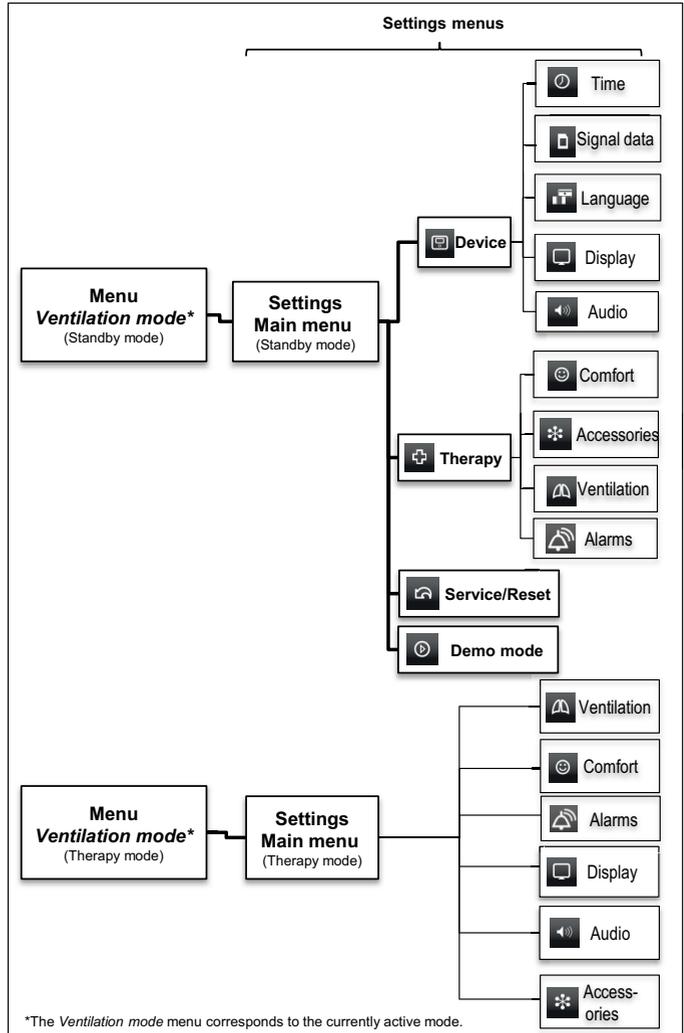
It is always possible to adjust the parameters directly in case of special requirements.

- Requirement*
- The therapy device is in one of the following modes:
 - AcSV
 - aPCV
 - autoS/T
 - S/T
 - The **Ventilation** menu of the ventilation parameters is opened ([see "5.3.1 Setting therapy parameters", page 24](#)).
1. Press the SCOPE button .
 2. Select the desired SCOPE.

Result A SCOPE is set.

5.3 Settings in the expert settings menus

The settings options depend on the mode that the therapy device is currently in (**Standby** or **Therapy**).



5-2 Menu structure of the settings menus

5.3.1 Setting therapy parameters

Requirement

- The therapy device is in the **Standby** or **Therapy** mode.
- The expert sector is open (see "5.2.1 Opening and exiting the expert sector", page 16).

CAUTION

Risk of injury due to incorrect settings

Incorrect accessory settings can lead to deviating therapy pressures and consequently an insufficient therapy.

⇒ Set in the device if a bacteria filter is being used (see "5.3.1 Setting therapy parameters", page 24).

⇒ Only deactivate the tube type lock if the patient is in a position to make the selection on his/her own.

⇒ Only deactivate the tube type lock if changing of the tube type is not set by a specialist.

1. Press the menu button .
2. If the therapy device is in **Standby**: Press the **Therapy**  field.
3. Configure the desired settings and confirm.

Parameter	Possible values	Description
Comfort 	autoSTART	On Off Here you can activate/deactivate the automatic on function autoSTART. When the autoSTART function is activated, the patient can switch the therapy device on by taking a breath.
	autoSTOP	On Off Here you can activate/deactivate the autoSTOP automatic off function. If you remove the breathing mask with the automatic off function activated, therapy is automatically brought to an end after 5 seconds. Exception: If the disconnection alarm is activated, this function is disabled.
	Mask test Pressure	8 cmH ₂ O to 20 cmH ₂ O in 2 cmH ₂ O increments above the set therapy pressure Here you can set the pressure at which a mask test can be performed for 30 seconds. Leaks due to a poorly sitting mask often only occur at higher pressures. For this reason, the mask test pressure should be higher than the minimum therapy pressure. The patient can cancel or restart the mask test before the 30 seconds elapse. The mask test then starts again for 30 seconds.

Parameter		Possible values	Description
Comfort 	softSTART pressure min	cmH ₂ O in 0.5 cmH ₂ O increments	You can set the minimum softSTART pressure for the softSTART function here. The patient can set the actual softSTART pressure between the pressure set here and the prescribed therapy pressure in the patient settings menu. In CPAP and APAP mode, the softSTART pressure can also be the same as or up to 4 cmH ₂ O above the therapy pressure.
	softSTARTmax	0 5 min-45 min, in 5 min increments	Here you can deactivate the softSTART function or set the maximum time in which the prescribed pressure should be reached. If the function is activated, the patient can shorten the time in the patient settings menu. If it is deactivated, the patient cannot switch the softSTART on. <ul style="list-style-type: none"> 0: softSTART is deactivated.
	softSTART PDIFF (for prisma30ST, prisma30ST-C, prisma30ST-HFT and prismaLAB only)	On Off	Here you can activate the softSTART function for PDIFF. PDIFF is continuously increased to reach the set PDIFF at the end of softSTART time. If this function is deactivated, the configured PDIFF takes effect immediately.
	softSTOP max (for prisma30ST, prisma30ST-C and prismaLAB only)		Here you can deactivate the softSTOP function or set the maximum time in which the prescribed pressure is to be reduced. If this function is activated, the patient can reduce the time in the settings menu. If it is deactivated, the patient cannot switch on softSTOP. <ul style="list-style-type: none"> 0: softSTART is deactivated.
	Humidifier level	Quantity corresponding to maximally set humidifier level	Here you can set the humidifier level of the respiratory air humidifier.
	Max humidifier level (as of firmware version 4.05)	1 to 7	Here you can restrict the humidifier levels to a smaller quantity.
	smartAQUAcontrol	On Off	You activate climate control here to maintain constant humidification during therapy. With climate control active, the device continuously adapts humidifier output to suit the current situation.

Parameter		Possible values	Description
Accessories 	Bacteria filter	Yes No	Here you can set whether a bacteria filter is used.
	Tube type	15 mm 19-22 mm	Here you select the diameter of the hose type used.
	Air filter reminder	On Off	Here you can activate/deactivate an automatic reminder for the next filter change.
	Change air filter	Changed Cancel	If the air filter reminder is activated, you can specify here whether you have changed the air filter.
	Tube type lock	On Off	Here you can set whether the patient can set the tube type on his/her own or whether the function is disabled for the patient.
Ventilation 		See "6 Description of the modes", page 33. See "7 Advanced BiLevel modes in prisma30ST-C, prisma30ST and prisma30ST-HFT", page 49.	
Alarms 	Disconnection	On Off	Here you can set whether or not an alarm should be triggered if the respiration hose or mask is disconnected. If the disconnection alarm is activated, the autoSTOP is blocked. You can continue to use the autoSTART.
	Severe leakage	On Off	Here you can set whether or not an alarm should be triggered in the case of severe leakage (20 s above 50 l/min).
	Low tidal volume (VT)*	Off 300 ml to 2000 ml	Here you can set whether and at what tidal volume an alarm should be triggered.
	Alarm volume	1 2 3	Here you can set the volume of the alarms. Level 1: Quiet Level 2: Normal Level 3: Loud
	Leakage alert lock	On Off	Here you can set whether the patient can activate and deactivate the leakage alert and the alarm volume or whether the function is disabled for the patient.
	Low minute volume (MV)*	Off 1 l/min to 25 l/min	Here you can set whether and at what minute volume an alarm should be triggered.
	Too long apnea*	Off 10 s to 60 s	Here you can set whether and at what apnea duration an alarm should be triggered.

*Only possible on prisma30ST, prisma30ST-C, and prismaLAB models.

5.3.2 Setting device parameters

- Requirement*
- The therapy device is in **Standby** mode.
 - The expert sector is opened (see "5.2.1 Opening and exiting the expert sector", page 16).
1. Press the menu button .
 2. Press the **Device**  field.
 3. Configure the desired settings and confirm.

Parameter		Possible values	Description
Time 	Clock	 	Here you can set the current time: <ul style="list-style-type: none"> • Select daylight saving time or standard time. The green background of the symbol shows that this setting is active. • Use the arrow keys on the left to set the hours. • Use the arrow keys on the right to set the minutes. • To set the hours: Select another time zone. • Select the clock version: 24 hours (0-24) 12 hours (0-12) You can reset the time to the end of the last therapy at most.
	Date	0 to 9	Here you can select values for the day, month, and year. To select the day, for example, press the DD button until it turns green. Then select the figure(s). <ul style="list-style-type: none"> • To delete the last figure you entered, press the  button. • To delete all the figures you entered, press the  button. You can reset the date to the end of the last therapy at most.
	Time zone	UTC -12 to UTC +12	Use the arrow keys to select the required time zone. You can reset the time zone to the end of the last therapy at most.

Parameter		Possible values	Description
Signal data 	Signal data	None 1 day 14 days	<p>Here you can set what quantity of signal data for a therapy are saved on the SD card or the USB storage device.</p> <ul style="list-style-type: none"> • None: Only the statistical data concerning the therapy device are saved and no signal data. • 1 day: One day's signal data • 14 days: 14 days' signal data

Parameter		Possible values	Description
Language 	Expert	English Deutsch 中文 Русский Italiano Nederlands 日本語 한국어 Türkçe Français Español Português (Br) Dansk Suomi Norsk Svenska Polski Slovenščina български език	Here you can set the language in the menus for the expert sector.
	Patient	Same as expert English Deutsch 中文 Русский Italiano Nederlands 日本語 한국어 Türkçe Français Español Português (Br) Dansk Suomi Norsk Svenska Polski Slovenščina български език	Here you can set the language in the menus for the patient sector.

Parameter		Possible values	Description
Display 	Display brightness	1 2 3	Here you can set the brightness of the display, so that the patient's sleep during the night is not disturbed by a bright display, for example. Level 1: Dark Level 2: Normal Level 3: Bright
	Energy saving	On Off	Here you can activate or deactivate whether the therapy device automatically switches itself to Energy saving mode 15 minutes after the therapy has finished.
	Compliance threshold	0 h to 8 h in 1 hour increments	Here you can set the minimum number of hours per night a therapy should be performed for.
	Pressure Unit	hPa mBar cmH ₂ O	Here you can select the unit for the pressure specification.
	Patient info menu	All Usage	Here you can set which data is shown to the patient in the patient info menu: <ul style="list-style-type: none"> • All: Usage time, leaks, and AHI are shown. • Usage: Only the usage time is shown.
Audio 	Key tone volume	0 1 2 3	Here you can set the volume of the acoustic signal for every time a key is pressed. Level 0: Silent Level 1: Quiet Level 2: Normal Level 3: Loud
	Alarm volume	1 2 3	Here you can set the volume of the alarms. Level 1: Quiet Level 2: Normal Level 3: Loud



You can also change the **Display** settings when a therapy is in progress.

5.3.3 Resetting settings and deleting data

Requirement

- The therapy device is in **Standby** mode.
- The expert sector is open (see "5.2.1 Opening and exiting the expert sector", page 16).
 1. Press the menu button .
 2. Press the **Service/Reset**  field.
 3. Configure the desired settings and confirm.

Parameter	Possible values	Description
Reset to factory settings	Reset Cancel	Here you can reset all the device and therapy settings to the supplied factory settings and delete all therapy data.
Delete therapy data	Delete Cancel	Here you can delete all the set therapy data when changing patients and then set up the device for a new patient.
Maintenance counter	On Off	You can activate or deactivate the maintenance counter here. If the maintenance counter is activated, it reminds you automatically about the next maintenance once six months have elapsed.
Reset maintenance counter	Reset Cancel	If the maintenance counter is switched on, you can reset the maintenance counter to zero once maintenance has been performed.
Maintenance interval	1 year 2 years 3 years 4 years	If the maintenance counter is switched on, you can enter the interval in years for the maintenance counter here. Once this period has elapsed, you will be reminded of the upcoming due maintenance.

5.3.4 Demo mode

You can have a variety of different screen views displayed in demo mode for demonstration and training purposes.

Requirement

- The therapy device is in **Standby** mode.
- The expert sector is opened (see "5.2.1 Opening and exiting the expert sector", page 16).
 1. Press the menu button .
 2. Press the **Demo mode**  field.
The screen views are shown automatically.
 3. To cancel demo mode, press the on/off button on the therapy device .

6 Description of the modes

6.1 CPAP mode

In CPAP mode, the therapy device provides the patient with respiratory air at a constant overpressure continuously throughout the therapy. This keeps the patient's airways open.

6.1.1 Adjustable parameters in CPAP mode

Parameter	Possible values	Description
CPAP	4 cmH ₂ O to 20 cmH ₂ O	Here you can call up the scale and set the pressure level.
softPAP	0 1 2 3	<p>Settings 1 and 2 of the softPAP breathing relief function are intended for patients who find exhaling against high pressure uncomfortable. The breathing relief function reduces the pressure early during the transition to expiration, allowing you to breathe out more easily.</p> <p>Setting 3 is suitable for patients who experience respiratory distress with a low pressure setting. The pressure is raised slightly during inspiration.</p> <p>Here you can set the setting of the softPAP breathing relief function or deactivate it if required.</p> <ul style="list-style-type: none"> • Setting 0: Deactivated • Setting 1: Low exhalation relief • Setting 2: Normal • Setting 3: Normal with slight increase in pressure during inspiration
softPAP Lock	On Off	Here you can lock the softPAP function for this patient. If the lock is on, the patient cannot change the setting selected.

6.2 APAP mode

In APAP mode, the ventilation is performed at a constant pressure, which adapts to suit the patient's fluctuating pressure requirements.

6.2.1 Adjustable parameters in APAP mode

Parameter	Possible values	Description
Pmax	4 cmH ₂ O to 20 cmH ₂ O	Here you can call up the scale and set the maximum pressure.
Pmin	4 cmH ₂ O to 20 cmH ₂ O	Here you can call up the scale and set the minimum pressure.
APAP (as of firmware version 4.05)	std dyn	<p>You can choose between 2 different APAP dynamics here</p> <ul style="list-style-type: none"> • standard: Treats obstructive apneas, hypopneas, and constant snoring with high dynamics. Additional pressure reactions occur in case of partial obstructions and intermittent snoring. In such cases, the pressure is increased rather carefully and to a limited extent so as to achieve the best possible therapy acceptance. • dynamic: Pressure regulation as for standard with a more rapid reaction to snoring and a pressure increase in case of flow limitations including in medium and high pressure ranges so as to normalize the inspiration contour even more and prevent serious events even more effectively as a prophylactic measure.
softPAP	0 1 2 3	<p>Settings 1 and 2 of the softPAP breathing relief function are intended for patients who find exhaling against high pressure uncomfortable. The breathing relief function reduces the pressure early during the transition to expiration, allowing you to breathe out more easily. Setting 3 is suitable for patients who experience respiratory distress with a low pressure setting. The pressure is raised slightly during inspiration.</p> <p>Here you can set the setting of the softPAP breathing relief function or deactivate it if required.</p> <ul style="list-style-type: none"> • Setting 0: Deactivated • Setting 1: Low exhalation relief • Setting 2: Normal • Setting 3: Normal with slight increase in pressure during inspiration

Parameter	Possible values	Description
softPAP Lock	On Off	Here you can lock the softPAP function for this patient. If the lock is on, the patient cannot change the setting selected.

6.3 AcSV mode

In the AcSV mode, ventilation is performed following the anticyclic servo-ventilation method in combination with automatic pressure adjustment for treating obstructions in the upper airways.

There are four possible pressure variants in the AcSV mode.

- **TriLevel**

The TriLevel pressure variant allows a particularly comfortable breathing sensation and lower therapy pressures with comparable therapeutic efficacy.

TriLevel has three pressure levels:

- IPAP = (pressure during inspiration);
- EPAP = (pressure at the start of expiration);
- EEPAP = (pressure at the end of expiration).

The pressure support here is the difference between IPAP and EPAP. This pressure support is continually adjusted depending on the patient's ventilation needs (principle of adaptive servo-ventilation).

When the patient expires, the pressure is initially reduced to the EPAP in order to support exhalation maximally. In the further course of the expiration, the pressure is raised across a flat increase to the pressure at the end of the expiration (EEPAP) for an optimal splint of the upper airways.

Due to the additional reduction of the EPAP below the EEPAP, a lower average pressure is required than with the Bi softPAP pressure variant maintaining the same therapeutic efficacy.

- **Bi softPAP**

The classic Bi softPAP pressure profile includes a constant pressure level during expiration for splinting the upper airways.

With the Bi softPAP pressure variant, the IPAP (pressure during inspiration) and the EPAP (pressure during expiration) are attained during one breathing cycle. The pressure support PDIFF here is the difference between IPAP and EPAP. This pressure support is continually adjusted depending on the patient's ventilation needs (principle of adaptive servo-ventilation). The EPAP is the pressure which keeps the upper airways open and thus prevents obstructions. In addition, it is possible to set fixed breathing relief in Bi softPAP mode (Bi soft 1 / Bi soft 2).

6.3.1 Adjustable parameters in AcSV mode

Parameter	Possible values	Description
PDIFFmax	2 cmH ₂ O to 26 cmH ₂ O	Here you can set the maximum pressure difference between IPAP and EPAP.
PDIFFnorm	0 cmH ₂ O to 10 cmH ₂ O	Here you can set the standard pressure difference between IPAP and EPAP during normal respiration.
(E)EPAPmax	4 cmH ₂ O to 20 cmH ₂ O	Here you can set the maximum EEPAP (for TriLevel) and EPAP (for Bi softPAP).
(E)EPAPmin	4 cmH ₂ O to 20 cmH ₂ O	Here you can set the minimum EEPAP (for TriLevel) and EPAP (for Bi softPAP).
Bi softPAP	<p>Off</p> <p>Bi soft1*</p> <p>Bi soft2*</p> <p>TriLevel</p> <p>*(can only be activated if EPAP ≥ 6 hPa)</p>	<p>Here you can activate/deactivate the pressure variants.</p> <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): it is possible to set autoPDIFF within PDIFFnorm and PDIFFmax and to set autoEPAP within EPAPmin and EPAPmax. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): it is possible to set autoPDIFF within PDIFFnorm and PDIFFmax and to set autoEPAP within EPAPmin and EPAPmax. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

Parameter		Possible values	Description
IPAPmax		4 cmH ₂ O to 30 cmH ₂ O	The maximum IPAP (inspiratory positive airway pressure) is automatically adjusted accordingly if you change the values for PDIFFmax or EEPAPmax. It is not possible to change any settings here. The value is displayed for information purposes only.
autoF	autoF	On Off	Here you can activate/deactivate the automatic backup frequency.
	F min	5 bpm to 30 bpm	If autoF is deactivated, you can set the backup frequency (F) per minute here.
	Ti/T set	25% to 67%	If autoF is deactivated, you can set the relative inspiration duration here.

6.3.2 Presets of SCOPES (therapy goals)

Presets SCOPE CSR:

Parameter	Preset values
PDIFFmax	10 cmH ₂ O
PDIFFnorm	3 cmH ₂ O
EPAPmax	8 cmH ₂ O
EPAPmin	5 cmH ₂ O
Bi softPAP	Off
autoF	On

SCOPE CSR was designed for patients with primary periodic breathing (Cheyne-Stokes respiration).

The presets for the pressure limits are selected so that they counteract the periodic increase and decrease in breathing and ensure that regular, stable breathing sets in.

The automatic backup frequency is somewhat below the patient's current respiratory rate. In case of apnea, the device intercepts the patient quickly, without the patient being ventilated under control for a long period of time.

Presets SCOPE MIXED:

Parameter	Preset values
PDIFFmax	12 cmH ₂ O
PDIFFnorm	5 cmH ₂ O
EPAPmax	13 cmH ₂ O
EPAPmin	7 cmH ₂ O
Bi softPAP	Off
autoF	On

SCOPE MIXED is suitable for patients who, on top of periodic breathing, also suffer from a pronounced obstructive sleep apnea and/or require additional ventilation support.

The presets for the pressure limits are selected to guarantee sufficient ventilation support during hypoventilation and prevent desaturations.

The automatic backup frequency is somewhat below the patient's current respiratory rate. In case of apnea, the device intercepts the patient quickly, without the patient being ventilated under control for a long period of time.



The device cannot realize just any combination of parameters. In case of big leaps in pressure in combination with high respiratory rates and very large tidal volumes or leaks, the prescribed pressures may not be reached. This is not a device malfunction.

6.4 S mode

In the S mode the respiratory support is initiated and terminated by the patient's spontaneous respiration. In this way, the therapy device supports the patient during ventilation.

6.4.1 Adjustable parameters in S mode

Parameter	Possible values	Description
IPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
EPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Bi softPAP	<p>Off Bi soft1* Bi soft2* TriLevel</p> <p>*(can only be activated if EPAP ≥ 6 hPa)</p>	<p>Here you can activate/deactivate the pressure variants.</p> <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set IPAP and EPAP. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set a fixed pressure difference PDIFF (IPAP - EPAP) and EEPAP. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).
Ramp IN	<p>1 2 3</p>	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 1: Standard • 2: Slight pressure increase rate • 3: Very slight pressure increase rate
Ti/Tset	25% to 67%	Here you can set the relative inspiration duration.
Trigger IN	<p>1 2 3 Auto</p>	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic <p>Setting tips:</p> <ul style="list-style-type: none"> • Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. • Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.

6.5 autoS mode

autoS mode combines the pressure support of a BiLevel S therapy with optional, automatic adjustment of pressure difference (autoPDIFF) and automatic adjustment of expiratory pressure against obstructions as in the case of APAP.

6.5.1 Adjustable parameters in autoS mode

Parameter	Possible values	Description
PDIFF	0 cmH ₂ O to 21 cmH ₂ O	Here you set the pressure difference between IPAP and EPAP if autoPDIFF = Off.
autoPDIFF	On Off	Here you can activate/deactivate automatic adjustment of the pressure difference within PDIFFmin and PDIFFmax. This enables slight obstructions to be prevented without increasing EPAP.
PDIFFmin	0 hPa to 21 hPa	Here you can set the minimum pressure difference between IPAP and EPAP if autoPDIFF is activated.
PDIFFmax	0 hPa to 21 hPa	Here you can set the maximum pressure difference between IPAP and EPAP if autoPDIFF is activated.
(E)EPAPmax	4 cmH ₂ O to 23 cmH ₂ O	Here you can set the maximum EPAP (Bi softPAP) and EEPAP (TriLevel).
(E)EPAPmin	4 cmH ₂ O to 23 cmH ₂ O	Here you can set the minimum EPAP (Bi softPAP) and EEPAP (TriLevel).
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	Here you can activate/deactivate the pressure variants. <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set PDIFF and autoEPAP (within EPAPmin and EPAPmax). • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set fixed pressure difference PDIFF (IPAP - EPAP) and autoEEPAP (within EEPAPmin and EEPAPmax). EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

6.6 autoS/T mode

The autoS/T mode combines

- **Pressure support of a BiLevel therapy**
- **Backup frequency**
- **Automatic regulation of the expiratory pressure and the pressure difference against obstructions**

This allows safe bridging of apneas and hypoventilation phases, standardizes the patient's blood gases, and reduces his breathing effort as necessary.

If you set the backup frequency to 0, the device is in autoS mode without a backup frequency.

6.6.1 Adjustable parameters in autoS/T mode

Parameter	Possible values	Description
PDIFF	0 cmH ₂ O to 21 cmH ₂ O	Here you set the pressure difference between IPAP and EPAP if autoPDIFF = Off.
autoPDIFF	On Off	Here you can activate/deactivate automatic adjustment of pressure difference. This enables slight obstructions to be prevented without increasing EPAP.
PDIFFmin	0 hPa to 21 hPa	Here you set the minimum pressure difference between IPAP and EPAP if autoPDIFF is activated.
PDIFFmax	0 hPa to 21 hPa	Here you set the maximum pressure difference between IPAP and EPAP if autoPDIFF is activated.
(E)EPAPmax	4 cmH ₂ O to 23 cmH ₂ O	Here you can set the maximum EPAP (Bi soft) and EEPAP (TriLevel).
(E)EPAPmin	4 cmH ₂ O to 23 cmH ₂ O	Here you can set the minimum EPAP (Bi soft) and EEPAP (TriLevel).

Parameter	Possible values	Description
Bi softPAP	<p>Off Bi soft1* Bi soft2* TriLevel</p> <p>*(can only be activated if EPAP \geq 6 hPa)</p>	<p>Here you can activate/deactivate the pressure variants.</p> <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set PDIFF and autoEPAP (within EPAPmin and EPAPmax). • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set fixed pressure difference PDIFF (IPAP - EPAP) and autoEEPAP (within EEPAPmin and EEPAPmax). EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).
autoF	<p>On Off</p>	<p>Here you can activate/deactivate the automatic backup frequency.</p> <p>If autoF is deactivated, you can set the parameters F min and Ti/T set:</p> <ul style="list-style-type: none"> • F min: 5 bpm-35 bpm • Ti/T set: 25% to 67% <p>Select F min = 0 bpm, then the therapy corresponds to the autoS mode. The setting options are reduced accordingly.</p>
Ramp IN	<p>1 2 3</p>	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 1: Standard • 2: Slight pressure increase rate • 3: Very slight pressure increase rate
Trigger IN	<p>1 2 3 Auto</p>	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic <p>Setting tips:</p> <ul style="list-style-type: none"> • Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. • Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.

6.6.2 Presets of SCOPES (therapy goals)

Presets SCOPE OVERLAP

Parameter	Preset values
EPAPmin	6 cmH ₂ O
EPAPmax	16 cmH ₂ O
PDIFF	8 cmH ₂ O
autoPDIFF	Off
autoF	On
Ramp IN	1
Trigger IN	Auto
Bi softPAP	Off

SCOPE OVERLAP is suitable for patients with obstructive sleep apnea and mild to medium COPD.

SCOPE OVERLAP offers a normal pressure range for obstruction therapy, a dynamic inspiratory ramp, and effective pressure support.

Presets SCOPE HYPOV

Parameter	Preset values
EPAPmin	8 cmH ₂ O
EPAPmax	16 cmH ₂ O
PDIFF	8 cmH ₂ O
autoPDIFF	Off
autoF	On
Ramp IN	2
Trigger IN	Auto
Bi softPAP	Off

SCOPE HYPOV is suitable for patients with obstructive sleep apnea and additional central apneas or pressure support requirements (e.g., intermittent hypoventilation, slight OHS).

SCOPE HYPOV offers an increased pressure range for obstruction therapy (especially for OHS), a medium inspiratory ramp, and effective pressure support.

Presets SCOPE OSAS

Parameter	Preset values
EPAPmin	6 cmH ₂ O
EPAPmax	20 cmH ₂ O
PDIFF	5 cmH ₂ O
autoPDIFF	Off
autoF	Off
F min	10 bpm
Ti/T set	33 %
Trigger IN	Auto
Ramp IN	3
Bi softPAP	Off

SCOPE OSAS is suitable for patients with severe obstructive sleep apnea and a high pressure requirement.

SCOPE OSAS offers an expanded pressure range for obstruction therapy, a comfort-oriented inspiratory ramp, and pressure support. The backup frequency is deactivated. The SCOPE can also be used for titration of an autoS therapy.

6.7 S/T mode

In BiLevel therapy, you can define set values for the pressure levels during inspiration and expiration. This offers patients who require ventilation support or who do not tolerate CPAP an efficient and comfortable therapy.

In S/T mode (s=spontaneous, t=timed), the therapy device supports the patient during ventilation. Both the patient's spontaneous respiration and the breaths triggered by the device can prevail. This allows safe bridging of apneas and hypoventilation phases, standardizes the patient's blood gases, and reduces his breathing effort as necessary.

If you set the backup frequency to 0, the device is in S mode without a backup frequency.

6.7.1 Adjustable parameters in S/T mode

Parameter	Possible values	Description
IPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
EPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	Here you can activate/deactivate the pressure variants. <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set IPAP and EPAP. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set a fixed pressure difference PDIFF (IPAP - EPAP) and EEPAP. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).
Ramp IN	1 2 3	You can set the duration of the inspiration ramp here: <ul style="list-style-type: none"> • 1: Standard • 2: Slight pressure increase rate • 3: Very slight pressure increase rate
F min	0 5 bpm to 35 bpm	Here you can set the backup frequency (F) per minute.
Trigger IN	1 2 3 Auto	Here you can set the trigger sensitivity: <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic Setting tips: <ul style="list-style-type: none"> • Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. • Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.
Ti/T set	25% to 67%	Here you can set the relative inspiration duration.

6.7.2 Presets of SCOPES (therapy goals)

Presets SCOPE OVERLAP

Parameter	Preset values
EPAP	7 cmH ₂ O
IPAP	15 cmH ₂ O
Fmin	14 bpm
Ti/T set	25%
Ramp IN	1
Trigger IN	Auto
Bi softPAP	Off

SCOPE OVERLAP is suitable for patients with obstructive sleep apnea and mild to medium COPD.

SCOPE OVERLAP offers a normal pressure range for obstruction therapy, a dynamic inspiratory ramp, and effective pressure support.

Presets SCOPE HYPOV

Parameter	Preset values
EPAP	8 cmH ₂ O
IPAP	18 cmH ₂ O
F min	16 bpm
Ti/T set	33%
Ramp IN	2
Trigger IN	Auto
Bi softPAP	Off

SCOPE HYPOV is suitable for patients with obstructive sleep apnea and additional central apneas or pressure support requirements (e.g., intermittent hypoventilation, slight OHS).

SCOPE HYPOV offers an increased pressure range for obstruction therapy (especially for OHS), a medium inspiratory ramp, and effective pressure support.

Presets SCOPE OSAS

Parameter	Preset values
EPAP	8 cmH ₂ O
IPAP	13 cmH ₂ O
F min	10 bpm
Ti/T set	33%
Ramp IN	3
Trigger IN	Auto
Bi softPAP	Off

SCOPE OSAS is suitable for patients with severe obstructive sleep apnea and a high pressure requirement.

SCOPE OSAS offers an expanded expiratory pressure, a comfort-oriented inspiratory ramp, and pressure support. The backup frequency is deactivated. The SCOPE can also be used for titration of an autoS therapy.

6.8 T mode

In T mode, the therapy device triggers all the breaths. This allows maximum relief of the respiratory muscles.

You can define set values for the pressure levels IPAP and EPAP.

6.8.1 Adjustable parameters in T mode

Parameter	Possible values	Description
IPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
EPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Ramp IN	1 2 3	You can set the duration of the inspiration ramp here: <ul style="list-style-type: none"> • 1: Standard • 2: Slight pressure increase rate • 3: Very slight pressure increase rate
F	5 bpm to 35 bpm	Here you can set the respiratory rate per minute.
Ti/T set	25% to 67%	If autoF is deactivated, you can set the relative inspiration duration here.

6.9 HFT mode (prisma30ST-HFT only)

In High Flow mode (HFT mode), the device pumps the set flow rate to an external humidifier suitable for HFT. This conditions the respiratory gas in terms of temperature and humidity. The patient connection is made using accessories suitable for HFT.

6.9.1 Parameters which can be adjusted in HFT mode

Parameter	Possible values	Description
HFT flow	10 l/min to 60 l/min	Set HFT flow here. This is the sum of the flow delivered by the device and any O ₂ flow supplied externally.
External O ₂ flow	0 l/min to 15 l/min	Set the O ₂ flow supplied externally here.

7 Advanced BiLevel modes in prisma30ST-C, prisma30ST and prisma30ST-HFT

In the prisma30ST-C and prisma30ST therapy devices, the following ventilation modes have advanced settings.

7.1 aPCV mode

In aPCV mode (assisted pressure-controlled ventilation) the therapy device offers the patient pressure support as in S/T mode. The patient can trigger the inspiration himself. If his frequency drops to the set backup frequency, the device triggers mandatory breaths in order to bridge the apnea or hypoventilation phases.

In contrast to the S/T mode, the inspiration time is fixed in aPCV. The patient does not need to stimulate an expiratory trigger.

7.1.1 Adjustable parameters in aPCV mode

Parameter	Possible values	Description
EPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
IPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	Here you can activate/deactivate the pressure variants. <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set IPAP and EPAP. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set a fixed pressure difference PDIFF (IPAP - EPAP) and EEPAP. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

Parameter	Possible values	Description
Ramp IN	0 1 2 3	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 0: Very steep pressure increase rate. The IPAP is reached after 10% of the inspiration time. • 1: Standard. The IPAP is reached after 20% of the inspiration time. • 2: Slight pressure increase rate. The IPAP is reached after 40% of the inspiration time. • 3: Very slight pressure increase rate. The IPAP is reached after 60% of the inspiration time. <p>When setting the Ramp IN, you are also informed what rise time in ms the current setting of the Ramp IN corresponds to. This is based on the inspiration time, which is calculated from the F min and Ti (or Ti/T) for mandatory breaths. If the current setting drops below the device's minimum rise time, min is output.</p>
Ramp EX	1 2 3	<p>Here you can set the duration of the expiration ramp from IPAP to EPAP:</p> <ul style="list-style-type: none"> • 1: Steep ramp (standard) • 2: Flat ramp • 3: Very flat ramp
F min	0 5 bpm to 35 bpm	<p>Here you can set the backup frequency (F) per minute. Select F min = 0 bpm, then the therapy corresponds to the S mode. The setting options are reduced accordingly.</p>
Trigger IN	1 2 3 Auto	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic <p>Setting tips:</p> <ul style="list-style-type: none"> • Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. • Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.

Parameter	Possible values	Description
Trigger EX	1 2 3 Auto	Here you set the trigger sensitivity: <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic
Ti	300 ms to 4000 ms	Here you can set the inspiration duration.
Target volume (prisma30ST and prismaLAB only)	Off 300 ml to 2000 ml	Here you can set the target volume that should be attained. When the target volume is activated, you can also set the following parameters: <ul style="list-style-type: none"> • IPAPmin (4 cmH₂O to 30 cmH₂O, instead of IPAP) • IPAPmax (4 cmH₂O to 30 cmH₂O, maximum pressure with which the target volume should be attained). • If TriLevel pressure profile is activated: PDIFMin and PDIFMax (maximum pressure difference at which the target volume is to be achieved). • Pressure adjustment (speed of pressure adjustment at levels 1: Slow, 2: Medium, 3: Fast)

7.1.2 Presets of SCOPES (therapy goals)

Presets SCOPE HYPOV

Parameter	Preset values
EPAP	8 cmH ₂ O
IPAP	16 cmH ₂ O
F min	14 bpm
Ti	1.4 s
Ramp IN	1
Ramp EX	1
Trigger IN	Auto
Trigger EX	1
Target volume	Off
Bi softPAP	Off

SCOPE HYPOV is suitable for patients with obstructive sleep apnea and additional central apneas or pressure support requirements (e.g., intermittent hypoventilation, slight OHS).

SCOPE HYPOV offers an increased pressure range for obstruction therapy (especially for OHS), a medium inspiratory ramp, and effective pressure support.

Presets SCOPE COPD

Parameter	Preset values
EPAP	6 cmH ₂ O
IPAP	20 cmH ₂ O
F min	16 bpm
Ti	1.2 s
Ramp IN	0
Ramp EX	2
Trigger IN	Auto
Trigger EX	1
Target volume	Off
Bi softPAP	Off

SCOPE COPD is suitable for patients with chronic stable COPD.

SCOPE COPD offers a low pressure for obstruction therapy, a dynamic inspiratory ramp, flatter expiratory ramp, effective pressure support and a shorter inspiration time.

7.2 S mode

In the S mode the respiratory support is initiated and terminated by the patient's spontaneous respiration. In this way, the therapy device supports the patient during ventilation.

7.2.1 Adjustable parameters in S mode

Parameter	Possible values	Description
EPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
IPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Ti min	0.3 - 4 s	Here you set the minimum duration of inspiration for spontaneous breaths.
Ti max	0.3 - 4 s	Here you set the maximum duration of inspiration for spontaneous breaths.

Parameter	Possible values	Description
Ramp IN	0 1 2 3	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> 0: Very steep pressure increase rate. The IPAP is reached after 10% of the inspiration time. 1: Standard. The IPAP is reached after 20% of the inspiration time. 2: Slight pressure increase rate. The IPAP is reached after 40% of the inspiration time. 3: Very slight pressure increase rate. The IPAP is reached after 60% of the inspiration time. <p>When setting the Ramp IN, you are also informed what rise time in ms the current setting of the Ramp IN corresponds to. This is based on the inspiration time, which is calculated from the F_{min} and Ti (or Ti/T) for mandatory breaths. If the current setting drops below the device's minimum rise time, min is output.</p>
Ramp EX	1 2 3	<p>Here you can set the duration of the expiration ramp from IPAP to EPAP:</p> <ul style="list-style-type: none"> 1: Steep ramp (standard) 2: Flat ramp 3: Very flat ramp
Trigger IN	1 2 3 Auto	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> 1: Very sensitive 2: Normal 3: Very robust Auto: Automatic <p>Setting tips:</p> <ul style="list-style-type: none"> Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.
Trigger EX	1 2 3 Auto	<p>Here you can set the robustness of the expiratory trigger:</p> <ul style="list-style-type: none"> 1: Very sensitive 2: Normal 3: Very robust Auto: Automatic

Parameter	Possible values	Description
Target volume (prisma30ST and prismaLAB only)	Off 300 ml to 2000 ml	Here you can set the target volume that should be attained. When the target volume is activated, you can also set the following parameters: <ul style="list-style-type: none"> • IPAPmin (4 cmH₂O to 30 cmH₂O, instead of IPAP) • IPAPmax (4 cmH₂O to 30 cmH₂O, maximum pressure with which the target volume should be attained). • Pressure adjustment (speed of pressure adjustment at levels 1: Slow, 2: Medium, 3: Fast)
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	Here you can activate/deactivate the pressure variants. <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set IPAP and EPAP. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set a fixed pressure difference PDIFF (IPAP - EPAP) and EEPAP. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

7.3 S/T mode

In S/T mode (s=spontaneous, t=timed), the therapy device supports the patient during ventilation. Both the patient's spontaneous respiration and the breaths triggered by the device can prevail. This allows safe bridging of apneas and hypoventilation phases, standardizes the patient's blood gases, and reduces his breathing effort as necessary.

If you set the backup frequency to 0, the device is in S mode without a backup frequency.

7.3.1 Adjustable parameters in S/T mode

Parameter	Possible values	Description
EPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
IPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the expiratory positive airway pressure.
F min	0 5 bpm to 35 bpm	Here you can set the backup frequency (F) per minute. Select F min = 0 bpm, then the therapy corresponds to the S mode. The setting options are reduced accordingly.
Ti min	0.3 s to 4 s	Here you set the minimum duration of inspiration for spontaneous breaths.
Ti max	0.3 s to 4 s	Here you set the maximum duration of inspiration for spontaneous breaths.
Ti timed	0.3 s to 4 s (A) auto	Here you set the duration of inspiration for mandatory breaths. The auto value automatically selects the optimum duration of inspiration between Ti min and Ti max.
Ramp IN	0 1 2 3	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 0: Very steep pressure increase rate. The IPAP is reached after 10% of the inspiration time. • 1: Standard. The IPAP is reached after 20% of the inspiration time. • 2: Slight pressure increase rate. The IPAP is reached after 40% of the inspiration time. • 3: Very slight pressure increase rate. The IPAP is reached after 60% of the inspiration time. <p>When setting the Ramp IN, you are also informed what rise time in ms the current setting of the Ramp IN corresponds to. This is based on the inspiration time, which is calculated from the F min and Ti (or Ti/T) for mandatory breaths. If the current setting drops below the device's minimum rise time, min is output.</p>
Ramp EX	1 2 3	<p>Here you can set the duration of the expiration ramp from IPAP to EPAP:</p> <ul style="list-style-type: none"> • 1: Steep ramp (standard) • 2: Flat ramp • 3: Very flat ramp

Parameter	Possible values	Description
Trigger IN	1 2 3 Auto	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic <p>Setting tips:</p> <ul style="list-style-type: none"> • Reduce the trigger sensitivity if the therapy device reacts to flow increases which are too slight and thus reaches a frequency which does not correspond to the frequency of the patient's normal respiration. • Increase the trigger sensitivity if the therapy device does not react to the patient's very small breaths and provides no inspiratory pressure.
Trigger EX	1 2 3 Auto	<p>Here you can set the robustness of the expiratory trigger:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic
Target volume	Off 300 ml to 2000 ml	<p>Here you can set the target volume that should be attained. When the target volume is activated, you can also set the following parameters:</p> <ul style="list-style-type: none"> • IPAPmin (4 cmH₂O to 30 cmH₂O, instead of IPAP) • IPAPmax (4 cmH₂O to 30 cmH₂O, maximum pressure with which the target volume should be attained). • Pressure adjustment (speed of pressure adjustment at levels 1: Slow, 2: Medium, 3: Fast)
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	<p>Here you can activate/deactivate the pressure variants.</p> <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set IPAP and EPAP. • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set a fixed pressure difference PDIFF (IPAP - EPAP) and EEPAP. EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

7.3.2 Presets of SCOPES (therapy goals)

Presets SCOPE HYPOV

Parameter	Preset values
EPAP	8 cmH ₂ O
IPAP	18 cmH ₂ O
F min	14 bpm
Ti min	0.5 s
Ti max	1.7 s
Ti timed	1.4 s
Ramp IN	1
Ramp EX	1
Trigger IN	Auto
Trigger EX	Auto
Target volume	Off
Bi softPAP	Off

SCOPE HYPOV is suitable for patients with obstructive sleep apnea and additional central apneas or pressure support requirements (e.g., intermittent hypoventilation, slight OHS).

SCOPE HYPOV offers an increased pressure range for obstruction therapy (especially for OHS), a medium inspiratory ramp, and effective pressure support.

Presets SCOPE COPD

Parameter	Preset values
EPAP	6 cmH ₂ O
IPAP	20 cmH ₂ O
F min	16 bpm
Ti min	0.5 s
Ti max	1.7 s
Ti timed	1.2 s
Ramp IN	0
Ramp EX	2
Trigger IN	Auto

Parameter	Preset values
EPAP	6 cmH ₂ O
Trigger EX	1
Target volume	Off
Bi softPAP	Off

SCOPE COPD is suitable for patients with chronic stable COPD.

SCOPE COPD offers a low pressure for obstruction therapy, a dynamic inspiratory ramp, flatter expiratory ramp, effective pressure support and a shorter inspiration time.

7.4 T mode

In T mode, the therapy device triggers all the breaths. This allows maximum relief of the respiratory muscles.

You can define set values for the pressure levels IPAP and EPAP.

7.4.1 Adjustable parameters in T mode

Parameter	Possible values	Description
EPAP	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the inspiratory positive airway pressure.
IPAP	4 cmH ₂ O to 30 cmH ₂ O	Here you can set the expiratory positive airway pressure.
Ramp IN	0 1 2 3	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 0: Very steep pressure increase rate. The IPAP is reached after 10% of the inspiration time. • 1: Standard. The IPAP is reached after 20% of the inspiration time. • 2: Slight pressure increase rate. The IPAP is reached after 40% of the inspiration time. • 3: Very slight pressure increase rate. The IPAP is reached after 60% of the inspiration time. <p>When setting the Ramp IN, you are also informed what rise time in ms the current setting of the Ramp IN corresponds to. If the current setting drops below the device's minimum rise time, min is output.</p>
Ramp EX	1 2 3	<p>Here you can set the duration of the expiration ramp from IPAP to EPAP:</p> <ul style="list-style-type: none"> • 1: Steep ramp (standard) • 2: Flat ramp • 3: Very flat ramp
F	5 bpm to 35 bpm	Here you can set the backup frequency (F) per minute.
Ti	0.3 s to 4 s	Here you set the duration of inspiration.
Target volume	Off 300 ml to 2000 ml	<p>Here you can set the target volume that should be attained. When the target volume is activated, you can also set the following parameters:</p> <ul style="list-style-type: none"> • IPAPmin (4 cmH₂O to 30 cmH₂O, instead of IPAP) • IPAPmax (4 cmH₂O to 30 cmH₂O, maximum pressure with which the target volume should be attained). • Pressure adjustment (speed of pressure adjustment at levels 1: Slow, 2: Medium, 3: Fast)

7.5 autoS/T mode

The autoS/T mode combines

- Pressure support of a BiLevel therapy
- Backup frequency
- Automatic regulation of the expiratory pressure against obstructions
- Optional target volume regulation. In combination with the automatic regulation of the pressure against obstructions, this makes it possible to achieve maximum pressure relief in phases with low therapy requirements (e.g., when lying on side) in position-dependent hypoventilation, for example.

This allows safe bridging of apneas and hypoventilation phases, standardizes the patient's blood gases, and reduces his breathing effort as necessary.

If you set the backup frequency to 0, the device is in S mode without a backup frequency.

7.5.1 Adjustable parameters in autoS/T mode

Parameter	Possible values	Description
EPAPmin	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the minimum EPAP (BiLevel) and EEPAP (TriLevel).
EPAPmax	4 cmH ₂ O to 25 cmH ₂ O	Here you can set the maximum EPAP (BiLevel) and EEPAP (TriLevel).
PDIFF	0 cmH ₂ O to 26 cmH ₂ O	Here you can set the pressure difference between IPAP and EPAP. If there is a target volume activated, the PDIFF min and PDIFFmax values can be set instead of the PDIFF values.

Parameter	Possible values	Description
autoF	On Off	<p>Here you can activate/deactivate the automatic backup frequency.</p> <p>If autoF is deactivated, you can set the parameters F min and Ti/T set, Ti min, Ti max and Ti timed:</p> <ul style="list-style-type: none"> • F min: 5 bpm to 35 bpm • Ti/T set: Ti min: 0.3 s to 4 s • Ti max: 0.3 s to 4 s • Ti timed: 0.3 s to 4 s <p>Select F min = 0 bpm, then the therapy corresponds to the autoS mode. The setting options are reduced accordingly.</p>
Ramp IN	0 1 2 3	<p>You can set the duration of the inspiration ramp here:</p> <ul style="list-style-type: none"> • 0: Very steep pressure increase rate. The IPAP is reached after 10% of the inspiration time. • 1: Standard. The IPAP is reached after 20% of the inspiration time. • 2: Slight pressure increase rate. The IPAP is reached after 40% of the inspiration time. • 3: Very slight pressure increase rate. The IPAP is reached after 60% of the inspiration time. <p>When setting the Ramp IN, you are also informed what rise time in ms the current setting of the Ramp IN corresponds to (when autoF=Off). This is based on the inspiration time, which is calculated from the F min and Ti (or Ti/T) for mandatory breaths. If the current setting drops below the device's minimum rise time, min is output.</p>
Ramp EX	1 2 3	<p>Here you can set the duration of the expiration ramp from IPAP to EPAP:</p> <ul style="list-style-type: none"> • 1: Steep ramp (standard) • 2: Flat ramp • 3: Very flat ramp
Trigger IN	1 2 3 Auto	<p>Here you can set the trigger sensitivity:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic
Trigger EX	1 2 3 Auto	<p>Here you can set the robustness of the expiratory trigger:</p> <ul style="list-style-type: none"> • 1: Very sensitive • 2: Normal • 3: Very robust • Auto: Automatic

Parameter	Possible values	Description
Target volume	Off 300 ml to 2000 ml	Here you can set the target volume that should be attained. When the target volume is activated, you can also set the following parameters: <ul style="list-style-type: none"> • IPAPmin (4 cmH₂O to 30 cmH₂O, instead of IPAP) • IPAPmax (4 cmH₂O to 30 cmH₂O, maximum pressure with which the target volume should be attained). • Pressure adjustment (speed of pressure adjustment at levels 1: Slow, 2: Medium, 3: Fast)
Bi softPAP	Off Bi soft1* Bi soft2* TriLevel *(can only be activated if EPAP ≥ 6 hPa)	Here you can activate/deactivate the pressure variants. <ul style="list-style-type: none"> • Off (Bi soft0 pressure variant): It is possible to set PDIFF and autoEPAP (within EPAPmin and EPAPmax). • Bi soft1: As for Bi soft0, with additional breathing relief (1 hPa) at the start of expiration. • Bi soft2: As for Bi soft0, with additional breathing relief (2 hPa) at the start of expiration. • TriLevel (TriLevel pressure variant): It is possible to set fixed pressure difference PDIFF (IPAP - EPAP) and autoEEPAP (within EEPAPmin and EEPAPmax). EEPAP (pressure at the end of expiration) corresponds to EPAP (pressure at the start of expiration).

7.5.2 Presets of SCOPES (therapy goals)

Presets SCOPE HYPOV

Parameter	Preset values
EPAPmin	8 cmH ₂ O
EPAPmax	20 cmH ₂ O
PDIFF	10 cmH ₂ O
autoF	On
Ti min	0.5 s
Ti max	1.7 s
Ramp IN	1
Ramp EX	1
Trigger IN	Auto
Trigger EX	Auto
Bi softPAP	Off
Target volume	Off

SCOPE HYPOV is suitable for patients with obstructive sleep apnea and additional central apneas or pressure support requirements (e.g., intermittent hypoventilation, slight OHS).

SCOPE HYPOV offers an increased pressure range for obstruction therapy (especially for OHS), a medium inspiratory ramp, and effective pressure support.

Presets SCOPE COPD

Parameter	Preset values
EPAPmin	6 cmH ₂ O
EPAPmax	10 cmH ₂ O
PDIFF	12 cmH ₂ O
autoF	Off
F min	16 bpm
Ti min	0.5 s
Ti max	1.7 s
Ti timed	1.2 s
Ramp IN	0
Ramp EX	2
Trigger IN	Auto
Trigger EX	1
Bi softPAP	Off
Target volume	Off

SCOPE COPD is suitable for patients with chronic stable COPD.

SCOPE COPD offers a low pressure for obstruction therapy, a dynamic inspiratory ramp, flatter expiratory ramp, effective pressure support and a shorter inspiration time.

8 Particularities with prismaLAB

In the prismaLAB titration device, both the ventilation modes without target volume (see "6 Description of the modes", page 33) and the advanced ventilation modes with target volumes (see "7 Advanced BiLevel modes in prisma30ST-C, prisma30ST and prisma30ST-HFT", page 49) are available to you.

Use the BiLevel modes on the first and second pages of the mode selection screen for titration of the prisma25S-C, prisma25S, and prisma25ST devices.

The advanced ventilation modes with target volume can be found on the third page of the mode selection screen. These modes can be identified by the addition of (30).

9 Hygienic preparation

This section describes the intervals for hygienic preparation and the replacement of the bacteria filter. A description of the hygienic preparation can be found in the instructions for use for the patient.

9.1 General information

- **This product may contain disposable items. Disposable items are intended to be used only once.** Use these items only once and do **not** reprocess them. Reprocessing disposable items may impair the functionality and safety of the product and lead to unforeseeable reactions as a result of aging, embrittlement, wear, thermal load, the effects of chemical processes, etc.
- Wear suitable protective equipment for disinfection work.
- Please refer to the instructions for use supplied with the disinfectant used.
- Also observe the respective instructions for use of the device, the components, and the accessories.
- Always carry out a function check before using the unit (see chapter "Function check" of the instructions for use).

9.2 Intervals without a patient change

Interval	Action
Weekly	• Clean the therapy device.
	• Clean the respiration hose.
	• Clean the respiratory air humidifier.
Monthly	• Clean the air filter.
	• If installed: Replace the pollen filter.

Interval	Action
Every 6 months	<ul style="list-style-type: none"> • Replace the air filter.
Annually	<ul style="list-style-type: none"> • Replace the respiration hose.
As necessary	<ul style="list-style-type: none"> • Descale the respiratory air humidifier. • Disinfect the respiration hose. • For hygienic reasons: Replace the housing components of the respiratory air humidifier if they are in poor condition (e.g., if cracks appear).

9.3 Intervals with a patient change

Interval	Action
When changing patients	<ul style="list-style-type: none"> • When using a bacteria filter: Replace the bacteria filter (see instructions for use). • When not using a bacteria filter: Send the device to an authorized dealer and have it hygienically prepared.
	<ul style="list-style-type: none"> • Disinfect the device (see instructions for use).
	<ul style="list-style-type: none"> • Disinfect the respiration hose (see instructions for use).
	<ul style="list-style-type: none"> • Disinfect the respiratory air humidifier (see instructions for use).
	<ul style="list-style-type: none"> • Replace humidifier insert.
	<ul style="list-style-type: none"> • Replace the SD card (see instructions for use).
	<ul style="list-style-type: none"> • Delete therapy data.
	<ul style="list-style-type: none"> • Set up the therapy device for the new patient (see "5.3 Settings in the expert settings menus", page 23).

9.4 Replacing the bacteria filter



Risk of injury if disposable items are reused!

The bacteria filter is only intended to be used once. Disposable items can be contaminated and/or their function may be impaired.
 ⇒ Replace the bacteria filter.

Requirement

The therapy device is disconnected from the power supply.

1. Remove the bacteria filter from the respiration hose.
2. Insert a new bacteria filter between the respiration hose and the device outlet.

Result

The bacteria filter is replaced.

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