



Product Training TREND II **HOFFRICHTER GmbH**



Complete system spectrum for CPAP therapy

- TREND II
- TREND II AUTO
- TREND II BILEVEL
- TREND II BILEVEL ST20
- AquaTREND uni Therapy Humidifier



- All systems have the same philosophy in terms of operation and design
- Different therapy modes integrated according to the system

TREND II CPAP

TREND II AUTO

TREND II BILEVEL

TREND II BILEVEL ST20

AquaTREND uni

▶ CPAP, FLEXLINE

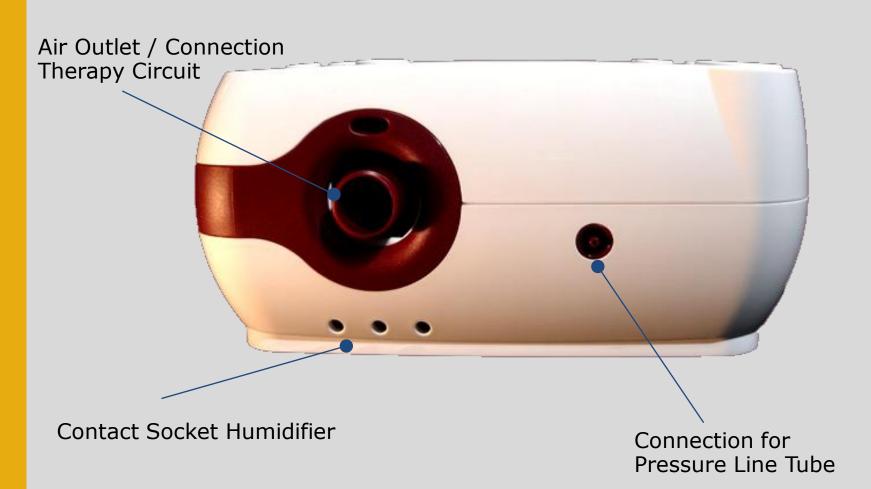
▶ APAP, CPAP, FLEXLINE

▶ BILEVEL S, CPAP

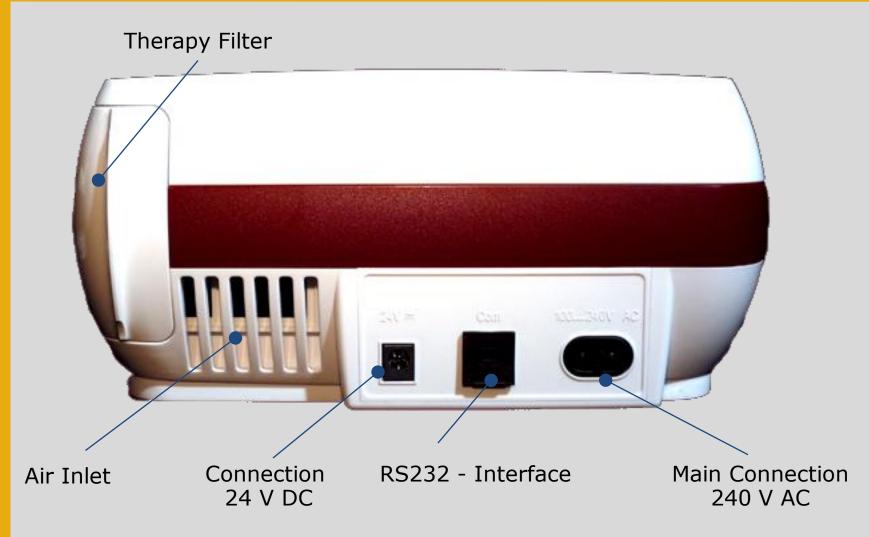
▶ BILEVEL S, BILEVEL ST, BILEVEL T, CPAP

▶ Therapy Humidifier





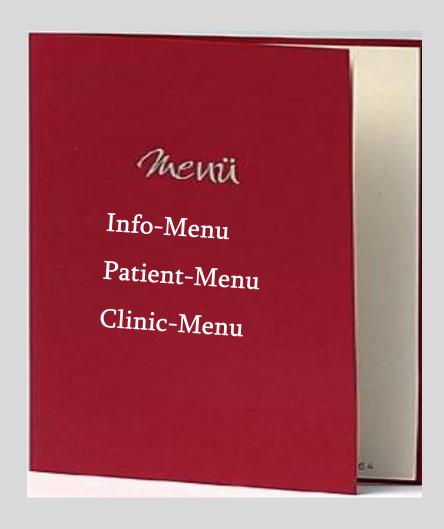














Info Menu

The **Info Menu** offers the patients a quick and clearly information on the adjusted therapy parameters



- No adjustments or parameter changes are possible in Info Menu!
- Enter the Info Menu with i button



Info Menu

TREND II CPAP

- Therapy
- Filter
- Ramp
- P-Ramp
- Mode
- Pressure
- FLEX-Level

TREND II AUTO CPAP

- Therapy
- Filter
- Ramp
- P-Ramp
- Mode
- P-Start
- P-Min
- P-Max

TREND II BILEVEL

- Therapy
- Filter
- Ramp
- P-Ramp
- Mode
- I-Pressure
- E-Pressure
- I-Slope
- E-Slope
- I-Trigger
- E-Trigger

TREND II BILEVEL ST20

- Therapy
- Filter
- Ramp
- P-Ramp
- Mode
- I-Pressure
- E-Pressure
- I-Slope
- E-Slope
- I-Trigger
- E-Trigger
- Frequency
- Insp. Time
- Delay time 9



Patient Menu

- Enter the **Patient Menu** with ◀ Key (for 1 Second)
- In Patient Menu "non" therapy relevant adjustments can be made by the Patient





Patient Menu

Adjustments Patient Menu in TREND II product series

• Delete Filter

⇔ Reset ← press

• Ramp

 \Leftrightarrow 0 ... 60 min [Interval 1 min]

Mask*

⇔ Nose / Nose-Mouth

Mask Test

⇔ 0 ... 90 s [Interval 5 Seconds]

Automatic*

⇔ Off/On , Start/Stop, Start

Brightness

⇔ 0 ... 100 % [Interval 10 %]

DrightnesDate

⇔ Year - Month - Day

Date

⇔ Hours – Minutes

TimeWake-Up Time*

⇔ Hours – Minutes

Automatic*

⇒ only with et BILEVEL ST20 via Software TRENDset able to activate / inactivate

Wake-up Time* ⇒ with Software TRENDset able to deactivate the Wake-up Time

Mask*

⇒ Function only in AutoCPAP available



Clinic Menu

Enter the **clinic menu** in following steps

- Enter Patient-Menu: ◀ key (for 1 Second)
- Hold → → bottoms at the same time for 3 Seconds



Therapy relevant Data's are PIN Code secured

- Standard PIN Code: 0000
- PIN code is changeable with Software TRENDset



Clinic Menu

- With ◀ Key confirm selected parameter

TREND II CPAP

- Therapy Mode
- Therapy Pressure
- FLEX-Level
- Start / Stop Automatic
- Sleep Ramp
- Pressure Ramp

- Mask Test
- Display Brightness
- Language
- Unit of Pressure
- Turbine (h)
 - Filter (h)
 - Therapy (h)
- Delete Filter
- Date
- Time
- Wake-Up Time (if activated)

TRENDII AUTO

- Therapy Mode
- Pressure Start
 - Pressure Min
 - Pressure Max
- Start / Stop Automatic
- Sleep Ramp
 - Pressure Ramp
- Mask
 - Nose
 - Nose-Mouth
- Mask Test
- Display Brightness
- Language
- Unit of Pressure
- Turbine (h)
 - Filter (h)
 - Therapy (h)
 - Delete Filter
- Date
- Time
- Wake-Up Time (if activated

TREND II BILEVEL

- Therapy Mode
- I-Pressure
 - E-Pressure
 - I-Slope
 - E-Slope
- I-Trigger
 - E-Trigger
- Start / Stop Automatic
- Sleep Ramp
 - Pressure Ramp
- Mask Test
- Display Brightness
- Language
- Unit of Pressure
- Turbine (h)
 - Filter (h)
 - Therapy (h)
- Delete Filter
- Date
- Time
- Wake-Up Time (if activated

TREND II BILEVEL ST20

- Therapy Mode
- I-Pressure
 - E-Pressure
 - I-Slope
 - E-Slope
- I-Trigger
 - E-Trigger
- Frequency
 - Inspiration Ratio
 - Delay Time
- Automatic (if activated)
- Sleep Ramp
 - Pressure Ramp
- Mask Test
- Display Brightness
- Language
- Unit of Pressure
- Turbine (h)
 - Filter (h)
 - Therapy (h)
- Delete Filter
- Date
- Time
- Wake-Up Time (If activated)



Structure Info Menu

		TREND II	TREND II	TREND II	TREND II
Info Menu Structur TREND II		CPAP	AutoCPAP	BILEVEL	BILEVEL ST
Info Menu	Therapy (Time)	✓	✓	✓	✓
	Filter (Time)	✓	✓	✓	✓
	Pressure Sleep Ramp	✓	✓	✓	✓
	Therapy Mode	✓	✓	✓	✓
	Therapy Pressure	✓	✓		
	FLEX-Level	✓	✓		
	Pressuer Start		✓		
	Pressure Min		✓		
	Pressure Max		✓		
	I-Pressure			✓	✓
	E-Pressure			✓	✓
	I-Slope			✓	✓
	E-Slope			✓	✓
	Trigger				✓
	I-Trigger			✓	✓
	E-Trigger			✓	✓
	Frequency				✓
	Inspiration Ratio				✓
	Delay Time				✓



Structure Patient Menu

		TREND II	TREND II	TREND II	TREND II
Menu Structur TREND II		CPAP	AutoCPAP	BILEVEL	BILEVEL ST
Patient Menu	Wake-Up Time (if activated)	✓	✓	✓	✓
	Delete Filter	✓	✓	✓	✓
	Sleep Ramp	✓	✓	✓	✓
	Mask (adjustment Nose / Mouth-Nose)		✓		
	Mask Test	✓	✓	✓	✓
	Start / Start - Stop Automatic	✓	✓	✓	
	Display Brightness	✓	✓	✓	✓
	Date	✓	✓	✓	✓
	Time	✓	✓	✓	✓



Structure Clinic Menu

Menu S	Structur TREND II	TREND II CPAP	TREND II AutoCPAP	TREND II BILEVEL	TREND II BILEVEL ST
Clinic Menu	Ramp	✓	✓	✓	✓
Adjustments by	Pressure Ramp	✓	✓	✓	✓
	Mask (Nose/Mouth-Nose Mask)		✓		
	Mask Test	✓	✓	✓	✓
qualified personnel,	Start / Stop Automatic	✓	✓	✓	✓
med. personnal, or	Therapy Mode	✓	✓	✓	✓
Technicians	Therapy Pressure	✓	✓		
	FLEX-Level	✓	✓		
Adjustments	Pressure Start		✓		
PIN-Code secured	Pressure Min		✓		
	Pressure Max		✓		
	I-Pressure			✓	✓
	E-Pressure			✓	✓
	I-Slope			✓	✓
	E-Slope			✓	✓
	Trigger				✓
	I-Trigger			✓	✓
	E-Trigger			✓	✓
	Frequency				✓
	Inspiration Ratio				✓
	Delay Time				✓
	Language	✓	✓	✓	✓
	Unit of Pressure	✓	✓	✓	✓
	Turbine	✓	✓	✓	✓
	Therapy	✓	✓	✓	✓
	Filter	✓	✓	✓	✓
	Date	✓	✓	✓	✓
	Time	✓	✓	✓	✓
	Wake-Up Time (if activated)	✓	✓	✓	1 6

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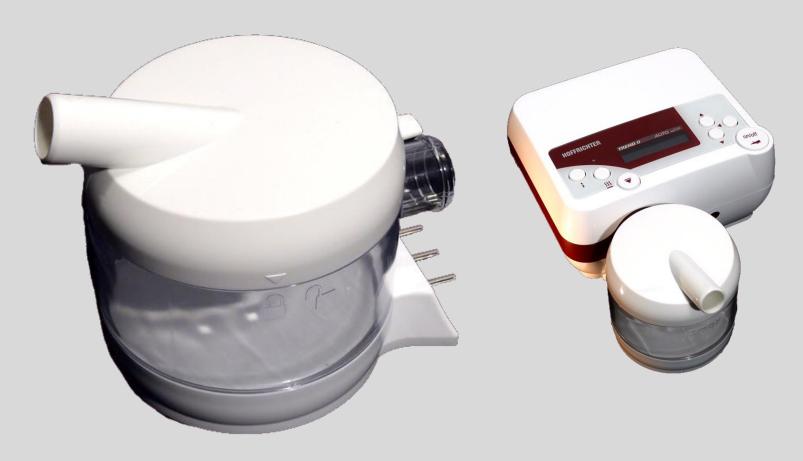
TREND II Parameter Range

		TREND II	TREND II	TREND II	TREND II
	Parameter Range	CPAP	AutoCPAP	BILEVEL	BILEVEL ST
1	Ramp	0-60 min / 1min			
1	Pressure Ramp	4 - 20 hPa / 0,5 hPa			
2	Mask		Nose / Nose Mouth		
3	Mask Test	0-90 s / 5 s			
3	Start / Stop Automatic	On / Off / Start	On / Off / Start	On / Off / Start	On / Off *4 / Start
4	Therapy Mode	CPAP, FLEX	CPAP, FLEX, Auto	CPAP, S	CPAP, S, T, ST
5	Pressure	4-20 hPa / 0,5 hPa	4-20 hPa / 0,5 hPa *2		
6	FLEX-Level	1,2,3 *1	1,2,3 *1		
7	Pressure Start		4-20 hPa / 0,5 hPa *3		
7	Pressure Min		4-20 hPa / 0,5 hPa *3		
7	Presure Max		4-20 hPa / 0,5 hPa *3		
8	I-Pressure			4-20 hPa / 0,5 hPa	4-20 hPa / 0,5 hPa
8	E-Pressure			4-20 hPa / 0,5 hPa	4-20 hPa / 0,5 hPa
8	I-Slope			0,0-1,0 s / 0,1 s	0,0-1,0 s / 0,1 s
8	E-Slope			0,0-1,0 s / 0,1 s	0,0-1,0 s / 0,1 s
9	Trigger				EIN / AUS *5
9	I-Trigger			1,2,3	1,2,3
9	E-Trigger			1,2,3	1,2,3
10	Frequency				5-30 bmp
10	Inspiration Ratio				20-80 %
10	Delay Time				0-20 s
11	Language	DEU , ENG, FRA, ITA, PLK, NLD, POR; SPA	DEU , ENG, FRA, ITA, PLK, NLD, POR; SPA	DEU , ENG, FRA, ITA, PLK, NLD, POR; SPA	DEU , ENG, FRA, ITA, PLK, NLD, POR; SPA
12	Unit of Pressure	hPa, mbar, cmH2O	hPa, mbar, cmH2O	hPa, mbar, cmH2O	hPa, mbar, cmH2O
13	Turbine	✓	✓	✓	✓
13	Therapy	✓	✓	✓	✓
13	Filter	✓	✓	✓	✓
14	Delete Filter	✓	✓	√	✓
16	Date	✓	✓	√	✓
17	Time	✓	✓	√	✓
18	Wake-Up Time (if activated)	✓	✓	✓	√
	*1 Mode FLEX only		*4 S Mode only		
	*2 Mode CPAP and FLEX only		*5 T Mode only		
ENDII #	*3 Mode Auto only ENG _Sep09_V2		,		



TREND II Humidifier

TREND II with AquaTREND uni





TREND II Humidifier

AquaTREND uni completed the TREND II product line

Characteristics:

- Compatible to all TREND II systems
- Fixing with one "click"
- simplest operation and cleaning
- System AquaTREND uni consists of 3 parts
- Water runback protection till 90°





TREND II Humidifier



Adjustment heater / heating steps while therapy operation or in stand by operation

- 1. Press heater key for 1. second
- 2. Enter key ◀ to activate the heating menu
- 3. Programming key rianlge or rianlge select desired heating step (1...5 step)
- 4. Enter key **◀** confirm selected heating step

Advanced heating Humidifier

- Push heater key "slightly"
- LED heater is illuminating
- Adjusted heating step will be displayed in the operation display
- For further adjustments of heating step (1...5 Step), please refer "Adjustment heater"



TREND II Humidifier Technical Data

Weight (without water) ca. 350 g

• Power supply 24 V/ DC

• Electrical Power 0 ... 20 W (heating step 1 = 4W, heating setp2 = 8W,...)

Max. Filling Volume ca. 300 ml

Max. Water Heating
 43 ° C

• Humidification 10% ... 85% relative humidification

Application Altitude - 400 m ... 3500 m

Heat up able in 5 steps

Humidifier heat able in stand-by mode



TREND II Therapy Filter

- Effective filter system for respiration therapy
- Simplest filter exchange

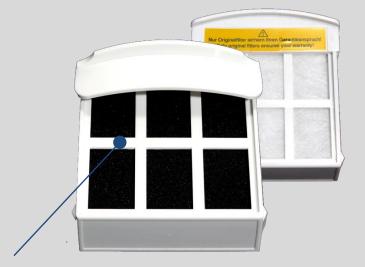
Filter box with coarse-, fine and ultra fine filter for:

Dust filter

Fine Dust filter

99,5 % filtration efficiency for particle sizes with up to 1µ

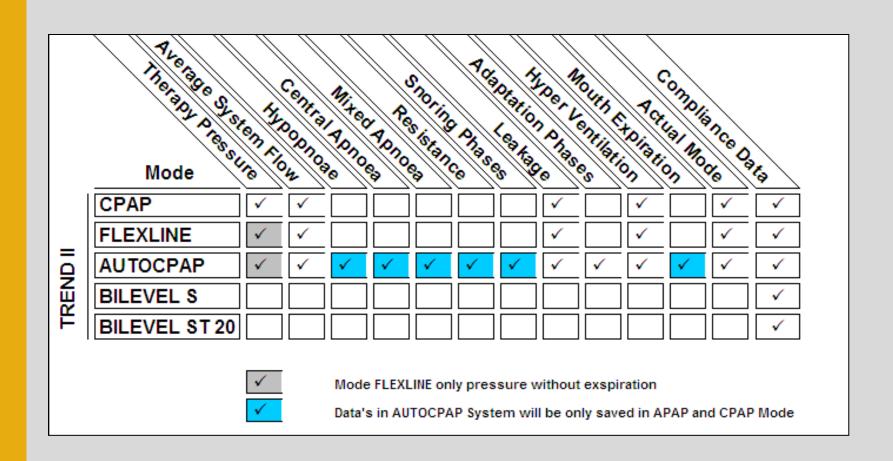




Filter Box



TREND II Therapy Memory





TREND II Technical Data

- Dimension (W X D X H)
- Weight (without Humidifier)
- Power Supply
- Pressure Range
- Max. Pressure in case of failure
- Max. Pressure in case of failure
- Power consumption
- Power consumption in Stand-by
- Pressure variance
- Operating noise level
- System heating (Air Outlet)
- Ambient Air Temperature
- Application Altitude

215 mm x 195 mm x 105 mm

ca. 2,3 Kg

100 V~...240V~, 50 ... 60Hz 24 V DC / 2,1 A

4hPa ... 20hPa

< 30hPa (TREND II, TREND II AutoCPAP)

< 40hPa (TREND II Bilevel, TREND II Bilevel ST)

max. 50 W

< 5 W

< 0,25 hPa with 20 bpm (DIN EN ISO 17510-1)

< 26 dB(A) with 10hPa

2 - 3 °C with 10hPa

+5 °C...+40 °C

- 400 m ... 3500 m



TREND II Service & Alarm Messages

- Acoustic power failure alarm with automatic turbine start
- Acoustic mask / Leakage alarm
- Alarm Signal 'filter running time' after:
 - 250h motor running time
 - Filter running time adjustable between 100h...1000h in TRENDset Software



TREND II Therapy Mode





TREND II Therapy Mode CPAP



- Therapy with constant adjustable pressure
- Pressure Range: 4hPa ... 20hPa
- For prevention of snoring and obstructive sleep apnea



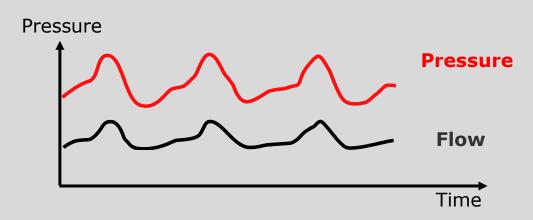
FLEXLINE for improvement of the therapy acceptance by supporting of the dynamic conditions

- reduction of respiratory work
- more natural and pleasant breath
- optimization of therapy pressure in the throat area
- reduction of leakage
- increasing of therapy acceptance

Therapy mode FLEXLINE integrated in TREND II and TREND II AutoCPAP



FLEXLINE Principle



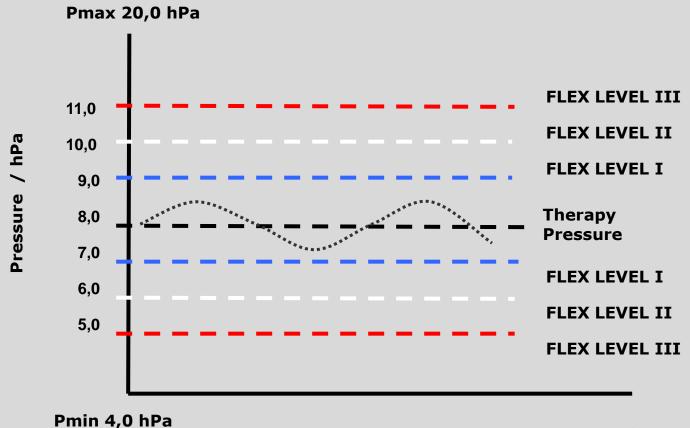
The system pressure follows the patient flow throughout the entire breathing cycle and offers the patient pressure support during inspiration and expiration.

The pressure support is adjustable within a certain pressure LEVEL



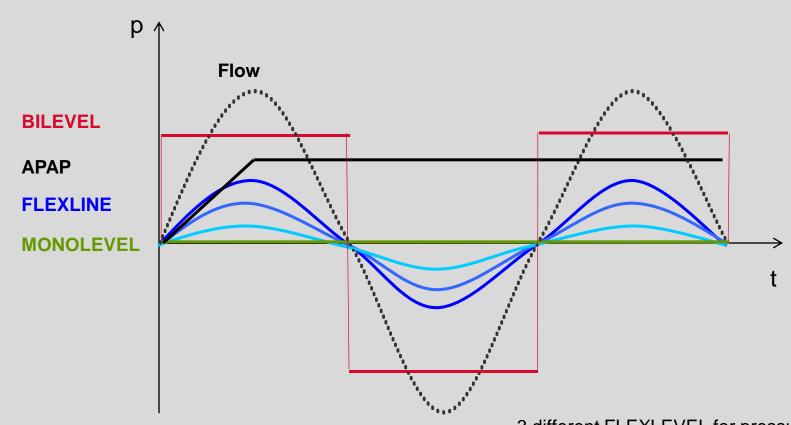
FLEXLEVEL I: +/- 1hPa pressure support based on therapy pressure
 FLEXLEVEL II: +/- 2hPA pressure support based on therapy pressure

FLEXLEVEL III: +/- 3hPA pressure support based on therapy pressure



t





3 different FLEXLEVEL for pressure support

Level 1: max. <u>+</u> 1 hPa

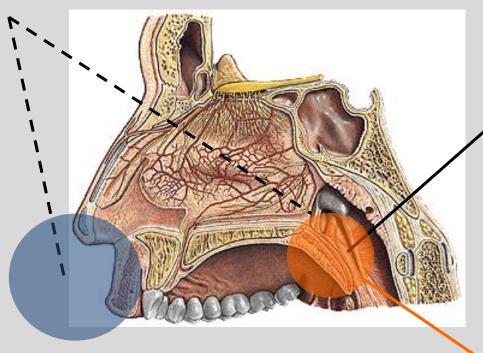
Level 2: max. + 2 hPa

Level 3: max. + 3 hPa



Nose Resistance

Flow resistance from nose till pharyngeal area



Constant and optimal therapy pressure should be effected in the throat area!

Therapy pressure of standard CPAP systems

Optimal therapy pressure provided by FLEXLINE



FLEXLINE Safety Characteristics

Limitation of Pressure Support

- Expiratory pressure support not less then 4hPa
- Inspiration pressure support not more then 20hPa

Continuous monitoring of patient flow, leakage flow, volume and duration of inspiration- and expiration

Return to therapy pressure at following events:

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inspiration > 3 s volume of inspiration > 3 l expiration > 10 s volume of expiration > 3 l
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- Volume ratio of inspiration and expiration are inconsistent
- Ventilation frequency higher then 40bpm for min 3 ventilation cycles



TREND II Therapy Mode APAP





TREND II Therapy Mode APAP

Auto-CPAP machines have been developed to adapt automatically the positive pressure level to the required needs with pressure adaption as high as necessary and as low as possible

General requirements for APAP systems

Following requirements should be fulfilled by automatic pressure regulation:

- Exact reaction and regulation
- Early reaction
- Suitable pressure adaptation speed



TREND II Therapy Mode APAP

Exact reaction and regulation

- Pressure increase in case of obstructive events
- Pressure decrease in case of central events
- Pressure decrease during sleep phases without obstructions

Early reaction

The purpose of every CPAP-device is to prevent apneas. For this reason, an Auto-CPAP should not only react if the apnea has already began, but it should detect its indication of apneas in advance and it should react in this early stage. **Early pressure increase to avoid obstructive events**

Suitable Pressure Adaptation Speed

The pressure changing speed should be fast enough to avoid obstructive apneas, but should <u>not</u> so fast that the patient gets <u>awake</u>

The pressure changing speed should be adapted individually to the patient's requirements



Measurement Channels TREND II AutoCPAP

The 3 measurement channels for a precise and reliable differentiation between obstructive and central events:

- 1. <u>flow measurement</u> for detection of flow limitations
- 2. <u>measurement of airway resistance</u> via oscillating pressure method
- 3. <u>snoring noise</u>



Measurement Channel - Flow measurement

- Determination of standard values
 - Distinguishing between normal and not normal breathing
- 2. Determination of the relative breathing volume
- 3. Evaluation and identification of events
 - Flow Limitation
 - <u>Differentiation of apnoea or hypopnoea</u>



Event Differentiation – Flow Limitation

Evaluation of breathing flow for an exact differentiation between **Apnea** and **Hypopnea**

- Reduction of the relative breathing volume compared to the standard value
- Event duration minimum 5 seconds

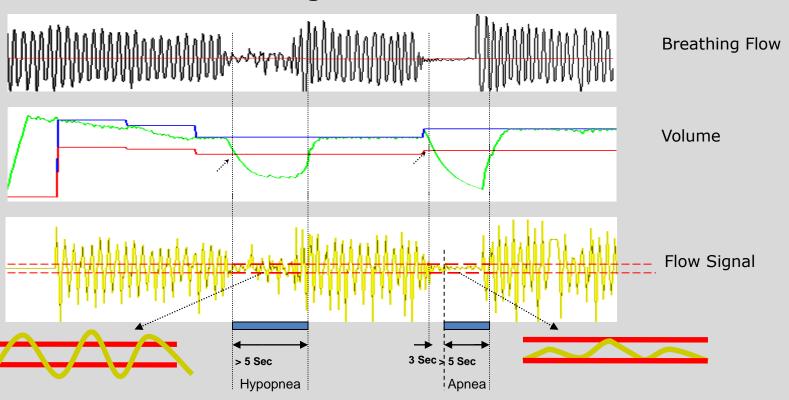
Hyponea

Apnea

- No flow alteration for a minimum of 3 seconds within a certain threshold
- Event signal for more than 5 seconds



Evaluation Signal Flow Limitation



green = current breathing volume blue = standard value
brown = threshold "flow Limitation" (% of standard value) red = threshold "flow"



Measurement channel - Oscillating Pressure Method (OPM)

Measurement of the upper airway resistance for:

- Differentiation between of obstructive event and central events
- Fast and accurate therapy pressure rise in case of obstructive events

OPM principle

- Oscillation flow generated by the motor is modulated on the respiratory flow, therefore no additional oscillating pump necessary
- Additional voltage with a frequency spectrum 20 25 [Hz]
- If the airway resistance is within its normal range, the oscillation pressure is damped by the compliance of lung and thorax without noticeable vibration
- If the airway resistance is increased by a growing obstruction, a signal is reflected and is registered by technical measurement.



Oscillating Pressure Method / Determination of average values

Standard values of airway resistance can differ extremely from patient to patient. Therefore, a determination of resistance average values are necessary.

Determination of average values

Frequency spectrum 20 – 25 [Hz]

Signal received by a pressure sensor

Resistance actual-term average value is calculated every 200 ms

Calculation of <u>resistance long-term average value</u> every 5 s

Calculation of thresholds + /-

Comparison of resistance actual-term value and the resistance long-time value

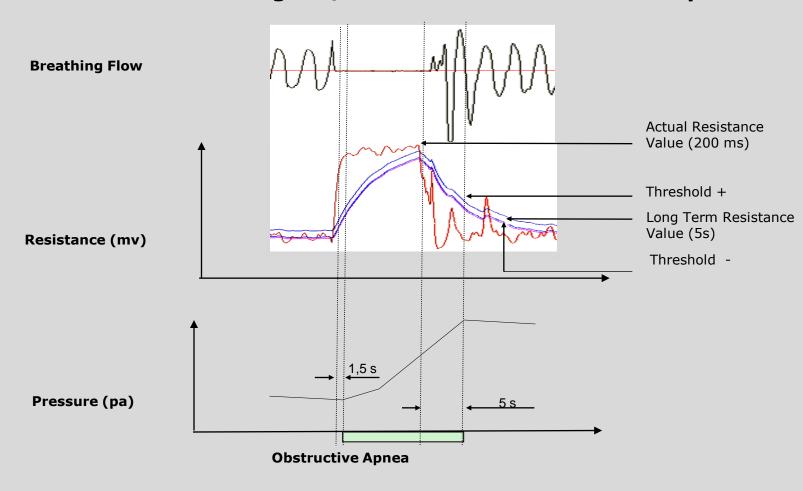
<u>Actual-term average value</u> exceeds <u>threshold</u> + for >1,5 sec : pressure rise

<u>Actual-term average value</u> below <u>threshold</u> - for >5 sec: pressure decrease

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Evaluation Resistance Signal / Pressure Rise Obstructive Apnea

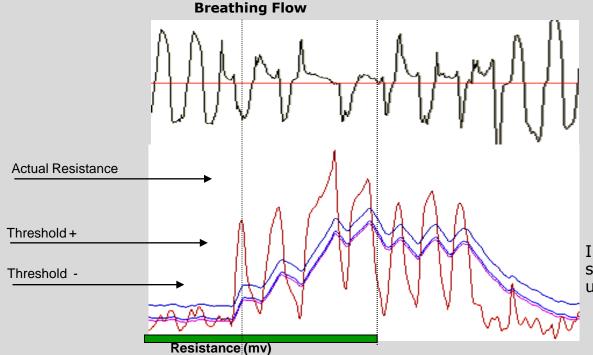




Evaluation Resistance Signal / Pressure Rise Obstructive Hypopnea

General information on occurring obstructive hypopnea:

- Decrement of flow signal
- Decrement upper airway cross section
- Increment of amplitude resistance signal caused by decrement of upper airway cross section



Decrement flow signal

Increment of resistance signal caused by resistance upper airway

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Evaluation Resistance Signal / Pressure Rise Obstructive Hypopnea

Additional evaluation of the resistance amplitude for preventive therapy pressure rise by incipient obstructive Hypnoea

Principal:

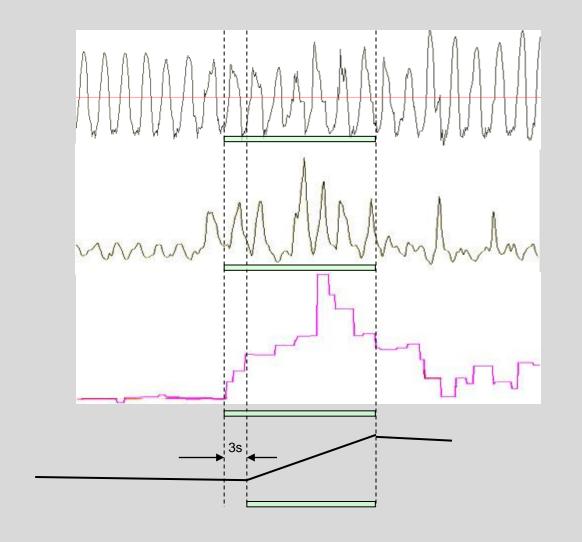
Detection and evaluation of the increasing resistance signal amplitude along with simultaneous decrement of flow signal

Continuous measurement of resistance signal and flow signal and fluctuations of both signals are evaluated by signal comparison

Therapy pressure rise after exceeding definite threshold > 3 s

Through preventive increasing of therapy pressure the arising of obstructions can be avoided





Breathing flow / Decrement of flow signal

Actual breathing resistance / Increment resistance-signal and evaluation amplitude

Exceeding defined threshold by resistance amplitude

Therapy pressure



Measurement Channel – Snoring Noise

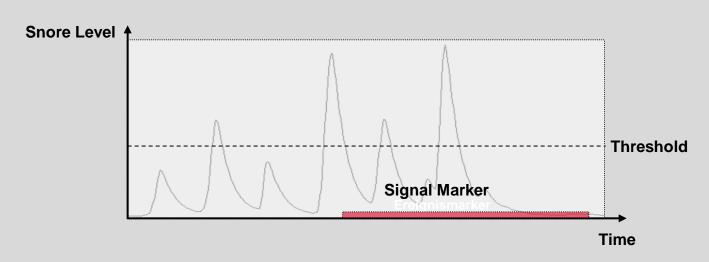
- Detection via pressure sensor
- Noise level (signal) exceeds a defined threshold for at least 2 sec
- Snoring detected

Signal falls below threshold but less then 5 seconds

-> no interruption of detecting snoring

Signal falls below threshold with more then 5 seconds

-> signal is hold for further 5 seconds





Standard Values

Patient flow and the through it resulting breathing volume varying from patient to patient. Therefore, the determination of the respective breathing volume is essential for an reliable working AutoCPAP algorithm.

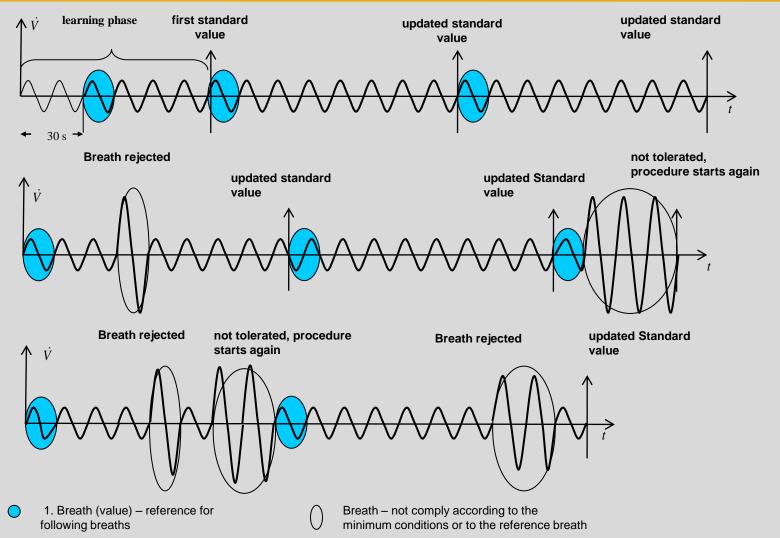
Individual determination of <u>standard values</u> are necessary for:

determination if patient breathing volume corresponds to the minimum breathing conditions of each breath distinguish between normal and not normal breathing

Characteristics of normal breathing (minimum breathing conditions)

volume of inspiration and expiration duration of inspiration and expiration relation between inspiration and expiration







Evaluation Leakage Flow

Fast and accurate leakage evaluation is very important for an open and pressure based CPAP system

Determination of Leakage flow

If the average system flow exceeds a maximum of 2 l/sec and / or a sudden variation of the average system of 300 ml/s

- Deactivation of auto function
- Running in CPAP mode with the last pressure

Return to APAP mode if average system flow is below 2 l/sec after a delay time of 30sec



Adequate Pressure Adaptation

- pressure adaptation step adjustable via TRENDset
- pressure increase in <u>combination of events</u> and <u>differentiation between</u> <u>normal and abnormal breathing</u> is of high importance

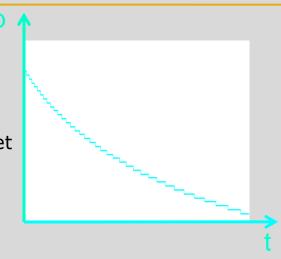
Pressure Step	100 % Pressure Rise	60% of Pressure Rise	40 % of Pressure Rise	
1	1,2hPa/min	0,72hPa/min	0,48hPa/min	
2	2,4hPa/min	1,44hPa/min	0,96hPa/min	
3	3,0hPa/min	1,80hPa/min	1,20hPa/min	
4	3,6hPa/min	2,16hPa/min	1,44hPa/min	
5	4,8hPa/min	2,88hPa/min	1,92hPa/min	

Resistance	Snoring	Flow Limitation	
X		Х	
	X	Х	
X	X	Х	
X	X		
X			
	X		
X	X		
	X		
CENTRAL EVENT		X	

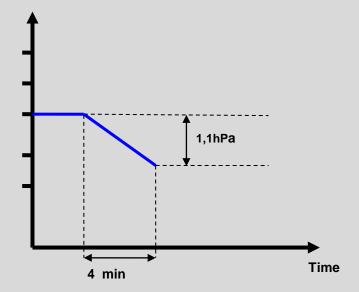


Pressure Reduction

- If no events with airway obstructions or snoring
- Central events
- Speed of pressure reduction depends on pressure actually set
- High pressures are reduced faster than low pressures



Pressure



Pressure	10% Decrement	Decrement Time	
[hPa]	[hPa]	[min:s]	
9	0,9	426	
10	1,0	4:16	
11	1,1	4:00	
12	1,2	3:48	
13	1,3	3:33	
14	1,4	3:18	



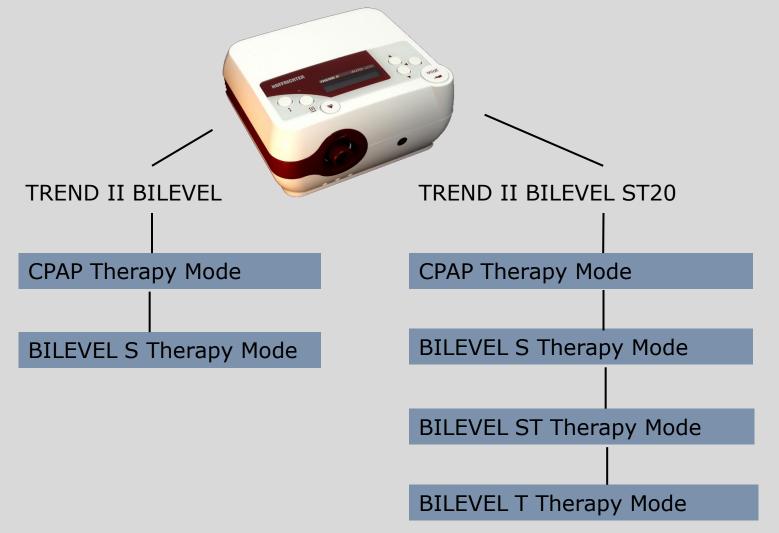
Three measurement channels and an intelligent, self-learning algorithm for a safe Auto-CPAP function

- accurate distinguishing between obstructive and central events
- reliable distinguishing between apnoeas and hypopnoea
- detection of snoring noise
- leakage detection











BILEVEL Systeme

A BILEVEL system provides continuous positive airway pressure (CPAP) with a prescribed inspiratory positive airway pressure (IPAP) during inhalation and applying a lower prescribed expiratory positive airway pressure (EPAP) during exhalation.

Mainly used with patients who have:

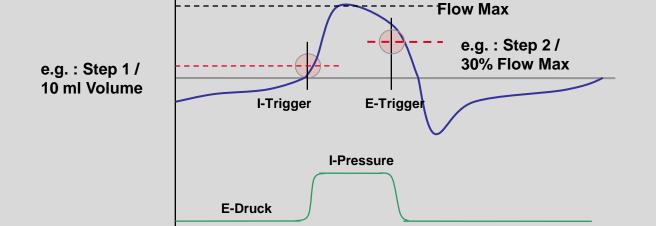
- other coexisting respiratory problems
- and / or find breathing out against an increased pressure uncomfortable



Trigger Sensitivity Steps

I-Trigger (Trigger sensitivity)	Minimum volume for recognition of Inspiration [ml]	
1	10 ml	
2	15 ml	
3	25 ml	

E-Trigger (Trigger sensitivity)	Percentage of max. Inspiration flow for recognition of expiration		
1	40		
2	30		
3	20		

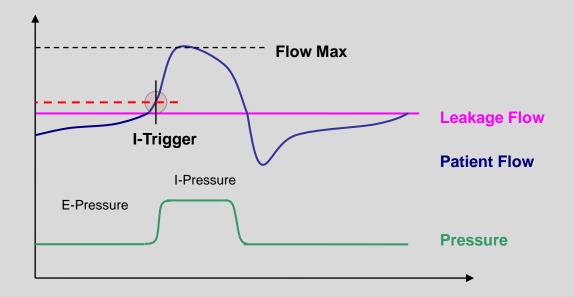




Inspiration Trigger - Determination of I-Trigger Signals

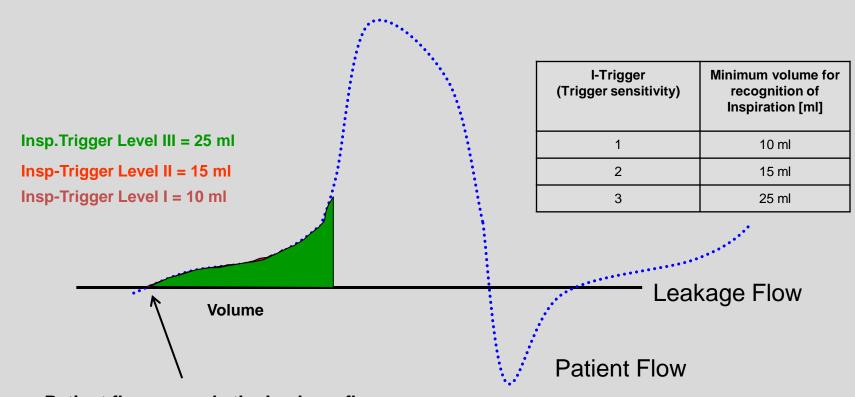
- Patient flow exceeds the Leakage flow
 - start of the volume calculation
- Calculated inspiration volume reached the adjusted minimum volume for the detection of the inspiration cycle
 - Minimum volume can be adjusted at the I-Trigger Level

Minimum volume for detection of the inspiration cycle





Inspiration Trigger - Principle Volume Trigger



- 1. Patient flow exceeds the Leakage flow
- 2. Start of the volume calculation



Expiration Trigger – Determination of E-Trigger Signal

Patient flow falls below of a certain percentage based from the maximum flow

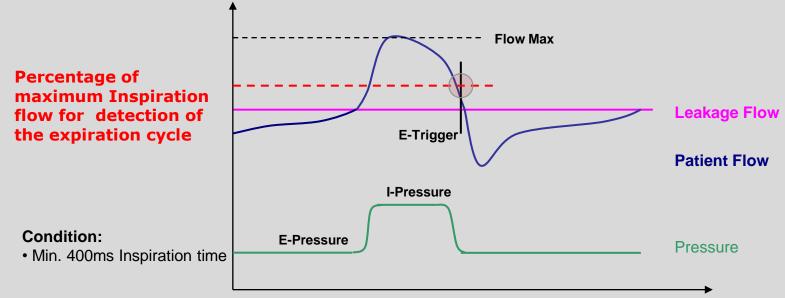
Percentage can be adjusted at the E-Trigger Level

Safety Function:

Trigger into expiration:

By exceeding of a maximum inspiration time of 3 seconds

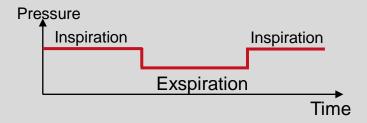
Inspiration volume > 5 l



60



S-Modus: Spontaneous Mode



"S" or Spontaneous breathing patterns that are sensed so, that the system switches between the prescribed pressures EPAP and IPAP. "S" mode is only triggered by patients own respiration effort.

Adjustable Parameter:

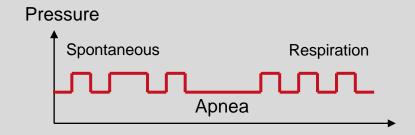
I-Pressure	Pressure	during	inspiration
E-Pressure	Pressure	during	expiration

I-Slope Rising time from EPAP to IPAP E-Slope Rising time from IPAP to EPAP

I-Trigger Sensitivity level for detection of inspiration E-Trigger Sensitivity level for detection of expiration



ST-Mode: Spontaneous and Time



"**S/T**" or **S**pontaneous/**T**imed that operates in **S**pontaneous mode, but switches to **T**imed mode (referred to as a backup rate) when breaths are not initiated by the patient.

"T" or Timed mode delivers IPAP and EPAP at a predetermined breathing rate.



Adjustable Parameter:

I-Pressure Pressure during inspiration E-Pressure Pressure during expiration

I-Slope Rising time from EPAP to IPAP E-Slope Rising time from IPAP to EPAP

I-Trigger Sensitivity level for detection of inspiration E-Trigger Sensitivity level for detection of expiration

Frequency Respiration frequency

Insp. Time Adjustment of inspiration time

Delay Time Adjustable delay time for switching from S-Mode to T-Mode



T-Mode: Timed

"T" or Timed mode that delivers IPAP pressure and EPAP pressure at a predetermined breathing rate.

If the trigger is activated and spontaneous breath is identified, the system switches instantly in IPAP pressure. By activating the trigger function, an increasing of the respiration frequency is possible.

Adjustable Parameter:

I-Pressure Pressure during inspiration E-Pressure Pressure during expiration

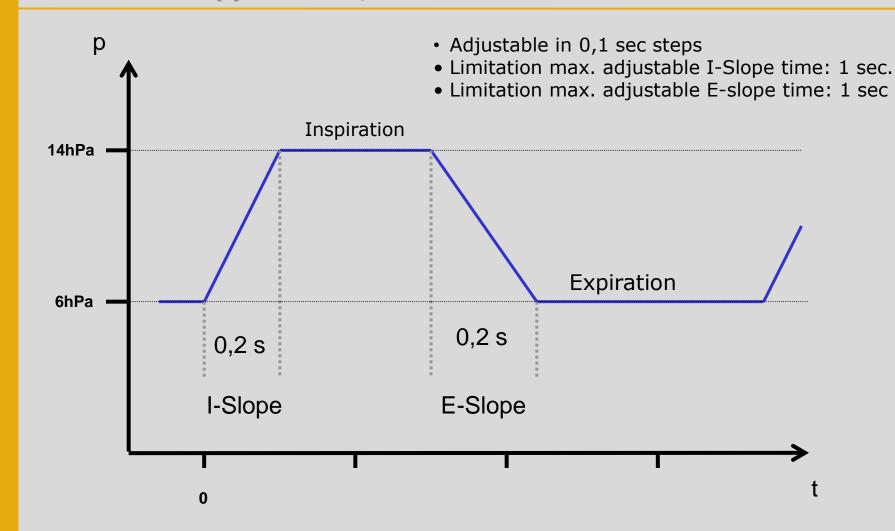
I-Slope Rising Time from EPAP to IPAP E-Slope Rising Time from IPAP to EPAP

Trigger (in) activation of Trigger (inactive pure T-Mode)

Frequency Respiration frequency

Insp. -Time Adjustment of the inspiration time







TREND II TRENDset Software

	00.00			DU 51/51 07
	CPAP	AUTO	BILEVEL	BILEVEL ST
Pressure Rising Steps		✓		
Therapy Pressure Ramp On / OFF	✓	✓	✓	✓
Alarm Clock OFF	✓	✓	✓	✓
Mask Alarm Delay Time	✓	✓	✓	✓
Pressure Difference	✓	✓	✓	✓
Pressure Thresold Automatic ON	✓	✓	✓	✓
Pressure Thresold Automatic OFF	✓	✓	✓	✓
Automatic Delay Time	✓	✓	✓	✓
Filter Period Time	√	✓	✓	✓
Intro text	✓	√	✓	✓

TRENDset software is part of the product line TREND II and will provided by HOFFRICHTER or latest version can be downloaded from our homepage www.hoffrichter.de





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