

BiPAP A40



Set-up guide

1 Getting started

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PHILIPS

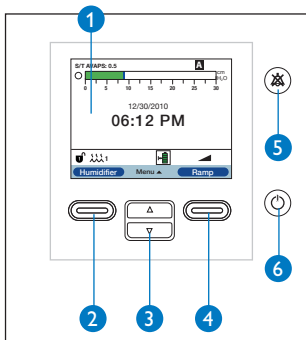
RESPIRONICS

sense and simplicity

1

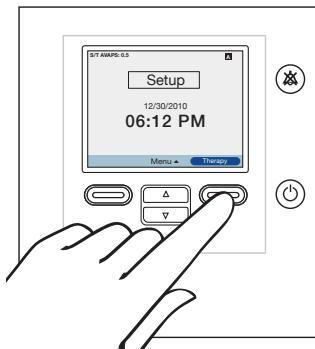
Getting started


Device navigation

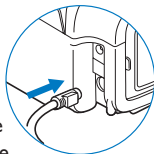


- 1 Display screen
- 2 Perform action specified on-screen (humidifier setting, cancel action or exit menu)
- 3 Navigate menus or change settings
- 4 Perform action specified on-screen (activate ramp, select/modify/confirm parameters)
- 5 Audio pause button
- 6 Start/stop button

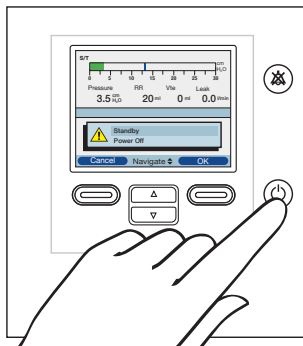
How to start therapy



- Connect the device to AC or DC power source, or use detachable battery module
- Press  to switch on the device
- Select **Therapy** to start the treatment

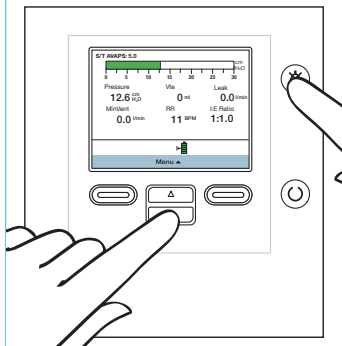


How to stop therapy



- Press
- To keep power on but stop therapy, select 'Standby'
- Then select **OK**
- To turn power off, select 'Power Off'
- Then select **OK**

How to unlock



To unlock the device

- Press and hold and for a few seconds to access Setup page
- Scroll down and select 'Options'
- Modify 'Menu access' from 'Limited' to 'Full'
- Press **OK** to validate
- Press **Finish** and **Exit** to come back to the main screen

When appears on the main screen, the device is unlocked

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Main screen

Mode of ventilation

Breath indicator
(patient or machine settable in Options)

Device unlocked

Humidifier connected, setting 1

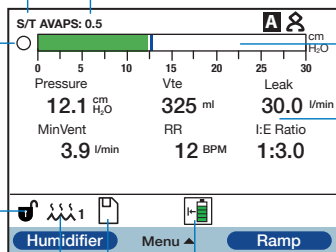
SD card inserted

AVAPS activated with a speed rate of 0.5cmH₂O/min.

Pressure bar graph

Real-time monitored values when detailed view ON (Options settings)

Detachable battery connected and in use



Symbols and icons



Apnea alarm enabled

FLEX FLEX enabled



Audio pause is active

FLEX:1 FLEX enabled and FLEX setting (eg. 1)



Circuit disconnect alarm enabled



Humidifier connected and Humidifier setting (eg. 1)



Detachable battery is 80% capacity



Bad humidifier state (flashing symbol displays)



Detachable battery is 20% capacity



Detachable battery is nearly depleted



Ramp activated



Detachable battery is being charged



SD Card error (bad memory card inserted)



Detachable battery in use

3

Menus

Menu: Settings and alarms

Mode	CPAP, S, S/T, PC, T, AVAPS-AE
Trigger type	Auto-Trak/Flow Trigger/ Auto-Trak (sensitive)
Flex Lock (only in S mode)	On (locked)/Off (unlocked)
Flex (only in S mode)	On/Off
AVAPS	On/Off
AVAPS rate	0.5 - 5 cmH ₂ O/min, in 0.5 cmH ₂ O/min increments
Tidal volume*	200 - 1500 ml, in 10 ml increments
IPAP max*	IPAPmin - 40 cmH ₂ O, in 0.5 cmH ₂ O increments
IPAP min*	4 - IPAPmax, in 0.5 cmH ₂ O increments
EPAP	4 - 25 cmH ₂ O, in 0.5 cmH ₂ O increments
Breath rate	0 - 40 BPM (4 - 40 BPM for T mode)
Inspiratory time	0.5 - 3 sec, in 0.1 sec increments
Rise time lock	On (locked)/Off (unlocked)
Rise time	1 (fastest) to 6 (slowest)
Ramp length	0 - 45 minutes, in 5 minute increments
Ramp start pressure	4 cmH ₂ O - prescribed EPAP, in 0.5 cmH ₂ O increments
System One humidification	On (System One Humidity Control)/ Off (classic mode)
Humidifier	1 (coolest) to 5 (hottest)

*only when AVAPS is enabled

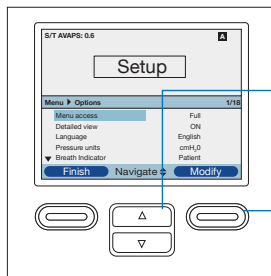
Menu: Settings and alarms (cont.)

Tubing type lock	On (locked)/Off (unlocked)
Tubing type	15 mm/22 mm
System One resistance lock	On (locked)/Off (unlocked)
System One resistance (interface type)	0, X1, X2, X3, X4, X5 or Invasive
Circuit disconnect alarm	Off; 15 or 60 sec
Apnea alarm	Off; 10, 20 or 30 sec
Low tidal volume alarm (only when AVAPS is enabled)	On/Off
Low minute ventilation alarm	Off; 1 - 99 LPM
High respiratory rate alarm	Off; 4 - 60 BPM



Menu: Settings and alarms: AVAPS-AE

Settings	Range
AVAPS rate	0.5 - 5 cmH ₂ O/min, in 0.5 cmH ₂ O/min increments
Tidal volume	200 ml - 1500 ml
Maximum pressure	6 - 40 cmH ₂ O
Pressure support Max	2 - 36 cmH ₂ O
Pressure support Min	2 - 36 cmH ₂ O
EPAP Max pressure	4 - 25 cmH ₂ O
EPAP Min pressure	4 - 25 cmH ₂ O
Breath rate	Auto/0 - 40 BPM

Menu: Options



To navigate through the Options menu:

- Use  to scroll through the menu.
- Use the left and right  buttons to perform the actions specified on the on-screen buttons and set according to your preference.

Under 'Options', you have access to the following parameters:

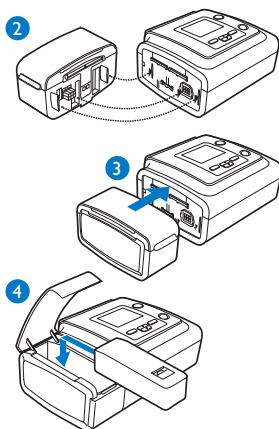
Menu access	Full (device unlocked)/Limited (device locked)
Detailed view	On (monitored data on the screen)/Off (no monitored data on the screen, only time and date)
Language	You have the choice between 22 different languages
Pressure units	cmH ₂ O/hPa
Breath indicator	Patient (spontaneous breath)/machine (controlled breath)
Keypad lock	On (buttons inactive)/Off (buttons active)
Keypad backlight	On/Off
LCD brightness	1 (darkest) to 10 (lightest)
Screen saver	Dim (backlight is decreased)/Breath (black screen, but manometer and breath indicator are visible)/Off (no screen saver)
Date and time format	Date and time settings
Blower hours	Number of hours the blower has been active (resettable)
Therapy hours	Number of hours the patient receives therapy (resettable)
SpO ₂	Date of the last complete SpO ₂ session (at least 4 hours)

4

Battery module

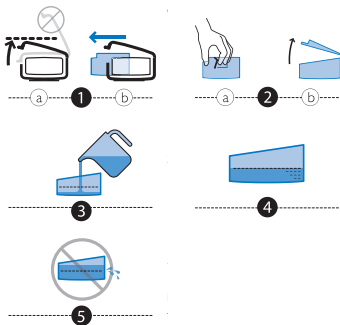
To connect the battery module to the BiPAP A40 device and install the detachable battery, complete the following steps:

1. Remove the side cover on the therapy device
2. Line up the detachable battery module and the therapy device side by side
3. Press the two units together until they snap into place
4. Insert the detachable battery into the battery module, and close the lid

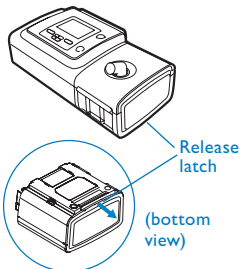


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Humidification



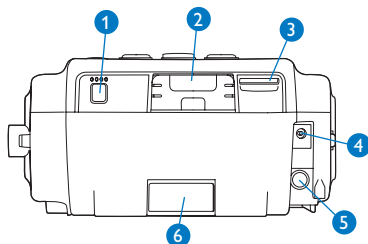
Undocking the battery module or humidifier



6

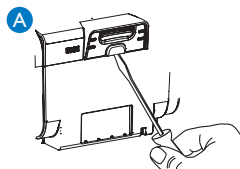
Connection to oximetry

Back of device

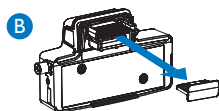


- 1 Nurse call connector
- 2 Accessory slot (cover shown)
- 3 SD card slot
- 4 DC power inlet
- 5 AC power inlet
- 6 Filter area

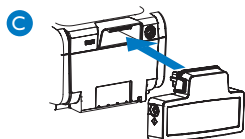
To connect the oximetry module:



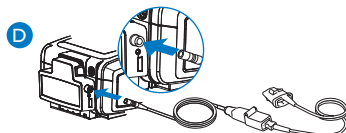
- A Remove the cover from the accessory slot on the back of the BiPAP A40



- B Remove the cover from the oximetry accessory

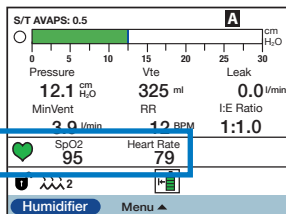


- C Plug the oximetry accessory into the accessory slot



- D Plug the oximetry sensor of your choice into the oximetry module

When the oximetry module is connected, and detailed view ON, the SpO₂ and heart rate values are monitored on the main screen (see below).



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Guidelines for ventilation s

	Initial settings	IPAP = 8 - 10 cmH ₂ O, EPAP = 4 cmH ₂ O and RR = 10 - 12 BPM		
	IPAP	Increase IPAP if the patient wants more air, targeting patient tidal volume at 8 ml/kg of ideal weight		
	EPAP	<ul style="list-style-type: none"> • without OSAS (Obstructive Sleep Apnea Syndrome): 4 - 5 cmH₂O • with OSAS: increase EPAP to remove obstructive apnea events • with intrinsic PEP (stable chronic COPD): 5 - 6 cmH₂O 		
	BPM	Set to 2 - 3 BPM under patient's spontaneous frequency		
	Rise time	Obstructive patients prefer short rise time: from 1 - 4 (100 ms - 400 ms) Restrictive patients prefer long rise time: from 3 - 6 (300 ms - 600 ms)		
	Ti	Set Ti between 25% and 33% for obstructive patients Set Ti between 33% and 50% for restrictive patients (refer to table opposite)		
AVAPS		OHS	COPD	Other restrictive diseases (NMD, etc.)
	Vt target	8 - 10 ml/kg of ideal body weight (refer to table opposite)		
	IPAP window (IPAPmin and IPAPmax)	Allow a wide range of pressure variation to ensure the right pressure at the right time. <ul style="list-style-type: none"> • IPAPmin = EPAP • IPAPmax = 25 - 30 cmH₂O 	Allow a more restrictive pressure window to combine comfort and efficacy. <ul style="list-style-type: none"> • IPAPmin = comfortable IPAP • IPAPmax = IPAPmin + 5 cmH₂O 	Allow a more restrictive pressure window to combine comfort and safety. <ul style="list-style-type: none"> • IPAPmin = efficient IPAP • IPAPmax = IPAPmin + 5 cmH₂O
	AVAPS rate	AVAPS rate setting depends on patient needs and clinical condition: 0.5 - 3 cmH ₂ O/min so target tidal volume is reached smoothly 3 - 5 cmH ₂ O/min so target tidal volume is reached more rapidly		

Check patient arterial blood gases (PaCO₂ and PaO₂) and oxygen saturation (SpO₂).

Important: Guidelines are intended to serve only as a reference. They shall be used only in conjunction with the instructions and/or protocol set forth by the physician and institution in which the assist device is being used. The guidelines are not intended to supersede established medical protocols.

set-up

Conversion table to set the inspiratory time for controlled breaths

Set back up breath rate (BPM)	I/E 1/3, Ti/Ttot 25%	I/E 1/2, Ti/Ttot 33%	I/E 1/1, Ti/Ttot 50%
10	1.5 s	2.0 s	3.0 s
11	1.4 s	1.8 s	2.7 s
12	1.3 s	1.7 s	2.5 s
13	1.2 s	1.5 s	2.3 s
14	1.1 s	1.4 s	2.1 s
15	1.0 s	1.3 s	2.0 s
16	0.9 s	1.3 s	1.8 s
17	0.9 s	1.2 s	1.7 s
18	0.8 s	1.1 s	1.6 s
19	0.8 s	1.1 s	1.5 s
20	0.8 s	1.0 s	1.5 s
21	0.7 s	1.0 s	1.4 s
22	0.7 s	0.9 s	1.3 s
23	0.7 s	0.9 s	1.3 s
24	0.6 s	0.8 s	1.2 s
25	0.6 s	0.8 s	1.2 s

Set the inspiratory time in seconds: $T_i \text{ (second)} = 60/\text{Respiratory rate} \times \% T_i$

Conversion table to set the target tidal volume in relation to the ideal weight

Height	Calculated ideal weight (if BMI = 23)	Target Vte if 8 ml/kg	Target Vte if 10 ml/kg
1.50 m	52.0 kg	410 ml	520 ml
1.55 m	55.0 kg	440 ml	550 ml
1.60 m	59.0 kg	470 ml	590 ml
1.65 m	62.5 kg	500 ml	620 ml
1.70 m	66.5 kg	530 ml	660 ml
1.75 m	70.5 kg	560 ml	700 ml
1.80 m	74.5 kg	600 ml	740 ml
1.85 m	78.5 kg	630 ml	780 ml
1.90 m	83.0 kg	660 ml	830 ml

Calculated with an ideal Body Mass Index of 23 kg/m² (BMI = weight/height²)

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