# 1.1 Quick Guide

The Vivo 30/40 PC Software is a tool to operate the Breas Vivo 30/40 ventilator and follow up on patient treatment.
To use the Vivo 30/40 PC Software you need to connect your PC to a Vivo 30/40 with a cable or use a Compact Flash Memory Card to transfer logs and settings.
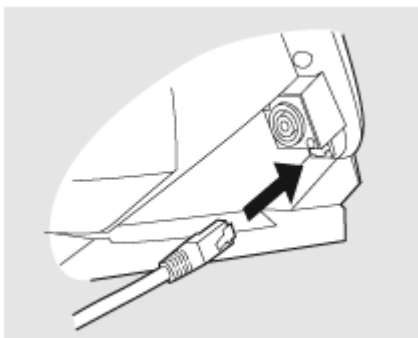
To connect your PC to a Vivo 30/40 using cables

To connect a Vivo 30/40 to your PC you need a Breas iCom and the necessary cables.

⚠ **Only if you have a PC which complies to the IEC 60601-1 standards or not have any patient connected to the Vivo 30/40, you can connect the PC to the Vivo 30/40 without using an iCom.**
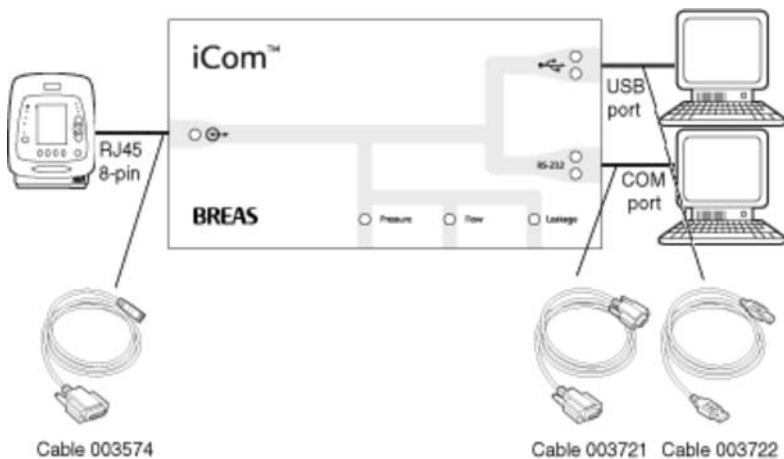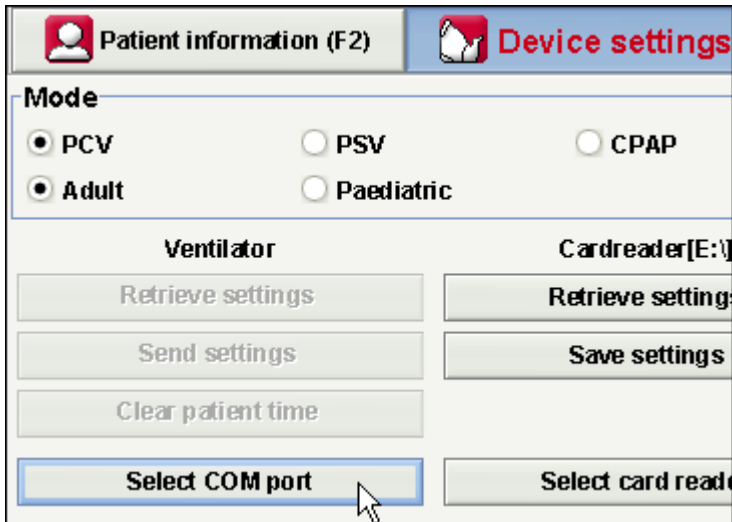

- The cable is connected to the Vivo 30/40 at the back of the ventilator.

- When the Vivo 30/40 is connected you will have to select the used COM port from either the menu **log handling > Select COM port** or on the **Device settings** panel.
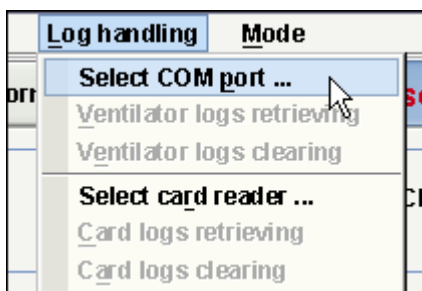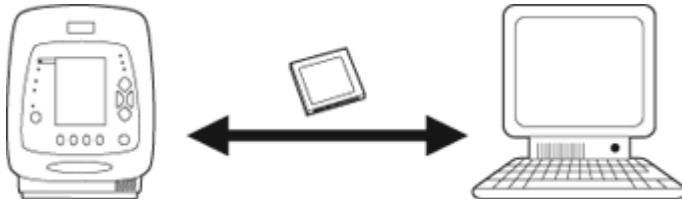
- The Vivo 30/40 is now online with the PC.

Communicate with a Vivo 30/40 using a CompactFlash® Memory Card

You can also communicate with a Vivo 30/40 using a Compact Flash Memory Card.

- Insert the memory card in the memory card slot on the side of the Vivo 30/40. Make sure the memory card is properly inserted.
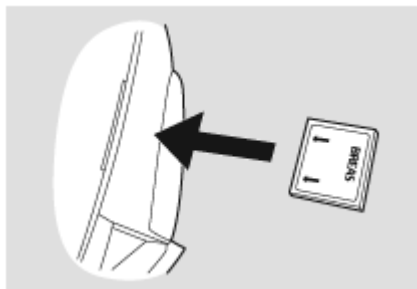
- Navigate to the "Memory Card" page under the "Others" section in the Vivo 30/40 menu.

- Select the desired operation and wait while the ventilator saves to the memory card.

Saving log to
Memory Card...

- Connect the memory card reader to the PC and insert the memory card. The Breas logo should be facing down.

- Select the used card reader either from the menu **Log handling > Select card reader** or on the **Device settings** panel.

Device settings (F3)
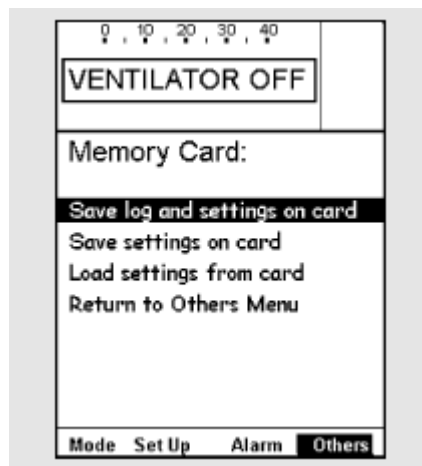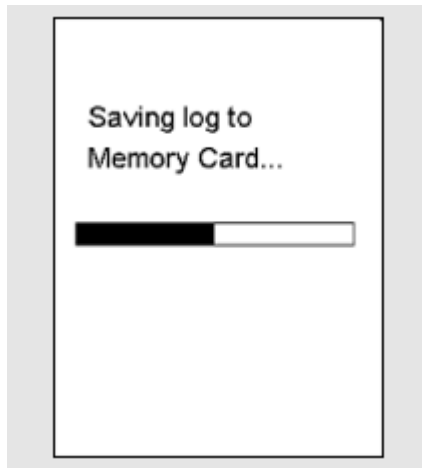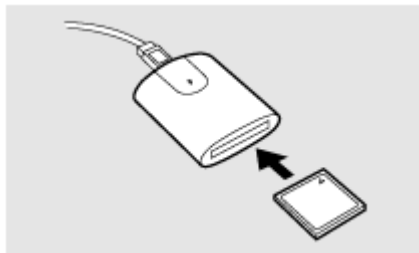
○ CPAP

c

Cardreader

Retrieve settings

Save settings

Select card reader

Log handling

Select COM **p**ort ...
Ventilator logs retrieving
V**e**ntilator logs clearing
Select ca**r**d reader ...
Card logs retrieving
C**a**rd logs clearing
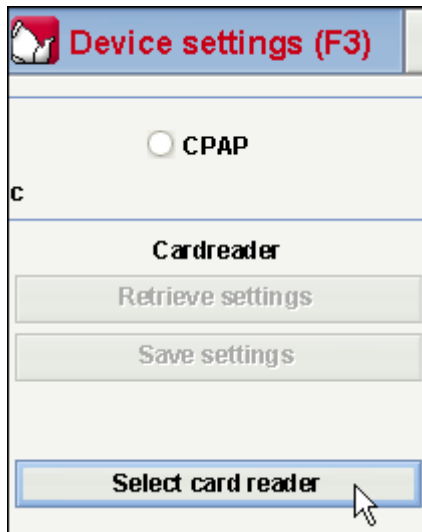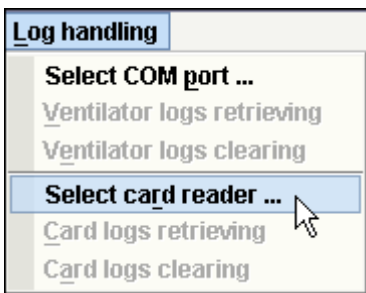
- Choose **Log handling > Card logs retrieving**.

Log handling

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Select COM **p**ort ...
Ventilator logs retrieving
V**e**ntilator logs clearing
Select ca**r**d reader ...
Card logs retrieving
C**a**rd logs clearing

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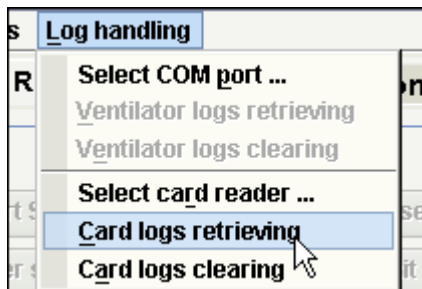
- The logs and settings are now downloaded from the memory card and can be viewed and analyzed in the Vivo 30/40 PC Software.

1.2 Software

Intended Use

The PC software is the support software for operation of
the ventilator and follow-up of patient treatment.
The software should only be used by trained clinical
personnel, physicians or home care provider personnel.

System Requirements

The software requires Windows 98 SE, Windows Me, Windows NT 4.0, Windows 2000
or Windows XP to run. Be sure to use the latest version of your operating system.
It might run under other Windows operating systems, but it is neither tested nor
supported.

1.3 Software Help
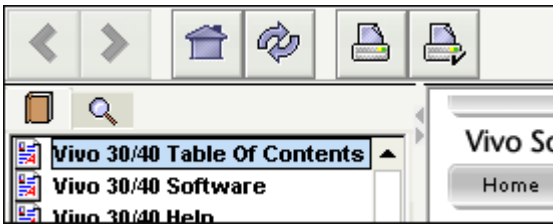
Usage

The Software Help is opened either from the menu (choose **Help > View documentation**) or by pressing '**Ctrl + H**'.
You can also view help about the specific page which you currently are working with from the menu (choose **Help > Help**) or by pressing '**F1**'.

View pages

When inside the help, you can view other pages by using the help menu bar shown above or use the listing of pages shown in the left panel. Click on a page name in order to view it.
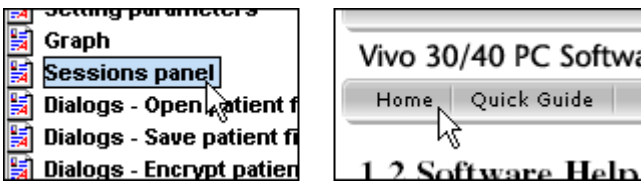
Navigation

- Click the **Table of Content** button for an overview of the chapters and sections.

- Click the **Search** button to search for a word or phrase to find a certain page.

- The **Previous** and **Next** buttons are used to navigate backwards and forwards through previous pages viewed.

- The **Home** button directs you to the help start page

- The **Reload** button loads the selected page again.

- The **Print** and **Page Setup** buttons are used for printing a certain page from the Software Help. It is recommended that you do not change the Page Setup unless there is any reason for this. The Print function will use the standard printer settings on you computer.
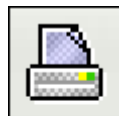
You can also continue reading related topics by following hypertext links which appear underlined in a dark-blue colour. Example of a html-link

1.4 Device components

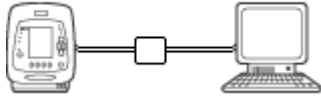The PC software can communicate with the ventilator in two ways:

- Using a Data Cable with a Communication Box

When using a data cable, modes and settings can be changed as the treatment is carried out. Remote control of the ventilator is available as well as recording and viewing patient data. The recorded logs stored in the ventilator can also be transferred to the PC software.

Transferring data using the data cable can take up to 20 times longer compared to transferring data with the CompactFlash® memory card.

Only use Breas cables to connect the ventilator to a PC.

- Using a CompactFlash® Memory Card

The CompactFlash memory card is used for transferring recorded patient data between the ventilator and a PC. The CompactFlash memory card can also be used for transferring settings from PC to the ventilator or vice versa.

The ventilator has a CompactFlash card read- and writer built into it's side. For the PC to be able to receive the data from the card, you need a CompactFlash card reader. You may also have to point out where your CompactFlash card reader is located by clicking '**Select card reader**'.

Writing from either the PC or the ventilator to the CompactFlash card overwrites previous data on the card.

1.5 Data Security

Be sure to download data from the ventilator to the correct patient file.
Certain operations check the serial numbers of the patient file and either the ventilator or the card match. When mismatch occurs, the following dialog appears:
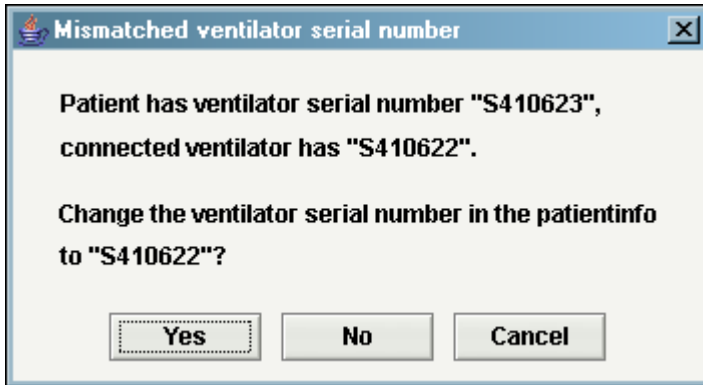
Clicking **Yes** means that the ventilator serial number of the current patient file will be changed to the read value.
Clicking **No** will leave the ventilator serial number unchanged.
Clicking **Cancel** will cancel the operation that initiated the ventilator serial number check.

Operations where the ventilator serial number is checked are:

- Ventilator logs retrieving (Log Handling menu, Device Settings)
- Card logs retrieving (Log Handling menu, Device Settings)
- Retrieve settings (Device Settings)
- Send settings (Device Settings)
- Start Session (Remote Control)

2.1 Select Mode

By choosing either **Home** or **Clinical** you will be able to use different modes of the Vivo 30/40 PC Software

In Home mode you can download and view the logs from the Vivo 30/40. You can also set up the Vivo 30/40's treatment parameters and input patient information.

In Clinical mode you can remote control the Vivo 30/40 and monitor the treatment. You can also set up the Vivo 30/40's treatment parameters and input patient information.
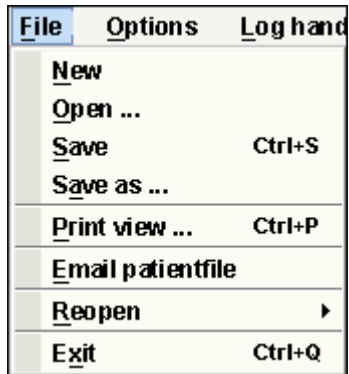
2.2 Menus

File

i Only one patient file can be open at the same time.

Choosing '**File**' from the menu bar will give the following options:

```
File    Options    Log hand
   New
   Open ...
   Save            Ctrl+S
   Save as ...
   Print view ...   Ctrl+P
   Email patientfile
   Reopen          ▶
   Exit            Ctrl+Q
```

- New — Creates a new patient file. When the PC software is launched a new patient file is automatically created, except when starting the software by opening an existing file.

- Open — Opens an existing patient file.
  >> Read more

- Save (**Ctrl + S**) — Saves an opened patient file using an existing filename.
  >> Read more

- Save as... — Saves an opened patient to a specified filename.
  >> Read more

- Print view... (**Ctrl + P**) — Prints the current visible page.

- Email patientfile — Mail a patient file using your current installed mail client.
  >> Read more

- Reopen — Quick access to recently saved patient files. Up to the four latest patient files are stored in reopen list.

- Exit (**Ctrl + Q**) — Exits the PC software.

There are three different file formats used in the software:

- **The Breas Patient File** (.bpf)
  This format offers a compressed file solution for storage of patient data.

- **The Breas Patient Folder**
  When working with large patient data files, this format might result in quicker loading and saving times. However, the files are not compressed and will occupy more space on disk.

- **The Breas Encrypted Patient File** (.bpx)
  For extra security when storing patient data the Breas encrypted patient file format can be used.

Options

Choosing '**Options**' from the menu bar will give following options:

```
Options    Log handli
   Fontsize        ▶
   Language        ▶
   Time format     ▶
   Setup email ...
   Look and feel ...
```
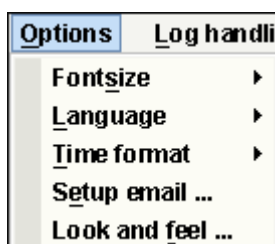
- Fonts — Change the fontsize in the program between **small** (**Ctrl + 1**), **medium** (**Ctrl + 2**) and **large** (**Ctrl + 3**).

- Language
  Change the language in the program.

- Time format
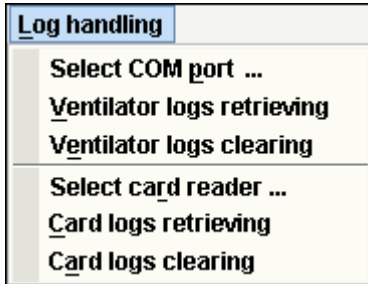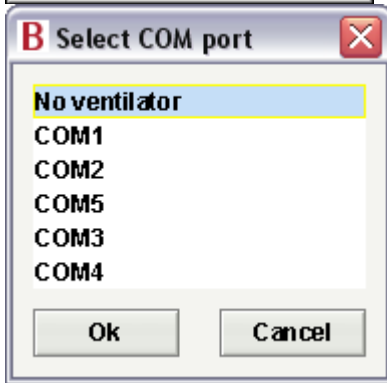 Change the time format between 24 hour clock and 12 hour am/pm indication.

- Setup email
  Change the email settings for mailing patient files.
  >> Read more

- Look and Feel
  Change the look and feel (the appearance) of the program.
 >> Read more

Log handling

Choosing '**Log handling**' from the menu bar will give following options:

Log handling

Select COM port ...
Ventilator logs retrieving
Ventilator logs clearing

Select card reader ...
Card logs retrieving
Card logs clearing

- Select COM port

B Select COM port

No ventilator
COM1
COM2
COM5
COM3
COM4

Ok   Cancel

Select the COM port that the Vivo 30/40 is connected to.

- Ventilator logs retrieving
  Retrieve logs from the ventilator.

  ℹ️ This operation takes about 20 minutes, and the ventilator is unavailable during this procedure.

Parsing detail log

Done 3(4)

Cancel
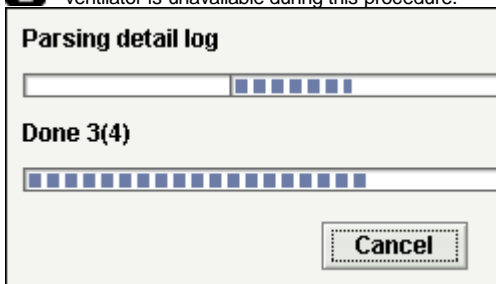
- Ventilator logs clearing
  Clear logs on the ventilator.

  ℹ️ This operation takes about 4 minutes, and the ventilator is unavailable during this procedure.

- Select card reader
  If communicating with the ventilator using a CompactFlash memory card, select a card reader here.
  >> Read more

No Card Reader
A:\
C:\
D:\
H:\
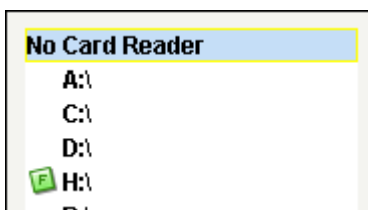
- Card logs retrieving
  Retrieve logs from the memory card.

  ℹ️ This operation takes about 4 minutes, and the ventilator is unavailable during this procedure.

- Card logs clearing
  Clear logs on the memory card.

Mode

Choosing '**Mode**' from the menu bar you can switch between **Home** and **Clinical** mode.

Mode
- ● Home
- ○ Clinical

- Home

In Home mode you can download and view the logs from the Vivo 30/40. You can also set up the Vivo 30/40's treatment parameters and input patient information.

- Clinical

In Clinical mode you can remote control the Vivo 30/40 and monitor the treatment. You can also set up the Vivo 30/40's treatment parameters and input patient information.

2.3 Tabs

Click the **Section tabs** and **Page tabs** or use the '**F**'-keys to navigate through the following pages in the PC software:

Section		Page tab
Patient Information		
Device setting		
Detail Log [Home Mode only]		• Therapy • Edit Sessions
Breath Log [Home Mode only]		• Therapy • Data Summary • Edit Sessions
Usage Log [Home Mode only]		• Usage Profile • Calendar • Alarms
Report [Home Mode only]		
Remote Control [Clinical Mode only]		
Remote Control Log [Clinical Mode only]		• Therapy • Data Summary • Edit Sessions
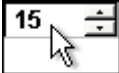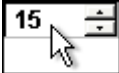
Page tabs

Each section may have one or more related pages. These pages are displayed as tabs at the top of the window. Typically data from one ventilator log is displayed in one of these sets of pages.

Therapy (F8) Data summary (F9) Edit sessions (F1

2.4 Parameter Setting

Input and alteration of the ventilator settings can be made in different ways depending on if the ventilator is on-line or not. In case of value limitations the maximum and minimum values are displayed adjacent to the input field.

- Click on the up/down arrow to increase/decrease a value or selection.

- Click on the data frame and enter the value manually.

- Click on the data frame and use your mouse's wheel to scroll through values or selections.

- Click on the +/- arrows to increase/decrease a value.

- Click once at the +/- arrows to focus. Once the focus is set, 'space bar' can be used to further increase/decrease the value.

Ventilator parameter

1. Parameter
2. Decrease value
3. Minimum value
4. Current value
5. Maximum value
6. Increase value
7. Unit

Some parameters can be deactivated if the value are set outside the range.

Some parameters are inactive depending on mode or equipment limitations.

If a parameter is corrupt or out of range the value field turns red. The parameter should be changed so that the red colour disappears.
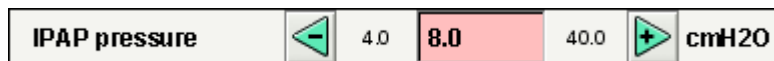
Toggle buttons
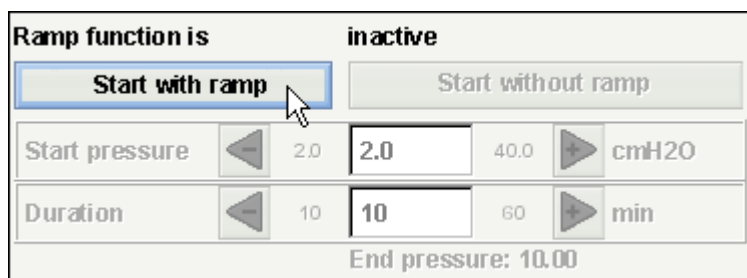
Some functions have their own panel. In the panel the function can be toggled on and off. Activate the function to alter the parameter.

Ventilator and card operation buttons
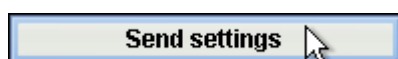
Operation of the ventilator and programming of the card can be done from single buttons,

transferring parameters to the ventilator.

Off-line
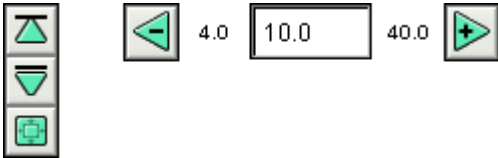
Values which are altered in off-line mode (i.e. the alteration has to be transferred to the vantilator) or alterations which won't affect the ventilator have a green colour.

On-line

In on-line operation, the parameter +/- buttons have a blue colour and the ventilator's values will be changed real-time.

Patient information, service settings and such can be altered whether the ventilator is on-line or not. These settings can be altered by using the up and down buttons or typing the information manually.

2.5 Graphs

Some pages contain data graphs over registered data.

Visibility

When more than one graph panel appears on the same page, the different graphs can be compressed and expanded using the - and + buttons to the top left side of each graph panel.
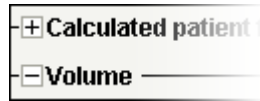
Vertical Zoom

Use the arrow buttons to zoom in and out in the vertical axis. Using the upper set of buttons will change the upper limit while keeping the lower limit fixed. The lower set of buttons will change the lower limit while keeping the upper limit fixated. Use the centre button to set the Y-axis so that the visible graph is viewed optimally in the available space.

Horizontal Zoom

Place the mouse pointer on the graph and press the left mouse button in order to zoom in horizontally. Press shift + left mouse button in order to zoom out again.
You can also use the radio buttons at the bottom of the screen.

Free Zoom

It's possible to zoom in and out in the graphs using the mouse. Hold any mouse button down and drag in a lower right direction. A rectangle will appear which marks the area which will be zoomed in. The new view will appear in the graph window at the graph's current aspect ratio.
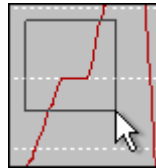
Show all Available Data

Show all available data through holding down any mouse button and dragging in any direction except down to the right and releasing the mouse button.

Marker
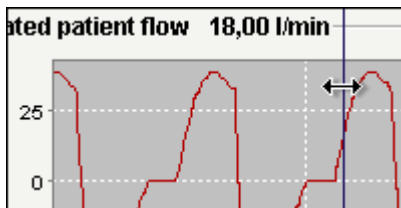
In order to read the values at a specific time the time position marker can be used. The marker is represented by a thin dark blue line, which is by default placed in the right side in the graph window. The graph title will alter with relevant information to the point where the marker is located.
In some pages containing graphs a panel with additional information will be updated when the marker is used.

Graph Panel

When clicking the right mouse button in a graph window the graph panel will appear.

- **Properties**
  General properties on the graph can be altered, such as label, font, paint, insets, background colour, range axis, etc.
- **Save as**
  Save the graph as a png-image.
- **Print**
  Print the graph on a printer.
- **Zoom In**
  Zoom into the graph. Zoom by both axes, the horizontal axis or the vertical axis.
- **Zoom Out**
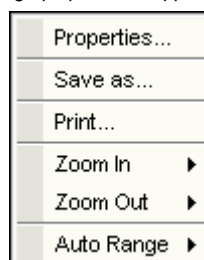
Zoom out from the graph. Zoom by both axes,
the horizontal axis or the vertical axis.
- **Auto Range**
  Auto range the graph. Use the both axes, the
  horizontal axis or the vertical axis.

To learn more about the graph component, please visit http://www.jfree.org.

2.6 Edit Sessions Panel

Some pages contain a sessions panel were the patient's logs are represented by yellow folders. Logs can be received from a direct connection with the ventilator or downloaded from a CompactFlash memory card.

Each log can contain several sessions, which are represented by blue file symbols with the according time duration.

The logs can also contain merged sessions which are represented by a blue double file symbol.

Logs lists can be maximized and minimized using the - and + buttons to the left side of each log.
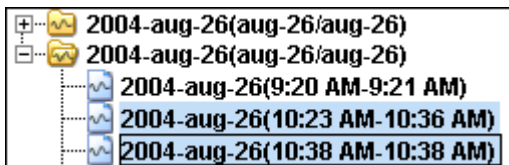
In some session panels (depending on the current page) multiple sessions can be selected by using the **Ctrl** and **Shift** keys. When making multiple selections, the sessions showed in the graph panel is always the first session in the list.

For some operation (such as "delete") a whole log can be selected through clicking on the line with the yellow folder.
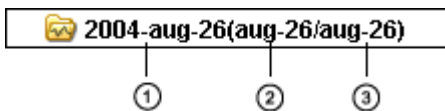
1. Time when the log was downloaded to the PC software.
2. Date of first session in the log.
3. Date of last session in the log.
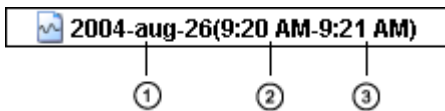
1. Date when the session was initiated.
2. Time when the session was initiated.
3. Time when the session was terminated.

In some pages you can alter the sessions with the following buttons:

- Delete sessions   The sessions selected will be deleted. Whole logs can also be deleted by selecting the yellow folder and pressing the button.

- Select sessions   Choose an integer value for the maximum time in seconds. After clicking the select sessions button, all sessions shorter than the maximum value will be selected.
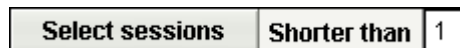
- Merge sessions   Two or more selected sessions adjacent in time will be merged. The resluting merged session will be represented by a blue double file icon.
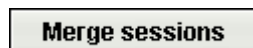
- Split sessions   The selected merged sessions will be split to their original lenghts.
  When a merged session has been splitted, the first (top) session of the previously merged sessions is the one shown in the graph panel.

Split session

- Undo and Redo

If sessions have been deleted, merged or splitted, it is possible to undo and redo these operations. Use the buttons to the right.

↰ Undo

↱ Redo

🖐 **When the file is saved, the undo and redo memory is cleared.**

3.1 Open

In this dialog patient data files can be opened to the ventilator software.

File formats

There are three different file formats used in the software:

- **The Breas Patient File** (.bpf)
  This format offers a compressed file solution for storage of patient data.

- **The Breas Patient Folder**
  When working with large patient data files, this format might result in quicker loading and saving times. However, the files are not compressed and will occupy more space on disk.

- **The Breas Encrypted Patient File** (.bpx)
  For extra security when storing patient data the Breas encrypted patient file format can be used.

Use the **Files of Type** drop-down bar in order to only view a choosen file type.
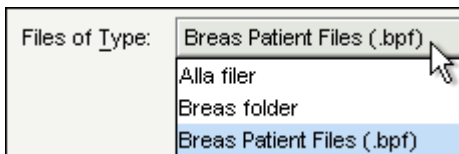
Locating a file

Use the **Look In** drop-down bar to locate the file which should be opened.
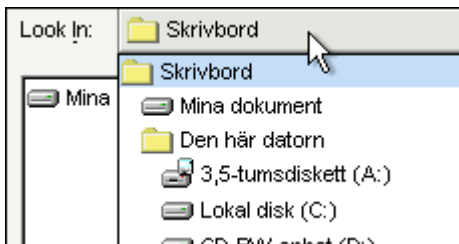
When trying to open a file without saving your current work, a dialog will appear asking if you want to save your changes. If not saved, all changes will be lost.
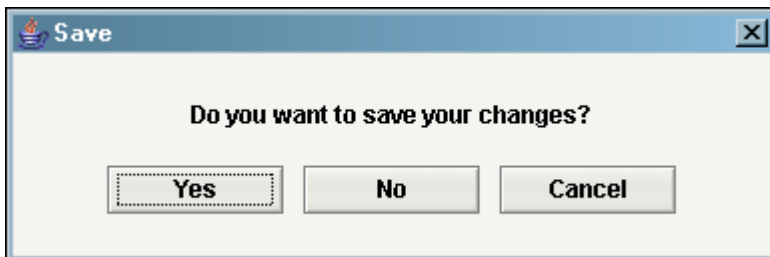
Changes in the open patient file are marked with a * in the title bar.
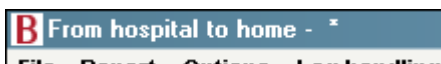
3.2 Save

In this dialog patient data files can be saved from the ventilator software.

File formats

There are three different file formats used in the software:

- **The Breas Patient File** (.bpf)
  This format offers a compressed file solution for storage of patient data.

- **The Breas Patient Folder**
  When working with large patient data files, this format might result in quicker loading and saving times. However, the files are not compressed and will occupy more space on disk.

- **The Breas Encrypted Patient File** (.bpx)
  For extra security when storing patient data the Breas encrypted patient file format can be used.
  >> Read more

Use the **Files of Type** drop-down bar in order to only view a choosen file type.

Choosing file format when saving a file

When you are about to save a patient file you can choose from the different file formats in the **Files of Type** drop-down bar.

- **All files**
  The file format is determined from what suffix you add to the filename (e.g. '.bpf' creates a Breas patient file).
  If you don not add any suffix to the filename the file will be saved as a Breas patient folder.
- **Breas Patient Files**
  The file will be saved as a Breas patient file. The suffix '.bpf' will be added to the filename (even if you choose to add a different filename suffix).
- **Breas Folder**
  You can not add any suffix to the filename. The file will be saved as a Breas patient folder.
- **Breas encrypted Patient files**
  The file will be saved as a Breas encrypted patient file. The suffix '.bpx' will be added to the filename (even if you choose to add a different filename suffix).
- **All Breas Patient Files**
  The file format is determined from what suffix you add to the filename (e.g. '.bpf' creates a Breas patient file).
  If you don't add any suffix to the filename the file will be saved as a Breas patient folder.

Locating a file

Use the **Look In** drop-down bar to locate the file which should be opened.
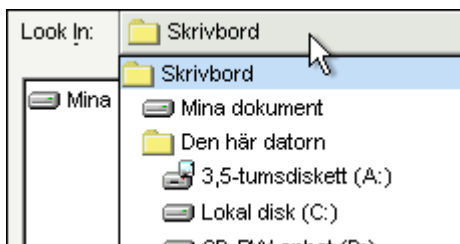
Use the **Files of Type** drop-down bar in order to only view a choosen file type.

Storing files

Use the **Save In** drop-down bar to choose a location where to store the file.
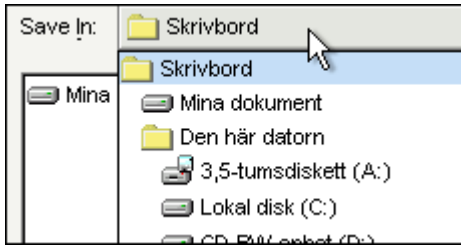
3.3 Encrypt

When saving the patient file using encryption, you can choose to enter your own password or use the software's default password.
The default password is the same for all versions of the Vivo 30/40 PC Software and the files can therefore be opened by everyone that has access to the program.

3.4 Setup E-mail

You can email a patient file using your currently installed email client. You will have to type the exact path to the email client in the **Command** field in front of "outlook.exe/a" (or another email client). For instance 'C:\Program\Microsoft Office\Office10\outlook.exe /a'. Use the **Tail** field to add any command options.
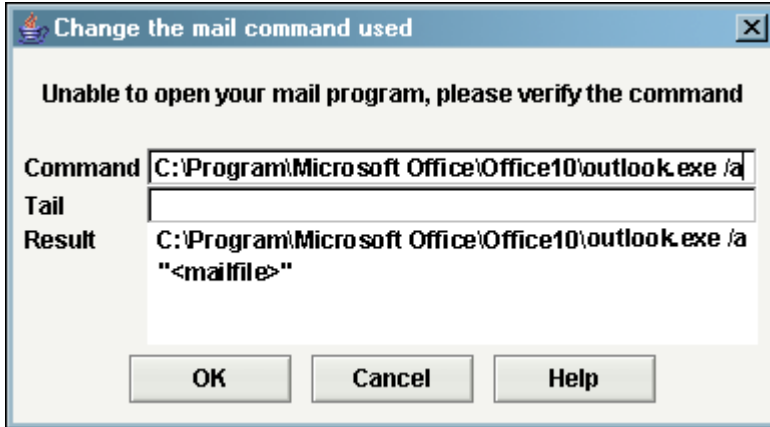
3.5 Select Look and Feel

In this dialog you are given a choice to change the appearance of the software. A change will only be activated once the program is restarted.
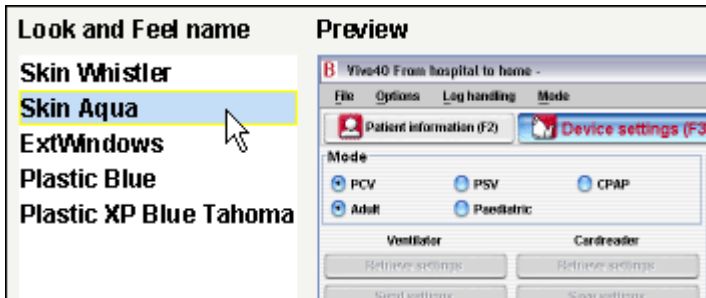
Look and Feel name

Here a selection of different look and feels are presented. Use your mousepointer to click on the different names to show a preview in the right panel.

Preview

An image showing a preview of a look and feel is presented here.

In the text dialog you can see which look and feel the software currently uses and which will be used after restart.

3.6 Confirm Settings

The purpose of this dialog is to read and verify the settings before they are sent to the ventilator, plus set the ventilator's clock, wake-up alarm and panel lock.
Read more about how to set the parameters here.

Setting selections

- Ventilation mode

  The ventilation mode can be set between PSV (Pressure Support Ventilation), PCV (Pressure Control Ventilation) and CPAP (Continuous Positive Airway Pressure).

- Patient mode

  [Vivo 40 only]

  The ventilator can be operated in either adult or paediatric mode. The different settings and alarm limits are adjusted depending on which mode is used.
  Depending on the patients weight choose:
  - Paediatric mode:
     Children between 10 to 30 kg.
  - Adult mode:
     Patients who weighs more than 30 kg.

Setting

- IPAP pressure

  The IPAP setting is used for defining the patient's airway pressure during the inspiration phase.

- EPAP pressure

  The EPAP setting is used for controlling the patient's airway pressure during the exhalation phase.

- Breath rate

  The breath rate defines the minimum number of breaths the ventilator will deliver.
  The patient can trigger additional breaths between these breaths.

- Inspiration time

  The inspiration time setting controls the length of each inspiration.

- Rise time

  The rise time setting sets the time in which the pressure increases to the desired IPAP value.

- Inspiration trigger

  The inspiratory trigger setting defines the patient's effort required to initiate a ventilator assisted breath.

- Humidity

  The humidifier is used to humidify the patient air.

Ramp

- Ramp start pressure

  The ramp start pressure describes the air pressure at the ramp's start.

- Ramp duration

  The ramp duration describes the time the ramp has to reach the right pressure.

- Ramp active

  Yes or **No** to indicate if the ramp function is activated.

Alarm

- Low pressure

  A low pressure alarm will be given when the ventilator's pressure fails to reach the low pressure alarm limit for 15 seconds.

- Low volume

A low volume alarm will be given when the ventilator's volume fails to reach the low volume alarm limit for 15 seconds.

- Low breath rate

[Vivo 40 only]

A low breath rate alarm will be given when the ventilator's breath rate frequency fails to deliver the low breath rate alarm limit for 15 seconds.

- High breath rate

[Vivo 40 only]

A high breath rate alarm will be given when the ventilator's breath rate frequency exceeds the high breath rate alarm limit for 15 seconds.

Ventilator time

Choose how to handle the ventilator time:

- Leave as is
- As PC
- Set: Specify an exact time (hour:min:sec) and date which to set on the ventilator.

Panel lock

Choose how to handle the panel lock:

- Leave as is
- Lock panel
- Unlock panel

If you activate the panel lock from the PC software, the panel could not be unlocked by using the Vivo 30/40's panel buttons or menu.
If the Vivo 30/40 is locked by the PC software the panel lock symbol on the Vivo 30/40 display is framed.

Alarm clock

Choose how to handle the alarm clock:

- Leave as is
- Off
- Set: Sepecify the alarm time (hour:min) which to set on the ventilator.

3.7 Change Treatment Mode

The purpose of this dialog is to change the treatment mode during an on-line session. The settings should be read and verified before they are sent to the ventilator.
Read more about how to set the parameters here.

Setting selections

- Ventilation mode

  The ventilation mode can be set between PSV (Pressure Support Ventilation), PCV (Pressure Control Ventilation) and CPAP (Continuous Positive Airway Pressure).

- Patient mode

  [Vivo 40 only]

  The ventilator can be operated in either adult or paediatric mode. The different settings and alarm limits are adjusted depending on which mode is used.
  Depending on the patients weight choose:
  - Paediatric mode:
    Children between 10 to 30 kg.
  - Adult mode:
    Patients who weighs more than 30 kg.

- Humidifier active

  The humidifier is used to humidify the patient air.

Setting

- IPAP pressure

  The IPAP setting is used for defining the patient's airway pressure during the inspiration phase.

- EPAP pressure

  The EPAP setting is used for controlling the patient's airway pressure during the exhalation phase.

- Breath rate

  The breath rate defines the minimum number of breaths the ventilator will deliver.
  The patient can trigger additional breaths between these breaths.

- Rise time

  The rise time setting sets the time in which the pressure increases to the desired IPAP value.

- Inspiration trigger

  The inspiratory trigger setting defines the patient's effort required to initiate a ventilator assisted breath.

- Expiration trigger

  The expiratory trigger setting defines the relative inspiration flow, at which the inspiration phase should stop and an exhalation phase should start. '1' is early in inspiration and '9' is late.

- Inspiration time

  The inspiration time setting controls the length of each inspiration.

- Humidity

  Set a relative humidity of the patient air. '9' is high humidity and '1' is low humidity.

Alarm

- Low pressure

  A low pressure alarm will be given when the ventilator's pressure fails to reach the low pressure alarm limit for 15 seconds.

- Low volume

  A low volume alarm will be given when the ventilator's volume fails to reach the low volume alarm limit for 15 seconds.

- Low breath rate

  [Vivo 40 only]   A low breath rate alarm will be given when the ventilator's breath rate frequency fails to deliver the low breath rate alarm limit for 15 seconds.

- High breath rate

  [Vivo 40 only]   A high breath rate alarm will be given when the ventilator's breath rate frequency exceeds the high breath rate alarm limit for 15 seconds.

Ramp

Ramp function is	inactive	
Start with ramp	Start without ramp	
Start pressure	◄ 2.0 **2.0** 40.0 ►	cmH2O
Duration	◄ 10 **10** 60 ►	min
	End pressure: 10.00	

In the ramp frame you can activate and deactivate the ramp.

- Ramp duration

  The ramp duration describes the time the ramp has to reach the right pressure.

- Ramp start pressure

  The ramp start pressure describes the air pressure at the ramp's start.

The ramp function is used for increasing the EPAP and IPAP pressure during a set time, provided that the EPAP start value is lower than the set EPAP pressure.

Ramp start pressure < EPAP   Ramp start pressure = EPAP
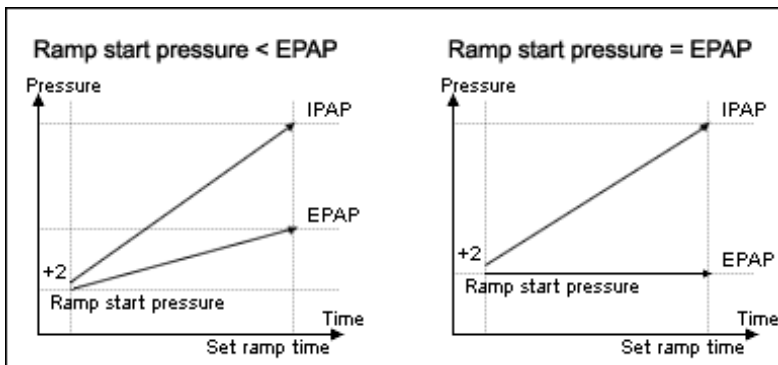
![icon] 4.1 Patient Information

In the patient information frame you are able to edit the patient information.
In order to start changing data, click on the **Unlock** button.

🔓 Unlock

When all data has been changed, click on the **Lock** button.

🔒 Lock

Ventilator Information

- Ventilator type

  The software supports working with both Vivo 30 and Vivo 40 ventilators.
  Select which type of ventilator to use here.

- Ventilator Serial number

  The manufacturer's serial number.

  ⚠️ **Reading settings and log from card or ventilator checks the ventilator serial number on the source ventilator or card versus the serial number of the patient file.**

- Unit Tracking number

  An optional adminstrative tracking number.

Patient Information

- First name

  The patient's first name.

- Family name

  The patient's family name.

- Identity code

  The patient's identity code.

- Date of birth

  The patient's date of birth.

- Street

  The patient's home street.

- City

  The patient's home city.

- Postcode

  The patient's home zip code.

- Country

  The patient's home country.

  ℹ️ The latest typed value will be saved as a default between program launches and when creating a new patient.

- Phone no

  The patient's home phone no.

- Alternate Phone no

  The patient's alternate Phone no.

- Age

  The patient's age will calculated from the information from date of birth.

- Sex

  The patient's sex.

- Height (m)

  The patient's height.

- Weight (kg)

  The patient's weight.

- Body Mass Index (BMI)

  The patient's BMI will be calculated from the information of height and weight.

Administrative Information

- Insurance Company

  The patient's insurance company.

- Insurance Id

  The patient's insurance id.

- Employer

  The patient's employer.

- Physician

  The patient's physican.

   The latest typed value will be saved as a default between program launches and when creating a new patient.

- Hospital

  The patient's hospital.

   The latest typed value will be saved as a default between program launches and when creating a new patient.

- Admission notes

  The patient's admission notes.

- Diagnostic code

  The patient's diagnostic code.

Notes

Here notes can be made.

5.1 Device Settings

The setup page describes the overall mode and status of the ventilator. In order to keep the setup page updated, patient settnings need to be retrieved. To retrieve patient data (logs) and settings from the ventilator, a connection can be established in two ways (also see Quick Guide or 1.4 Device components):

- Data Cable with a Communication Box (iCom)

  When using a data cable, modes and settings can be changed as the treatment is carried out. Remote control of the ventilator is available as well as recording and viewing patient data. The recorded logs stored in the ventilator can also be transferred to the PC software.

  ⚠ **Only use Breas cables to connect the ventilator to a PC.**

- CompactFlash® memory card

  The CompactFlash memory card is used for transferring recorded patient data between the ventilator and a PC.

ℹ The Setup page is inactivated when an on-line session is active.

To connect a ventilator the user needs to select a COM port on the computer. After a successful selection of COM port, applicable buttons will be shown active.

Mode
Ventilation mode:

- PSV (Pressure Support Ventilation)
- PCV (Pressure Control Ventilation)
- CPAP (Continuous Positive Airway Pressure)

Patient mode:

- Adult

  Use adult mode if the patient weights more than 30 kg.
- Paediatric

  Use paediatric mode if the patient weights between 10 to 30 kg.

ℹ See the Clinican's manual for more information about the different modes.

Setting (for instance PSV Adult)

The setting frame describes which settings are applicable for the current mode. However, the settings are not activated until they are transferred to the ventilator with a Data Cable with a Communication Box or with a CompactFlash memory card using the **Retrieve settings** and **Save settings** buttons.
When sending settings to the ventilator the settings need to be confirmed.
>> Read more

Ventilator[COM3]
Retrieve settings
Send settings
Clear patient time
Select COM port

Cardreader[E:\]
Retrieve settings
Save settings
Select card reader

When selecting a COM port, the selected COM port will be indicated inside square brackets

⚠️ **On Windows 98 selecting a COM port that isn't connected to a ventilator after having had a COM port selected that was connected to a ventilator, might result in a hanging, unresponsive system. In that case restart the application.**

| Ventilator | No COM port selected |
| Ventilator [COM1] | COM1 selected for ventilator communication. |

See chapter 2.3 Parameter Setting on detailed description about changing parameters.

- IPAP pressure

  The IPAP setting is used for defining the patient's airway pressure during the inspiration phase.

- EPAP pressure

  The EPAP setting is used for controlling the patient's airway pressure during the exhalation phase.

- Breath rate

  The breath rate defines the minimum number of breaths the ventilator will deliver.
  The patient can trigger additional breaths between these breaths.

- Rise time

  The rise time setting sets the time in which the pressure increases to the desired IPAP value.

- Inspiration trigger

  The inspiratory trigger setting defines the patient's effort required to initiate a ventilator assisted breath.

- Inspiration time

  The inspiration time setting controls the length of each inspiration.

- Expiration trigger

  The expiratory trigger setting defines the relative inspiration flow, at which the inspiration phase should stop and an exhalation phase should start. '1' is early in inspiration and '9' is late.

- Humidity

  Set a relative humidity of the air. '9' is high humidity and '1' is low humidity.

Alarm

The alarm frame describes the alarm settings, i.e. when an alarm should be activated.
Alarm triggers when:

- Low pressure

  A low pressure alarm will be given when the ventilator's pressure fails to reach the low pressure alarm limit for 15 seconds.

- Low volume

  A low volume alarm will be given when the ventilator's volume fails to reach the low volume alarm limit for 15 seconds.

- Low breath rate

  [Vivo 40 only]   A low breath rate alarm will be given when the ventilator's breath rate frequency fails to deliver the low breath rate alarm limit for 15 seconds.

- High breath rate

  [Vivo 40 only]   A high breath rate alarm will be given when the ventilator's breath rate frequency exceeds the high breath rate alarm limit for 15 seconds.

Ramp

Ramp function is			inactive		
Start with ramp			Start without ramp		
Ramp duration	◄	0	10	60	► min
Ramp start pressure	◄	2.0	2.0	40.0	► cmH2O
			End pressure: 4.00		

In the ramp frame you can activate and deactivate the ramp.

- Ramp duration

  The ramp duration describes the time the ramp has to reach the right pressure.

- Ramp start pressure

  The ramp start pressure describes the air pressure at the ramp's start.

The ramp function is used for increasing the EPAP and IPAP pressure during a set time, provided that the EPAP start value is lower than the set EPAP pressure.
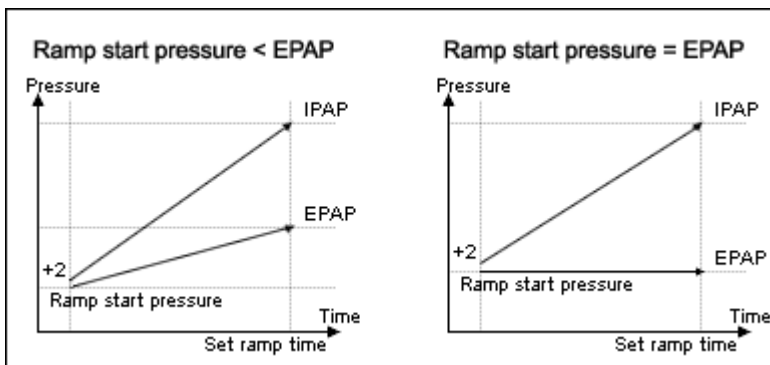
Service

The service panel is updated when either of the **Retrieve settings** buttons are pressed. When reading from the Flash memory card, the following service data are updated:

- Ventilator serial number
- Ventilator operations time
- Patient operations time
- Program version

ℹ It is only possible to disable ramp in home mode when programming the ventilator directly. This is a notable lacking ability in programming the ventilator via compact flash card.

Detail Log

[Home Mode Only]

The detail log contains data from the ventilators detail log. The detail logs are downloaded either from the ventilator or the memory card. The information is sampled with a 10 Hz frequency, and the detail log contains (approximately) the last 16 hours of usage.

6.1 Therapy

In the therapy section the sessions created by downloading from the ventilator or the memory card can be viewed and analysed.

Sessions

In the sessions panel the patient's different sessions will appear. Sessions can be selected one at a time. See section 2.6 Sessions Panel on a detailed description about handling a sessions window.

Settings at marker

The panel settings at marker displays the settings where the time position marker is placed. See section 2.5 Graphs on detailed description about handling the marker.

Due to delay in actual logging of events the settings at marker can show events 15 seconds later than they actually occured.

Graph

The graph panel contains the following data from a detail log session:

- Events — You can see the following alarms and events as they occur: Mask off, High pressure alarm, Low pressure alarm, Low volume alarm, High breath rate alarm, Low breath rate alarm, Stand by.
- Pressure — In the pressure graph you see sampled data of the pressure as measured in the ventilator.
- Flow — In the flow graph you see sampled data of the flow as measured in the ventilator. The leakage is subtracted in the calculated patient flow.
- Volume — In the volume graph you see sampled data of the volume as measured in the ventilator.
- Expiratory leakage — In the expiratory leakage graph you see sampled data of the leakage as measured in the ventilator.

See section 2.5 Graphs on detailed description about handling a graph panel.

Detail Log
[Home Mode Only]

6.2 Edit Sessions

In the sessions section you can alter the sessions with the following buttons:

- Delete sessions

  The sessions selected will be deleted. Whole logs can also be deleted by selecting the yellow folder and pressing the button.

  Delete sessions

- Select sessions

  Choose an integer value for the maximum time in seconds. After clicking the select sessions button, all sessions shorter than the maximum value will be selected.

  Select sessions

- Merge sessions

  Two or more selected sessions adjacent in time will be merged. The resluting merged session will be represented by a blue double file icon.

  Merge sessions

- Split sessions

  The selected merged sessions will be split to their original lengths.
  When a merged session has been split, the first (top) session of the previously merged sessions is the one shown in the graph panel.

  Split session

- Undo and Redo

  If sessions have been deleted, merged or split, it is possible to undo and redo these operations. Use the buttons to the right.

  ⤺ Undo

  ⤼ Redo

  ⚠ **When the file is saved, the undo and redo memory is cleared.**

- Select problem sessions

  Selects sessions that are too short to contain any relevant data or has corrupt data.

  Select problem sessions

Graph

The graph frame contains the following data from a session:

- Events
- Pressure

See section 2.5 Graphs on detailed description about handling a graph panel.

⊞ Breath Log

[Home Mode Only]

The breath log contains data from the ventilator's breath log. The breath logs are
downloaded either from the ventilator or the memory card. The information is collected
once per breath, and the breath log contains approximately the last four weeks of usage.

7.1 Therapy

In the therapy section the sessions created by downloading from the ventilator or the
memory card can be viewed and analysed.

Sessions

In the sessions frame the patients different sessions will appear. See section
2.6 Sessions Panel on a detailed description about handling a sessions window.

Patient triggered breaths

Breaths triggered by the patient shows as blue
coloured in the graphs.
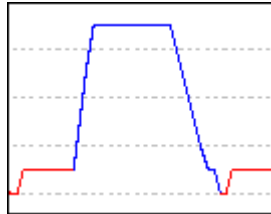
Settings at marker

The frame settings at marker displays the settings where the time position marker is
placed. See section 2.5 Graphs on detailed description about handling the marker.

✋ **Due to delay in actual logging of events the settings at marker can show
events 15 seconds later than they actually occured.**

Graph

The graph panel contains the following data from a breath log session:

- Events
  You can see the following alarms and events as they occur:
  Mask off, High pressure alarm, Low pressure alarm, Low
  volume alarm, High breath rate alarm, Low breath rate alarm,
  Stand by.
- Mean pressure
  In the mean pressure graph you see sampled data of the
  pressure as measured in the ventilator.
- Flow
  In the flow graph you see sampled data of the flow as measured
  in the ventilator. The leakage is subtracted in the calculated
  patient flow.
- Volume
  In the volume graph you see sampled data of the volume as
  measured in the ventilator.
- Expiratory leakage
  In the expiratory leakage graph you see sampled data of the
  leakage as measured in the ventilator.

See section 2.5 Graphs on detailed description about handling a graph frame.

![logo] Breath Log

[Home Mode Only]

7.2 Data Summary

In the data summary section you can view the summary of one or more selected sessions.

Sessions

In the sessions frame the patients different sessions will appear. See section 2.6 Sessions Panel on a detailed description about handling a sessions window.

Summary of records for

In this panel calculated values from the selected sessions in the **session** panel will be presented. Average values of the mesurements from all selected sessions are calculated in the **Average** column. The average value is not balanced, meaning that it doesn't consider the time length of the selected sessions. If '---' appears in the value field it means the value can not be calculated from the data in the log.

Average
11.40
4
10
10
0.417
1.14

Tendency

If you choose several sessions you can analyze them all at the same time in the graph panel.
This way you are able to see tendencies in the patient's usage of the Vivo 30/40.

Sessions
- Jun 13, 2006(May-23/May
  - May 23, 2006(16:07-16:
  - May 23, 2006(16:14-08
  - May 24, 2006(12:05-13:
- Jun 13, 2006(Jun-01/Jun-
  - Jun 1, 2006(13:04-13:0
  - Jun 2, 2006(16:11-16:1
  - Jun 8, 2006(11:49-11:5
  - Jun 13, 2006(12:00-12:

Breath Log

[Home Mode Only]

7.3 Edit Sessions

In the sessions section you can alter the sessions with the following buttons:

- Delete sessions

  The sessions selected will be deleted. Whole logs can also be deleted by selecting the yellow folder and pressing the button.

  Delete sessions

- Select sessions

  Choose an integer value for the maximum time in seconds. After clicking the select sessions button, all sessions shorter than the maximum value will be selected.

  Select sessions

- Merge sessions

  Two or more selected sessions adjacent in time will be merged. The resluting merged session will be represented by a blue double file icon.

  Merge sessions

- Split sessions

  The selected merged sessions will be split to their original lenghts.
  When a merged session has been split, the first (top) session of the previously merged sessions is the one shown in the graph panel.

  Split session

- Undo and Redo

  If sessions have been deleted, merged or split, it is possible to undo and redo these operations. Use the buttons to the right.

  ↰ Undo

  ↱ Redo

  ⚠ **When the file is saved, the undo and redo memory is cleared.**

- Select problem sessions

  Selects sessions that are too short to contain any relevant data or has corrupt data.

  Select problem sessions

Graph

The graph frame contains the following data from a session:

- Events
- Pressure

See section 2.5 Graphs on detailed description about handling a graph panel.

▣ Usage Log

[Home Mode Only]

The usage log describes how the ventilator has been used over a longer time period.

8.1 Usage profile

Long term usage data for

This panel contains a graph which shows in which time interval the ventilator has been used. To view information about different logs, use the dropdown box in the top left-hand corner. To change the interval of 24 hour periods, use the lower limit drop down box and the upper limit drop down box. The left drop down box controls the starting point of the shown interval's 24 hour periods. The right drop down box controls the end point of the shown interval's 24 hour periods, which can be earliest at the left selected interval. The maximum number of 24-hour intervals that are displayed is 35 (five weeks). When the log contains sessions spread out over more than 35 24-hour periods, the periods that are outside the default visible range will be indicated in the starting point dropdown box with an exclamation character.

ⓘ You can use the scrollwheel on the mouse to move in all of the 24-hour periods selected in the log.

To delete and undo delete different logs, mark the log and use the **Delete** and **Undo delete** buttons.

✋ **The undo delete function can only be used on the latest deleted log.**

To hide empty days, click the right mouse button while in the graph panel and use the **hide empty days** option.
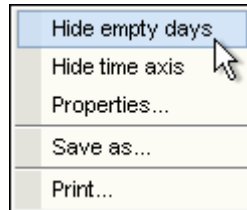
To hide the time axis, click the right mouse button while in the graph panel and use the **hide time format** option.
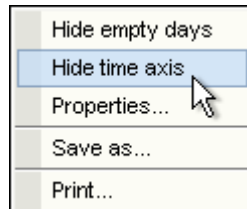
Usage Log
[Home Mode Only]

8.2 Calendar

Long term usage data for

The "Long term usage data for" frame contains the following data:

ℹ️ The values are calculated from the selected log(s).

- Total power on

  The total number of hours the ventilator has been running in operating mode.

- Number of power on

  The total number of times the ventilator has been turned on

- Total therapy days

  The total number of 24 hour periods the ventilator, at some point, has been running in operating mode with mask on.

- Days with power on

  The total number of 24 hour periods for which the ventilator has been swithced on one or more times.

- Average power on, all days

  The average time in hours when the ventilator has been turned on during all calendar days.

- Average power on, all therapy days

  The average time in hours when the ventilator has been turned on during days with power on.

- Average IPAP

  The average IPAP pressure during the time period of the log.

- Average EPAP

  The average EPAP pressure during the time period of the log.

- Pressure peak

  The highest pressure value during the time period of the log.

- Average volume

  The average volume during the time period of the log.

- Max volume

  The maximum volume.

- Mask off time

  The total number of hours the ventilator has been running with a mask off detection.

The graph panel in the long term usage data during frame contains the following graphs:

- Avg. Pressure

  The average pressure of EPAP and IPAP for a 24 hour period is shown in a bar.
  The blue part of the bar represents EPAP and the red part represents IPAP.

- Mask %

  The percentage time of mask usage.

- Power on

  The amount of hours the ventilator has been running each 24 hour period.

The 24 hour periods in the graph are presented from 12 o'clock noon - 12 o'clock noon so that one night of sleep is represented as one bar.

To view information about different logs, use the dropdown box in the top left-hand corner.
To change the interval of 24 hour periods, use the lower limit drop down box and the upper limit drop down box. The left drop down box controls the starting point of the shown interval's 24 hour periods. The right drop down box controls the end point of the shown interval's 24 hour periods, which can be earliest at the left selected interval.
To delete and undo delete different logs, mark the log and use the **Delete** and **Undo delete** buttons.

Delete

Undo delete

The undo delete function can only be used on the latest deleted log.

24 Usage Log

[Home Mode Only]

8.3 Alarms

This panel contains a listing of the alarms that have occured during the selected log.

ℹ️ The alarms list is stored in the breath log. You can only view alarms that have occured during the breath log time period, even if the usage log contains a longer time period.

To view information about different logs, use the dropdown box in the top left-hand corner. To change the interval of 24 hour periods, use the lower limit drop down box and the upper limit drop down box. The left drop down box controls the starting point of the shown interval's 24 hour periods. The right drop down box controls the end point of the shown interval's 24 hour periods, which can be earliest at the left selected interval.

To delete and undo delete different logs, mark the log and use the **Delete** and **Undo delete** buttons.

Delete

Undo delete

✋ **The undo delete function can only be used on the latest deleted log.**

🖨 9.1 Report

[Home Mode Only]

In this panel the report is specified.

- Choose logo

Choose logo

Remove

Use the **Choose logo** to choose a logotype to represent the organisation you are working for. Once a logo has been selected, this copy of the Breas Vivo 30/40 PC software will remember and use this logo as default until another logo is selected.
A preview of the logo will be shown in the lower right corner of the window.
You can also remove a selected logo.

- Log

2004-sep-27(sep-23/sep-23)

2004 Wed Sep 22   2004 Thu Sep 23

Use the log button (log is represented by dates) to select which of the patient's logs that should be used in the generation. Select the start and the end of the time period for which the report should be generated by using the two buttons below. Default time interval is the whole log.

ℹ️ Templates can be used to easily create standardized or often used reports for different purposes.

- Template selection

<Empty template>

Use this drop-down menu to select an existing template.

- Add selection,
  Remove selection

Add selection

Remove selection

Use the **Add selection** and **Remove selection** buttons to add and remove the different report chapters to your report.
Default selections are no chapters.

- Description

Description of selected report

When adding and removing the different report chapters a description of the chapter is displayed in the **Description of selected report** panel.

- Create and
  Remove Template

Create or modify template

Save as

Remove currently selected template

Delete

To create a new template, do the selection of report chapters that you want to include and then enter a name in the input field to the right and click **Save as**.
In order to remove an existing template, select it at the template drop-down menu and click **Delete**.

- Print

Print

Choose **Print** to generate the report and send it to your default printer. Depending on your system configuration, a standard dialogue window will probably appear.

10.1 Remote Control

[Clinical Mode Only]

The remote control lets you alter settings directly on the ventilator, be notified of alarms, view treatment status and session data as the treatment carries out.
The accumulated online data is stored in the patient file.
In order to view data online you will need a direct data cable. When a connection between the ventilator and the PC is established, the ventilator becomes online and it is possible to start a session. >> Read more

Start Session

Once the **Start session** button has been pressed, alterations of the parameters in the ventilator are transferred directly to the PC software and shown on the remote control page. A short time lag may occur of approximately 1 second. During an open session it is possible to directly change individual settings on the ventilator in the setting and alarm settings panels.
To close a session, press the **Close Session** button:

Close Session

Pressing the **Close Session** button stops retrieval of data from the ventilator and creates a new online session which can be viewed in the therapy and sessions tabs.

Enter standby

Pressing the **Enter standby** button will set the ventilator in standby mode. This is a remote pressing of the on/off button on the ventilator.

Exit standby

Pressing the **Exit standby** button will make the ventilator exit standby mode and continue treatment. This is a remote pressing of the on/off button on the ventilator.

Start ramp

Pressing the **Start ramp** button will activate the ramp function. If the ramp is ongoing it will be restarted.

Cancel ramp

Cancel ramp will cancel the ramp function and return to the treatment according to present settings.

Change treatment mode

For changing mode during ongoing treatment, press the **Change treatment mode** button. As changing treatment mode affects a set of settings a dialog will appear.
>> Read more

☑ **Humidity active**

Clicking the check box turns the humidifier on/off.

Certain panels can be compressed and expanded using the - and + buttons to the top left side of each panel.

⊞ ⊟ Treatment Status an
Tidal volume
Peak pressure
Breath rate

Setting (for instance PSV Adult)

IPAP pressure ◁ 4.0 10.0 40.0 ▷ cmH2O

- **IPAP pressure**

  The IPAP setting is used for defining the patient's airway pressure during the inspiration phase.

- **EPAP pressure**

  The EPAP setting is used for controlling the patient's airway pressure during the exhalation phase.
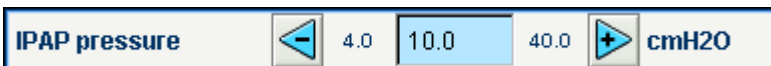
- **Breath rate**

  The breath rate defines the minimum number of breaths the ventilator will deliver.
  The patient can trigger additional breaths between these breaths.

- **Rise time**

  The rise time setting sets the time in which the pressure increases to the desired IPAP value.

- **Inspiration trigger**

  The inspiratory trigger setting defines the patient's effort required to initiate a ventilator assisted breath.

- **Expiration trigger**

  The expiratory trigger setting defines the relative inspiration flow, at which the inspiration phase should stop and an exhalation phase should start. '1' is early in inspiration and '9' is late.

- **Inspiration time**

  The inspiration time setting controls the length of each inspiration.

- **Humidity**

  Set a relative humidity of the patient air. '9' is high humidity and '1' is low humidity.

Alarm settings

- **Low pressure**

  A low pressure alarm will be given when the ventilator's pressure fails to reach the low pressure alarm limit for 15 seconds.

- **Low volume**

  A low volume alarm will be given when the ventilator's volume fails to reach the low volume alarm limit for 15 seconds.

- **Low breath rate**

  [Vivo 40 only]

  A low breath rate alarm will be given when the ventilator's breath rate frequency fails to deliver the low breath rate alarm limit for 15 seconds.

- **High breath rate**

  [Vivo 40 only]

  A high breath rate alarm will be given when the ventilator's breath rate frequency exceeds the high breath rate alarm limit for 15 seconds.

Treatment status and alarms

The treatment status contains status and calculated values from the ventilator which are updated each breath.

- Tidal volume

- Peak pressure

- Breath rate

- Minute volume

- Inspiration time

- EPAP pressure

- IPAP pressure

- I:E ratio

- Inspiration trigger type

- Peak flow

Lock
When the lock icon is lit, the ventilator's panel is
locked.

ℹ️ A framed panel lock symbol indicates that the
lock is activated from the PC software and
can not be unlocked by using the Vivo 30/40's
panel buttons.

AC power
When the AC icon is lit, the ventilator is operating on
an AC power source.

DC power
When the DC icon is lit, the ventilator is operating on
a DC power source. For instance the Breas external
EB 2 battery pack.

Internal battery
When the internal battery icon is lit, the ventilator is
operating on it's internal battery. The battery level is
shown in the icons in 4 stages.
When running the ventilator without an internal
battery, the battery icon will be displayed crossed
over.
Refer to the clinician's manual for instruction on how
to handle the battery.
Alarms which has occurred on the ventilator are displayed in order of appearance in the
alarm panel in the upper right side of the page.
When an alarm audio sound is activated, it can be paused by pressing the **Audio pause**
button.

Audio pause

ℹ️ A dialog will appear when an alarm occurs during an ongoing online session, if you
have left the remote control tab.

Graph

The graph data is sampled with approximately a 20Hz sample rate. The graph panel
contains the following data from a session:

- Pressure
- Calculated patient flow
- Volume
- Leakage

See section 2.5 Graphs on detailed description about handling a plot panel.

Remote Control Log

[Clinical Mode Only]

11.1 Therapy

In the therapy section the sessions created through online recording can be viewed and analysed.

Sessions

In the sessions frame the patient's different sessions will appear. Sessions can be selected one at a time. See section 2.6 Sessions Panel on a detailed description about handling a sessions window.

Settings at marker

The panel settings at marker displays the settings where the time position marker is placed. See section 2.5 Graphs on detailed description about handling the marker.

i The way setting changes are recorded in the ventilator log results in a possible difference from the actual time up to about 10 seconds.

Graph

The graph panel contains the following data from an online recording session:

- Events — You can see the following alarms and events as they occur: Mask off, High pressure alarm, Low pressure alarm, Low volume alarm, High breath rate alarm, Low breath rate alarm.
- Pressure — In the pressure graph you see sampled data of the pressure as measured in the ventilator.
- Flow — In the flow graph you see sampled data of the flow as measured in the ventilator. The leakage is subtracted in the calculated patient flow.
- Volume — In the volume graph you see sampled data of the volume as measured in the ventilator.
- Leakage — In the leakage graph you see sampled data of the leakage as measured in the ventilator.

See section 2.5 Graphs on detailed description about handling a graph panel.

![icon] Remote Control Log

[Clinical Mode Only]

11.2 Data Summary

In the data summary section you can view the summary of one or more selected sessions created through online recording.

Sessions

In the sessions panel the patients different sessions will appear. See section 2.6 Sessions Panel on a detailed description about handling a sessions window.

Summary of records for

In this panel calculated values from the selected sessions in the **session** panel will be presented. Average values of the mesurements from all selected sessions are calculated in the **Average** column. The average value is not balanced, meaning that it doesn't consider the time length of the selected sessions. If '---' appears in the value field it means the value can not be calculated from the data in the log.

Average
11.40
4
10
10
0.417
1.14

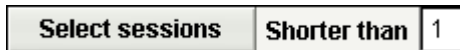# Remote Control Log

[Clinical Mode Only]

11.3 Edit Sessions

On this page sessions from online recordings can be handled.
See section 2.6 Sessions Panel on detailed description about handling the session panel.
In the sessions section you can alter the sessions with the following buttons:

- Delete sessions

The sessions selected will be deleted. Whole logs can also be deleted by selecting the yellow folder and pressing the button.

Delete sessions

- Select sessions

Choose an integer value for the maximum time in seconds. After clicking the select sessions button, all sessions shorter than the maximum value will be selected.
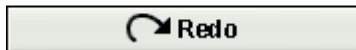
Select sessions | **Shorter than** | 1

- Merge sessions

Two or more selected sessions adjacent in time will be merged. The resluting merged session will be represented by a blue double file icon.

Merge sessions

- Split sessions

The selected merged sessions will be split into their original lengths.
When a merged session has been split, the first (top) session of the previously merged sessions is the one shown in the graph panel.

Split session

- Undo and Redo

If sessions have been deleted, merged or split, it is possible to undo and redo these operations. Use the buttons to the right.

↶ Undo

↷ Redo

⚠ **When the file is saved, the undo and redo memory is cleared.**

Graph

The graph panel contains the following data from a session:

- Events
- Pressure

See section 2.5 Graphs on detailed description about handling a graph panel.