

User Manual

NanoVi[®] Wellness Devices

Household Device

Eng3 Corporation

English

M004W-rev18

eng3

Life Science Technology

eng3

NanoVi®
Wellness Eco



NanoVi®
Wellness Pro



NanoVi®
Wellness Exo



User Manual

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M004W-rev18

eng3

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1 Device Description

The process that takes place within the NanoVi® Wellness device occurs in three steps:

1. Creation of a continuous air stream by sucking in ambient air.
2. Humidification of the air stream, enriching the air stream with water molecules.
3. Generation of specific electromagnetic energies/wavelengths/signals that are highly absorbable by water molecules.

The NanoVi® Wellness device is designed to assist the natural process of creating ordered water layers (EZ Water) on proteins. NanoVi® Wellness devices expose the humidified air stream to specific wavelengths. These wavelengths also include wavelengths that are similar (= bioidentical) to the emitted wavelengths of the reactive oxygen species (ROS) that occur in the water of cells. The wavelengths / signals from the NanoVi® Wellness are emitted to water in a humidified air stream, which strengthens the coherent domains of the water molecules, and which are then transmitted to the user via the humid air stream.

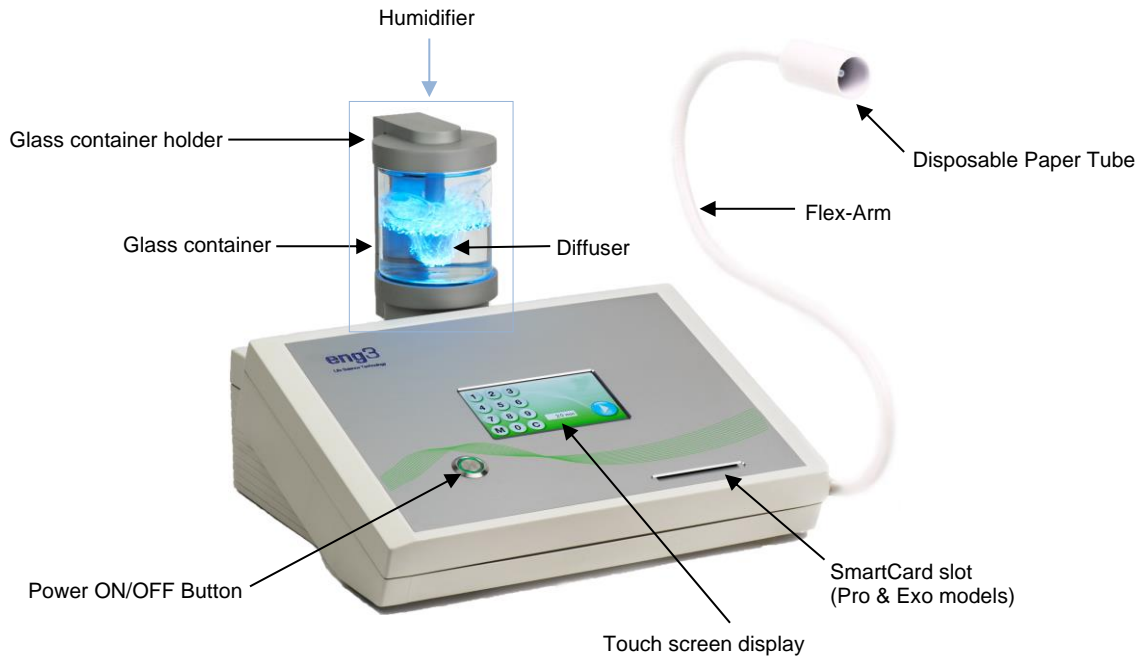


Fig. 1.1: Front view of the NanoVi® Wellness Exo device

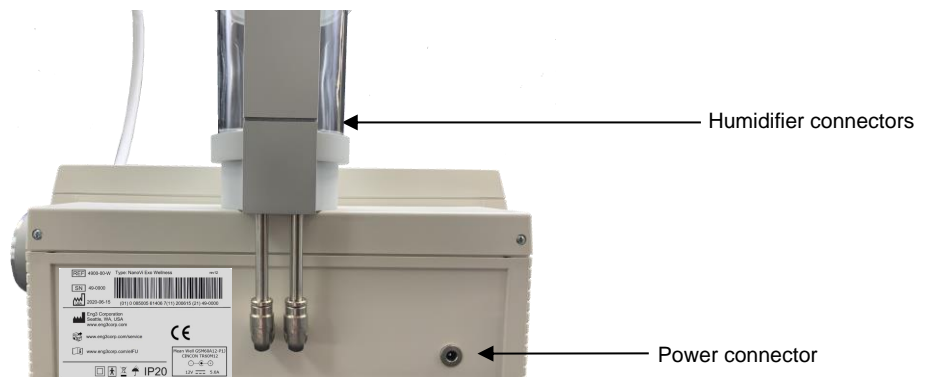


Fig. 1.2: Back view of the NanoVi® Wellness device

The NanoVi® Wellness device has a universal power supply and is plugged into a standard power outlet, 110V to 220V.

The external power supply provides isolation from supply mains. Do not position the equipment so that it is difficult to operate or connect the external power supply.








4340-00		<p>Power Supply: C8 (2-prong), 110-220V for: For Power Cord with C7 (2-Prong) </p> <p>The 2-prong Power Supply is the standard power supply used with NanoVi and NanoVi Wellness devices</p>
4350-00 4350-10 4350-20 4350-30	<p>Power Cord C7: to 2-prong 6.5 ft. (2.0m)</p> <p>Type A Type C Type G Type I</p>	    <p>Type A (US, CA, Mexico, Japan) Type C (EU, Asia, Israel, South America) Type G (UK, Malaysia, Singapore) Type I (AUS, New Zealand)</p>
4350-60	<p>Power Cord C7: to 2-prong 6.5 ft. (2.0m)</p> <p>Type A-CH</p>	 <p>Type A-CH (China)</p>

Figure 1.3: Power supplies and power cords

1.1 Intended Use

The NanoVi® Wellness device is intended for use by adults, or under the supervision of adults, to provide humidified air without heating for inhalation by the user. The state of water NanoVi® Wellness humidified air ultimately increases the exclusion zone, also known as the order of water (ordered water) on surfaces around small particles.

The NanoVi® Wellness device may be used in a home use environment, including offices, spas, sports, and healthcare facilities.

2 Contraindications

There are no contraindications to report with the use of the NanoVi® Wellness device.

3 Possible Side Effects


No side effects are attributable to the use of the NanoVi® Wellness device.

4 Precautions

Read the User Manual carefully before using the NanoVi® Wellness device for the first time.

- Refer to the User Manual whenever questions or uncertainties arise with respect to correct handling of the NanoVi® Wellness device.
- Before use, make sure that the water level in the container is between the maximum and minimum levels marked on the container. Never fill above the maximum level as a higher level could cause water drops to enter the tubing.
- Change the water in the glass container regularly. At least once a day if there are multiple users and at least once a week or every five hours of use for individual users. Use only distilled, purified or osmotic water. Normal water could cause chalky deposits in the diffuser and the glass container.
- Never use the device if any part of the humidifier is damaged. A defect can cause leakage and penetration of water into the inner parts of the device. Contact your retailer to purchase a replacement.
- Protect the NanoVi® Wellness device from extreme temperatures and moisture during operation or storage. These conditions can damage internal components.
- The device should only be used on a stable surface. The NanoVi® Wellness device should not be used during transport.
- The outside surfaces of the system are not a source of potential allergic reaction.
- The effects of lint, dust, and light (including sunlight) will not adversely alter or affect system performance.
- The user is not required to access small parts during normal use of the system. Multiple disassembly steps are required to access small parts, and they therefore are not easily accessible to children and pets. The system is not susceptible to damage or

access by pests; the power cord is medical grade.

- The power supply cord is medical grade and of standard length (2m). It is easily detached from the system to minimize entanglement.
- This product is not designed for use on an unconscious USER (unresponsive to stimuli). If the USER is unresponsive to stimuli do not use this product.
- This product is not designed for use in Oxygen-rich environments. Do not use in or near Oxygen-rich environments.
- This product meets basic safety requirements and does not introduce additional hazards used in a home healthcare environment
-  However, this product is not water or drip resistant and should be kept dry. Do not use in wet environments or areas that may have splash or drip issues
- Spilling water on the device may be hazardous and may damage the device. Do not spill water on the device.
- No modification of this equipment is allowed. Any changes could cause harm or increase hazard for the OPERATOR or the USER. The warranty is void if any modification is made to this equipment.
- Do not carry the device with the humidifier installed. The humidifier is not secured to the device and could fall and cause injury to the OPERATOR, USER, or another person or animal, or could damage other objects or surfaces.
- Do not connect or attach any item that is not specified as an attachment by the manufacturer.

The product is intended to be operated within the following environmental conditions:

- a temperature range of 59°F (15°C) to 104°F (40°C);
- a relative humidity range of 15 % to 90 %
- vapor partial pressure greater than 50 hPa; and
- atmospheric pressure range of 700 hPa to 1060 hPa.

The product is intended to be stored and transported within the following environmental conditions:

- -13°F (-25 °C) to 104°F (40°C), and
- 41°F (5 °C) to 95°F (35 °C) at a relative humidity up to 90 %
- 95°F (35 °C) to 158°F (70 °C) at a water vapor pressure up to 50 hPa
- atmospheric pressure range of 700 hPa to 1060 hPa.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

4.1 Device and Accessory Precautions

- If the power cord is damaged or the casing of the power supply is cracked or damaged in any way, DO NOT USE IT.
- Always use the power supply (power adapter) provided by Eng3. Operation is restricted to 12V DC at the device input. If the original power adapter is defective or lost, only replace it with a power supply provided by Eng3. Power supply must be an IEC 60601-1 compliant power supply. Use of any other supply is prohibited.

5 Initial Set Up

5.1 Unpacking Device & Accessories

1. Inspect shipping box for damage upon arrival. Contact your retailer immediately if the box is damaged.
2. Unwrap the NanoVi® Wellness device carefully and keep the original packing materials for future transportation of the device.
3. Place the NanoVi® Wellness device on a flat, clean surface, such as a table.
4. Unpack all accessories and place them beside the device.

5.2 Set Up

There are no special tools or materials required for setup other than distilled, purified or osmotic water to clean and fill the glass container. The user who receives treatment is the USER and when they also operate the device, they are considered the OPERATOR and SERVICE PERSONEL.

Do not connect or attach any item that is not specified as an attachment by the manufacturer.

This product is not meant to be used in temperatures below 59°F (15°C) or temperatures exceeding 104°F (40°C).

Follow these steps to set up your device:

1. Use indoors, away from wet/splash/drips, between 59°F (15°C) to 104°F (40°C).
2. Place the NanoVi® Wellness device on a clean, solid surface.
3. Rinse glass container using distilled, purified or osmotic water.
4. Fill the container with distilled, purified or osmotic water. Make sure the water is between the maximum and minimum filling levels on the container.



Fig. 5.1: Correct water levels (between min and max)

Correct water level, between minimum and maximum lines.



Fig. 5.2: Incorrect water levels (not between min and max)

Wrong water level because it is above the maximum line. This would cause water to come out of the FlexArm.

Fill water at least to the minimum filling level as indicated on the container. Adequate air humidification depends on the amount of available water. (Figure 5.1)

Do not fill the container with more water than the maximum filling level indicates, as water drops or water may enter the tube system or device. (Figure 5.2)

5. Screw the glass container into the glass container holder by hand.
6. Insert humidifier into the fitting on the top of the device, at the back. The connecting tubes protruding from the humidifier slide down into the device as shown in Figure 5.3.

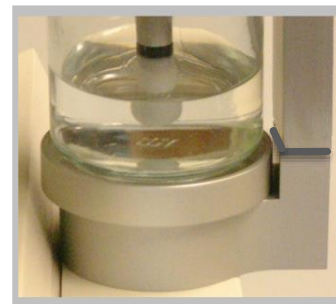
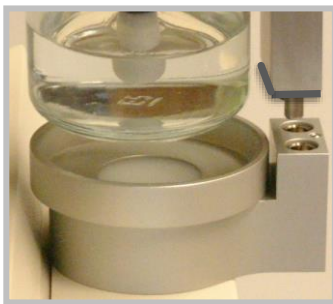


Fig. 5.3: Inserting humidifier into the device

Only insert the humidifier with the glass container facing the front of the device. The glass container must be aligned with the circular metal component on top of the device. Inserting the humidifier in any other position, could injure the USER or damage the device.

Do not tip the container when container is filled with water, as water may enter the tube system or device.

Confirm that there is a proper connection between the humidifier and the device.

Do not force the humidifier into the device; it will fit firmly.

7. Connect the power cord to the power supply. Plug the power supply into the NanoVi® Wellness device. Note Figure 1.2 to locate the power connector on the back of the device. Plug the power cord into an electrical outlet.

The NanoVi® Wellness device is now ready for operation.

6 Operating Instructions

6.1 General Use

The process that takes place within the NanoVi® Wellness device occurs in three steps:

1. Creation of a continuous air stream by sucking in ambient air.
2. Humidification of the air stream, enriching the air stream with water molecules.
3. Generation of specific electromagnetic energies/wavelengths/signals that are highly absorbable by water molecules.

The NanoVi® Wellness device is intended to be used on a flat surface. The device may be moved on a cart with the humidifier installed but should never be carried with the humidifier installed because it could fall off and do damage. The USER can be standing, sitting, or lying down. The Flex-Arm bends following its natural curvature and should be positioned for comfort. The Paper Tube should be positioned 1-3 inches (2-8 cm) away from the nose as show in in Fig. 6.1



Fig. 6.1: Use of the Flex-Arm with attached Paper Tube

6.2 Use of Flex-Arm

NanoVi® Wellness devices come with an installed Flex-Arm, as shown in Fig. 6.2.

Place one of the disposable paper tubes that come with the device onto the end of the arm and push it on to fit snugly.

Gently pull the Flex-Arm towards your face. The end of the paper tube should be in front of you mouth/nose area, 1-3 inches (2-8 cm) away, as shown in Fig. 6.3. The Flex-Arm can be moved and repositioned for comfort but must not be bent sharply. It is important to be sitting or lying still and to have the Flex-Arm correctly positioned so that you are inhaling the output from the device.

Paper tubes are single person use items. Paper tubes can be used multiple times per person.



Fig. 6.2: NanoVi® Wellness Pro Device

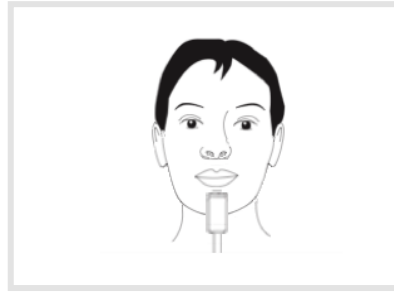


Fig. 6.3: Flex-Arm use

Do not try to bend the Flex-Arm into sharp angles.

Do not move or attempt to lift the device by pulling on the Flex-Arm.

6.3 Power On

Press the large button on the front panel of the device to turn the power on. The power button will illuminate with a green circle and the touch screen display will automatically start with a self-test. Once the device is ready, the screen will display standard user options. Pressing the power button at the end of a session will turn the device off. If you do not turn the device off and it is not used for 15 minutes, it will turn itself off.

6.4 Touch Screen Interface

The touch screen is operated by lightly touching it with a finger. If necessary, a soft blunt object could be used to operate the touch screen. Hard or sharp objects should never be used.

A light vibration occurs each time you press a button, which indicates that your input was registered through the touch screen.

The use of hard or sharp objects to operate the touch screen could result in damage to the device.

6.5 Application Schedule

There is no potential for the device to harm you, even from frequent use, especially once you get used to it. The device can be used for many hours a day if desired to incorporate in your daily life.

Importance of the different power levels of the different NanoVi® Wellness devices regarding the session time: The NanoVi® Wellness Exo device is twice as powerful as the NanoVi® Wellness Pro device and the NanoVi® Wellness Pro device is twice as powerful as the NanoVi® Wellness Eco device. As a result, a chosen session time for example of 15 minutes with the Exo device is similar to 30 minutes with the Pro device, or 60 minutes with the Eco device.

It is recommended that users start using the device in short increments of time, in order to become familiar with the operation of the NanoVi® Wellness Exo NanoVi® Wellness Pro, and NanoVi® Wellness Eco.

6.6 Lights Illuminating the Glass Container

This lighting has no bearing on the USER'S treatment and can be set to any preference as needed.

The lights illuminating the glass container are adjusted in the "Color Selection"-Screen (Fig. 6.4). This screen is accessed by touching the Color Wheel button. The Color Wheel button is available in several screens when a session is started.



The default light setting is blue. This can be changed to a different color or to a transition of colors. The device keeps running while you are in the “Color Selection”-Screen (Fig 6.4) so you can see the effect of any changes before leaving the screen. The Screen shows the color options available. Touch a circle to select a color. Pressing the white circle eliminates the color but leaves the water illuminated.

The *Brightness Level* is adjusted by pressing the *Sun* or the *Moon* symbol. To turn the lights off, press the *Moon* symbol until the illumination disappears. The orange *Brightness Level bar* will be all the way to the left.

Start the *Color Transition* (rotation) by pressing any part of the *Color Transition bar*. The color transition speed is selected by pressing the *Slow Wave* or *Fast Wave* symbol.

Stop the colors from changing by pressing any individual color circle.

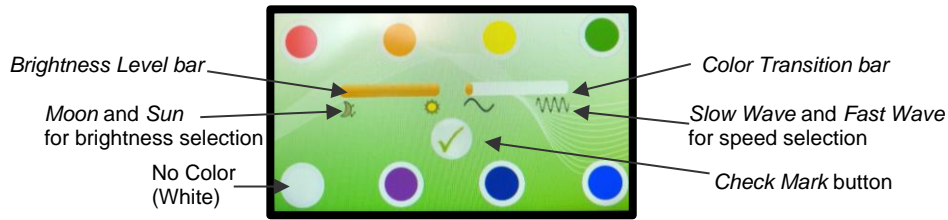


Fig. 6.4: “Color Selection”-Screen

Once you have selected your preferences, press the *Check Mark* button near the middle of the screen (Fig. 6.9). This saves the settings and takes you to the “Start”-Screen to start your session.

6.7 Session Running

When a session is started you will hear a quiet humming sound, see bubbles in the glass container, and, if the lights are turned on, see the illumination of the water in the glass container.

If the water is bubbling, the device is operating correctly. If it is not bubbling, check to make sure the humidifier is correctly seated in the back of the device and that the glass container is firmly screwed into the glass container holder. Correctly seating the humidifier also minimizes the noise.

7 Operating without Smartcards: *Standard-Mode* only

All the NanoVi® Wellness devices can be operated without SmartCards. This operation is called *Standard-Mode*.

In *Standard-Mode* everyone has access to sessions of any duration.

Once the device is turned on, the initial “Splash”-Screen (Fig. 7.1) appears. A self-test runs for 10 seconds with progress shown by the bar at the bottom of the screen.



Fig. 7.1: “Splash”-Screen

Upon completion of the self-test, the “Start”-Screen (Fig. 7.2) appears allowing you to enter the number of minutes for the session time. Enter the desired session time by touching the appropriate numbers on the touch screen. The minutes are shown in the session time display in the center of the screen.

Touching the “C” clears a number that has been entered, allowing you to change your input. The “M” on the “Start”-Screen lets you save the session time in the memory of the device as the default session time for future sessions, unless changed again.

Once the session time is entered, touch the blue start button to begin the session.

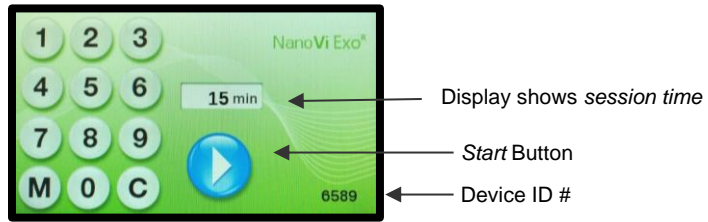


Fig. 7.2: "Start"-Screen in Standard Mode

The *Start* Button starts the session, and the "Session in Progress"-Screen (Fig. 7.3) is shown. *Rotating dots* to the left indicate that a session is in progress. The *session time* display counts down the minutes and seconds remaining in the session.

Pause Button interrupts a session (Fig. 7.3) and changes the screen to "Session Paused"-Screen (Fig. 7.4). Pressing the *Start* Button again resumes the session.

Stop Button terminates a session at any time. Stopping the session takes you back to the "Start"-Screen (Fig. 7.2).

The device will automatically turn off after 15 minutes when a session is not in progress.



Fig. 7.3: "Session in Progress"-Screen in Standard-Mode



Fig. 7.4: "Session Paused"-Screen in Standard-Mode

8 Operating with SmartCards

The Owner Card can be used by the device owner to access the four "Administration"-Screens.

Insert Owner Card when the monitor shows the self-test is finished in the Initial "Splash"-Screen and the monitor has changed to one of the three "Start" Screens for *Standard-Mode* (Fig. 7.2), for *Infinity-Mode* (Fig. 8.4) or the "User Card Request"-Screens (Fig. 8.7) for one of the two *User-Card-Modes*.

When inserted, it shows the first "Administration"-Screen, the "Mode Setting"-Screen (Fig. 8.1). In this screen you can select an Operation Mode, set device preferences, show the rent time (number of minutes of use), and allows you to reset the rent time by pressing the Reset rent time button.

Pressing the "Page down" button will show the second "Administration"-Screen, the "Programming"-Screen (Fig. 8.16) for User Cards. Pressing the "Page up" button will bring you back.

8.1 Owner Card

The Owner Card can be used by the device owner to access the four administration screens.

Insert Owner Card when the monitor shows the self-test is finished in the "Initial Splash Screen" and the monitor has changed to one of the three "Start Screens" for Standard Mode (Fig. 7.2), for Infinity Mode (Fig. 8.4) or the "User card Request Screen" (Fig. 8.7) for the two User Card Modes (Fig. 8.7, Fig. 8.11).

When inserted, it shows the first administration screen, the "Mode Setting"-Screen (Fig. 8.1). In this screen you can select an Operation Mode, set device preferences, show the rent time (number of minutes of use), and allows you to reset the rent time by pressing the Reset rent time button.

Pressing the "Page down" button will show the second administration screen, the "Programming"-Screen for User Cards. Pressing the "Page up" button will bring you back to an "Start"-Screen.

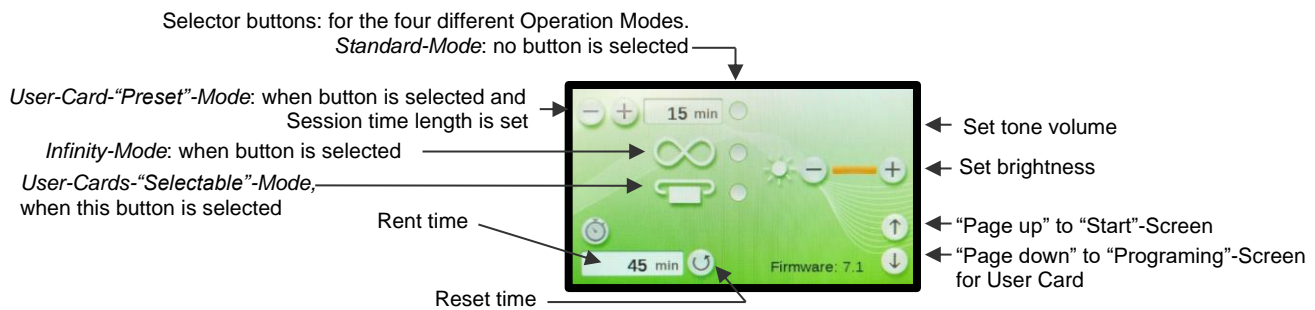


Fig. 8.1: "Mode Setting"-Screen with Owner Card

8.2 Setting Preferences with the Owner Card

Adjust the *brightness* - of the screen by pressing the appropriate "+" or "-" symbols. It is not possible to turn the screen off completely by repeatedly pressing the "-" button.

8.3 Setting Operating Modes

With the Owner Card inserted, the first "Administration"-Screen allows you to set the Operation Mode. It can be operated in four different ways: *Standard-Mode*, *Infinity-Mode*, *User-Card-"Timer"-Mode*, and *User-Card-"Preset"-Mode*.

8.3.1 Standard-Mode: Select with the Owner Card and operate without User Card

Selecting: Standard-Mode

To select *Standard Mode*, all three buttons must be deselected, so that no orange dot appears, as shown to the right. Press the buttons to toggle between orange dot and no dot.

When all the mode selector buttons are blank, press the “Page up” button to switch to the “Start”-Screen in *Standard Mode* (Fig. 7.2). Take out the Owner Card.

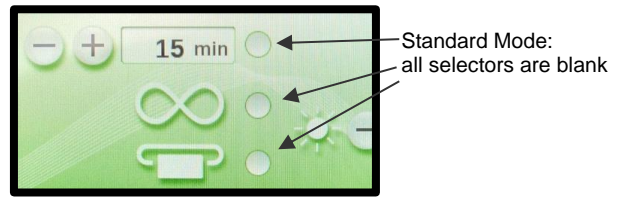


Figure 8.2: Select 'Standard Mode'

Operating: Standard Mode

To operate in *Standard-Mode* the device does not require a User Card. The device operates as described in Section 7, Operating in *Standard-Mode*.

To operate in *Standard-Mode* make sure that all the mode selector buttons are blank and press the “Page up” button to switch to the “Start”-Screen in *Standard-Mode* (Fig. 7.2). Take the Owner Card out.

8.3.2 Infinity-Mode: Select with the Owner Card and operate without User Card

Selecting: Infinity-Mode

To select the *Infinity-Mode*, the middle button must show an orange dot in the “Mode Setting”-Screen (Fig. 8.3). Press button to toggle between orange dot and no dot.

When the *Infinity-Mode* Button is orange, press the “Page up button” to switch to the “Start”-Screen in *Infinity-Mode* (Fig. 8.4). Take the Owner Card out.

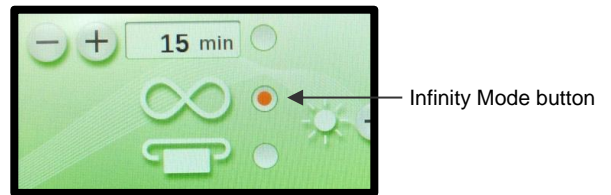


Fig. 8.3: "Infinity-Mode" is selected

Operating: Infinity-Mode

To operate in *Infinity-Mode* the device does not require a User Card.

Start a session by pressing the *Start* Button and the screen will change in to the “Infinity-Session in Progress”-Screen (Fig 8.5). The timer counts and displays the total time that the session is running. The device remains on until the *Pause* or *Stop* Button is pressed.

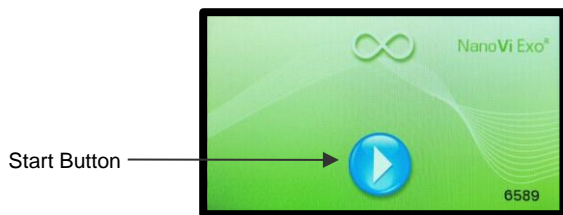


Fig. 8.4: "Start-Infinity"-Screen in *Infinity-Mode*



Fig 8.5: "Infinity-Session in Progress"-Screen in *Infinity-Mode*



Fig 8.5.1: "Infinity-Session in Pause"-Screen in *Infinity-Mode*

8.3.3 User-Card-"Timer"-Mode: Select with Owner card and operate with User Card

Selecting: User-Card-"Timer"-Mode

To select the *User-Card-"Timer"-Mode*, the lower button must show an orange dot. Press the button to toggle between orange dot and no dot.

When the mode selector button is orange (Fig. 8.6), press the button "Page up" to switch to the "User Card Request"-Screen. Take the Owner Card out.

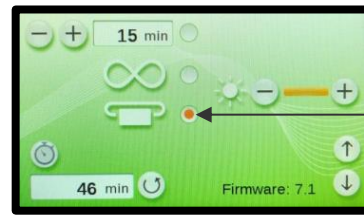


Fig. 8.6: *User-Card-"Preset"-Mode* is selected

Operating: User Card Timer Mode

To operate in *User-Card-"Timer"-Mode* the device requires a User Card.

The "User Card Request"-Screen (Fig. 8.7) shows when a User Card is required.

A valid User Card must be inserted to operate the device.

If the User Card ID #, which is printed on the User Card, is not identical with the device ID#, the "Invalid User Card"-Screen (Fig. 8.7.1) will show.

When the valid User Card is inserted the "Start-Card"-Screen (Fig. 8.8) shows.

The number above the User Card symbol shows the number of minutes remaining on the User Card.

Enter the desired session time by using the number keypad, the minutes entered show in the display. Use "C" to clear entries.

Start the session by pressing the *Start Button*.

The session time will count down and minutes will be deducted from the User Card.

Pause or stop session at any time by pressing the corresponding blue button in the "Card-Session in Progress"-Screen (Fig 8.9).

Restart sessions or stop session at any time by pressing the corresponding blue button in the "Card-Session in Pause"-Screen (Fig 8.9.1).

Stopping the session takes you back to the "Start-Card"-Screen (Fig. 8.8).

Remove the User Card when a session is finished. The screen will return to "User Card Request"-Screen (Fig. 8.7).

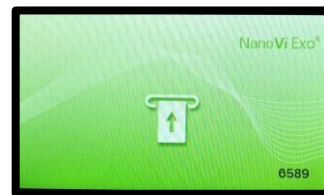


Fig. 8.7: "User Card Request"-Screen

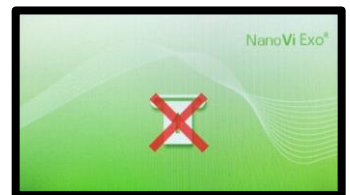


Fig. 8.7.1: "Invalid User Card"-Screen

Device ID#

Shows balance of minutes on User Card



Fig. 8.8: "Start-Card"-Screen in *User-Card-"Selectable"-Mode*

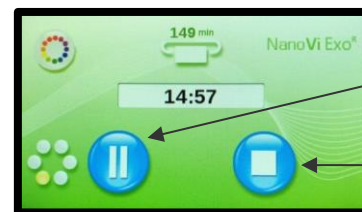


Fig. 8.9: "Card-Session in Progress"-Screen in *User-Card-"Selectable"-Mode*

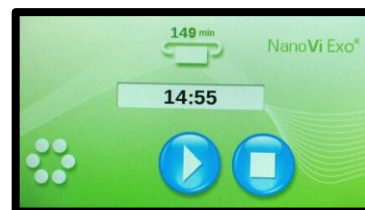


Fig. 8.9.1: "Card-Session in Pause"-Screen in *User-Card-"Selectable"-Mode*

8.3.4 User-Card-“Preset”-Mode: Select with the Owner Card and operate with User Card

The device can be set up with a predetermined session time. In this case the session time cannot be freely chosen, only shortened, or paused.

Selecting: User-Card-“Preset”-Mode

To select the *User-Card-“Preset”-Mode*, the top and the lower selector buttons must show an orange dot. Press button to toggle between orange dot and no dot (Fig. 8.10).

When the two mode selector buttons are orange, press the “Page up” button to switch to the “User Card Request”-Screen (Fig. 8.11). Take the Owner Card out.

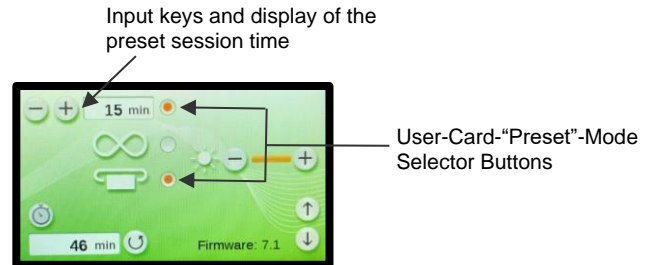


Fig. 8.10: Selected Mode: *User-Card-“Preset”-Mode*

Operating: User-Card-“Preset”-Mode

To operate in *User-Card-“Preset”-Mode* the device requires a User Card.

The “User Card Request”-Screen (Fig. 8.11) shows when a User Card is required.

A valid User Card must be inserted to operate the device.

If the User Card ID #, which is printed on the User Card, is not identical with the device ID#, the “Invalid User Card”-Screen (Fig. 8.11.1) will show.

When a valid User Card is inserted the “Start-Card”-Screen (Fig. 8.12) shows. The number above the User Card symbol shows the number of minutes remaining on the User Card.

In *User-Card-“Preset”-Mode* the session time cannot be modified. The display shows the pre-set session time.

Start the session by pressing the *Start* Button. The session time will count down and minutes will be deducted from the User Card.

Pause or stop session at any time by pressing the corresponding blue button in the “Card-Session in Progress”-Screen (Fig 8.13).

Restart sessions or stop session at any time by pressing the corresponding blue button in the “Card-Session in Pause”-Screen (Fig 8.13.1).

Stopping the session takes you back to the “Start-Card”-Screen (Fig. 8.12).

Remove the User Card when session is finished. Screen will return to the “User Card Request”-Screen (Fig. 8.11).



Fig. 8.11: “User Card Request”-Screen (for reference only; identical to Fig. 8.7) Fig. 8.11.1: “Invalid User Card”-Screen (for reference only; identical to Fig. 8.7.1)

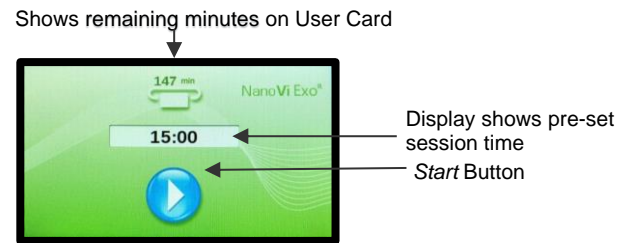


Fig. 8.12: “Start-Card”-Screen in *User-Card-“Preset”-Mode*



Fig. 8.13 “Card-Session in Progress”-Screen in *User-Card-“Preset”-Mode*



Fig. 8.13.1 “Card-Session in Pause”-Screen in *User-Card-“Preset”-Mode*

8.4 Programming User Cards

The Owner Card is used to program minutes onto the User Cards or delete minutes from the User Card. The Owner Card, the User Card, and the device must have the same ID#.

The maximum number of minutes a User Card can be programmed to is 9,999 minutes. The User Card can be programmed or reprogrammed as often as required.

Insert the Owner Card. The first "Administration"-Screen will appear, the "Mode setting"-Screen (Fig. 8.14).

Press the Page down button to go to the second "Administration"-Screen, the "Switch to User Card"-Screen (Fig. 8.15).

The screen shows the input keypad and the User Card Request Indicator prompting you to enter a User Card.

If the User Card ID #, which is printed on the User Card, is not identical with the device ID#, the "Invalid User Card"-Screen (Fig. 8.15.1) will show.

Remove Owner Card and insert a valid User Card. This will bring up the third "Administration"-Screen which is the "Programming"-Screen (Fig. 8.16).



Page down button goes to "Programming"-Screen

Fig. 8.14: "Mode Setting"-Screen with Owner Card (for reference only; identical to Fig. 8.1)

Symbol: User Card Request Indicator



Fig. 8.15: "Switch to User Card"-Screen

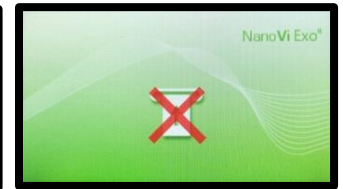


Fig. 8.15.1: "Invalid User Card"-Screen (for reference only; identical to Fig. 8.11.1)

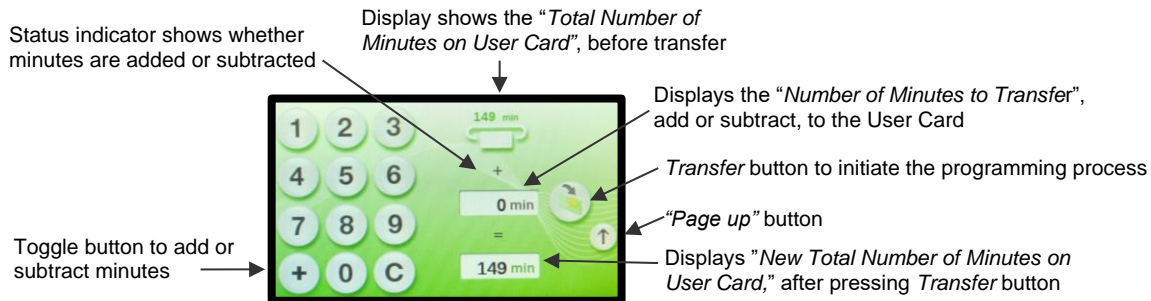


Fig. 8.16: "Programming"-Screen

The screen shows the input keypad with a "C" button to clear an entry and the "-" or "+" button. Pressing the *Transfer* button toggles between adding or subtracting minutes to the User Card. The toggle status of the transfer is shown below the display of the "Total Number of Minutes on User Card".

The top display shows the "Total Number of Minutes on User Card", before transfer, on the inserted User Card. With the keypad, choose the "Number of Minutes to Transfer", by adding or subtracting to the "Total Number of minutes on User Card".

The display on the bottom shows the "New Total Number of minutes that will be on the User Cards, after the *Transfer* button is pressed.

After pressing the *Transfer* button, the transfer is initiated, and the top display shows the updated "Total Number of Minutes on the User Card".

When the transfer is complete, the "Number of Minutes to Transfer" is kept for repeat programming in the display. The bottom display shows the "New Total Number of minutes on User Card", if the *Transfer Button* was pressed.

After removing the programmed User Card, the screen changes back to the "Switch to User Card"-Screen (Fig. 8.15). For repeat programming, the next User Card can be inserted. If the "Number of Minutes to Transfer" is kept, the same number of minutes can be transferred to the next User Card right away. To change the minutes, the "C" button is used to clear the previous entry for new keypad input.

After programming the last User Card press the "Page up" button until one of the three Start Screens: for *Standard-Mode* (Fig. 7.2), for *Infinity-Mode* (Fig. 8.4) or the "User Card Request"-Screen (Fig. 8.7) for the *User Card Modes*.

9 Use with Accessories

9.1 Transportation Case

Transportation Case for NanoVi® Wellnes Device

1: The NanoVi® Wellness Transportation Case is a custom-fitted hard-shell case.

The case is suitable for checked baggage on airplanes. The outer dimension may allow it to be taken as a carry-on but this depends on size restrictions of each airline.



2: The NanoVi Wellness device and necessary accessories fit in custom-designed openings.

The humidifier will leak if water is left in the glass container during transportation. Simply switch the extra glass container with the container that has water and tighten the lid for transport.

The NanoVi Wellness device can remain in the transportation case during operation.



3: The case has two wheels and a pullout / retractable handle.

The case offers the possibility to be locked (lock not included).



No special handling measures are necessary for transport or storage.

Dimensions:

Length: 22.5" (57 cm)

Width: 15" (38 cm)

Height: 9" (23 cm)

Weight with device and accessories: 25 lb. (11 kg)

(Weight varies slightly depending on numbers of paper tubes you travel with)

10 Cleaning Instructions

Water in the NanoVi® Wellness device should be changed at the end of each day when used by multiple users. A single user should change the water at least once a week or every five hours of use, whichever comes first.

Do not perform cleaning, servicing, or maintenance when the device is in use. Only perform cleaning, servicing, or maintenance when the device is powered off and not in use.

Device

Clean the outside of the NanoVi® Wellness device with a moist soft cloth, never use more than a mild detergent. Multiple cleanings with this method will not affect the device.

Do not clean with solvents. Solvents are aggressive liquids that could corrode and thereby destroy the surface of the device and the touch screen display.

Humidifier (Glass Container, Glass Container Holder and Diffuser - see Section 1)

The humidifier must be removed from the device by pulling it straight up. The glass container is then unscrewed from the glass container holder.

Do not attempt to unscrew the glass container while the Humidifier is still inserted in the device.

The glass container must be replaced if it is chipped or fractured. The glass container should be inspected for damage every 10 hours of use.

After 10 hours of use the glass container should be cleaned then rinsed with clean, distilled, purified or osmotic water. It can be cleaned in a dishwasher but should be rinsed with clean, distilled, purified or osmotic water.

The diffuser should be rinsed with clean, distilled, purified or osmotic water. It cannot be cleaned using a dishwasher.

The diffuser must be replaced every 12 months. Additionally, if water residue (such as calcareous deposits) is detected on the diffuser, it should be replaced. Contact information for reordering can be found in Section 18.

Cleaning solution may be harmful and should not be used.

11 Maintenance

The NanoVi® Wellness device requires no special maintenance. The USER can only perform the following maintenance:

















- Renew the humidifier water.
- Replace the diffuser.
- Replace the Paper Tubes
- Clean the device and the parts listed in Section 10.

12 Storage

For long-term storage prepare the NanoVi® Wellness device as follows:










1. Pull the plug of the Power Supply out of the NanoV® device.
2. Disconnect the Power Cord from the electrical outlet.
3. Remove the humidifier from the back of the device and empty the water.
4. Clean all parts according to Section 10.
5. Place cleaned device and accessories in their original boxes (optional).
6. Place sealed box in a dry, safe place that is free from the possibility of accidentally falling.

13 Explanation of Symbols

<u>Symbol</u>	<u>Title</u>
	Direct Current Symbol
	Class II Electrical Equipment
	Type BF Applied Part
 www.eng3corp.com/elfu	Operating Instructions available on shown website
	"ON" / "OFF"
	Article Number
	Serial Number
	Manufacturer
	Date of Manufacture
	Keep Dry
IP20	Protected against solid foreign objects of 12,5 mm Ø and greater
	Center Pin Positive
	Owner of waste electronic equipment must recycle these separately from the unsorted municipal waste
	Recycle Packing Material
	Trash
CE	CE marking is an administrative marking that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area
	Authorized Importers
	Authorized Distributors

14 Disposal of NanoVi® Wellness Device and Parts

Follow local governing ordinances and recycling plans regarding the recycling or disposal of the equipment. Refer to the Technical Specifications in Section 16 for the materials of the main components for reference for sorting parts for disposal.

Devices		Disposal
4650-00	NanoVi® Wellness Eco	
4800-00	NanoVi® Wellness Pro	
4900-00	NanoVi® Wellness Exo	
Accessories		
4300-00	Glass Container	
4370-00	Holder with Glass Container	
4340-00	Power Supply Input / Output	
4350-00	Power Cord 2-Prong, 6 ½ ft. (2 m)	
-10	Power Cord 2-Prong, 6 ½ ft. (2 m)	
-20	Power Cord 2-Prong, 6 ½ ft. (2 m)	
-30	Power Cord 2-Prong, 6 ½ ft. (2 m)	
-60	Power Cord 2-Prong, 6 ½ ft. (2 m)	
4530-00	User Manual	
4540-00	Concise User Manual	
Consumables		
4310-00	Diffuser for Humidifier	
4400-00	Paper tube	
Optional Accessories		
4200-00	Transportation Case	
Consumables		
4510-00	User Smartcard	
4510-00	Owner Smartcard	
	Packing material	

15 Troubleshooting

15.1 Normal Operation

As soon as the NanoVi® Wellness device starts operation, the air pumps are switched on and the glass container is illuminated. At the same time the water starts to bubble and a humming from the air pumps can be heard.

If the pumps are not humming and the water in the humidifier is not bubbling, the air pumps are not working.

If the pumps are humming but the water in the container is not bubbling, the humidifier has not been correctly inserted into the device. Reseating the connection may resolve this problem. It is also possible that the glass container is not tightly screwed into the glass container holder. Note: Fig. 5.3 to see how the connection should be made.

If the pumps create little or no airflow, the effectiveness of the device is compromised. Refer to the error codes below or contact customer support.

15.2 Errors

If an error occurs, the "Error"-Screen (Fig. 15.1) is displayed. Note the error code number so that you can look it up in the table below. The contact number for your location will be displayed at: www.eng3corp.com/service

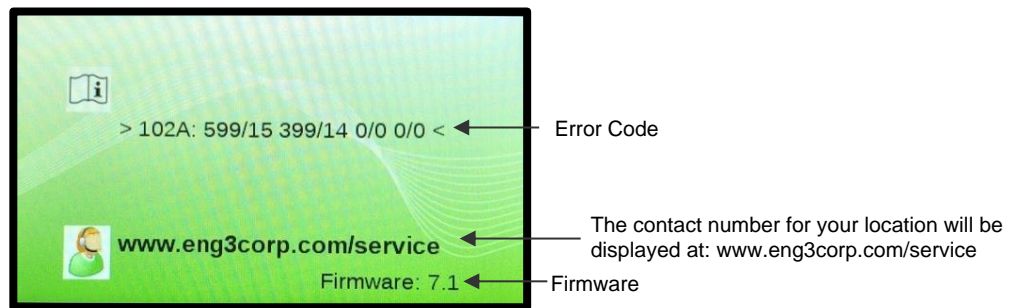


Fig. 15.1 "Error"-Screen

Error codes are below and should be given to Eng3 Customer Support when you call. Use the number of the error message screen to reach technical support for the NanoVi® Wellness device.

Code	Error Message
101P: xxx	Pump error
102A: xxx	Excitation unit LED error
103L: xxx	Lamp error

Table 15.1 Lookup table for error codes

16 Electromagnetic compatibility

16.1 Electromagnetic emissions


Guidance and manufacturer's declaration - electromagnetic emissions		
The NanoVi® Wellness is intended for use in the electromagnetic environment specified below. The customer or the user of the NanoVi® Wellness should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 2	The NanoVi® Wellness must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
RF emissions CISPR 11	Class B	The NanoVi® Wellness is suitable for use in all establishments, including domestic and medical establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

16.2 Electromagnetic immunity

Guidance and manufacturer's declaration - electromagnetic immunity			
The NanoVi® Wellness is intended for use in the electromagnetic environment specified below. The customer or the user of the NanoVi® Wellness should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 2 kV air ± 4 kV air ± 8 kV air ± 15 kV air	± 8 kV contact ± 2 kV air ± 4 kV air ± 8 kV air ± 15 kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines	± 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 0,5, 1,0 kV line(s) to line(s) ± 0,5, 1,0, 2 kV line(s) to earth	± 0,5, 1,0 kV line(s) to line(s) ± 0,5, 1,0, 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply	< 5 % U _T (> 95 % dip in U _T) for 0,5 cycle	< 5 % U _T (> 95 % dip in U _T) for 0,5 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the NanoVi® Wellness requires continued operation during power mains interruptions,

input lines IEC 61000-4-11	< 5 % U _T (> 95 % dip in U _T) for 1 cycle 70 % U _T (30 % dip in U _T) for 25 cycles < 5 % U _T (> 95 % dip in U _T) for 5 s	< 5 % U _T (> 95 % dip in U _T) for 1 cycle 70 % U _T (30 % dip in U _T) for 25 cycles < 5 % U _T (> 95 % dip in U _T) for 5 s	it is recommended that the NanoVi® Wellness be powered from an uninterruptible supply or a battery.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical commercial or hospital environment.
NOTE U _T is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration - electromagnetic immunity			
The NanoVi® Wellness is intended for use in the electromagnetic environment specified below. The customer or the user of the NanoVi® Wellness should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted FR IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	Portable and mobile RF communications equipment should be used no closer to any part of the NanoVi® Wellness, including cables, that the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = \frac{3.5}{3} \sqrt{P}$
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2,7 GHz	10 V/m	$d = \frac{3.5}{10} \sqrt{P}$ 80 MHz to 800 MHz $d = \frac{7}{10} \sqrt{P}$ 800 MHz to 2,5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).

			<p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency ^b.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol.</p> 
<p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structure, objects, and people.</p> <p>^a Field strengths from fixed transmitters, such as base stations for radios (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the NanoVi[®] Wellness is used exceeds the applicable RF compliance level above, the NanoVi[®] Wellness should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the NanoVi[®] Wellness.</p> <p>^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

16.3 Recommended separation distances

Recommended separation distances between portable and mobile RF communications equipment and the NanoVi [®] Wellness			
The NanoVi [®] Wellness is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user if the NanoVi [®] Wellness can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the NanoVi [®] Wellness as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = \frac{3,5}{3}\sqrt{P}$	80 MHz to 800 MHz $d = \frac{3,5}{10}\sqrt{P}$	800 MHz to 2,5 GHz $d = \frac{7}{10}\sqrt{P}$
0,01	0,12	0,035	0,07
0,1	0,37	0,11	0,22
1	1,2	0,35	0,7
10	3,8	1,1	2,2
100	12	3,5	7
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 The guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

17 Product Specifications and Registrations

17.1 Technical Specifications

	NanoVi® Eco Wellness	NanoVi® Pro Wellness	NanoVi® Exo Wellness
Article Number:	4650-00-W	4800-00-W	4900-00-W
Output performance: Eco Wellness has half the output: 50% Pro Wellness establishes baseline output: 100% Exo Wellness has 2x the output: 200%			
Recommended frequency of sessions:	Optimal: Daily Ideal: 3 x per week Minimum: 1 x per week	Optimal: Daily Ideal: 3 x per week Minimum: 1 x per week	Optimal: Daily Ideal: 3 x per week Minimum: 1 x per week
Suggested session time (More is better)	60 minutes on the Eco Wellness	30 minutes on the Pro Wellness	15 minutes on the Exo Wellness
Minimum lifespan:	10,000 hours = 600,000 minutes	10,000 hours = 600,000 minutes	10,000 hours = 600,000 minutes
Minimum # of sessions per lifespan:	10,000 sessions of 60 minutes	20,000 sessions of 30 minutes	40,000 sessions of 15 minutes
Smartcard system: - Owner Card - User Card works on the device it was programmed for	No	Yes: - Owner Card for selecting the Operation Mode - User Card programmable for up to 9,999 minutes	Yes: - Owner Card for selecting the Operation Mode - User Card programmable for up to 9,999 minutes
Standard mode - Timer Mode:	Yes , enter application time in minutes on the touch screen.	Yes , enter application time in minutes on the touch screen.	Yes , enter application time in minutes on the touch screen.
Mode with Smartcard - Timer Mode:	No	Yes , used application time gets deducted from the User Card.	Yes , used application time gets deducted from the User Card.
- Session Mode:	No	Yes , session minutes deducted from User Card.	Yes , session minutes deducted from User Card.
- Infinity Mode:	No	Yes	Yes
Option for grouping multiple devices: (With Smartcard System only)	No	Yes , User Card can be used for any device in the group.	Yes , User Card can be used for any device in the group.
Lamp for Illumination of water: Illumination effects:	16 Colors & off Solid, flash, strobe, fade, smooth	16 Colors & off Solid, flash, strobe, fade, smooth	16 Colors & off Solid, flash, strobe, fade, smooth
Excitation units / - elements / max power:	1 / 6 / 6 x 700 pW	2 / 12 / 12 x 700 pW	4 / 24 / 24 x 700 pW
Spectral emission / max power:	1100–1300nm and 1500-1700nm	1100–1300nm and 1500-1700nm	1100–1300nm and 1500-1700nm
Dimensions (w x l x h):	12" x 11" x 9" (31 x 28 x 23 cm)	12" x 11" x 9" (31 x 28 x 23 cm)	12" x 11" x 9" (31 x 28 x 23 cm)
Weight:	8.5 lb. (3.9 kg)	9.0 lb. (4.1 kg)	9.5 lb. (4.3 kg)
Silver antimicrobial tubing: Amount of distilled water for operation:	Yes, after humidification unit 8.5 fl. oz. (250 ml)	Yes, after humidification unit 8.5 fl. oz. (250 ml)	Yes, after humidification unit 8.5 fl. oz. (250 ml)
Display: Volume and brightness adjustment:	Touch Screen LCD, color 1 factory setting	Touch Screen LCD, color 8 individual settings	Touch Screen LCD, color 8 individual settings
Pumps:	2	2	2
Air intake and output:	0.141 CFM (4.0 liters per minute)	0.141 CFM (4.0 liters per minute)	0.141 CFM (4.0 liters per minute)
Current Levels (A) Off	0.04	0.04	0.04
Current Levels (A) On-standby	0.10	0.10	0.10
Current Levels (A) On-running	0.30	0.32	0.36
Components automatically tested for function:	Pumps, excitation elements, lamp	Pumps, excitation elements, lamp	Pumps, excitation elements, lamp
Service check:	Not Required, self-testing	Not Required, self-testing	Not Required, self-testing
Warranty:	2 Years	2 Years	2 Years

Accessories

4300-00	Glass Container	Glass
4370-00	Holder with Glass Container	Aluminum
4340-00	Power Supply Input / Output	100 - 240V AC / 12V DC, 4A
4350-00	Power Cord 2-Prong, 6 ½ ft. (2 m)	US, CA, Mexico, Japan
-10	Power Cord 2-Prong, 6 ½ ft. (2 m)	EU, Asia, Israel, South America
-20	Power Cord 2-Prong, 6 ½ ft. (2 m)	UK, Malaysia, Singapore
-30	Power Cord 2-Prong, 6 ½ ft. (2 m)	Australia, New Zealand
-60	Power Cord 2-Prong, 6 ½ ft. (2 m)	China
4530-00	User Manual	Available in different languages
4540-00	Concise User Manual	Available in different languages
Consumables		
4310-00	Diffuser for Humidifier	Replace once a year
4400-00	Paper tube	White paper tubes

Optional Accessories

4200-00	Transportation Case	Black with foam inserts
Consumables		
4510-00	User Smartcards for Pro Wellness and Exo Wellness™	Programmable for up to 9,999 minutes for use in "Card Mode"
4510-00	Owner Smartcards for Pro Wellness and Exo Wellness™	Required for setting "Card Mode" and for programming minutes on User Smartcards

17.2 Product Registrations

17.2.1 NanoVi® Wellness Registration: EU

All NanoVi® Wellness devices carry the CE mark represented in the declaration below.

Household device – NanoVi Wellness®



EC Declaration of Conformity

We, the undersigned,

Manufacturer	Eng3 Corporation
Address, City	2234 Eastlake Ave E, Seattle, WA 98102
Country	USA
Phone number	US-206-525 0227
Fax number / e-mail	Fax: US-425-850 7171, email: customer.care@eng3corp.com
Authorized representative in Europe	See label with name and contact information on the backside of the product or visit: www.eng3corp.com/service

certify and declare under our sole responsibility that the following apparatus:

Description	Household Appliance, Wellness Device
Manufacturer	Eng3 Corporation, Seattle, USA
Brand	NanoVi Wellness™
Identification	NanoVi Wellness™, NanoVi Eco Wellness™, NanoVi Pro Wellness™, NanoVi Exo Wellness™
Restrictive use	Professional use and Home use
HTS Code	8479.89.1000

conforms with the essential requirements for CE-marking of:

Low Voltage Directive (LVD) (2014/35/EU)
General Product Safety Directive
Electromagnetic Compatibility Directive (EMC)
Restriction of Hazardous Substances Directive (RoHS1) 2002/95/EC
Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC, currently Directive 2012/19/EU
Packaging and packaging waste directive, 94/62/EC

the following standards / specifications were applied:

IEC 60601-1:2005+AMD1:2012 General Requirements for Basic Safety and Essential Performance
IEC 60601-1-2:2014 Collateral Standard: Electromagnetic disturbances - Requirements and tests
IEC 60601-1-6:2013 Collateral standard: Usability

and therefore, complies with the essential requirements and provisions of Household Appliance, Wellness Device.

Name	Hans J. Eng
Position of person binding	President / CEO
the manufacturer	Eng3 Corporation
Date	March 15, 2019
Signature	



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www.eng3corp.com | 206.525.0227 | info@eng3corp.com

18 Warranty

Devices manufactured or distributed by Eng3 Corporation carries a warranty, covering materials and workmanship, for a period of two years from the date of shipment, except for certain disposable products with stated warranties with different durations. Eng3 reserves the right to perform warranty service(s) at its factory, at an authorized repair station, or at the customer's facility.

Eng3's obligations under this warranty are limited to repairs, or at Eng3's option, replacement of any defective parts or of equipment without charge, if defects occur during normal usage.

Claims for damages during shipment must be filed promptly with the transportation company. All correspondence concerning the equipment must specify both the model name and number and the serial number as it appears on the device.

Improper use, mishandling, tampering with, or operation of the device without following specific operating instructions will void the warranty and release Eng3 from any further warranty obligations.

The actual warranty, outlining all terms and conditions, is included in the paperwork for the NanoVi® Wellness device.

Warranty immediately revoked if the device is opened or repaired by unauthorized personnel.

Warranty immediately revoked if any accessories other than those recommended have been used.

Service Department
For factory repair service contact through:
www.eng3corp.com/service

19 Service Policy

Eng3 Corporation will provide warranty service support to its customers within 48 hours of receiving a telephone request for technical support. This 48-hour period begins once a service request is placed through the Factory Technical Support Department in Seattle, Washington. Eng3 provides factory direct technical support to its customers through a technical support group located in Seattle, Washington. All Technical Support for Eng3 products is provided "Factory Direct".

Eng3 provides technical support by telephone at the number for your location identified at www.eng3corp.com/service. It is suggested that any person calling in for technical support have the inoperative equipment available for preliminary troubleshooting as well as product identification. Eng3 reserves the right to repair or replace any product found to be defective during the warranty period. Repair may be provided in the form of replacement or exchange of parts or accessories, on-site technical repair assistance or complete system exchanges. Repairs provided due to product abuse or misuse will be considered "non-warranty" and invoiced at the prevailing service rate. Any replaced defective material should be returned to Eng3 within 10 days of being provided in order to avoid additional charges. Exchanged material should be returned promptly and directly to Eng3 using the return paperwork and shipping label(s) provided. Transferring return materials to local sales or dealer representative does not absolve the return responsibility.

20 Ordering Parts and Accessories

To order parts and accessories contact your local authorized distributor or Eng3 Corporation at: +1 206.525.0227

Complete overview of contact information is: www.eng3corp.com/service.

21 Contact Information

MANUFACTURER
Eng3 Corporation
2234 Eastlake Avenue E.Ste. A
Seattle, WA 98102
USA

Office phone: +1 206.525.0227
E-Mail: Info@eng3corp.com







22 Appendix A: Accompanying Documents

22.1 Power Supply (2-Prong), Part # TR60M12-01E12

User's Manual

- 1) The input and output should not exceed the rating on the label.
- 2) The 2-prong power supply should be operated only in dry conditions.
- 3) Manufacturer: DongGuan Cincon Electronics Limited
 Factor Address: No. 1 Jingxiang Rd. Dongcheng
 Foreign Trade Industrial Park, Zhushan Dong Cheng
 District, Dong Guan, Guangdong, China
- 4) The 2-prong power supply requires a 2-prong power cord.
- 5) For the 2-prong power cord, choose the correct plug for your location (see below)

4340-00		<p>Power Supply: C8 (2-prong), 110-220V for: For Power Cord with C7 (2-Prong)</p>  <p>The 2-prong Power Supply is the standard power supply used with NanoVi and NanoVi Wellness devices</p>
4350-00 4350-10 4350-20 4350-30	<p>Power Cord C7: to 2-prong 6.5 ft. (2.0m)</p> <p>Type A Type C Type G Type I</p>	 <p>Type A (US, CA, Mexico, Japan) Type C (EU, Asia, Israel, South America) Type G (UK, Malaysia, Singapore) Type I (AUS, New Zealand)</p>
4350-60	<p>Power Cord C7: to 2-prong 6.5 ft. (2.0m)</p> <p>Type A-CH</p>	 <p>Type A-CH (China)</p>



TR60M SERIES 60W MEDICAL SWITCHING ADAPTER



Features

- * Universal Input Range 90~264VAC
- * Meets EN60601-1 and EN55011 Class B
- * Continuous Short Circuit Protection
- * Over Voltage Protection
- * Meet CEC Level IV
(Output Cable Length \leq 1800mm)
(TR60M Series meets CEC IV except TR60M05 is Non-CEC Compliant)
(TR60M12: Output Cable Length \leq 1220mm 16AWG)
- * Efficiency & Standby Power Meet Level V (Option)
(Output Cable Length \leq 1800mm)
(TR60M12 : Output Cable Length \leq 720mm 16AWG)
(TR60M15 : Output Cable Length \leq 1220mm 16AWG)
(TR60M18, TR60M19 : Output Cable Length \leq 1500mm 18AWG)
- * Meets 2MOPP



Ordering information

TR60MX- XX X XX
 Model No. DC Plug Type OVP DC Cable Length and Type
 E: With OVP
 01: 720mm
 02: 1220mm
 03: 1800mm
 11: 720mm with Ferrite Core
 12: 1220mm with Ferrite Core
 13: 1800mm with Ferrite Core
 *18AWG/UL1185

MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE & NOISE NOTE2	VOLTAGE ACCURACY NOTE 1	LINE REGULATION NOTE3	LOAD REGULATION NOTE4	%EFF.(Typ) NOTE5
TR60M05	5V	6A	50mVp-p	$\pm 4\%$	$\pm 1\%$	$\pm 6\%$	75%
TR60M12	12V	5A	120mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 5\%$	85%
TR60M15	15V	4A	150mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 3\%$	85%
TR60M18	18V	3.33A	180mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	86%
TR60M19	19V	3.15A	190mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	86%
TR60M24	24V	2.5A	240mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	87%
TR60M36	36V	1.66A	360mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	87%
TR60M48	48V	1.25A	480mVp-p	$\pm 2\%$	$\pm 1\%$	$\pm 2\%$	87%

Specifications

INPUT SPECIFICATIONS:

Voltage 90~264Vac
 Frequency 47 to 63Hz
 Inrush Current Cold Start @25°C 80A max. @240Vac
 Conducted EMI CISPR/FCC Class B
 Leakage Current 0.1mA max.

OUTPUT SPECIFICATIONS:

Holdup Time 8ms typ. @115Vac
 Short Circuit Protection Continuous
 Over Voltage Protection Yes
 Temperature Coefficient ±0.05%/°C

GENERAL SPECIFICATIONS:

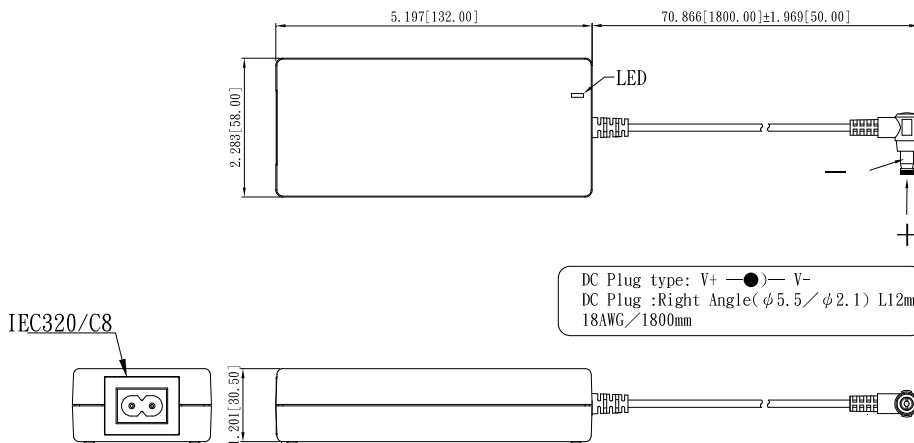
Isolation Input to output =5,656VDC
 Operating Temperature 0 ~ 60°C (see derating curve)
 Storage Temperature -20 ~ 85°C
 Humidity 93% RH max. Non condensing
 Cooling Natural Convection
 Switching Frequency 100KHz Typical
 MTBF MIL-HDBK-217F, GB, at 25°C/115VAC 200K hrs min.
 Altitude 3000m
 Dimensions 5.197x2.283x1.201inches (132.00x58.00x30.50mm)
 Weight 345g(0.76 Pounds)

SAFETY AND EMC:

Emission and Immunity EN55011, EN60601-1-2, EN61000-3-2
 EN61000-3-3
 Safety IEC60601-1, EN60601-1, UL ANSI/AAMI ES60601-1:2005

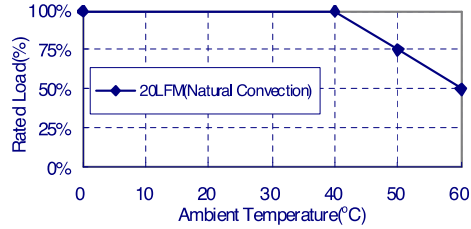
Mechanical Specification

All Dimensions are in inches(mm)
 Tolerance: Inches:X.XXX±0.02
 Millimeters:X.XX±0.5



Typical at 25°C, nominal line and 75% load, unless otherwise Specified

TR60M Series Derating Curve



NOTE:

1. Voltage accuracy at 60% full load.
2. Add a 0.1uF ceramic capacitor and a 10uF E.L. capacitor to output for Ripple & Noise measurement @20MHz BW.
3. Line regulation measured from 100Vac to 240Vac, full load.
4. Load regulation measured from 60% to 100% full load and from 60% to 20% full load (60% +/- 40% full load).
5. Typical efficiency at 230VAC and full load at 25°C.
6. "Various TR Series adapters are PSE certified. PSE certification alone is not sufficient for importation into Japan. A valid PSE mark must contain the name of the importer as shown in the example below. If PSE mark is required, the name of the registered importer must be supplied to Cincon on order placement. Product labels will not contain PSE mark if importer name is not supplied. Consult factory or local representative for details".

