

$\Phi$   
**RATIO**  
COMPUTERS

# iX3M Dive Computer

## Installable Apps Manual



ver. 1.3

# Warning!

To receive all updates of this manual and notice of future updates of the “iX3M” by e-mail, please send a message writing “iX3M”

to the following address: [update@ratio-computers.com](mailto:update@ratio-computers.com)

This service is highly recommended  
and it is completely free of charge.

For further support, have a look at the tutorial videos  
soon available on [www.ratio-computers.com](http://www.ratio-computers.com)

For assistance by mail write to [support@ratio-computers.com](mailto:support@ratio-computers.com)



# Warning!



This is NOT the user manual of the  
iX3M dive Computer.

You can download the iX3M user manual from:  
[www.ratio-computers.com](http://www.ratio-computers.com)  
("support" area)

# Think Green

If possible do not print this manual.  
Use your tablet or your PC to read it.



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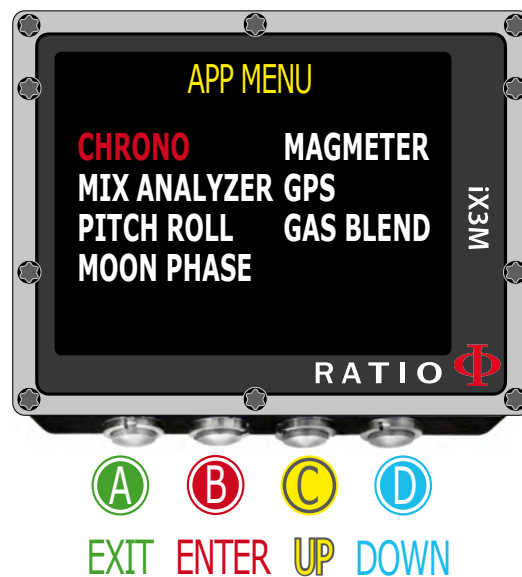
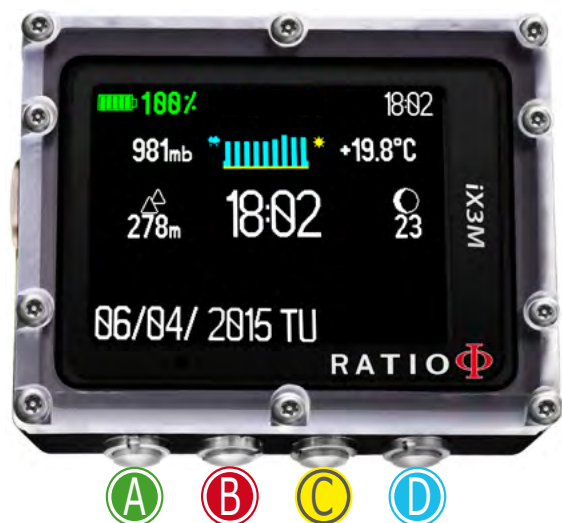
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# Find the Apps list

To find the Apps list press **C** button twice.  
(One time to access the compass and one time to access the Apps list)

If you do not find the Apps list probably the Apps are not installed in your iX3M.  
To install the Applications see the previous page.

Press the buttons as shown in the pictures to navigate the menu.  
The selected App is displayed in Red color.  
(if you press **C** button when CHRONO is selected you will EXIT the App list)



# CHRONO (Chronometer)

Press the buttons as shown in the picture to use the Chronometer App.



If the Chronometer is running the **C** button will mark the LAP TIME and the LAST LAP TIME. If the chronometer is stopped the **C** button will reset all the chronometers.

The Chronometer stops only if the **D** button is pressed, it will continue to measure the amount of time elapsed even if you exit the CHRONO Apps

**LAP TIME:** The amount of time elapsed from the last pression of **C** button

**LAST LAP:** Mark the total amount of time elapsed from the start of the chrono

All the "LAST LAP" times are shown on the right of the screen.

To reset completely the Chrono you have to stop the chrono (**D**) and press **C**

# MIX ANALYSER

To use the Mix Analyser the separated RATIO® Gas Analyser is needed. Ask your local RATIO® distributor for this accessory.

**ATTENTION:** DO NOT DIVE with the GAS MIX ANALYSER. It must be used only in surface!  
Water would seriously damage the GAS MIX ANALYSER and the iX3M computer if plugged!

The Gas Mix analyser is used to check the Oxygen% in the mix inside the tank. **For safety reasons the iX3M will not automatically save the analysed mix as a dive mix.** The safety approximation of the Mix has to be decided by the diver. If you are not sure about the EAN safety approximation to be set for your dive, ask your diving instructor or your diving certification agency.

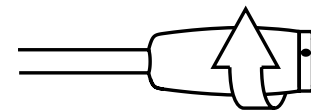
Plug the Gas mix connector to the iX3M port and turn gently counter-clockwise.

**ATTENTION:** Plug the Gas Mix Analyser to the iX3M BEFORE launching the MIX ANALYSER App or you will get a connection error.

Wait for the battery check and for the sensor calibration (about 30 sec.), then place the sensor near the tank and gently open the cylinder's valve to let the Analyser check the mix.

Once the O<sub>2</sub>% is stabilised and checked, close the valve, unplug the Analyser and press A to close the App.

**ATTENTION:** Please refer to GAS MIX ANALYSER Maintenance manual you will find in the Gas Analyser's box for proper maintenance and storage of the accessory.





# PITCH-ROLL (Pitch & Roll)

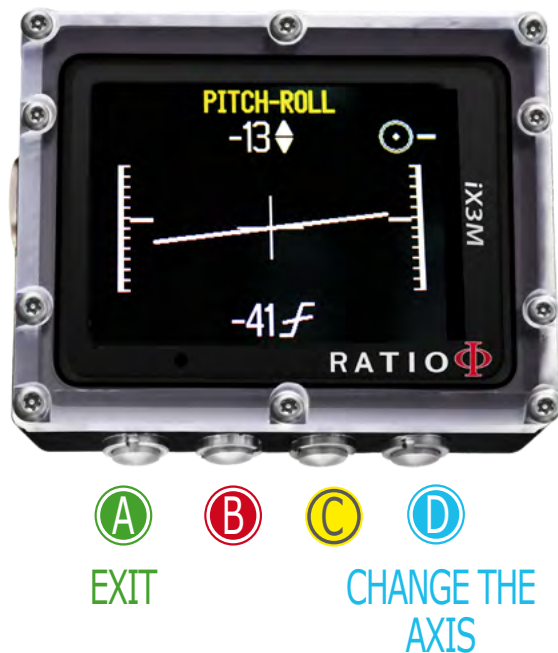
The iX3M has some accelerometers build in, mainly used to compenssate the tilt inclination of the Compass. The same accelerometers are used in the PITCH-ROLL App to show the inclination of the iX3M according to the selectex axis.

The reference axis is shown on the top right corner. Press **D** to change the reference axis.

— HorizontalAxis  
| Vertical Axis

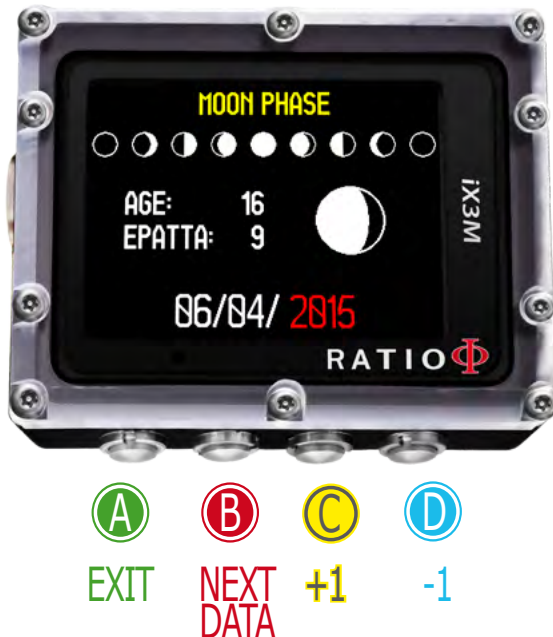
The current inclination of the iX3M is indicated by the central board and by the graduated scales on the sides.

Press **A** to exit



# MOON PHASE

The iX3M integrates a full moon calendar. This App is mainly used by military forces for their own purposes. The standard App is available also for the civilians.



The legenda of the moon image is always present on the top of the screen (the new moon is displayed in black color and the full moon is displayed in white color)

**AGE:** The age is the number of days passed since the last new moon. (The lunar phase cycle (from new Moon to new Moon) is 29.5 days)

**EPATTA (Epact):** The age of the moon in days on January 1 of the current year. (It occurs primarily in connection with tabular methods for determining the date of some holidays).

You can also check the AGE and EPATTA of future and past moon by changing the date (date is displayed as DD/MM/YYYY)

# MAGMETER (Magnetometer)

The iX3m has magnetometers built in, they detect changes in the earth's magnetic field. Some kind of metal ("ferromagnetic metals") can be spotted by the iX3M magnetometer (Stainless steel and gold are not ferromagnetic, iron is).

The magnetometer shares the compass calibration procedure.

The current density of magnetic field detected is indicated in  $\mu\text{T}$  (microTesla)

The iX3M will activate the alarm if the current  $\mu\text{T}$  is  $5\mu\text{T}$  higher or  $5\mu\text{T}$  lower the reference value (indicated on the bottom-right corner).

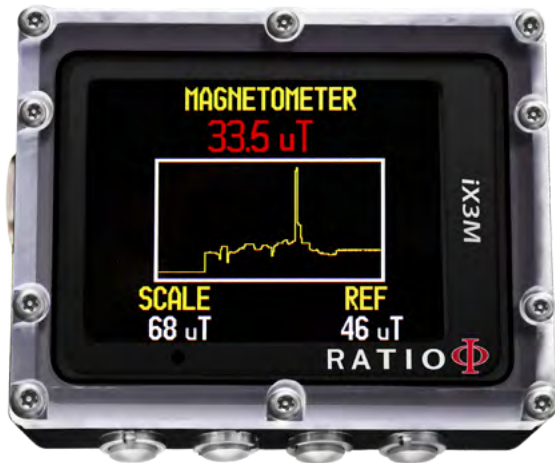
You can set reference value using **C** and **D** buttons.

The diagram scale is automatically set.

You can use the Magmeter during your dive.

The magmeter works better underwater than on the surface.

The Magnetometer's main sensor is placed on the top right corner of the iX3M.



# GPS (GNSS)

The iX3M can a GNSS system inside, that can use GPS, GLONASS, QZSS, BEIDOU satellite systems for geolocalization.

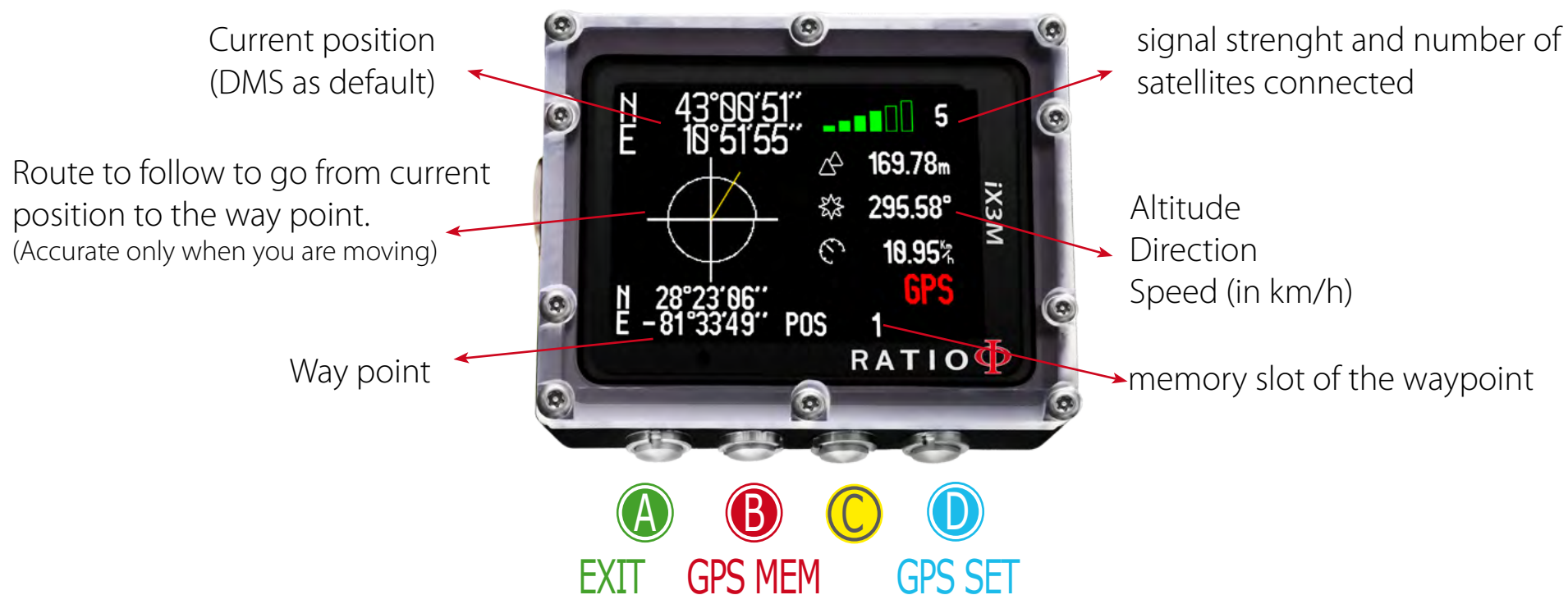
The iX3M will automatically download (free of charge) the constellation almanac of the satellite system once connected.  
The almanac validity's 24hr.

The almanac contains information, position and status concerning all the satellites; each satellite transmits almanac data for several (possibly all) satellites.

To save battey the satellite connection is active only when GPS App is running.

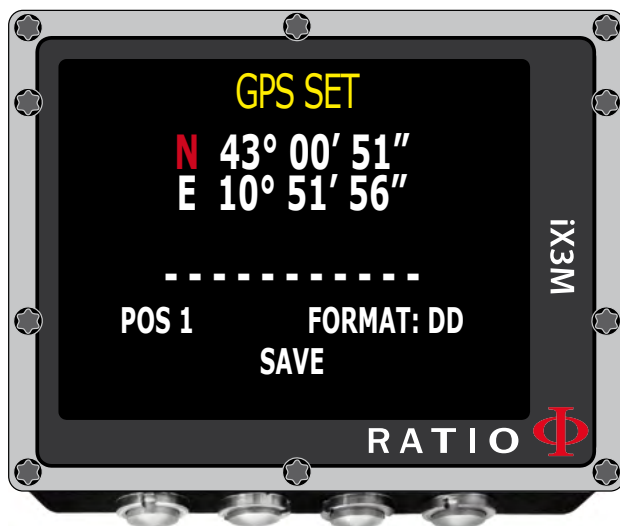
**Cold start:** (if the almanac is older than 24hr): 1 min up to 5 min

**Hot start:** (if you have used the GPS App since less than 24hr before) 5 seconds



# DMS / DD format

The GPS default format is DMS (degrees minutes seconds), you can set the DD (decimal degrees) format in the GPS SET menu.



## How to set the DD format:

From the main GPS App page press **D** button to enter GPS SET.

Press (or hold pressed) the **B** button and select "FORMAT".

Press **C** to select the DD format

Press **A** to exit (you do not need to select "SAVE")

(This setting changes the coordinate format in the main GPS App screen, the saved positions are displayed in DMS format only)

## Save a position

From the main GPS App page press **D** button to enter GPS SET.

The GPS App automatically shows the current position. You can edit the current position or set a completely new position by using **B** **C** and **D** buttons as shown in the picture. You can hold the button to speed up the operation.

Using **B** button browse to "-----" and use **C** and **D** buttons set the name of the position.

Using **B** button browse to POS and select the memory slot to save the position (Attention: if an old position is present in the slot it will be overwritten)

Using **B** button browse to "SAVE" and press **C** to save the position.(SAVE OK) than press **A** to exit

## Go to a saved position

From the main GPS App page press **B** button to enter GPS MEM (GPS memory).

Press **C** or **D** to browse for the saved position. The DMS and the name of the selected position is displayed on the top.

Once selected the position you want to set press **B** to select GO and press **C**. Press **A** to go back in the main GPS App. The position is now visible on the bottom left angle.

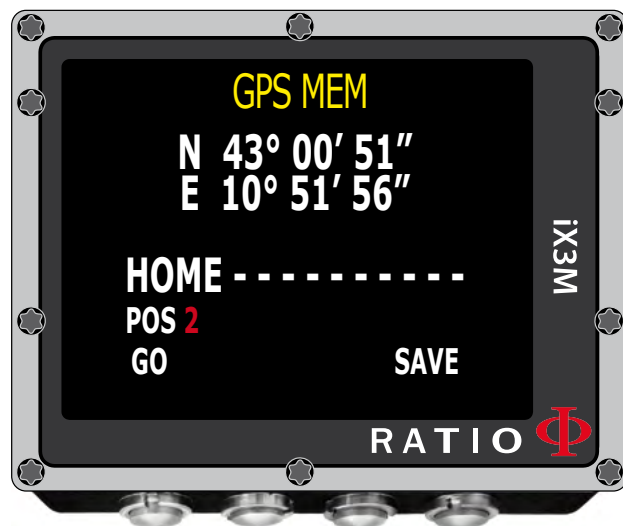
You can save up to 20 different positions

## Edit a saved position

From the main GPS App page press **B** button to enter GPS MEM (GPS memory). Press **C** or **D** to browse for the saved position. The DMS and the name of the selected position is displayed the top.

Once selected the position you want to edit, press (and hold) **B** to select the data you want to edit (DMS or NAME) and press **C** or **D** to edit.

To save the changes browse (**B**) to SAVE and press **C**. Press **A** to go back in the main GPS App



## Insert the position in Google Maps

To search for your position on Google® Maps just type the coordinates in the search box. For more information:

<https://support.google.com/maps/answer/18539?source=gsearch&hl=en>

# Gas Blender

The Gas Blender App guides you in filling the tank up, suggesting you the necessary gas quantities to get the desired Mix.

## WARNING!

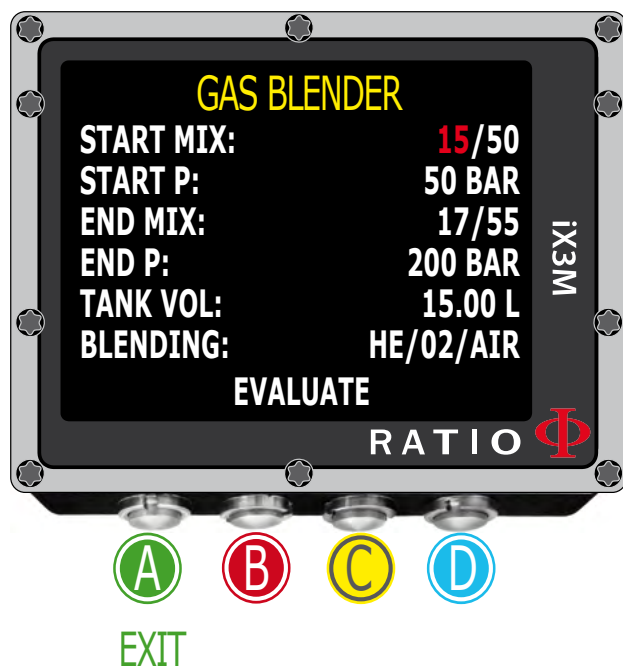
The use of pressurized Gas (pure  $O_2$  in particular) is highly dangerous! This App can give just indicative information, coming from a mathematic calculation based on the data inserted by the user. **Refer always to specialized centers and to qualified personnel to fill your tanks up!** Be always sure that your tanks are inspected and respect always the maximum pressure imprinted on each tank!

The Gas Blander App takes into consideration the ideal Gas law.

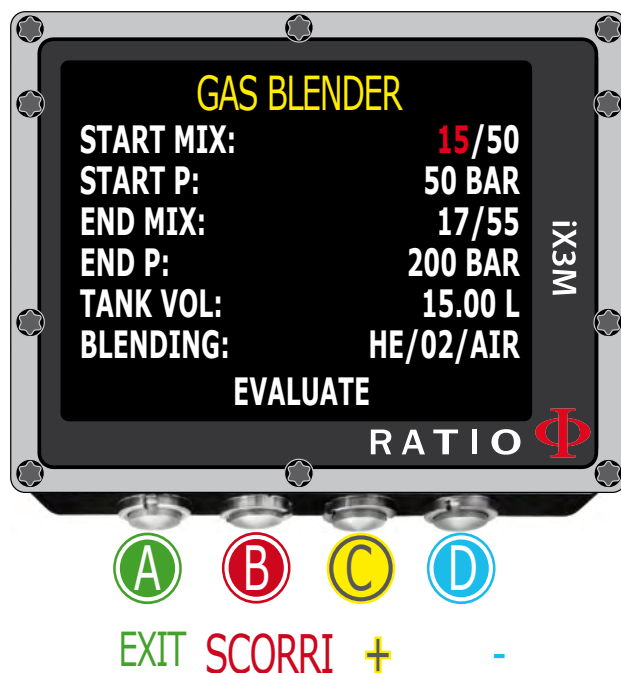
The calculation made by the Gas Blender App in the iX3M is valid with the method of partial pressures only.

In case the desired mix cannot be made by using the data inserted by the user, the iX3M indicates the reason.

**Do you know what?:** You can keep either C or D buttons pressed to modify the iX3M values more quickly.







To set the Gas Blender App with the starting Mix and with the one you want to obtain:

Use the **B** button to browse the data, then press **C** e **D** buttons to increase or decrease the values as indicated in the picture.

**Do you know what?:** You can keep either C or D buttons pressed to modify the iX3M values more quickly.

**START MIX (O<sub>2</sub>/He):** The Mix of Oxygen and Helium (in percentage) inside the tank at the moment.

**START P (Bar):** The pressure, expressed in Bar, inside the tank at the moment.

**END MIX (O<sub>2</sub>/He):** The Mix of Oxygen and Helium (in percentage) that you wish to obtain after the blending.

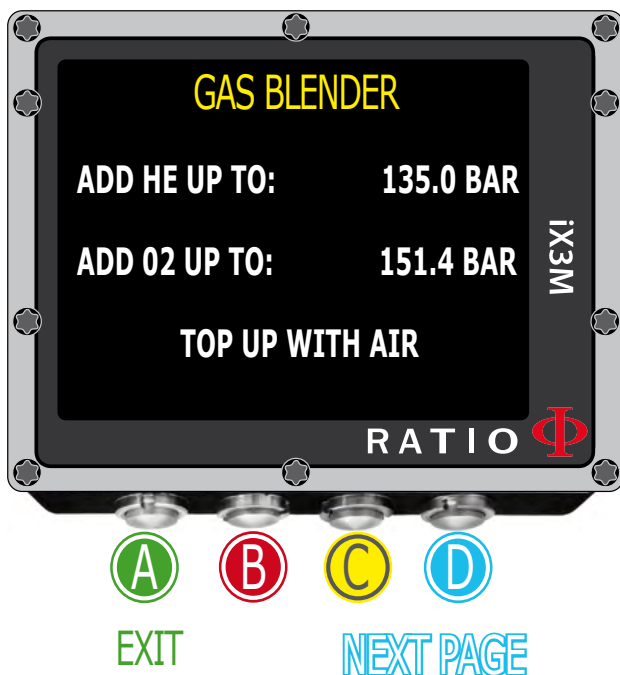
**END P (Bar):** The final pressure that you wish to obtain inside the tank after the blending, expressed in Bar.

**TANK VOL (L):** The tank volume expressed in litres

**BLENDING:** The order in which you desire to to add the Gases  
He/02/Air or 02/He/Air

Select **EVALUATE** and press **C** to start the Blending calculation.





After pressing **EVALUATE** if the mix is possible with the inserted settings, the iX3M will show the procedure to follow to obtain the desired mix.

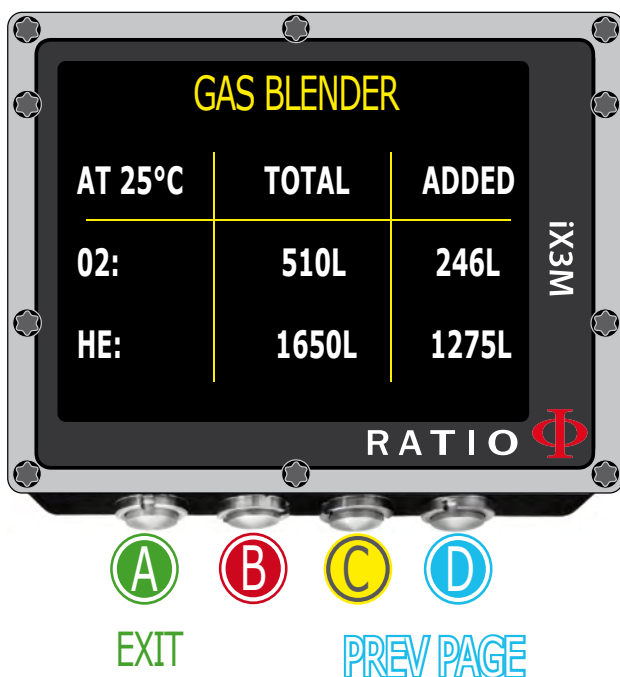
In the example shown in the picture:

**ADD HE UP TO:** Add Helium in the tank until you reach 135 Bar of pressure inside the tank.

**ADD O2 UP TO:** Add Oxygen in the tank until you reach 151.4 Bar of pressure inside the tank.

**TOP UP WITH AIR:** Add Air (21/00) inside the tank until you reach the final desired pressure (200 bar as in the example).

**Do you know what?:** In case the desired mix is not possible by using the inserted data, the iX3M indicates the reason.



Pressing the **D** button the iX3M will visualize more information on the Helium and Oxygen volumes used (considering a temperature of 25°C)

**TOTAL:** The total quantity of gas (Oxygen or Helium) inside the tank.

**ADDED:** The gas quantity (Oxygen or Helium) added inside the tank to obtain the desired blending.

At any time, press the **A** button to exit.

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