AquaPro Manual

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Introduction

Dear customer:

Thank you for purchasing the AquaPro Photometer to help analyse your water quality.

Your device is capable of highly accurate readings on 18 parallel wavelengths, with Bluetooth®, USB, Wi-Fi and 4G* connections, powerful LabCOM® software and app, synchronized via a free cloud service, large HD touch display and the option to connect test probes are just some features.

Whilst normal Photometers perform tests on one selected wavelength only, the AquaPro receives data from 18 different wavelengths in parallel with each measurement, covering the full VIS spectrum as well as key parts of UV- and IR- spectrum. 3 sensors with 6 wavelengths each are connected in parallel. Correspondent LEDs are set up at 180° as well as at 90° to enable NTU-Turbidity**, PTSA and Fluorescein measurements as well. Very narrow peaks between 390 and 950 nm allow utmost accurate readings, similar to the performance of a spectrophotometer.

The AquaPro features a state-of-the-art 5.5" colour HD touch display. The large display gives a perfect overview of all basic info, such as battery status, Bluetooth®, Wi-Fi and 4G* connectivity and offers highest flexibility for you to arrange icons as you would on your smartphone.

As with AquaPro offer a flexible parameter setup with all options to upgrade whenever needed. The AquaPro offers more than 140 different parameter methods, covering the needs of many different industries. Trace2o ® reagents are entirely produced in Germany, UK and Spain.

*via USB Internet Stick / accessories / may be subject to costs for connection | **some features might not immediately available at product launch

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Parts list

AquaPro AP2000 Photometer

Light shield

Charger/cable/plugs

24mm vial

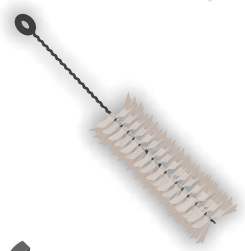
16mm vial*

24mm vial adapter

Parts list

16mm vial adapter*

Crushing rod



Test Tube Brush

Pipettor and Tips

USB mains and car charger

Parts list

Micro fibre cleaning cloth

Dilution Tube

Benchtop Sample Cup

Grip Gel Pen

250ml Beaker

The AquaPro

! Please note: From power off, press power button for 1 second and wait 10 seconds for the screen to begin instrument boot up. From sleep, to wake the device, press power button for 1 second, and wait a further 3 seconds. !

Pressing the On/Off button*

1. Instrument Power on Press power button for 1 second and wait 10 seconds for the screen to begin instrument boot up.

2. Instrument Power offFrom power on, 1 second press presents option menu for Sleep/Power off/RebootFrom power on, 1 second press presents option menu for Sleep/Power off/RebootFrom power on, 1 second press presents option menu for Sleep/Power off/Reboot.

3. Display on/offFrom power on, brief press display goes off. Another brief press, display comes on (4 seconds

Vial-adapters

Your AquaPro works with different vial sizes, such as round 24mm, 16mm and rectangle 1ml semi-micro-vials (rectangle), each needing a different vial-adapter. To ensure a perfect fit of the specific vial-adapter, please follow the instructions below, showing you how to change to a different adapter: Unlatch the adapter installed by turning it 90° counter clockwise to be able to take it out. Enter the adapter by placing it on the transparent measurement-chamber and turn it until you feel it slides in position. Then turn it 90° clockwise until you feel/hear a click. Make sure the adapter does not wiggle.
*Make sure to align the arrow on the side of the 16mm adapter, with the arrow of the measurement chamber. If the adapter cannot be turned smoothly or only with high force, please put a small drop of silicon-grease on the edge of the transparent part of the measurement chamber.

*It is possible that there is no arrow on the adapter yet. This will only appear on upcoming models. If your model does not have a triangle, please make sure that the arrow on the device points to the elevation on the side of the adapter.

Charging the battery

Your AquaPro has a powerful lithium-ion battery that can be charged with the supplied DC adapter plus USB cable. The AquaPro can be charged with any USB charging adapter and cable. However, we recommend using the supplied power adapter and cable as this allows the unit to be charged in fast charging mode. The DC adapter has a 2-pin built-in plug, suitable e.g. for the USA.
However, we offer interchangeable plugs for e.g. Europe, UK and Australia that can be slid over the USA socket. For the fastest charging results, connect the charger to the AquaPro while the AquaPro is switched on. Switch on your AquaPro off after plugging it in to charge.

Icons

Bluetooth

WiFi

Display

General Settings

Sound

Device Information

Cloud

Icons

Favourites

Calculator

Main Menu

Battery

Search (General)

Create New Account

Edit

Return

Icons

Delete (General)

Settings

Operator

GSM* connection

Dosage-recommendation

Parameter

Ideal ranges

Index calculation

*via USB Internet Stick / accessories / may be subject to costs for connection

Icons

Active Chlorine Calculation

Water treatment products

Calibration

Save

Test

Request parameter code

Activate parameter

Add new...

Icons

Filter

Check for updates / update available

Refresh

Log Out

First Setup

Prior first use, you must connect the AquaPro with a USB cable to either the charger or your computer, to wake it up from shipping mode! Shipping mode is terminated immediately after the AquaPro is connected to the charger (after less than 1s). Not doing so means that the device will not turn on. After that, switch on by pressing the on/off button for 3 seconds.

Once AquaPro is switched on for the first time, you have to select the language you want to use the device with and the country you are located (for Wi-Fi settings). The entire First Setup will be in English. It is possible to change language and country settings after completing the First Setup sequence (menu: 'Settings'). To directly setup your cloud account on the device, please set up a Wi-Fi connection during First Setup. You can still add, delete or edit internet connections later (menu: 'Settings').

Language

Defining a language is required to let the AquaPro know, in which language it shall communicate with you. Please select the language you feel comfortable with:
• Tap on the drop-down menu and select your preferred language
• Click on "Ok"

Country

Defining a country is required for the device to operate on the correct Wi-Fi frequency. On a ship, you should therefore select the country under which the routers run. Please select the country where your AquaPro will be operated (Wi-Fi network):
• Tap on the drop-down menu and select a country
• Tap on "Ok". (AquaPro might re-start to re-boot with these settings)

WiFi

If you already want to setup your internet connection, please choose an internet connection from the list of available networks, found by AquaPro.
• You can still connect to (another) Wi-Fi network later on (menu: 'Settings')

Cloud

The free LabCOM® cloud provides full access to all test results, sampling points and individual water treatment chemicals either through a regular internet browser (http://labcom.cloud) or on a smartphone (Android/iOS), tablet or on a computer (Windows/Mac). Data is synchronized automatically and instantly available to review. All you need is a valid account:
• Visit: https://labcom.cloud/
• Register to the cloud by typing in a valid email-address and a password of your choice (6 characters minimum)
• If you already have a LabCOM® cloud account, login with your known login details
• All data from your cloud-account will be synchronized to your AquaPro 2.0 and back

Time zone

• This is needed to display the date/time correctly.

Your AquaPro is now ready for use. If you want to change any settings, please do so from the 'Settings' menu.

Home Screen

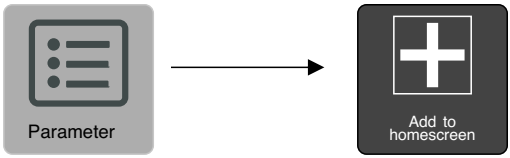
Enter main menu

The home screen of your AquaPro is the screen which appears after switching on the d u can individualize your AquaPro home screen.

Create shortcuts

To enter the main menu, tap on the 3-lines symbol at the lower end of the home screen.

If you want to create a shortcut of one of the icons of the main menu on the start screen, press and hold one of the icons. It changes shape slightly and you are asked if you want to install a shortcut on the home screen. Tap the plus to create the shortcut. This way you can customise your home screen with the icons you need most often. If you do not want to create a shortcut, tap anywhere on the menu screen to deselect it.



To remove an existing shortcut, hold it down and tap the "minus" symbol in the top right corner of the icon.

Home Screen background graphic

As with your smartphone, you can select from various home-screen background graphics. To do so, tap on the main menu symbol, choose ‚Settings', followed by a tap on Display. There you will find an entry ‚Background'. Tap on the background graphic you like. It will instantly be taken as your new home screen background graphic.

Back to main menu

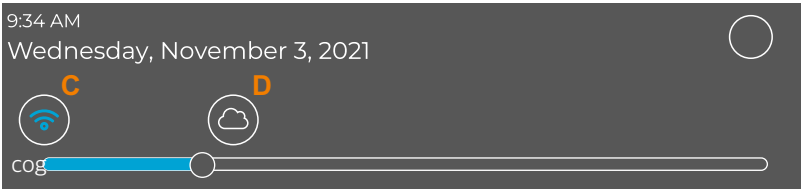
If you are in the main menu and want to return to the home screen, just swipe down the touch screen.

! Please note that there may generally be a time delay between tapping the display and the device responding. !

Status bar

The status bar of your AquaPro is always visible on top of the AquaPro display:

It can be extended by swiping it down.



A: Time and date are shown. This time stamp will also be used when test results are saved, so please make sure the date and time settings are correct.

B: This icon is a shortcut to the 'Settings' menu which will be explained on the following pages.

C: Wi-Fi connection (blue when turned on / white if switched off)

D: LabCom® cloud-connection (blue when logged in / white if switched off)
An exclamation mark (!) is displayed if you are logged in but there is no internet connection.

E: Indicates if the speaker is switched on or off.
Note: If switched off, you won't be able to receive audio-feedback of timer countdowns

F: By shifting the dot left and right, you can decrease/increase the brightness of the display

G: This icon indicates that an update for your AquaPro is available

H: Battery status indicator

I: News for you! Check for latest AquaPro news in the 'News' menu

*via USB Internet Stick / accessories / may be subject to costs for connection

Lock Screen

To protect the AquaPro from unauthorized access to the device's settings and applications, you have the option of activating a lock screen. If set up, the lock screen becomes active as soon as the AquaPro screen turns off (e.g. after standby and after restarting the device).

Enable lock screen

Go to "Settings" --> "Security" in the main menu.
Move the slider at "Activate lock screen" to the right so that it lights up green.
Enter any 4-digit numerical code and confirm it by entering it again. The lock screen is now active.

Disable lock screen

Go to "Settings" --> "Security" in the main menu.Move the slider at "Activate lock screen" to the left so that it lights up red.
Enter your lock screen code (see "Enable lock screen“) to deactivate the lock screen.

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Settings

To open the ‘Settings‘ menu click on the settings icon in the ‘Main Menu‘.

Operators

Each measurement file does not only show the test result in connection with the tested sampling points plus time stamp, but also the operator who conducted the test. When receiving your AquaPro , there already is a ‘Default‘ operator in place, but you can add as many operators as you like.

• Tap on “Operator” in the ‘Settings‘ menu

• To add an operator, either tap on ‚+‘ or the 3-bar menu button followed by ‘Add Operator‘ and insert all required data. Once done, tap the ‚save‘ button.

• To edit an operator, swipe the operator‘s name to the right, followed by a tap on the edit button.

• To delete an operator, swipe the operator‘s name to the left, followed by a tap on the delete button. You can also tap-hold an operator‘s name followed by tapping additional ones. A delete button will appear at the lower end of the display.

• To switch between operators, simply tap on the tick-box on the right side of the operator‘s name. For subsequent measurements, this operator will then be saved together with the measurement data.

• To search for an operator, simply tap the 3-bar menu button, followed by a tap on the search button. Then enter (part of) the operator‘s name you are searching for.

Measurement settings

Tap on "Measurement settings" to activate the professional mode or to adjust the signal intensity of iron in oil. When the professional mode is active, the animated step-by-step instructions are no longer displayed during measurements. To reactivate the animations and instruction texts, please deactivate the professional mode.

Calibration

Because of the innovative AquaPro technology, it is no longer necessary to return the photometer for calibration. The precision of the sensors is so good, that the strength of the light source (LED) is measured and the system is calibrated on basis of the measured LED-values. Calibration should be carried out on a regular basis (e.g. every month) to ensure accurate test results at all times. Nevertheless, some special water-parameters, such as NTU-Turbidity, require a special calibration procedure which influences the measurement curve installed on your AquaPro .

• Tap on "Settings" --> "Calibration and Indexing" to open the calibration menu.
• Select the calibration procedure you want to carry out by tapping on one of them:

AquaPro
PTSA
NTU-Turbidity

If you receive an error message 'calibration failed' , please refer to the ERROR section at the end of this chapter.

*via USB Internet Stick / accessories / may be subject to costs for connection

Continued...

AquaPro calibration

A step-by-step procedure will be displayed on your AquaPro screen. Please make sure, that:
• The transparent part of the AquaPro measurement chamber is perfectly clean.
• The adapter to enter 24mm vials is installed properly.
• There is no vial inside the measurement chamber.
• The light shield is properly set on top of the measurement chamber.

Tap on 'AquaPro' to start the AquaPro calibration. Follow the instructions displayed on the AquaPro screen. Once completed, a message 'Calibration successful' will appear.
In case your AquaPro is linked to the LabCOM® cloud, a calibration certificate (PDF) will be available in your account under www.calibrations.labcom.cloud.

PTSA calibration

Please perform an AquaPro calibration prior to the PTSA calibration.
A step-by-step procedure is displayed on the screen of your AquaPro. Please make sure that:
• The measuring chamber of the AquaPro is clean,
• The 24mm cuvette adapter is correctly inserted,
• There is no cuvette in the measuring chamber,
• The properly sealed 24 mm cuvettes with calibration solutions (not expired) 0/ 100/400 ppb PTSA are ready.
• All cuvettes are 100% clean, without fingerprints, scratches or stains.
• Always align the arrow on the cuvette with the arrow on the measuring chamber.

In the "Settings" menu, go to the "Calibration and Indexing" option and then to "PTSA" to start the calibration process. Follow the instructions displayed on the AquaPro screen.

NTU-Turbidity calibration

Please perform an AquaPro calibration prior to NTU-Turbidity calibration.
A step-by-step procedure will be displayed on your AquaPro screen. Please make sure, that:

• The transparent part of the AquaPro measurement chamber is perfectly clean.
• The adapter to enter 24mm vials is installed properly.
• There is no vial inside the measurement chamber.
• You have properly sealed 24mm glass vials with calibration solutions (not expired) 0.5/10/1000 NTU' in hand.
• Calibration solution vials are 100% clean, without fingerprints, scratches, spots.
• You always align the arrow on the vial with the arrow on the measurement chamber.

In the "Settings" menu, go to the "Calibration and Indexing" option and then to 'NTU-Turbidity' to start the calibration process. Follow the instructions displayed on the AquaPro screen.

Use caution to shaking-/rest-instructions on the standard vials (0.5/10/1000 NTU):

Attention:
Please choose a cuvette that you use exclusively for the turbidity measurement. It must not be used for any other test.

Continued...

Settings

Indexing of a cuvette for turbidity measurement:

Tap on: "Settings" --> "Calibration and indexing" --> "Index cuvette". Before you start the measurement, slowly turn the sample cuvette upside down 2-3 times and leave the sample undisturbed for 2-3 minutes. The sample cuvette with the standard is now ready for measurement.

Attention:

Please select a cuvette that you use exclusively for the turbidity measurement. This must not be used for any other test! Production-related irregularities (in the glass of the cuvettes) may be present on the cuvettes. To ensure reproducible results, the cuvettes must be indexed. For indexing, a measurement is performed at a total of 7 points on each cuvette. The inscription on the lid is used to identify these 7 locations on the cuvette.

Preparation:

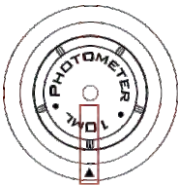
- Fill a dry, residue-free cuvette up to the mark with turbidity-free water (see below) and replace the lid.
- Hold the cuvette by the lid and remove all dirt residues with a microfiber cloth.
- Switch on the AquaPro and place the cuvette in the measuring shaft.

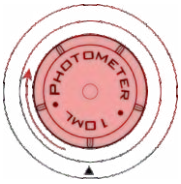
1. Make sure that the "0" (zero) on the label of the cuvette lid is upside down from your point of view and that its position corresponds to the arrow of the AquaPro.

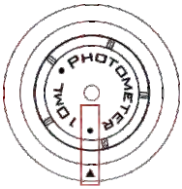
2. Tap on "Measure".

3. Turn the cuvette clockwise until the point (•) of the inscription of the on the lid is aligned with the arrow of the device

4. Tap on "Measure".



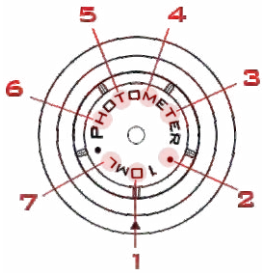




Continued...

5. Continue until all 7 indexing points have been measured. indexing points have been measured (diagram). You will be guided by the AquaPro .

O (Zero)
•
T_1
M
T_2
H
L



6. After successful indexing, the cuvette lid, the smallest indexed value and the index of the ideal position are shown in green on the display. Mark the cuvette (not the lid!) at the position of the index of the ideal position, e.g. with a waterproof pen. Important: Place your mark above the 10ml line, otherwise the mark will influence your measurement! Press "Done".

7. For subsequent measurements, insert the cuvette so that the marking point of the cuvette is aligned with the arrow of the instrument.

Produce turbidity-free water:

Please use min. 1 litre of dilution water (distilled/demineralized/deionized). If the turbidity of the dilution water is above 0.5 NTU (FNU), the water must be filtered with a sample filter or membrane filter (0.1 µm). Please clean already used cuvettes with 1:1 dilution hydrochloric acid/dest. Water and rinse them thoroughly several times with dilution water.

Possible sources of error

Indexing can be incorrect for a few reasons:

• Wrong solution: Make sure that you use a solution below 0.5 NTU.

• The light passage in the measuring chamber (AquaPro) is dirty or wet: Make sure that the transparent part (behind the cuvette adapter) is clean and that the cuvettes used have no fingerprints, dirt or scratches. Make sure that the marking points on the lid of the cuvette match the arrow on the measuring chamber of the AquaPro. The AquaPro emits light (LED) from one side of the measurement chamber through the measurement chamber to the sensor(s) on the opposite side or at a 90° angle. Any interference (dirt, fingerprints, scratches) will affect the light beam (lower transmission) and result in incorrect readings and therefore incorrect or failed indexing.

• Hardware problem: In very rare cases, failed indexing can also be due to a hardware problem, e.g. a defective LED or a sensor that is not working properly. If all of the previously mentioned solutions have not helped to successfully perform indexing, please contact your AquaPro dealer.

Settings

Possible calibration error sources:

A calibration can fail due to some reasons which can be:

• missing AquaPro calibration: Perform a AquaPro calibration prior another calibration.

• The calibration solution does not match the curve installed on AquaPro: Check that the calibration solution used is the right one for the calibration you want to perform. Check it is not expired and the volume taken (ml) is exactly the volume needed for the calibration.

• Optical path in the measurement-chamber (AquaPro) dirty or wet: Make sure that the transparent part (behind the vial-adapter) is properly clean and the vials used are without fingerprints, dirt, scratches. Make sure the arrow on the vial matches the arrow on the measurement-chamber of the AquaPro. The AquaPro beams light (LED) from one side of the measurement-chamber through the measurement chamber to the sensor(s) on the opposite or 90° side of the measurement chamber. Any interference (dirt, fingerprints, scratches) influence the light beam (less transmission) and will lead to wrong readings / wrong or failed calibration.

• Hardware issue: In very rare cases, a failed calibration can also be down to hardware issues, such as a defective LED or a not properly working sensor.

If all before named solutions did not help to successfully perform a calibration, please contact your AquaPro distributor for a factory-check of your AquaPro.

Data Scheme

All test results are stored under “Sampling Point“ to keep track of your test results in connection with the sampling point you performed the test for. When receiving your AquaPro , a “default“ sampling point is already active. You can define as many individual sampling points as you wish (in ‘sampling point‘ menu). When adding sampling points, you might not want to use the pre-defined field-names, such as “name“, “identifier“ ... but you might want to give those fields individual names. You can do so under ‘Data Scheme‘ in the ‘Settings‘ menu.

To change the field names of sampling points, swipe the sampling point you want to edit to the right and click on the round edit icon.

• Tap on ‘Sampling Points Scheme ‘ and choose the field name you want to edit.

• You can also reset your settings to “default“, by tapping the ‘Reset to Default‘ button.

Continued...

Settings

Connections

The "Connections" menu allows you to edit the WiFi and Bluetooth® settings. An internet connection is necessary to communicate with the LabCOM® cloud (synchronizing sampling points, measurements and water treatment chemicals), to receive updates and for automated online activation of additional test-parameters.
An internet-connection can be established by Wi-Fi or by a GSM-modem*.
Your AquaPro also offers a Bluetooth®-connection which, by the date of printing this manual, is without use. To manage connections, tap on the 'Connections' symbol from the ‚Settings' menu.

• Tap on Wi-Fi: A list of available Wi-Fi networks will be displayed. If Wi-Fi is activated and a Wi-Fi connection is established, the paired network will be displayed in blue.
• Enable or disable Wi-Fi connection by tapping the green/red point.
• To add a WiFi connection, tap on Wi-Fi followed by tapping one of the networks found. Then enter the network-password in the password field and confirm.
• To delete a network which was previously paired, slide the network line to the left and tap the delete symbol.

GSM*:
Internet connections established via the USB-port (e.g. GSM-stick*) can't be managed under 'Settings'. The connection establishes automatically, once a GSM-modem with valid SIM-card was plugged into the USB-port.

Display

Under 'Display' on the 'Settings' menu, you can:
• Adjust the brightness of your display (influences the battery time)
• Set the auto-display-off time (after what time the display shall be switched off)
• Set the auto-power-off time (after what time the AquaPro shall shut down)
• Define an individual home screen graphic
• Activate / deactivate the screensaver (after 30 sec. inactivity)
•Activate/deactivate display dimming. If display dimming is active, the screen automatically becomes a few levels darker after 30 seconds. After tapping the screen, it becomes bright again.

Continued...

Settings

General Settings

Under ‘General Settings‘ on the ‘Settings‘ menu you can:

• Change the country (location) by tapping on ‘Country‘ and selecting the preferred one. This setting is important for a successful Wi-Fi connection as there are specific Wi-Fi settings along with different countries.
• Change the language by tapping on ‘Language‘ and select the preferred one.
• Activate ‘automatic‘ to receive date and time from the network, as long as AquaPro has established a working internet connection. Deactivating allows you to change date and time manually.
• Change the time-zone by tapping on it and select your time-zone.
The time-zone is important in case you or an administrator applied “rules“ (admin menu under www.labcom.cloud) which are time-sensitive, such as “pH needs to be tested every morning at 9:00 am local time“.

Sound

Under ‚Sound‘ on the ‘Settings‘ menu you can:
• Enable/disable audio alerts. Note: If switched off, you won‘t be able to hear audio-feedback of timer countdowns.

Device Information

Under ‘Device Information‘ from the ‘Settings Menu‘ you can:
• Check Database version
• Check Firmware version
• Check Branding of the AquaPro
• Check serial number of your AquaPro
• Legal notices (including Licenses, Privacy Policy, GTC, safety instructions and EULA)
• Check for updates
Under ‘Device Information‘ you can also check if updates for your AquaPro are available by tapping on “check for Updates“.

To enable the AquaPro to check on available updates, an internet connection must be established. By updating your AquaPro , you will always have the latest parameters, curves and features.

• Check for Parameters
If your request for additional parameters got approved but you still cannot see them as 'activated' on the parameters list, you might have to refresh the parameter's list by tapping on 'Update Parameters'
• Perform a Factory-Reset
Performing a factory reset means that all user data (sampling points, test results, cloud logins, water treatment products) will be deleted on the AquaPro (not in the cloud) and the AquaPro will launch in „First Setup“ mode the next time it gets switched on. All activated parameters will remain activated!

Continued...

Setting Ideal ranges

Under the shortcut ‘Ideal Ranges‘ you can define - for each parameter offered on your AquaPro which test-result-range you consider as ‘OK‘, ‘LOW‘ or ‘HIGH‘. Simply enter the min.- and max.-value to have your test results validated as OK/LOW/HIGH. With a tap on the search button, you can filter the parameters list.

If you set an ideal range, the AquaPro automatically saves this rule for the selected parameter. Therefore the comments OK/LOW/HIGH will be automatically added.

News

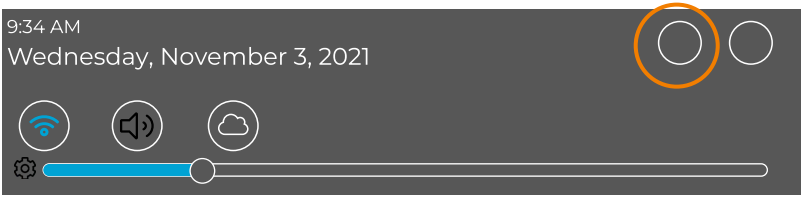
News

Keep yourself informed with news about your AquaPro (‘Support‘ -> ‘News‘). By that, you will always be noted if, for example, new parameters and new features are available. This service is free of charge but requires the AquaPro to be connected to the internet.

If you do not wish to be informed about AquaPro news, here you have the option to deactivate the news-ticker.

You can access the newsfeed via:

- The support icon in the main menu
- By dragging the status bar downwards and clicking on the letter icon in the top right-hand corner.



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due to technical reasons

Sampling Points

Your AquaPro makes testing and managing data comfortable and easy!

One of the main features of your AquaPro is that you are able to connect test results to sampling points. By that, you always keep track of your test results in conjunction with the sampling point that was tested. AquaPro offers you to create an almost unlimited number of such individual sampling points. The 'Sampling Point' menu allows you to add, edit, delete and search sampling points.

Available for you soon: You can also create and print QR-codes for individual sampling points, to be used with the AquaPro camera/QR-code scanner. Furthermore, here you can find all your test results, stored under the sampling points name for which the measurement was done.

Add sampling points

To add a sampling point, tap on the 3-bar menu (upper right corner) and click on "Sampling Point".
• Each sampling point is structured in 3 different parts: Details, Name and Identifier. Fill in the sampling point-fields and tap on the save button. You can change the field names under 'General Settings', 'Data Scheme' to make them match your data structure.

Edit sampling points

To edit an existing sampling point, swipe the sampling points name to the right, followed by a tap on the edit button.

Delete sampling points

AquaPro offers you several options to delete a sampling point:
• Tap-hold a sampling point until its background changes (darker). Tap on other sampling points you want to delete as well, if wished. Tap on the 3-bar menu button and select 'Delete selected sampling points' or simply click on the delete button which appears on the lower end of the screen, once a sampling point got marked.
• Swipe a sampling point to the left, followed by a tap on the delete-symbol.

Search sampling points

To search for a sampling point, simply click on the search button on the tool bar or tap the 3-bar menu, followed by tapping on 'Search'. A search field and the keyboard appears. You can search for full phrases or just fractions of it.

QR-Codes (Available for you soon)

Your AquaPro has an in-built camera to scan QR-codes. As long as your database is connected to the LabCOM® cloud (see 'Cloud' menu), you will be able to generate and print QR-codes of each sampling point under www.labcom.cloud. Once created, printed and held available at the sampling point, all you need to do is to scan the QR-code to immediately launch a measurement procedure where this sampling point will be already pre-selected.

Continued...

Sampling Points

Measurement results

By tapping on a sampling points name, all saved measurements for this sampling point will be listed. You can then search, filter, delete, add manual test results, create dosage recommendations or directly initiate another measurement for this sampling point.

• Filter:
Either tap on the search button on the tool bar or tap on the 3-bar menu and select 'Filter'. A window with fields to filter, such as parameter, date etc. will appear.

• Delete: AquaPro offers you several options to delete measurements:
Tap-hold a measurement until its background changes (darker). Tap on other measurements you want to delete as well, if wished. Tap on the 3-bar menu button and select 'Delete selected measurements' or simply click on the delete button which appears on the lower end of the screen, once (a) measurement(s) got marked. Swipe a measurement to the left, followed by a tap on the delete-symbol.

• Add measurement results manually:
To add measurements manually, e.g. temperature or results obtained with other devices, just tap on the 3-bar menu and select 'Add Measurement' followed by entering the required information into the fields offered.

(Continued) Measurement results

• Create dosage recommendations:
As long as you entered the water volume of this sampling point (when typing in the sampling point information) and as long as you listed matching chemicals under the 'Chemicals' menu, you can let the AquaPro calculate dosage recommendations for you to know exactly, how much of your individual chemicals have to be added to bring the tested water value to a desired one.
To start a dosage recommendation, just tap-hold the test result, tap the 3-bar menu button, followed by selecting 'Dosage Recommendation' from the menu.

By selecting ‚Dosage Recommendation' from the menu without marking (tap hold) a test result before, you will be able to individually create a dosage recommendation by entering a parameter and the start value.

• Start a new measurement:
By tapping on the 3-bar menu button, followed by a tap on 'New Measurement', AquaPro switches automatically to the measurement menu with this sampling point pre-selected as the sampling point to be tested.

Continued...

Sampling Points

Single Measurement

To view details of each measurement saved, simply tap on the test result to open a new window where all info, related to this measurement, will be displayed. Just swipe up to see more details.

To edit a saved measurement, just swipe the measurement result to the right, followed by tapping on the edit button. You can then tap in the fields shown and edit the information. Note that AquaPro will mark those manually edited test results as 'changed' and will provide a history of the changes made, also showing the original values. Fields to be edited are:

- Measurement value
- Timestamp
- Operator

Here you can also enter a free text as a comment, saved along with this measurement.

Print, export and report Measurement results

As long as your sampling points, test-results and individual chemistry is being synchronized by the cloud (see menu 'Cloud'), you will have access to all this data through the LabCOM® app, LabCOM® software and LabCOM® cloud, where you can manage all sampling points, view, edit, print, export (PDF and Excel) and report easily as well.

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due to technical reasons

QR-Scanner / Camera

Available for you soon!

The in-built camera of the AquaPro is designed to make your life easier by scanning QR-codes. So far, AquaPro offers three options to scan QR-codes:
• Reagents
• Sampling points
• Activation codes

Scanning Sampling Point

As AquaPro always saves test results in conjunction with a sampling point, the test process starts with selecting the sampling point for which you intend to perform the following measurement. As long as your database is connected to the LabCOM® cloud (see 'Cloud' menu), you will be able to generate and print QR-codes of each sampling point under www.labcom.cloud and have it ready near the water site, to scan it.

Once created, printed and held available at the sampling point, all you need to do is to scan the QR-code to immediately launch a measurement procedure where this sampling point will be already pre-selected. AquaPro offers two options to pre-select the sampling point to be measured, using the in-built camera:
• Tap on the camera symbol on the main menu and scan the QR-code of the sampling point. The 'Test' menu will appear instantly, with the scanned sampling point pre-selected.

• Start a test procedure by tapping the 'Test' icon on main menu, then tap the camera symbol next to the sampling point field, followed by scanning the QR- code of the sampling point.

Scanning Reagents

AquaPro offers two options to pre-select the test to be performed, using the in-built camera:
• Tap on the camera symbol on the main menu and scan the QR-code of the reagent-pack in hand. AquaPro then offers you a list of parameters matching the reagent scanned. Tap on the test method you wish to use. The 'Test' menu will appear instantly, with the test method pre-selected.

• Start a test procedure by tapping the 'Test' icon on main menu, then tap the camera symbol next to the test-methods field, followed by scanning the QR- code of the reagent-pack in hand. AquaPro then offers you a list of parameters matching the reagent scanned. Tap on the test method you wish to use.

Activating additional parameters

When your request for additional parameters for your AquaPro is approved, you will receive an Email which contains a QR-code. Just tap on the camera symbol on main-menu and scan this QR-code to activate the requested parameters.

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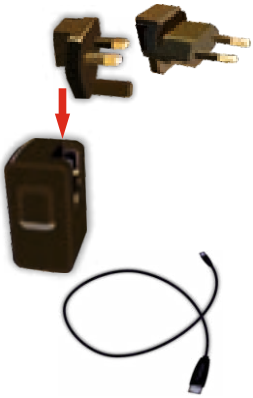
USB

Connectivity:

AquaPro offers various connection options. Simply connect the associated parts to the USB (type C) port on the left side of the AquaPro.



Charger/USB-cable

Charge the AquaPro in-built battery or connect the AquaPro to your computer, using the USB-cable given with your AquaPro. If your battery is empty, the AquaPro needs at least 5min before it can be started with the cable connected. The power button always lights up red as soon as the charging cable is connected. Once the device is 100% charged, the power button no longer lights up.

When connecting the AquaPro to your computer via USB, you can choose to auto-install the LabCOM® software (Windows and Mac) and to synchronize all data from your AquaPro with the LabCOM® software. A more convenient way would be to link both, your AquaPro as well as your computer, to the LabCOM® cloud (see menu 'Cloud'), enabling real-time synchronization.

Available for you soon: USB type C to USB type A adapter

Some peripherals might have a USB type A plug (e.g. GSM-modem) which does not match the USB type C plug of your AquaPro. In this case, just use the USB type C to USB type A adapter.

4G*

AquaPro comes with an in-built Wi-Fi option. Nevertheless, there might be no Wi-Fi network available in field but still you want to have full connectivity and instant upload to the LabCOM® cloud. In such cases, just plug a GSM-modem* with proper SIM card into the USB-slot of your AquaPro. An internet connection will be established instantly (subject to network coverage).

Hub

In some cases, the single USB type C connector on your AquaPro might not be enough. The AquaPro USB-HUB expands the USB type C on the AquaPro to 1x USB type C plus and 3x USB type A.

*via USB Internet Stick / accessories / may be subject to costs for connection

ProbeBOX & electrodes

The AquaPro allows the connection of a ProbeBOX accessory via USB. This allows Electrodes to be connected via the ProbeBOX, enabling physicochemical measurements, e.g. pH, EC, TDS, Salinity, ORP. Please note, this option might not yet be available at the time of printing this user manual. Please enquire at info@trace2o.com

Parameter

Most probably, your AquaPro has been factory setup with just those parameters you ordered / need. Nevertheless, your AquaPro always offers you the latest list of all parameters developed which can be activated at any time. The 'Parameters' menu allows you to:
• Obtain information about the water-parameter itself, including information about the needed reagents.
• Check which parameters are activated on your AquaPro.
• Request additional parameters to be activated on your device.
• Activate additional parameters on your AquaPro.

Parameter dictionary

Click on the arrow on the right side of the parameter name to expand the window.
Interesting facts and information about this parameter will be displayed and a list of needed reagents will be shown as well.

Show activated parameters

Filter the parameters-list to show only such parameters which are activated on your device, by tapping the 3-bar menu button followed by a tap on 'Show only activated Parameters'. A new window will appear, showing you all parameters which are activated on your AquaPro.

Request parameter

You might want, at some point, activate additional parameters (test methods) on your AquaPro. To activate additional parameters, you first have to request them (internet-connection necessary!):

• Tap on the 3-bar menu button
• Tap on the "Request parameter" button
• Select one or more parameters you want to activate from the list
• Enter your email-address in the designated field (auto-filled with your LabCOM® cloud email-address, if entered) and press 'Request'. Once the request has been successfully sent, you will receive a confirmation message on the AquaPro screen.

Activate Parameters

There are several options how to activate additional parameters:

• Automatically: If your AquaPro uses a working internet connection (e.g. Wi-Fi) and your request for additional parameters was approved, the activation of the requested parameters will happen automatically.

Available for you soon:
• Scanning a QR-code: When your request for additional parameters for your AquaPro was approved, you will receive an Email which contains a QR-code. Just tap on the camera symbol on main-menu and scan this QR-code to activate the requested parameters.
• Enter an activation code: When your request for additional parameters for your AquaPro 2.0 was approved, you will receive an Email which contains a text-code next to the QR-code. Tap on the 3-bar menu button on the 'Parameters' menu followed by a tap on 'Activate parameter'. You then need to type in the code received, followed by tapping ,OK'

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due to technical reasons

Test

AquaPro makes testing easy:

On your AquaPro 5.5" colour HD-display you will receive step-by-step guidance through every test you are performing, plus animated clips showing graphically what needs to be done to successfully perform the measurement. Each test result will be saved to a sampling point in conjunction with the selected operator name, time-stamp and dilution factor, if chosen.

How to enter the TEST menu

Launch a test procedure by...:
• Tapping the “TEST” icon on the main menu (! Sampling point and parameter are pre-set with the ones from last measurement!)
• Tapping on “New Measurement” from the ‘Sampling Point‘ menu (! The sampling point from where you initiate “New Measurement“ will be pre-selected !)

Available for you soon:
• Scanning a reagent QR code (! Last sampling point used will be pre-set. Parameter to be tested can be selected from a dropdown menu, which shows suitable parameters according to the QR-code scanned !)
• Scanning a sampling point QR code (! Last parameter tested will be pre-set. Sampling point will be pre-set according to the QR code information !)

Perform a measurement

Once you entered the ‘TEST‘ menu...
• Choose/change the sampling point for which the test shall be performed from the drop-down menu.
• Choose/change the parameter you want to test from the drop-down menu.
• Choose/change the dilution-factor if applicable. Not every parameter offers dilution.
• Choose/change the operator performing the test from the drop-down menu.
• Press “START” to start the measurement.
• Follow the instructions on the screen
After the result is displayed, you have the option to repeat the test. To do so, press the Repeat button.
If you do not want to repeat the test and continue with the next step, press the arrow button.

Intelligent OTZ (One-Time-Zero)

Almost every test requires a ZERO measurement. The ZERO value determines the colour/turbidity of your water sample in order to eliminate any pre-colouration or turbidity. AquaPro stores the last ZERO value to be able to perform more than one test with the same undiluted water source (!) without having to repeat the ZERO measurement each time. Since some parameters use different ZERO methods, such as 10ml water sample or 5ml water sample plus 5ml deionised water, AquaPro recognises the ZERO type of each measurement and only offers OTZ if the following measurement matches the ZERO type of the last measurement taken.

Continued...

Test

Please read the following instructions carefully because these must be strictly observed to ensure accurate measurements:

Before inserting the cuvette into the sampling chamber please ensure that the cuvette is absolutely dry and clean, that there is no soiling by fingerprints etc., so that the light ray transmitted by the device for testing is not refracted or blocked. It is best to wipe the outside of the cuvette with a soft, clean and dry cloth before inserting it.

The cuvette lid, the cuvette itself and the stirring rod (if used) must be clean, to ensure that the samples to be tested are not contaminated by dirt, residues or remaining reagents of a previous test.
Never clean cuvette, lid or stirring rod with a detergent as these will leave residues and could influence any subsequent tests.

It is best to always use the same cuvette for any single parameter and to mark the cuvette on the outside on the bottom with a waterproof marker accordingly for this particular parameter.
The cuvette must also be free of any scratches as these would divert the light ray transmitted during the test. Replace any scratched or damaged cuvettes with new ones.

Make sure that you use only photometer grade reagents (PL range and Photometer tablets). Using RAPID reagents will lead to incorrect results!
Check before each test-run that the reagents used have not exceeded their best before date.

Always keep the sampling chamber (behind the cuvette adapter) clean. On 4 sides of the chamber you will see small holes behind the transparent chamber. The LEDs and sensors are located behind these holes. All transparent parts in front of these must be dry and clean.

Any soiling must be cleaned properly.Some reagents are classified as hazardous materials. These are identified as such on the packaging.

Always adhere to the safety instructions on the packaging and in the safety specifications to prevent damages to yourself, the device and the environment.
NEVER touch reagents with your fingers, pour them directly from the container into the water sample!

Always close liquid- and powder reagent containers immediately after use. Always ensure uniform drop sizes / powder-spoon-sizes are used.

Air bubbles on the inside of the cuvette wall will result in incorrect measurements! If there are any bubbles, carefully shake/tap the cuvette to release these.

Always conduct baseline (zero) measurements with the same cuvette used for the subsequent test. Always make sure that the triangular marking on the cuvette is aligned with the triangle on the front of the sampling chamber on the device. There are always small differences between cuvettes (tolerances due to production).

Continued...

Test

The device must be acclimatised to the ambient temperature. Great differences between the device temperature and that of the environment can lead to the formation of condensation obstructing the optical system, which in turn will lead to incorrect measurements.

The sampling chamber must be free from water or humidity, otherwise there will be the risk of damage to the electronics inside the device.

Please calibrate your AquaPro on a regular basis (at least once per month) as described under ‘Settings‘ to obtain the best possible measurement results.

AquaPro must remain on a flat surface while testing as otherwise the LED light will not pass correctly through the sample water, leading to incorrect results.

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Super OTZ

Intelligent OTZ (One-Time-Zero)

Almost every test requires a ZERO measurement.
To ensure a faster measurement process for repetitive measuring of sapmles (e.g. COD), there is now the option of Super OTZ (One Time ZERO).
With this function, a ZERO measurement is stored in the AquaPro and can be recalled for each measurement.
The ZERO value determines a color/turbidity of your water sample in order to eliminate any preliminary coloration or turbidity. AquaPro stores the last ZERO value to be able to perform more than one test with the same undiluted water source (!) without having to repeat the ZERO measurement each time. Since some parameters use different ZERO methods, such as 10ml water sample or 5ml water sample plus 5ml deionized water, AquaPro recognizes the ZERO type of each measurement and offers OTZ only if the following measurement matches the ZERO type of the last performed measurement.

Add Super OTZ

Tap on "Super OTZ" in the main menu to display all OTZs that already exist.
• Tap the hamburger menu in the top right corner.
• Tap on "Add OTZ".
• Select the parameter to which you want to assign the OTZ.
• Name your OTZ anything you want to identify it later.
• Tap "Start Super OTZ" to begin the ZERO measurement.
• Follow the on-screen instructions (to go to the next step tap the single arrow icon , to go directly to the ZERO measurement tap the double arrow icon.)

Delete Super OTZ

Tap on "Super OTZ" in the main menu to display all OTZs that already exist.
You have several options to delete an OTZ.
• Swipe the OTZ you want to delete to the left, and then tap the trash can icon.
• Tap and hold on the OTZ until it turns blue. By tapping on more OTZs, you can add them to the selection.
• Tap on "Delete selected" at the bottom left to delete the selected OTZs.
// Alternatively, tap on the hamburger menu and then on "Delete selected OTZ".

Search Super OTZ

Tap on "Super OTZ" in the main menu to display all OTZs that already exist.
You have several options to search for an OTZ.
• Tap on the magnifying glass icon in the upper right corner and enter the desired search term in the search field.
// Alternatively, tap on the hamburger menu and then on "Search" . Then enter the desired search term in the search field.
• You can search for whole phrases or just fractions of them.

Use Super OTZ in a measurement

To use the Super OTZ in a measurement, the parameter of the Super OTZ and the parameter of the measurement must be identical.
(To perform a measurement, see chapter "Test", page 41).

- Follow the instructions on the screen until you are prompted to select the desired ZERO method.
- Select your previously created Super OTZ here.
- Tap on "Confirm".
- Continue your measurement by following the instructions on the screen.

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Favourites

Your AquaPro is a powerful measurement tool with many options to choose from. The ‘Favourites‘ menu is designed to make your life easier and to allow short-cuts to frequently performed measurement-constellations.

Favourite‘s test-setups

After selecting all information for a new measurement (sampling point/parameter/dilution factor) under "TEST", you have the option to save this constellation as a "favourite", i.e. the sampling point, the selected parameter and the dilution factor are saved as an icon under "Favourites" for quick access later.

- Go to the 3 bar menu and then tap on "Test".
- Select the parameters you want to have pre-set later and finally tap on the star in the top right corner
- Check your settings and give a name to your favourite.
- Tap on "Save“

Filter / search ‘Favourites‘

Tap on ‘Favourites‘ on the main menu.

- Tap on the 3-bar menu-button, followed by tapping on ‘Filter‘ and select a sampling point and/or a parameter from the drop-down menu to filter the ‘Favourites‘ list
- Tap on the search button or on the 3-bar menu-button, followed by tapping on ‘Search‘ to enter a phrase which will be used to search a ‘Favourites‘ name.

Use a ‘Favourite‘

- Tap on “Favourites” on the main menu.
- Tap on the ‘Favourite‘ you want to use
- The ‘TEST‘ menu will instantly appear with fields pre-filled according to what is saved under this ‘Favourite‘.

‘Favourite‘ on your home-screen

As with all icons of your AquaPro, you can also create shortcuts for each "Favourite". To do this, tap on "Favourites" in the main menu and then on the star to link your desired measurement on the start screen.

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due to technical reasons

Cloud

www.labcom.cloud

General

One of the key-benefits of your AquaPro is its connectivity (Wi-Fi, USB, Bluetooth, GSM*) to enable you to share and synchronize all measurement results, connected to sampling points which were tested. By synchronizing with the LabCOM® cloud, all data will be available (password protected) to be used with the LabCOM® app (Android and iOS), the LabCOM® software (Windows and Mac) and on www.labcom.cloud for instant access.

To link to the LabCOM® cloud, your AquaPro needs to have internet access!

Sign up to the LabCOM® cloud

To use the free LabCOM® cloud service, all you need to do is to register. Depending on your region, it might be necessary to select a cloud-server-region prior the following steps.

- Tap on 'Cloud' on the main menu
- Tap on 'Register'
- Enter your Email-Address and an at least 6-digit password you can easily remember.
- Tap on 'Register'

As long as your AquaPro can use a working internet-connection, e.g. through Wi-Fi, all your data (sampling points, measurement record sets, individual chemistry) will be synchronized with the LabCOM® cloud. Just log-on to the cloud from the LabCOM® app, software or web-application (www.labcom.cloud) to see and work with all data previously only stored on your PrimeLab. This option also suites for instant reporting to e.g. your headquarters or your customer(s).

Log on to the LabCOM® cloud

Once you registered a free LabCOM® cloud account, all you need to do is to log-on by :

- tapping on 'Cloud' on the main menu
- entering your Email-address and the password you choose during the registration process
- choose to tick the box for 'Update local data?' (sampling points, measurement results and individual chemicals stored on your AquaPro will be uploaded to your cloud-account).
- tap on 'Login'. Data will be synchronized in fix intervals. You can also manually refresh by tapping on the refresh-button.

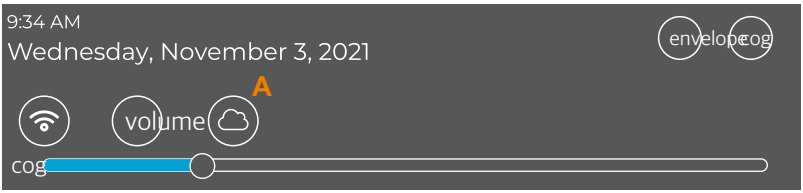
*via USB Internet Stick / accessories / may be subject to costs for connection

Continued...

Log off from the LabCOM® cloud

To sign out from the LabCOM® cloud, tap on the icon on the right upper screen of the ‘Cloud‘ menu.

sign-out-alt



A After you have logged in, you can also manage or access your cloud via the short-cut on the status bar.

Scan here to reach the LabCOM® Cloud

Chemistry

General

Under the ‘Chemistry‘ menu, your AquaPro offers you to perform index calculations, active chlorine calculation, hardness conversions and to store individual water treatment chemicals to let the AquaPro calculate a dosage recommendation, based on a test result obtained.

Index calculation

To perform an index calculation, simply tap on the "Index" bar in the "Chemistry" menu and fill in the required fields. The RSI and LSI index as well as the pH value are calculated at the bottom of the screen as soon as all required parameters have been entered.

Active Chlorine calculation

To perform an Active Chlorine calculation, simply tap on the ‘Active Chlorine‘ bar on the ‘Chemistry‘ menu and fill out the required fields. The Active Chlorine value will be calculated at the bottom of the screen, once all required parameters got entered.

Water Treatment Products

AquaPro offers you to store your individual water treatment products on the AquaPro database to use it for individual dosage recommendation (see: ‘Sampling Point‘ -> ‘Dosage recommendation‘).

• Tap on ‘Water Treatment Products‘ on the ‘Chemistry‘ menu to:

• Add individual water treatment products by either tapping on the ‘+‘ icon (upper right corner) or the 3-bar-menu, followed by a tap on ‘Add New‘. A new window will open where you have to choose the parameter group from a drop-down menu, enter the name of the water treatment product you want to add and determine if it increases or decreases the value, followed by entering the effect-ratio.

• Edit individual water treatment products by sliding an entry to the right, followed by tapping on the edit-button.

• Deleting individual water treatment products by sliding an entry to the left, followed by tapping on the edit-button. You can also tap-hold more than one entry and tap on the delete button at the lower end of the screen to delete multiple entries.

• Searching for individual water treatment products by tapping on the 3-bar-menu button followed by tapping on ‘search‘ and entering phrases or fractions into the search field. The individual water treatment products list will then be filtered accordingly.

Continued...

Hardness Conversion

Hardness can be expressed in different units, such as ppm $CaCO_3$, °dH etc. The ‘Hardness Conversion‘ menu under ‘Chemistry‘ offers you to cross-calculate such values.

Software

General

One of the benefits of your AquaPro is the option to upload all sampling point data, test data and individual water treatment products to the LabCOM® cloud to have it available on the LabCOM® app (Android and iOS), software (Windows and Mac) and website (www.labcom.cloud).

All LabCOM® applications are free of charge. Whilst the web application under www.labcom.cloud does not require any installation effort. The LabCOM® app can be downloaded from the App Store and Google Play store.

LabCOM® software, app and web are powerful tools with plenty of options offered. Our IT team is constantly developing new features, which makes it difficult to offer you full guidelines of these applications in this user manual.

Nevertheless, on the AquaPro YouTube channel you can always find the latest tutorials, guiding you through the various features the app, software and web has to offer.

More info about the benefits of synchronizing your data with the LabCOM® cloud can be found under the chapter ‘Cloud‘ as well as ‘Settings‘ -> ‘Connections‘ of this user manual.

In essence: With the LabCOM® applications you can:

- Synchronize your AquaPro data to be available on almost any platform
- Run reports and statistics
- View test result-development as graphics
- Export test results to PDF and Excel
- Manage sampling point and measurement data
- Create dosage recommendations
- Calculate indices
- Define rules such as ‘needs to be tested daily at 9 am‘ or ‘needs to be in between 1 - 2 ppm‘.
- Grant access to your data to other users

and much more

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due to technical reasons

Support

Troubleshoot

Your AquaPro has been designed for daily use. User guidance is intuitive to prevent mistakes in operation. In exceptional cases, however, the following error messages might be displayed:

• Invalid password
This error message appears when trying to log on to the LabCOM® cloud or to a Wi-Fi network, with invalid password. Please make sure you use the correct login details. A password reset is only possible via web interface LabCOM®.

• Reagent Expired (Available for you soon)
You scanned a QR-code of a reagents pack of a batch which is expired.

• Low battery power
The in-built battery of your AquaPro needs to be charged before you can proceed.

• No calibration data
Your AquaPro is calibrated on the unique LEDs/sensors setup of your AquaPro. If the internal calibration file is missing or corrupted, please perform a AquaPro calibration as described under ‘Settings‘.

Some parameters, such as ‘NTU Turbidity‘ require a special calibration. If this special calibration has not been performed or if the calibration file is missing/corrupted, please perform the calibration for this specific parameter as described under ‘Settings‘.

• AquaPro cannot be started (battery empty and charging cable connected)
The AquaPro needs at least 5min before it can be started with the cable connected.

• Power button lights up red
The power button always lights up red as soon as the charging cable is connected. Once the device is 100% charged, the power button no longer lights up.

• Power button blinks red
Error during the charging process. The device is defective or overheated. In case of long-term malfunction, contact your distributor.

• Update incomplete:
Due to the ability to connect your AquaPro to the internet, you will be offered to download and install the latest update, which may contain additional parameters (requiring an activation code), bug fixes or additional features. Updates are requested through a pop-up window. If your AquaPro has problems during the download or installation of the update, the message 'Update incomplete' will be displayed. A 'Repeat Update' button allows you to repeat the update process. It is strongly recommended that you download updates over a fast Wi-Fi connection.

• Adapter not inserted correctly
Please check whether the cuvette adapter is inserted correctly, otherwise the measurement result may be incorrect.

Continued...

Support

• No identifiable (QR) code (Available for you soon)
You scanned a QR-code which cannot be recognized by your AquaPro (sampling point-, reagent-, or activation code). Please make sure you are scanning a valid sampling point- or reagents code and that the code itself is printed properly without damage. You can also enter an activation code manually. If the code is not valid, it will light up red.

• Parameter not active (Available for you soon)
If you scan a QR code of a reagent connected to (a) parameter(s) which are not activated on your AquaPro, you will receive this error-message. In this case, proceed to the ‘Parameters‘ menu and request an activation code.

• Overrange / Underrange
Each parameter has test range limits, such as ‘Alkalinity 20 – 500 mg/l‘.
If the test result obtained is outside these limits, no test result but ‘Overrange‘ (higher than limit) or ‘Underrange‘ (lower than limit) is displayed.

• Missing data (water volume / water treatment product)
If you try to create a dosage recommendation all available information is transferred to the input fields; if data is missing, you must enter it manually. All input fields must contain data. Please make sure that the necessary data (sampling point volume and water treatment chemicals) are entered before a dosage recommendation is launched. If your AquaPro does not find any products, this will be indicated accordingly.

• AquaPro 2.0 start-up process becomes a “loop”
The battery charge of your AquaPro is too low to complete the start-up process.
Plug the AquaPro to the main power supply and wait for at least 1 hour until you switch the AquaPro on again.

Update

Always up to date

One of the benefits of being able to connect your AquaPro with the internet is that you can receive updates for your device.

Updates can be necessary to benefit from new test methods / parameters, new features or even to get rid of some bugs that have not been noticed when your device was manufactured. By checking for updates and running them frequently, your AquaPro will never be outdated but will always be up to date. If an update is available, you will receive a message (pop up window) giving you the option to run or skip the update.

If an update is available, you will also be notified by an icon on the status bar. Nevertheless, you can also actively check for updates. Just tap on ‘Settings‘ followed by a tap on ‘Device Information‘ to find the ‘Check for Updates‘ button.

To enable the AquaPro to check on available updates, an internet connection must be established. By updating your AquaPro, you will always have the latest parameters, curves and features.

Assistance

We do our best to support you!

Even if the AquaPro is designed intuitive, you might be faced with questions that cannot be answered by this user manual.

As a first step, please check if there is an update available for your AquaPro. You might be dealing with a bug which already got fixed by an update. Tap on ‘Settings‘ followed by ‘Device Information‘. You will find a ‘Check for Updates‘ button. Click on it and perform the update in case it gets offered.

Due to updates with new features, your printed user manual might no longer be up to date. You can always download the latest user-manual from the manuals section on Trace2o.com

If nothing helps, feel free to drop us an email with your request by writing to info@trace2o.com

News

Keep yourself informed

As your AquaPro can be connected to the internet, you are able to receive the latest news, such as new parameters and new functions.

As soon as messages are published, you will see an envelope in the status bar.

Tap on the main menu --> "Help" and then on "News" to open the section that shows you the headlines of all published "News/News".

Tap on the headline to see the full text.

Swipe the headline to the right to see the "Delete" button, or simply tap the headline to select one or more headlines followed by a tap on the "Delete" button at the bottom of the screen, or simply tap the 3 bar menu button followed by a tap on "Delete" to delete the selected "Messages".

Cleaning the device

Please keep your AquaPro clean!

Do not use detergents to clean your AquaPro but solely use little water and a soft cloth.

Make sure the transparent part (behind the vial-adapter) is properly clean and the vials used are without fingerprints, dirt, scratches. Always keep the sampling chamber (behind the vial adapter) clean. On 4 sides of the chamber, you will see small holes behind on a dark plastic part. The LEDs and sensors are located behind these. All transparent parts in front must be dry and clean.
Any soiling must be cleaned properly.

The AquaPro beams light (LED) from one side of the measurement-chamber through the measurement chamber to the sensor(s) on the opposite or 90° side of the measurement chamber. Any interference (dirt, fingerprints, scratches) influence the light beam (less transmission) and will lead to wrong readings / wrong or failed calibration.

Do not exert any pressure when cleaning your AquaPro , especially when cleaning the display.

Clean the plastic pane in front of the camera lens to ensure that QR-codes (Available for you soon) can be recognized properly.

Avoid water entering the USB port of your AquaPro.

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Technical Data

Dimensions:	*10 x 25.5 x 5.9 cm*
Weight:	*715g*
Spectral Range:	*390nm - 950nm (parallel reading)* *18 wavelength, peaks at 410/435/460/485/510/535/560/ 585/610/645/680/705/730/760/810/860/900/940nm* *180° and 90° Setup for direct and indirect measurement*
Photometric accuracy:	*2 % FS (25 °C)*
Parameters:	*More than 140 parameters (flexible setup)* *User defined parameter function*
Electrodes:	*USB-type-C connector for additional parameters*
Connectivity (technical):	*Bluetooth® 4.2, WiFi, USB (type C), 4G**
Connectivity: (software)	*LabCOM® software (Windows / Mac), LabCOM® App (Android / iOS), LabCOM® Cloud (web-browser)*
Display:	*5.5'' Colour-HD-Touch Display*
Camera:	*(Available for you soon) In-built QR-code scanner*
Calibration:	*Auto-calibration function with certificate (software)*
One-Time-Zero:	*Intelligent OTZ (One-Time-Zero) function with recognition of ZERO types*
Internal Memory:	*>150 000 measurements*
Clock / Date:	*RTC (Real-Time-Clock)*
Auto-Off:	*Factory default setting = 30 minutes.* *Individual adjustment possible*
Auto-Standby:	*Factory default setting = 10 minutes | Individual adjustment possible* *Display-Dimming Factory default setting = on*
Menu guidance:	*Intuitive, touch controlled menu display; test instructions displayed during measurement process*
Power supply:	*8.400 mAh Li-Ion-battery | Charging time (0 – 100%): 4 – 8 hours*
Languages:	*> 15*
Environment:	*5°C – 45°C / 30 – 90% rel. humidity*
Water-proof rating:	*AquaPro is splash-water-proof (IP 54)*
WiFi frequency:	*2.4 GHz and 5 GHz*
Transmit power:	*max. 16 dBm.*
Reagents:	*The calibration curves are adjusted to the reagents offered by Trace2o ® Using third party reagents may lead to inaccurate results.*

**via USB Internet Stick / accessories / may be subject to costs for connection*

Guarantee Policy

Guarantee Policy

For this product, if bought new from an authorized distributor of the manufacturer, we grant a two year warranty, as required by law, starting from the date of purchase as shown on the purchase receipt.

This guarantee does not cover any parts installed in the device that were not purchased from the manufacturer of the device.

In case of a defect during the guarantee period, the device needs to be returned to the manufacturer who, at its own discretion, may either repair the device free of charge or replace it, under the condition that the device has not been tampered with or been used improperly, and that no modifications or repairs have been carried out on the device without the explicit written permission by the manufacturer.

When returning the device, always include the original purchase receipt and a precise description of the claim. If the purchase receipt and / or fault description are not included, processing guarantee claims is not possible and the device will be shipped back to the sender on his/her expenses.

According to the legal requirements the device will, after guarantee services have been claimed, be subject to the guarantee conditions for the remaining duration of the original guarantee.

The manufacturer of the device is and shall not be liable for any damages or loss of revenue or savings as well as other consequent or collateral damages incurred in the past or the future by the user due to using or not being able to use the device.

The guarantee policy declared here is without prejudice to any further legal claims by the user versus the direct contractual partner.

The manufacturer guarantee for direct, indirect, special damages, consequential or collateral damages caused by the use of the device, its accompanying software or documentation, shall in no case whatsoever exceed the final price paid for the product.
The manufacturer does not offer any compensation upon return to the unit.

The manufacturer cannot be held responsible for damage due to improper handling of the device.
In case of improper handling of the device, user protection cannot be granted anymore.

All warranty claims become invalid, once the device was opened by the user or any other party, which has not been legitimized by the manufacturer.

Safety Instructions

Do not lick or eat reagents
Doing so may cause deathly poisoning depending on the type of reagent.
Please read the warnings on the packaging/the MSDS and follow the instructions.

Do not use damaged power cords or plugs, or loose electrical sockets
Unsecured connections can cause electric shock or fire.

Do not touch the device, power cords, plugs, or the electric socket with wet hands or other wet body parts
Doing so may cause electric shock.

Do not pull the power cord excessively when disconnecting it
Doing so may cause electric shock or fire.

Do not bend or damage the power cord
Doing so may cause electric shock or fire.

Do not directly connect together the charger's positive and negative terminals
Doing so may cause fire or serious injury.

Do not use your device outdoor during a thunderstorm and/or rain
Doing so may result in electric shock or device malfunction.

Use manufacturer-approved chargers, accessories, and supplies
• Only use Trace2o approved chargers and cables specifically designed for your device to achieve the fastest possible charging results.
• Trace2o cannot be held responsible for the safety of the user if accessories or equipment not approved by Trace2o are used.
• Do not place near heat sources such as fires or heaters.

Do not carry your device in your back pockets or on your waist
• The device may be damaged, explode, or result in a fire if too much pressure is applied to it.
• You may be injured if you are bumped or fall.

Do not drop or cause excessive impact to the device
• This may damage your device or battery, cause the device to malfunction, or shorten ist lifespan.
• This may also cause overheating, combustion, fire, or other hazards.

Handle and dispose of the device and charger with care
• Never dispose of the battery or device in a fire. Never place the battery or device on or in heating devices, such as microwave ovens, stoves, or radiators. The device may explode when overheated. Follow all local regulations when disposing of used device.
• Never crush or puncture the device.
• Avoid exposing the device to high external pressure, which can lead to an internal short circuit and overheating.

Continued...

Safety Instructions

Protect the device, battery and charger from damage

• Avoid exposing your device and battery to very cold or very hot temperatures.
• Extreme temperatures can damage the device and reduce the charging capacity and life of your device and battery.
• Do not use a cable whose covering is peeled off or damaged, and do not use any charger or battery that is damaged or malfunctioning.

Do not store your device near or in heaters, microwaves, hot cooking equipment, or high-pressure containers

• Your device may overheat and cause a fire.

Do not use or store your device in areas with high concentrations of dust or airborne materials

Dust or foreign materials can cause your device to malfunction and may result in fire or electric shock.

Prevent the multipurpose jack and the small end of the charger from contact with con-ductive materials, such as liquids, dust, metal powders, and pencil leads.

Do not touch the multipurpose jack with sharp tools or cause an impact to the multipurpose jack
Conductive materials may cause a short circuit or corrosion of the terminals, which may result in an explosion or fire.

Do not bite or suck the device or the battery

• Doing so may damage the device or result in an explosion or fire.
• Children or animals can choke on small parts.
• If children use the device, make sure that they use the device properly.

Do not insert the device or supplied accessories into the eyes, ears, or mouth

Doing so may cause suffocation or serious injuries.

Do not handle a damaged or leaking Lithium Ion (Li-Io) battery

For safe disposal of your Li-Io battery, contact your nearest authorised service centre.
Failure to comply with safety cautions and regulations can cause injury or property damage

Do not use your device in a hospital, on an aircraft, or in an automotive equipment that can be interfered with by radio frequency

• Avoid using your device within a 15 cm range of a pacemaker, if possible, as your device can interfere with the pacemaker.
• To minimise possible interference with a pacemaker, use your device only on the side of your body that is opposite the pacemaker.
• If you use medical equipment, contact the equipment manufacturer before using your device to determine whether the equipment will be affected by radio frequencies emitted by the device.
• On an aircraft, using electronic devices can interfere with the aircraft's electronic navigational instruments. Follow the regulations provided by the airline and the instructions of aircraft personnel. In cases where it is allowed to use the device, always use it with all radio-options switched off.
• Electronic devices in your car may malfunction, due to radio interference from your device. Switch off all radio function of your device to avoid interference.

Continued...

Safety Instructions

Do not expose the device to heavy smoke or fumes
Doing so may damage the outside of the device or cause it to malfunction.

If you use a hearing aid, contact the manufacturer for information about radio interference
The radio frequency emitted by your device may interfere with some hearing aids. Before using your device, contact the manufacturer to determine whether your hearing aid will be affected by radio frequencies emitted by the device.

Turn off the device in potentially explosive environments
• Always comply with regulations, instructions and signs in potentially explosive environments.
• Do not use your device at refuelling points (petrol stations), near fuels or chemicals, or in blasting areas.
• Do not store or carry flammable liquids, gases, or explosive materials in the same compartment as the device, its parts, or accessories.

If any part of the device is broken, smokes, or emits a burning odour, stop using the device immediately.
Use the device again only after it has been repaired by the manufacturer or someone who was approved by the manufacturer.
• Broken glass or acrylic could cause injury to your hands and face.
• When the device smokes or emits a burning odour, it may result in battery explosion or fire.

Comply with all safety warnings and regulations regarding device usage while operating a vehicle
While driving, safely operating the vehicle is your first responsibility. Never use your device while driving, if law prohibits it. For your safety and the safety of others, use your common sense and remember the following tips:
• Do not use your AquaPro 2.0 while driving. You could be distracted from the road and cause a car accident.

Care and use your device properly
• Keep your device dry
• Humidity and liquids may damage the parts or electronic circuits in your device.
• Do not turn on your device if it is wet. If your device is already on, turn it off (if the device will not turn off, leave it as-is). Then, dry the device with a towel and take it to a service centre.
• This device has internal liquid indicators fitted. Water damage to your device may void the manufacturer's warranty.

Store your device only on flat surfaces
If your device falls, it may be damaged.

Do not store your device in very hot areas such as inside a car in the summertime.
Doing so may cause the screen to malfunction, result in damage to the device, or cause the battery to explode.
• Do not expose your device to direct sunlight for extended periods (on the dashboard of a car, for example).

Do not store your device with metal objects, such as coins, keys, and necklaces
• Your device may be scratched or may malfunction.

Continued...

Safety Instructions

Avoid contact with device when it is overheating.

Failure to do so may cause low temperature burns, redness and skin pigmentation
• Be careful of overheating of the device when using it for extended periods and avoid prolonged skin contact.
• Do not sit on your device or make direct contact with your skin for extended periods when charging or connected to a power source.
• Tolerance to high temperature varies individually. Please take extra caution regarding the use of this device by children, elders and people with special conditions.

Be careful not to expose the camera lens to a strong light source, such as direct sunlight

If the camera lens is exposed to a strong light source, such as direct sunlight, the camera image sensor may be damaged. A damaged image sensor is irreparable and will cause dots or spots in pictures.

Use caution when exposed to flashing lights

• While using your device, leave some lights on in the room and do not hold the screen too close to your eyes.
• Seizures or blackouts can occur when you are exposed to flashing lights for extended periods. If you feel any discomfort, stop using the device immediately.
• If anyone related to you has experienced seizures or blackouts while using a similar device, consult a physician before using the device.
• If you feel discomfort, such as a muscle spasm, or disoriented, stop using the device immediately and consult a physician.
• To prevent eye strain, take frequent breaks while using the device.

Reduce the risk of repetitive motion injuries

When you repetitively perform actions you may experience occasional discomfort in your hands, neck, shoulders, or other parts of your body. When using your device for extended periods, hold the device with a relaxed grip, press the keys lightly, and take frequent breaks. If you continue to have discomfort during or after such use, stop using the device and consult a physician.

Do not use the device while walking or moving

The device should only be operated on a solid surface.

Do not paint or put stickers on your device

• Paint and stickers can prevent proper operation.
• If you are allergic to paint or metal parts of the device, you may experience itching, eczema, or swelling of the skin. When this happens, stop using the device and consult your physician.

Install mobile devices and equipment with caution

• Ensure that any mobile devices or related equipment installed in your device are securely mounted.

Do not drop your device or cause impacts to your device

• Your device may be damaged or may malfunction.
• If bent or deformed, your device may be damaged or parts may malfunction.

Continued...

Safety Instructions

Ensure maximum battery and charger life
• Batteries may malfunction if they are not used for extended periods.
• Over time, unused device will discharge and must be recharged before use.
• Disconnect the charger from power sources when not in use.
• Use the battery only for their intended purposes.
• Follow all instructions in this manual to ensure the longest lifespan of your device and battery. Damages or poor performance caused by failure to follow warnings and instructions can void your manufacturer's warranty.
• Your device may wear out over time. Some parts and repairs are covered by the warranty within the validity period, but damages or deterioration caused by using unapproved accessories are not.

When using the device, mind the following
• For testing please place your AquaPro 2.0 on a flat surface. Otherwise measurement results can be inaccurate or dangerous liquids could run over your skin.

Do not disassemble, modify, or repair your device
• Any changes or modifications to your device can void your manufacturer's warranty. If your device needs servicing, send your device to an authorized service centre.
• Do not disassemble or puncture the battery, as this can cause explosion or fire
• Do not disassemble or reuse the battery.
• NEVER remove the battery!

When cleaning your device, mind the following
• Wipe your device or charger (disconnected) with a towel or an eraser.
• Do not use chemicals or detergents. Doing so may discolour or corrode the outside the device or may result in electric shock or fire.
• Prevent the device from being exposed to dust, sweat, ink, oil, and chemical products such as cosmetics, antibacterial spray, hand cleaner, detergent, and insecticides. The device's exterior and interior parts may be damaged or it could result in poor performance. If your device is exposed to any of the previously mentioned substances, use a lint-free, soft cloth to clean it.

Do not use the device for anything other than its intended use
Your device may malfunction. You might cause yourself or others serious injuries.

Avoid disturbing others when using the device in public
Allow only qualified personnel to service your device
Allowing unqualified personnel to service your device may result in damage to your device and will void your manufacturer's warranty.

Handle cables with care
• When connecting a cable to your device, make sure that the cable is connected to the proper side.
• Do not remove the cable while the device is transferring or accessing information, as this could result in loss of data and/or damage the device.
• Connecting a cable by force or improperly may result in damage to the multipurpose jack or other parts of the device.

Continued...

Safety Instructions

Protect your personal data and prevent leakage or misuse of sensitive information

• While using your device, be sure to back up important data. Trace2o is not responsible for the loss of any data.
• When disposing of your device, back up all data and then reset your device to factory settings (‘Settings’ -> ‘Device Information’) to prevent misuse of your personal information.
• Check your cloud account regularly for unapproved or suspicious use. If you find any sign of misuse of your personal information, contact Trace2o to delete or change your account information.

Do not distribute copyright-protected material

Do not distribute copyright-protected material without the permission of the content owner. Doing so may violate copyright laws. The manufacturer is not liable for any legal issues caused by the user’s illegal use of copyrighted material. In order to guarantee an unrestricted and safe function of the device, no changes to the firmware may be made by the user himself as long as not indicated by the auto-updater of the device.

Continued...

EMPTY
due to technical reasons

Disposal

Disposal (devices and batteries)

Disposal instructions according to
EU directive by the European Parliament and Council: 2002/96/EC
EU directive by the European Parliament and Council: 2006/66/EC

Environmental protection information

For the manufacture of your device, raw materials had to be produced and processed.
The product may there contain hazardous substances with a negative effect on the environment if the device is not disposed of properly.

Disposal of the device inclusive batteries

EU directive 2006/66/EC prohibits the disposal of batteries through normal household waste because batteries and accumulators may contain hazardous substance dangerous for the groundwater quality.
The device purchased by you contains a Lithium-Ion-battery (in-built).
We are obliged by law to notify you that the batteries contained in the device must be disposed of properly at the special collection points or with the dealer where you have purchased the device.
• The symbol of the crossed-out waste bin indicates that you are asked to dispose of the device properly.
• So that these hazardous substances do not enter our environment and contribute to a depletion of raw material resources we ask you to return the device by fully stamped mail (!) to the following address:

Trace2o Ltd
Station Road
Thatcham, Berkshire
RG19 4HZ, UK

AquaPro battery certifications and shipping conformity statements are available upon request (info@trace2o.com).

(02)

Powder Pack

Ammonia LR

0.00 - 1.00 mg/l (N)

Internal Name: 02-Ammonia-LR-pow

Ammonia N°1 Photometer (PPHAM1)
Ammonia N°2 Photometer (PPPAM2)

Measurement procedure:

1. Fill 10 ml test water into a clean 24 mm cuvette.
2. Screw the lid back on the cuvette.
3. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
4. Start ZERO measurement.
5. Remove the cuvette again.
6. Unscrew the lid from the cuvette.
7. Add 1 Ammonia N°1 Photometer powder pillow to the sample water in the cuvette.
8. Stir with the stirring rod for about 20 seconds until the reagent is completely dissolved.
9. Add 1 Ammonia N°2 Photometer powder pillow to the sample water in the cuvette.
10. Stir with the stirring rod for about 20 seconds until the reagent is completely dissolved.
11. Screw the lid back on the cuvette.
12. Gently swirl the cuvette to mix the liquid well.
13. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
14. Tap TEST to start a 10:00 minute(s) countdown.
15. After the lapse of a 10:00 minute(s) countdown the measured value is displayed.

Notes:

- The temperature of the water sample should be between 20 °C and 25 °C.

(122) Chlorine MR (free/combined/total)

Tablet

0.00 - 10.00 mg/l (fCl_2)

Internal Name: 122-ChlorineMR-tab

DPD N°1 MR Photometer (TbsPD1MR)
DPD N°3 MR Photometer (TbsPD3MR)

Measurement procedure:

1 Fill 10 ml test water into a clean 24 mm cuvette.
2 Screw the lid back on the cuvette.
3 Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
4 Start ZERO measurement.
5 Remove the cuvette again.
6 Unscrew the lid from the cuvette.
7 Empty the cuvette to a few drops.
8 Add 1 DPD N°1 MR Photometer tablet(s) to the test water in the cuvette.
9 Crush the tablet with a clean stirring rod.
10 Stir with the stirring rod for about 20 seconds until the reagent is completely dissolved.
11 Fill the cuvette to 10 ml with the sample water.
12 Screw the lid back on the cuvette.
13 Gently swirl the cuvette to mix the liquid well.
14 Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
15 Tap TEST to perform the measurement.
16 After the lapse of a 00:10 minute(s) countdown the measured value is displayed.
17 Unscrew the lid from the cuvette.
18 Add 1 DPD N°3 MR Photometer tablet(s) to the test water in the cuvette.
19 Crush the tablet with a clean stirring rod.
20 Stir with the stirring rod for about 20 seconds until the reagent is completely dissolved.
21 Screw the lid back on the cuvette.
22 Gently swirl the cuvette to mix the liquid well.
23 Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
24 Tap TEST to perform the measurement.
25 After the lapse of a 02:00 minute(s) countdown the measured value is displayed.

Notes:

- If the sample water contains more than 20 mg/l chlorine, a measured value of 0 mg/l can be displayed. In that case, a dilution is recommended.
- If the sample water contains further oxidizing agents, these will react like chlorine and contribute to the measurement result.
- Make sure no chlorine escapes while preparing the sample. The measurement must be performed directly after sampling.
- Do not clean glassware and equipment with household detergents, as these could greatly reduce the measurement result. To prevent any contamination, the cuvette, lid and stirrer should be stored in a 0.1 % sodium hypochlorite solution for one hour. Then rinse with distilled water, thoroughly.
- The DPD reagent buffers the pH value of the sample water in the range of 6.2 to 6.5, which is essential for colour development. If the sample water is very alkaline or acidic, this must be adjusted to a pH within the range of 6 to 7 by addition of 0.5 mol/l sulphuric acid or 1 mol/l caustic soda, respectively, before the DPD reagent is added.
- Turbidity caused by high concentration of calcium ions will affect the measurement result. To prevent that, please use DPD HC (High Calcium) reagents.

(34)

Powder Can + Liquid

Nitrate

0.00 - 11.00 mg/l (N)

Internal Name: 34-Nitrate-pow

20g PL Nitrate N°1 (PLpow20Nitra1)
65ml PL Nitrate N°2 (PL65Nitra2)

Measurement procedure:

1 Fill 10 ml test water into a clean 24 mm cuvette.

2 Screw the lid back on the cuvette.

3 Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.

4 Start ZERO measurement.

5 Remove the cuvette again.

6 Unscrew the lid from the cuvette.

7 Add 1 0.05 ml PL Nitrate 1 scoop(s) powder to the sample water in the cuvette.

8 Screw the lid back on the cuvette.

9 Swirl the cuvette for 00:15 minute(s).

10 Unscrew the lid from the cuvette.

11 Add 10 drop(s) of PL Nitrate 2 into the cuvette.

12 Screw the lid back on the cuvette.

13 Gently swirl the cuvette to mix the liquid well.

14 Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.

15 Tap TEST to start a 15:00 minute(s) countdown.

16 After the lapse of a 15:00 minute(s) countdown the measured value is displayed.

Notes:

- The test result can be converted into the following unit(s): mg/l NO_3^-.
- The best results are obtained between 0 - 6 mg/l (N) / 0 - 25 mg/l (NO3-). If your water sample is likely to contain more nitrate, dilution of the sample is recommended.

(35)

Powder Pack

Nitrite LR

0.00 - 0.50 mg/l (N)

Internal Name: 35-Nitrite-LR-tab

Nitrite LR Photometer (PPPNiLR)

Measurement procedure:

1. Fill 10 ml test water into a clean 24 mm cuvette.
2. Screw the lid back on the cuvette.
3. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
4. Start ZERO measurement.
5. Remove the cuvette again.
6. Unscrew the lid from the cuvette.
7. Add 1 Nitrite LR Photometer powder pillow to the sample water in the cuvette.
8. Stir with the stirring rod for about 20 seconds until the reagent is completely dissolved.
9. Screw the lid back on the cuvette.
10. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
11. Tap TEST to start a 10:00 minute(s) countdown.
12. After the lapse of a 10:00 minute(s) countdown the measured value is displayed.

Notes:

- The test result can be converted into the following unit(s): mg/l $NaNO_2$, mg/l NO_2^-.

(180) Fluoride (in absence of chlorine)

Liquid

0.00 - 2.00 mg/l (F^-)

Internal Name: 180-Fluoride

PL SPADNS Fluoride Reagent (PL100SPADNSF)

Measurement procedure:

1. Fill 10 ml distilled water in a clean 24 mm cuvette.
2. Add 2 ml of PL SPADNS Fluoride Reagent to the cuvette.
3. Screw the lid back on the cuvette.
4. Gently swirl the cuvette to mix the liquid well.
5. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
6. Start ZERO measurement.
7. Remove the cuvette again.
8. Empty the cuvette.
9. Clean and dry the cuvette and lid carefully.
10. Fill 10 ml sample water in the same cuvette.
11. Add 2 ml of PL SPADNS Fluoride Reagent to the cuvette.
12. Screw the lid back on the cuvette.
13. Gently swirl the cuvette to mix the liquid well.
14. Insert the cuvette into the AquaPro. Pay attention to the arrow on the front of the cuvette.
15. Tap TEST to perform the measurement.
16. The measured value is immediately displayed.

Notes:

- Distilled water and sample water must be at the same temperature (± 1 °C).
- The reagent must be dosed precisely. The use of a volumetric pipet is recommended.
- ZERO and sample must be measured with the same batch of reagent.
- ZERO and sample measurement must be performed in the same cuvette.
- Turbid and coloured sample water must be distilled prior to the test.
- Chlorine levels > 5 mg/l will interfere.