



ALLIANCE
BIO EXPERTISE
microbiologie

GRAVIMETRIC DILUTER

DILUWEL



User manual

Revision 16

Alliance Bio Expertise – Le Tremplin ZA de Courbouton 35480 – Guipry
+33 (0)2 40 51 79 53 – contact@abioexpertise.com

Table of contents

Notice	4
General information.....	5
Technical specifications	5
Contents.....	6
Unpacking	8
Overview	8
Setting up your Diluwel	11
Installation & operating environment	11
Power supply.....	11
Levelling.....	12
Peristaltic pump.....	12
Standard and Edge mode	12
Turbo mode.....	12
Pump settings	12
Visual indicators	14
Tubing installation	14
Diluwel standard.....	15
Diluwel Turbo	15
Diluwel Edge	15
Media source.....	16
Bag Holder installation	16
Insertion of the blending bag filter	16
Starting.....	17
Turn off and turn on.....	17
Language	17
Date and time	17
Programming.....	18
Users (option).....	18
Diluents (option)	19
Creation, modification, deletion	19
Low diluent level warning	20
Programs.....	21
Standard and Edge Diluwel.....	21
Dilution/dosage weighing and precision	22
Diluwel TURBO	22
Connectivity.....	23
E-trace.....	23
Barcode reader	23
Ticket printer	25
Keyboard.....	25
Pedal	25
Traceability.....	26
USB.....	26
Labpage	26
Dilute and dose	27
Metrology.....	27

Verification	27
Calibration	28
Advanced options	30
Troubleshooting	30
Error messages	30
Error cases	31
Daily cleaning	31
Annual upkeep	32

Pictograms used in the manual:



This symbol indicates an informative



This symbol indicates an important

Disposal and recycling:



This device is composed of metal, plastic materials, electric components and electronic components.

The 2002/96/CE directive on recovering and recycling Waste from Electric and Electronic Equipment (WEEE) requires that Electric and Electronic Equipment (EEE) be recycled at the end of its life.

Therefore, end users must dispose of electric and electronic waste at a waste management facility or a dedicated collection site.

For more information about returns, please contact the equipment manufacturer.

Due to the informative nature of the information and diagrams contained in this manual, ALLIANCE BIO EXPERTISE reserves the right to make changes to the document without prior notice.

Basic edition:

Pages	Version	Date	Written by:	Verified by:	Sections modified
43	9	01/09/2015	A. PINEDA	A. BLANCHARD M. MAURO	-

Updates:

44	10	17/12/2015	A. PINEDA	A. BLANCHARD	
		20/10/2016	A. BLANCHARD	N. CHEROTZKY	
	13	03/04/2017	A. BLANCHARD	N. CHEROTZKY	
	15	06/06/2019	N. CHEROTZKY	G. FAUCON	Rebuild
	16	21/01/2020	N. CHEROTZKY	N. CHEROTZKY	Patawel +

Technical specifications



Diluwel and Diluwel Turbo

PERFORMANCES	DILUWEL
Fast & accurate dispensing	10 sec. for 225ml / (7 sec in turbo mode)
Dilution accuracy	> 99%
Turbo mode	✓
Bubble level integrated	✓
Programs	20
Weighing range	From 1 g to 4000 g
Dilution factor	From 1.00 to 1/100.00
Modes	Dilution and Dosage
BENEFITS	
Stainless steel bag holder – extended lifetime	✓
Watertight base – Easy to clean	✓
Motorized dispensing nozzle	✓
Data management (diluent, users)	✓
2 port USB: 1 for upgrades/ 1 for E-trace	✓
“Fingerstop” dispensing nozzle	✓
« Plug and play » removal pumps	✓
Interactive display (colour codes)	✓
PACKING	
Compacity (W x D x H)	250 x 275 x 400 mm
Weight	8 kg
Electrical supply / Power	230 V – 50Hz / 120W

Diluwel Edge

PERFORMANCES	DILUWEL
Weighing accuracy	0,05g from 1g / <1% from 5g
Dilution accuracy	> 98%
Dilution factor	From 1.00 to 1/100.00
Bubble level integrated	✓
Programs	20
Modes	Dilution and Dosage
Motorized dispensing nozzle	✓
BENEFITS	
Stainless steel bag holder – extended lifetime	✓
Watertight base – Easy to clean	✓

Data management (diluent, users)	✓
2 port USB: 1 for upgrades / 1 for E-Trace	✓
« Plug and play » removal pumps	✓
Interactive display (colour codes)	✓
PACKING	
Capacity (W x D x H)	250 x 275 x 400 mm
Weight	8 kg
Electrical supply / Power	230 V – 50Hz / 120W

Contents

DILW1001 – DILUWEL

- Diluter (reference: DILW1001)
- Bag holder (reference: DILW2015)
- Peristaltic pump (reference: DILW2001)
- Set of tubing Ø 6.4mm (reference: DILW2002)
- Power chord
- User manual – FR/EN
- Certificate of conformity (CE)
- Factory report
- Blender bags (side filter) (reference: DILW3005), Pack of 50
- Adhesive stickers for bag openers PATAWEL + (reference: DILW3010) Pack of 6

DILW1003 – DILUWEL BOTTLE/FLASK

- Diluter (reference: DILW1001)
- Bottle/Flask holder (reference: DILW2017)
- Peristaltic pump (reference: DILW2001)
- Set of tubing Ø 6.4mm (reference: DILW2002)
- Power chord
- User manual – FR/EN
- Certificate of conformity (CE)
- Factory report

DILW1004 – DILUWEL TURBO

- Diluter (reference: DILW1001)
- Holder (reference: DILW2015)
- 2 x Peristaltic pumps (reference: DILW2001)
- Set of tubing Turbo Ø 6.4mm (reference: DILW2009)
- Power chord
- User manual – FR/EN
- Certificate of conformity (CE)
- Factory report
- Blender bags (side filter) (reference: DILW3005), Pack of 50
- Adhesive stickers for bag openers PATAWEL + (reference: DILW3010) Pack of 6

DILW1005 – DILUWEL EDGE

- Diluter (reference: DILW1001)
- Bottle/Flask holder (reference: DILW2017)
- Precision nozzle adapter (reference: DILW2026)
- Peristaltic pump (reference: DILW2001)
- Set of tubing Ø 3mm (reference: DILW2027)
- Power chord
- User manual – FR/EN
- Certificate of conformity (CE)
- Factory report

For optimal operation, your Diluwel must be unpacked:

- In a clean and accessible area
- Remove the standard accessories shipped with your Diluwel (see “CONTENTS”)
- Lift the Diluwel by its base (never by the head)
- Install the Diluwel on a clean, stable and horizontal support/bench, away from the airflow



Keep the packaging in case the device needs to be moved

Overview

Front face:



A: Nozzle holder + fingerstop nozzle

B: Screwable waterproof ears

C: Screen

D: Bag & bottle/flask holder

E: Peristaltic pump

F: Ambidextrous control buttons

G: Bubble level

Back-face and E-trace:



- A: USB port for upgrades
- B: USB port for E-trace
- C: Pump connection (1 to 4)
- D: Power cord connection
- E: Ethernet port
- F: USB port for accessories

Screen:



- A: Program name and number
- B: Location of accessories login icons
- C: Sample identification
- D: Weight
- E: Pump number, diluent name and type of dilution associated with the program
- F: Minimum and maximum sample weight required

Keyboard:



A: On/Off button

B: Tare button

C: Back and Clear button

D: Validation/Dilution button and black button

E: Settings

F: Program button (short press = program change; long press = program edition)

Installation & operating environment

You have unpacked your Diluwel according to the UNPACKED guidelines. Your Diluwel is placed on a clean, dry, stable and away from airflow bench (except if used under laminar flow).

Environmental conditions	Temperature: 10°C to 35°C (50°F à 95°F) Maximum humidity: 80% Indoor use Keep away from airflow
Electrical environment	According to international standards EN61010-1 ED. 2011, safety requirements for electrical equipment measuring, control, and standards of use in laboratory.
Installation category	Pollution category 2 environments
Electromagnetic compatibility and performance	According to EN61010-1 ED. 2011, international standards about the safety requirements for electrical equipment for measurement, control, and laboratory use standards. Requirements about the CEM (emission and immunity).

Power supply

Plug the power supply provided on the Diluwel then on the wall socket. In case of problem, the user should be able to easily unplug the power supply.



120W power is mandatory.

Levelling

Check that the Diluwel is levelled thanks to its built-in bubble. Adjust the 4 feet to place the bubble in the red circle, if necessary.

For optimal weighing accuracy, the Diluwel must be levelled after each move.



Peristaltic pump

Standard and Edge mode

Up to 4 pumps can be connected to the back of the Diluwel. To use 1 pump, plug into connector 1. To use 2 pumps, plug into 1 and 2, etc ...



A white mark is present on the Diluwel and on the pump connector, indicating the direction of connection.

Turbo mode

Up to 4 pumps can be connected to the back of the Diluwel. For Turbo use with 2 pumps, plug into connectors 1 and 2 or 3 and 4. Any other combination will not allow the turbo pumps to be triggered simultaneously. For Turbo use with 4 pumps, plug into all 4 connectors.

A white mark is present on the Diluwel and on the pump connector, indicating the direction of connection.

Pump settings

A setting adapted to the diameter of the tubing set will extend the life of the tubes and the accuracy of your dilutions.

From the factory, the pump heads are set for a 6.4mm set of tubings, delivered by default with your Dilupump.

Different diameters are available:

- 6.4mm for dilution or a dosage of a total final weight greater than 100g.
- 4.8mm for dilution or a dosage of a total final weight of less than 100g.
- 3.2mm for a dilution or dosage of less than about 50g of a final weight.

These limits vary depending on the accuracy and dilution speed required.

In the case of a different diameter, the adjustment is done with **OPENED HEAD** on **EACH SIDE**. Open the pump hood and adjust the two side wheels of the pump head according to the setting indicated (here 6.4mm, previous and current pump version):



WARNING : for a conform use, only tubing with 1.6mm silicone width can be used in the Dilupump. Any premature wear due to the use of a not compliant tubing will be handle out of warranty.

The pump displays 3 states via LEDs:



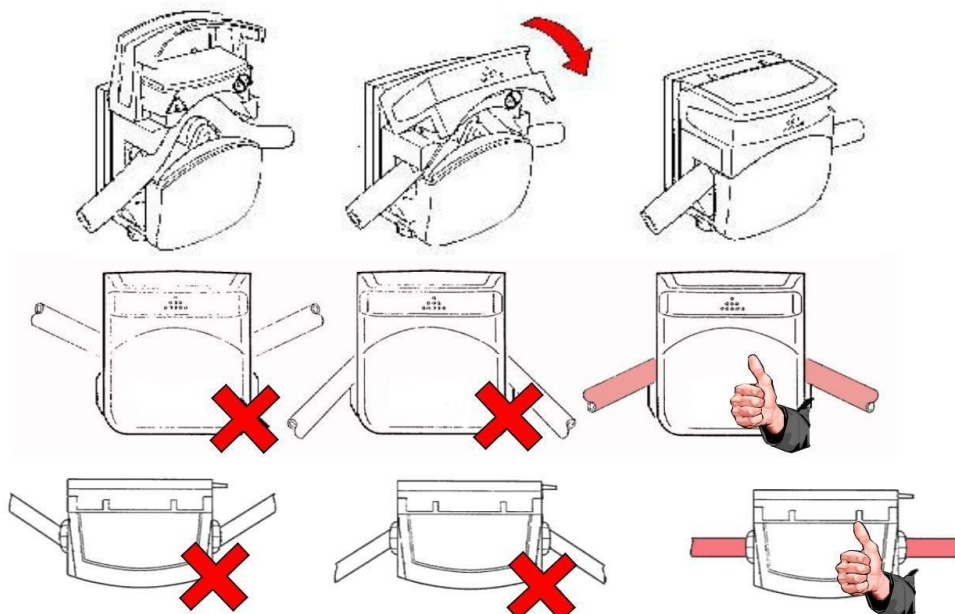
1. Green LED: pump plugged in and powered
2. Orange LED: pump in operation (distribution)
3. Red LED: Error

Tubing installation

The set of tubing and its distribution nozzle must be sterilized before use.

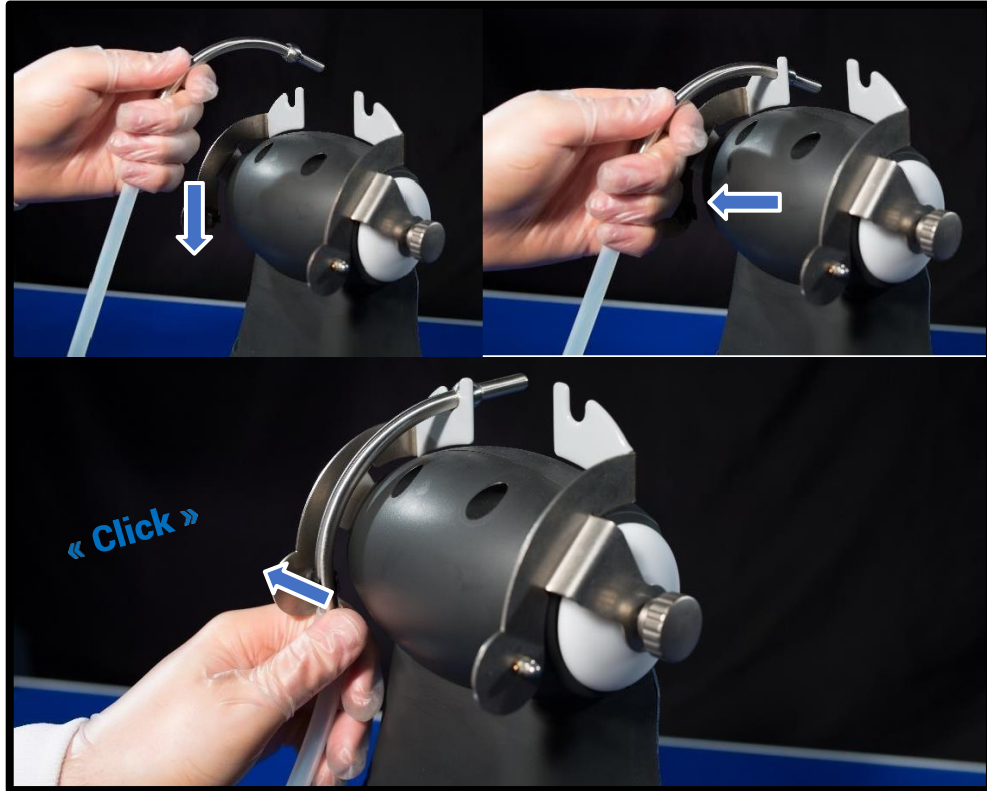
The set of tubing is divided into three sections. The central section, called the "rotor" tube, should be installed in the pump head.

Open the pump head and slide the rotor tube into it, then close. Make sure it is placed in the right direction (pumps 1 and 2 rotate clockwise, pumps 3 and 4 in the anti-clockwise direction), and do not pinch it in the ends of the pump (risk of cutting the tubing).



In classic configuration, a set of tubing per pump is required.

To fix the dispensing nozzle, follow these instructions:



The Fingerstop design reduces the risk of cross-contamination on the dispensing nozzle.

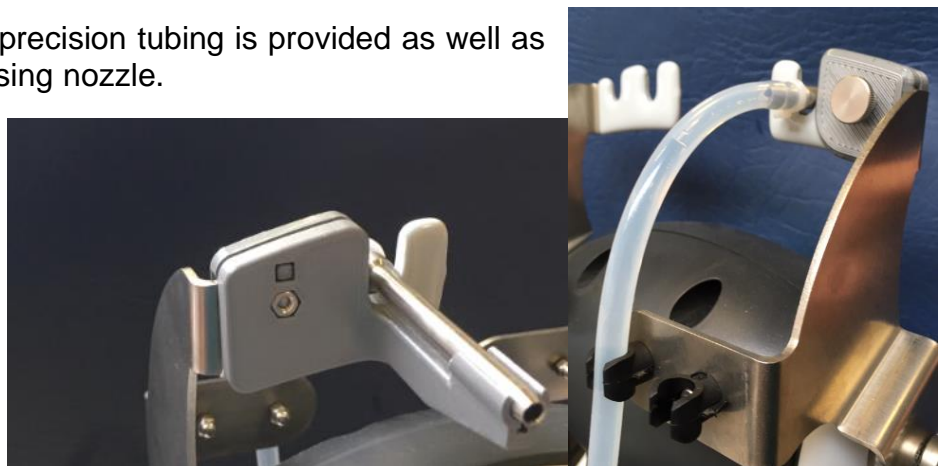
Diluvel Turbo

In Turbo configuration, a set of Y tubing is provided for two pumps. The Y must be between the source of media and the pumps. To secure the dispensing nozzle, follow the Diluvel standard steps.

Diluvel Edge

In Edge configuration, a set of precision tubing is provided as well as an adapter for precision dispensing nozzle.

To secure the dispensing nozzle, install the adapter on the Diluvel holder, and fix it using the stainless steel scroll wheel. Then clip the distribution tip onto the adapter and place the tubing in the black clip.



Media source

Connect the end of the set of tubing to your media source with:

- A trocar, for broth bags (DILW2007)
- A sampling nozzle with filter for broth bottles (DILW2006)
- An adapter for media preparator (MP9, Masterclave 09, Mediawel on request)



Bag Holder installation

The bag holder has 3 connectors on its backside and must be fixed on the 3 pins of the Diluwel.

Place the upper connector on the upper clip and push the below part to the 2 remaining clips.




Insertion of the blending bag filter


All types of bags selected by Alliance Bio Expertise fit the Diluwel:

- Place the 2 Patawel + stickers on the bag holder (1 on the arm, & on the bag holder wall)
- Remove the plastic cover
- Place the blender bag, along the bag holder
- Pinch together the arms and the wall of the bag holder so it opens the blender bag

Turn off and turn on

The device does not have a switch. Hold  to turn on or off the device.

Language

Press  to enter the settings menu.


Turn the side button and select the following menu:



Turn the side button and select the desired language: French, English or Spanish.

Date and time


During the installation, always set the date and time, especially in case of long storage of the machine before starting.

Press  to enter the settings menu.

Turn the side button and select the following menu:




The date (jj/mm/aa) and the time (h/min) can be set:

- Click the side button to unlock the cell
- Turn the side button to enter the desired character and click to validate
- Repeat on the different cells.
- Select and click  to leave the menu.

Programming

Users (option)

Creating the user list allows operators to select their profile before each dilution campaign and get a full traceability when exporting data via USB key or online via the Labpage.

- 1- Press  to get into the routine settings.
- 2- Turn the side button and select the following menu:





- 3- In the user list, turn the side button and select the position to create/edit/select.



- 4- Turn the side button and select:
 - Select: Link this user to the starting campaign - back to routine settings.
 - Delete: Definitive user deletion - Select YES for a final deletion with return to the user list, NO to return to the previous screen.
 - Edit: Creates or edits a user
- 5- Edit: the user's input screen appears.




- 6- Click the side button to open the cell.
- 7- Turn the side button to show the desired character and wait 1 second for its recording
- 8- To erase a character, press 
- 9- To validate the cell, press the side button
- 10- Select and click on  to leave the menu.

Diluents (option)

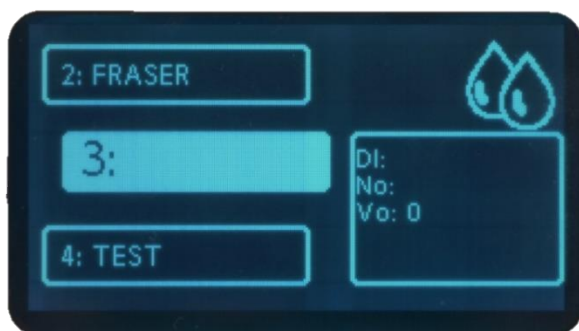
Create the list of diluents allows operators to save the diluents used before and during each campaign and obtain a complete traceability when exporting data via USB key or online via Labpage and diluents used, lot numbers and the consumption of diluents.

Creation, modification, deletion

- 1- Press  to get into the routine settings.
- 2- Turn the side button and select the following menu:





- 3- In the diluent list, turn the side button and select the position to create/edit/select.



- 4- Turn the side button and select:
 - Select: Link this diluant to the starting campaign - back to routine settings.
 - Delete: Definitive deletion of a diluant - Select YES for a final deletion with return to the list of diluents, NO to return to the previous screen.
 - Edit: Create or change a diluant (e.g., changing lot number on current diluant)
- 5- Edit: The diluent's settings screen appears.
- 6- Turn the side button and select the cells to change:
 - DI: name of the diluant
 - No: Lot number

- Vo: Total source volume in ML




- 7- Turn the side button to show the desired character and wait 1 second for its recording
- 8- To erase a character, press 
- 9- To validate the cell, press the side button
- 10- Select and click on  to leave the menu.

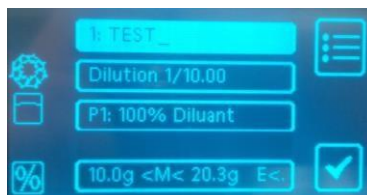
Low diluent level warning


When the equivalent of 2 doses of diluents remains, the white ears of DILUWEL turn blue, allowing to anticipate the change in diluent and avoid non-compliant dilution.

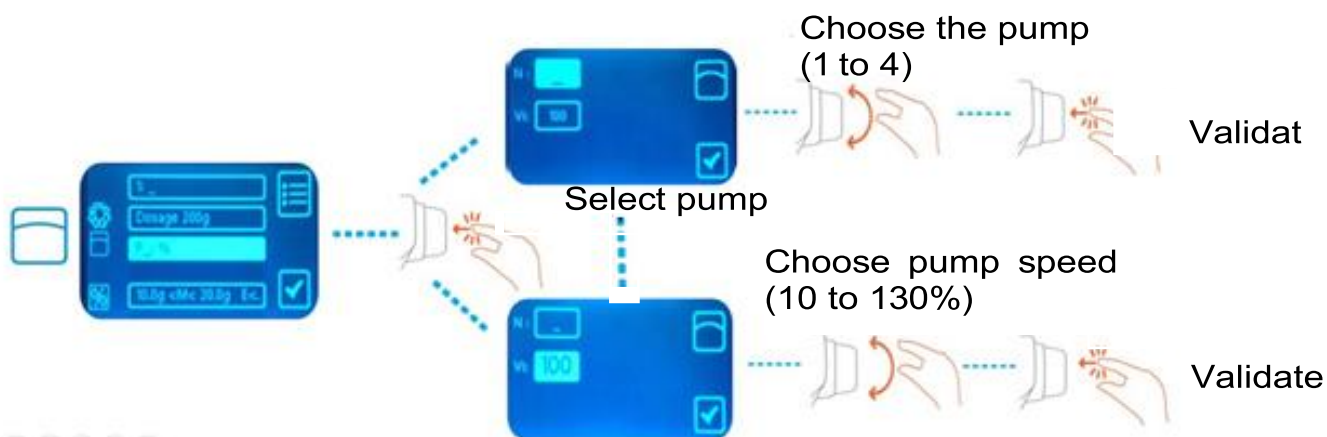
The DILUWEL can record up to 20 programs (increment of 1 to 2, then 2 to 3...)

Standard and Edge Diluwel

- 1- Keep press  to open the list of programs.
- 2- In the programs list, turn the side button and select the position to create/edit/select.
- 3- Turn the side button and select:
 - Select: Select the program for the campaign that's coming to start - back to the main screen.
 - Delete: Definitive deletion of a program - Select YES for a final deletion with return to the list of programs, NO to return to the previous screen.
 - Edit: Create or change a program
- 4- Edit: The program's setting screen appears.




- 5- Program name:
 - Turn the side button and select to activate the first field
 - Turn the side button to show the desired character and wait 1 second for its recording
 - To erase a character, press 
 - To validate the cell, press the side button
- 6- Mode:
 - Turn the side button and select the second fields
 - Select Dilution or Dosage mode
 - Turn the side button to choose the dilution factor (Dilution: 1/0.10 to 1/100.00) or the fixed volume to distribute (Dosage: 1 to 3999g)
 - Click the side button to validate.
- 7- Pump and diluant:
 - Turn the side button and select the third field
 - Follow the steps below:



For a good accuracy/speed ratio, set to 100.

- The diluent's list appears in order to be linked to the pump. Select the diluent related to this program by turning and clicking the side button.

Dilution/dosage weighing and precision

- 1- Turn the side button and select the fourth field
- 2- Turn the side button and select the cells to modify:
 - a. Mn: the minimum weight of the sample to be weighed (from 0.00g to 4.99g for cosmetic applications and 5.0 to 100.0g for conventional applications)
 - b. Mx: the maximum sample weight to weigh (from 0.00g to 4.99g for cosmetic applications and 5.0 to 100.0g for conventional applications)
 - c. E: end-of-dilution/dose accuracy requested (maximum tolerated percentage of the difference between theoretical final weight and final weight found)
- 3- Turn the side button to see the desired values, then click to validate.
- 4- Select and click on  to leave the menu.

What is it for ?

The minimum and maximum weights are the minimum and maximum sample weights tolerated by your protocol and allow a green backlighting screen when the gap is reached, allowing a one-click dilution. If the weight is out of the gap, the screen is red: dilution is possible but by pressing the dilution start button for 3 seconds.



Diluwel TURBO

For the Diluwel TURBO, follow the steps shown above. Only stage 7 varies: select pump « 12 » or « 34 » depending on the ports on which the pumps are connected.


E-trace

The E-trace is an optional case, which allows communication between the DILUWEL and the outside world: accessories, network, LIMS... So many applications that allow the evolution of your DILUWEL alongside your laboratory!

Composition:

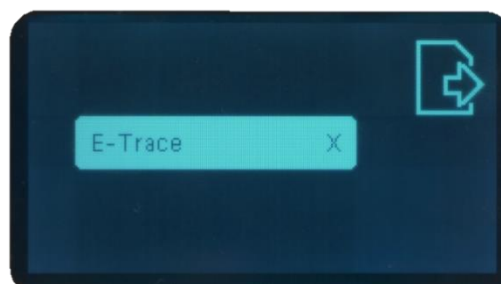
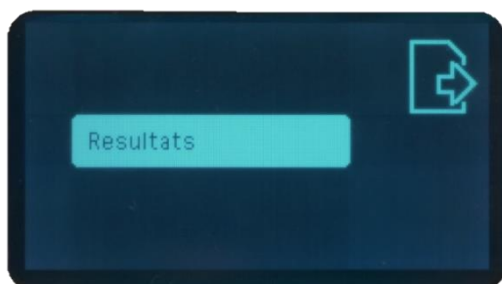
- E-trace case with USB connector
- SD card


Setting up:

- Unpack the E-trace carefully
- Plug into the lower USB port of the DILUWEL
- Place away from liquids
- Click on  and select the Export menu



- Select « Results » then « E-trace » and click to make an « X » appear to allow communication between the DILUWEL and the E-trace.



- To get off the menu, press 

A connection to the lab network may be requested for software updates.

Barcode reader

The 1D and 2D barcode reader (DILW2011) has been selected for its reduced size and speed of execution. It is delivered programmed in series with an automatic return after each scan, in continuous reading mode and in modern Latin alphabet, ready for use.

Setting up:

- Unpack the barcode reader and assemble the holder
- Place the reader on its holder
- Plug the drive into one of the E-trace's USB port

In case of malfunction, it is possible to reprogram it by connecting it to a computer and flashing the following barcodes:

- Serial programming:



- Post-scan validation:



- Set of the volume of the scan:



For any other error, contact the after-sales service. Alliance Bio Expertise strongly advises using the barcode reader selected for DILUWEL use. Operating with a different drive is not guaranteed and the installation is not supported by ABE. See the programming with your provider.

The sticker ticket printer recommended by Alliance Bio Expertise is referenced as DILW2011.

Setting up:

- Unpack carefully
- Install consumables according to manufacturer's notice
- Connect the printer with the USB cable to an E-trace USB port
- Turn on the printer switch.



Alliance Bio Expertise strongly advises using the selected printer for DILUWEL use. Operating with a different printer is not guaranteed and installation is not supported by ABE. See the programming with your printer provider.



Keyboard



Several types of keyboards are selected for the laboratory:

- The Wireless Clean Keyboard: wireless and hermetic tactile keyboard with a two weeks running time, easily cleanable (DILW2036)
- The Clean Keyboard with wire: hermetic tactile keyboard, easily cleanable (DILW2037)

Plug it into the E-trace USB port (nothing to install and can also be used on computer). Other models can be adapted: in this case, please contact ABE.

Pedal

The control pedal recommended by Alliance Bio Expertise is referenced DILW2013. Other models can be adapted: in this case, please contact ABE.



USB

The export of the data can be realised on any USB key, and will generate an Excel file per day, during the dilution campaign:

- Plug the USB key into an E-trace USB port before any dilution campaign
- After a dilution campaign, remove the USB key and save its content locally on your computer

If the USB key is unplugged and a dilution campaign is launched, the E-trace will store up to 100 dilutions in memory that will be re-entered on the key when it is finally plugged in.

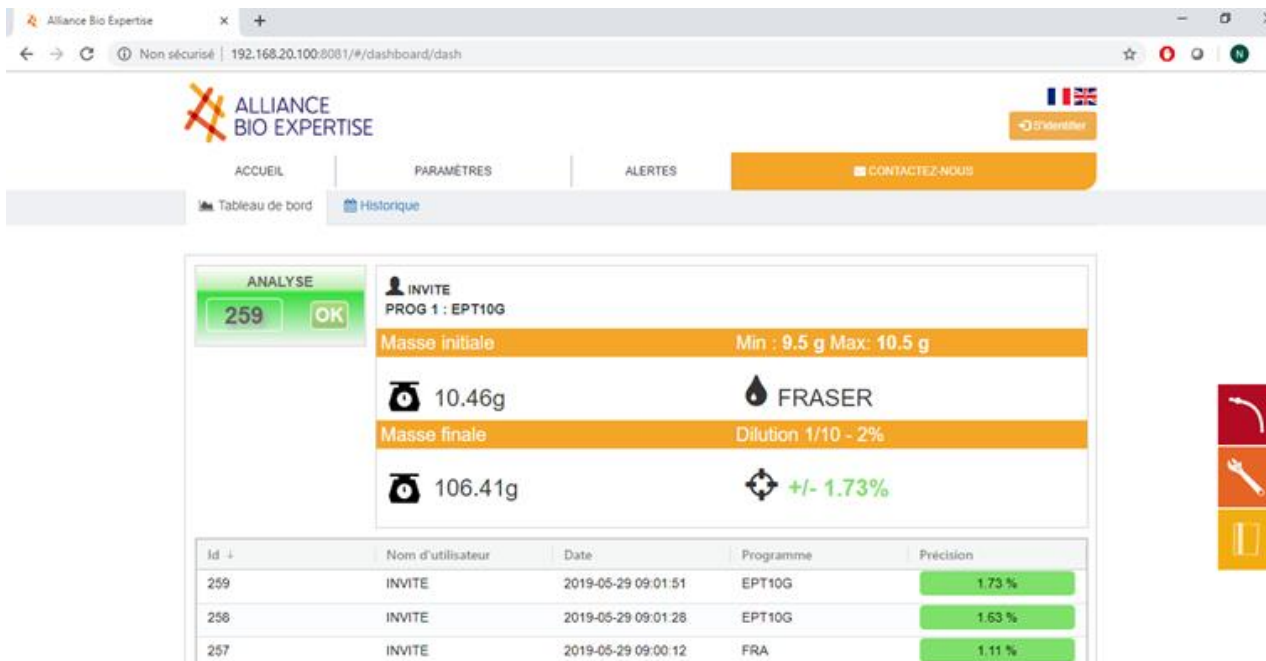
Labpage

Monitoring real-time dilution campaigns and data history can be done via Labpage.

Labpage is an access, via your browser, to information transmitted by your DILUWEL.

Setting up:

- Subscribe to an annual Labpage subscription (DILW4002)
- Connect your DILUWEL to the lab network by plugging an Ethernet cable on the E-trace to the lab's Ethernet plug, or use a WIFI USB.
- Follow the dedicated technote.







The screenshot shows the Alliance Bio Expertise Labpage dashboard. The top navigation bar includes 'ACCUEIL', 'PARAMÈTRES', 'ALERTES', and 'CONTACTEZ-NOUS'. Below this, there are links for 'Tableau de bord' and 'Historique'. The main content area displays a summary of the current analysis (ANALYSE) for 'INVITE' (PROG 1 : EPT10G). It shows the initial mass (Masse initiale) as 10.46g and the final mass (Masse finale) as 106.41g. The dilution is 1/10 - 2%, and the precision is +/- 1.73%. A table at the bottom lists the analysis results for three samples (259, 256, 257) with their respective dates, programs, and precision values.

Id	Nom d'utilisateur	Date	Programme	Précision
259	INVITE	2019-05-29 09:01:51	EPT10G	1.73 %
256	INVITE	2019-05-29 09:01:28	EPT10G	1.63 %
257	INVITE	2019-05-29 09:00:12	FRA	1.11 %

Dilute and dose

Your programs are created, and DILUWEL is ready to be used! So routine work can begin. The priming will be done automatically at the first dilution, which will be longer but always accurate:

- Hold  to turn on the DILUWEL
- Click on  until you select the program you want
- Place the bag in the bag holder
- Click on  pour tare
- Save your sample ID (scan, optional keyboard)
- Place the sample in the bag until the screen turns green
- Press  to launch the dilution/dosing
- Once the dilution is finished, the screen is green if the accuracy complies with your protocol recorded in the program, or red if beyond.
- Remove the bag and return to the weigh-in screen.


To pause a dilution, press  to cancel the dilution, press this button again.

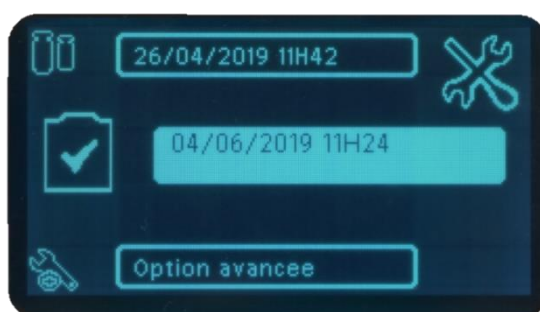
Metrology

Verification

The Verification menu automatically tracks checks done before any dilution campaign. It does not adjust the weighing, but to know if the device indicates correct measurements and to track the drift over time.

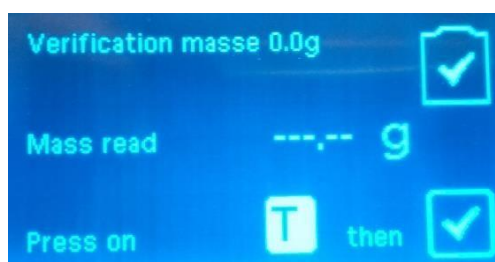
The mode does not require a password:

- Click on  to enter the advanced settings menu
- Turn the side button and select the following menu:



The date and time of the last check appear.

- The following screen appears:




- Press **T** to tare
- A read mass value appears; wait until it stabilizes avoiding as much as possible air movements around the machine and then validate on the side button.
- Adjust the value of the Ref 1 mass in line with you reference weight.
- Position your reference weight on one of the points of your DILUBOARD placed on the DILUWEL bag holder.
- Validate by pressing the side button
- The DILUWEL weights and automatically validates the weight once stabilized.

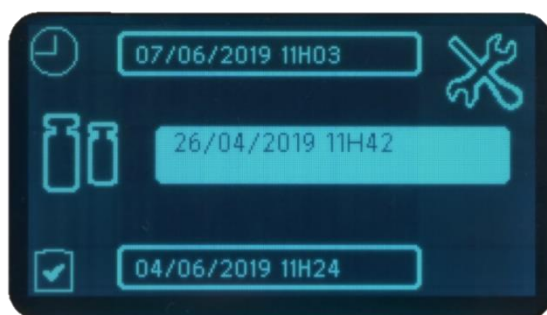


Calibration

To be done annually, on a range of masses corresponding to the most frequently used weighing range (ex: dilutions of 25g to 1/10, realize calibration on 0,00g and 500,00g)

The calibration is done in two points:

- Click on  to enter the advanced settings menu
- Turn the side button and select the following menu:

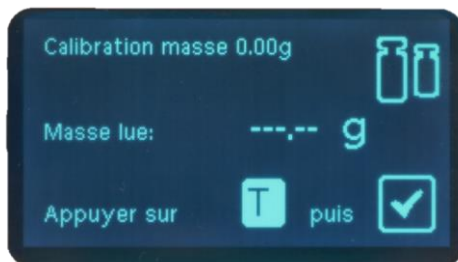


The date and time of the last calibration appears.

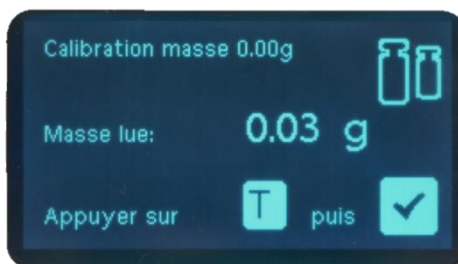
- Enter the password METRO44130 and validate.



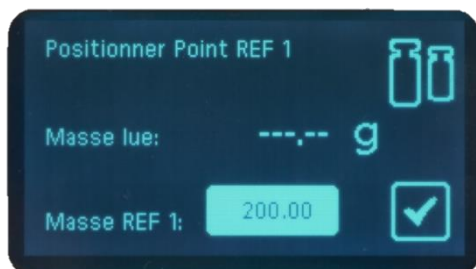
- The following screen appears:



- Press **T** to tare
- A read mass value appears wait until it stabilizes by causing minimal air movement around the machine and then validate on the side button (it may be different from 0g).
- Adjust the value of the Ref 1 Mass in line with your reference weight.



- Position your reference weight on one of the points of your DILUBOARD placed on the DILUWEL holder
- Validate by pressing the side button
- The DILUWEL weights, and adjusts automatically the weighting system once stabilized.



If your printer is connected, the calibration report will automatically be printed.

Advanced options

Advanced options are subject to a factory password; to get it, contact your after-sales service.

These options provide access to the following menus:

- Screen colour
- Weighing sensitivity
- Distribution sensitivity

These factory settings can be adjusted when used under laminar flow.

Troubleshooting

Error messages

Pump disconnected: a dilution is launched but the pump linked to the program is not plugged in. Make sure to reconnect the pump after a move or cleaning the machine.

E-trace disconnected: you've activated the E-trace to use accessories or USB/Labpage traceability, but the E-trace is not plugged in. Make sure to reconnect the E-trace after a move or cleaning the machine.

Non-existent diluent: no diluent is linked to the pump selected in the program. Go into the diluent menu and create if it does not exist. Otherwise, go into the program and associate the program with a pump and a diluent.



Description of the problem	Possible causes	Resolution
DISTRIBUTION		
The pump is blocked when it starts running	Use of a different tubing than « rotor » in the pump head. Pump launch at maximum speed when the tubing is empty (with an incrementing weight on the holder).	Use the rotor section of your set of tubing or replace your set of tubing. Do not touch the bag holder when diluting so that it starts at low speed.
The dilution does not start after the first press.	The pump linked to the program is not plugged in and an error message appears. If the E-trace is activated but not plugged in, an error message appears. The weight of the sample is outside tolerances. The lateral fixations of the ears are too tight. The tubing is stuck/jammed.	Plug the pump and the E-trace (if activated) and restart the dilution. Put a compliant sample weight or keep pressing the launch button to force dilution. Make sure the tubing is free. NEVER OPERATE MANUALLY (RISK OF BREAKING THE ENGINE)
The dilution is over, and the screen is blocked at the end of the dilution – keyboard does not react.	The bag was not removed from the bag holder.	Remove the bag or weight from the bag holder, or slightly lift the bag holder.
Dilution starts but the liquid is not distributed.	The tubing is upside down in the pump. The tubing is pinched.	Place the tubing in the right direction, and in a non-pinched or bent manner. Pumps 1 and 2 rotate clockwise, and 3 and 4 in the opposite direction.
ACCESSORIES		
Barcode reading error.	Unsuitable barcode reader configuration.	Set up the reader according to the manual chapter. Ensure that this is the model recommended by ABE.
Accessories icons do not appear on the screen.	E-trace start time not respected.	Wait a few minutes for the E-trace to start properly, Leds on and icons will appear.

Daily cleaning

For your safety, unplug the DILUWEL before any cleaning operation. Spray a hydroalcoholic solution or a 70-degree disinfectant on a paper towel and clean the appliance.

If a liquid is spilled, make sure it does not seep into the connectors.

Annual upkeep

It is advisable to calibrate the DILUWEL at least once a year, especially after any maintenance operation, or if you notice a drift during the daily check.

Contact Alliance Bio Expertise or their official distributors for any maintenance.

The user must not access the inside of the machine. Only Alliance Bio Expertise technicians or trained by Alliance Bio Expertise technicians can realise the annual upkeep. Otherwise, Alliance Bio Expertise cannot be held responsible for events.

Contact us:
+33 (0)2 40 51 79 53
Email: contact@abioexpertise.com



"Empowered from our people' skills and experiences, we, ALLIANCE BIO EXPERTISE, together with our customers and partners decided to manufacture Microbiology automated equipment around essential values: Customer Focus, Service, Loyalty, Innovations"

