Coriolis µ

USER MANUAL

New generation AIR SAMPLER
Quick & reliable air control

bertin technologies

WWW.BERTIN-TECHNOLOGIES.COM

User manual Coriolis®µ
Manual Code : 05027-006-DU002-G ENG
Revised : DECEMBER 2015 – English

Designed by :

BERTIN TECHNOLOGIES
Parc d'activités du Pas du Lac
10 bis, avenue Ampère
78180 Montigny le Bretonneux
France
Tél : + 33 (0)1 39 30 61 60

Coriolis®µ : 05027.030.RD003

INDEX

1. INTRODUCTION

This user manual includes the required information regarding installation, operation and maintenance of the Coriolis®µ Air Sampler.
The product's technical specifications and the following information may change without prior notice.

1.1. Safety information

This user manual must be read carefully before operating the Coriolis®µ Air Sampler.
If there is any doubt or concern about the safety of the equipment, please contact the manufacturer.

1.1.1 Risk of electric shock

It is important for all users to be aware of the potential hazard of using liquids close to a power supply. If any liquids are spilled, immediately disconnect the instrument from the main power supply (even if it is running), dry and clean the equipment and the surrounding area.
DO NOT reconnect the equipment until it has been fully inspected.

1.1.2 Incorrect operation / using precautions

Operating the equipment in other ways than those detailed in this user manual may damage the protection of the unit.

- DO NOT operate the unit when the casing is removed; the casing protects users from potentially lethal voltage that may occur within the instrument.
- DO NOT operate the unit when the safety ground is disconnected.
- DO NOT install unauthorised cards, spare parts or accessories as this may damage the safety of the unit. The warranty will be cancelled.
- DO NOT hold the equipment by the cane but use the handle.
- DO NOT obstruct the air output.
- DO NOT fill in the cone with more than 15 ml of liquid.
- CHECK that the power cord is properly plugged in.
- REMOVE THE CANE and screw the fixation when moving the equipment.
- Processing, PUT the equipment on an horizontal surface and clear the space around the air ouput.
- PUT the air intake at the strict opposite of the air output to avoid disturbance of the aspiration.

BERTIN TECHNOLOGIES is not responsible for any damage or injury that may occur as a result of operating the instrument in a different way as described in this document.

1.1.3 Biological risks

To prevent any risk of contamination, wear gloves when handling samples and follow strictly the safety instructions related to biohazardous agents.
The waste produced by the normal operation of the instrument must be scraped of in biological waste containers and handled by specialised companies.

1.1.4 Noise level

The maximum noise level of the equipment is 70 dB in operating mode, at a flow rate of 300 l/min.

1.1.5 Conformity

This equipment conforms with CE, CEM and FCC norms:

1.2 Warranty

BERTIN TECHNOLOGIES certifies that this product is free of defects at the time of shipment.
This warranty is limited to a period of one (1) year and does not cover the cane, the air intake and the battery.
This warranty does not cover the following circumstances:

- The equipment has not been installed, operated or maintained according to the instructions described in this user manual.
- The equipment has been repaired or modified by unauthorised personnel.
- The equipment serial number has been damaged or removed.

1.3 Manufacturer information

BERTIN TECHNOLOGIES

Parc d'activités du Pas du Lac
10 bis, avenue Ampère
78180 Montigny le Bretonneux
FRANCE

Tel: +33 (0)1 39 30 60 70
Fax: +33 (0)1 39 30 61 85

E-mail: coriolis@bertin.group

1.4 Technical support

If any problem occurs, please contact the manufacturer or your distributor.

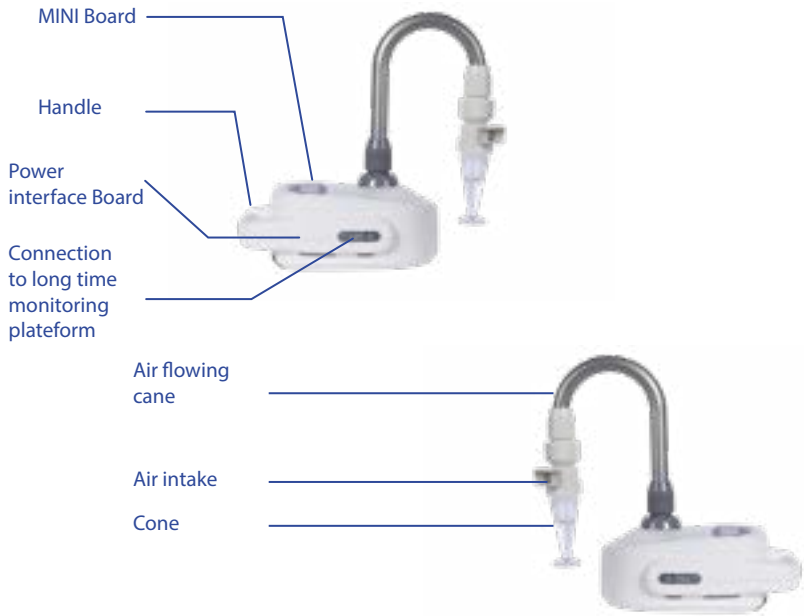
2. DESCRIPTION OF CORIOLIS®M AIR SAMPLER

2.1 Product overview

Coriolis®µ is a cyclonic system air sampler used to collect biological airborne particles for air monitoring.
Coriolis®µ Air Sampler has been designed to capture particles size from 0,5 to 20 µm and concentrates them in a liquid sample.

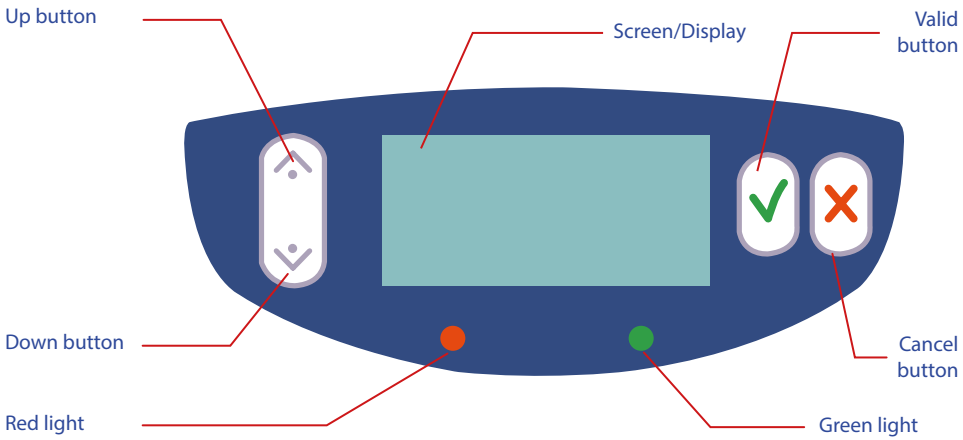
The main components of the Coriolis®µ Air Sampler are:

Low Part	Upper Part
An engine to aspirate	An autoclavable air flowing cane
A power interface board	
A MMI board	An autoclavable air intake
A handle	A cone with a screw cap



2.2 Presentation of the Keypad

The LCD screen lights up when the unit is switched on.
The keypad allows the user to set and start runs.
The keypad consists in a 4-line-LCD screen, 4 buttons and 2 LEDs (see below):



The user can adjust different settings with this interface.
Up and Down are used to navigate through the menu and adjust parameters.
When used for navigation, the Up and Down buttons can be used to move the selection cursor.

2.3 Setting

The Coriolis®µ has been designed to work at a maximum air flow rate of 300 l/min during 10 minutes maximum in "stand alone" mode. The length of sampling can be extended to 360 minutes if the Coriolis µ is linked to long time monitoring option, equipped with a pump for collection liquid reinjection ("Long time monitoring" mode).

Some parameters can be adjusted, according to the link mode of the equipment:

Parameters	Setting Range	
Mode	Stand alone	Long time monitoring
Air Flow Rate	100 to 300 l/min by 50 l/min	100 to 300 l/min by 50 l/min
Volume of air	Up to 3 m^3	Up to 108 m^3
Time	1 to 10 min by 1 min	1 to 60 min by 1 minute Then up to 120 min by 10 min Then up to 360min by 30 min
Delay	0 to 100 min by : - 1 min to 10 min - 10 min to 100 min	
Collection liquid injection	--------	From 0 to 4ml/min by 0.1 ml/min

2.4 Technical features

Technical characteristics	
Power requirements	100 - 240 V, 2A, 50 - 60 Hz
Power consumption	140 W
Size / weight (Air sampler alone)	
Width	220 mm
Length	300 mm
Height	180 mm

Size / weight (Air sampler alone)	
Height with the cane	355 mm
Weight	~ 2 kg
Weight with battery	~ 2,8 kg
Operating conditions	
Temperature	5-40°C
Humidity	15-60 %
Setting range	
Maximal Flow rate	300 l/min
Maximal Volume of air collected	3 m3 or 108 m3
Maximal Collection time	10 min
Delay	0 – 100 min
User interface	
Keypad	4 buttons: Up / Down / Valid / Cancel
Display	4-line-LCD screen, 16 characters per line backlight, 2 lights (1 green, 1 red)

2.5 Operating principle

Coriolis® patented technology is highly innovative: based on a cyclone type operation, it concentrates airborne biological particles into a liquid sample.

Air is first aspirated into the cone (pre-filled with collection liquid) in a whirling motion to form a vortex.
Particles are pulled against the wall due to centrifugal force and separated from air to be concentrated in the liquid.

2.6 Normative requirements

- BERTIN TECHNOLOGIES is certified ISO 9001:2000 (BVQI) and certified Qualifas (notation A)
- Coriolis®µ is in compliance with CE requirements (cf. Conformity declaration delivered with the equipment)
- Biological and physical efficiency of Coriolis® technology are validated by an independent testing agency HPA (Health Protection Agency, Porton Down, UK), according to the ISO 14698-1 standard requirements ("Cleanrooms and associated controlled environments - Biocontamination control").

According to ISO14698-1 standard:

The impaction device should have an impact speed on the collection medium: (speed of entry in the liquid cyclone for Coriolis®)

1. *high enough to allow the capture of viable particles down to approximately 1 µm, and*
2. *low enough not to damage fragile viable particles*

The device should have a sufficient flow rate to collect 1 m3 in a reasonable time, without significant drying of the sampling medium;

Coriolis® technology respects the requirements concerning impact speed of micro-organisms, as far as it allows an efficient recovery of viable particles.

Coriolis®µ allows to collect the required 1 m3 in less than 4 minutes, and its liquid sample avoids any problem of medium drying. Thereby it enables more sampling in less time, with possible different and faster analysis. Coriolis®µ allows a better and easier contamination monitoring.

3. TRANSPORT / STORAGE

3.1 Transport

Avoid violent shocks that may damage the equipment.
To transport the equipment, use the appropriate case: delivery box or optional transport box.

3.2 Storage

The unit must be stored in a dry area at a temperature from +0°C to +50°C.

4. INSTALLATION

DO NOT connect the unit to the mains supply before the installation is over.

4.1 Unpacking

1. Remove the equipment from the case and place it on a clean, horizontal and stable surface.
2. Unpack the instrument and inspect it carefully. Report any damage to the carrier immediately.
3. Check the content of the case with the checking list delivered with the equipment.

If one of the items is missing, please contact immediately the manufacturer.

4.2 Assembling

Before running, the air flowing cane and the air intake must be assembled following the instructions below:

1. Insert the air flowing cane in the fan's hole and screw it delicately until it blocks.
2. On the other extremity, fix the air intake by pushing and screwing delicately with the fixation part.
3. Screw the cone (pre-filled with liquid) on the lower part of the air intake.
4. Place the air intake on the strictly opposite direction of the air output to avoid any disturbance of the aspiration.

4.3 Recommendations

DO NOT fill in the cone with more than 15 ml of collection liquid.
The optimal air flow rate is 300 l/min.
DO NOT USE NON RECOMMENDED COLLECTION LIQUID. (Bertin recommends to use Coriolis µ only with Bertin collection liquid :

- Collection liquid sterile doses (15 ml) : 05237-1-202
- Collection liquid un bottle (200ml) : 05237-1-203

The use of non-recommended collection liquid can damage the Coriolis µ (Corrosion, salt deposit…). Contact us before your sampling in order to check the compatibility of your Collection Liquid.

Plug the Coriolis®µ Air Sampler into the mains supply using a compatible power cord.
Check power requirements before plugging.

This equipment must be powered from a mains supply with a protective ground terminal and protected with a differential circuit breaker of 30 mA.
An earth-leak circuit breaker must be used on the main line.

Processing, PUT the equipment on an horizontal surface and clear the space around the air output.
PUT the air intake at the strict opposite of the air output to avoid disturbance of the aspiration.

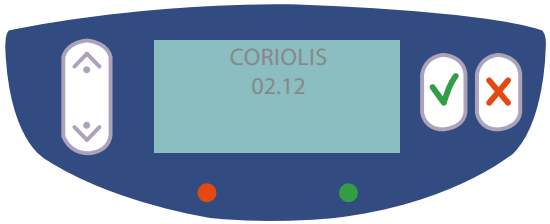
5. INSTRUCTIONS FOR USE

5.1 Turning on the equipement

Turn the unit ON by pressing the "Valid" button (around 3 seconds),

until the home screen is displayed:

- CORIOLIS — Name of the equipment
- 02.-- — Software version



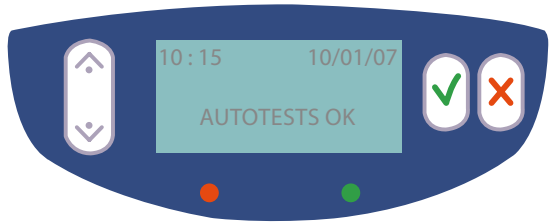
The screen has a back light energy economy which switches off after 10 seconds: at any time, you can switch the back light on by pressing "Up" or "Down" button.

5.2 Auto-tests

The equipment automatically achieves auto-tests before being available for the user:

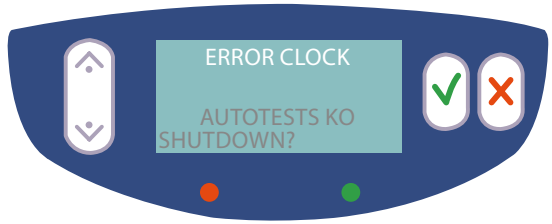
- Clock
- Memory card
- Supply mode detection (battery/mains supply)
- Pump detection (long time monitoring mode)

When all auto-tests are done and ok, the screen displays:



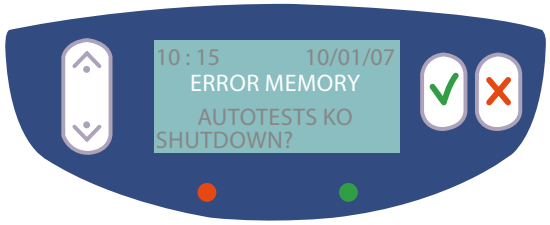
If errors occur during these auto-tests, the following messages are displayed and the red led light on.

5.2.1 Clock



The equipment can be used but it is not possible to set the collection time. Be aware that you will have to check the time yourself during collection.
Turn off the equipment by pressing the "Valid" button and re-start the equipment. If the error still occurs, please contact the manufacturer.

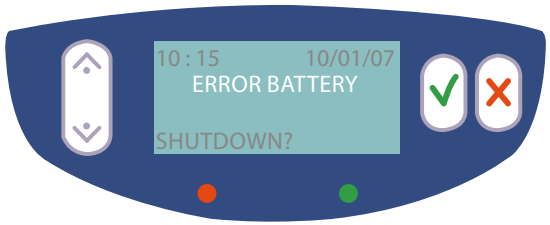
5.2.2 Memory



The equipment can not be used as far as the data can not be saved and the number of runs can not be incremented (data necessary for the maintenance of the equipment).
Turn off the equipment by pressing the "Valid" button and re-start the equipment. If the error still occurs, please contact the manufacturer.

5.2.3 Supply mode

If battery supply is detected during auto-test and a problem occurs, the following message will be displayed:



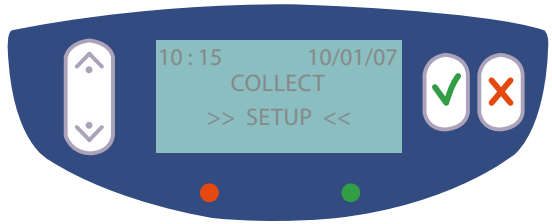
The equipment can be used but only on mains supply.

Turn off the equipment by pressing the "Valid" button and re-start the equipment. If the error still occurs, please plug the equipment on the mains supply or charge the battery and try again. If the error still occurs, please contact the manufacturer.

5.3 Using parameters for "stand alone" mode

5.3.1 Accessing to the set up menu

After the autotests, the set up menu is automatically displayed with the menu screen:



To display the set up menu press the "Down" button on the main menu to place the selection cursor on the line "SET UP" and press the "Valid" button.

5.3.2 Adjusting parameters

Once the set up menu is displayed, the first parameter value flashes: the "FLOW" value, which corresponds to the air flow rate of aspiration.

To adjust parameters, change the value by short pressing (by 1 increment) or long pressing (for faster scrolling) "Up" and/or "Down" buttons.

The user can change the FLOW value from 100 to 300 l/min by increments of 50 l/min.

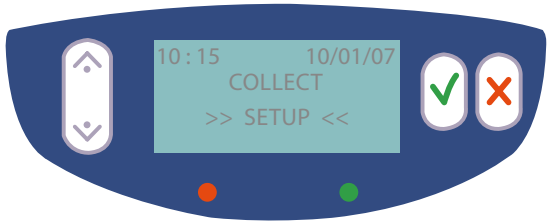
- Press the "Valid" button to save the adjusted value and get to the next parameter setting:
  The "TIME" value flashes: it represents the run duration and ranges from 1 to 10 minutes by increments of 1 minute.

- Press the "Cancel" button if you want to go back on the previous parameter.
- Press the "Valid" button to save the "TIME" value and go to the next parameter setting.

The "DELAY" value flashes: it is the waiting time set before starting the run. It ranges from 0 to 100 min by increments of 1min (up to 10min), then 10 min (up to 100min).

Press the "Valid" button to store new parameters.

Then you go back to the menu screen with COLLECT and SET UP lines and you can start the collection by pushing valid when the cursor points on the COLLECT line.



5.3.3 Sampling

5.3.3.1 Prepare a sampling run

To start a run, place the selection cursor on the line "COLLECT" on the main menu display.
Then, the following screen is displayed:

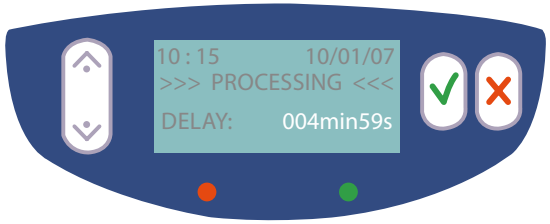
Press "Valid" to start the run.
Press "Cancel" to go back on the main menu.

DO NOT start a run without the air flowing cane, the air intake and the cone.
ALWAYS place these parts on the equipment before collection.

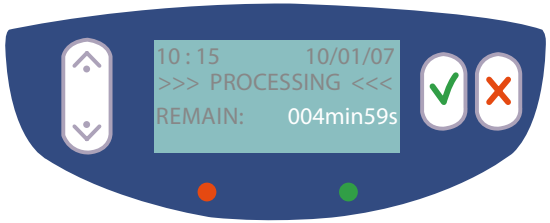
5.3.3.2 *Start a sampling run*

The run starts:

- If a delay is set, the delay time is displayed: an elapsed time counter (in minutes and seconds) counts down the delay.
- If not, the collection time is displayed: an elapsed time counter (in minutes and seconds) counts down the time remaining before the end of the run.



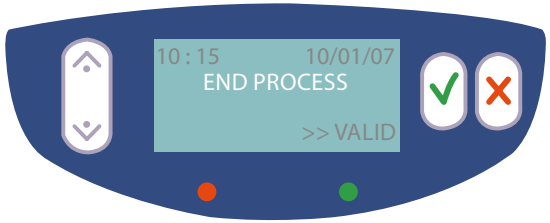
and / or



The green led flashes during processing.

5.3.3.3 *End a sampling run*

At the end of the set time, the run stops and the following screen is displayed:



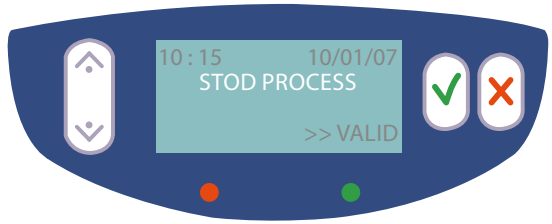
Press the "Valid" button to display the data of the run:

Unscrew the cone and recover your sample; the liquid contains the concentrated airborne particles.

Wait for the complete stop of the unit before taking off the cone from the air intake and recovering the liquid sample.

5.3.3.4 *Stop a sampling run*

The operator can stop the run by pressing the "Cancel" button at any time during the run.
The red led lights on and the screen displays:



Press the "Valid" button to display the data of the run; the time value displayed here represents the duration of the run before the stop:

5.4 Using parameters for "long time monitoring" mode

5.4.1 Connection of the air sampler to the platform

The sampler is placed as shown hereunder

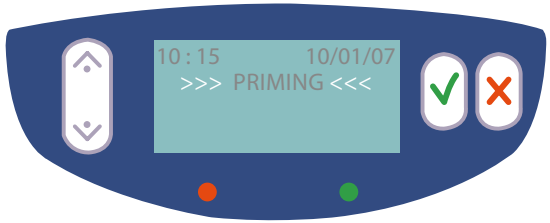
- ▶ Place the sampler on the platform and connect the pump wire
- ▶ Put in place the consumables
  - Place the bottle filled with collection liquid
  - Place the cone previously filled with 15ml of collection liquid.
  - Connect the hoses to the pump and to the air intake with injection pipe
- ▶ Connect the external power supply
- ▶ Screw the tripod under the platform, if necessary.

5.4.2 Estimate the quantity of collection liquid before collecting

In order to determine the quantity of collection liquid to inject every minute, one method consists to make a collection in "stand alone" mode with the appropriate flow rate during ten minutes with 15 ml of collection liquid. Then measure the real evaporation during this period (preferably by weighting) and divide the evaporated volume by ten to determine the value by minute. After 30 mn of sampling, check the volume of collection liquid in the cone. The collection liquid should not exceed 15 ml.

5.4.3 Priming of the hoses

When the main menu is displayed, press the "Up" button, the following screen is displayed:



To start the pump, press the "Valid" button until the collection liquid reaches the injection pipe of the air intake.
To return to the set up menu, press on "Down" button.

5.4.4 Accessing to the set up menu

After the autotests, the set up menu is automatically displayed with the menu screen:

IIMPORTANT NOTA : Before starting the setting of the parameters, it is necessary to prime the hoses before starting the first collection for that follows the instructions of the next paragraph.

To display the set up menu press the "Down" button on the main menu to place the selection cursor on the line "SET UP" and press the "Valid" button.

5.4.5 Adjusting parameters

Once the set up menu is displayed, the first parameter value flashes: the "FLOW" value, which corresponds to the air flow rate of aspiration.

To adjust parameters, change the value by short pressing (by 1 increment) or long pressing (for faster scrolling) "Up" and/or "Down" buttons.

The user can change the FLOW value from 100 to 300 l/min by increments of 50 l/min.

- Press the "Valid" button to save the adjusted value and get to the next parameter setting :

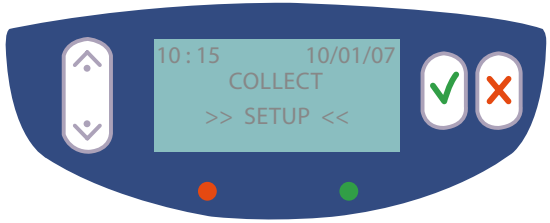
The "TIME" value flashes: it represents the run duration and ranges from 1 to 10 minutes by increments of 1 minute, then from 10 minutes to 120 minutes by increments of 10 minutes, then from 120 minutes to 360 minutes by increments of 30 minutes

- Press the "Cancel" button if you want to go back on the previous parameter.
- Press the "Valid" button to save the "TIME" value and go to the next parameter setting.

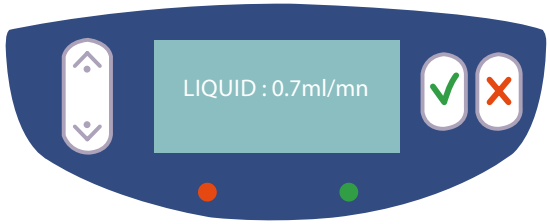
The "DELAY" value flashes: it is the waiting time set before starting the run. It ranges from 0 to 100 min by increments of 1min (up to 10min), then 10 min (up to 100min).

Press the "Valid" button to store new parameters.

Then you go back to the menu screen with COLLECT and SET UP lines and you can start the collection by pushing valid when the cursor points on the COLLECT line.



Press the "Valid" button in order to adjust the injection volume to inject each minute (previously estimated. see § 5.4.2).

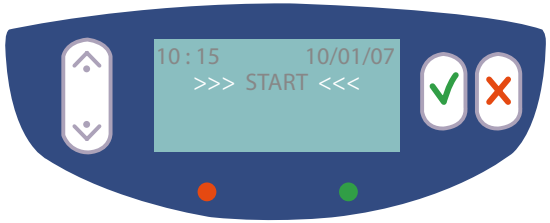


To adjust the value, use the "Up" or "Down" button
Press on "Valid" button when adjusted.

5.4.6 Sampling

5.4.6.1 Prepare a sampling run

To start a run, place the selection cursor on the line "COLLECT" on the main menu display.
Then, the following screen is displayed :

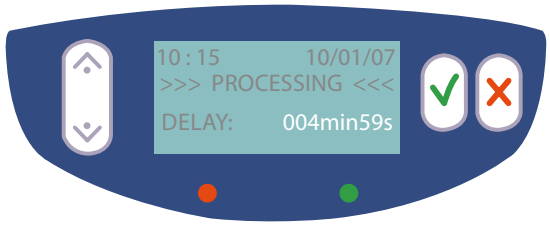


Press "Valid" to start the run.
Press "Cancel" to go back on the main menu.

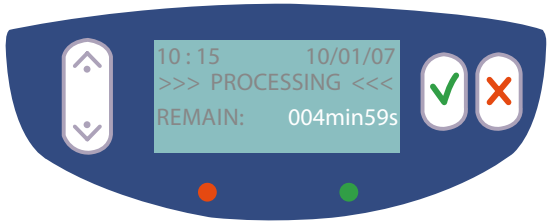
DO NOT start a run without the air flowing cane, the air intake and the cone.
ALWAYS place these parts on the equipment before collection.

5.4.6.2 Start a sampling run

- If a delay is set, the delay time is displayed: an elapsed time counter (in minutes and seconds) counts down the delay.
- If not, the collection time is displayed: an elapsed time counter (in minutes and seconds) counts down the time remaining before the end of the run.



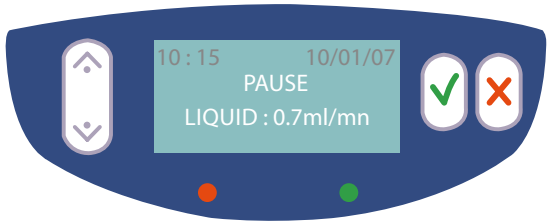
and / or



The green led flashes during processing.

5.4.6.3 Pause during a sampling run

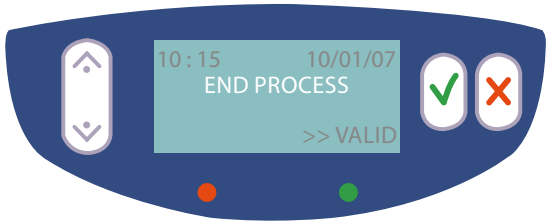
Pressing on the "Valid" button during the run allows suspending momentarily the collection (without modifying the effective time of collection) and to readjust if necessary the injection parameter. The following screen is displayed :



To modify this parameter, use the "Up" and "Down" buttons. To start the collection again, press on the "Valid" button.
NOTA: During collection, it is necessary to verify periodically if it remains sufficiently of collection liquid to finish the collection cycle. If necessary refill the bottle.

5.4.6.4 *End a sampling run*

At the end of the set time, the run stops and the following screen is displayed:



Press the "Valid" button to display the data of the run:

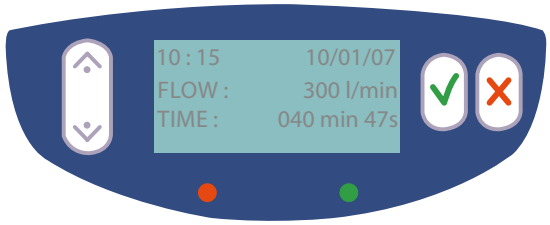
Unscrew the cone and recover your sample; the liquid contains the concentrated airborne particles.

Wait for the complete stop of the unit before taking off the cone from the air intake and recovering the liquid sample.

5.4.6.5 *Stop a sampling run*

The operator can stop the run by pressing the "Cancel" button at any time during the run.
The red led lights on and the screen displays :

Press the "Valid" button to display the data of the run; the time value displayed here represents the duration of the run before the stop :

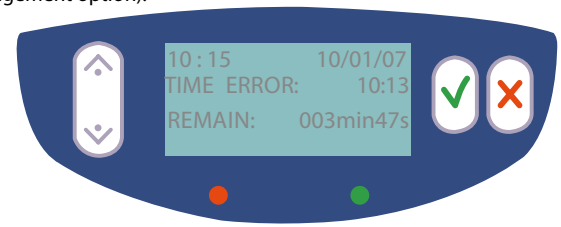


5.5 Run failure

Potential cause	Solution
Empty battery	Change battery or plug the equipment on mains supply
Technical problem (engine, electronics, abnormal noise…)	Check if the air intake and the exhaust are not obstructed Start a new run If the problem still occurs, please contact the manufacturer

If a run failure occurs, the collection stops, the red led lights on and the screen displays:

This error message is saved in memory.
Press the "Valid" button to display the data of the run (these data are saved in the memory and can be transferred to a computer with the data management option):



Start a new run or unscrew the cone to recover your sample.

Wait for the complete stop of the unit before taking off the cone from the air intake and recovering the liquid sample.

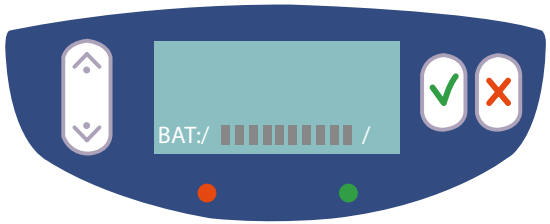
5.6 Run failure

The equipment can be either used on mains supply or on battery. Even if you do not use the battery, be sure to maintain it charged in order to keep its autonomy capacity.

Always put the battery charged before turning on the equipment or re-start the equipment to detect the "battery" supply mode.

If the equipment is not on mains supply and the battery is well placed, the equipment detects the battery during autotests and displays:

Then all screens will show the charging level of the battery on the last line:

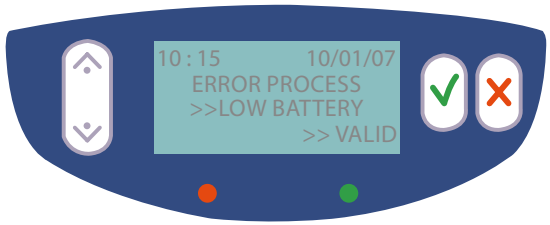


▮ ≙ 10 % of charge level

As soon as the battery level reaches 10 minutes of autonomy left, the red led lights on and the message "LOW BATTERY" is displayed and flashes:

- Plug the equipment on mains supply to avoid any process failure
- Charge or change the battery

If power is not supplied during a low battery run, the process will fail and the screen will display :



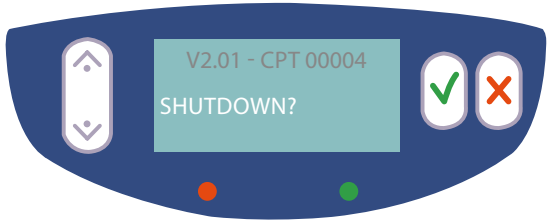
If the equipment is not running, please plug the charger on the battery: the colour of the light gives the level of charge:

- Yellow: no battery / charge initialisation
- Orange: fast charge
- Green / Yellow flashing : end of charge (an empty battery requires about 2 hours charging)
- Green : charged
- Orange / Green flashing : error

5.7 Administrator Menu

The administrator menu allows to set up time and date, and to access to the decontamination menu of the equipment.

To access this menu press the "Cancel" button for 3 seconds on the main menu "COLLECT / SET UP". This screen is displayed:



- V02.-- represents the soft version;
- CPT 00004 is the number of runs performed by the equipment since its installation.

Press the "Up" button: you access to the "DECONTAMINATION" menu to launch a vapour H2O2 decontamination cycle and make the vapours circulate into the equipment.
Press again the "Up" button and enter the admin code to access the administrator menu:

The default admin code of this equipment is 0204.
If the administrator code is incorrect, the screen displays back on "SHUTDOWN ?".

Use the "Up" button to navigate through the administrator menu and "Valid" to select the right task:

- SET TIME (to set time and date)
- RESET GAUGE (for the battery)
- SHUTDOWN?
- DECONTAMINATION

Press "Cancel" to go back to the main menu "COLLECT / SET UP".

6 FLOW CONTROL OPTION

6.1 Flow Control Option overview

The Coriolis® flow control accessory is an optical tachymeter designed to measure the rotation speed of the motor of the Coriolis®µ. An interface part has been designed to place the accessory at a correct distance and angle from the input blade of the motor.

The option is presented as followed:

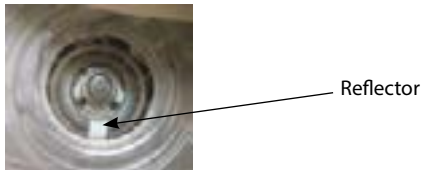
- an optical tachymeter
- an interface part
- a user manual
- a certificate of calibration

Flow control option specifications:

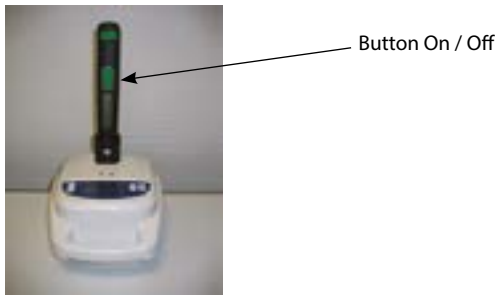
Source	Measure range	Precision
Visible Minilamp	60 – 19999 rot/min	0.01% + ou – 1 digit

6.2 Using the flow control option

Be sure that the reflector is well placed on the rotor of the motor in the sampler.



The motor of the sampler has to be stopped, then put the equipment on the input as shown on the picture below.
NOTE: The screen of the tachymeter has to be placed facing the screen of the Coriolis®µ



Start the Coriolis®µ at 300l/min and wait until the speed becomes stabilized (10 to 15 seconds).
Press and hold the button ON/OFF on the tachymeter: the speed will be displayed. Read and note the value on the report (in rot/min).

NOTE: The screen only lights during the measure

The value in rot/min should be in accordance with the following table:

Flow rate l/min	100	150	200	250	300
Speed rot/min	4415 - 4880	6675 - 7378	8996 - 9943	11325 - 12517	12909 - 14268

As you stop pressing the button, the screen of the tachymeter turns off.
An example of flow control report is appended to this manual.

If the values found for every flow rate are not in accordance with the values of the table, the sampler should be sent to our service department for calibration.

6.3 Maintenance of the flow control option

The Coriolis® flow control accessory should be verified periodically. This period can be modulated in function of the use.
The recommended verification period is 1 year.
The Coriolis® flow control accessory does not need any special maintenance; it is recommended to change the battery once a year.

7 CLEANING & DECONTAMINATION

7.1 Routine decontamination / sterilisation

The housing of the unit and the platform can be cleaned up with a wet sponge or a rag, either with water, alcohol or aqueous solutions of sodium hypochlorite at 1,8° Cl.

For safety reasons and to prevent any damage of the unit, the recommendations listed below should be strictly followed:

- DO NOT spray liquids directly on the air opening of the fan;
- Disconnect the power cord before cleaning;
- DO NOT use any type of scrapers;
- DO NOT use caustic soda or acetone

Between each sample, change the cone.
Each day or between each controlled room, clean the following parts by autoclave (at 121°C maximum for 15 min): Air flowing cane - Air intake.

7.2 H_2O_2: vapour peroxide hydrogen decontamination

Coriolis®µ resists to vapour peroxide hydrogen decontamination.
Use the "DECONTAMINATION" mode in the Administrator menu to make the vapours circulate into the equipment.

7.3 Maintenance

Except decontamination, spare parts do not require any specific maintenance.

BERTIN TECHNOLOGIES recommended to achieve a flow rate control of the equipment at least once a year: it can be performed with the flow control option provided by Bertin Technologies or directly by Bertin Technologies.
Please contact the manufacturer.

8 REFERENCES LIST

Description	References
Cane	S001081-CORM0-A.0
Air intake	S001085-CORM0-A.0
Air intake for long time monitoring	S001203-CORM0-A.0
Li-Ion Battery	S001093-CORM0-A.0
Li-Ion Battery charger	C29200000019A.0
Flow control Option	S001118-CORM0-A.0
Cones and caps	S001107-CORM0-A.0
Sterile cones and caps	S001109-CORM0-A.0
Collection liquid sterile doses (by 50)	S001113-CORM0-A.0
Collection liquid in bottle (250 ml)	S001114-CORM0-A.0
Tubing kit	S001115-CORM0-A.0

ANNEXE 1 : EXAMPLE OF A FLOW CONTROL REPORT

Rapport de vérification d'un biocollecteur CORIOLIS®µ
Verification report of a CORIOLIS®µ Air Sampler

Documents de référence : Manuel utilisateur du banc référencé 05027-006-DU001-A
Reference document : user manual of the bench referenced 05027-006-DU001-A

Moyens de vérification : Banc de vérification - référence :
N° série :
Verification equipment : Verification bench - reference
Serial number :

Résultats :
Results:

Débit en l/min *Flow in l/min*	300
Vitesse attendue en tour/min *Expected speed in rot /min*	Comprise entre 12909 et 14268 *between 12909 et 14268*
Vitesse mesurée en tour/min *Measured speed in rot /min*	

☐ Conforme *Conform*	☐ Non-conforme *Non conform*
Observations *Remarks*	

	Opérateur *Operator*	Non-conforme *Non conform*
Nom *Name*		
Date et Visa *Date and Visa*		

NOTES

NOTES

www.bertin-technologies.com

More than 1000 scientific protocols and data on the application center

Bertin Technologies
10 avenue Ampère, 78180 Montigny-le-Bretonneux, France
www.bertin-technologies.com