

IAQ 15 Connect

Operating & Instruction Manual



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Section 1 - Warranty Information

LIMITED WARRANTY

The Environmental Express IAQ 15 Connect is warranted against defects in materials and workmanship when used in accordance with applicable instructions, for a period of one (1) year from the date of shipment. This warranty extends to parts, labor, and any approved transportation costs. This warranty applies only to damage or failure caused by normal use. The warranty is limited to product repair. If Environmental Express is unable to repair the IAQ 15 Connect, the customer may, at his or her option, receive a replacement unit or a full refund.

In no event shall Environmental Express have any obligation to make repairs, replacements, or corrections required, in whole or in part, as the result of (i) normal wear and tear, (ii) accident, disaster or event of force majeure, (iii) abuse, neglect, misuse, fault, or negligence of or by customer, (iv) use of the product in a manner for which it was not designed, (v) causes external to the product such as, but not limited to, power failure or electrical power surges, (vi) improper storage and handling of the product, (vii) use of the product in combination with equipment or software not supplied by Environmental Express, (viii) ordinary maintenance, (ix) alterations, repairs or installations that have not been performed by Environmental Express or its authorized representative or (x) failure to maintain product in accordance with Environmental Express' written instructions.

Environmental Express makes no other warranty, expressed or implied for this product with respect to merchantability, fitness for a particular use or any other matter and expressly disclaims all other warranties. Environmental Express is not liable for any consequential, special, indirect, or compensatory damages arising from use of, or in conjunction with this product. The maximum liability of Environmental Express (whether by reason of breach of contract, tort, indemnification, or otherwise provided herein) shall be the invoice price of this product.

REPAIR POLICIES

If it should become necessary to return the IAQ 15 Connect pump for service, please call Environmental Express at 1-352-854-8080 for a return authorization number and return instructions. Please have the unit serial number and a description of the problem handy. All units must be complete with the pump, case, charger, and flow indicator for a complete evaluation. Units returned without all of these items cannot be thoroughly evaluated by our service department. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. A return authorization number must be issued prior to shipment and must be marked on your shipment.

Under Warranty Repair

If the IAQ 15 Connect should fail to operate as warranted within the warranty period (one year from date of shipment), Environmental Express will repair it and ship it back to the customer at Environmental Express' expense. The remainder of the warranty period will be honored from the original ship date. Environmental Express will bear the cost of ground transportation both to and from the customer's location, and bear the cost of any parts, labor, and cleanup required.

If, however, it is determined that the damage to the IAQ 15 Connect was caused by negligence or improper use or by another excluded cause as set forth above, this warranty will not apply. The warranty is also void if the system is used beyond its intended purpose or in the event of any unauthorized repair. In such cases, reasonable and customary repair charges will apply. Repair charges will be quoted prior to work being done.

Out of Warranty Repair

If the IAQ 15 Connect fails after the warranty period has lapsed, the repair procedure is as follows:

First, notify an Environmental Express Technical Service Representative of the product's failure and place an order for repair. Whenever possible, our customer service technician will walk you through possible troubleshooting scenarios which may enable you to repair your unit on-site. **After any repairs are performed, contact Environmental Express on how to verify a safe operation.**

If on-site repair is not possible, the customer may return the non-working unit to Environmental Express using appropriate shipping containers and insurance. Repair charges will be assessed and estimated prior to work being done. Repair charges will include all freight costs as well as reasonable and customary charges for parts and labor.

NOTE: *This warranty does not apply to any consumable items associated with the IAQ 15 Connect.*

Section 2 - Declaration of Conformity

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

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: 1. This device may not cause interference. 2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : 1. L'appareil ne doit pas produire de brouillage; 2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by Environmental Express could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Section 3 - Specifications

Intended Use

- The IAQ 15 Connect is an advanced portable, battery-powered air sampling pump designed for exclusive use with Air-O-Cell® and Via-Cell® cassettes for fast sample collection. Protection provided within the system may be impaired if the device is used in a manner for which it is not intended.

Technical Specifications

- Flow rate: 15 LPM
- Accuracy: ±5%
- Housing: PC/ABS plastic
- Battery: rechargeable nickel metal hydride (NiMH), 9.6 V, 2500 mAh
- Run time: 99 five-minute samples on new, fully charged battery
- Dimensions: 3.75" W x 2.55" H x 6.85" D (9.5 x 6.5 x 17.4 cm)
- Weight: 1.25 lb (0.57 kg)
- Temperature: 41 to 104°F (5 to 40°C)
- Max humidity: 80% RH up to 88°F (31°C), decreasing linearly to 50% RH at 104°F (40°C)
- Altitude: up to 6561 ft (2000 m)
- Ingress protection: IPX0
- Use: indoor and outdoor
- Pollution degree: 2
- Electrical rating: 15V ~~==~~, 1.2A

Section 4 - What Is Included

- IAQ 15 Connect pump (Part # W30162)
- Air-O-Cell cassettes, 10/pk
- Air-O-Cell flow indicator
- Battery pack
- Battery cover key (Part # W40132)
- AC/DC wall mount adapter, 15 V 18 W
- Carrying case

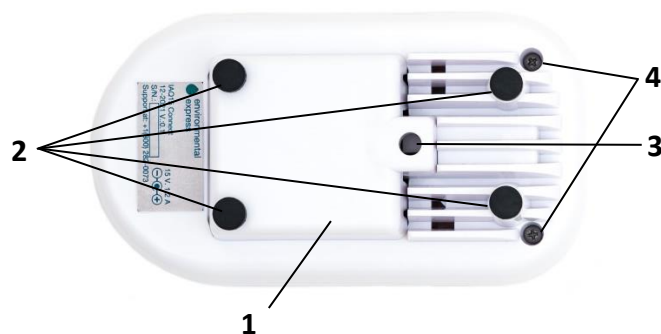
Section 5 - Physical Description

Top View of Pump



1. Cassette retainer
2. LCD
3. **F1 button** (increase)
4. **F2 button** (enter)
5. **F3 button** (decrease)
6. **Bluetooth® button**
7. **Power On/Off and Wake-up button**
8. AC charger input jack

Bottom View of Pump



1. Battery pack/Battery cover
2. Grommet-style rubber feet
3. Tripod mounting thread
4. Enclosure screws

Section 6 - Prior to Operation

The IAQ 15 Connect device comes with IAQ 15 App. The app can be downloaded from IOS and Android Platform. Before use, the correct date, time, and user location should be verified and set.

1. When the app is first used, user will need to go through the sign up and scan the device.
2. To connect the app to the device, turn the IAQ 15 Connect pump on and once it is in main menu screen, press the Bluetooth® button on pump. Bluetooth icon will appear next to battery level indicator and icon will be gray.
3. In the app, “IAQ 15” will appear on screen, select it and this will pair pump to your mobile device.
4. Once paired, the Bluetooth icon on pump will turn from gray to blue.
5. User can then use the app to:
 - a. sync date and time
 - b. sync location

Note: The app must be synced to the unit to amend location sampling information. Failure to connect to the app will omit this information from sample records.

Section 7 - Calibration

It is recommended that IAQ 15 Connect is calibrated and verified at least once every day of use. A flow indicator for Air-O-Cell cassettes is supplied with the pump for ease of calibration. You may also calibrate the pump using an optional TSI® 4046 Primary Calibrator with attachments or using an optional Via-Cell flow indicator (if sampling with Via-Cell cassettes). These are the only approved calibrators that are specifically designed to work with low backpressure impeller fan type pumps.

Warning: DO NOT calibrate the pump using any other devices. Doing so will yield inaccurate readings due to the backpressure created by the calibrators and may void warranty. Calibrators known by Environmental Express to cause these inaccuracies include, but are not limited to, Bios Drycal, Bios Defender, Gilian Gilibrator, Gilian Challenger, and standard MiniBuck calibrators.

Adjusting the Calibration

1. Press the **On/Off** button to turn the pump on.
2. Press **F2** button to select *Calibration* mode from the main menu screen.
3. Connect the flow indicator or the TSI 4046 Primary Calibrator to pump.



Air-O-Cell flow indicator connected to pump.

TSI 4046 Primary Calibrator connected to pump.

4. Press **F2** button.
5. The pump will begin running at a default flow rate; the green LED will begin flashing. Use the **F1** button to adjust the flow down or the **F3** button to adjust the flow up until “15 LPM” registers on the flow indicator or on the TSI calibrator’s LCD.
6. Press the **F2** button to set the calibration and then *Calibration Complete* will appear; the green LED will be constant. Press **F2** button to return to main menu screen.

Note: When you enter the *Calibration* mode, the pump will reset its flow rate to the default setting. To check the pump calibration without resetting the flow rate, you may use the *Verify Calibration* function.

Verifying the Calibration

1. Press the **On/Off** button to turn the pump on.
2. Scroll and select the *Verify Calibration* mode.
3. Connect the flow indicator or TSI 4046 Primary Calibrator.
4. Press **F2** button.
5. Measure the flow rate; the green LED will begin flashing. Press **F2** button to stop. *Verification Complete* will be displayed on the screen and green LED will be constant. The calibration flow cannot be adjusted during the *Verify Calibration* mode, it can only be checked.

Section 8 - Sampling Modes

The IAQ 15 Connect pump features a choice of 3 different sampling modes. We strongly recommend that the sampling mode is chosen after calibration is complete.

- **Quick Sample** — This mode allows easy sampling with the most commonly used sampling times of 1, 2, 5, or 10 minutes.
- **Single Sampling** — This mode is designed to take one sample at a predetermined amount of time. The sampling time can be set anywhere from 1 minute to 9 hours, 59 minutes.
- **Sequential Sampling** — This mode allows the pump to be programmed to turn on and off at predetermined times. The user programs the number of on/off cycles, the cycle run time, and the cycle off time.

Taking Sample(s) Using the *Quick Sample* Mode

1. Place the pump in the desired location.
2. Scroll to *Quick Sample* and press the **F2** button.
3. Place the sampling cassette onto the cassette retainer so that it fits snugly. Then either press the **F1** button or wait a few minutes until the next screen appears.
4. Scroll and select the desired sampling time from 1, 2, 5, or 10 minutes.
5. Press **F2** button to enter. The RFID reader will detect tag on cassette if present and display one of the messages below:
 - *You are using Genuine Cassette for best results.*
 - *Genuine Cassette not detected. You may not achieve optimal results. Continue?*
 - *Cassette is expired. Do you wish to continue?*
 - *Cassette is duplicate. Do you wish to continue?*

Note: User can choose to collect sample if Genuine Cassette is not detected by pressing **F1** button. It is not recommended to continue with sampling if the cassette is expired or duplicate (has already been used). Expired or duplicate messages will only be displayed if cassette has a RFID tag.

6. Press **F1** button. The category labeled “*Run Time*” will count up to the chosen sampling *Set Time*; green LEDs will flash when sampling. Once complete, *Sample Complete* will be displayed, green LED will be constant, and unit will beep three times.

Press **F2** button to return to the main user screen. Remove cassette from pump by gently pulling upward and away from the unit. Seal cassette with tabs, document the sample run time, and send to laboratory for analysis.

Taking Sample(s) Using the *Single Sample Mode*

1. Place the pump in the desired location.
2. Scroll to *Single Sample* and press the **F2** button.
3. Place the sampling cassette onto the cassette retainer so that it fits snugly. Then either press the **F1** button or wait a few minutes until the next screen appears.
4. Set the *Run Time*; sampling run time can be set from 1 minute up to 9 hours, 59 minutes.
5. Press the **F2** button to enter. The RFID reader will detect tag on cassette if present and display one of the messages below:
 - *You are using Genuine Cassette for best results.*
 - *Genuine Cassette not detected. You may not achieve optimal results. Continue?*
 - *Cassette is expired. Do you wish to continue?*
 - *Cassette is duplicate. Do you wish to continue?*

Note: Users can choose to collect the sample if a Genuine Cassette is not detected by pressing **F1** button. It is not recommended to continue with sampling if cassette is expired or duplicate. The expired or duplicate messages will only be displayed if cassette has a RFID tag.

6. Press **F1** button. The category labeled “*Run Time*” will count up to the chosen *Set Time*; green LEDs will flash when sampling. Once complete, *Sample Complete* will be displayed, green LEDs will be constant, and unit will beep three times.
7. Press **F2** button to return to the main user screen. Remove cassette from pump by gently pulling upward and away from the unit. Seal cassette with tabs, document the sample run time, and send to laboratory for analysis.

Taking Sample(s) Using the *Sequential Sampling Mode*

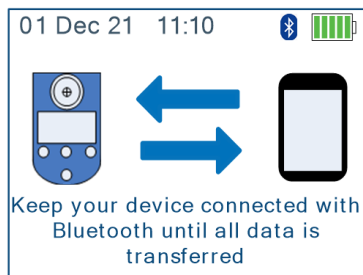
1. Place the pump in the desired location.
2. Scroll to *Sequential Sample* and press **F2** button.
3. Place the sampling cassette onto the cassette retainer so that it fits snugly. Then either press the **F1** button or wait a few minutes until the next screen appears.
4. Enter the *#On/Off Cycles* (one cycle run time followed by one cycle off time). Enter the *Cycle Run Time* (run time will be the same for all run cycles). Enter the *Cycle Off Time* (off time will be the same for all off cycles).
5. Press the **F2** button to enter. The RFID reader will detect tag on cassette if present and display one of the messages below:
 - *You are using Genuine Cassette for best results.*
 - *Genuine Cassette not detected. You may not achieve optimal results. Continue?*
 - *Cassette is expired. Do you wish to continue?*
 - *Cassette is duplicate. Do you wish to continue?*

Note: User can choose to collect the sample if a Genuine Cassette is not detected by pressing **F1** button. It is not recommended to continue with sampling if cassette is expired or duplicate. Expired or duplicate messages will only be displayed if cassette has a RFID tag.

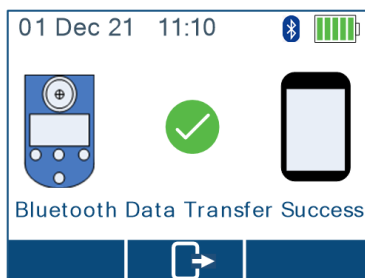
6. Press **F1** button. The category labeled “*Run Time of Cycle 01*” will count down; green LEDs will flash when sampling. Once complete, pump will switch to the *Cycle 02 Off Time* and count down; green LEDs will continue to flash during the off times. During the *Off Time*, the cassette should be removed and a new cassette loaded onto the cassette retainer. Seal the sampled cassette with tabs, and document the sample run time. After each *Off Time*, the RFID reader will detect tag on cassette if present and give one of the messages (see #5 above). *Sample Complete* message will only show after the entire *Run Cycle* is completed (after the last cycle run time). Press **F2** button to return to the main user screen.

Section 9 - Retrieval of Event Records with App

1. Press the **Bluetooth** button on pump while in the main menu screen, *Bluetooth icon* will appear next to battery level indicator and icon will be gray.
2. Pair pump to your mobile device. Once paired, the icon will turn from gray color to blue color.
3. Initiate data transfer from mobile app. User screen will display picture of IAQ 15 Connect and a mobile device with arrows between during the data transfer. Message displayed, *Keep your device connected with Bluetooth until all data is transferred*.



4. Once complete, check mark will appear between the IAQ 15 Connect and mobile device with message stating *Bluetooth Data Transfer Success*.



Section 10 - Battery Charging and Status

To charge the battery pack, plug in the AC charger on the right side of the pump. The yellow LED will flash when the unit is charging. When charging is complete, the yellow LED will remain constant. A full battery charge takes approximately 3 hours. Do not use battery level icon to determine if battery is fully charged. Only constant yellow LED is indication of fully charged battery. During charging, battery level will quickly increase to 5 bars, but battery may not be fully charged at this point. If the pump will not be used for an extended period, it will slowly lose its battery charge and will need to be recharged before use. During these extended periods, the pump can remain attached to the AC charging adapter to maintain the battery charge. The pump can perform all sampling modes while connected to the charger. If charging and sampling or calibrating at the same time, the LED will alternate between flashing yellow and green.

The battery level icon appears in the upper right-hand corner of the screen. As the battery level drops during use, the number of bars will decrease from right to left. Because NiMH batteries constantly regenerate themselves and release additional power, it is possible for the displayed battery level to fluctuate (increase or decrease) during use.

When the battery level becomes very low (1 bar), the red LED will start flashing. The unit should be plugged into power source using the AC adapter as soon as possible. The pump may be operated using standard AC power charger supplied with the pump.

If the battery's voltage drops low enough that the unit will not operate reliably or if for any reason an inconsistent motor speed is detected, the unit will shut down. During shutdown, the amount of actual run time will be saved. When the power is restored, *Incomplete Run* will be displayed on the home screen. Previous sample may be continued, or a new sample may be started.

Section 11 - Battery Pack Access and Connection

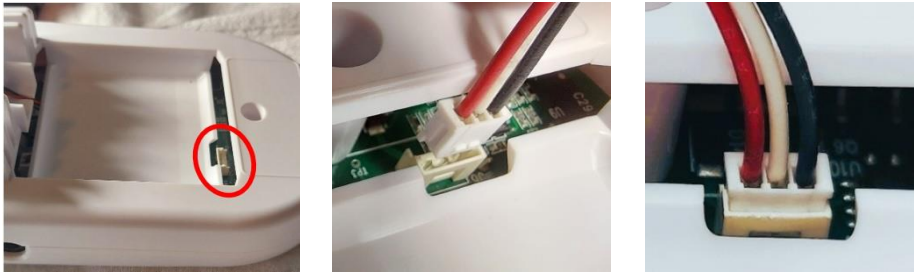
1. Locate the battery key (Part # W40132) included with your IAQ 15 Connect pump.



2. Unlock the battery pack cover with the key and pivot the cover forward to access the battery pack.



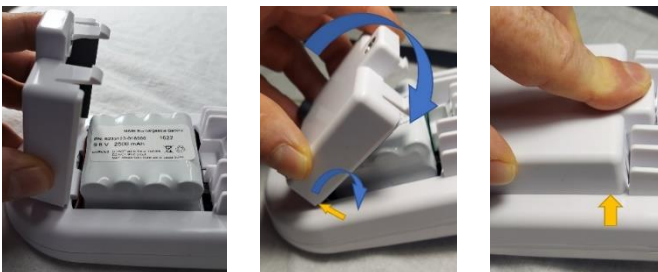
3. Locate the battery Molex connector and proceed to connect it to the battery pack. When plugging in the Molex connector, the red wire should face the middle of the pump, and the black wire should face the outside edge of the pump. Be aware that the battery is charged and will turn on the pump as soon it is connected. Proceed to connect the battery.



4. Place the battery pack inside the IAQ 15 Connect with the wires loop in front of the battery.



5. Re-install the battery pack cover. Take care not to pinch the battery cables with bottom of battery cover. The pump is ready to operate.



Section 12 - Cautions and Warnings

- Only the battery pack should be opened on the pump using the molded battery cover key supplied. Do not remove the screws and open the bottom enclosure from the top enclosure.
- Always follow basic safety precautions when using this product to reduce the risk of injury, fire, or electric shock.
- Batteries may explode or leak and cause burn injury if disassembled from battery pack.
- Use only the charger and battery supplied with the IAQ 15 Connect pump. Using a different battery or charger can damage the pump or cause injury from explosion, and may void warranty.
- Do not submerge the pump or subject the pump to any liquids.
- Do not block the vent holes under the unit.

Section 13 - Maintenance

Proper care and maintenance of your IAQ 15 Connect pump is essential for a long operational life. It is a delicate electronic device and should be treated accordingly. Rough and abusive use and/or accidental impacts may damage the unit. Environmental Express offers the following guidelines in caring for your equipment:

- Keep the unit clean and free of dust and dirt. It may be wiped down with a clean dry cloth.
- Keep the battery charged. Charge periodically when not used for a prolonged amount of time or leave plugged in so that the pump is fully charged and prepared for on demand sampling.
- Always store the unit in its case for proper protection.
- Do not ship the unit using the carrying case as the shipping container. The case is not designed to be a shipping container and damage may occur.
- Do not attempt to oil the motor. The motor is designed to be maintenance free.
- Do not store the unit in extreme heat for any extended period of time.

Section 14 - Accessories and Consumables



Tripod stand ZA0043



Air-O-Cell cassettes AOC050



Air-O-Cell Flow Indicator 02398

Description	Part #
Heavy-duty tripod sampling stand	ZA0043
Remote extension tubing, 5 ft	ZBP-310
IAQ 15 Connect Pro Kit with Accessories	IAQ 15 CONNECT-PROKI
Calibration kit with TSI 4046 Primary Calibrator	ZBP-200-CAL
Flow indicator for calibrating Air-O-Cell cassettes	02398
Flow indicator for calibrating Via-Cell cassettes	02399
Air-O-Cell cassettes (50/pk)	AOC050
Air-O-Cell cassettes (10/pk)	AOC010
Via-Cell cassettes (10/pk)	VIA010