Important Information/Reminders

**WARNING:** The iCOquit® Smokerlyzer® device is for individual use. Do not share your device with anyone to lower the risk of cross-contamination.

**CAUTION:** Never use alcohol or cleaning agents containing alcohol or other organic solvents as these vapours will damage the carbon monoxide sensor inside the iCOquit®.

**CAUTION:** Do not use hand-sanitising products containing alcohol when using the device as this may damage the sensors.

**CAUTION:** Use of accessories not approved by the manufacturer will invalidate the warranty and may compromise the functionality of the device.

**NOTE:** Once the iCOquit® battery has become flat, the iCOquit® device will need to be disposed of, please see disposal guidance in the ‘Disposal of Device’ section of this manual.
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About This Manual

The User Manual provides instructions on how to operate iCOquit® Smokerlyzer® monitor and the iCOquit® app. It contains relevant information about the monitor, its uses and its care, including step-by-step instructions with screens and illustrations.

Definitions

WARNING: indicates a potentially hazardous situation, which, if not avoided, may result minor or moderate injury.

CAUTION: indicates a potentially hazardous situation, which, if not avoided, may result in damage to the device.

NOTE: used to call attention to notable information that should be followed during use.

Warnings

1. Hands should be washed regularly in accordance with infection control practice.

2. Please do not attempt to modify the equipment in any way or use accessories not specified by the manufacturer. Any attempt to do so will invalidate the warranty and may compromise the safety of the device.

3. The iCOquit® Smokerlyzer® is for indoor use only.

Cautions

1. Never use alcohol or cleaning agents containing alcohol or other organic solvents as these vapours will damage the carbon monoxide sensor inside the iCOquit®.

2. Do not use hand-sanitising products containing alcohol when using the device as this may damage the sensors.

3. Use of accessories not approved by the manufacturer will invalidate the warranty and may compromise the functionality of the device.

Contraindications

There are no known contraindications.
Intended Use/Indications

The iCOquit® Smokerlyzer® breath carbon monoxide (CO) monitor is intended for single patient use by cigarette smoking individuals, notifying the individual user of the amount of CO on their breath produced as a consequence of smoking activity. The Device can be used in smoking cessation programmes.

Instrument Layout

1. Breath sample port
2. On/pairing button
3. LED light ring/pairing light
4. Information label including serial number
5. Breath exhaust

Installation and Set-up

Downloading the iCOquit® app

App can be downloaded from the App Store or Google Play.

Connecting the iCOquit® device

To connect the device to the app, push the pairing button when instructed to. A blue light will flash once to show pairing is complete.
**NOTE:** This can take up to 5 seconds and will only pair once initiated from within the iCOquit® app.

The device automatically disconnects after 10 seconds of inactivity or when a breath test is complete.

**User Interface**

**Splash Screen**

The splash screen shall display upon starting the app. The splash screen shall disappear once the app has successfully loaded.
Sign in Screen

1. Email Address field.
2. Password field.
3. Forgotten Password button, starts a new forgotten password process.
4. Sign In Button, starts the authentication process.
5. Register button, starts the user registration process.
Dashboard/Home Screen

1. Hamburger menu button, this will open the menu.

2. The first dashboard shows the user's latest CO PPM reading.
   a. Information overlay appears on a tap gesture which provides result description.

3. The second dashboard shows days until quit date or if quit date has been reached, it will show number of days smoke-free.

4. The last dashboard shows amount of money user has saved.

5. Results tab will navigate user to results graph.

6. Dashboard tab will navigate user to dashboard.

7. Breath Test Tab will navigate the user to the first breath test page if it is not the active tab.
Using the iCOquit®

User Authentication and Registration

Authentication Screen Options

a. If the user already has an account they will need to complete the authentication fields and tap the ‘Sign In’ Button.

b. If the user is already a user, but has forgotten their authentication credentials, the user will need to tap the ‘Forgotten Password’ Button.

c. If the user is not currently a registered user they will need to tap the ‘Register’ Button.

Completing the Forgotten Password Process

1. The user will provide the email address they completed registration with and then tap the ‘Submit’ button.
2. A verification code will be sent to the user’s mailbox in order to reset password. The user will then need to tap the ‘continue’ button.

3. The last step is to provide a new password and rewrite that password and then tap the ‘submit’ button.

After the new password has been submitted, the app will return to the sign-in page.
Completing the Registration Process

1. The user will need to complete the user profile section of the registration process. This will involve:
   a. Providing a name.
   b. Providing their age.

   Once this has been completed the user will need to tap the ‘Update’ Button.

2. The second part of the registration process is providing the users smoking habits. This will involve:
   a. Providing the number of cigarettes smoked per day.
   b. Providing the cost for a pack of 20 cigarettes.
   c. Providing the number of hours before the users’ first cigarette.
   d. Planned quit date
   e. Planned quit date & time

   Once this has been completed the user will need to tap the ‘Update’ Button.
3. The final section of the registration process is providing details for authentication and consents. This will involve:

   a. Providing a valid email address.
   b. Providing a password for authentication.
   c. Agreeing to terms and conditions.
   d. Agreeing to the privacy statement.

Once the user has provided the required information they will need to tap the ‘Continue’ button.

1. The user will then be navigated back to the sign-in screen. The user must wait for their confirmation email before attempting authentication. The user must tap the link in the email to confirm their email address. After this the user will be authenticated and can return to the app and sign in using the details registered.

Tabbed Navigation Pages

1. The tabbed navigation allows navigation between three pages; Dashboard, Breath Test and Results. The selected item will be highlighted as dark blue while the unselected/non-active items will be grey.
a. To navigate to the Dashboard tap ‘Dashboard’. The dashboard provides an overview of the users smoking cessation progress.

b. To start a new breath test, tap the ‘Breath test’ Button. The breath test tab will display the hygiene warning and allow the user to start a new breath test, by tapping the ‘Continue’ button.
c. To view historic breath test results, the user will need to tap the ‘Results’ button. The results are in date order with the latest reading displayed from the left and oldest reading displayed furthest to right.
Connecting to the iCOquit®

1. The Bluetooth scanning phase will show a spinner while searching for a device.

2. If an iCOquit® device has been found and successfully connected to, a tick shall be shown to indicate a successful connection between the smart device and iCOquit®.
3. If an iCOquit® device has not been found or was unable to successfully connect, a retry icon shall appear indicating connection has failed, but tap the icon to try again.

Completing a Breath Test

Breath Test Initialisation

1. The first screen prompts the user to initiate the breath test. To do this the user will need to tap the ‘New Breath Test’ Button.
Inhale Instructions

2. As prompted onscreen, take a deep breath.

Hold Instructions

3. As prompted onscreen, hold your breath until the countdown timer has finished.

4. If the 15 second inhalation countdown is unattainable, begin exhaling when ready and the device will begin measuring breath sample.
Exhale Instructions

5. Do not cover vent hole of device when performing a breath test.

6. As prompted on screen, exhale.

Interpreting Breath Test Result

1. Breath test result interpretation chart
   
   a. Green = Low CO PPM Reading
   b. Yellow = Moderate CO PPM Reading
   c. Red = High CO PPM Reading

Once a breath test has been completed the user will be navigated to this screen where they will see their CO PPM result.

If the user taps on the foetal symbol, the %FCOHb level will appear. The user can return to the first result screen by pressing the Go back to results button.
2. The user can share their results by pressing the share button at the top of the screen. The app will then appear with the options available on the user’s device.

Smoking Habits Questions

1. The user will need to complete the input fields relating to their smoking habits. This will involve:

   a. Confirming whether they are still an active smoker.
   b. Providing how many cigarettes they are actively smoking per day.
   c. Providing the duration before the first cigarette of the day.
   d. The day they quit or the day they anticipate quitting.
   e. The time they quit or the time they
2. Once the user has completed the questions, they should tap the ‘Continue’ Button.

2

2. Once the answers have been provided and the user has tapped the ‘Continue’ button, they will be provided with a result, which informs them of their smoking status. There are four results:

   a. Non-Smoker
   b. Light-Smoker
   c. Moderate-Smoker
   d. Heavy Smoker
Navigation Drawer Menu Options

1. The navigation drawer contains seven menu items which can be navigated to upon tapping an item in the navigation drawer. The menu options are:
   a. Dashboard
   b. Manage Profile
   c. iCOquit® Smokerlyzer® Device
   d. Frequently asked Questions
   e. iCOquit® Manual
   f. About iCOquit®
   g. Delete Account
   h. Sign Out

Edit Personal Details

1. A user can navigate away by tapping the back button symbol.

2. A user can adjust their personal details by editing the form fields.

Once a user has finished making changes they will need to tap the ‘Update’ button.
Edit Smoking Habit Details

1. A user can navigate away by tapping the back button symbol.

2. A user can update their smoking habit details by editing the form field.

Once the user has made their changes they will need to tap the ‘update’ button.

Device Details Page

Perquisite: The user must complete the device connection process upon navigating to this screen.

1. A user can navigate away by tapping the back button symbol

2. Upon successfully navigating to the device details screen, device details about the connected device will appear. These device details include:

   a. Connection Status
   b. Device Serial Number
   c. Device UUID
   d. Battery Life Remaining
   e. Firmware Version
   f. Number of tests the device has conducted
   g. iCOquit® Activation Date

**NOTE:** Once the iCOquit’s battery has become flat, the iCOquit® will need to be disposed of, please
see disposal guidance in Disposal section on page 29.

Frequently Asked Questions

1. The user can navigate away from the page by tapping the back button symbol.

2. Upon navigating to the page, a web view will appear which will display the iCOquit® support web page. The user will be able to navigate support articles on the web page within the app.
About iCOquit®

1. The user can navigate away from the page by tapping the back button symbol.

2. Upon navigating to the page, the user will be provided with information on the iCOquit®.

Delete Account

1. The user can navigate away from the page by tapping the back button symbol.

2. Upon navigating to the page, the user will need to tap the ‘Delete Account’ Button to confirm they want to delete their account.

3. The user will then be presented with a dialog box to check that the input was not an error. To confirm that the user wants to delete their account, they will need to tap ‘yes’ else they will need to tap ‘no’.

Upon a user deleting their account, all stored data will be removed.
Sign Out

1. The user can navigate away from the page by tapping the back button symbol.

2. Upon navigating to sign out a dialog will appear. If the user taps ‘yes’ this sign the user out and navigate them to the authentication page, else if they tap ‘No’ the user will be navigated back to the user dashboard and will not be signed out.
Troubleshooting

Cannot connect the iCOquit® Smokerlyzer® to the app

- Make sure Bluetooth is enabled on your smart device
- Battery may be flat

NOTE: Once the iCOquit® battery has become flat, the iCOquit® device will need to be disposed of, please see the disposal guidance in ‘Disposal of Device’ section of this manual.

Network Error Occurred

- Please make sure you are connected to the internet

Precautions to be taken in the event of changes in the performance of the iCOquit® Smokerlyzer®

- Leave in clean, dry area with fresh air (free from VOCs) for 24hrs

Precautions to be taken regarding the exposure of the iCOquit® to reasonably foreseeable environmental conditions

- Leave in clean, dry area with fresh air (free from VOCs) for 24hrs

What if I can’t hold my breath for the recommended 15 second breath hold time?

- Bedfont® recommends that if you are unable to hold your breath for the recommended 15 seconds, to hold your breath for 10 seconds before exhaling into the device.

If any of these issues persist, please contact Bedfont® or its distributors.

Cleaning

1. The iCOquit® Smokerlyzer® product is moulded with ABS and PC plastic, which is easy to keep clean.

2. After you have finished using the iCOquit® Smokerlyzer® to obtain your results, wipe the outside of the device with a lightly damp cloth, ensuring not to allow any water to enter the breath or exhaust ports in the device.

3. NEVER use alcohol or cleaning agents containing alcohol or other organic solvents as long-term exposure to these vapours will damage the CO sensor inside.

4. Under no circumstances should the instrument be immersed in liquid or splashed with liquid.
5. Please store in a dry location, keeping the device free from lint and dust to keep the device clean and clear from blockage.

6. Please keep the device out of direct sunlight to keep the device away from any unnecessary exposure to heat and light.

No additional maintenance or service required.

**Technical Specification**

<table>
<thead>
<tr>
<th>Gas Measured</th>
<th>Carbon Monoxide (CO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection principle</td>
<td>Electrochemical</td>
</tr>
<tr>
<td>Concentration range</td>
<td>0-100 ppm</td>
</tr>
<tr>
<td>Monitoring resolution</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Monitoring accuracy</td>
<td>±≤3 ppm/±≤10% of reading*</td>
</tr>
<tr>
<td>Monitoring repeatability</td>
<td>±≤3 ppm/5% (within 120 sec)*</td>
</tr>
<tr>
<td>Operating lifetime</td>
<td>500 breath tests/12 months**</td>
</tr>
<tr>
<td>Display</td>
<td>Via the iCOquit mobile application</td>
</tr>
<tr>
<td>Battery Life</td>
<td>12 months and battery is non-replaceable</td>
</tr>
<tr>
<td>Power</td>
<td>3v Lithium-ion coin cell</td>
</tr>
<tr>
<td>T&lt;sub&gt;90&lt;/sub&gt; response time</td>
<td>&lt;30 Seconds</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>15 – 35°C</td>
</tr>
<tr>
<td>Storage/Transport Temperature</td>
<td>0 – 50°C</td>
</tr>
<tr>
<td>Operating &amp; Storage/Transport Humidity</td>
<td>10 – 90% RH non-condensing</td>
</tr>
<tr>
<td>Operating &amp; Storage/Transport Pressure</td>
<td>912.0 – 1114.0 mbar</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Less than 150mm long x 30mm diameter</td>
</tr>
<tr>
<td>Weight</td>
<td>Less than 100g</td>
</tr>
<tr>
<td>Materials</td>
<td>Plastic casing: ABS and Polycarbonate</td>
</tr>
<tr>
<td>H&lt;sub&gt;2&lt;/sub&gt; Cross Sensitivity</td>
<td>≤6%</td>
</tr>
<tr>
<td>Time required to warm/cool from the minimum/maximum storage temperature before use</td>
<td>15 minutes</td>
</tr>
</tbody>
</table>

* whichever is greater

** whichever occurs first
### Safety Information

<table>
<thead>
<tr>
<th>Type of protection against electric shock</th>
<th>Internally powered equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection against ingress of liquid</td>
<td>IPX0 – not protected against water ingress</td>
</tr>
<tr>
<td>Degree of safety application in the presence of a flammable anaesthetic mixture with air, oxygen or nitrous oxide</td>
<td>Equipment not suitable for use in the presence of flammable mixtures.</td>
</tr>
<tr>
<td>Refer to manual</td>
<td>![Book Icon]</td>
</tr>
<tr>
<td>Serial Number</td>
<td>![SN]</td>
</tr>
<tr>
<td>Non-ionizing electromagnetic radiation</td>
<td>![Wave Icon]</td>
</tr>
<tr>
<td>CE mark</td>
<td>![CE Mark]</td>
</tr>
<tr>
<td>Keep dry</td>
<td>![Umbrella Icon]</td>
</tr>
<tr>
<td>Dispose of according to WEEE</td>
<td>![Trash Can Icon]</td>
</tr>
<tr>
<td>Serial number</td>
<td>![SN]</td>
</tr>
<tr>
<td>Manufacture by and date</td>
<td>![Date Icon]</td>
</tr>
<tr>
<td>BF Applied Part – whole device</td>
<td>![Person Icon]</td>
</tr>
<tr>
<td>Recycling symbol</td>
<td>![Recycle Icon]</td>
</tr>
<tr>
<td>Bedfont® logo</td>
<td>![Bedfont Logo]</td>
</tr>
</tbody>
</table>
**EMC Table/Environment**

**Wireless**

This device contains a Microchip Technology Inc. transmitter module IC: BGM11S FCC ID# QOQ11 in compliance with FCC rules, Part 15.

Wireless Bluetooth® Low Energy (BLE) is used as a means of communication between the iCOquit® and smart device running on an App. The App is a charting program that retrospectively collects data from the iCOquit® monitor whilst in use. It is not time critical, there are no alarms.


Bluetooth® Class / Power: Class 1.5 Bluetooth® module. Max power 8 dBm.

RF frequencies: 2,400 - 2,483.5 GHz.

The Bluetooth® device supports 128 & 256 bit encryption and a GPCRC Checksum. There is no need or provision to change this setting.

The iCOquit® is intended to connect to a smartphone or table & is not intended to be connected to any other wireless equipment.


The iCOquit® monitor is suitable for the electromagnetic environment of typical domestic, commercial or hospital settings.

During the immunity testing described below the iCOquit® monitor continued to provide essential performance. We considered essential performance to be a CO reading within ±3ppb of inputted level. A deviation of ±3ppb has no physiological significance.

**Emissions**

<table>
<thead>
<tr>
<th>Emission Tests</th>
<th>Compliance</th>
<th>Electromagnetic Environment – Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 60601-1-2</td>
<td>30 MHz to 1GHz</td>
<td>The iCOquit® monitor uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>FCC part 15 Subpart B</td>
<td>1 GHz to 18 GHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18 GHz to 30 MHz</td>
<td></td>
</tr>
</tbody>
</table>
**Guidance and manufacturer’s declaration: Electromagnetic immunity**

The iCOquit® is intended for use in the electromagnetic environment specified below. The customer or the user of the iCOquit® should ensure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Immunity Test</th>
<th>IEC 60601 Test Level</th>
<th>Compliance Level</th>
<th>Electromagnetic environment guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic Discharge (ESD) IEC 61000-4-2</td>
<td>±8kV contact ± 2, 4, 8 and 15kV air</td>
<td>±8kV contact ± 2, 4, 8 and 15kV air</td>
<td>Floor should be wood, concrete or ceramic floor tile. If floors are covered with synthetic material the relative humidity should be at least 30%.</td>
</tr>
<tr>
<td>Power Frequency (50/60Hz) Magnetic field IEC 61000-4-8</td>
<td>30 A/m</td>
<td>30 A/m</td>
<td>Power frequency magnetic fields should be at levels characteristic of a typical domestic, commercial or hospital environment.</td>
</tr>
</tbody>
</table>

**Electromagnetic immunity**

The iCOquit® is intended for use in the electromagnetic environment specified below. The customer or the user of the iCOquit® should assure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Immunity Test</th>
<th>Compliance Level</th>
<th>Electromagnetic Environment - Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiated RF IEC 61000-4-3</td>
<td>10V/m (1kHz 80%) 80MHz-2.7GHz</td>
<td>The iCOquit® is suitable for the electromagnetic environment of typical domestic, commercial or hospital settings.</td>
</tr>
</tbody>
</table>

The iCOquit® has also been tested for immunity to RF wireless communications equipment as below

<table>
<thead>
<tr>
<th>Immunity Test</th>
<th>IEC 60601 Test Level</th>
<th>Compliance Level</th>
<th>Electromagnetic Environment Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiated RF IEC 61000-4-3</td>
<td>385 MHz 27 V/m 450 MHz 28 V/m 710 MHz 9 V/m 745 MHz 9 V/m 780 MHz 9 V/m 810 MHz 28 V/m 870 MHz 28 V/m 930 MHz 28 V/m 1720 MHz 28 V/m 1845 MHz 28 V/m 1970 MHz 28 V/m 2450 MHz 28 V/m 5240 MHz 9 V/m 5500 MHz 9 V/m 5785 MHz 9 V/m</td>
<td>385 MHz 27 V/m 450 MHz 28 V/m 710 MHz 9 V/m 745 MHz 9 V/m 780 MHz 9 V/m 810 MHz 28 V/m 870 MHz 28 V/m 930 MHz 28 V/m 1720 MHz 28 V/m 1845 MHz 28 V/m 1970 MHz 28 V/m 2450 MHz 28 V/m 5240 MHz 9 V/m 5500 MHz 9 V/m 5785 MHz 9 V/m</td>
<td>The iCOquit® monitor is suitable for the electromagnetic environment of typical domestic, commercial or hospital settings.</td>
</tr>
</tbody>
</table>
Environmental Warnings

- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the iCOquit® monitor. Otherwise, degradation of the performance of this equipment could result.
- The iCOquit® monitor should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the iCOquit® monitor should be observed to verify normal operation. If operation is not normal, the iCOquit® or the other equipment should be moved.
- Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- Avoid exposure to known sources of EMI (electromagnetic interference) such as Magnetic Resonance Imaging (MRI) systems, diathermy, lithotripsy, electrocautery, RFID (Radio Frequency Identification), and electromagnetic security systems such as metal detectors.

Keep the iCOquit® outside the MRI scanner room.

Note that the presence of RFID devices may not be obvious. If such interference is suspected reorient equipment if possible, to maximize distances.
Warranty

Bedfont® Scientific Limited warrants the iCOquit® Smokerlyzer® product to be free of defects in materials and workmanship for a period of 500 tests or 6 months, whichever is first, from the date of shipment. Bedfont’s sole obligation under this warranty is limited to repairing or replacing, at its choice, any item covered under this warranty when such an item is returned, intact and prepaid, to Bedfont® Scientific Limited or the local representative. The warranty is automatically invalidated if the product is repaired, altered, labels removed or otherwise tampered with by unauthorised personnel, or have been subject to misuse, neglect or accident.

Disposal of Device

The iCOquit® Smokerlyzer® must be disposed of responsibly, please contact your local Bedfont® distributor where you purchased the iCOquit® Smokerlyzer® or your local authority for details of where and how you can return this item for environmentally safe recycling.

Responsible Manufacturer and Contacts

Bedfont® Scientific Ltd.
Station Yard, Station Road,
Harrietsham,
Maidstone, Kent,
ME17 1JA
United Kingdom

www.icoquit.com
ask@bedfont.com
0044 1622 851122