ProXcide™

User manual

V4.0

Inivos

ProXcide™ User Manual

REVISION 4.0 ▪ APRIL 2020

ALWAYS READ THE INSTRUCTIONS
IN THIS USER MANUAL BEFORE USE

ProXcide™

Welcome

The aim of this manual is to provide guidance, techniques, best practice and responsibilities for effective use of the ProXcide™. Please read and understand this manual. This will ensure you are familiar with the individual components of the ProXcide™ and their functions. Step-by-step instructions will ensure optimum performance and results. In addition, a useful quick reference guide is provided within the rear cover of this manual.

All machines are tested in our UK manufacturing and test facility by trained technicians. In the unlikely event that your ProXcide™ develops a serious fault, please contact the relevant 24hr helpline displayed on the final page of this manual.

Overleaf is a table of contents to help find your way around this manual quickly.

Enjoy using the ProXcide™.

IMPORTANT: Please keep this manual in a safe place.
It contains safety and operating instructions for your ProXcide™ .

Contents

Section 1: Essential safety information

- Only use the approved ProXcide™ chemicals with the ProXcide™.
- Regularly check that the ProXcide™ (including its cables and accessories) are free from damage. Do not use the ProXcide™ if damaged, please contact Inivos for repair.
- Do not attempt to open the ProXcide™. There are no user serviceable parts inside. Opening the ProXcide™ could be dangerous, and will invalidate the warranty.
- Never tilt the ProXcide™ unit more than 30 degrees from vertical, this can lead to chemical leakage.
- Never enter a space where the ProXcide™ is operating until the deactivation cycle has completed and the solid green light is showing on the process monitor. A portable gas sensor must also register a hydrogen peroxide level below 2ppm for ≤15 mins re-entry/day, and 1ppm for longer periods / reoccupation of the room.
- ProXcide™ contains ≤ 7.5% hydrogen peroxide and can cause serious skin and eye irritation. Therefore always wear protective gloves and eye protection whilst inserting or removing ProXcin™. refills from the ProXcide™ unit. Also read the MSDS for ProXcin™.
- It is recommended that the ProXcide™ be connected to the mains through an 30mA RCD adaptor.
- Never insert or remove a refill from the ProXcide™ unit unless instructed to do so by the control panel. Failure to observe this requirement may lead to chemical spillage.
- Always carry out a site and location specific risk assessment, taking into consideration the hazard analysis and risks reduction identified. Implement suitable control measures to avoid damage to property, or harm or injury to any person.
- Only trained operatives must use the ProXcide™. Use by untrained personnel can lead to death or injury.
- Do not operate the ProXcide™ in wet conditions. It is normal for the outer casing of the unit to become damp after running a process, but the unit must not be used in wet conditions .
- When the ProXcide™ is operating, all personnel and animals must remain outside of the treatment space.
- You must close and seal all entry and exit points to the room and all windows, and cover ventilation and smoke detectors, so that the vapourised hydrogen peroxide is contained to the area being treated.
- Always display appropriate hazard warning and no entry signs on all doors whilst the ProXcide™ is operating.
- Never attempt to use the ProXcide™ for any purpose other than its intended use as a decontamination system.
- Always disconnect the system from the mains supply when not in use.
- The wall socket used for ProXcide™ must be earthed.
- Fully read this user manual and complete the user training provided by Inivos before attempting to operate the ProXcide™.
- Do not use harsh or abrasive chemicals to clean the ProXcide™ unit or its accessories. A damp cloth only should be used, with a mild detergent such as washing up liquid, or mild alcohol wet wipes.
- The ProXcide™ must be PAT (Portable Appliance Testing) tested for electrical safety every six months.
- Where the fire alarm cap is used for the decontamination process, the fire safety officer must be informed to mitigate the risks of fire within the decontamination area for the duration of the process.

Section 2: The ProXcide™

2.1 The ProXcide™ major components

The ProXcide™ is a bio-decontamination system that delivers vaporised ProXcin™ (containing hydrogen peroxide ≤ 7.5%) to surfaces within an enclosed space. It is designed for use in commercial and healthcare settings. The ProXcide™ automatically adjusts every decontamination process to the specific environment, monitoring and adjusting for temperature, humidity and absorbency as well as to the volume of the room in order to ensure the same successful decontamination is achieved every time. The complete decontamination cycle includes the injection phase, 'dwell' phase, and a deactivation phase. The ProXcide™ system has a fully-integrated deactivation unit that very quickly deactivates hydrogen peroxide in the treatment space at the end of the decontamination process. The deactivation unit comprises a highly-efficient air-circulation system which passes the air through a catalyst to quickly reduce the concentration of atmospheric hydrogen peroxide.

The ProXcide™ is made up of two major components:

1. **The main vapour generating unit** – is placed inside the sealed room where it carries out the disinfection process. This consists of injection, deactivation and process control modules. The main unit carries out a series of checks before enabling decontamination, and continually monitors the humidy in the room to ensure the decontamination cycle is effective and completed successfully. The main unit is powered from 230V mains.

2. **The process monitor** – is placed outside the room and is used to start the process. To ensure correct set-up, the Operator is guided through an on-screen checklist. It also provides real-time visual information about the decontamination stage and estimated time remaining, any error messages and has an emergency stop button. The process monitor is powered by a 5V 5A CE marked power supply.

The process monitor and main unit communicate with each other using a built in wireless system (which does not require access to hospital WiFi).

1

2

2.2 ProXcide™ main unit

The ProXcide™ is a bio-decontamination system. By design, it is simple and uncluttered to use. No operator programming is required. It has been specifically designed for use in the hospital setting as an easy-to-manoeuvre, efficient to store, easy to deploy, single-system operation. The ProXcide™ benefits from six swivelling casters with rubber shock absorbers, and a 360° handle for ease of manoeuvrability. Only trained operators with a unique key card can operate the ProXcide™ . The process monitor attaches neatly to the main unit when not in use as shown below.

FRONT OF MAIN UNIT WITH PROCESS MONITOR ATTACHED

A Process monitor
B LCD screen
C Wireless ID card scan point
D Button
E Handles

REAR OF MAIN UNIT

C Wireless ID card scan point
D Button
F ProXcin™ fill port
G Foot brake on castors
H Retractable mains plug

2.3 ProXcide™ process monitor diagram

The ProXcide™ process monitor has been designed to fit neatly onto the main unit when not in use. It comprises: ergonomic handles for carrying it from the main unit to a suitable location outside of the treatment space; a flip out support stand at the rear; a touch screen monitor; a scan point for operator ID card; and a mains lead storage area.

PROCESS MONITOR

- A LCD touch screen
- B Side handles
- C Front handle
- D Wireless ID card scan point
- E Mains power lead storage
- F Rear support stand

2.4 The ProXcin™ H_2O_2 solution

The ProXcide™ uses a low-concentration (7.5%) hydrogen peroxide solution we call ProXcin™. ProXcin™ is the only approved chemical solution for use in the ProXcide™ and under no circumstances should it be substituted by any other substance. The low-concentration solution is compatibile with the hospital environment and patient equipment. The solution is fully-compliant with the new EU Biocides Directive.

Precautions

- ProXcin™ is a hydrogen peroxide solution (>5% - <8%) and is classified as a disinfectant. It is only for use in the ProXcide™. ProXcin™ also contains ≤0.1% phosphoric acid and <0.01% silver.
- **WARNING:** Causes serious eye irritation
- **WARNING:** Causes skin irritation
- Keep out of reach of children
- Keep in a cool place
- Irritating to eyes, skin and respiratory system
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- In case of contact with skin, wash immediately with plenty of water
- In case of inhalation, remove the casualty into fresh air and keep him immobile. If intensive inhalation of fumes occured seek medical treatment immediately
- Wear suitable personal protective equipment when handling ProXcin™ refills (clothing, disposable nitrile or butyl gloves and eye/face protection)
- In case of accident or if you feel unwell, seek medical advice immediately, showing ProXcin™ label or data sheet where possible
- Keep away from combustible material
- **See the material safety data sheets (MSDS)** for further information, including what to do in the event of accidental release.

Storage and handling

ProXcin™ is delivered in a cardboard outer containing 4 units weighing a total of approximately 8.6Kg. Each box is clearly labeled and contains a MSDS. ProXcin™ cartridges should be stored upright in their sealed container until required for use, in a cool, ventilated area (not less than 5°C, not more than 50°C). ProXcin™ has no specific legal storage requirements. However, our recommendation is that ProXcin™ should be stored in a bunded area away from general public and restricted to access by trained ProXcide™ Operators only. Nominated storage locations should be communicated to responsible personnel within the organisation including the fire/health and safety officers.

Disposal

Used ProXcin™ cartidges should be disposed of through an approved waste disposal facility.

2.5 ProXcide™ supporting accessories

The ProXcide™ is supported by a comprehensive range of accessories specifically designed to provide a more efficient method and user-friendly set up of treatment areas.

1. **VentCap** – the ventilation restriction kit, VentCap, is a simple system for sealing ventilation grilles by a single person whilst avoiding the risks associated with working at height.
2. **CapKit** – the smoke detector kit, CapKit, is a simple device for capping smoke detector heads and preventing false fire alarms as a result of the hydrogen peroxide vapour. A single person operation makes the CapKit easy to use and avoids the risk of working at height.
3. **DVI Tape** – our DVI sealant tapes have been validated for the effective containment of hydrogen peroxide vapour and gas during the ProXcide™ decontamination cycles. Impervious to hydrogen peroxide vapour and gas, these 75mm wide tapes are designed for the easy sealing of doors, ventilation grilles etc. Available in either low or high adhesion options and with residue-free removal.
4. **DoorBar** – the simple DoorBar secures double doors during decontamination. Operators are able to leave the area and continue their work safe in the knowledge that the area is contained.
5. **Warning Sign** – This clearly displays all of the necessary hazard symbols associated with the decontamination process, communicates at ward level the start and finish time of the decontamination process, and gives the contact details of the person responsible for the decontamination deployment.

Section 3: How the ProXcide™ works

3.1 Ultrasonic vaporisation technology

The ProXcide™ uses high frequency ultrasonic vaporisation technology combined with fans to aerosolise microscopic droplets of ProXcin™ into the treatment space. The droplets rapidly evaporate to create gaseous hydrogen peroxide that is actively circulated to decontaminate the exposed surfaces in the room.

The ProXcide™ auto-calibrates and self-monitors ambient humidity in real-time throughout the decontamination process to ensure the target treatment parameters are maintained.

The ProXcide™ bio-decontamination system is designed to deliver a log 6 reduction in pathogens to all surfaces in the affected area. The treatment cycle is standardised to ensure a consistent efficacy in all environments.

3.2 Remote activation and control

The entire procedure is managed remotely by the process monitor, from activation through to process completion. The process monitor and main unit communicate using a built in internal wireless system (that doesn't require hospital Wi-Fi to work). The touch-screen process monitor enables full visibility of the decontamination process at each stage throughout the process.

As the process monitor is a wireless device, if there are any issues with having the system positioned directly outside of the treatment space, the process monitor may be positioned elsewhere, for example behind the nurses' station or in an office.

The ProXcide™ can be terminated at any stage in the process via the touchscreen by pressing the red stop button. Throughout the setup phase of the decontamination process, the process monitor guides the operator through a series of on-screen checks to ensure the process is set up correctly and safely. Only once these checks have been confirmed as complete can a process be started.

At the end of the treatment phase, or after manual termination of the process via the stop button, the ProXcide™ will automatically revert to its fail-safe deactivation mode in which concentrations of hydrogen peroxide are rapidly reduced. The treatment space must not be entered during the deactivation process. The time remaining is always indicated on the process monitor.

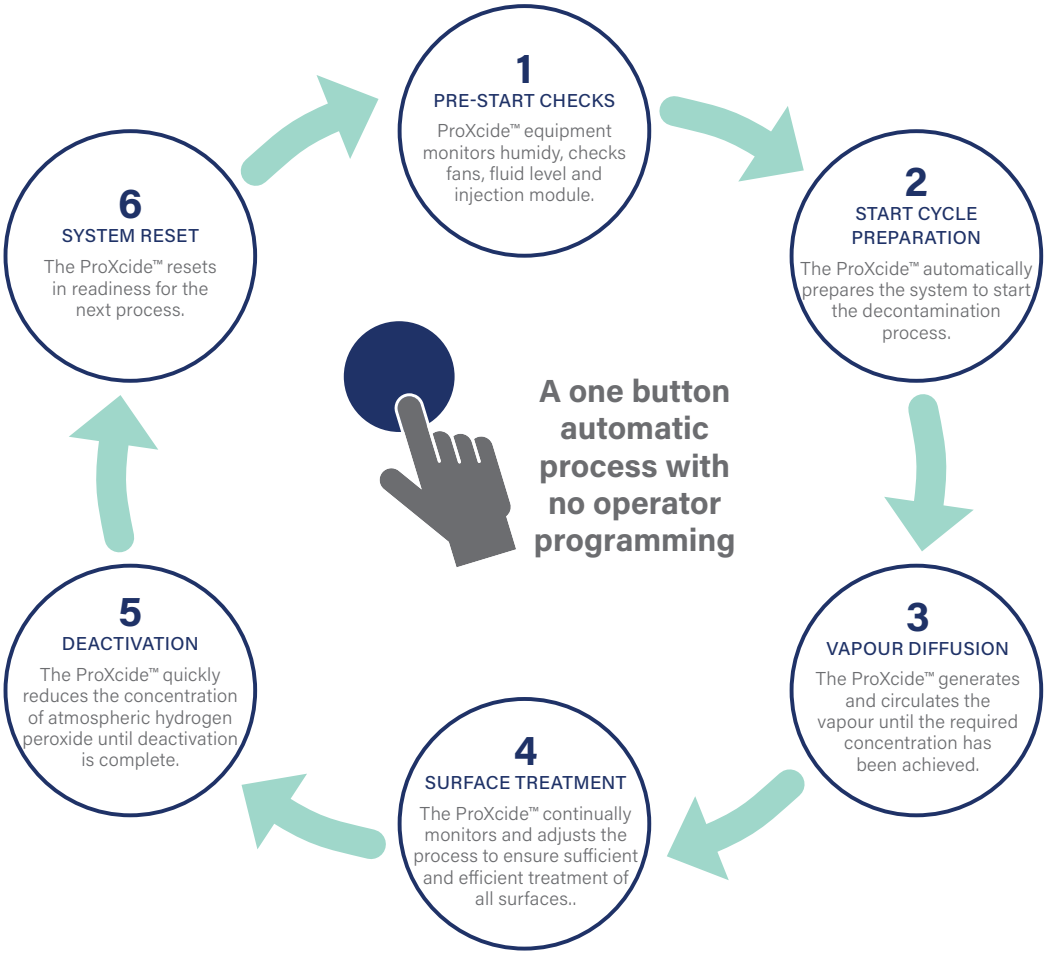
3.3 Pre-start automated checks

Once the ProXcide™ is plugged in and turned on at the wall it will run an initiation program. Coloured LED lights provide a visual indication as to the status of the ProXcide™ as it runs through a series of checks to ensure that the process is safe to proceed. If all checks are successful, the main lights will change from white to blue to indicate the ProXcide™ software has loaded and has passed all checks. The fluid level is indicated by blue lights. The fluid refill indicator will glow red if a replacement cartridge is required. (ProXcin™ cartridge change instructions are provided in Section 5.1.10.) Pressing the single button on the machine at this stage will result in the lights changing from blue to green to indicate the ProXcide™ is ready for subsequent activation from the process monitor.

In the unlikely event of interference such as power outage, the system will 'fail safe.'

3.4 The ProXcide™ cycle

The decontamination cycle is activated from the process monitor. This cycle, which is controlled and monitored computationally onboard the ProXcide™, will then follow the steps illustrated below:



Section 4: Before using the ProXcide™

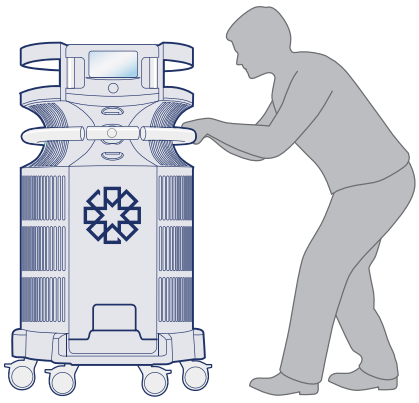
4.1 Manoeuvring the ProXcide™ equipment

The ProXcide™ is designed to be operated by a single person. Secured on six fully steering castors with a 360 degree handle the ProXcide™ is very easy to turn left or right. The ProXcide™ weighs around 113kg (drained of fluid) so care must be taken when pushing the ProXcide™ especially up gradients. Maintain an upright posture and avoid lowering your shoulders to push the machine as this can put undue pressure on the lower back area.

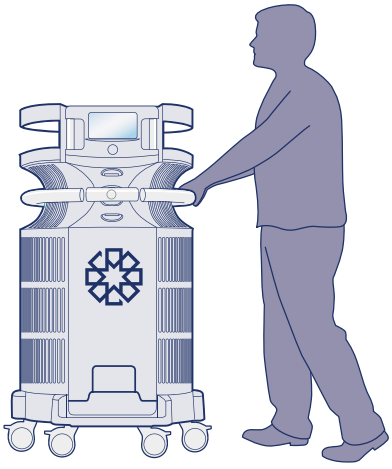
Never attempt to lift the ProXcide™. Take particular care when manoeuvring the equipment outside. Avoid any drops like steps, kerbs and loading bays - do not attempt to wheel the ProXcide™ down steps.

Take care when disengaging the process monitor, so as not to damage it. The process monitor is designed to aid stability. You should lift the process monitor by the handles provided around the touchscreen and take care when lifting on and off the main unit. Be careful not to trap toes when placing the process monitor on the floor.

BAD POSTURE ✕



GOOD POSTURE ✓



4.2 Achieving effective decontamination

4.2.1 Operating parameters

In order to carry out an effective bio-decontamination cycle the ProXcide™ has certain operating requirements that must be fulfilled:

Removal of absorbent material – although everything has a natural absorbency level irrespective of its construction, it is beneficial to remove highly absorbent materials such as textiles (including curtains and bed linen), paper and other porous materials from the area to be treated.

Exposed surfaces – the ProXcide™ relies on the movement of vapour and gaseous hydrogen peroxide around a space to treat the surfaces within it. Therefore directly adjacent surfaces, i.e. two flat surfaces touching, need to be separated so that they are accessible to the treatment vapour.

Ambient and surface temperatures of between 10°C and 35°C, ambient humidity of between 15% and 85% - to ensure capacity for the vapour in the enclosed air volume can reach the required concentration, the treatment space must fall within these ranges.

Contained air volume - to effectively treat the surfaces contained within the treatment space, the ProXcide™ requires a contained air volume. Therefore ventilation and potential leak points must be sealed to ensure the air volume remains the same throughout the process.

In the event of any of the above parameters being breached, the ProXcide™ will register a fault and move immediately into a deactivation cycle.

4.2.2 The ProXcide™ in cleaning

It is important to clarify that the ProXcide™ bio-decontamination system is not a cleaning process. The effectiveness of the process is adversely affected by the cleanliness of the area. Please follow all steps stated in Section 4.3 to prepare the treatment space prior to using the ProXcide™.

4.3 Setting up the treatment area

For the ProXcide™ to be effective, it is essential the area and equipment to be treated is thoroughly cleaned and free of all organic matter, dust and dirt before starting the process.

To optimise the efficiency of the ProXcide™ system and to prevent the system registering a fault, you must follow these steps:

1. Ensure as many surfaces as possible are made available to the treatment by separating out any overlapping or adjacent surfaces.

2. Thoroughly manually clean the treatment area. In this context, cleaning is:
   - The removal of organic matter
   - The removal of adhesive residues and films
   - The removal of gross soiling, dust and visible dirt
   - The removal of waste material
   - The removal of loose or compromised surfaces
   - Removal of all items that may have been used in patients, for example: catheters, thermometers etc.
   - Removal of food items or water jugs

3. Ensure you follow the infection control protocol of your hospital. This may include removal of disposables and absorbent materials such as linen and curtains following discharge of the last patient.

4. Switch off the air conditioning (following local protocol) and cover up the ventilation using a VentKit.

5. Close windows and seal any gaps in doors, walls and ceilings with DVI tape taking special care to ensure that the sealing tape is in full contact with both of the surfaces. To apply the tape, use one hand to roll the tape out and the other to press down firmly to ensure a complete seal. Leave one door available at this stage so that the ProXcide™ can be wheeled in and set up.

6. Isolate/cover the smoke alarm sensor with a CapKit following the CapKit instructions. You should follow your local protocol regarding the deactivation of fire sensors. You must only use approved accessories to cover smoke alarm sensors. Using unapproved alternatives may not sufficiently isolate the sensor.

7. If applicable, ensure that the en-suite bathroom door is held open for the duration of the treatment cycle.

8. Arrange the contents of the room in preparation for the ProXcide™ process. For example, ensure the bed mattresses are on their side, the locker doors and draws are open, the bin lids are open, the chair cushion is removed etc.

9. Once the ProXcide™ has been wheeled in and set-up as described in Section 5 (which follows), leave the room and seal the remaining exit door with DVI tape. Use the DoorBar to lock the door and apply the door warning signs.

10. Ensure ward staff are informed of the process taking place, who they should call in the event of a suspected issue and when the process is likely to finish.

The room is now ready for the ProXcide™ to run.

IMPORTANT: You must follow internal policies and procedures at all times when using the ProXcide™.

Section 5: Using the ProXcide™

5.1 ProXcide™ Operator Instructions

IMPORTANT: The ProXcide™ should only be used by trained and competent operators.

5.1.1 Restrict general access to the area to be treated by placing 'NO ENTRY – decontamination in progress' signs and suitable barriers on all doors. Even during the set-up phase, danger exists from tripping on cables, so personnel must be excluded from the area.

5.1.2 A single ProXcide™ unit can effectively treat a volume of up to 170m^3. This is sufficient for side rooms, toilets, small bays etc. If the area to be treated is open plan to an adjoining area (an opening without doors) then the opening must be sealed off. This can be achieved by using plastic sheeting and DVI tape.

Should an area larger than 170m^3 require treatment (large ward, corridor etc.), then two options exist. Either the area can be broken down into smaller spaces by utilising plastic sheeting, or multiple ProXcide™ machines can be distributed around the space. If this latter option is used, machines should be positioned >10 metres apart.

5.1.3 Position the ProXcide™ main unit into the centre of the space to be treated. Apply all six ProXcide™ total-lock brakes. The ProXcide™ unit must not be moved again until the end of the process.

5.1.4 Release the process monitor by unhooking it from the main unit by pressing the release button on the process monitor handle and lifting away from the main unit. Hold the process monitor by the handles provided around the touchscreen and take it to a suitable position outside of the treatment space. When choosing the position of your process monitor you should ensure that it will not cause an obstruction or hazard to others.

5.1.5 Gently tilt the process monitor forward to access the support stand at the back. Press and release firmly on the back of the process monitor to release the support stand. Tilt the process monitor backwards slightly to allow the stand to fully open. Never pull out or force the support stand open. Access the supplied power adaptor stowed in the compartment on the front of the process monitor. The process monitor power socket is located on the rear of the process monitor.

5.1 ProXcide™ Operator Instructions

5.1.6 Plug the process monitor mains cable into a convenient electrical socket. Ensure that the position of the process monitor and power adaptor wires does not cause a trip hazard or obstruction outside the treatment area. Also ensure the controls and indicators on the monitor are accessible and visible. You must only use Inivos approved power adapters and cable extensions.

If significant risk is identified in positioning the monitor just outside of the treatment area or if there is not an electrical socket available immediately outside the treatment area, then two options exist. Either plug the process monitor power adaptor in inside the room being treated and run the power lead under the door, or position the process monitor further afield in a suitable and safe location where a socket is available, and as close to the treatment area as possible. Under normal circumstances the wireless communication between the process monitor and the main unit can reach up to 20 meters, however this depends on the signal strength and can be affected by the fabric of the building and the systems environment.

5.1.7 Extend and plug in the mains cable of the main ProXcide™ unit by grasping and pulling the mains plug from the base of the main unit. An approved CE marked 13A extension lead may be used if necessary. If significant risk is identified, it is recommended that the unit is plugged in outside the room being treated with the power lead being run under the door. This allows the unit to be fully powered down in the event of a building fire or emergency.

5.1.8 Switch the socket on. The ProXcide™ takes up to one minute to perform baseline checks and load the system software – Top LED indicators will illuminate *white*. When the system is booted up and ready to start the top LED indicators will illuminate *blue*. **Press the top button** on the main unit to connect the main unit to the process monitor. The LED indicators will illuminate *green* upon successful connection, otherwise it will remain *blue*.

5.1.9 Present **and hold** your operator card when prompted by the screen following successful connection of the main unit to the process monitor. This step protects against unauthorised processes being started. Processes can only be started with an operator card which acts as a unique key card. If the process monitor has been turned on without first turning on the main unit, the screen shown below will appear on the process monitor.

5.1.10 Check the system fluid level, which is indicated immediately after switching the socket on. The fluid level LED indicator is located next to the bottle door and will illuminate *red* if it requires bottle replacement. The fluid level LED indicator will illuminate *blue* as it slowly fills up. You must wait for the blue LEDs to reach the top (full). The LED indicators go up or down depending on the fluid level in the main reservoir tank.

5.1.7

5.1.9

5.1.10

Red illumination: replace the empty bottle as follows:

- Put on suitable PPE (gloves and eye protection) whilst inserting or removing refills.
- Ensure the bottle carrier door is unobstructed and has space to open. Next ensure the top LED indicators are illuminating green.
- Present **and hold** your operator card at the card reader located above the top button to automatically open the bottle carrier.
- To remove the empty ProXcin™ bottle, first re-tighten the lid on the empty ProXcin™ bottle. Some fluid may remain and drip from the pierced holes at the bottom of the bottle. Withdraw the empty bottle carefully and dispose of into a locally approved waste bag.
- Line up the new refill bottle with the fill hopper and lower into the bottle carrier. When the bottle is fully lowered into the bottle carrier, firmly push down the neck of the bottle to pierce the bottom of the bottle and drain the fluid into the unit.
- Once the bottle is pierced, loosen the bottle cap to allow air intake. This will prevent a vacuum being formed as the fluid drains from the bottle. Failure to loosen the bottle cap may result in the bottle not draining into the main unit and the system displaying an error message.
- Once correctly inserted, present **and hold** your operator card at the card reader to automatically close the bottle carrier. Never force the bottle carrier door to close – always allow automatic closure. The indicator lights will show the new fluid level as the refill drains into the system. When the system has taken the entire refill, it may request another.

ProXcin™ refill process

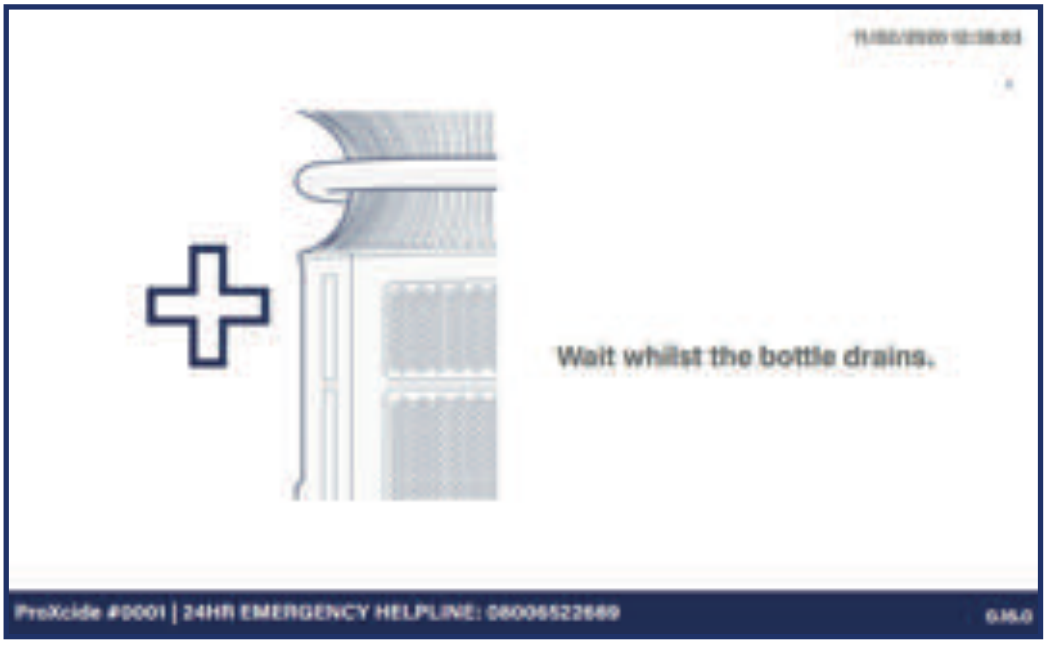
Remove empty bottle

Insert refill and push down

Loosen cap

If a new bottle is required and was not replaced, the following screens will appear on the process monitor

ProXcin™ refill process screens



5.1 ProXcide™ Operator Instructions

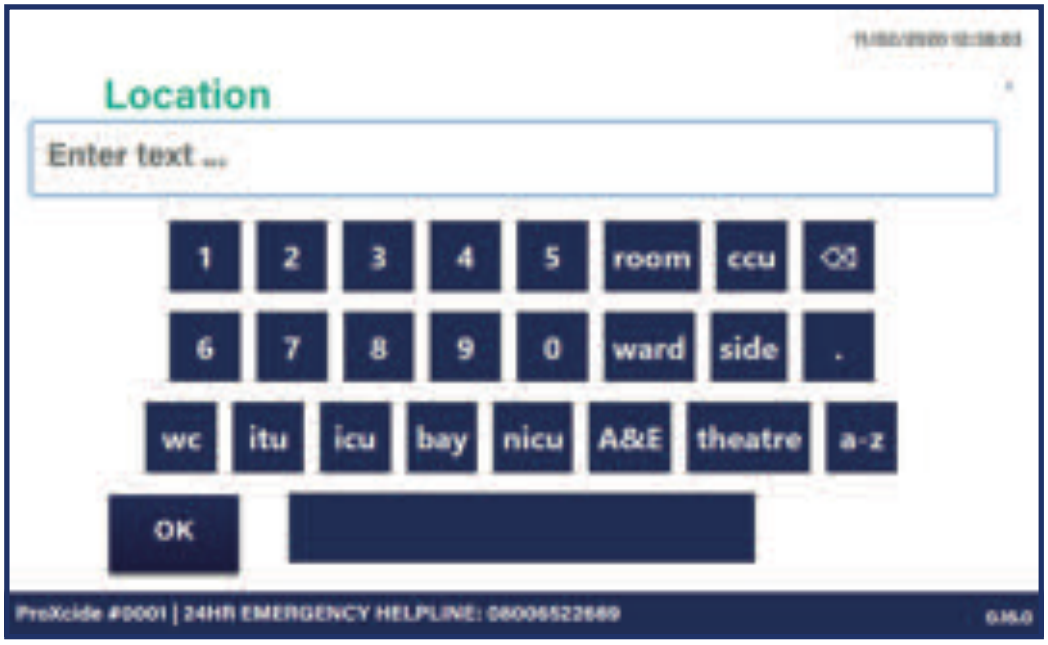
At this point, make a final check to ensure that all openings are correctly sealed and that smoke detectors are covered or isolated.

5.1.11 If the main unit indicates correct fluid level in the tank, exit the treatment area through the remaining unsealed door or temporary barrier.

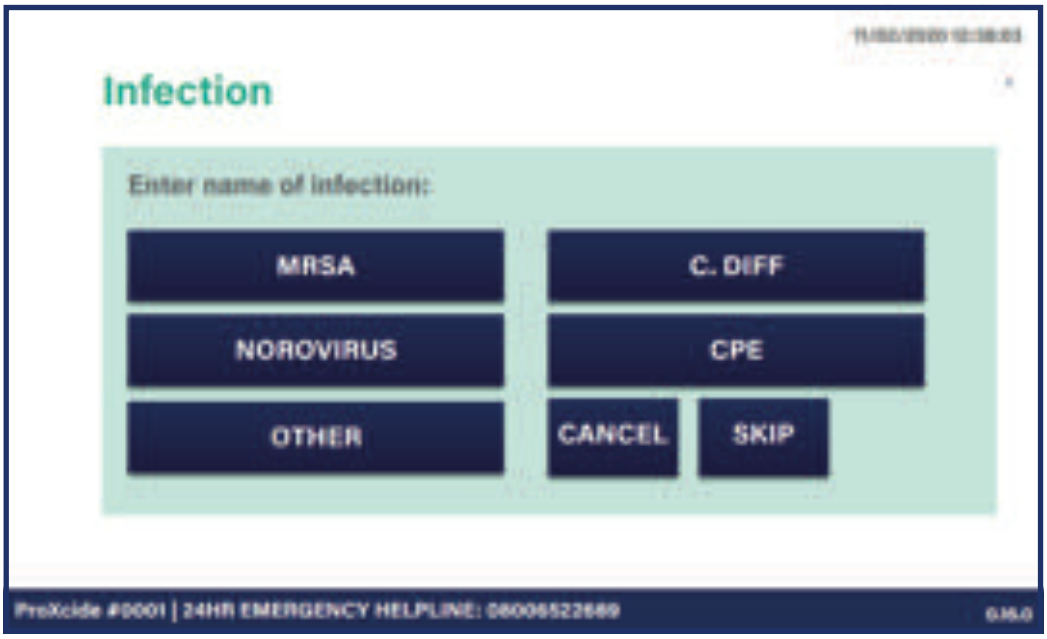
5.1.12 Close and seal the last door with DVI tape from the outside. Should you miss the low fluid level indication on the main unit and present your operator card to the process monitor card reader the system will request a refill by displaying a prompt on the screen with the refill request. Follow the steps in point 5.1.10 to refill the system.

5.1.13 Follow the on-screen instructions. Present your operator card to the process monitor card reader. The following prompts will appear:

- 'Location' - Type in the process location using the displayed keyboard on the touch screen. Touch 'YES' to continue.

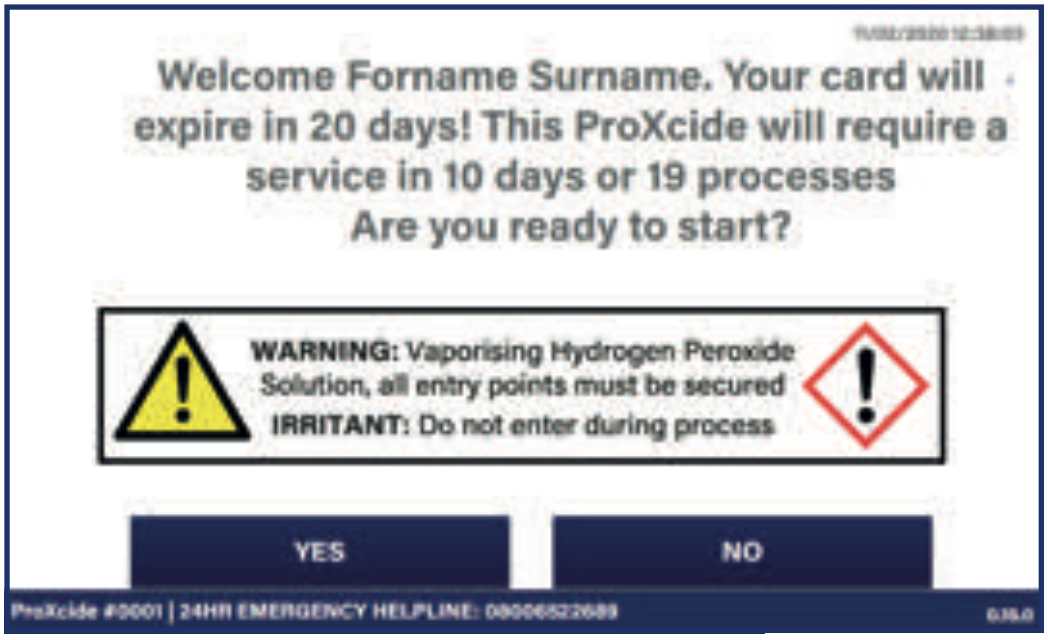


- 'Infection' - Choose the infection the treatment area was exposed to from the list provided or type this in if not on the list provided. Touch 'YES' to continue.



- 'Touch to confirm' - Confirm the safety checks before starting the process. Ensure the displayed safety checks are carried out. Tick the boxes to continue with the process.

- 'Welcome Forename Surname, are you ready to start?' - The final screen asks you to make final checks. Physically check that nobody has removed door seals, barriers or signs and entered the treatment area. If seals etc. are intact, mentally check that you did cover the fire alarm sensor. If yes, touch 'YES' to start the process.



The ProXcide™ will first perform a series of checks. These include: checking the fans are working to enable deactivation at the end of the process; checking the humidity of the room is in range; checking the fluid levels and whether the fluid is entering the injection module. If an error is detected during these checks, the ProXcide™ will not run. If there are no errors, the ProXcide™ decontamination process will start.

5.2 Monitoring the ProXcide™ process

The decontamination cycle status is displayed on the process monitor and gives information about the cycle phases – injection, dwell and deactivation. All process related information is displayed on the screen including operator name, process time remaining and any error messages. While the process is operating, the large LED light panel on the process monitor will glow red. The colour will only change to green once the deactivation phase is complete.

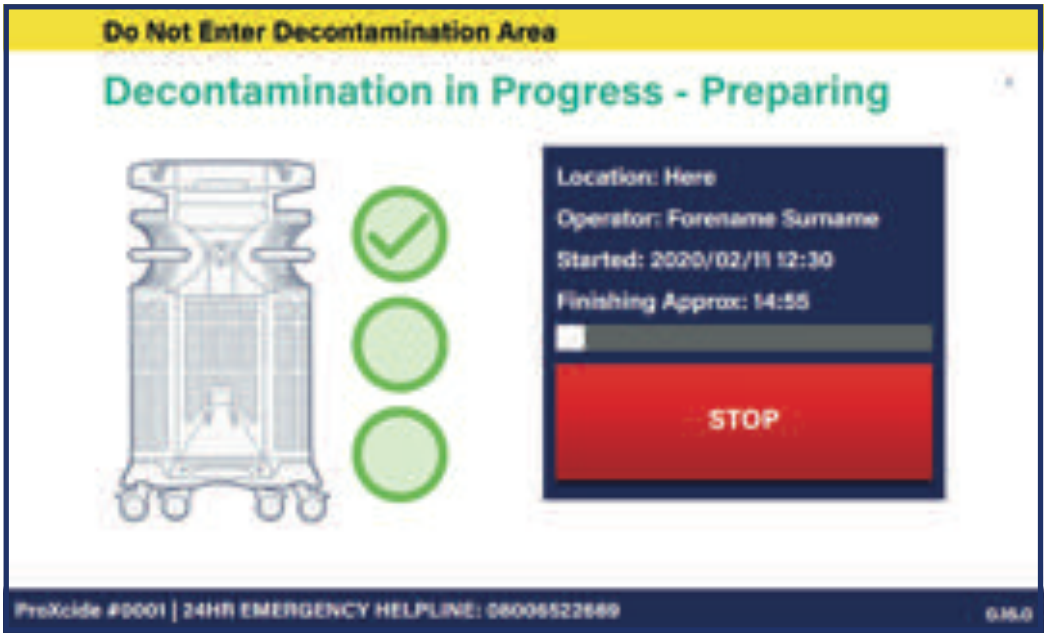
Screenshots for the different phases of the cycle are given on the following pages:

- Decontamination in Process - Injection
- Decontamination in Process - Dwell
- Deactivation in Process - Deactivation
- Process Complete (successful)
- Process Complete (unsuccessful)

It is strongly recommended that H2O2 gas concentration tests are performed using a portable gas leak detector outside of the treatment area doors to check for H2O2 leakage while the process is in operation, and again as the treatment area is re-entered.

If reading is > 2.0ppm then remove the probe and close the door if it is open. Wait 15 minutes before attempting to re-measure the hydrogen peroxide vapour levels. If reading is 1 - 2 ppm then you may enter the room for a maximum of 15 mins / 8 hr period to open windows and increase ventilation, before closing the door again and waiting another 15 minutes.

Instructions on the use of a gas leak detector can be found in Section 5.7.

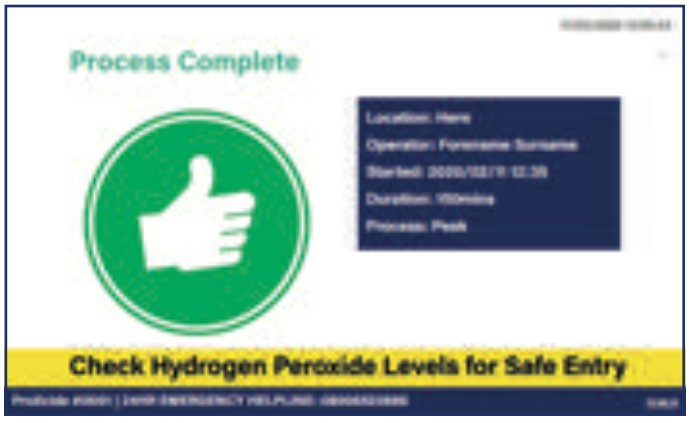


- Decontamination in Process - Injection

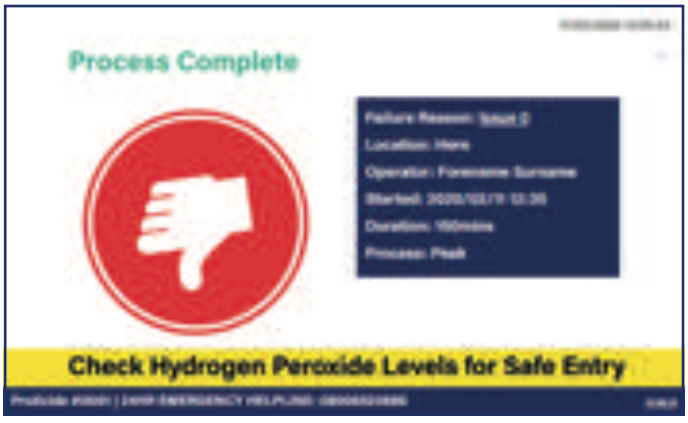
- Decontamination in Process - Dwell

- Deactivation in Process - Deactivation

- Process Complete (successful)

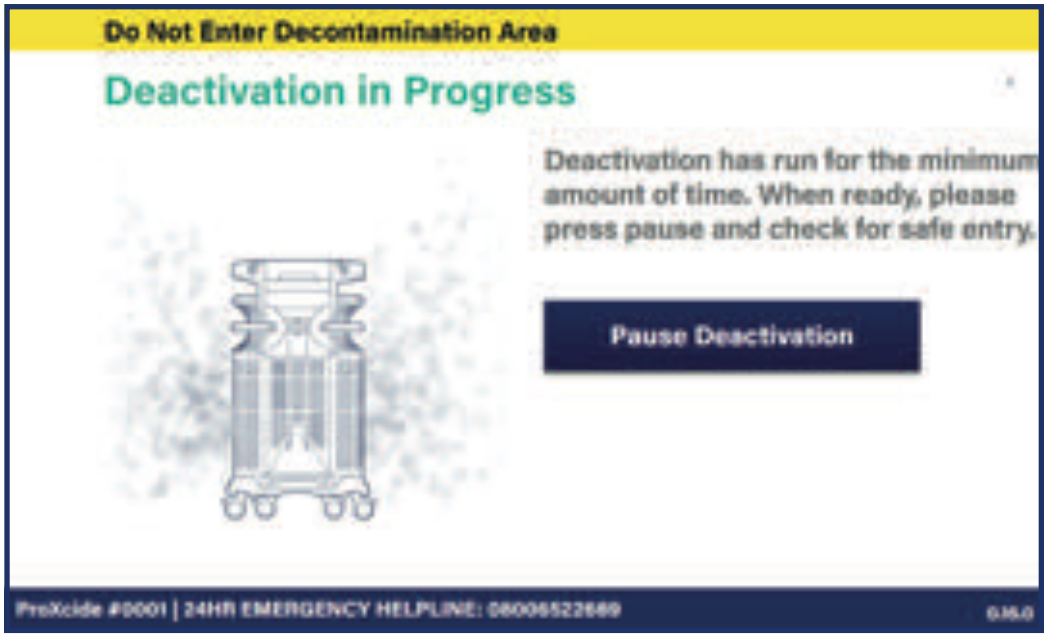


- Process Complete (unsuccessful)



- Wait for the deactivation process to complete

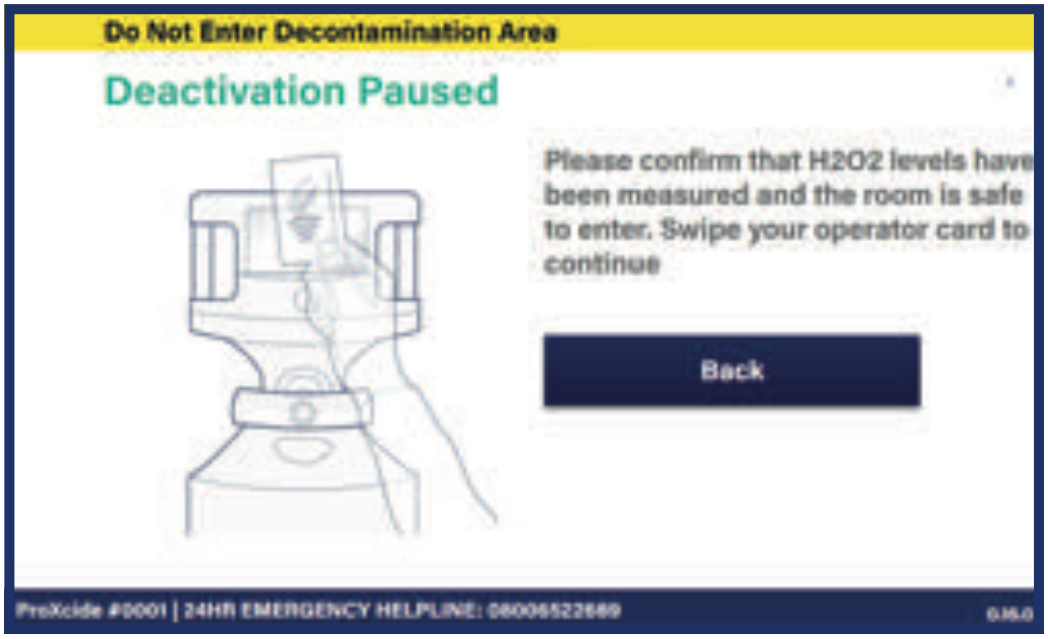
- Pause the deactivation phase



- Check H2O2 level is less than 1ppm using gas monitor

- If the room is safe to enter, press 'deactivation complete'. If greater than 1ppm, select 'continue deactivation' and check again later

- If the room requires additional deactivation time. Please ensure that the room has been resealed and press confirm



5.3 Stopping the ProXcide™ process in an emergency

The emergency stop button will be displayed on the process monitor touch screen at all times during the process. The emergency stop button can be used at any time during the decontamination cycle. This will stop vapour generation and the ProXcide™ will move to its deactivation mode which can take up to 60 minutes. You must not enter the room until the deactivation mode phase is complete, as indicated on the process monitor.

5.4 ProXcide™ power or communication failure

If the electrical supply to the unit fails during a decontamination process, it must be assumed that the space still contains vapour and is dangerous to enter. Power failure will disrupt the decontamination process and can occur in three ways:

1. Power to the main unit and the process monitor is lost: Once power is resumed to both the process monitor and the main unit, the ProXcide™ main unit will automatically go into deactivation mode and the process monitor will display the machines deactivation status.

2. Power to the main unit only is lost: The process monitor outside the treatment area will display a timed message indicating communication to the main unit was lost. When power to the main unit returns, it will automatically go into deactivation mode and the process monitor will reconnect and display the updated system status.

3. Power to the process monitor only is lost: Within 2 minutes, the ProXcide™ main unit will identify and respond to its loss of communication with the process monitor by automatically entering into deactivation mode. Once power to the process monitor is restored it will connect to the main unit again and display the progress of the safety induced deactivation status.

In the event of power failure, the success of the decontamination depends on which stage of the process the power failure occurred. The decontamination may have completed successfully, but Operators are advised to check the process monitor display at the end of the deactivation cycle to see whether the process needs to be re-run.

It is also exceptionally important that if Operators need to enter the treatment space due to power failure, they only do so wearing appropriate personal protective equipment and only after a portable gas leak detector produces an H_2O_2 reading of ≤ 2ppm. Instructions on the use of a portable gas leak detector can be found in Section 5.7

5.5 Troubleshooting Issues

Please use the table on the following pages to resolve issues that may occur during operation of the ProXcide™, where possible. If the advice is to contact Inivos, to avoid delay, it is vital that you record the issue number that is shown on the process monitor screen.

Please ensure you quote the issue number when you call Inivos help-desk.

ISSUES			
Issue	**On-screen description**	**Explanation**	**Possible solutions and advice**
0	**The vapour humidity stabilised below an acceptable level.** - Check H_2O_2 levels. When safe, ensure you have removed curtains, closed windows, turned off air-con, securely sealed all vents and windows. Then try again.	The vapour humidity stabilised, but below an acceptable level for a successful process. This may occur if the room is too large, or absorbent materials have been left in the room, or if the room is not set-up quite right.	When deactivation has completed, and it is safe to enter, please check: • Curtains and other materials are removed • The room volume is <170m^3 • The room temperature is not high. If so, temporarily ventilate the room. • Whether vapour is being sucked into the ventilation. Sometimes air conditioning is so powerful it makes it difficult to create an accurate and tight seal: if so, turn the air-con off. • Windows are closed and sealed and all ventilation is tightly sealed with VentCap. Prepare room again and run process again.
1	**Unexpected error.**	An unexpected and unknown system failure has occurred.	Please contact Inivos quoting Issue 1 to arrange system swap while it is repaired by us. Please note, if the error occurred before the system started to inject H_2O_2 vapour it is safe to enter and remove the system. Otherwise, you must wait for H2O2 levels to drop below 1ppm - measure H_2O_2 using the portable gas detector before entering to remove equipment.
2	**There is a software issue.**	There is a problem with the configuration file.	Please contact Inivos quoting Issue 2 to arrange system swap while it is repaired by us.
3	**There is an error with the bottle door.**	The bottle flap/door got stuck, or is otherwise not functioning correctly.	If a new ProXcin cartridge is required, the door automatically opens when your Operator card is presented. If the door has been manually forced open it can damage the mechanism and will need to be repaired by Inivos. If this is what has happened contact HS for swap and repair quoting Issue 3.
4	**The new bottle of ProXcin is not draining.** - Check for leaks. If no leaks, turn main unit off and on again, present and hold card until door opens automatically. DO NOT force the door open. Check bottle is pushed down firmly and cap is loosened.	The ProXcin bottle is not draining into the tank properly.	Turn the main unit off/on again. Check: • Are there any leaks on the floor? Is so, please contact Inivos quoting issue 4 + leak for swap and repair. If there are no leaks, please check: • LEDs are changing from RED to BLUE • If the bottle has been pushed down hard enough and cap loosened to release the vacuum. Also try lifting the bottle slightly then push down again firmly.
7	**There is a fan error.**	One of the fans is not working.	Please contact Inivos quoting Issue 7 to arrange system swap while it is repaired by us.

ISSUES			
Issue	**On-Screen description**	**Explanation**	**Possible solutions and advice**
5	**The tank is not full.** - Did you insert a new full bottle of ProXcin? If not, please turn main unit off and on again to that the bottle door will open automatically. DO NOT force the door open. Replace bottle with new full bottle. Remember to push down firmly and loosen cap.	The tank that holds the ProXcin solution is not full enough.	Make sure that a new full bottle of ProXcin is inserted each time it is automatically requested. If you did not insert a full bottle, turn the main unit off/on again and follow user instructions to replace with a new full bottle. If it was a new bottle, check: • If there are any leaks on the floor • If the bottle has been pushed down hard enough and cap loosened to release the vacuum
8	**Fluid sensor or pump issue during active operation.**	The fluid level is detected by a sensor, and this may have fallen. Or the pump may not be working.	This would occur during active operation and therefore H_2O_2 is present in the room and you must wait for deactivation to complete. Check floor for leaks. If there are none, set-up and run the process again - it may correct itself. If it fails again, contact Inivos quoting Issue 8 for system swap and repair.
12	**A sensor has failed. It is safe to enter the room.** Please contact Inivos quoting issue 12 to arrange system swap while it is repaired	This is a hardware issue with one of the sensors.	This would occur when first powered on, therefore there is no H_2O_2 in the room and it is safe to enter. Please contact Inivos quoting issue 12 to arrange system swap while it is repaired by us.
13	**Fluid sensor or pump issue detected during preparation phase.** Check floor for leaks. If there are none, set-up and run the process again - it may correct itself. If it fails again, contact Inivos quoting Issue 13 for system swap and repair.	The fluid sensor did not rise, or the fluid was not pumped into the tank in time.	This would occur during the preparation phase therefore H_2O_2 is not present and it is safe to enter the room. Check floor for leaks. If there are none, set-up and run the process again - it may correct itself. If it fails again, contact Inivos quoting Issue 13 for system swap and repair.
14	**There is a software issue.**	An error has occurred in the software program .	Please contact Inivos quoting issue 14 to arrange system swap while it is repaired by us.

ISSUES			
Issue	**On-screen description**	**Explanation**	**Possible solutions and advice**
16-20 28, 29	**There is a hardware issue.**	An error has occurred with a piece of hardware.	For safety, check H_2O_2 levels with portable gas monitor before entering room. Please contact Inivos quoting the issue number to arrange system swap while it is repaired.
23	**WiFi communications issue.** - Something is interfering with the signal between the main unit and process monitor. Please reposition the process monitor away from metal and electrical objects and try again.	Something is interfering with the communication between the main unit and the process monitor. It could be a metal door, or some electrical equipment.	Try repositioning the process monitor away from interfering objects and try again. If you have run a process successfully in this room before, please contact Inivos quoting issue 23.
24	**Room humidity is too high.** - Please ventilate the room to reduce humidity. Then re-seal all vents, windows and doors and try again.	As this is a vaporising process, if the ambient room humidity is too high at the start, the process cannot run successfully. Injection has not started and it is safe to enter the room.	Turn air conditioning to max. temporarily. Then turn down/ off again, re-prepare room - re-seal all vents, windows and doors and run the process again. On unusually hot and humid days, it may be better to run the process in the morning or evening.
25	**Deactivation fan fault.** - A failure occured during initial system tests. Please check H_2O_2 levels with portable gas monitor before entering room to remove equipment. Please contact Inivos quoting issue 25 to arrange system swap while it is repaired by us.	A fault has occurred when the deactivation fans were tested during the preparation phase.	For safety, check H_2O_2 levels with portable gas monitor before entering room. Please contact Inivos quoting issue 25 to arrange system swap while it is repaired by us.
26	**Injection fan fault.** - A failure occured during initial system tests. Please check H_2O_2 levels with portable gas monitor before entering room to remove equipment. Please contact Inivos quoting issue 26 to arrange system swap while it is repaired by us.	A fault has occurred with the injection fans.	For safety, check H_2O_2 levels with portable gas monitor before entering room. Please contact Inivos quoting issue 26 to arrange system swap while it is repaired by us.

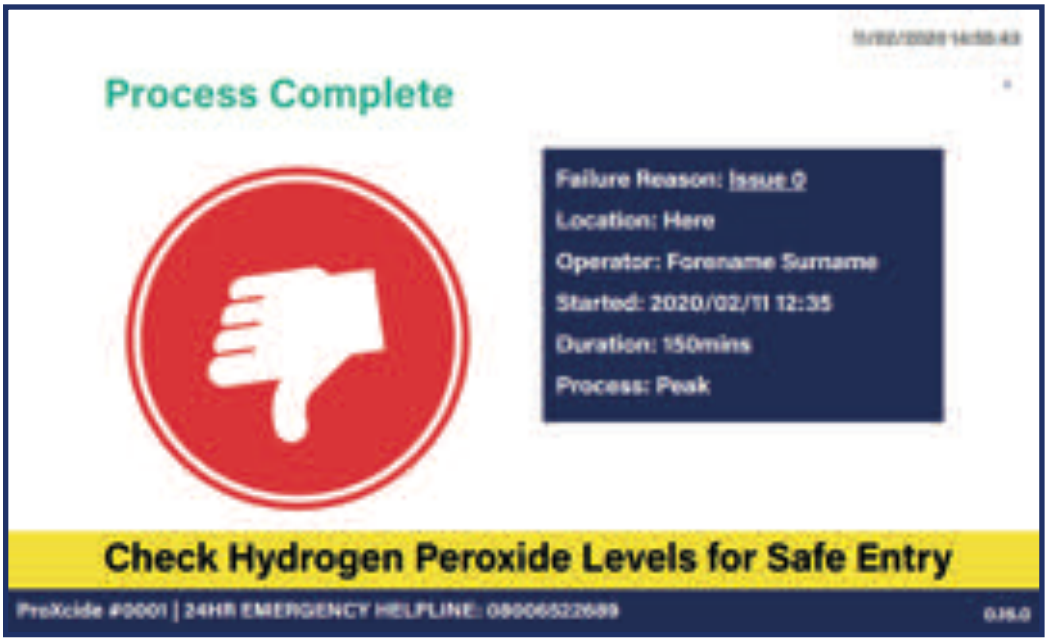
ISSUES			
Issue	**On-screen description**	**Explanation**	**Possible solutions and advice**
27	**Forced bottle door**	Bottle door appears forced	
28	**Temperature Sensor Fault**	Temperature sensor disconnected/broken/not powered	
29	**Humidity Sensor Fault**	Humidity sensor disconnected/broken/not powered	
30	**Fluid calibration. Start voltage too low.**	Fluid sensor voltage not high enough at start.	Check that the fluid level sensor is plugged in and that there is fluid all the way up to the bottle cup.
31	**Fluid calibration. Start voltage not stable**	Fluid sensor voltage not stable at start.	Check that there are no leaks.
32	Failed to calibrate (drain) tank in	Fluid sensor voltage didn't stabilise.	Check that the tank is empty. Did you connect a container to empty the tank into? Has the pump failed or is it running slowly? Are there any restrictions slowing the fluid?
33	Fluid calibration, voltage when the tank empty too high	Fluid sensor reads too high at the end.	The tank should be empty. Did you connect a container to empty the tank into? Has the pump failed or is it running slowly?
34	Fluid calibration, range too large	The difference between full and empty is too large.	Is there a leak in the pipe to the sensor (fluid in the pipe)?
35	Fluid calibration, range too small	The difference between full and empty is too small.	Is there a leak in the pipe to the sensor (fluid in the pipe)?
36	Service error. Periodic service required.	This ProXcide requires service to operate safely and reliably.	
37	Unable to register with server	This could be because there is no 3G signal	
38	Uncontained air volume	ProXcide has injected ProXcin into the treatment area, but the humidity has not increased significantly.	Allow this process to complete fully to the thumbs down screen, so that you can safely enter the area. To make the next process a success, please ensure that the room is fully closed.
39	Float raised before start	There is a hardware issue	
40	Low fluid	There isn't enough fluid to complete the run	

If something is interfering with the WiFI communication between the main unit and the process monitor the following message will appear.

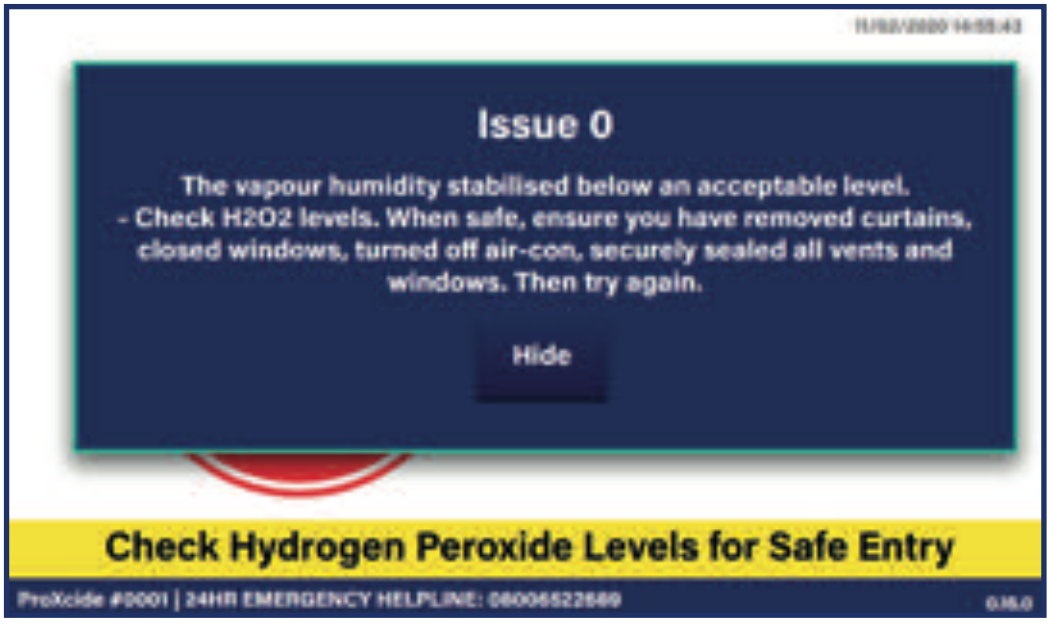
Example issue screens are provided over the pages that follow. The issue number on the first screen that appears on the process monitor often contains a hyperlink. Clicking this link will open up a pop-up box that provides helpful instructions to resolve the issue where possible.

Issue 0

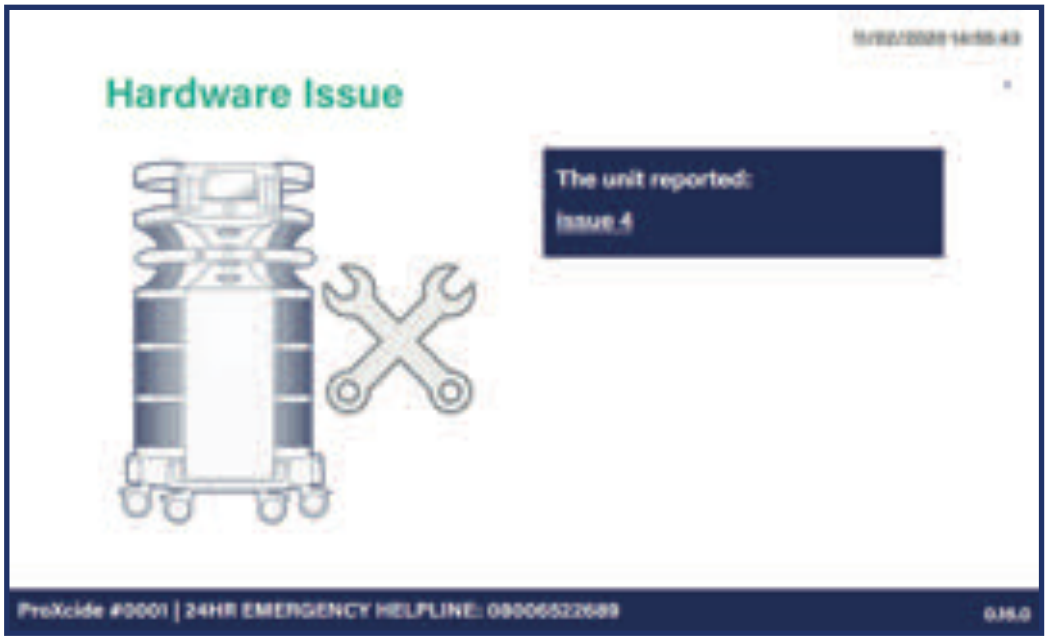
Issue 0 - alternative screen that may appear if the process completes but is unsuccessful.



Pop-up box for issue 0

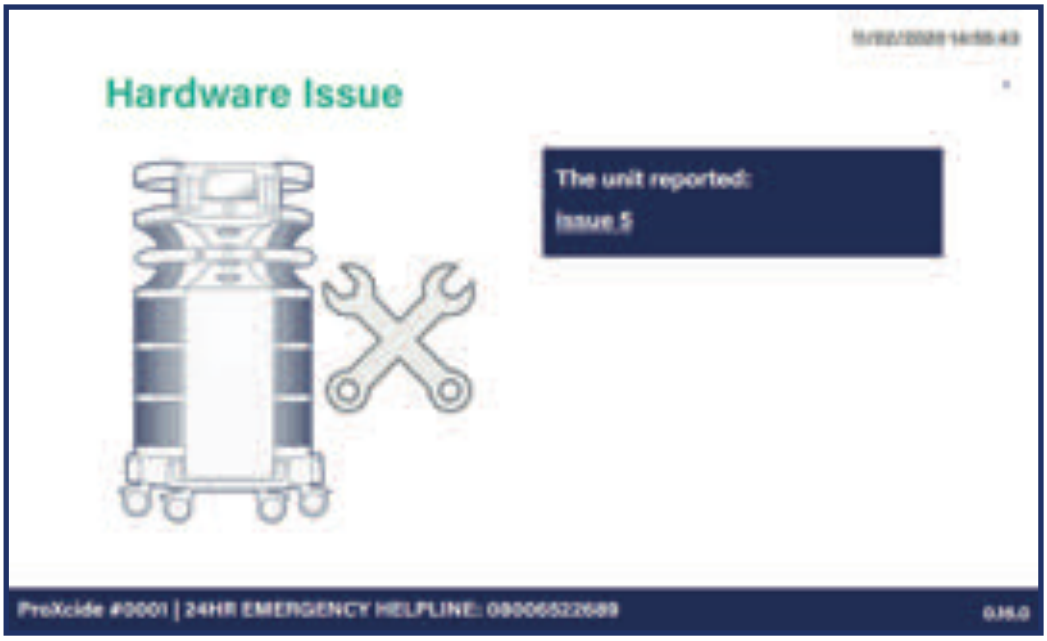


Issue 4

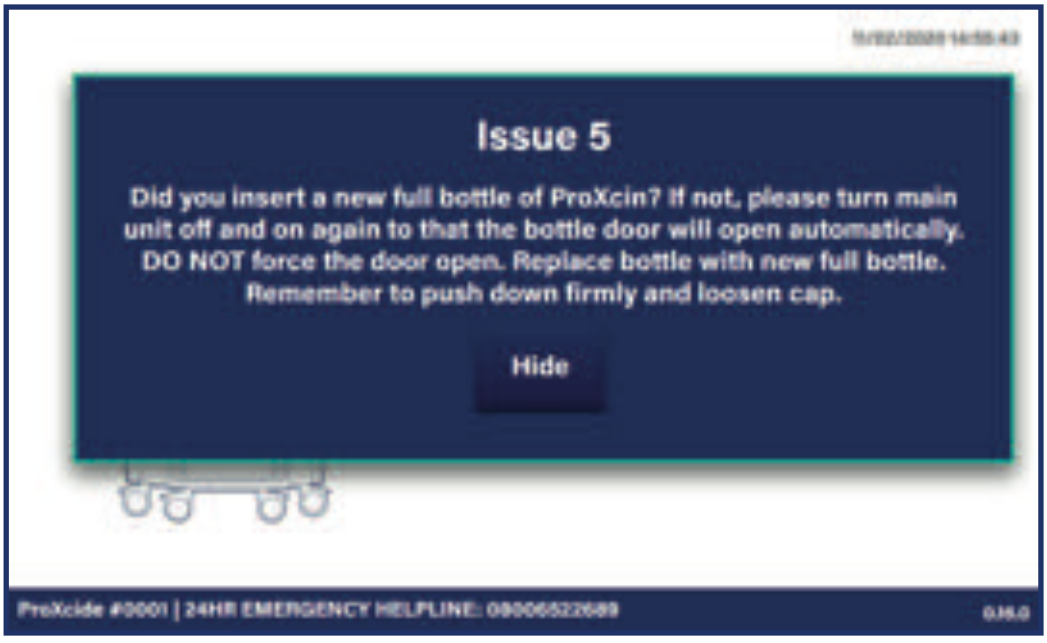


Pop-up box for issue 4

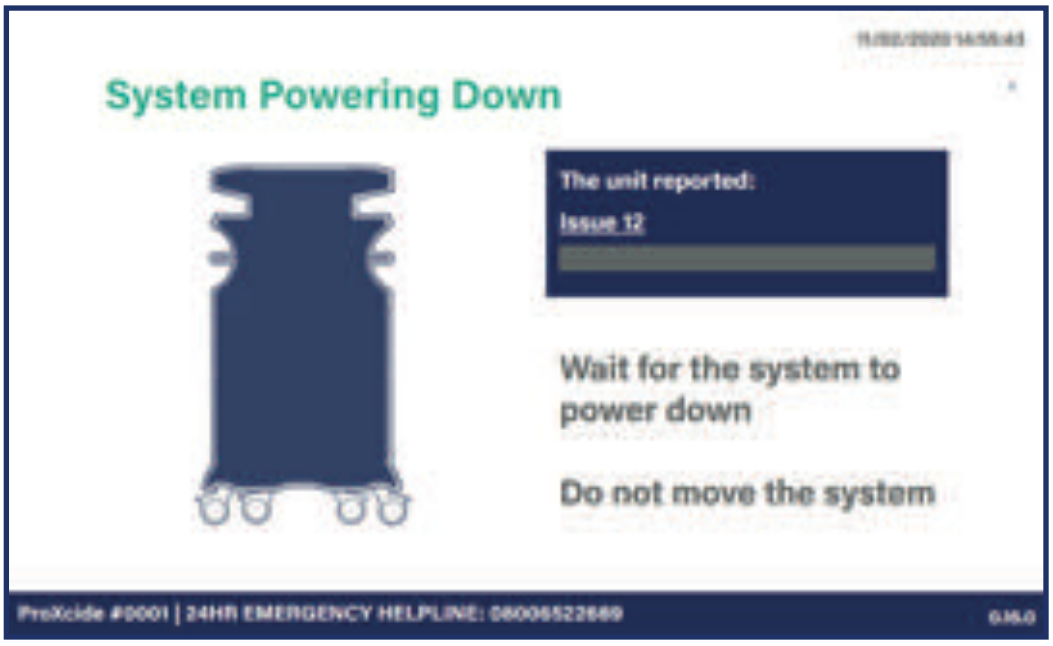
Issue 5



Pop-up box for issue 5



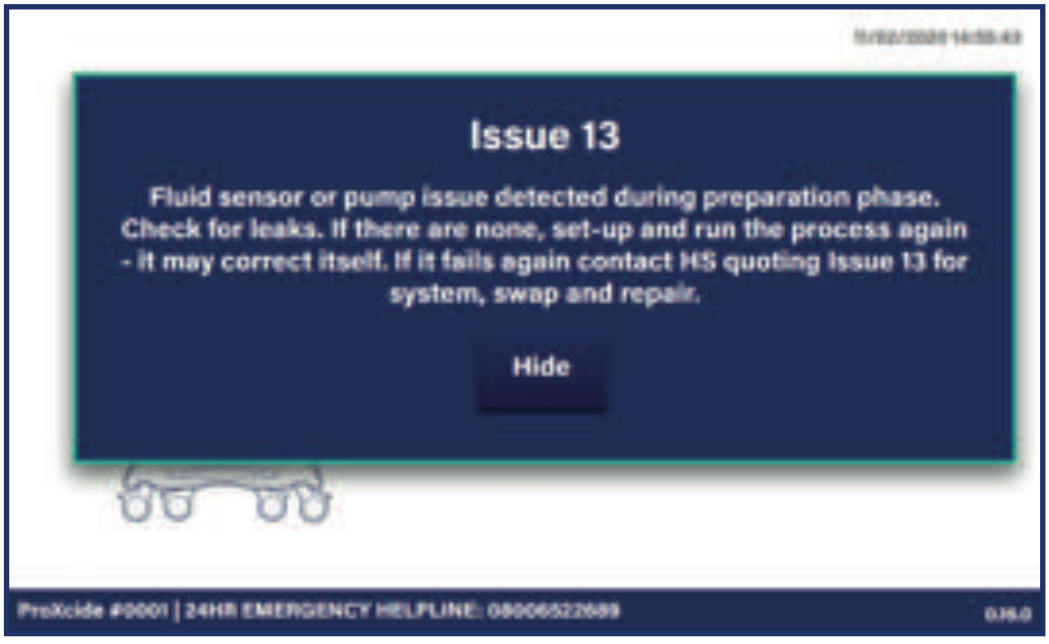
Issues 12



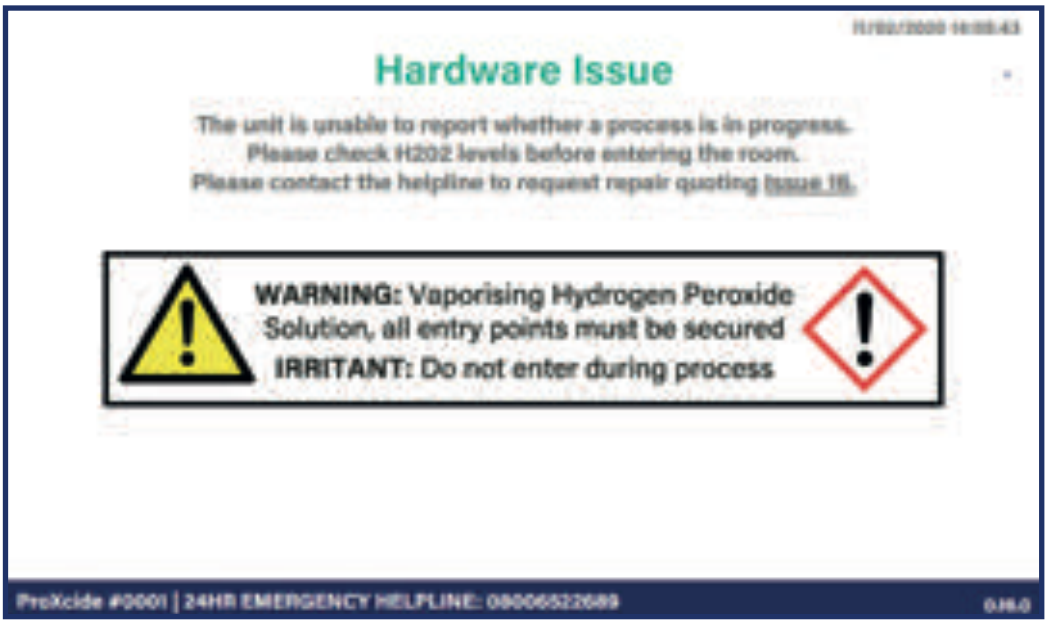
Pop-up box for issue 12

Issue 13

Pop-up box for issue 13



Issues 16 to 20



Pop-up box for issues 16 - 20

5.6 Method summary

HYDROGEN PEROXIDE ROOM DECONTAMINATION		
TASK	**SEQUENCE**	**APPROX DURATION**
Location set up	Check room has been manually cleaned and position room contents Seal all ventilation outlets, smoke detectors, doors and windows Change ProXcin™ refill if level indicated is low Position process monitor outside of room Connect main unit with process monitor Seal remaining door and perform final checks	8 minutes
Vapour diffusion	Start cycle from process monitor outside the room	Up to 60 minutes
Decontamination process	N/A	30 minutes
Deactivation process	N/A	60 minutes
Post-process requirements	Check H2O2 levels are safe (≤1ppm) using a portable gas leak detector Unseal doors and windows Return process monitor to main unit and remove ProXcide™ equipment Remove VentKits™ from ventilation outlets Remove CapKits™ from smoke detectors Return room to original layout	Approx. 5 minutes

5.7 Using a portable gas leak detector

Upon completion of a ProXcide™ process a portable gas monitor should be used to check that the treatment area is safe to enter.

It may also be used in the event of process failure, such as due to power failure, to assess when it is safe to re-enter the room and investigate the cause of the failure.

Requirements

1. ATI Porta Sens II portable gas leak detector model C 16 or equivalent gas detector.
2. Hydrogen peroxide sensor with 0 to 20ppm calibration range.

Instructions

1. Set up the gas leak detector and probe according to the user manual.
2. Check that the sensor calibration is in date.
3. Switch on the gas leak detector (normally set in continuous reading mode). The screen should read 0 ppm.
4. Position the gas leak detector probe tip only into the treatment space either through any gap (e.g. door seal) or by slightly opening the door. The main body of the gas leak detector and the Operator should remain outside of the treatment space.
5. Wait until the gas leak detector has stabilised and note the reading.
6. If reading is > 2.0ppm then remove the probe and close the door if it is open. Wait 15 minutes before attempting to re-measure the hydrogen peroxide vapour levels. If reading is 1 - 2 ppm then you may enter the room for a maximum of 15 mins / 8 hr period to open windows and increase ventilation, before closing the door again and waiting another 15 minutes.
7. Repeat from step 3 until a safe level of <1ppm is reached.

Note: In the event of sustained or unusual trends in hydrogen peroxide vapour residue at the end of the process, contact the Inivos through the relevent helpline displayed at the bottom of every other page.

5.8 Post decontamination procedure

Once the gas leak detector is reading between 1.00 - 2.00ppm it is safe to enter the treatment space for a short time to remove equipment. Do not stay in the treatment space for more than 15 minutes in any 8hr period at this level. If the gas monitor reads <1.00ppm it is safe to enter for an unlimited period of time.

5.8.1. Remove the DVI tape from the door and enter the treatment space with the gas leak detector to take a reading.

5.8.2. Switch off and unplug the main unit of the ProXcide™. Facing the main unit give a light pull on the mains cable to disengage the ratchet and allow the cable to retract.

5.8.3. Switch off and unplug the process monitor cable. Coil this neatly and place it back into its holder on the front of the process monitor. To retract the process monitor support stand, gently tilt the process monitor forward and then press firmly on the support at the back of the process monitor. This will close the support and you can then re-stow the process monitor onto the ProXcide™ main unit by lining it up and lifting it onto the main unit.

5.8.4. To lock the process monitor back into place on the main unit, press in the button on the front of the process monitor (the button used to release the process monitor earlier). Pressing this button will allow the correct positioning of the process monitor on the main unit. When in position, release the button to lock the process monitor into place

5.8.5. Once the ProXcide™ equipment has been removed from the treatment space, re-enter slowly with a gas leak detector to check readings are below 1.00ppm. Remove any ventilation covers such as VentKit™ or smoke alarm covers such as CapKit™.

5.8.6. Use any means necessary to increase aeration of the space, such as opening windows or external doors, so long as there is no risk of exposing third parties to harmful hydrogen peroxide vapour levels. However, if the reading still exceeds 1.00ppm, wait 15 minutes outside of the treatment space, ensuring that the door is closed and the area remains inaccessible to staff or public before re-measuring. Repeat this process until readings are below 1ppm.

5.8.7. Remove any DVI tape from around windows and ventilation grilles, as necessary. Remove the door warning signs and DoorBars.

5.8.8. When the treatment area is clear and safe for patients again, and local protocols have been followed, inform the staff involved that the decontamination process has successfully finished and it is safe for re-entry and use.

5.9 Containing a ProXcin™ spill

ProXcin™ contains hydrogen peroxide and any spillages should be contained and disposed of in accordance with local protocols. Never attempt to re-use spilt ProXcin™ as this could damage the machine and will affect the efficacy of the process. Small spillages can be contained using the spill kit.

To contain a spillage:

- Wear adequate PPE (gloves, eye protection, mask and coveralls)
- Place the spill kit absorbent pads over the spillage
- Cordon off the affected area to prevent access
- Ventilate the area by opening windows
- When pads have absorbed the ProXcin™, carefully place them in bags for disposal in accordance with local legislation and procedures
- Wash the affected area with plenty of clean water, but do not use any cleaning additive
- Re-open the area when safe to do so

A larger spillage may require alternative intervention. If this becomes necessary, always show the MSDS to the personnel involved.

5.10 ProXcide™ process log

Each time a ProXcide™ process is completed, a log file is created containing: the System Number; Process ID; Process Location; Process Start Time; Process Authorisation and Duration. The report also summarises the success or failure of each phase of the process, and the duration of each phase. The report shows clearly whether a decontamination process was successful or not.

The ProXcide™ system can send these reports directly to an email address using its internal mobile broadband connection. The service is dependent on a mobile broadband signal. If a 3G signal is not available, the ProXcide™ will store reports and send them the next time it is plugged in and a signal is available.

If you would like to enable this service, please contact Inivos using the contact details provided.

A typical decontamination process report showing that decontamination was successful.

Section 6: ProXcide™ maintenance

6.1 Regular care

After each decontamination process, wipe down the case of the ProXcide™ main unit with a dry cloth to remove any residual condensation. Only use mild cleaning products such as normal detergent, or mild alcohol wipes to clean the plastic parts of the system.

Once a week, check the mains lead and the process monitor leads for damage, paying particular attention to the points where they emerge from the connectors. The ProXcide™ system must be PAT (Portable Appliance Testing) tested for electrical safety every six months. The wheels of the ProXcide™ system should be periodically cleaned.

The main unit of the ProXcide™ has perforated panels / grilles that require regular cleaning with a damp cloth to remove dust accumulation..

Do not tip the unit to achieve this, as this may result in ProXcin™ spillage.

6.2 ProXcide™ servicing

The ProXcide™ should be serviced every 6 months by Inivos. The system will flash up a warning message for 30 seconds at power up when this service is due.

Failure to have the unit serviced every 6 months may lead to poor decontamination and frequent process failures.

6.3 Draining the ProXcide™

It may be necessary to drain the fluid stored in the ProXcide™. For example, when the vapourising unit is to be disposed of at end of life, or to transport the ProXcide™ by air freight.

Fluid drainage may only be performed by a Inivos Engineer as it requires a pump and the removal of equipment covers. It is not safe for an Operator to perform this operation.

Section 7: Specifications

External dimensions (mm)
1275mm H x 725mm W x 650mm D with and without process monitor attached

Weight (drained of fluid)	Approx 113 Kg
Storage temperature range	0–60 °C
Operational temperature range	10– 35 °C
Operational humidity range	15–85% RH
Fluid storage capacity	6.8 Litres (full), 7.5 Litres (max)
Ultrasonic frequency	Approx 1.7 MHz
Atomised droplet size	2-5 m
Power consumption	1500 W
Supply voltage range	220-240 V AC
Supply frequency	50/60 Hz
Plug fuse	13 A
Operational SPL	<70 dB(A)

Section 8: Frequently asked questions

Here are some answers to frequently asked questions, however feel free to contact Inivos with any further questions you may have.

What are the storage requirements?

It is recommended that the ProXcide™ and ProXcin™ have a dedicated storage location to prevent interference. See Section 2.3 for more information.

What is an 'error' on the ProXcide™?

The ProXcide™ system self-calibrates and performs pre-determined self-check tests. Should any of these report results outside of the expected range, the ProXcide™ will proceed to 'error' stage. The error message will be shown on the LCD screen (F) of the process monitor. If an error occurs please contact Inivos for a resolution.

Will the entire ward need to be evacuated if the ProXcide™ is running in a side room or bay area?

It is not normally necessary to do this. However the area for treatment must be sealed and entry prohibited. Should any vapour escape, the stop button on the process monitor should be pressed to end the cycle and allow the ProXcide™ to move on to the deactivation stage.

Will I need to wear PPE when working around the ProXcide™ system?

PPE is only required when handling the ProXcide™ cartridge to refill the ProXcide™ unit. During normal manoeuvering of the system, set up and dismantling, you should wear appropriate PPE for the task in accordance with any internal protocols.

Will I need to inform the Fire Brigade of every ProXcide™ cycle?

No. You will have to isolate and cover the fire alarm system (e.g. using CapKit), and you must follow an agreed protocol with the Fire Officer in the organisation. It is important to inform senior staff (e.g. Ward Sister) in the area when a ProXcide™ cycle starts and finishes.

What is the typical process time, from initial set-up to room 'available for use' again?

1. 6 bedded bay: 2 hours 30 mins

2. 4 bedded bay: 2 hours 15 mins

3. Single-room with en-suite: 2 hours

4. Single-room without en-suite: 1 hour 55 mins

The ProXcide™ adjusts every decontamination process to the specific environment, monitoring and adjusting for temperature, humidity and absorbency as well as the volume of the room in order to ensure the same successful decontamination is achieved every time. Therefore, timings are approximate and may slightly vary. The timings stated are for a complete decontamination cycle, including the injection phase, 'dwell' phase, and deactivation phase.

Does the system deactivate the hydrogen peroxide at the end of the process?

The ProXcide™ has a fully-integrated deactivation unit that very quickly deactivates hydrogen peroxide in the treatment space at the end of the decontamination process. This gives repeatability and control over the process, rather than relying on environmental conditions for the hydrogen peroxide to dissipate, and significantly reduces the time-frame of the decontamination process. The deactivation unit comprises a highly-efficient air-circulation system that circulates 30,000m^3 per hour through a catalyst, which very quickly reduces the concentration of atmospheric hydrogen peroxide.

Are there any built in safety features?

In addition to remote activation and monitoring, the ProXcide™ incorporates four motion detectors positioned on the unit, with a 360° 'view' of the treatment space. These are designed to detect the movement of heat, i.e. people, in the room. During the decontamination set up phase, if the motion sensors detect anybody in the room, the system will not allow the process to be started, protecting Operators and personnel in the area from any potential for accidental exposure to the hydrogen peroxide vapour.

Is the process and chemicals used compatible with equipment, materials and finishes commonly used in the hospital environment?

Inivos have carried out HALT (Highly Accelerated Life-cycle Testing) on a wide range of hospital fixtures, fittings, building fabric and equipment are not aware of any compatibility issues from the decontamination process. Two main factors from Inivos technology contribute to a compatible decontamination process:

1. Low-concentration hydrogen peroxide (<7.5%) means that the ProXcide™ system is both effective and efficient in decontaminating environments compared to other cleaning agents.

2. The ProXcide™ monitors ambient humidity in real-time throughout the decontamination process, ensuring that the process never causes a heavy condensation during the decontamination process. With no wetting of surfaces, the system is compatible with patient equipment and materials used in the healthcare environment.

Section 9: Glossary of terms

We've selected some terms we feel require a little more explanation to assist you in your use and understanding of the ProXcide™ and the decontamination process:

Ambient

Something that relates to your immediate surroundings, such as temperature.

Bio-decontamination

The process of making an area safe by destroying or neutralising biological agents by a sterilisation process.

HAIs

Hospital acquired infections.

Hydrogen peroxide

A chemical compound, which is slightly more viscous than water. For safety reasons it is normally combined with water, and is used as a bleaching agent and disinfectant. See H2O2.

H_2O_2

The formula for hydrogen peroxide, a chemical compound.

MSDS

Material safety data sheet.

Pathogens

The first link in the chain of infection. A pathogen is an infectious agent such as a virus, bacterium, protozoa, prion, a fungus, or other micro-organism.

PAT tested

Portable appliance testing (PAT) is the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use. Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing.

ProXcin™

A 7.5% hydrogen peroxide blend formulated and manufactured under strict quality control to ensure chemical stability throughout it's shelf life.

Ultrasonic

High frequency sound waves, which in this case are used to create tiny droplet sizes of the ProXcin solution.

Vapourisation

A phase transition from liquid phase to vapour.

Contact Details:

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Certifications:

bsi. ISO 9001 Quality Management

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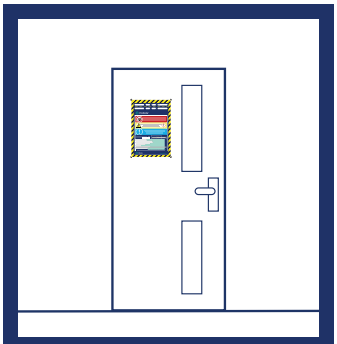
24 HOUR RAPID RESPONSE
0800 652 2689

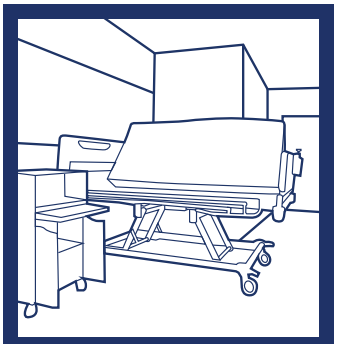
Inivos ProXcide Quick Reference Guide

1. Put on your protective gloves and eye protection

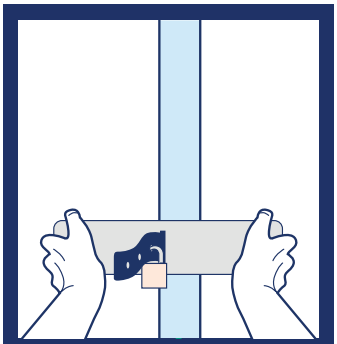
2. Check room has been manually cleaned. See 4.3 in User Manual



3. Restrict access - position NO-ENTRY signs and complete checklist.

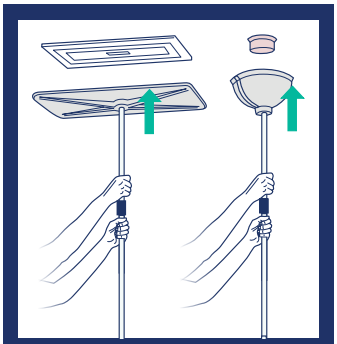


4. Arrange room contents to expose surfaces

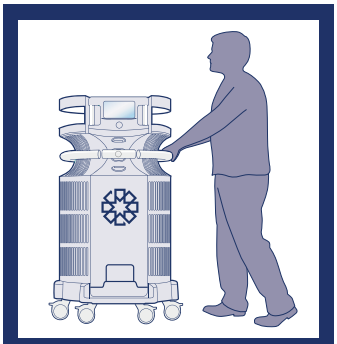


5. Close and secure all doors except one

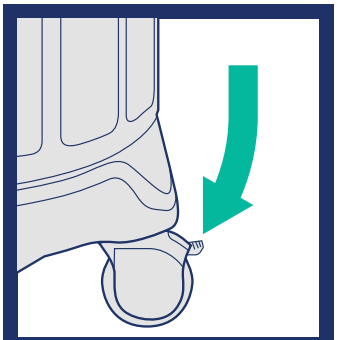
6. Seal gaps in doors and windows with DVI Tape



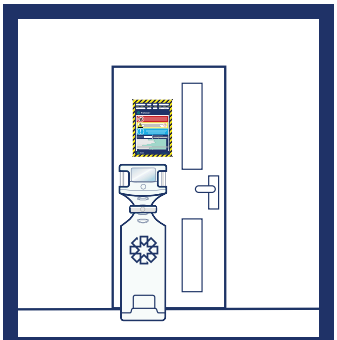
7. Cover Vents with VentKit and smoke detectors with CapKit



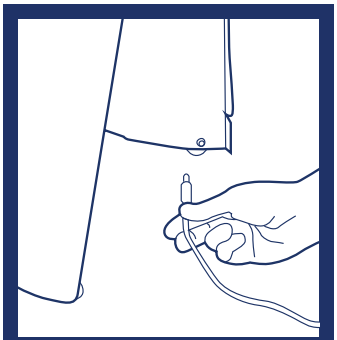
8. Wheel the main unit into the centre of the room



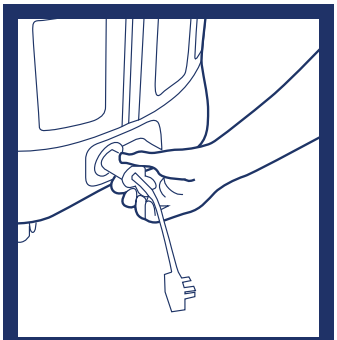
9. Apply the brakes



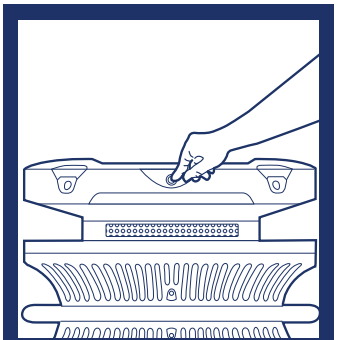
10. Remove and position the process monitor outside room



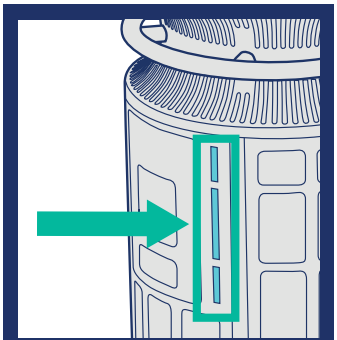
11. Extend process monitor power cable and plug it in



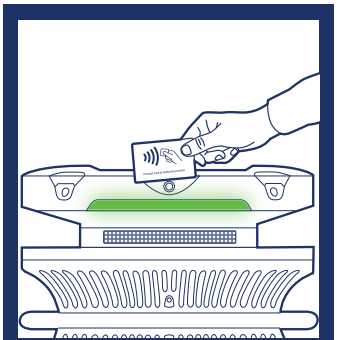
12. Extend main unit power cable and plug it in



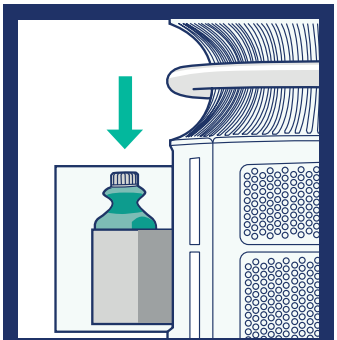
13. Press button on the main unit to turn it on. (LED white to blue to green)



14. Check system fluid level. Red means low

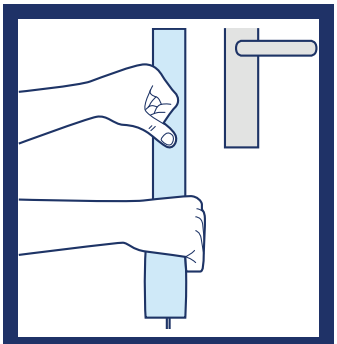


15. If required, present and hold operator card to allow door to open

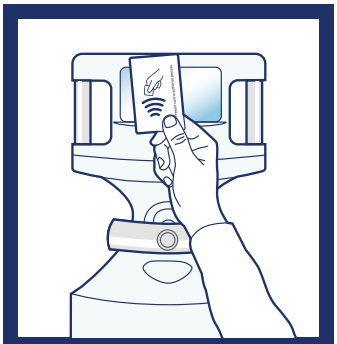


16. Replace empty ProXcin bottle if required, push down, and loosen cap

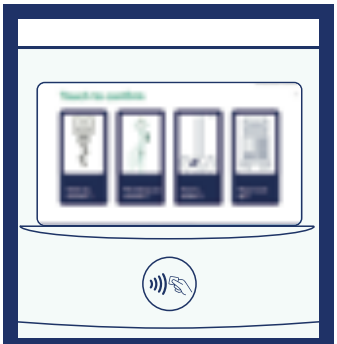
ProXcide Quick Reference Guide



17. Exit room, close and seal the final door with DVI Tape, apply signs



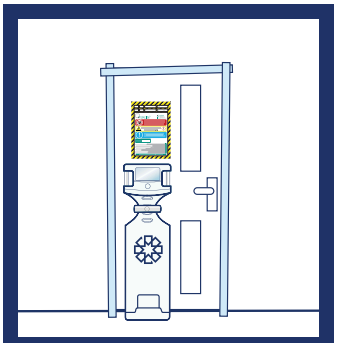
18. Present and hold operator card at the process monitor



19. Follow the on-screen instructions

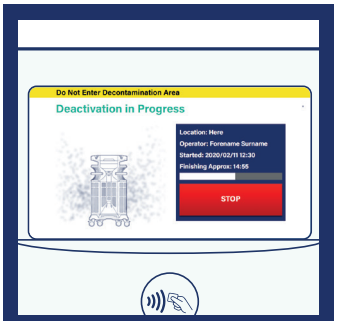
20. Secure authorisation to start the process

21. Start the process by selecting 'YES'

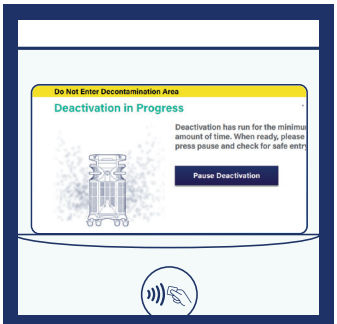


22. Do not re-enter the treatment area until process is complete

23. The red button stops the process - but you must still wait for the green light before entering the room

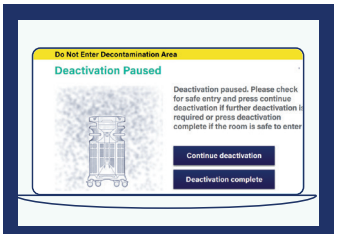


24. Wait for the deactivation process to complete



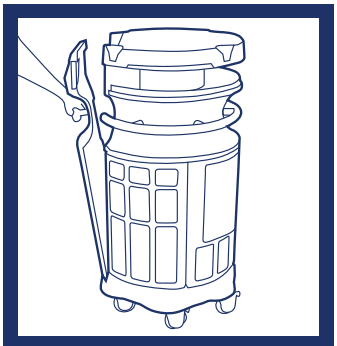
25. Pause the deactivation phase

26. Check H_2O_2 level is safe using gas monitor. If less than 1ppm, the room is safe to enter

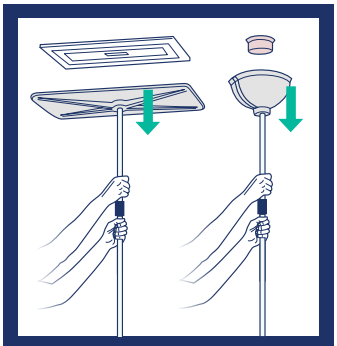


27. If the room is safe to enter, press 'deactivation complete.' If greater than 1ppm, select 'continue deactivation' and check again later. If the room requires additional deactivation time, ensure that the room has been resealed and press confirm

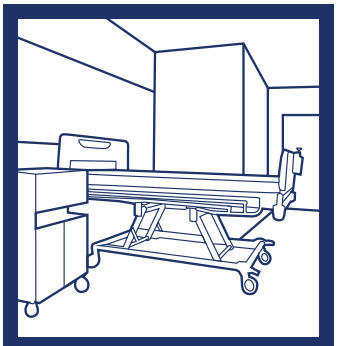
28. When safe, unplug the process monitor power cable and stow



29. Return process monitor to main unit and click in place



30. Remove ProXcide, Vent-Kit, CapKit and DVI Tape from the room



31. Return room to normal layout, ready for use

32. Request sign-off for complete process from Authorising Signatory