



Odorox[®] MDU/Rx[™] Medical Device

Owner's Manual



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Safety Information

Warning!

Use this Hydroxyl Generator only for its intended purpose as described in this Owner's Manual.

PLEASE READ AND SAVE THESE IMPORTANT SAFETY INSTRUCTIONS.

IMPORTANT SAFEGUARDS

When using this system, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Read all instructions before using this Hydroxyl Generator.
- To avoid fire or shock hazard, plug the equipment directly into a grounded AC electrical outlet.
- Remove all packaging material before use.
- Keep the cord out of heavy traffic areas. To avoid fire hazard, NEVER put the cord under rugs, near heat registers, radiators, stoves, or heaters.
- To protect against electrical hazards, DO NOT immerse in water or other liquids. Do not use near water.
- WARNING! Always unplug the generator before moving it, cleaning, or whenever the generator is not in use. Be sure to pull by the plug and not the cord.
- NEVER drop or insert any object into any openings.
- DO NOT operate any generator with a damaged cord or plug, if motor fan fails to rotate, after the generator malfunctions, or if it has been dropped or damaged in any manner. Return generator to manufacturer or authorized repair facility for examination, electrical or mechanical adjustment, or repair.
- Use generator only for intended use as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons. The use of attachments not recommended may cause hazards.
- INDOOR USE ONLY!

Safety Information

- NEVER block the air openings, grills/outlets or place on a soft surface such as a bed or sofa, as this could cause the unit to tip over, blocking the Air Intake Opening/Grill.
- Keep unit away from heated surfaces and open flames.
- CAUTION: for general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
- DO NOT attempt to repair or adjust any electrical or mechanical components on this unit. Doing so will void your warranty. The inside of the unit contains no user serviceable parts. All servicing should be performed by authorized personnel only.
- DO NOT plug the cord in with wet hands: electric shock could result.
- NEVER use detergents, gasoline, furniture polish, paint thinner or other household solvents to clean any part of the generator.
- DO NOT under any circumstances cut or remove the third (Ground) prong from power cord. For personal safety, this generator must be properly grounded.
- The MDU/Rx™ unit performance is not affected by external sources of electromagnetic radiation from devices such as cellphones radio etc. that generate wavelengths greater than those produced by the device, as these wavelengths of light do not penetrate the quartz housing of the optics. X-rays may cause the quartz to become cloudy and it is advised that the MDU/Rx™ device not be used in areas that generate x-ray radiation or be placed behind shields used by technicians in these areas. ("Effect of Radiation on the Elasticity of Quartz", Clifford Frondell, Research Division, Reeves Sound Laboratories, New York, NY. Published privately by the War Department Nov. 1943 and released to the public later).
- KEEP OUT OF THE REACH OF CHILDREN.
- WARNING – UV radiation emitted from this device.
- Unintended use of the device, or damage to the housing, may result in exposure to ultraviolet radiation.
- Ultraviolet radiation may cause eye and skin irritation.
- Avoid exposing eyes and skin to ultraviolet radiation.
- The use of this device is a supplement to and not a substitute for standard infection control practices to control transmission of infections; users must continue to follow all current infection control practices, including those practices related to cleaning and disinfection of environmental surfaces.

Safe Handling and Disposing of Mercury

Mercury is used in the MDU/Rx™ device in order to generate the plasma needed to produce UV-C radiation. This is similar to the use of mercury in many types of commercial, fluorescent light fixtures. As long as the glass or quartz outer bulb is intact, mercury is contained within the fixture and poses no health hazard. In the event that an optic breaks, less than 25 mg of mercury could be released. This is much less than what is present in a commercial thermometer. Liquid metallic mercury is hazardous due to its potential to release mercury vapor. In humans, approximately 80% of inhaled mercury vapor is absorbed via the respiratory tract, where it enters the circulatory system and is distributed throughout the body. Short term exposure to 25 mg of spilled mercury does not pose a health hazard, **provided that the source of the mercury is removed promptly**. Chronic exposure by inhalation, even at low concentrations in the range 0.7–42 µg/m³, can cause effects such as tremors, impaired cognitive skills, and sleep disturbance in workers. The OSHA limit for occupational exposure of elemental mercury is 0.1 mg/m³. Mercury is also used in most fluorescent light fixtures.

In the event that the device optic light does not function, the optics should be checked to ensure that they are intact. If the optic is cracked, but not broken, it should be replaced. Cracked optics should be double sealed in plastic bags and disposed of according to local, approved procedures. In the event that the optic breaks and the mercury is spilled clean-up should be done immediately according to the following procedure published by the Environment Protection Agency.

- Evacuate the room for at least 15 minutes
- Do not attempt to clean up the spill with a vacuum cleaner, mop or broom
- Dispose of clothing, fabric etc. that has come in contact with mercury; do not wash
- Only the individual to clean up the spill should re-occupy the space
- Close the doors to the area of the spill and turn off the HVAC system; open exterior windows and direct room air out of the window with fans or use an exhaust fan if the area is equipped with one that vents directly outdoors
- Cover shoes with disposable foot covers or wear shoes that will be disposed of
- Remove jewelry as mercury will amalgamate with metals and ruin them
- Use a commercial mercury spill clean-up kit to remove the spilled mercury. (See list of suppliers below)
- **Identify items in the spill area that can be cleaned and those that cannot.** Nonporous surfaces (finished wood, plastic or concrete) can be cleaned following this guidance. Porous surfaces or fabric-covered items (upholstery, carpeting, stuffed animals, pillows, backpacks, unfinished wood, cork, cardboard) are difficult to clean because mercury beads may be trapped in these materials. If you decide you cannot clean these items, place them in plastic trash bags or cover or wrap them in a double layer of plastic and carefully seal with tape. Place the wrapped items in a secure place, preferably outdoors and out of the reach of children and pets. You should consult with a trained professional about how to decontaminate or dispose of these items safely.
- **Wear gloves to carefully pick up the larger pieces of broken glass and what remains of the broken device and place them on a paper towel.** Gently fold the paper towel around these pieces so you can pick the bundle up and place it in a zippertype plastic bag. **Use index cards or stiff cardboard to push smaller pieces of glass and mercury beads together into a pile.** Shine a flashlight at an angle to locate beads of mercury. The beads will reflect light from the flashlight. Check for mercury in cracks or in hard-to-reach areas where beads may be hidden or trapped. Check a wide area beyond the spill.

Safe Handling and Disposing of Mercury

- **Use the eyedropper to collect mercury beads and place them in the plastic bag.** Hold the eyedropper at an angle to draw the mercury into the tip. Keep the eyedropper at an angle to stop the mercury from rolling back out until you can put the mercury into the plastic bag. Wrap tape (sticky side out) around your gloved fingers and carefully use it to pick up any remaining glass or beads. Check again with the flashlight to be sure that no beads of mercury remain.
- At this point, mercury beads may still be trapped in cracks or crevices on irregular surfaces. **Sprinkle sulfur powder over the contaminated area** and rub it gently all over the surface and into the cracks with a paper towel. Sulfur powder binds with mercury. Use a paper towel dampened with water followed by wiping with another damp paper towel to clean up the sulfur and mercury. Place the used paper towels in a zipper-type plastic bag.
- **Put all the items that were used to pick up the mercury, including index cards or cardboard, eyedropper, contaminated tape, paper towels, and zipper-type bags into the trash bag.** Carefully remove rubber gloves by grabbing them at the wrist and pulling them inside out as they come off. Place the used gloves in the trash bag.
- **Carefully seal the trash bag that contains the mercury contaminated waste** and put it in a secure place, preferable outdoors and out of reach of children and pets until it can be disposed of safely.
- If possible, **open a window and use a fan to ventilate the area to the outdoors for 24-48 hours** before resuming normal use. If possible, heat the area (for example, with a space heater) while still ventilating to the outdoors. Avoid blowing the exhaust back indoors or into other nearby residences.
- **Clothes or shoes that did not come in direct contact with liquid mercury should be removed and put into the trash bag** that was left outside the contaminated area at the beginning of the cleanup. Close the trash bag and take it outdoors. Carefully remove the shoes and or clothing from the trash bag and air them out thoroughly outdoors for 24 to 48 hours. After the outdoor airing, items that are washable can then be laundered.
- **Dispose of contaminated items properly!** Mercury-contaminated items should not be placed in the regular household trash. Contact your town or county officials for information about hazardous waste disposal in your community.

Mercury Spill Kit Suppliers

Krackeler Scientific	800-334-7725
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Lab Safety Supply	800-356-0783
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Cole-Parmer	800-323-4340
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For schools and businesses only:

Fisher Scientific	800-766-7000
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Mallinckrodt/Baker	800-582-2537
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Sigma Aldrich	800-325-3010
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VWR Scientific	800-932-5000
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For schools only:

Flinn Scientific	800-452-1261
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Package Contents

- 1) One Odorox MDU™/Rx Hydroxyl Generator c/w Pre-Filter
- 2) One Owner's Manual



Operating Guidelines

The MDU/Rx™ is a Class II Medical Device approved by the FDA and indicated for the reduction of airborne pathogens including bacteria and virus. This portable device can be used in hospitals, patient rooms, waiting areas, senior living facilities, physician and dental clinics and other spaces that require an FDA approved device.

The table below summarizes the minimum treatment area in the absence of ventilation, and the treatment area range under typical operating conditions: 3 air changes per hour, 90% recirculated air, and 9 foot (2.7 m) ceilings. These guidelines should be adhered to for optimal performance and safety.

Minimum Area (no circ)	160 ft ² [15 m ²]
Treatment Range (ft²)	130 - 500
Treatment Range (m²)	12 - 46

Operating Instructions

POWER ON

The main power for the MDU/Rx™ Unit can be switched on by turning the MAIN POWER switch to the ON position.

POWER OFF

The main power for the MDU/Rx™ Unit can be switched off by turning the MAIN POWER switch to the OFF position.

FAN SPEED

The MDU/Rx™ Unit is equipped with an air mover fan, which is designed to deliver 124 ft³/m [210 m³/h]. In order for the fan to turn on, the MAIN POWER switch must be in the ON position.

PROCESSOR

The MDU/Rx™ Unit is equipped with two hydroxyl generating optics. In order for the optics to turn on, the MAIN POWER switch must be in the ON position.

Two blue LED indicators are located next to the MAIN POWER switch to provide optic status to the operator. While the optics are functioning normally, the blue LED indicators will be illuminated (see TROUBLESHOOTING GUIDE for recommendations when indicators are not illuminated with the unit in the ON position).

CONSUMMABLES

The MDU/Rx™ contains parts that require replacement over time.

Description	Part Number	Replacement Frequency
Hydroxyl Generating 'M' U-Optic, Lt Blue	(O)0819355021147	8,000 hours
Filter, Boss™, MDU/Rx™ Units	(O)0819355021949	Visibly degraded

HOURLY METER

The MDU/Rx™ Unit is equipped with a digital meter that monitors the hour usage of the unit. This is beneficial for monitoring the life of the optics, length of treatment time, maintenance and cleaning cycles. Replace the UV optics when one or both have operated for 8,000 hours.

Care Instructions

⚠ Caution: DISCONNECT the unit from an electrical power source before performing any maintenance or cleaning on the unit.

SYSTEM CASE CLEANING

Exterior

The exterior of the Odorox® product can be cleaned with mild dishwashing detergent and a clean cloth, and then rinsed with clean water. DO NOT use any all-purpose cleaners with harsh detergents or abrasives, as these may damage the decals and the exterior finish. Care should also be taken to avoid spraying or otherwise directing detergent or water into or around electrical components.

Interior

The interior of the Odorox® product can be cleaned in the same manner as the exterior.

OPTIC CLEANING

Cleaning of the optics is recommended to maintain peak processing efficiency. Fingerprints, smudges, dirt, dust particles, etc. will interfere with the hydroxyl production and should be avoided.

Note: Remove the optics from the optic chamber prior to cleaning to avoid any damage to the optics during the cleaning process (refer to the Optic Replacement Instructions and Safety Information for proper removal).

To clean the optics, use a solution of 10% Isopropyl Alcohol and 90% filtered/distilled water on a clean lint-free cloth and wipe gently. Do not use any type of commercial glass cleaner. Using another lint-free cloth, gently wipe the optic until completely dry. Allow the optic to dry completely before operating the system.

Optic Replacement Instructions

- ⚠ **Warning:** DISCONNECT the unit from the electrical power source before performing any maintenance or cleaning on the MDU/RX™ Unit.
- ⚠ **Caution:** Optics contain Mercury. Read and follow the Safety Information on pages 2 and 3 of this manual when handling the optics in the MDU/RX™ unit.

Replace optics after 8,000 hours of use.

STEP 1: Turn MAIN POWER switch to the OFF position

STEP 2: Unplug power cord from the electrical receptacle

STEP 3: Using the supplied key, unlock and remove both end panels

STEP 4: Remove filter cover plate and filter

STEP 5: Remove optics following these instructions:

Caution: Use clean powder-free latex gloves and eye protection when handling the optics in this unit

- With a firm grip on the upper porcelain end of the optic, use your other hand to grip the optic connector.
- Gently 'wiggle' connector while pulling from the optic base.
- Gently pull optic from three lamp supports **(Do not put any pressure on the side of the optic without support).**

STEP 6: Install new optic following these instructions:

- Remove new optic from packaging and gently insert into the three optic clips.
- With a firm grip on the upper porcelain end of the optic, use your other hand to grip the optic connector.
- Gently connect the optic connector to the optic.

Note: Optic connector is keyed with the optic base and will connect in one direction only

- Ensure optic connector and optic base are firmly pressed together.

STEP 7: Re-install end panels and lock with the supplied key

STEP 8: Re-install filter and filter plate

STEP 9: Plug power cord back into the electrical receptacle

STEP 10: Test unit for proper operation

Video instructions can be found on the Pyure YouTube channel.
Scan the QR code for the MDU/RX™ optic replacement video.



FILTER CLEANING & REPLACEMENT

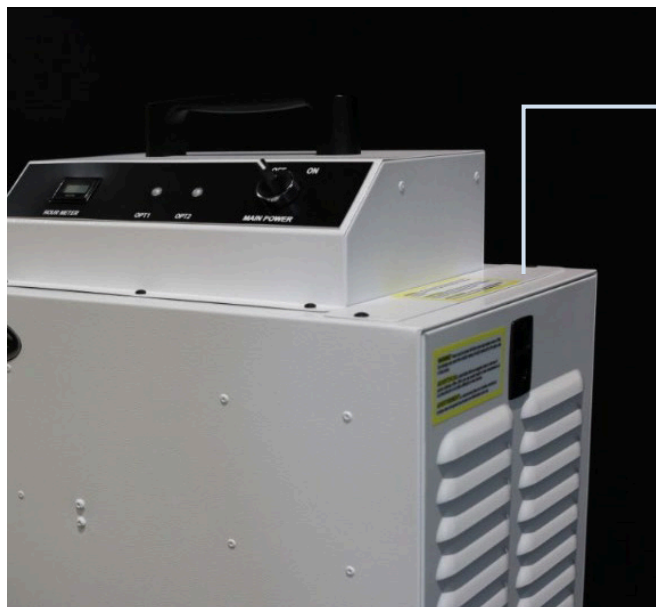
The MDU/Rx™ unit comes equipped with a washable filter. The filter can be easily removed by first removing the two phillips (star) screws retaining the filter cover, remove filter cover and then pull out the filter. The filter can then be washed clean.

Note: Allow the filter to totally dry before operating the MDU/Rx™ unit.

The time between necessary cleaning will depend on the operating conditions and the cleanliness of the treatment area. In most cases, a quick vacuum of the filter is all that is needed.

Video instructions can be found on the Pyure YouTube channel.

Scan the QR code for the MDU/RX™ filter cleaning and replacement video.



Filter Cover

Troubleshooting Guide

Problem	Possible cause	Solution
Fan will not turn on	MDU™/RX Unit is not plugged into an energized electrical receptacle.	Ensure circuit breaker is 'ON' and the electrical receptacle has proper power available.
	Internal component failure.	Contact local distributor for service.
Blue OPTIC 1 or OPTIC 2 indicator light will not light up	MAIN POWER switch is in the OFF position.	Turn on MAIN POWER switch to the ON position.
	Optic has failed.	Contact local distributor for service.
	Blue LED has failed.	Contact local distributor for service.
	Internal component failure.	Contact local distributor for service.
Optic not functioning	Rated life of optic has been met.	Contact local distributor for replacement optic service.
	Optic has been damaged.	Contact local distributor for replacement optic service.
	Internal component failure.	Contact local distributor for service.
Reduced Hydroxyl Production	Dirty filter or internal component.	Ensure filter and internal components are cleaned as per the instructions in this manual.

Specifications

Dimensions (LxWxD):	18.25" [463.55mm] x 11.13" [282.70mm] x 25.25" [641.35mm]
Weight:	37.16 lbs [16.86 kg]
Voltage:	120VAC @ 60 Hz
Power:	120W (Nominal) / 230W (Max)
Control:	On/off switch for optics, with indicator light
Meter:	Hour Meter
Noise Level:	<40dBA
Optics:	2
Fans:	Fixed fan speed 124 ft ³ /m [210 m ³ /h]
Filter:	9.00" [228.60mm] x 18.00" [457.20mm] x 1.00" [25.40mm]
Certifications:	FDA Class II Medical Device - 510(k)# K133800 and ETL US/Canada for 120V / 60Hz model CE, RoHS, REACH for 230V / 50Hz model

Replacement Parts

For replacement parts, warranty service, or any questions regarding the operation and maintenance of your Odorox® product, please contact your local Odorox® distributor. To find a distributor in your area, please visit:

www.mdurx.com/contact/

Limited Warranty

The Pyure Company, Incorporated warrants that this Odorox® product (excluding spare parts and consumables) shall be free from defects in workmanship or materials for a period of two (2) years from the delivery thereof to the customer.

PLEASE KEEP THIS PART FOR YOUR RECORDS

Serial #: _____

Model #: _____

Date of Purchase: _____

Vendor Name: _____

The Pyure Company

2055 High Ridge Road
Boynton Beach, FL 33426

(877) 735-3701 | www.mdurx.com

Complete below and reverse side. Tear along perforation
and mail to The Pyure Company within 60 days of purchase.

**You may also visit www.pyure.com/warranty-registration and register
your warranty on-line.**

From: _____

Place

Stamp

Here

The Pyure Company

2055 High Ridge Road
Boynton Beach, FL 33426

The PYURE Company ("PYURE") warrants that the product set forth below will be free from defects in materials and workmanship for the period of two (2) years from the date of original purchase under the following terms and conditions: To obtain service under this warranty, send or deliver this product within the warranty period together with the warranty certificate to any PYURE regional office or PYURE authorized warranty service center. If requested, by PYURE or a PYURE authorized service center, you must present proof of purchase showing date and place of purchase. If upon inspection by PYURE or an PYURE authorized warranty service center, the product is proved to be defective, it will be repaired without charge using, if necessary, new parts or comparable used parts that have been fully reconditioned and returned to you. The warranty period for replacement parts shall extend for a period of six (6) months following the installation of same or for the remaining period of this warranty whichever is longer. This warranty card does not apply in the following cases: (a) damage to product due to mishandling, alteration, failure to follow operation, maintenance or environmental instructions prescribed by applicable instruction manual or shipping damage; (b) damage caused during service performed other than PYURE or an PYURE authorized service center; (c) if the product has had its serial number(s) or other identifying data removed; or (d) damage, defect or unsatisfactory performance caused by the use of equipment not manufactured or distributed by PYURE. IN NO EVENT WILL PYURE BE LIABLE FOR ANY DAMAGE, INCLUDING INCONVENIENCE, LOST PROFITS, OR LOST SAVINGS, OTHER INCIDENTAL DAMAGE STEMMING FROM THE USE OF THE PRODUCT OR OUT OF DEFECTS THEREIN, OR BY BREACH OF THIS EXPRESSED WARRANTY OR ANY IMPLIED WARRANTY WITH THE RESPECT OF THIS PRODUCT, WHETHER ON ACCOUNT OF NEGLIGENCE OR OTHERWISE, EVEN IF PYURE OR AN PYURE AUTHORIZED WARRANTY SERVICE CENTER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states or provinces do not allow limitations on how long an implied warranty lasts or limitations of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or province to province.

Purchaser's Name: _____

Address: _____

City: _____ **State/Prov:** _____

ZIP/Postal Code: _____

Purchaser's Type of Business: _____

Primary Use for Machine: _____

Model Type: _____ **Serial #:** _____

Vendor's Name: _____

Vendor's Address: _____

Limited Use End-User License Agreement

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Need Support?

Contact our support team

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| sales@pyure.com

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