AquaCure®

Model AC50 Operation Manual

Interim Version 200205 Written by George Wiseman Printed in Canada
See Interim Setup and Operation Video **https://youtu.be/723gzax3z7Y**
Expand Hydrogen use protocols. Add 99% pure lye and where to get Distilled Water (*links not yet clickable, not all pictures added*) CE declaration. Bubbler PPM
Add AquaCure Resources (links) (add warranty registration/signature letter)
(*expand the trouble-shooting to include gas leaks and timer questions*)
Mention black ring not sealed. Mention Hour meter flashing red light means OK.
Picture of applying Teflon Tape. Jerry Tennant micro-voltages and frequency.
80 grams lye. Upgrade 'registry' procedure.

Medical Disclaimer:
The statements in this manual have not been evaluated or approved by the FDA or any other government agency or medical organization.
See full Medical Disclaimer at the end of this Manual.

Liability Disclaimer:
Eagle-Research, AquaCure and anyone associated with them are:
1. Not responsible for loss or damage caused by operation or miss-operation of the AquaCure. Owner assumes and accepts complete responsibility for results of machine use and operation. Owner assumes responsibility of training any users in safe operation.
2. Not responsible for damage caused by abnormal use or if used in extreme environments.
3. Not responsible for changes to AquaCure made without express written consent.

If the above disclaimers / conditions are not acceptable, immediately return the AquaCure to the seller for a refund.
Use of the AquaCure is considered agreement to the above disclaimers / conditions.

Shipping inspection:
If there is damage, immediately take photos and/or video of both the machine and the shipping packaging.
Report any damage to the shipping company and AquaCure.

Check your AquaCure to be sure you have received all attachments / accessories ordered.
(See page 4 for full list of included items)
(Page numbers in Table of Contents are 'clickable' to go right to the chaper)

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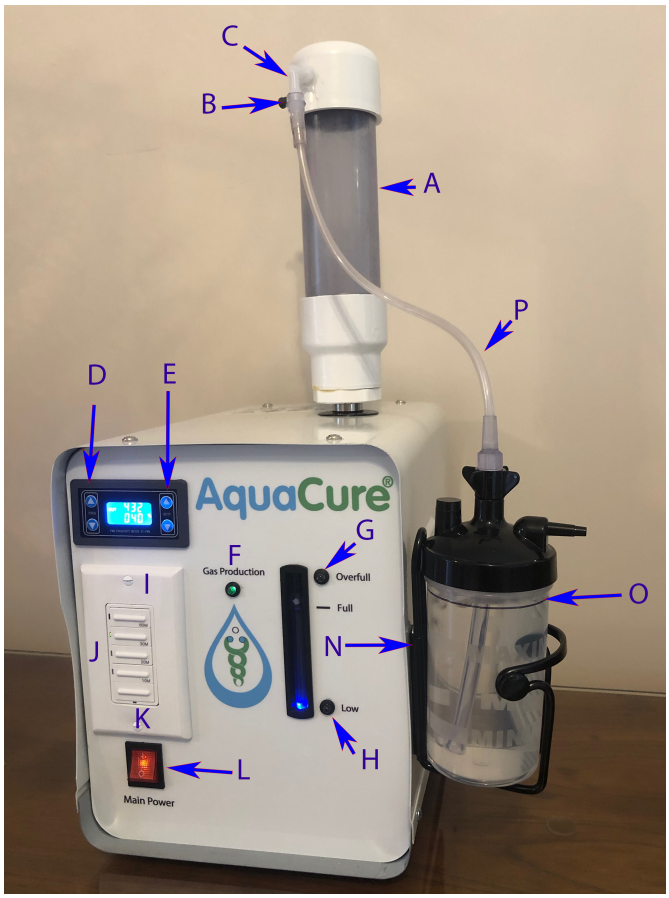
Normal Package Contents:

1 x AquaCure Machine (with black water fill cap attached for shipping)
1 x (W) Power Cord (+ international adaptor when appropriate)
1 x (A) Tower Cap (replaces black water fill cap for operation, to pre-filter lye from gas)
1 x (X) 50 mL Syringe (to re-fill the AquaCure with pure water)
1 x (Q) 64 oz. Drinking Water Bubbler (food grade plastic) Jar
1 x (N) Humidifier Holder Attachment
1 x (O) Humidifier (hospital grade used for filtering lye from gas)
1 x (P) Humidifier Input Tube (hospital grade from Tower Cap to Humidifier)
1 x (R) Humidifier Output Tube (1/8” ID food grade to Drinking Water Bubbler)
3 x 1/4" ID x 3/8” OD x ½” long food grade tube couplers / adaptors (attached to tubes)
1 x (T) Long Tube (1/8” ID food grade to feed remote bubbler or Spot Applicator)
1 x (S) Spot Applicator (food grade with adaptor insert attached)
1 x (Y) Bubbler Stone (for remote bubbling)
1 x (V) Fluid (lye solution) Filling Funnel
2 x (U) Nose Cannulas
1 x Operation Instructions (see more details in your online Resources).
(+ whatever other ‘extras’ you ordered)

AquaCure AC50 'parts' names and locations

A = Tower Cap (to pre-separate lye mist from HydrOxy and to see foaming)
B = Tower Cap check valve
(for water filling and to prevent vacuum forming in the electrolyzer)
C = Tower Cap gas-out fitting (does not matter where it is when Tower is tightened)
D = Frequency Buttons
E = Duty Cycle Buttons
F = Green Gas production light
G = Red Over-Full Liquid Level Light
H = Red Low Liquid Level Light
I = Timer switch (bottom button = off)
J = Timer active indicator lights
K = Timer status light (yellow for power to switch, red for continuous operation)
L = Main Power Switch
M = Hour Meter
N = Humidifier bracket
O = Humidifier (fill to 90% full with distilled water)
P = Tower Cap to Humidifier tube
Q = Drinking water Bubbler (fill to 90% full with drinking water)
R = Humidifier to Drinking Water Bubbler tube.
S = Spot applicator
T = Drinking Water Bubbler to Spot Applicator or remote bubbler tube
U = Nose Cannulas (may have a 'universal' fitting, if so ignore threads)
V = Lye filling funnel
W = Power Cord
X = 50 mL Syringe
Y = Bubbling Stone



AquaCure Model AC50 Features / Specifications

- CE safety certified
- Built to CSA/UL and Australian safety standards
- Master power switch (total power shutoff)
- Easy to use timer switch
  - with continuous run option
- Produces 0 to 50 liters per hour (lph) of HydrOxy gas (continued next page)

- Electronically adjustable gas volume output (DUTY 1% to 100%)
- Set desired frequency 1 Hz to 150KHz (suggested healthy FREQ 432)
- Gas production (green LED) indicator
- Operates at very low pressure (for safety)
- Automatic electrical high-pressure gas production shutoff (~ 2 psi)
- Mechanical pressure relief valve ~ 3 psi (in case electrical shutoff fails)
- Automatic High and Low liquid level shut off…
  …- With Red LEDs and audible indicator for high and low liquid level
- Illuminated (blue LED) liquid level sight tube with floating level indicator
- Reliable anti-backfill system (prevents over-filling from humidifier)
- Tower Cap (to pre-separate lye mist from the HydrOxy gas)
- Humidifier (with bracket) to scrub the residual lye from the HydrOxy gas
- Hour-Meter on Rear (we suggest keeping a record / log of maintenance rinsing)
- Designed for 24/7 continuous operation with minimal maintenance.
- Additional capacity reservoir (1200 mL) for longer run time between fillings.

Introduction:
Congratulations for your decision to purchase an AquaCure!
We work hard to help you to achieve the same amazing health benefit that we personally and hundreds of other customers have already experienced!

You can breathe this gas through a nose cannula, bubble it in purified water for drinking, or use it topically for localized body ailments. You can even bubble the gas in a footbath or a bathtub for a full body experience! The AquaCure is designed to give you years of safe and reliable service.

The AquaCure is a practical and versatile electrolyzer (also called a Water Gas Generator) that uses water to create a mixture of hydrogen, oxygen and *an electron rich and healthful plasma form of water we call* Electrically Expanded Water (ExW).

I generally prefer to call the gas mixture generated by these electrolyzers Brown's Gas, as I have since 1986 in my various Brown's Gas books (in honor of Yull Brown), but for the purpose of the AquaCure, **we'll call the gaseous mixture HydrOxy**.

The HydrOxy is also known as BG, Brown's Gas, HHO, etc.
For a definition of what Brown's Gas is and a list of some trade names, click this link:

The AquaCure Operation Manuals are occasionally updated 'as needed' and 'without notice' and placed in our website **AquaCure Resources** section,

The online **AquaCure Resources** will give you instruction videos, FAQ, tips, options and anything we can think of to enhance your user experience.

The blue links are 'clickable' in the PDF version of this Operation Manual.

Access the AquaCure Resources through your online user-account that was created when you purchased (or registered) your AquaCure from Eagle-Research.

If you bought the AquaCure from a dealer or friend, **you may register it** and gain access to the Resources. *See the REGISTER portion of this Manual.*

Please read this entire manual and review the online AquaCure Resources before you operate your AquaCure machine.

Yes, we know it's a steep learning curve and there are scary parts, but in the end **we want to be SAFE**, *so we tell you the scary TRUTHS that 'others' are afraid to tell you*.

After reading this AquaCure Operation Manual and checking your online Resources, if you have any questions, contact us:

We are trying to help as many people as possible and *appreciate when people help themselves* by reading this Operation Manual and accessing the **Resources** and **FAQ**.

We are here to HELP YOU. Ask the questions YOU need to, so you understand what *you need to know*. It's better (safer) to ask than to assume.
We've been helping customers use our technologies correctly since 1984.

Note that our AquaCures are also designed with safety and user-friendliness functionality that most other 'copycats' do not have and has extra features, like being able to fuel a micro-torch (why that's important to your HEALTH will be revealed in the near future).

PLUS the AquaCure is designed to be upgraded, with accessories that we are already developing, that will further increase it's performance, functionality or user-friendliness.

A Quick History: In 1996 I was told (by my **WaterTorch.com** customers) that HydrOxy bubbled water was helping their bodies heal. But I didn't believe them.

They finally convinced ME to try using the gas in 2005 (to bubble water).

The health gains I then had convinced me to start selling my **ER50** in 2007… After which dozens of people asked me 'Can we breathe the gas"?

I said NO because I knew the gas to be explosive. I was using it to help internal combustion engines get 25%+ better fuel mileage and as a superior (better than acetylene) torch fuel-gas.

Then, in December of 2015, a customer sent me a video of an **Asian 'HydrOxy Bar'** where people can go breathe the gas just like we can buy a cup of coffee in America…

…And I realized something I should have known from the start (working with this gas since 1986)… *If you MIX the gas with enough air it becomes **NON-explosive***.

So, I modified my ER50 and started breathing the HydrOxy in March of 2016 and have since had AMAZING health benefits.

I then developed the AquaCure so I could share this astounding therapy with the world.

Please Do Not make the Mistake I did…

I did not take pictures of my skin blemishes (like warts, psoriasis, scars, cellulite, etc.).
I did not gather verification of my neuropathies, heart murmur, tinnitus, arthritis, etc.
So now that they are all gone, I cannot prove I ever had these issues.

BEFORE starting to use this technology, **I advise** recording all your health issues as best you can, to prove (to yourself, friends, family and interested people) that it WORKED!

And we REALLY LOVE receiving testimonials (ideally with pictures or video) that show what the HydrOxy did for YOU.

Cautions:

AquaCure (ALL HydrOxy electrolyzers) generate a mixture of hydrogen and oxygen gasses **that are combustible** and potentially **explosive**. *A static electrical spark striking the outside of a container can ignite the gas inside*. 'Other' manufacturers *do not tell you this*… We teach how to **handle the gas SAFELY!**

HydrOxy is 2/3 hydrogen. The mixture becomes combustible in air if the concentration of hydrogen exceeds 4%... so dilute it in enough air and ***it becomes NON-explosive***.

Do not allow breathed air:Hydrogen mixture to exceed 4% (by volume) of hydrogen in air. The math I use to calculate this is here: (*more details later in Manual*)

Do not breathe HydrOxy that has not been adequately scrubbed by water from the humidifier AND the Drinking Water Bubbler. Change out these waters at least every 10 hours of use to assure (lye removal) efficacy.

Do not use HydrOxy gas for any health application unless it has *first gone through BOTH the Humidifier **and** the Drinking Water Bubbler*. **This is VITAL!** You do NOT want to breathe in lye. We have DECADES of experience with this gas. **Be Safe!**

The AquaCure uses an alkaline solution of Lye (*aka NaOH, caustic soda or sodium hydroxide*) as the catalyst for efficient electrolysis.

This mixture is caustic and should be handled using appropriate safety equipment and procedures (see below). In the home lye is commonly used in sink drain unplugging fluids and oven cleaners.

Lye MSDS link:

Important Safety Information

Lye is corrosive and can cause chemical burns. Keep off skin and out of eyes! Use protective gloves and safety glasses. Rubber dishwashing gloves work well**.**

If eyes are exposed to lye, rinse thoroughly with tap water for 5 minutes. If irritation persists, call poison control.

You can neutralize lye spills on skin or surfaces with vinegar or lemon or lime juice. To clean, rinse with tap water until the slippery feeling goes away.

Always fill the mixing container with *water first and add the lye to the water*, (like mixing Koolaid). Adding water to lye can cause spattering and potential spills.

Always mix the lye with water **before pouring it into the machine**. Never put the lye powder directly into the machine (it'll set up like concrete and plug orifices).

For safe machine operation, follow these instructions carefully.

For safety the AquaCure needs to be grounded. Always use a plug and receptacle that has a ground

To avoid static electricity sparks from igniting the gas, you need to make your static electrical potential the same as the machine (discharge any static charge); you do this by touching the AquaCure case before touching any of the containers or tubes that contain HydrOxy gas.

The machine itself is grounded when you plug it in. Everything attached to the machine then becomes grounded.

The issue is that *YOU aren't grounded* (equal electrical potential) until you touch the hood (the white cover) of the machine.

So if you (and anyone approaching the machine) always touch the metal casing of the machine before touching any of the plastic (hydrogen containing parts), you'll be safe (your static potential will equal the machine) and there won't be a spark.

You do not need to continuously touch the hood, just at first and after you do anything that would generate a static charge, like shuffling across carpeting.

Operate the AquaCure only indoors at temperatures between 34°F (1°C) to 90°F (32°C).

Protect the AquaCure from liquid spills. Lye will damage the paint and inappropriate liquid inside the machine will damage components.

Do Not allow any liquid to enter the machine except as specifically directed; such as using the supplied plastic funnel to put lye solution into the 'water fill' tube (do not use the collapsible silicone funnel. *It is the Spot Applicator, meant to be put on your skin*). When filling with fluids, I cover the machine with a cloth to catch drips.

I wrap a cloth or paper towel around the silver stem before removing the Tower Cap, to catch drips from the Tower Cap as it's removed, so they don't go into the machine.

LOW LIQUID note: Running electrolyzers out of water may cause internal over-heating, explosions and the resulting dry lye can plug orifices up with lye crystals that would cause malfunctions and/or damage the machine.
Unlike most of 'others', the AquaCure *is designed to shut off gas production* and alarm with low water level. So you really don't need to worry about low liquid level (**we took care of this safety issue** most others ignore).

It is generally OK to run the AquaCure until the low liquid level alarm sounds but don't depend on it (in case it fails) as the indicator that the liquid is low. *Check the liquid level before starting the gas production* (before turning on the timer).

Do Not over-fill the AquaCure. **Over-filling can create quite a messy situation**.
Best to avoid over-filling. When filling with water (slowly) fill to about 80% on the sight tube, to prevent electrolyte (lye) solution from setting off the high liquid level alarm.

NOTE: The liquid level rises a bit when the gas production starts (due to bubbles in the solution expanding the liquid volume). If too full *when gas production starts* the expanding volume will set off the high liquid level alarm.

Except for first fill of lye solution (or to replace lost lye) **ALWAYS fill** (top up) the AquaCure **with distilled water only**.
No need to add more lye after the first charge. *The lye is supposed to stay in the machine*. The lye is a catalyst. The lye does NOT get 'consumed' in the electrolysis process. **Don't add more lye**.

ALWAYS just add pure distilled water to replace water that has turned into gas and left the machine. ONLY water leaves the machine, so ONLY water needs to be replaced.

Keep AquaCure and it's generated HydrOxy away from open flames or any item(s) that generate static electrical sparks.
(Except when properly and appropriately igniting torch).

The HydrOxy mixture is easily ignited when it is 'pure' but becomes non-combustible when mixed with enough air.
As long as the percentage of hydrogen in the air is less than 4%, the mixture is NON-combustible.

AquaCure Assembly Instructions

Items you will need:

- Philips screwdriver
- 1 quart (or 1 liter) wide mouth **glass** container (mason jar or large measuring cup).
  It's OK to mix in smaller batches if you only have a smaller container.
- Stainless steel table knife (or equivalent for stirring)
- 1 ounce (or 30 gram) measuring spoon
- About 4 ounces (112 grams) of lye (the exact amount isn't critical)
- Rubber dishwashing gloves
- Safety glasses or goggles
- 1 gallon (4 liters) of distilled water (we recommend buying a home distiller, *to make your own distilled water*).

<u>Mix Electrolyte Solution</u>

Put on rubber gloves and safety glasses.

Place the glass mixing container in a well-ventilated area (I prefer outdoors) and on a surface that won't be damaged by lye spills (a stainless steel sink, plastic tray or plastic tablecloth are examples). **Don't use a plastic jar for mixing**; the heat might melt it.

Fill your glass container with about 3 cups (750ml) of distilled water and **slowly pour** 4 to 5 ounces (about 100 grams or 8 to 9 tablespoons) of Lye into the distilled water, **while stirring the water*** with a metallic stirring item**.

You stir so that the lye doesn't fall to the bottom and stick there like concrete. If this happens, stir until it dissolves.

The exact amount of lye isn't critical. It should be at least 100 grams and not more than about 150 grams. Adding more than about 100 grams does not significantly affect (improve) performance and might be a detriment (too much lye can plug things up).

Continue to stir until the lye is completely dissolved. It will heat up somewhat*, *which is one reason to use glass as the mixing container*, not plastic (plastic might melt).

Set the solution aside to cool until transparent (may take an hour or so).

DON'T add Citric Acid as previous instructions optionally allowed; **use ONLY lye**. Impurities (oils) in Citric Acid can cause foaming and excessive sludge formation that causes plugging issues inside the machine.

DON'T use any other electrolyte in the AquaCure (only lye). ALL other electrolytes either cause health issues and/or damage the AquaCure.
The AquaCure is designed exclusively to use lye as the catalyst (based on thousands of tests and experiments since 1986).

*The solution may become hot and turn cloudy. It may also emit noxious fumes for a few minutes as the lye pre-conditions the water. The fumes will irritate your throat if breathed.

**Do not use aluminum utensils or containers! Lye will dissolve aluminum.

Additional Notes:
Having a handy container (spray bottle) of vinegar or lime or lemon juice, to spray on and neutralize lye spills, is a good idea.

Don't use the 1 liter Drinking Water Bubbler that came with your AquaCure to mix your lye solution, because you don't want to contaminate it and heat could cause it to melt.

Which reminds me to mention that while ALL the containers and tubes we use are FOOD SAFE, they are NOT dishwasher safe. They'll melt in a dishwasher.

DON'T replace the plastic Drinking Water Bubbler with a glass jar. The problem is the explosive potential of the HydrOxy. If the gas explodes in a plastic container, it's like a loud balloon pop. If it explodes in a glass container, glass shards can fly everywhere. **Be SAFE, use PLASTIC**.

To clean the lye from all containers, utensils, gloves, surfaces, etc. just wash with warm tap water until the 'slippery' feeling is gone. They'll be REALLY clean because lye used to be a main ingredient in soap, for thousands of years.

There's no need to worry about mold in the tubes. Oxygen and lye are natural preventatives to mold. In all the decades I've used my electrolyzers I've never had mold form in the tubes or containers.

Filling the Electrolyzer with electrolyte solution

While the AquaCure AC50 as a whole is often called an electrolyzer or a Water Gas Generator; technically the ACTUAL electrolyzer (that splits the water into HydrOxy) is a plastic block located in a stainless steel tank inside the machine.

The actual electrolyzer needs a catalyst to make the electrolysis (water splitting) work. We choose lye (NaOH) as the most practical catalyst (out of *thousands of tests* since 1986) to find the most practical electrolyte solution.
Do NOT use KOH, Baking Soda, Sodium Chloride, Citric Acid, etc. as a catalyst
Lye has the best balance of catalytic efficiency, minimal sludge formation, no poisonous gas formation, low cost, easy availability, purity, caustic safety, etc.

Once the lye solution has cooled enough, remove the 'Black Fill Cap' from the top of the machine. Then, using the appropriate funnel and protecting the AquaCure from spills (I use a towel), carefully pour the electrolyte solution into the 'water-fill' pipe.

It is OK to have the main power switch on, so the sight tube light is turned on as you fill the machine, to help you see the liquid level.

The initial fill of lye solution **will not quite be enough** to see the liquid level, float the ball or shut off the low level alarm. While occasionally checking the sight tube, **SLOWLY** add **another** 500 mL (about 2 cups) of distilled (pure) water (no more lye). This *still won't fill the machine* **but is enough** to get you started.
I recommend NOT filling the AquaCure to more than 80% of full *to start the first time*.

Don't ever fill the machine all the way up because when the machine turns on, the gas bubbles need room and will 'raise' the liquid level more. If the liquid level is too high, the high liquid level alarm will sound and the gas production will shut off.

We added the blue LED and a floating ball to make it easier to see the liquid level, but the ball can (usually temporarily) get stuck.

So look for and pay attention to the ACTUAL liquid level (the liquid level 'meniscus' or liquid level line in the tube).
The ball getting stuck often happens when the machine is shipped (after being drained) and the lye crystals (formed by drying) can 'glue' the ball to the tube. It usually comes free (starts floating) after the lye crystals dissolve (it may take a few days).

The ball getting stuck is NOT a warranty repair issue.
While inconvenient, it does not affect the performance of the machine.

What to do in case of an accidental overfill

An alarm will sound and the red light will light up. Your AquaCure will not produce gas if it is overfilled. This is a SAFETY FEATURE unique to the AquaCure (prevents lye from being ejected).
If this happens, please carefully follow these steps.

Turn the AquaCure off and remove the power cord from the back of the unit.
Remove all the tubes and the humidifier.

Unscrew the Tower Cap (if installed).

Place a glass or plastic container into the sink and slowly pour out a little lye solution. Set the machine upright and wait 30 seconds. If the liquid level is still above the full mark, then repeat the above process until the liquid level is below the full mark.

We recommend saving the excess lye solution that was poured out (pour it into a sealable jar or plastic container) and using it the next time the AquaCure needs liquid. The REASON for this is that you also poured out some of the lye (catalyst) that your AquaCure needs to make gas.

Lye used to be a main ingredient in soap. Lye is a main ingredient in drain cleaner. It is safe for your plumbing and the environment to dispose of it down the drain if necessary.

Do not use the syringe with concentrated lye solution!
Do not put concentrated lye solution through the Tower Cap check valve!
The reason for this is that lye crystals can cause the check valve to malfunction, either holding it closed (causing back-filling) or open (causing gas leak).

Lye solution should only be put in the machine using the provided funnel. Yes, you'll need to remove the Tower Cap. But only for initial fill of lye and for maintenance.

Tower Cap:

The Tower Cap is your first line of defense against lye contamination of the HydrOxy gas. The height of the Tower Cap allows most of the lye mist to separate from the HydrOxy and settle back into the electrolyzer.

Also the Tower Cap clear tube allows you to **see if you have a foaming issue**. If you see foam in the clear tube, stop the AquaCure and completely clean it (rinse it out). *Dump*

the contaminated electrolyte down the drain. Impurities (like oils) cause the foaming, so if you have foaming your electrolyte has become contaminated and needs to be replaced.

If foam rises to the gas outlet of your Tower Cap, you will quickly lose your lye (it rides out on the foam). *Foam looks like the bubbles formed in a sink when you put in dishwashing detergent to wash dishes.*
So one way or another, the Tower Cap helps keep the lye inside your machine.

Install Tower Cap
Screw the Tower Cap onto the electrolyzer water-fill pipe. Tighten until it's sealed enough to prevent gas leaks and condensation from leaking down the stem… but not so tight that you break the plastic ring inside the tower.

Once the Tower Cap is installed, you should not remove it unless you are doing the 200 hour maintenance cleaning or if you need to see inside the electrolyzer (for diagnostic purposes). So seldom remove it. **Fill pure water through the tower check valve**.

The reasons for this are:
1. The Tower Cap has plastic threads, so to make them last for 20+ years I don't want them unscrewed very often. *This would be considered user abuse*.
2. Squirting pure water into / through the check valve keeps the check valve clean and functional (prevents lye crystal formation and plugging).
3. The fewer times the Tower Cap is removed, the fewer times care needs to be taken not to break the inner plastic ring as you tighten it.

Note: **If the Tower Cap leaks** (gas and/or fluid) **out the bottom threads**, it means that the inner rubber sealing ring isn't sealing properly.
You can then use several wraps of Teflon Tape to seal the threads. Depending on the thickness of the tape, it takes about 12 wraps. You want enough to seal but not so much you can't screw the cap on.
Wrap the tape in clockwise direction, so that screwing the Tower Cap on tightens the tape into the threads.

Note that 'condensation' liquid droplets that are in the Tower Cap can pour down the electrolyzer stem when you unscrew the tower, *another reason not to remove it too often*.

If liquid drips down the stem, then it can get past the fill stem collar and drip into the machine, where it will cause issues. So wrap a cloth around the stem when removing the tower, to catch the drips.

After the first fill (of catalyst solution) poured directly into the fill stem (not through the Tower Cap), **you will only fill** the AquaCure with pure water using the syringe through the check valve mounted on the top of the Tower Cap. **Do Not ever plug** or cap this check valve or it won't be able to mitigate the electrolyzer vacuum.

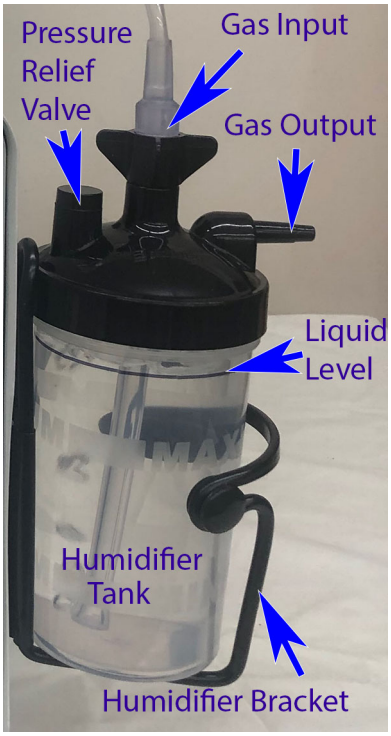
NOTE: Squirt SLOWLY into the check valve or water will spit back at you.

Sometimes the water doesn't go down into the electrolyzer immediately when you are squirting it into the tower, causing it to LOOK like the machine is over-filled. It is not. If this is happening, stop filling and run the machine. As the gas comes up into the tower, it'll cause the water to drop down to where it's supposed to be. And *it's OK to run the AquaCure as you squirt in the water*.

Note: The electrolyte (lye) solution is a catalyst and stays in the machine. **You do NOT add more lye** or replace the lye unless you've somehow lost your lye or it's gotten contaminated. After the initial fill, add ONLY pure distilled water to the AquaCure through the Tower Cap, using the supplied syringe.

Save the black 'water fill' cap and store it in place where it won't get lost so you'll have it in case you need to ship the machine.

Install Humidifier Holding Bracket and Humidifier



- Remove the screw on the right of the AquaCure.
- Install the Humidifier holder using the same screw.
- The Humidifier bracket has two holes for screws. We use the upper one.
- *The rubber tape helps hold the bracket from swinging* but it IS permissible to drill another hole in the AquaCure and install another screw in the lower hole.

Fill the Humidifier up to at LEAST 80% full (90% recommended). Yes this will be far ABOVE the MAX fill line with distilled water.

The Humidifier is your second line of defense against lye contamination of the HydrOxy gas. Assuming the humidifier water is pure, it will reliably trap any residual lye (scrub the lye out of the gas).
Reinstall the humidifier lid (don't cross-thread)
Thread the humidifier input tube to the top of the lid.
Place the humidifier in the holder.

Install the Humidifier output tube from the output on the side of the Humidifier lid to the small nipple on the drinking water bubbler (the one leading to the bubbling stone in the bubbler).

NOTE: When putting on tubes, *ONLY push on tight enough to seal*. Some people have been pushing the tubes on so far that they are impossible to remove without cutting them off with a razor… *You should only need to gently rock the tube to have it come free*.

Change out the Humidifier water *about* every 10 hours of use at 100% operation.

The AquaCure has about 10 hours of run time between full and low (assuming 100% gas production) so **change the Humidifier water when the AquaCure needs water**...

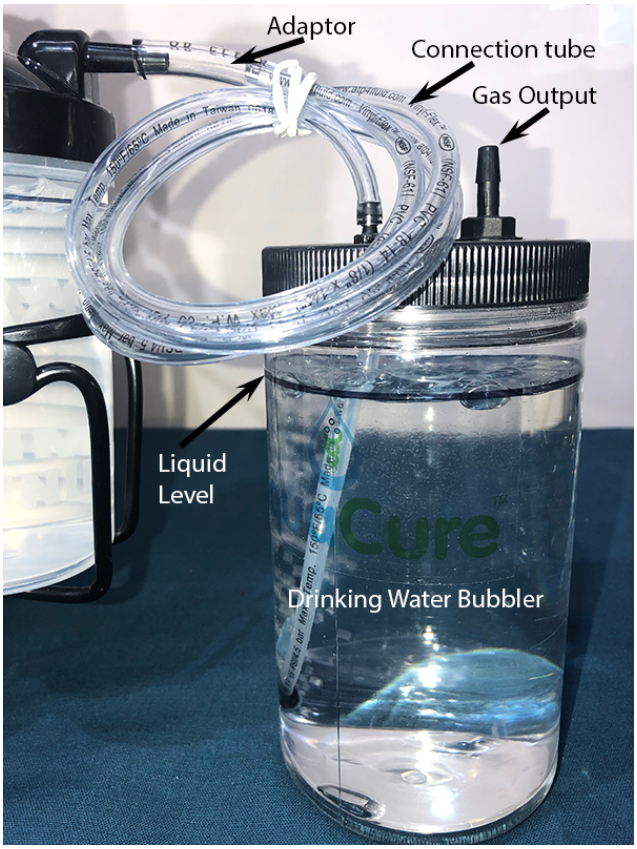
And since you use pure (distilled) water in the Humidifier it's **the PERFECT water** to put into the AquaCure… Because if there was any lye trapped, you are now putting it back into the AquaCure. *Another way to prevent lye loss*.

Fill the AquaCure with what you need from the Humidifier and then discard any excess water down the drain.

We do not recommend using the Humidifier water for health purposes or for feeding to plants, animals, etc. (it may have lye in it).
Use this water to refill the AquaCure.

Drinking Water Bubbler

FILL the 1 liter (1 quart) drinking water Bubbler container **at least 80% (recommend 90%) full** of water. Leave enough room so that the bubbles bursting up out of the liquid don't splash water up into the gas out tube. It's not dangerous to have water in the tubes, but *liquid squirting from the tube will tickle your nose*.



Note that it is normal to have some water in the tubes because the HydrOxy gas has a very high humidity, which condenses in the tubes.
The Drinking Water Bubbler liquid level needs to be high so you make full volume of drinking water AND because the Drinking Water Bubbler is the final water to make sure you have NO LYE in your breathing gas.

ALWAYS fill the Humidifier and Drinking Water Bubbler to at least 80% (90% recommended), **less than that isn't safe**.

Just to be safe, NEVER breathe gas that hasn't gone through BOTH the Humidifier and the Drinking Water Bubbler… And that both are FULL of water.

Water in the Drinking Water Bubbler can be safely drunk IF the gas first went through the Humidifier and the Humidifier has been changed out regularly.

Water that is too impure will not absorb (aka trap or scrub) the residual lye out of the HydrOxy. The Humidifier water needs to be refreshed regularly so that it retains it's 'absorption capability'. So, because the humidifier water has the 'trapped lye' it's the perfect water to refill the AquaCure *water so I recommend using the Humidifier water to refill the AquaCure*.

Back in 1996 I once breathed the gas without first putting it through a bubbler and it had lye mist in it and it HURT (burning in the lungs). It took over a week to heal.
So please be safe, bubble the gas through TWO FULL containers of pure water before using it for any health application.

Tube attachments

1. Attach the Tower Cap to the Humidifier using the appropriate short connection tube.

2. Attach the Humidifier to the Bubbler using the 1/8" ID vinyl tube with the appropriate adaptor(s). The 1/8" OD tube just slides tightly into the ¼" ID adaptors.

Make sure to attach Humidifier output to the Drinking Water Bubbler fitting that leads to the bubbling stone in the Drinking Water Bubbler container.

Now you are ready to attach **any accessory tube** to the gas out fitting of the Drinking Water Bubbler. Accessories like:
Tube from bubbler to nose cannula (for gas inhalation)
Tube from bubbler to bag (for general topical gas application)
Tube from bubbler to collapsible silicone funnel (for spot topical gas application)
Tube from bubbler to bubbling stone (for remote bubbling of water).

The AquaCure is now ready to be plugged in and started.

Check fluid levels (AquaCure 80%, Humidifier 90% and Drinking Bubbler 90% full).
Plug in the AquaCure into an appropriate electrical receptacle (outlet).
(*you can safely leave it plugged in between uses*).

Turn on the Main Power switch (*you can safely leave the power switch on between uses*).
Turning off the Main Power switch is pretty much the same as unplugging the AquaCure.

When Main Power is turned on, *the below lights will come on*.
1. The Main Power switch red internal
2. The Blue sight tube illumination light
3. The tiny yellow light on the bottom of the Timer switch (120 VAC version only)

Timer Switch

Once the timer is turned on, **the Green 'Gas Production' light** should shine, **indicating that gas is being produced.** *Actually it only indicates that electricity is going to the electrolyzer so we ASSUME gas is being produced* (more on that later).

Note that the 240 VAC version has a mechanical timer switch so doesn't have indicator lights on the timer. *See below for 240 VAC specific details*

Turn on the desired setting on timer switch (10*, 20, 30 or 60 minutes).

*The included 1 quart (1 liter) Drinking Water Bubbler's water will be fully infused with the hydrogen, oxygen and ExW in about 10 minutes (assuming 100% DUTY). Larger volumes (bigger containers full of water) will require more time.
Calculate bigger containers at 10 minutes per liter, (so 4 liters = 40 minutes).

The (120 VAC) timer switch has:

1. A yellow LED under the stop button (bottom button) that indicates that the **timer switch is off**.

2. A green LED to the left of each timing option that lights up when the timing option is active
   Note: **as the timer counts down** the next lower green button LED will light up.

3. You can **shut off** the timer anytime by pushing the **bottom button**.

4. Note: if you shut off the main power switch when the timer switch is still activated, it will 'remember' the setting it was at and continue when you turn the power on

5. The yellow LED under the stop button will change color to RED when you put the timer into '**continuous mode**'.
   To turn on continuous mode, press and **hold the top timing button for 5 seconds**. This continuous setting bypasses the timer function and the AquaCure AC50 will stay ON (producing gas) until you shut it off manually (timer off button) or until it runs low on water and the alarm sounds (after about 10 hours if water level starts at the recommended 80% and the AquaCure is producing gas at 100%).

The 240 VAC version of the AquaCure AC50 has a mechanical timer that has similar functions, just no lights and won't stop counting down when main power switch is off. However there are a few things to know to **prevent damage to the mechanical timer switch**.

1. The timer needs to be turned clockwise past 10 minutes to actually turn on.

2. Once set, **NEVER turn the timer backwards** (counter-clockwise) to reduce the time or shut off the timer switch. Doing so will (sooner or later) **damage the timer** and is considered 'customer abuse' (fix outside of warranty).

3. Once turned on the ONLY CORRECT WAY to 'turn it off' is to allow it to count down and **shut off by itself**.

4. If you need to turn off the gas production before the timer has finished counting down, *just shut off the main power switch*.

5. To activate the CONTINOUS function of the switch, turn it one click counter-clockwise **from the 'off' position**. *You cannot activate continuous function by turning clockwise past 60*.

6. To de-activate the continuous function, just turn the switch clockwise one click.

Internal Pressure Switch

The AquaCure has an internal pressure safety switch (electrical shutoff), set for MAXIMUM of ~ 2 psi (for safety).
No other machine in the world (except our other models) has this low of an electrical safety shutoff for pressure operation … Because no one else knows HOW to do it (even though I've been trying to teach them for decades).

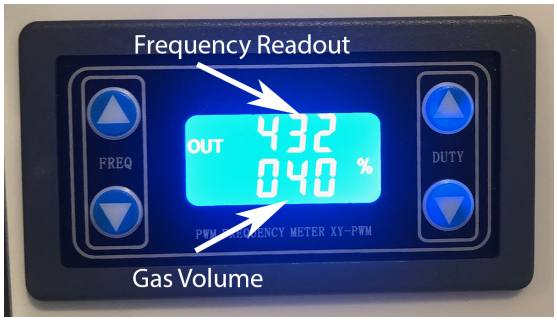
If internal pressure builds to over 2 psi, the green light (and the gas production) will shut off.
When the pressure is below 2 psi, the green light will turn on and the gas production will re-start.

Note that when water is splitting into hydrogen and oxygen, it turns from a liquid to gas and expands 1800 times. This 'expansion' causes pressure! If there aren't means to shut off the gas production and/or relieve the gas pressure, the machine will build pressure until it bursts or explodes. So we design for SAFETY!

For safety we first keep the pressure very low (low pressure explosions are not too dangerous), first with an electrical shutoff (so gas production stops) and then a mechanical gas pressure relief as a final redundancy.

Setting the Frequency (FREQ)

The AquaCure AC50 has a feature that allows you to set the frequency being pulsed to the electrolyzer.



Frequency is usually referred to in AC as Hertz (Hz)… Or as in the case of DC, known as **Pulses per Second** (pps).

The FREQ buttons control how many pulses per second are sent to the electrolyzer.

We set the frequency (FREQ) to 432 pps So the power will then pulse DC electricity to the electrolyzer 432 times a second.

It is well known that imposing frequencies on water can have healthful benefits. There are frequencies that can assist healing and health. The AquaCure frequency can be varied depending on the 'energy signature' you want to impose on the gas. This is the biggest benefit of being able to change the frequency.

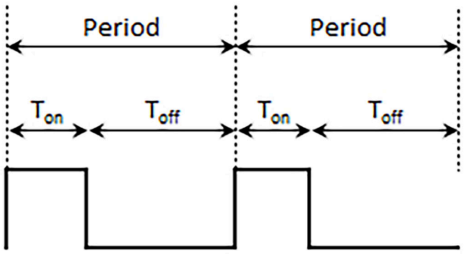
We set the AquaCure at 432 pps as a generally ‘known’ healthful frequency. There are places on the internet where you can find frequencies that help specific ailments (research Royal Rife, Hulda Clark, Solfeggio and microcurrent frequencies lists / charts).

Setting the Duty Cycle (DUTY Buttons)

The 'duty cycle' is the time during each period (pulse of FREQ) that the electricity is ON.

So during each period, if the Duty Cycle % is set for 30, the electricity is ON for 30% of the time and OFF for 70% of the time.

Since the electricity produces the gas, turning the electricity on for only 30% of the time assures that the machine is producing only 30% of the volume of gas the machine is capable of.



$Period = 1 / Frequency$

$Period = T_{on} + T_{off}$

$Duty\ Cycle = T_{on} / (T_{on} + T_{off}) * 100$

(On Percentage)

If the Duty Cycle is set for 100%, you get 100% of the volume the machine is capable of (50 liters per hour or 833 mL/m).

So the DUTY buttons make it REALLY EASY to vary the volume of gas produced by the AquaCure...

Before this upgrade, people needed to use a really lean mixture of lye solution (30 gms per liter) to limit gas production to safe breathing volume and/or they needed to use the torch valve to restrict the gas volume to safe breathing volume.

Now people can have the **full output of the AquaCure** for all bubbling and external applications / protocols *and then easily reduce the gas production to their safe level* for breathing, even a safe level for a child or infant.

Set the **DUTY % to 100 % for all applications** *except breathing*.

Setting the gas production volume.

Gas volume and gas pressure are two different things that often get confused.

Volume is HOW MUCH gas there is and pressure is how much FORCE exerted by the gas. They are inter-related but NOT the same thing **and this is important**.

For example, you can have a jar of water (a volume of fluid) but nothing happens without a 'pressure difference' to make the water move from one place to another.
Pressure is not volume but more pressure makes the volume move faster.

The reasons to know why 'volume' and 'pressure' are important with the AquaCure.

1. We need to have a certain 'volume' of HydrOxy production for therapeutic use… Volume is measured in liters per hour (lph) or milliLiters per minute (mL/m).

   It's important to note that how much volume *in what time* because 1 liter per MINUTE of gas production is MUCH greater (60 times greater) than 1 liter per HOUR of gas production (people often confuse this).

   You can adjust the **volume** of gas produced by the AquaCure AC50, by adjusting the duty cycle %. 0% is zero gas production. 100% is 100% gas volume production (about 50 liters per hour).

2. When liquid water is turned into HydrOxy gas, it tries to expand about 1800 times. If the gas is 'contained' in a container (like the electrolyzer tank), and CANNOT expand, then the pressure will automatically rise. This is how the AquaCure creates it's own pressure needed to push the gas out.
   So, the 'volume' is user-adjustable from 0 to 100% with the DUTY buttons and *the pressure is automatic* (due to the water-gas expansion).

   When the AquaCure is adjusted to produce a volume (whatever you set up to it's maximum production capability of 50 lph) the AquaCure AUTOMATICALLY adjusts it's pressure to deliver that volume. This keeps the pressure LOW.
   The pressure will ONLY be whatever it needs to be to move the volume of gas through the resistances (usually less than 1 psi)… BUT if the pressure rises (because of a gas restriction like a plugged tube) to greater than ~ 2 psi, the AquaCure will shut off amperage to the electrolyzer (green light goes out).

Since it is amperage that makes gas, the gas production will STOP (green gas production light will go out) and pressure will not continue to rise.

Too high a pressure is DANGEROUS so we have taken redundant precautions to keep you SAFE (unlike most of the 'others' out there)... While maintaining the capability to apply (retrofit) future upgrades / attachments (*you'll love these*).

3. Some pressure is needed to move the gas volume, but it's DANGEROUS to have 'high' pressure. Ideally you want gas volume with **minimal** pressure.

   Pure (not mixed with air) HydrOxy is explosive and it's 'explosiveness' **rises dramatically** with even a slight rise in pressure. So while a pop bottle can contain an ambient pressure (>1psig) explosion (sounds like a loud balloon popping)… A 20 psi explosion can rip apart a steel container.

   So, **for safety**, we design our electrolyzers to have JUST ENOUGH pressure to move the volume of gas (usually >1psi) with automatic gas shutoff and backup mechanical pressure relief so there is near zero possibility of high pressure.

4. It's important to note that the AquaCure will produce a maximum of 50 lph NO MATTER the pressure… **Pressure is NOT volume**. Raising the pressure does NOT increase the volume of gas produced… *It just makes the machine dangerous*.

So you adjust the VOLUME of HydrOxy gas you want by setting the Duty Cycle %. Use the Duty chart to choose the appropriate % setting for the volume you want for breathing.

I use 100% DUTY for ALL applications **except** for BREATHING.

Health Benefits

There are several ways to enjoy health benefits from your AquaCure. I find that I get the most out of my AquaCure by breathing the HydrOxy gas AND drinking water that is bubbled with the gas. Here is a link to my health protocols:

Making HydrOxy Infused Water

Note: Reverse Osmosis (RO) water is acceptable for the drinking water bubbler, but (in our opinion) distilled water will provide you the best health benefits. *Using tap water in the drinking water bubbler will reduce health benefits*.

You can use the included bubbling stone and tube to infuse water in your own water container, foot bath or bath tub.

Use ONLY distilled water in the electrolyzer (AquaCure machine itself)!

Use ONLY distilled water in the humidifier!
Failure to do so will contaminate the electrolyzer and void your warranty.

Using the Spot Applicator

- Insert the spot applicator tube into the spot applicator funnel.
- Insert the other end of the spot applicator tube into the gas output fitting of the Drinking Water Bubbler (so you can make drinking water at the same time as you are using the spot applicator). *Just push the tube onto the Drinking Water Bubbler tight enough to seal* so you can get it off later.
- Place the spot applicator funnel over the affected area of your body.
- Select an appropriate timer option for how long you want to apply the gas.
  We've discovered that several shorter sessions are more effective than 1 long one.

Note: For applying HydrOxy gas to extremities, we also have arm and leg bags available as optional accessories.

Breathing HydrOxy Gas

First, people should ALWAYS start slowly, until their body gets used to having enough hydrogen (break a fast (body was starving) with a little soup). I'd start with 5 minutes 3 times a day then add a minute or two each day until doing 20 minutes 3 times a day. Then breathe all I want.

If starting too fast, the body can feel weird as it tries to heal ailments fast. *What 'weird' means will vary from body to body*.

Second, make SURE that they are breathing HydrOxy that has FIRST gone through BOTH the humidifier AND the Drinking Water Bubbler (or the lye may not be scrubbed)

Third, make sure BOTH the humidifier and the Drinking Water Bubbler are filled to 90% full of PURE (distilled) water or the lye might not be scrubbed.

Fourth, Make sure that the water in the humidifier and Drinking Water Bubbler is changed out often enough (at least every 8-10 hours) or the lye might not be adequately scrubbed from the gas.

Fifth, when changing out the water in the humidifier and the Drinking Water Bubbler, feel the inside of the containers and if they feel 'slippery' then wash them with warm tap water until the slippery feeling is gone.

For breathing you want to REDUCE the gas production appropriately, because more than 4% hydrogen in the intake breath is potentially explosive…

The point here is SAFETY.
You do NOT want an explosion in your lungs.
I leave the potentially gruesome details to your imagination.

I design and teach SAFETY!
Beware of cheap knockoffs *that LOOK like the AquaCure*, **they are not as SAFE** !

Scientific studies have shown that air mixtures that contain **less than** 4% hydrogen **are safe**. But most scientific studies (there are now over 1000) *are using 2% hydrogen mixtures*… **Just to be extra safe**… And are still getting therapeutic benefits at 2%.

The AquaCure AC50 can easily adjust the gas volume so that the hydrogen in the intake breath is greater than 2% (for full therapeutic value) but less than 4% (for safety).

Note that the **HydrOxy is not toxic in any way**. If it wasn't for the potential to explode, it would be safe to breathe 100% of the HydrOxy (breathe ONLY this gas instead of air).

HydrOxy contains only the ingredients essential to life and these ingredients are in a form and ratio that all water based life forms can use (bio-available nutrition and energy).

IMPORTANT: Testing for gas coming out of the cannulas:
Just because the water is bubbling in the Drinking Water Bubbler, **do not assume** that you are getting any gas out of the cannulas. The Bubbling jar lid or fittings could be leaking and **no gas getting to your nose**.

So occasionally (as often as you choose, I do about once a week) dip the cannula nose tubes into a cup of water and watch for the bubbles. Bubbles = good.
No bubbles = look for the gas leak.

BREATHING THE HYDROXY:

Note, for breathing, most **masks are not safe**. They concentrate the hydrogen too much, so there is a potentially explosive mixture against your face and into your lungs.

Cannulas puts the HydrOxy directly into your nostrils, which is also important because once the hydrogen is 'released' it has the highest diffusion rate of any gas, so it rapidly dissipates and is GONE, unless you put it directly into your nose where it can mix with the air being inhaled.

The charts on the next pages are calculated to help you in be the safe (non-explosive) but therapeutic breathing ratio of about 2% hydrogen in the intake breath.
If you double the Duty Cycle %, you'll be approaching the 4% explosive limit.

Estimated Weight vs Duty Cycle (%) vs Gas Volume Chart for 2% INHALATION

kg	lbs	%	L/Hr	mL/m	kg	lbs	%	L/Hr	mL/m
2.3	5	1	0.5	8	59.0	130	26	13.00	216
4.6	10	2	1.0	16	61.2	135	27	13.50	225
6.8	15	3	1.5	25	63.5	140	28	14.00	233
9.0	20	4	2.0	33	65.8	145	29	14.50	241
11.3	25	5	2.5	41	68.0	150	30	15.00	250
13.6	30	6	3.0	50	70.3	155	31	15.50	258
15.9	35	7	3.5	58	72.6	160	32	16.00	266
18.1	40	8	4.0	66	74.8	165	33	16.50	275
20.4	45	9	4.5	75	77.1	170	34	17.00	283
22.7	50	10	5.0	83	79.4	175	35	17.50	291
25.0	55	11	5.5	91	81.6	**180**	**36**	**18.00**	300
27.2	60	12	6.0	100	83.9	185	37	18.50	308
30.0	65	13	6.5	108	86.2	190	38	19.00	316
31.8	70	14	7.0	116	88.5	195	39	19.50	325
34.0	75	15	7.5	125	90.7	200	40	20.00	333
36.3	80	16	8.0	133	93.0	205	41	20.50	341
38.6	85	17	8.5	141	95.3	210	42	21.00	350
40.8	90	18	9.0	150	97.5	215	43	21.50	358
43.0	95	19	9.5	158	99.8	220	44	22.00	366
45.4	100	20	10.0	166	102.0	225	45	22.50	375
47.6	105	21	10.5	175	104.3	230	46	23.00	383
49.9	110	22	11.0	183	106.6	235	47	23.50	391
52.1	115	23	11.5	191	108.9	240	48	24.00	400
54.4	120	24	12.0	200	111.1	245	49	24.50	408
56.7	125	25	12.5	208	113.4	250	50	25.00	416

To calculate your safe breathing limit,
Givens:
1. The AquaCure AC50 makes up to 50 liters of HydrOxy gas per hour (lph)
2. HydrOxy gas is two thirds (2/3 or 0.6666) hydrogen.
3. People pretty much have lungs sized for their healthy body weight.

A simple way to estimate is to set the Duty % appropriate to the person's weight.
IMPORTANT NOTE: The 'weight' should be the 'healthy weight', **excess weight should be excluded from this calculation** (the lungs aren't bigger because of fat).
Note that women generally have 20% less lung capacity than men of the same weight.

So to calculate my safe breathing limit of 2% hydrogen I use the math below:
I divide my weight (in lbs) by 5 to get a 'ballpark' breathing %. So **180 lbs / 5 = 36%**
In metric, I divide metric (kg) by 2.3 So **82 kg / 2.3 = 36%**

Simple AquaCure AC50 Duty Cycle (%) vs Gas Production (L/Hr and mL/m) Chart

%	L/Hr	mL/m	%	L/Hr	mL/m	%	L/Hr	mL/m	%	L/Hr	mL/m
1	0.5	8	26	13.00	216	51	25.5	425	76	38.0	633
2	1.0	16	27	13.50	225	52	26.0	433	77	38.5	641
3	1.5	25	28	14.00	233	53	26.5	441	78	39.0	650
4	2.0	33	29	14.50	241	54	27.0	450	79	39.5	658
5	2.5	41	30	15.00	250	55	27.5	458	80	40.0	666
6	3.0	50	31	15.50	258	56	28.0	466	81	40.5	675
7	3.5	58	32	16.00	266	57	28.5	475	82	41.0	683
8	4.0	66	33	16.50	275	58	29.0	483	83	41.5	691
9	4.5	75	34	17.00	283	59	29.5	491	84	42.0	700
10	5.0	83	35	17.50	291	60	30.0	500	85	42.5	708
11	5.5	91	**36**	**18.00**	300	61	30.5	508	86	43.0	716
12	6.0	100	37	18.50	308	62	31.0	516	87	43.5	725
13	6.5	108	38	19.00	316	63	31.5	525	88	44.0	733
14	7.0	116	39	19.50	325	64	32.0	533	89	44.5	741
15	7.5	125	40	20.00	333	65	32.5	541	90	45.0	750
16	8.0	133	41	20.50	341	66	33.0	550	91	45.5	758
17	8.5	141	42	21.00	350	67	33.5	558	92	46.0	766
18	9.0	150	43	21.50	358	68	34.0	566	93	46.5	775
19	9.5	158	44	22.00	366	69	34.5	575	94	47.0	783
20	10.0	166	45	22.50	375	70	35.0	583	95	47.5	791
21	10.5	175	46	23.00	383	71	35.5	591	96	48.0	800
22	11.0	183	47	23.50	391	72	36.0	600	97	48.5	808
23	11.5	191	48	24.00	400	73	36.5	608	98	49.0	816
24	12.0	200	49	24.50	408	74	37.0	616	99	49.5	825
25	12.5	208	50	25.00	416	75	37.5	625	100	50.0	833

A second *more accurate* way to determine the correct (personally optimized) setting is:

1. Measure the volume of air you breathe in a single breath in lph at rest (known as 'Tidal Breath') Adults are usually 0.5 liter per inhalation. There are devices to help you do this.

2. Count the seconds it takes for several inhalations and find the average (when at rest).

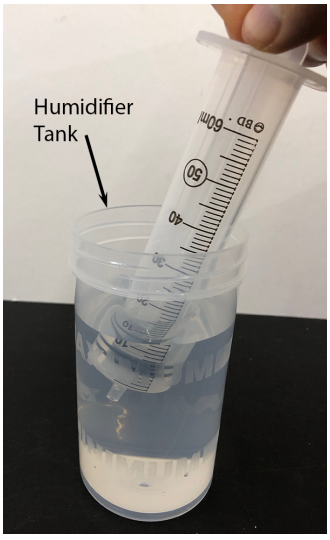
3. (Multiply Tidal Breath mL by safe hydrogen 2%) and divide by inhalation seconds to get the mL/second of safe hydrogen. Then multiply by 60 to get safe mL/m hydrogen. Then divide by 0.6666 to get HydrOxy volume that gives 2% hydrogen inhalation.

In my case, as an adult male with a healthy weight of 180 lbs, at rest I breathe about 0.5 liters of air per 3 seconds. (((((500 mL x 0.02) / 3)) x 60) / 0.6666) = 300 mL/m
So, for me, a 2% safe breathing limit of HydrOxy is **18 lph**. (= 12 lph of hydrogen)

Filling the AquaCure

Eventually you will need to add distilled water to your AquaCure, to replace the water used to make HydrOxy. No need to add more lye, because what you put in is still there.

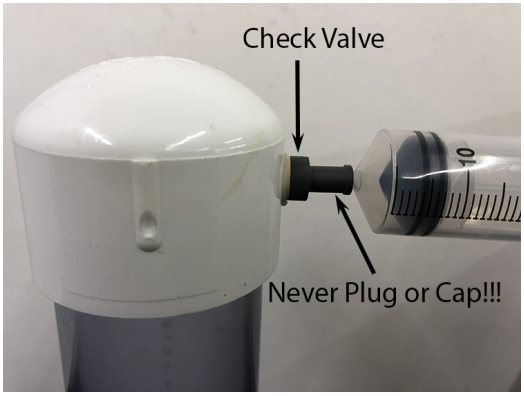
When the AquaCure is initially filled and you start making gas, *allowing the liquid level to go down to near LOW is OK*. At that point the water in the humidifier is EXACTLY the right amount to use to re-fill the AquaCure. And because the humidifier water is distilled and has trapped residual lye, it's the perfect water to put into the AquaCure… *I like that we use the water 'twice'* ;)



If the liquid level gets too low (after several hours of use without refilling), the red low liquid level light and alarm will sound. *The AquaCure machine will stop gas production*.

After the initial fill with lye solution, you'll fill the AquaCure with distilled water through the check valve on the top of the Tower Cap using the provided syringe. The syringe easily sucks water from the humidifier tank to refill the AquaCure.

Refill the AquaCure with water **from the humidifier**, using the syringe to squirt water into Tower Cap through the check valve.



Refill your AquaCure *slowly to give the sight tube time to fill*. The solution does not fill the sight tube immediately. It may take up to 30 seconds for the liquid to fully fill the sight tube even if the AquaCure is full. **Do not overfill!**

You should never see liquid (or foam) in the clear portion of the tower cap. The liquid level should be far down inside the machine.

The ONE exception is if you fill the Tower Cap too fast. Filling too fast can make a 'gas lock' at the bottom of the Tower Cap, so the Tower Cap is filling with water but it is NOT dropping down into the AquaCure (so the sight tube isn't filling).

So if you are filling the AquaCure with water and see water in your Tower Cap (which you would think is an over-filled machine), don't panic, it's likely just a 'gas-lock'.

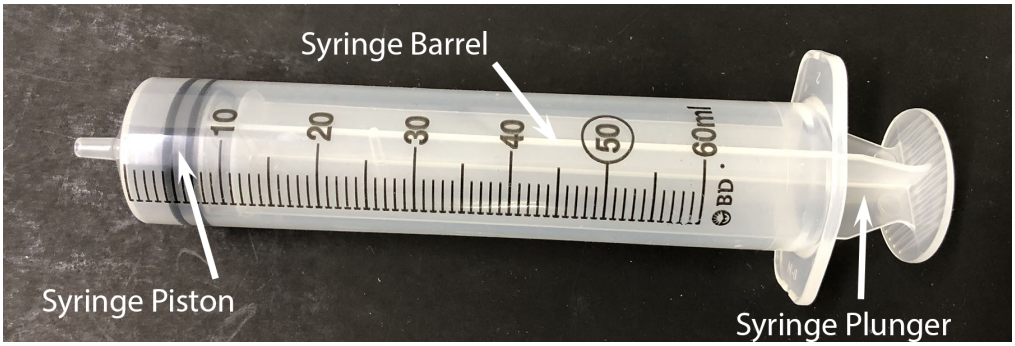
Don't panic. The answer is simply to stop filling the machine and to start it up. The gas being produced will 'jiggle' the water in the Tower Cap and the water will 'fall' into the AquaCure (it'll take a minute or so) and you'll see the water level in the AquaCure rise. **All's GOOD!**

In fact, I've discovered that if I keep my AquaCure running as I squirt in the water, that the gas lock doesn't occur, *because the jiggle is constant*.
The Tower Cap is there to allow mist (containing lye) to separate from the gas. You'll see liquid droplets condense on the inside of the tower and that's the only 'water' you should ever see.

Since you need to push the syringe tightly against the check valve to seal (so you don't get 'spit-back') it's a good idea to hold the top of the Tower Cap as you squirt in the water, to prevent stress on the Tower Cap plastic threads.

NEVER *plug or cap* the check valve. It needs to be 'open' to prevent backfilling.
Note: Pull back the plunger in the syringe about 1/2 inch when storing it. If you don't pull the piston away from the bottom, the piston could stick to the plastic and become damaged (the plunger may pull out of the piston if it is stored fully depressed).

Having the plunger partially pulled out allows you to push it in just before use, breaking the 'seal' (rubber sticking to the plastic) that occurs when stored.



Foaming:
The Tower Cap also allows you to see if you have a **FOAMING issue** (you'll see the foam bubbles in the tower.
Foaming means your electrolyte solution is contaminated with some sort of oil and needs to be replaced. Drain and rinse out the AquaCure. Then make a new batch of electrolyte solution. **You should never see foaming**.

Make SURE the water level in the humidifier and drinking water bubblers are AT LEAST 80% (90% recommended). If the water level isn't high enough, they won't be doing their jobs properly and you'll be getting lye where you don't want it.

Shutting off the AquaCure
When finished using the AquaCure, turn off the Main Power switch. It is OK to leave the AquaCure plugged in when not producing gas.

AquaCure Maintenance Cleaning:

Clean the machine if the electrolyte solution becomes dark, dirty or otherwise contaminated;
Or once about every 200 hours (see hour meter M), whichever comes first. *It's a good idea to put a sticker on the machine (keep a record) with your cleaning date and/or hours.*

Clean by **removing the Tower Cap** and turning the machine upside down over a sink or suitable container that will hold at least 2 liters of electrolyte solution.

Take care not to damage the machine. I use towels as padding to prevent scrapes and dings and to catch / soak up any lye drips (lye may damage the paint). Immediately clean up any lye with lots of warm water, until the 'slippery' feeling is gone.

Set the AquaCure upside down for a few minutes to allow the internal tanks to fully drain.
Lye (NaOH) is environmentally compatible and can be poured down nearly any sink (it's typically the main ingredient in drain cleaner).

But I SAVE the conditioned lye solution and re-use it. It NEVER goes 'bad' except if contaminated.

To rinse, pour about ¾ of a liter of water into the AquaCure.
This 'rinsing water' doesn't need to be distilled, any ordinary clean tap water will work.

Swish the machine around (have someone strong enough hold the AquaCure upright and move sideways back and forth to loosen sediment in the bottom of the tanks) and then pour it out. Do this as many times as needed to remove ALL the sediment and debris inside the tank… You'll know when it's enough times when sludge and debris stops coming out with the rinse water.

Refill the electrolyzer with a clean electrolyte (lye) solution (catalyst).

I **filter the previous electrolyte** through a coffee filter (to remove sediment) OR, even better, just let it sit and the brown sediment will settle. The clean lye solution (electrolyte) will have a slight yellow tint.

Once cleaned, it is **PERFECTLY acceptable to reuse the old solution** (*add lye if needed*) IF the electrolyte wasn't contaminated with an impurity that causes foaming. I've done this for years; *I'm still using some that I mixed in 1986*. The advantages are:
1. You are not wasting lye
2. 'old' solution is more efficient; I'm not sure why, but 'conditioned' is better than fresh.

DANGER: DO NOT use KOH (aka caustic potash or potassium hydroxide) in the AquaCure.
KOH is incompatible with the inner components and will cause internal damage that may lead to failure and leaks.
KOH (unlike relatively benign lye, NaOH) is EXTREMELY caustic. KOH will **immediately** cause severe chemical burns and damage if spilled.

Preparing the AquaCure for transportation, shipping or storage

For short shutdowns (less than a month) it's OK to just leave the lye solution in the machine. Just make SURE all the outputs are SEALED. The biggest issue with 'storage' is lye crystallization. Crystallization can plug orifices, make the floating ball stick to the sight tube, cause internal shorts, etc.

Crystallization happens when the water leaves the machine via evaporation, so just seal all the outputs (so water can't leave the machine) and short-term storage is OK.

It is OK to transport the AquaCure anywhere by cart or vehicle as long as it is FIXED UPRIGHT. The machine is NOT designed to operate at an angle greater than 5 degrees (or tipped over). So it's OK to transport it in a vehicle (even use it for gas generation as you drive) as long as it's fastened upright (most seatbelts will do this).

For longer storage or for shipping, drain / rinse / drain as if you were doing the 200 hour cleaning. Get as much lye out as you can and then remove your rinse water as well.

NEVER (long term) store or ship the AquaCure with fluids in it.

Sample Maintenance Record Chart

Date	Meter-Hours	Description of Maintenance performed

Registration for Resources Access Privileges and Warranty

If you didn't purchase your AquaCure directly from Eagle-Research, you'll need to start an Eagle-Research user account and send us an email with:

User account name:
User account eMail address
Name of AquaCure owner
Phone number of AquaCure owner
Shipping address of AquaCure owner
    Street / apartment / city / province (or State) / zip (or postal code) / country

Purchase details: Whom you bought it from or how you acquired it and the price paid.

The Model and serial number from the back of the AquaCure.

Trouble-Shooting

Most issues with the AquaCure can (and should) be resolved by the user. There are few mechanical (manufacturer) issues with the machines because **every one is thoroughly tested before being shipped out** and they are designed for a 20 year service life.

Most issues are resolved by setting up the machine properly (having enough lye, fixing gas leaks, using correct tubes / fittings, etc.).
Hopefully this Operation Manual helped you do that already.

But sometimes there are issues that were caused by the shipping or local environment or (God Forbid) manufacturer error that didn't show up in our testing.
We help you mitigate / resolve issues or we repair or replace the machine (whatever will get you a functional machine fastest).
For manufacturer issues, we repair or replace the machine at our cost (lifetime warranty).

Here is a Trouble-Shooting Checklist:
For more comprehensive trouble-shooting AND the recommended solutions, go online to your **AquaCure Resources**. If you cannot find the answer here or there, contact us (*not your best friend's cousin's ex-boyfriend*). **We are the experts** on THIS technology and will make SURE you get an operational machine.

There are a series of questions. The next question depends on the answer to the previous question. The problem can usually be found with as few as 3 questions.

Leaks out the bottom of the machine.
Contact us immediately. This is likely a broken tube or fitting and while it is within the skills of many DIY to repair, it's definitely a warranty issue and we'll fix it (even if it was caused by shipping damage). It's a good idea, when first pouring the lye solution into the machine, to have it on a surface that won't be damaged by lye, in case there is a leak caused by shipping damage.

Low or No gas production
Several things could cause low or no gas production.

Q1. Does the red light come on in the main power switch when you turn it on?
Yes, red power switch light comes on, Proceed to Q2

No main power red light:
Check to be sure there is power in the receptacle, the machine is properly plugged in and the power cord is firmly attached to the back of the machine.
Note: We did have one power cord that was bad, (broken wire inside it) so it helps to check the power cord too. This is a common cord, often used by small appliances, computers, printers, etc.

If that doesn't resolve it, contact us.

Q2. Does the green gas production light come on and stay on (no flicker) when you turn on the timer switch?

Yes, **constant** green light, proceed to Q4

If green light flickers or occasionally turns off, proceed to Q3

If the green light comes on but does not STAY ON, you have a blockage in your gas hoses. Find the blockage (might be a kink or plugged bubbling stone).

Q3. Does the green light flicker (turn on and off rapidly or occasionally)?

If yes, you have gas production but may have partially plugged gas tube(s) or a re-set pressure switch.

Check for plugged tubes or bubbling stone, contact us for un-plugging instructions.
If hoses are clear, contact us for pressure switch reset instructions.

Q4. Do you have gas production?
Since your green light stays on and does not flicker, we've eliminated the possibility of a partially plugged gas out tube or a pressure switch with too low of a setting.
So the issues we'll now test for are:

a. Not enough gas production (usually a lean lye mixture)
b. A gas leak (fairly easy to find)

We check for gas production first:

To actually SEE if you have gas production, when the machine is cool (so the lye mist isn't obscuring your vision) remove the Tower Cap and look down the silver stem with a flashlight to confirm bubble production (yes it is safe to operate with the cap off)…

To check for gas production, the fluid level should be about 1/4 inch (6mm) above the white plastic block inside. If it isn't, fill it up that full (no fuller). If it isn't that full, you won't be able to see the bubbles (gas) coming out of the white plastic block inside.

With the fan running (so power is on and timer is activated) and liquid level as above... Check for bubbles.

Are there lots of bubbles, few bubbles or no bubbles?

4a. Yes lots of bubbles
Then you are looking for a gas leak. Gas is being produced and going SOMEWHERE, just not out the tubes as you want it to do. A gas leak is the most common issue and usually a simple one to resolve. An 'obvious leak' would be something like leaving the Tower Cap off or not screwed on tight enough or a tube disconnected.

Check your tube connections and container lids. First with physical inspection, then putting under water and/or using soapy water solution.

You can make a 'soapy water' solution by putting a good squirt of liquid dish soap (nearly any brand) into a half cup (about 125 mL) of water.

You then (using a small brush) brush that soapy water solution over any joint or area where gas can leak, like Tower Cap threads, tube connections. Lid fitting seals, etc.

When the soap film covers the leak, tiny bubbles will form at the leak, showing you where it is and then (depending on the leak) we'll tell you how to fix it.

Of course… The machine needs to be running, producing gas and everything needs to be set up properly (Tower Cap, tubes, humidifier, etc.) for you to find a leak. *Gas won't come out if it isn't being produced*.

4b. If there are few or occasional or no bubbles
Then I'd suspect that you do not have enough lye in your solution (*or a small gas leak*). Obviously voltage is getting to your electrolyzer, just not enough amperage is flowing.

The solution NEEDS lye to carry the amperage through it. Amperage makes gas, so you need amperage to flow. **Lye allows amperage to flow**.

Remove the Tower Cap and dump out the solution into a plastic bucket, filter the solution with a coffee filter or allow it to settle to purify.
Mix in lye appropriately (4 ounces would be a good rule to start from). You want plenty, but not too much.
The electrolyzer needs at least 1 ounce to produce gas. More than 8 ounces is over-kill.

Pour the mixture back into the machine (pour slowly and don't over-fill).
Re-test by turning on the machine and looking down the fill stem to see that you now have lots of bubbles.

If still too few bubbles, contact us.

Hour Meter moves too slow

The hour-meter **normally** moves at the 'speed' of the % duty cycle (so you always have the TRUE 100% hour reading because it is compensated to 100% duty cycle).

The timer should have SOME change, so if it really making NO change, then I'd suspect a bad wiring connection. When the machine is operating, test the voltage on the hour meter terminals. If no voltage, the wires need fixed. If 24+ VDC, the hour meter needs replaced.

The hour meter is not needed for machine functionality, so if it is truly not working, we can have you return just the hour meter for replacement (we would check functionality). No need to return the entire machine.
You'd return the wires too, in case they are broken and that is the reason the timer isn't advancing. We'd replace both the meter and the wires. It's an easy replacement.

HydrOxy TORCH Kit Note:

This Operation Manual does NOT tell you how to install a Torch Kit . Those are separate instructions. *If you received a Torch Kit, just set it aside for now*.
The first four health protocols do NOT need to use the Torch. **Here is a video explaining how to install it** https://youtu.be/v2ufQWJ0l0Q.

NEVER operate (ignite the torch flame) unless it is attached directly and ONLY to the stainless steel filter.

LIMITED LIFETIME WARRANTY:

Warranty includes parts, labor and shipping if issue is manufacturer related.
We've been in business since 1984 and have always taken care of our customers.

Warranty is lifetime to the first registered owner,
includes parts, labor and shipping if issue is manufacturer error.

If Warranty is invalid,
we will still repair any issues for lifetime if current owner pays for parts, labor and shipping.

Do NOT open the enclosure without express written manufacturer consent.
There are (generally) no user serviceable parts inside. There is danger of electrical shock.
The AquaCure can become damaged if enclosure is opened and closed incorrectly.

Unless approved, opening the enclosure voids all warranties expressed or implied.

Attachments / accessories included with the AquaCure are considered 'consumables' and are not covered under the machine warranty.

SATISFACTION GUARANTEE:

We can't guarantee any particular result because every body is different. However, *because we're SO CERTAIN you'll be happy with this machine*, we have a 100% *no questions asked* **one YEAR money back Satisfaction Guarantee** (from the date you receive the machine).

You don't need to state a reason if you want to return the machine (even after used for 12 months), just ask for an RMA number and instructions for us to take it back and (once we receive the machine) we'll refund your purchase price (shipping costs not refunded).

We reserve the right to discount the refund to cover any customer related damage (normal wear and tear is expected and will not be discounted).
*Adequately package and **insure** when shipping to cover potential shipping damage*.

MEDICAL DISCLAIMER

The statements in this Operation Manual have not been evaluated or approved by the FDA, AMA, DEA, ETC.
~ Just assume what we have to say isn't approved by ANY government agency, medical organization or pharmacutical company.

Products discussed / presented are not intended to diagnose, treat, cure or prevent any disease. If you are pregnant, nursing, taking medication, or have a medical condition, consult your physician before using our products.

The information and associated links provided in this Manual are for informational purposes only and are not intended as a substitute for advice from your physician or other health care professional or any information contained on or in any product label or packaging.

You should not use the information in our literature or on our website for diagnosis or treatment of any health problem or for prescription of any medication or other treatment.

Always consult with a healthcare professional before starting any diet, exercise or supplementation program, before taking any medication, or if you have or suspect you might have a health problem.

You should not stop taking any medication without first consulting your physician.

As individuals differ, so will results. Even though we use ONLY natural ingredients, always check with your doctor for risks associated with dietary supplements and how they relate to your specific health conditions and/or allergies.

For legal reasons we need to state up front that the AquaCure is not yet defined as a medical device and therefor cannot legally be recommended for human use.
See this link for more information.
Legal uses would be for plants, fish, birds and other mammals.

Hundreds of scientific studies have proven that it is safe for plants and animals to use for drinking and breathing.
Current studies are proving that humans are having all the same benefits proven on Plants and Animals.
Note: A study of all the studies (including on humans) shows NO negative side effects of hydrogen, only positive benefits.

Frequently Asked Questions (FAQ):

I've been working with HydrOxy since 1986, studying other's work, doing tens of thousands of hours of my own experiments, spending over a million dollars in research and selling machines worldwide.

I believe my technology is at least 10 years advanced from the 'current 'state of art'.

I know what to do and NOT to do to **be safe**. It took DECADES to learn what I know.

I know YOU have a steep learning curve and the ONLY way for you to know something is to ask an expert. Unfortunately there are not too many **actual** HydrOxy experts in the world that you can ask (*there are many who THINK they are experts*).

I am here to answer your questions. It's part of the 'service' you bought when you purchased your AquaCure from us.

I DO ask that you first review this sampling of FAQ below and then the more **comprehensive FAQ online**, in your **AquaCure Resources**. Most times you'll find someone else has already asked the question and *it frees up my time if you help yourself*. BUT…

I'm here to help and I'm doing my best to help everyone both use the AquaCure safely and get the results they bought it for.

With the Tower Cap, do I still need to use Humidifier?

Yes. The Tower Cap replaces the FUNCTION of the steel filter (in previous model EA-H160) by pre-filtering the lye out of the gas, but the gas STILL needs to go through the Humidifier to scrub out residual lye.

I say "the function" because unlike the filter, you do NOT fill the Tower Cap with water. The water level stays far down inside the AquaCure.

BOTH options (filter and Tower Cap) pre-remove most of the lye mist from the gas; the filter does it by scrubbing the gas through pure water and the Tower Cap does it by HEIGHT allowing the lye mist to separate from the gas. BOTH the Humidifier and Drinking Water Bubbler are still required to do the final scrubbing.

Can the Tower Gas be directly breathed?

NO!
NEVER breathe the HydrOxy, or use it for any health purpose unless it's first gone through BOTH the Humidifier AND the Drinking Water Bubbler!

Do I need to keep touching the metal casing while I'm using The AquaCure?

Not unless you do something that generates static electricity, like petting a cat or shuffling across carpet. Once you are 'grounded' you've equalized your electrical potential with the AquaCure and there will not be a spark if you touch the plastic parts. Note that high humidity environment also helps mitigate static electricity.

How long does it take to 'charge' a quart (liter) of water?

We bubble water at 10 minutes to a quart (liter) of water). So a gallon of water would take about 40 minutes to fully charge (assuming 50 lph of HydrOxy flow).

How long does the water 'hold' it's charge?

Our measurements show that several of the 'healthful' characteristics of HydrOxy bubbled water are half gone in a day (half-life is 1 day).
This is assuming that the water is kept at room temperature and in sealed 'water bottles'. So you can bubble enough water in the morning for your daily use.

Do I need to 'use' HydrOxy everyday?

Hydrogen is a FOOD, and you normally get it from your FOOD, but most people's specialized digestive bacteria that separate the hydrogen from the food have been decimated by antibiotics and chemicals (including artificial sweeteners); so people are hydrogen deficient, *even if they eat lots of food*…
So yes, just like you eat everyday, you need to supplement (breathe and drink) with hydrogen everyday; and HydrOxy is the BEST hydrogen choice, because it includes the ExW (needed energy).

For THERAPEUTIC (healing, revitalize and rejuvenate) benefit, you need to do same as eating… 20 minutes 3 times a day, plus drink at least 2 quarts of HydrOxy bubbled water.

Links to Resources online

We put further helpful information in your **AquaCure Resources** online, which you can access through your Eagle-Research user account. Here's a FAQ to help you access and use your Eagle-Research account.

If you don't have an Eagle-Research user account and DO have an AquaCure, you can apply for **AquaCure Resources** access privileges (and an Eagle-Research user account)