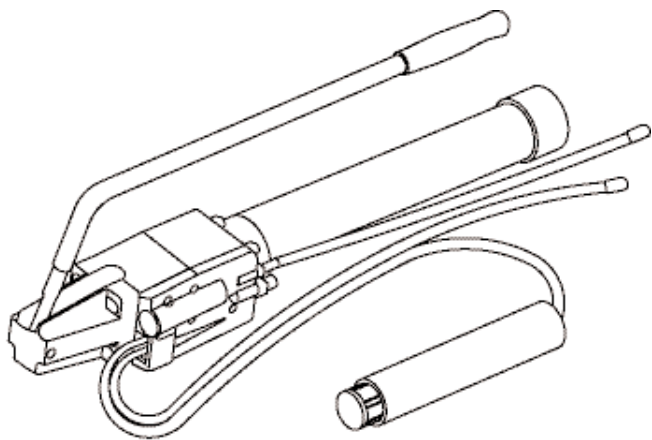


# KATADYN®

MAKING WATER DRINKING WATER

## **Survivor 35** (Model #8013433)



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# English

Thank you for purchasing the Katadyn Survivor-35 desalinator. It was designed and built to rigorous specifications by Katadyn Products Inc., to provide fresh water in emergency situations. Please before operating the Survivor, take the short time needed to read this Manual. This small investment of time will help assure many years of trouble-free operation. Be sure to fill in the enclosed warranty card and return it to us as soon as possible. This is required to fulfill the terms of your warranty.

## Important Precautions

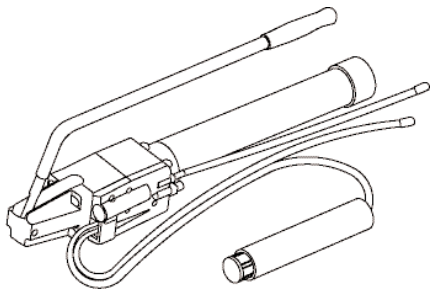
- **Avoid** sucking in oil, gasoline, or other petroleum-based products – they will quickly destroy the membrane.
- **Avoid** drawing water from a confined source. As the salt concentration increases, the unit will become harder to pump.
- **Do not adjust** the relief valve. This valve is preset in the factory. Adjusting this valve can damage the pump and void your warranty.
- It is normal to detect a slight taste in the fresh water. However, do not drink water with a strong salt flavor.
- The strainer may eventually clog and need rinsing. If the unit is hard to pump, either the strainer is clogged or the water is unusually cold or salty.
- During prolonged emergency use, pump the unit for at least 10 minutes each day to keep seawater from stagnating inside the unit.
- If the unit will not be used again for several days, remove any accessible seawater from it. To do so, remove the intake strainer and hose from the feed water. Turn the unit upside down, and pump the handle up and down normally until water stops coming out.
- After the unit has been used, flush the membrane with biocide before storing it again. This will prevent the growth of bacteria inside the unit. Refer to “Storage” below.
- If the feedwater has an high bacteria content, use biocide daily.
- Store the biocide in a dry, ventilated area.
- **IMPORTANT:** For your safety, we require that an inspection be completed once a year. Our regional service centers are trained to perform all necessary quality checks or you can return the unit to Katadyn for inspection.

**IMPORTANT: The Survivor-35 is designed for use in emergency conditions. After it has been used once under such conditions, consult your dealer to determine if any service is required.**

## Product Specifications

The Survivor-35 is a simple hand-operated watermaker, able to produce over 30 gallons (~105 liters) of potable water per day from seawater.

A semipermeable membrane inside the unit acts as a molecular filter. When seawater is pressurized to 800 psi (~55 bar) by pumping the handle and forced against the membrane, only the water molecules can pass through: salt molecules are unable to pass, and flow out of the system.



GB

Technology:	Reverse Osmosis
Salt rejection:	98.4% on average (96.8% minimum). The desalination degree effect depends on different influence factors such as pressure, throughput and the quality of water.
Permeate Flow:	4.5 l/h +/- 15% (1.2 U.S. gal/hr)
Weight:	3.2 kg (7 lbs)
Dimensions:	14 x 56 x 9 cm (5.5" x 22" x 3.5")
Guarantee:	1 year
Material:	Pump: Stainless Steel, plastic Membrane approved by the US FDA (Food and Drug Administration)

# Operating Instructions

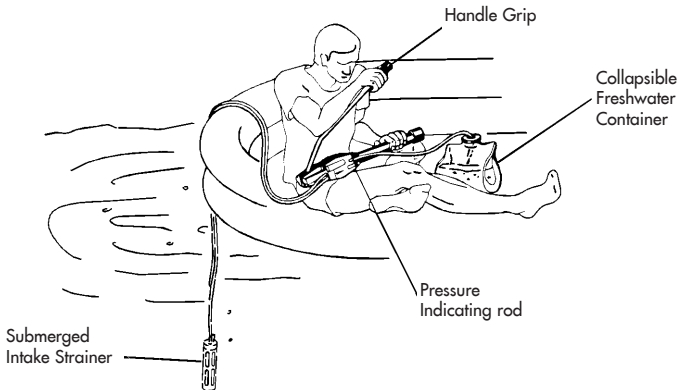
1. Uncoil intake/discharge hoses. Drop the hoses and attached strainer into the seawater. Be sure strainer is fully submerged.
2. Place desalinator across your lap. Place one hand on handle grip and the other on the membrane housing as shown. (Figure 1-1)
3. Pump handle up and down as far as it will go in each direction, at a comfortable rate of speed (about 2 seconds per up/down stroke). After you pump for 1-2 minutes, the pressure indicating rod will extend itself revealing an orange band. Continue pumping so the orange band remains visible. If water sprays from the indicator, pump slower. If orange band is not visible, pump faster.
4. Once water drips from the freshwater hose, pump at least 60 strokes (two minutes) while dumping the water overboard. This will clear the system of biocide solution and salt that passes through the membrane when not in use. Then insert the freshwater hose into a storage container, or directly into your mouth.

**IMPORTANT:** At initial start-up of a new unit, or of an unit that has been inhibited (filled with biocide storage solution to inhibit biological growth), dump the freshwater output for at least 60 strokes to clear the biocide solution from the system.

5. Continue pumping until you get the desired amount of water.  
To get more water if you stop pumping temporarily, repeat the above procedure.

The Survivor-35 is designed to operate under the following seawater conditions:

- Water Temperature: 2 to 45 °C (36 to 113°F)
- Salinity: 35,000 ppm TDS average



(Figure 1-1)

# Membrane Cleaning

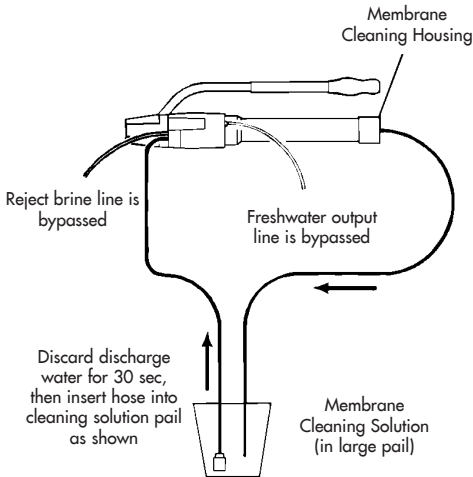
The membrane does not have to be cleaned regularly. However, even in normal operation it can eventually become dirty or fouled with biological growth and particles which are small enough to pass through the strainer.

This build-up on the surface of the membrane can cause the freshwater flow rate to be low or the operating pressure to be high. The most likely symptom will be discharge of seawater from the relief valve on the pump body, because of higher-than-normal operating pressure.

Under the above circumstances, the membrane should be cleaned as described below. Use Katadyn's Membrane Cleaning Kit, article number 8013369, which consists of a special membrane-cleaning housing and cleaning agents.

Two types of cleaner are provided with the kit – alkaline and acid. The alkaline cleaner is used to remove biological fouling, oil, or dirt; the acid cleaner is used to remove mineral scaling. Cleaning with just the alkaline cleaner will usually restore the membrane's performance. However, if low output or higher-than-normal pressure continues, the acid cleaner should also be used.

The procedure is the same for both cleaners. Use the alkaline cleaner first, following the procedure below. If the acid cleaner is also required, flush the system and repeat the procedure with it.



(Figure 1-2)

## Cleaning Procedure

1. Mix four spoonfuls (40 g) of the cleaning agent with one gallon (approximate 4 liters) of clean freshwater, in a clean pail. The water should be warm but not hot – maximum of 122° F (50° C). Mix until the cleaner is completely dissolved.
2. Grasp the membrane housing with both hands and turn counterclockwise until it can be removed. In its place, install the special membrane-cleaning housing provided with the kit. Screw the housing all the way on by hand, but don't overtighten. Place the suction strainer into the pail of warm water.
3. Pump the handle. Discard the water coming from the discharge hose (on the end of the cleaning housing) for about 30 seconds, then place the return hose into the cleaning solution container. Continue pumping the unit while recirculating, for about 15 minutes.
4. Stop pumping, and allow the membrane to soak for at least an hour. For severe fouling, an extended soak period of 10 to 15 hours may be desirable.
5. After soaking, pump the handle again. Dump the first few pulses of solution that come immediately from the discharge hose. When the stream becomes cleaner, place the hose back into the pail of cleaning solution and recirculate for another 30 to 60 minutes.
6. After cleaning, flush by pumping warm freshwater through the system (insert the alternate intake hose into a pail of fresh water, and run the discharge water from the cleaning housing to a drain). If fresh water is not available, you may use seawater if it is above 68° F (20° C).
7. Remove the cleaning housing and reinstall the normal membrane housing.

If the unit won't be used for at least 7 days after cleaning, follow the inhibiting instructions under "Storage".

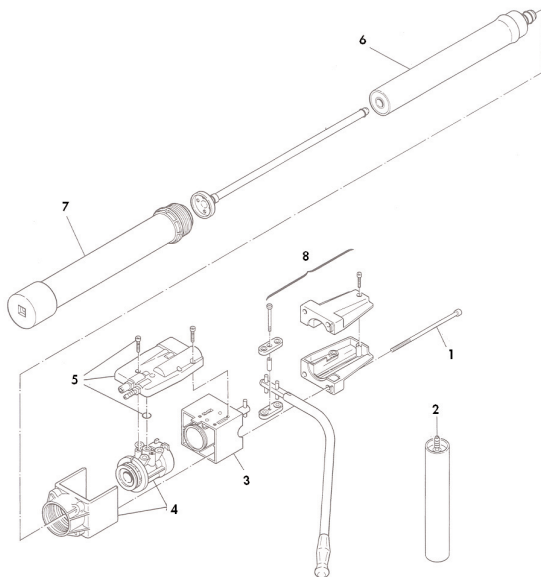
## Replacing the membrane element

If the membrane element is damaged, or can not be cleaned anymore, please replace the element using the Katadyn Membrane Replacement Kit, article number 8012793, and follow the instructions below:

1. Grasp the membrane housing with both hands and turn counterclockwise until it can be removed.
2. Remove the membrane element with a pulling-and-twisting motion.
3. Clean the membrane housing with a warm mild detergent, rinse with clean water, wipe dry with a lint-free cloth.
4. Lubricate the seals on the new element with a small amount of silicone lubricant.
5. Insert the element into the pump front, then push the reject tube assembly all the way into the element.
6. Slide the housing over the element. Screw it all the way into the pump collar by hand, but do not overtighten.

Be sure there is no gap between the pump collar and the thread stop on the membrane housing.

# Key Components



**(Figure 1-3)**

1. Capscrews (4 pcs.; 8013018)
2. Hose and strainer assembled
3. Pump Back
4. Pump Front
5. Pump manifold (8012953)
6. Membrane (8012793)
7. Membrane Housing

8. Handle (8012994)
9. Lanyard not shown

Kits (not illustrated)

1. Biocide 100 g bottle (8013327)
2. Membrane Cleaning Kit (8013369)
3. Repair Seal Kit (8013053)

## Storage (7 days or longer)

The Survivor-35 is shipped from the factory with a biocide solution inside, to prevent the growth of bacteria. After the unit has been operated and before it is stored again, it should be flushed with biocide as outlined below.

**IMPORTANT:** Never let the membrane dry out. Be sure to follow these storage instructions.

1. Turn the unit upside down, with the intake strainer out of the water.
2. Fill a suitable container with about a quart (approximate 1 liter) of clean water. Freshwater is preferable, but clean seawater can be used if freshwater is not available.
3. Mix one spoonful (10 grams) of the biocide with water until dissolved.
4. Place the intake strainer into the biocide solution, and pump until water starts flowing out of the reject hose (indicating that the membrane housing is filled). Stop pumping immediately after water begins to flow from the reject hose.
5. If seawater was used to mix the biocide solution, repeat the above procedure with freshwater as soon as it is available.
6. Rinse any biocide solution off the outside of the unit. Allow the unit to dry completely before storing.

**IMPORTANT:** For your safety, we require that the above procedure be completed **once a year** (storage temperature < 25°C/77°F). Please be aware to use **only** biocides supplied by Katadyn for your product. Other products like chlorine-based products will damage your membrane.

## Limited Warranty

Your Survivor-35 is warranted for one (1) year from the date of purchase against defects in materials and workmanship. Should your Katadyn Survivor prove defective within one year from the date of purchase, return it to the Katadyn retailer from whom it was purchased. If you do not receive a satisfactory resolution, contact Katadyn Consumer Relations at 1-800-755-6701 for service assistance. Please retain your purchase receipt as proof of date purchased. This warranty gives you specific legal rights and you may have other legal rights that vary from state to state.

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