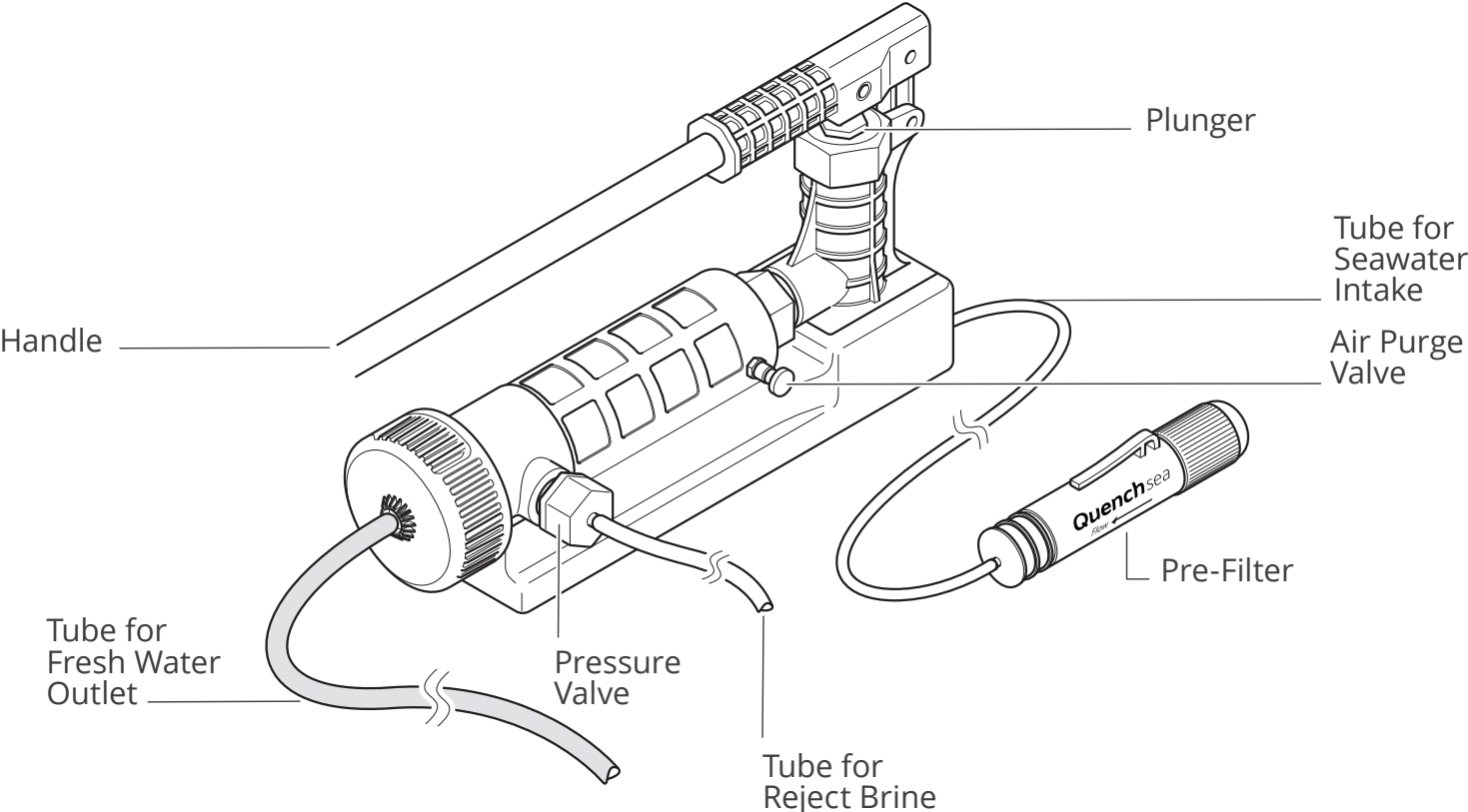


# Quench<sup>sea</sup>



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### **i** WHAT IS QUENCHSEA

QuenchSea is a portable and hand powered seawater desalination device.

You do not need batteries or electricity to use QuenchSea. A simple, detachable lever is used to manually pump seawater through the device.

Seawater is forced under pressure through the reverse osmosis membranes inside QuenchSea to filter out the salts. This creates freshwater which is safe for humans to drink. The membranes are replaceable.

### **⚙️** FEATURES

**The output of freshwater from QuenchSea is:**

- Per hour of use: 4 L / 1.1 gal (US).
- Maximum daily output: 100 L/26 gallons (US)
- Reverse Osmosis membranes lifespan: depends on feed seawater quality

**Do not adjust pressure valve**

**ALWAYS** pump and flush for 5 min before use

**5 min flush**

### **!** SAFE STORAGE

**Where to store**

Please store in a cool, dry place. Keep the QuenchSea device away from direct sunlight

**Do not lose the handle or pre-filter**

Keep the sections of the pump handle and the pre-filter attachment safely stored along with the main QuechSea device

**Check the O-ring for wear over time**

Over time the o-ring on the piston head will wear out and will need to be replaced

### **!** PRECAUTIONS IN USE

✓ **ONLY** use on seawater

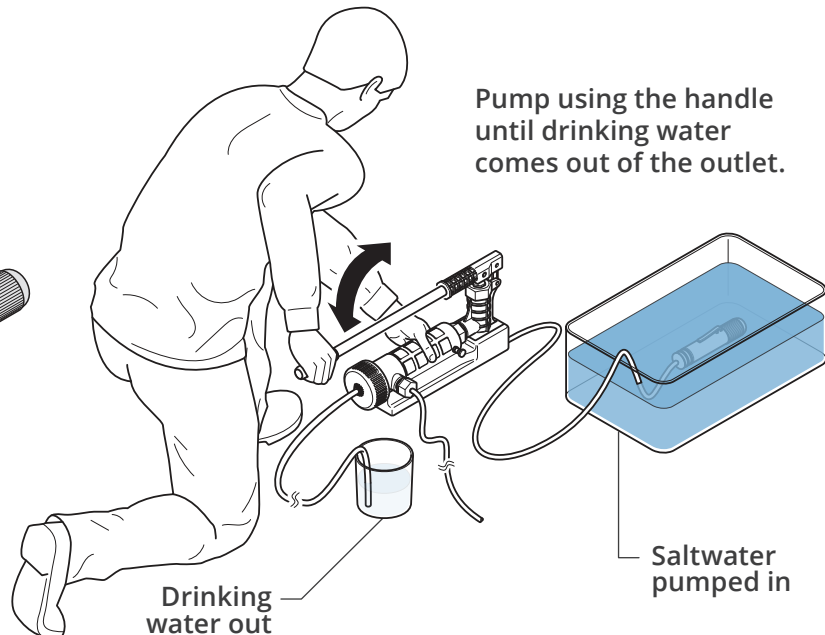
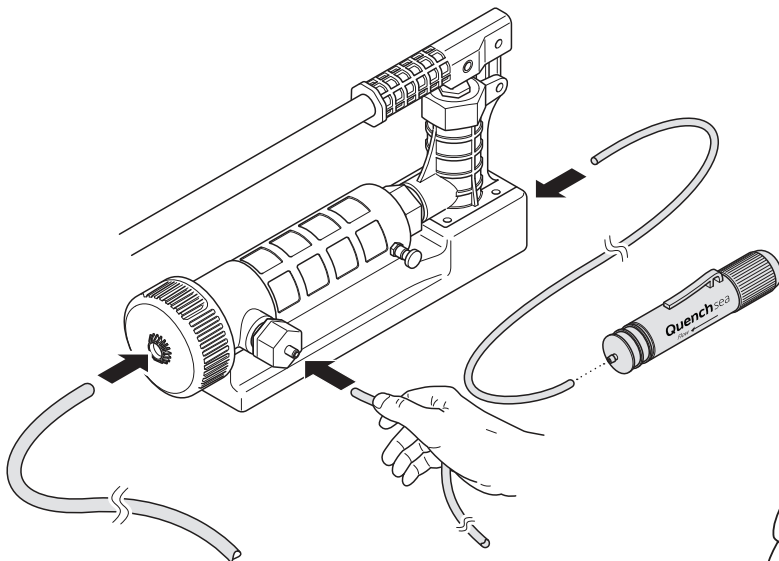
✓ **ALWAYS** pump and flush for 5 min before use

✗ **DON'T** adjust pressure valve

✗ **DON'T** filter any oil, alcohol, urine, etc. This will destroy the QuenchSea pre-filter and reverse osmosis membranes

### **💡** QUICK SETUP GUIDE

### **🔧** SETUP



### USING QUENCHSEA

- 1 Assemble pump handle & insert into the quenchsea device.
- 2 Before every use: always pump quenchsea for 5 minutes to flush out any leftover seawater inside. Also do this if 1 hour of non-use.
- 3 Put the pre-filter into seawater. Always use the pre-filter.
- 4 Place drinking water outlet into a clean container.
- 5 Pump seawater through quenchsea for a minimum of 5 minutes and discard water

### TIPS FOR EFFECTIVE USE

#### Use with clear seawater

- The life of the reverse osmosis membrane depends on the quality of feed seawater.
- High turbidity (dirty or hazy) seawater will likely damage or reduce the working life of the RO membranes and the pre-filters.

#### Filtered water tastes salty?

- If output water is salty to the taste then discard and continue pumping.
- If output water is still salty to taste after continued use of QuenchSea then replace the reverse osmosis membranes.

### TECHNOLOGY

#### HYDRAULIC SYSTEM

The hydraulic system builds pressure to 40 to 50 bars (5,000 kPa) to remove salts from seawater through a reverse osmosis membrane.

#### TRIPLE FILTRATION SYSTEM

QuenchSea has an in-built ultrafiltration and microfiltration system. This removes:

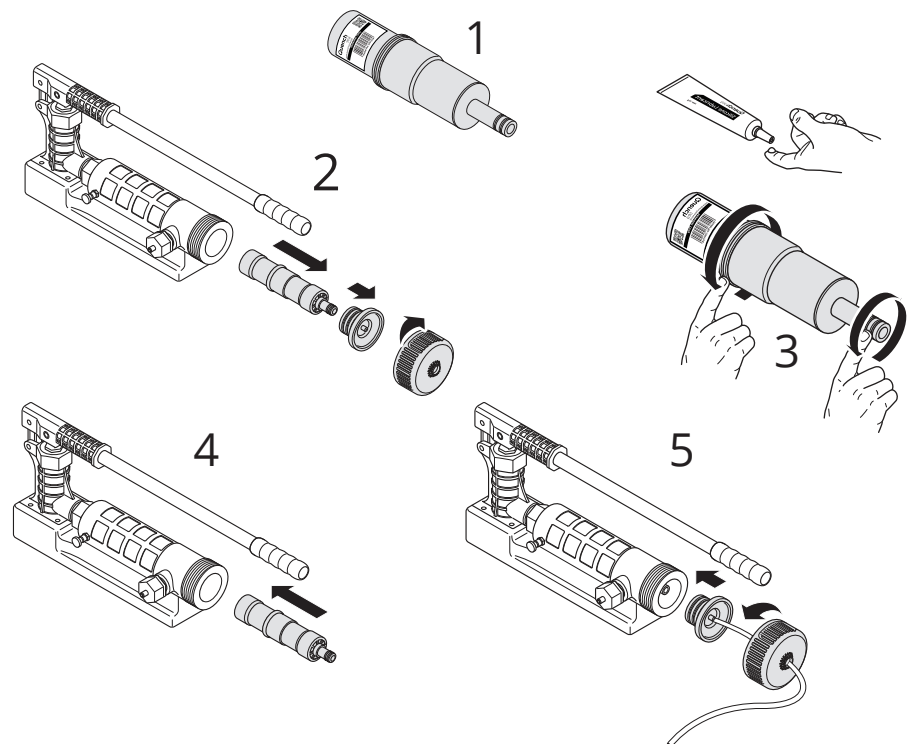
- Suspended solids
- Pathogens
- Parasites
- Microplastics

#### REVERSE OSMOSIS MEMBRANE

Quench Sea uses an industrial standard Reverse Osmosis membrane (RO membrane). Seawater is demineralised under 40 to 50 bar (5000 kPa) pressure through the semipermeable membrane.

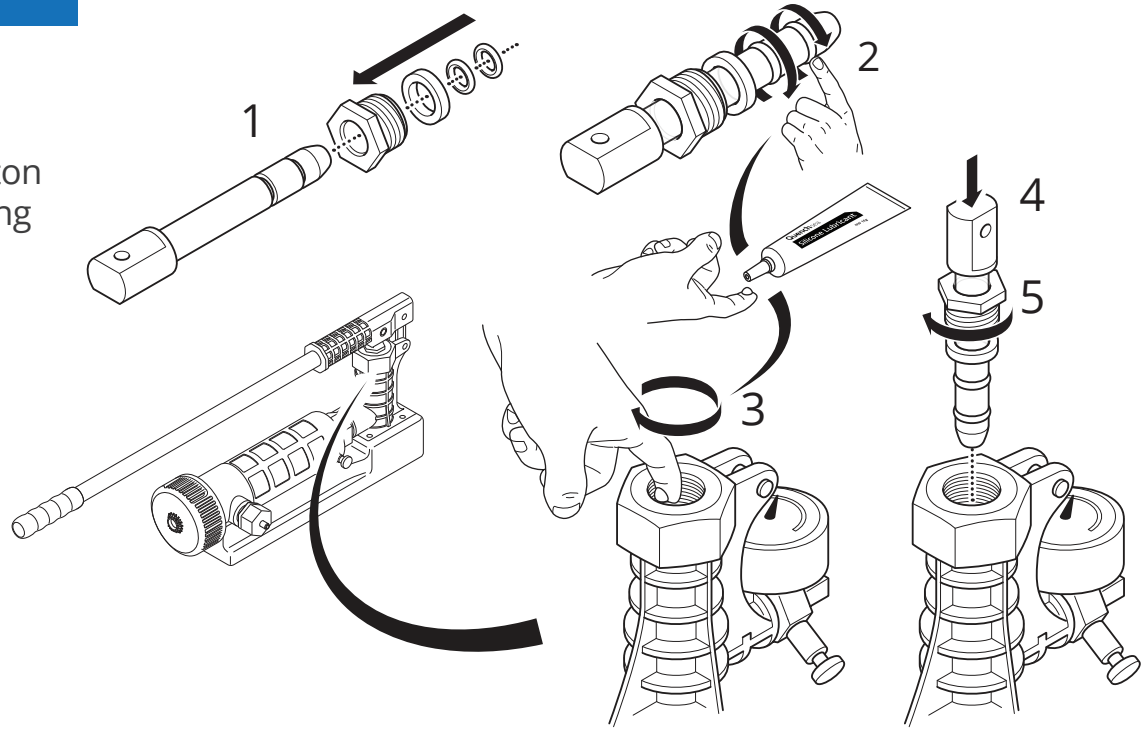
### CHANGING REVERSE OSMOSIS MEMBRANES

- 1 Reverse osmosis membrane
- 2 Unscrew and remove end cap remove old reverse osmosis membrane cartridge
- 3 Lightly lubricate the new membrane using a few drops of silicone lubricant
- 4 Insert new reverse osmosis membrane into QuenchSea device and screw cap tightly
- 5 Reconnect pre-filter, screw end cap and connect freshwater outflow tube



### PISTON LUBRICATION

- 1 Remove piston head
- 2 Lightly lubricate the piston o-rings and cylinder using a few drops of silicone lubricant
- 3 Lightly lubricate inside cylinder
- 4 Insert piston back into cylinder and tighten with spanner



**Do not adjust pressure valve**

**ALWAYS pump and flush for 5 min before use**

**5 min flush**



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