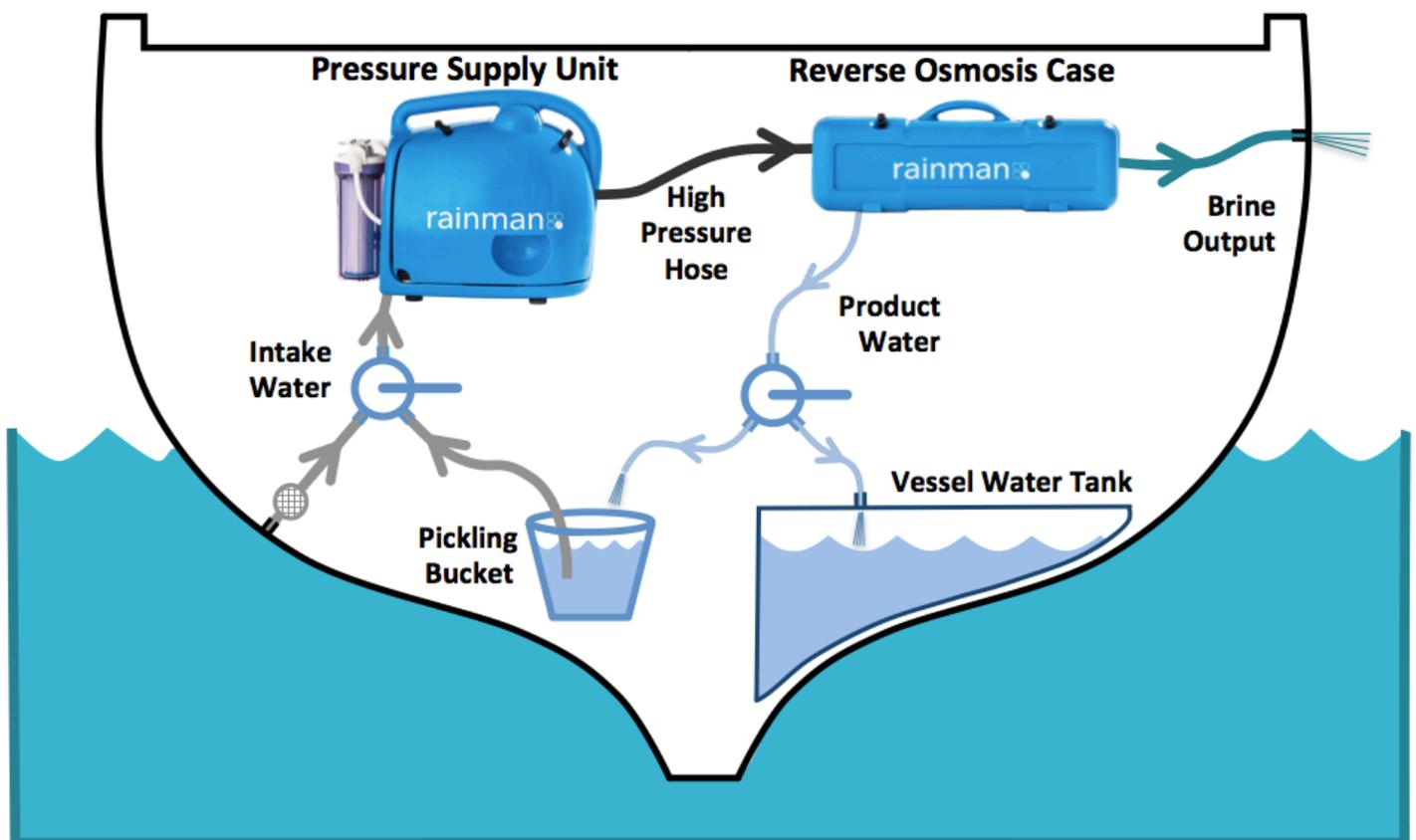


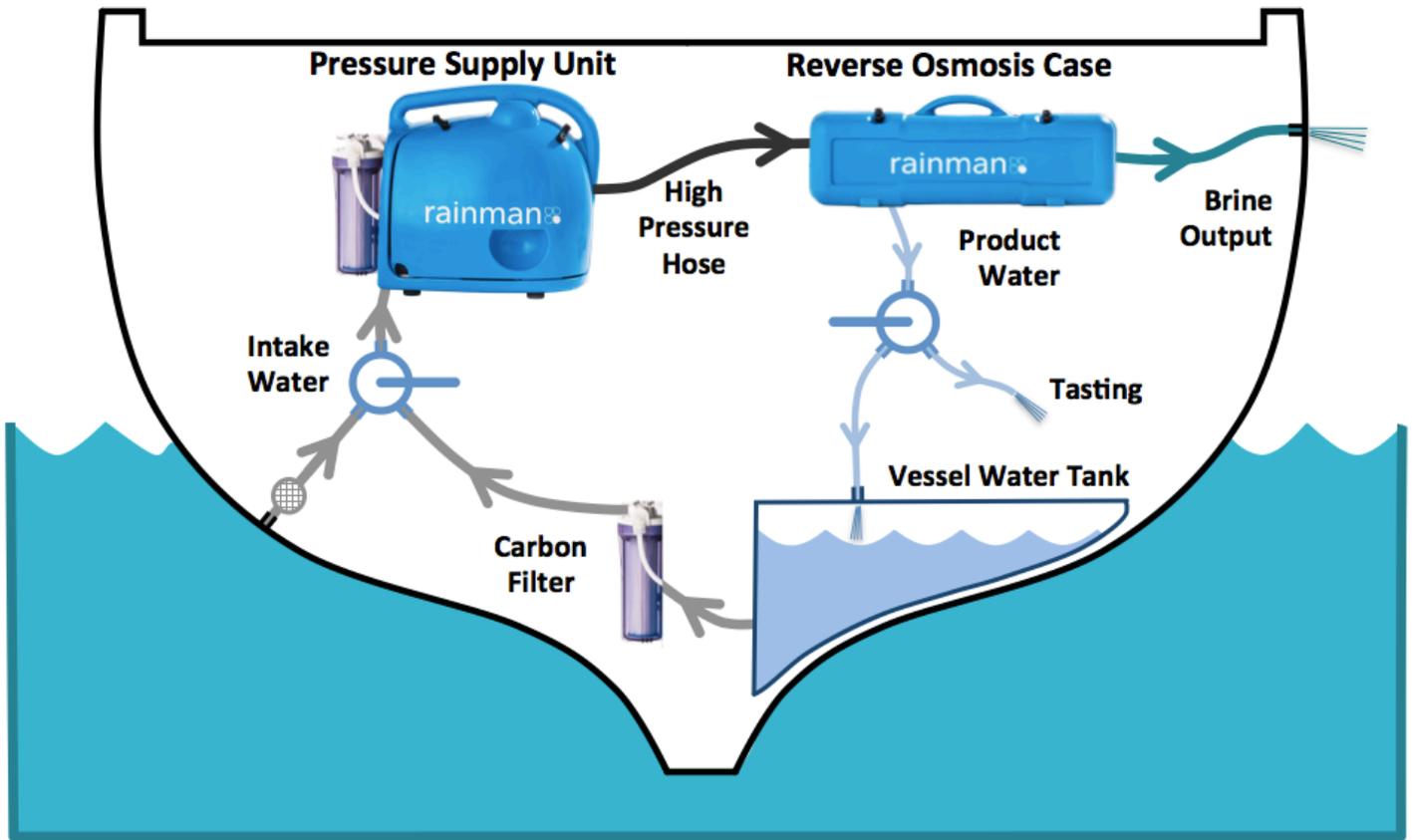
Although the Rainman watermaker was originally designed as a portable system not requiring installation, about half of our customers choose to partially or fully install the system in their boat. The variations can range widely, including installation of both the pressure supply unit and reverse osmosis case to installing one or the other of the units. The largest benefit to be gained for an installation is in taking water in through the hull. This may be a dedicated through hull, or a T junction off of a deck wash, among other options.

An install process should be undertaken by a skilled and experienced technician. This is not a comprehensive guide but a document of tips and issues for consideration.

Rainman Installed – Pickling Bucket



Rainman Installed – Carbon Filter



Pressure Supply Unit:

- If taking water in from through hull, ensure a sea strainer is in place to catch coarse matter prior to getting in to pre-filter assembly.
- Ensure through hull location will not let air into the system. Account for heeling of sailing vessel and avoid through hull too near the bow.
- Mount pressure supply unit in a cool, dry, and ventilated location.
- Ensure you leave access to easily view and change the pre-filter.
- Intake hose should be minimum of 1/2" inner diameter.
- Pressure supply unit has an integrated lift pump. Do not exceed 2 metres (~6 ft) vertical above the water line.
- We recommend not installing any petrol powered device in an enclosed area.
- A bucket to hold at least 10 litres (2.5 gallons) of fresh water should be used and accessible through a T valve for rinsing and membrane pickling purposes. Vessel tank water should not be used for fresh water rinsing or membrane pickling as there may be residual chlorine in the tank from previous filling with city water. This chlorine may damage your reverse osmosis membrane.
- If you wish to draw water from the vessel tank for fresh water rinsing, an inline active carbon filter can remove the residual chlorine.
- A dedicated through hull is best. If shared with other appliances, it is critical to ensure your Rainman watermaker is not being starved of feed water by competing with other appliances.

Reverse Osmosis Case:

- The brine output should be above the water line to avoid back pressure. Use the easiest method to dump brine overboard, including internal sinks, etc.
- The product water hose should have T valve for water tasting/testing, fresh water flushing, and membrane pickling.
- The product water hose should feed into top of vessel tank to avoid back pressure.
- There is practically no limit on length of high pressure hose, product water hose, or brine output hose.
- RO membranes may be mounted horizontally or vertically.
- The reverse osmosis pressure vessel housings may be mounted within the Rainman case or removed and mounted on its own. Fittings are provided for both options.
- If you wish to have the valve/gauge control assembly physically separated from the RO pressure vessels, you should purchase the “naked” version of the Rainman RO unit.

Important:

Almost every support issue we see with installed systems is caused by flow restrictions in or inadequate intake plumbing. Every plumbing fitting you add, including through hulls, elbows, nipples, valves, strainers, etc. will add resistance to the flow of water and cause the intake pressure to be reduced. If the intake pressure drops low enough, the high pressure pump will cavitate and damage to the pump and/or membranes will occur. Remember that the particle filter will add resistance to flow as it clogs up, so you might get away with smaller fittings when you first install the machine, only to have it start cavitating once the filter starts to collect particles from the source water. If you are installing a through hull, we recommend a minimum internal diameter of 3/4" (19mm). Similarly any valves, elbows and other fittings you install should be minimum 3/4" from the point where our pickup hose plugs into it all the way through to the source water.