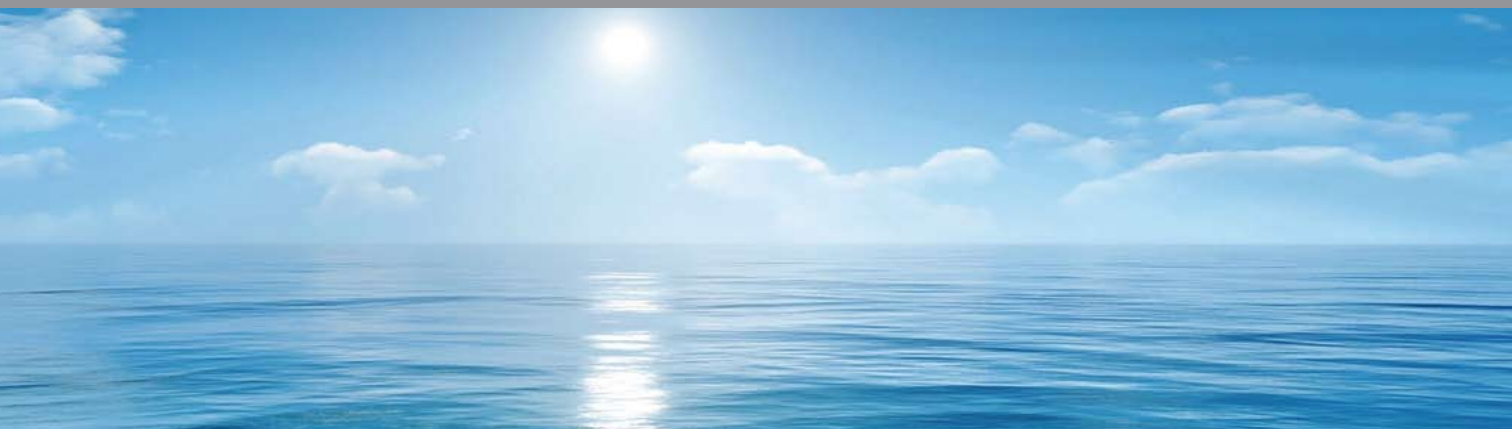
SeaPure®

FRESH AND PURE WATER FROM THE SEA

basukiwater
INDONESIA

SEAWATER IS WATER FROM A SEA OR OCEAN. ON AVERAGE, SEAWATER IN THE WORLD'S OCEANS HAS A SALINITY OF ABOUT 3.5%. THIS MEANS THAT EVERY KILOGRAM, OR EVERY LITER, OF SEAWATER HAS APPROXIMATELY 35 GRAMS (1.2 OZ) OF DISSOLVED SALTS (MOSTLY, BUT NOT ENTIRELY, THE IONS OF SODIUM CHLORIDE: NA+, CL–). THE AVERAGE DENSITY OF SEAWATER AT THE OCEAN SURFACE IS 1.025 G/ML; SEAWATER IS DENSER THAN FRESHWATER (WHICH REACHES A MAXIMUM DENSITY OF 1.000 G/ML AT A TEMPERATURE OF 4 °C (39 °F) BECAUSE OF THE SALTS' ADDED MASS.



SEAWATER COMPOSITION
(BY MASS) (SALINITY = 35)

ELEMENT	PERCENT	ELEMENT	PERCENT
Oxygen	85.84	Sulfur	0.091
Hydrogen	10.82	Calcium	0.04
Chloride	1.94	Potassium	0.04
Sodium	1.08	Bromine	0.0067
Magnesium	0.1292	Carbon	0.0028

For human consumption, a small quantity of clean seawater is not harmful, especially if the seawater is consumed along with a larger quantity of fresh water. However, drinking seawater to maintain hydration is counterproductive; more water must be excreted to eliminate the salt (via urine) than the amount of water that is gained from drinking the seawater itself. This occurs because the renal system actively regulates human blood's sodium chloride within a very narrow range around 9 g/L (0.9% by weight). Drinking seawater (which contains about 3.5% ions of dissolved sodium chloride) temporarily increases blood's concentration of sodium chloride. This in turn signals the kidney to excrete sodium, but seawater's sodium concentration is above the kidney's maximum concentrating ability. Eventually the blood's sodium concentration will rise to toxic levels, removing water from all cells and interfering with nerve conduction, ultimately producing fatal seizure and heart arrhythmia.

For Industrial consumption, impurities in the seawater should be eliminated to some extents before applicable as industrial water otherwise it will corrode or blockage water, steam and condensate reticulation system if used as boiler make up or feed water and mostly not applicable for other industrial application prior to desalination process.

SEAWATER DEMINERALIZATION

Elimination of minerals or impurities in the seawater has been done so many years to produce freshwater for human and industrial consumption and basically consists of Thermal Desalination to vaporize and condense seawater to have freshwater output, the latest and most economically viable technology available nowadays is by deploying a series of Polymer Membranes to filtrate and separate step by step according to molecular sizes of the contaminants in Micro, Ultra, Nano and RO membranes in a cold process.

SeaPure®

SEAPURE® was developed by the idea that as Indonesian base company that live in archipelago of thousands islands, seawater might be one of the most available source for freshwater especially in the remote area where freshwater resource is nearly nil and only depending in scarce storm water.

SEAPURE® used the latest Polymer Membrane Technology supplied by reputable membrane manufacturers combine with our indigenous expertise in water and wastewater treatment endeavor to create the most applicable and economical seawater desalination process to produce fresh and pure water for human as well as industrial consumption.

SEAPURE® as others RO process need sizeable energy but with new innovation of Energy Recovery System the energy consumption is reduced significantly and for remote areas where there are no national grid available on site, our system is able to operate by an array of photovoltaic panels to tap free energy from the sun and lately our engineers are in the process to develop multi stage high pressure hand pump that no electrical power is needed at all.

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