WaveSurfer

WAVES TO DRINKING WATER

WaveSurfer desalination unit consists of wave energy converter and commercially available high quality USA-made reverse osmosis desalination system.

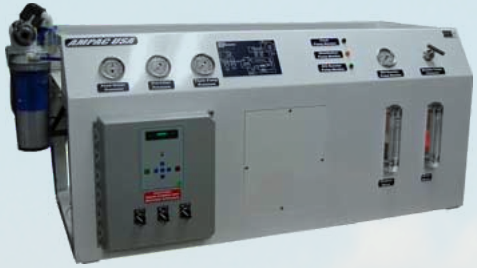
WaveSurfer wave energy converter is a reliable, inexpensive and efficient off-shore system, that can be installed by either mooring to the ocean floor or by attaching to a vessel. The system contains no expensive or complex parts, lubricants, high precision hydraulics or air pumps, everything that makes other systems more expensive, vulnerable to destructive forces of nature and potentially hazardous.

WaveSurfer system is wave direction neutral and operates across a variety of wave heights and periods.

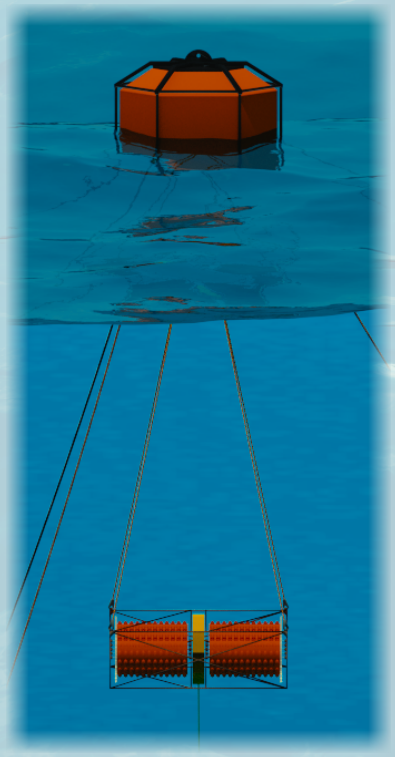
One of the main advantages of the WaveSurfer system is its remarkably high survivability level.

Seawater Desalination Reverse Osmosis 2,000 GPD | 7,500 LPD Marine Based Watermaker is a reliable US-made seawater desalination system.

The super quiet watermaker features automatic operation and is easy to use with a Start and Stop control. All components within the frame are readily accessible for easy maintenance. This unit is designed to fit in tight places.



Water TDS	< 45,000 ppm
Recovery	30%
Rejection	98% Average
Temperature	25° Celsius
Pressure	>10 psi
Electrical	110V/220V/380V/460V
Frequency	50Hz/60Hz Single or 3 Phase



Due to the system's modular, easy-to-assemble design and high scalability, it can be successfully deployed at the remote locations, including islands, off-grid shore communities, naval installations, as well as disaster affected areas.

WaveSurfer wave energy conversion technology utilizes finite depth of ocean waves and drag force of water.

Motion of water beneath the surface decreases exponentially with depth. No matter how violent wave action is on the surface, water at a depth of one-half wavelength L/2 (wave base) and below is motionless.

WaveSurfer wave energy converter comprises two bodies, (1) moored to seabed or attached to a vessel buoyant body and (2) suspended from it fully submerged frame with rotors and electric generator. The submerged body is held at a depth of around one-half wavelength, where the water is motionless.

The buoyant body rises with each wave dragging the attached submerged body upward through the region of motionless water until a wave reaches its crest. As the wave falls, the gravity drags the said submerged body downward through the same region of motionless water until the wave reaches its trough.

This up and down motion through a region of stationary water causes rotation of the rotors due to water resistance force (drag force). Variable geometry rotor buckets are shaped to move thru water with minimum resistance in one direction (drag coefficient C_D - 0.09) and with maximum resistance in the opposite direction (drag coefficient C_D - 2.0).

Rotation is transmitted to an electric generator installed on the submerged body. Generated electricity is then delivered to a desalination unit via cable.