

**Solar Powered Bottled Water Chiller.**

**OACIS**

**Onsite Automatic Chiller for Individual Sustainment**



**Features**

- Battery-free solar photovoltaic (PV) powered
- Loose bottle loading through removable top
- Accepts mix of ½, 1 and 1 ½ liter bottles
- Multi-port dispensing
- Rugged construction for outdoor use
- Hybrid mode uses shore power and solar
- Quiet (40 dBA -- well below conversation level)
- No scheduled maintenance for 7 years
- Uses a refrigerant in military inventory
- 30-minute setup -- with photovoltaics

**Capacity**

- Holds 500 liters of mixed bottles
- Dispenses 150 liters at 60°F per day (enough for three HMMWV crews of four) in 120 °F environment
- Cools 50 liters from 95°F to 65°F in one hour.

**System Components**

- Bottle Chiller Unit: 6' 7" tall by 3.6" square 450 lbs
- 1-kW Photovoltaic Array: 4' by 10' 275 lbs (for rigid, ground mounted panels)

**Specifications**

- Designed for continuous operation at rated performance in 135°F environment
- 150 to 300 VDC array voltage for maximum efficiency. Single phase 120 VAC .
- R7 insulation maintains cooled bottles at night
- 18,000 BTU/hr cooling capacity
- 1.5 kW power consumption

**Anticipated Use**

- The Off-Grid Water Bottle Chiller was designed for unattended distribution of cool bottled water throughout base camps. Other than loading with bottles, it does not require additional attention from maintenance personnel. Warfighters can grab water when they need it, without oversight.