Alternative Water

Atmospheric Water Generators

AID2000™

AID2000™ GP

AID2000™ Advantages

Water is supplied from an alternative source, which is the atmosphere, allowing to set the ground with atmospheric water generation equipment in any area. The following advantages demonstrate the economic attractiveness of the project.

- The Greatest Water Output Up to 500 Gallons (2,000 L) /Day
- Modular: 10’ → 20’ → 40’ ISO Container Size
- Super Heavy Duty, Structural Steel Case in ISO frame
- The Highest Efficiency & Better Performance on Power Consumption per Gallon
- The lowest Energy cost: up to 0.16 kWh/liters

- The water produced by generating equipment directly flows cold and pure, being more suitable for consumption.

- Ideal energy-harvesting technology used in water generating equipment allows the option to obtain a competitive water price, not possible with other devices available on the market.

- All electric and electronic components are vented and pre-cooled to avoid over-heating and malfunctioning under extreme high temperature conditions.

- Wide operation field for extreme conditions:
    - Temperature limits (5°C - 55°C) 41°F-131°F.
    - Relative humidity limits 20%-99%.

- Quick and easiest installation start up and maintenance.
- Powered by any types of energy, including renewable.
- Standard spares
- Environmentally friendly

The most advanced technology developed by **ALTERNATIVE WATER** is based on the principle of dehumidifying the humid air to produce high quality and low mineralization water which has been certified by the USA authorities, having passed the relevant health checks and received, therefore, the mandatory National Register of Health, ensuring hygienic conditions and quality of the product.

AID2000 equipment is ecological that contributes to regeneration of the natural water cycle, to restore the humidity in the atmosphere that would otherwise remain accumulated in the upper layers of the same because of the greenhouse effect.

AID2000 equipment uses components completely free of CFC and is designed to be powered by electrical energy that can be obtained from the distribution network or alternatively wind turbines and photovoltaic sensors with automatic solar tracking.

AID2000 equipment is manufactured according to USA and CE quality standards, with components "Made in USA & Europe, UL & CE" for easy replacement, if necessary, to be available in the general market for industrial components.

Technical characteristics

AVERAGE WATER PRODUCTION AND ENERGY CONSUMPTION PER LITER

Environmental conditions	50°F - 90%HR	86°F - 85%HR	104°C - 90%HR
Water production	23.5 gal/h	64.6 gal/h	82.7 l/h
Absorbed power	23 kWh	36 kWh	55 kWh
Power per Liter	0.99 kWh/gal	0.54 kWh/gal	0.46 kWh/gal

OPERATING CHARACTERISTICS Temperature and relative humidity, max and minimum

Temperature	41°F-131°F
Relative humidity	20%-99%

CHARACTERISTICS TECHNICAL

Water Production	Nominal	64.6 gal/h (86°F - 80%HR)
	Nominal absorbed power	36 kW
Compressor	Type	Hermetic Alternative
	Brand	ZBD-45 KCE-TF5
	Displacement (l/s)	65 A
	Nominal power CV	77CV
Fan	Nominal flow	40.000 m3/h
	Type	Radial variable speeds
	Available static pressure	14 mm. c.a.
	Power	4 kW-895 rpm
Cooling circuit	Gas	134A
	Gas Load	76 Kg
	Expansion	Thermostatic valve
Electric Characteristics	Voltage	400/460 V-III-50/60 Hz
	Max operating current	120 A
Sound level	Sonic pressure	70 dB (A)
Dimensions	High	87.8 inches
	Wide	86.6 inches
	Deep	112.2 inches
	Weight	5842nds

Main Components of the AID2000 module as per NSF61 Standards

- The unit case is made of galvanized sheet iron profiles covered by synthetic painting coats;
- Cooling compressor ZBD-45 KCE-TF5 energy efficient refrigeration through capacity modulation;
- Cooling circuit made of cuprous pipes filled with ecological refrigerant R134A, environment friendly, free of CFCs;
- Cooling coils made of aluminum covered by polyurethane coats as per NSF61 standards;
- Energy recuperation system made of aluminum covered by polyurethane coats as per NSF61 standards;
- Electronic fan EC with low energy consumption rate;
- Water circuit made of stainless-steel pipes as per NSF61 standards;
- 50l internal condensing tray made of high-density stainless steel as per NSF61 standards
- Automatic water dispenser;
- Electronic programming control

WTS (Water Treatment System)

The WTS module is fully equipped to guarantee the Highest Quality of Water as per the WHO (World Health Organization) requirements. These water purification treatments are individually tailored regarding guidance for each geographical location.

- Solar heating protection for the Water Storage Tank
- Smart Treatment Devices
- Self-Cleaning Filtration Devices
- 1,000 Gallons (3,800L), rectangle, low profile, FDA-Approved, Food-Grade, BRA-Free, High-Density Polyethylene (HDPE)-NSF-61 Water Storage Tank
- 2 Heavy Duty Water Pumps
- Digital Water Quality Control

Measurement and Regulator Devices

pH & Chlorine Regulation System

Panel to measure and regulate the pH and chlorine concentration. It includes:

- Amperometry galvanic (copper-gold) cell
- Inductive sensor
- Flow meter
- Low pressure pH electrode (max 3 kg/cm^2)
- By-pass electrode socket
- 10” cartridge container with 5-micron wounded filter
- Polypropylene board with polycarbonate protection
- Sample collection
- Hydraulic and electric connections
- Dimensions: 500 x 600 x 10 mm
- Chlorine measure range: 0-3 ppm
- pH measure range: 0-14

Chlorine Dosing pumps

Dosing pumps with manual adjustable Flow rate by known on the front of the pump by changing the number of strokes per minute from 0 to 400.

- Back pressure: 8 bar
- Flow rate: 6 l/h
- Connections in/out: 4/6

- Stroke/minute: 400
- Weight: 1,7 kg
- Power Supply: 230 VAC / 50-60 Hz
- Protection degree: IP65
- Working Temperature: -10...40 oC
- PVDF Pump head and connectors.
- Level probe included.

Chlorine Tanks

Black or translucent polyethylene cylindrical tank with threaded closure.

- Outer graduated scale
- Capacity: 20 gallons
- Dimensions: Diameter: Height: 510mm 713 mm 170 mm

Recirculation Pump and Electric Panel
Water tank needs recirculation pump to carry sample water to measure panel and to achieve a water agitation.
Also, treated storage-water needs a pump with pressure control to pump it to the point of use.

Sediment filters

CINTROPUR filter made of first quality synthetic materials, suitable for drinking water. The centrifugal propeller transforms the water flow into a centrifugal movement that precipitates the heavy particles to the bottom of the vessel, while the filter mesh ensures the final filtration according to the chosen micron. It has a quick and easy lower drain valve. These filters provide high flow with low head loss.

- Nominal flow (25 µm mesh): 6,5m3/h
- Connection: 1 ¼'
- Filtration area: 840cm3
- Service pressure: 10 bars

- Maximum work pressure: 16 bars
- Maximum work temperature: 50C
- Weight: 1,7 Kg
- Includes 25 µm mesh, opening wrench and wall fixing bracket.

Dichlorination filters

System composed by a Greentank GRP vessel with top and bottom distributors WS655F valve. Made of heavy-duty Nonyl and controlled by a horizontal piston. 1 1⁄2" threaded male connection. Intuitive and user-friendly programming. Systems are supplied completely pre-programmed from factory, but it allows modifying all the internal parameters. Multiple regenerations configurations are available.

Multilingual display: English, French, Spanish and German.
Filtering load, composed by granulated active carbon impregnated with silver.

Characteristics

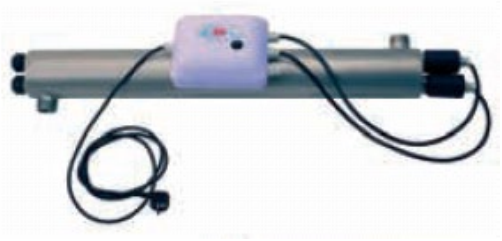
- Easy maintenance.
- Intuitive and user-friendly programming
- Advanced functions such as; Automatic calculation of treatment volumes, configurable reserve, programmer reset.
- Allows chronometric regeneration.
- Fully configurable regeneration cycles.
- Fast, reliable and fast locking connection.
- Advanced multilingual electronic programmer that allows to control all the operating parameters, including the duration of the distinct stages.

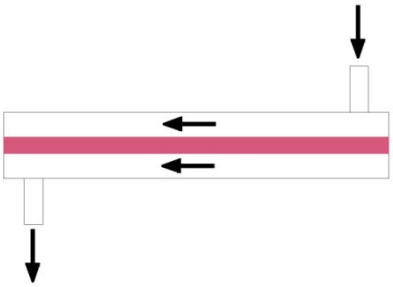
Technical specifications
Connection: 1 1⁄2”
Minimum pressure: 2 kg/cm^2
Maximum pressure: 6 kg/cm^2
Minimum temperature: 4C
Maximum temperature: 35C Powersupply:220V-12V (transformer included) other voltages available under request.

Load: 175 Kg of granulated active carbon impregnated with silver. Filtration area: 0’32 m2
Flow at 10 m/h: 3,2 m3
Flow at 15 m/h: 5,0 m3
Flow at 20 m/h: 6,8 m3
Backwash flow: 4,8 m3/h
Dimensions: A: 1911 mm; B:491mm; C:1705mm; D: 206 mm

UV light

The maximum flow rate that can pass through the ultraviolet light is 2.5 m3/h.





Inlet cut-off solenoid valve during regeneration/wash. Connection diameter 1 1⁄2”
• Two ways normally open • Material: brass
• Working voltage: 220 Vac. • Control kit electro valve

To prevent the leakage of certain pollutants and particles that appear in unknown environments, we have designed a treatment system that guarantees the water quality produced by our equipment, complies with the WHO (World Health Organization) and therefore is suitable for human consumption.
This process of water treatment ensures that the water produced is safe and suitable for consumption.

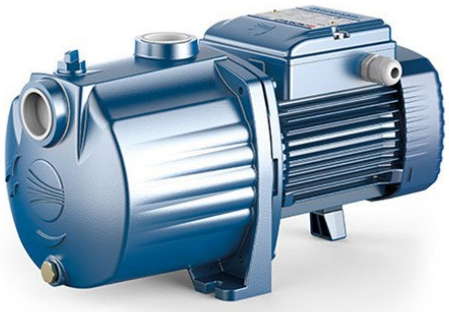
Water Storage Tank

1,000-gallons, rectangle, low profile, FDA-Approved, Food-Grade, BPA-Free High-Density Polyethylene (HDPE)-NSF-61 Approved Resin, Long-Term UV Rating to avoid color fading and breakdown.

Water pump

Pedrollo 2-4CP multi-stage centrifugal pumps

Suitable for use with clean water and liquids that are not chemically aggressive towards the materials from which the pump is made.
As a result of their quietness, these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure sets, and for the irrigation of gardens and allotments, etc.

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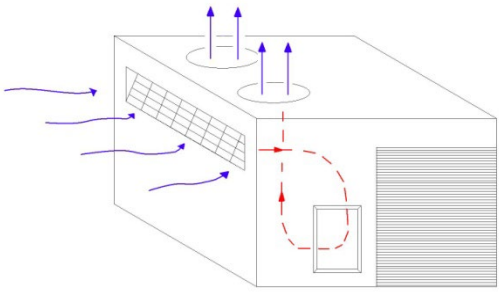
MANAGEMENT SYSTEM CERTIFICATE

PEDROLLO S.p.A. - Sede Legale e Operativa

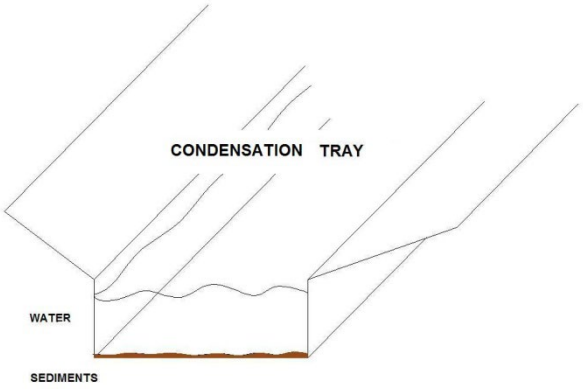
ISO 9001:2015

Filtration Stages:

1. As shown in the diagram below, the airflow passes through air filter category G3 composed by polypropylene fiber with gravimetrical capacity of 82%. This filter is reusable. Once a week should be removed and washed.

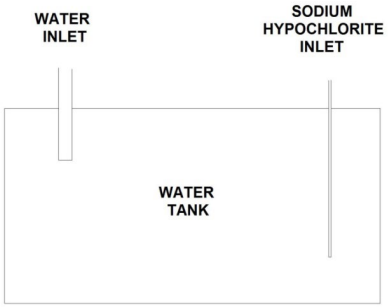


2. The next step of treatment is a natural settling of sediment that may have passed through the air filter. This settling occurs at the condensation tray. Once a week periodic cleaning should be done.

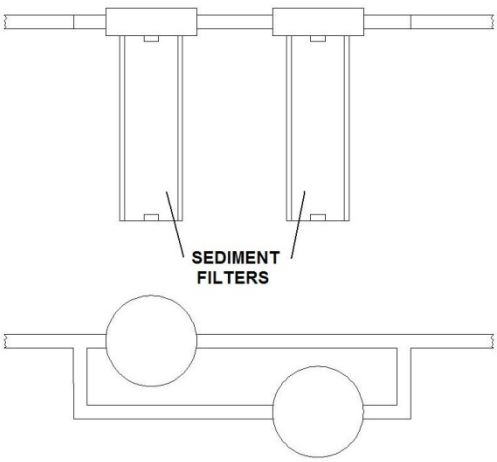


3. Then the filtered water passes to the storage tank when is treated by sodium hypochlorite injected by metering pump (brand TEKNA EVO, TPG model 603). This metering pump works in conjunction with a pulse counter (ZENNER brand, model ETK-IN, nominal flow rate of 1.5 m3 / h), the dosing quantity is 0.5 ml each 15 liters.

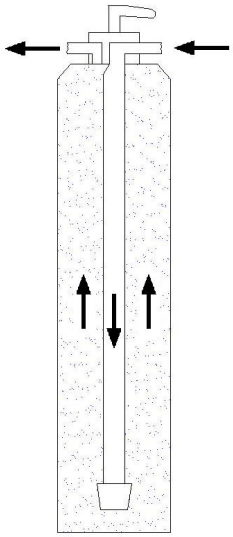
This data is always calculated under the rules of the World Health Organization assuming concentration of sodium hypochlorite near 1 ppm (1 part per million).



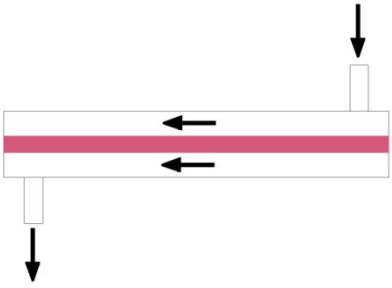
4. Next two sediment filters placed in parallel, achieve a flow rate of 1.6 m3/h; each has a maximum flow of 0.8 m3/h. The cartridge holder (transparent 3PL model) has connections of 1" and its flow rate ranges from 1.4 m3/h to 2.7 m3/h. These are standard components. It is recommended to replace every 3 or 6 months, depending on the environment they are located in.



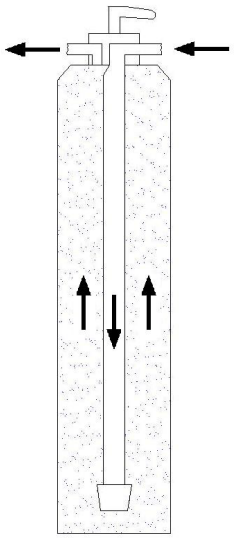
5. Now filtered water in stage 4, we do go through an active carbon filter, which kills 99.9% of bacteria and eliminates existing residual chlorine content in the water. The maximum flow through this filter is 4.5 m3/h. It is recommended to replace every 3 to 6 months.



6. This stage consists in the passage of water through an ultraviolet light to eliminate any bacteria that was not removed in the previous steps.
The maximum flow rate that can pass through the ultraviolet light is 2.5 m3/h.



7. Finally, the water passes through a re-mineralizing filter. There is a re-mineralizing compound inside (Kalaphos PH +) adding water minerals such as calcium and magnesium, and to regulate the PH of the water.
The maximum flow through this filter is 4.5 m3/h. It is recommended to replace this filter every 3 to 6 months.
The consumer can choose what minerals to be added to the water, to suit the custom re-mineralization.



APU Alternative Power Unit (OPTIONAL)

- High-Performance Energy Diesel Generator
- Engine Manufacturer - Deutz AG
- Alternator Manufacturer - Mecc Alte
- 120 Kva, 480v - 3ph - 60Hz
- 240 Gallon Diesel Tank
- 4 Days of Autonomy Run

Factors that bring value to this product are possibilities of power-supply shortages in some areas, high temperatures, temporary or emergency health care and welfare locations.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