

Boreal Light GmbH

Johann-Hittorf-Straße 8 12489, Berlin, Germany

sales@winture.de / www.winture.de

































## Boreal Light GmbH

Boreal Light GmbH is a young Berlin based company specialized on renewable energy solution for water treatment facilities. The company designs and manufactures affordable solar water desalination systems for off-grid communities around the globe. Systems manufactured by Boreal Light are capable of delivering high quality hygiene drinking water from any kind of high saline and polluted water resources. Powered fully by solar, simplicity of the design and affordability of the cost of the systems manufactured by Boreal Light are the three great competences the company is proud of.

Winture® and WaterKiosk® are the two registered trademarks for systems and services offered by Boreal Light GmbH.



**MADE IN BERLIN** 

# **HEAVY DUTY SOLAR DESALINATION SYSTEM** DESIGNED FOR HARSHEST CLIMATE CONDITIONS, FROM DESERTS TO RAINFORESTS WINTURE® IS AT WORK!

### Solar + Water

brackish water resources. Winture® is designed to perform being connected to the world! under harshest climate conditions of remote parts of the The operation of Winture Planet Cubes, installed around the hour. Winture® removes 99% total dissolved solids (TDS) greatest performance of our systems. from the intake contaminated resources, and delivers drinking water free from any organic and inorganic contamination, bacteria and viruses. The concept behind the design of Winture® Planet-Cube is to have an 💥 Long life RO membrane 3-5 years 🚁 DC outlet for radio and mobile charging independent off- grid system, capable of working outdoor for long time with the lowest possible maintenance services.

Winture® requires no diesel generator, or grid connections to work. All components are designed to work with DC electricity input from solar panels. A relatively small solar array provides enough electricity for the system to run. The stand-alone character of Winture® makes it an ideal solution wherever access to clean water is an issue. While

Winture® Planet-Cube ASW/ABW is a robust outdoor charging possibility for up to 10 devices at a time. That, for water desalination system able to produce drinking and people in rural areas, means Winture® provides for them irrigation water directly from high saline seawater and both safe drinking water and reliable electricity to keep

world. The standard Winture® solutions provide from 100 globe, is under live surveillance of 24/7 from Boreal Light liters to up to 10,000 liters of hygiene drinking water per GmbH's monitoring office in Berlin to guarantee the



User-friendly interface



Automatic hose reel







Outdoor compatible enclosure, IP55 Two-year warranty





USB outlet, 24v 3A, 2.1A, 1.1A



**6**→ 24/7 monitoring



Powered by solar energy



Robust design and system durability



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unsafe life fresh public thirst potable water dropquality classical potable water dropquality classical potable water droppus the potable water drop bottled water water resource typhoid purity

### Winture Planet Cube

Capacity	Optional from150 l/h up to 20,000 l/h	
Structure	Containerized	
Chassis material	Aluminum	
Steel fixings	304, 316, 316L	
Filtration Technology	Reverse Osmosis (RO)	
Membrane	Filmtec DOW Membrane	
Membrane life	3 – 5 years	
Raw water source	Seawater/brackish water/ surface water/waste water	
Contamination	Organic and inorganic, fluoride, chloride, salinity up to 42,000 TDS	
Quality of produced water	120 - 300 TDS	
Pre-filtration	3x 5μm micron Pre-filter/ 1x Activated carbon filter/ 1 x Sand filter	
Post-filtration	Mineralization	
Disinfection Unit	Up to 3 UV sterilization	3
Power supply	Hybrid (solar, wind, diesel)	1
Power consumption unit	Average 3 kw/M3	U
Backup batteries	2 x 100ah 12v VRLA	0
DC Outlet	24v 2 x 3.1A 2 x 2A	
Controlling System	Digital	
	24/7 remote monitoring, 3G, 4G, SMS Intake water	
Performance monitoring	quality & volume, Outgoing water quality & volume	
	Solar panels voltage, Fertilizers tanks, System pressure	
Pumps	Submersible, feed, Booster, and elevating	
System pressure	Max. 55 bar	
Optional	Extra UV Sterilization, Wind turbine power supply	
Warranty	Two Years	

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## Winture Planet Green

Capacity	Optional from 2000 l/h up to 20,000 l/h
Structure	Containerized
Chassis material	Aluminum
Steel fixings	304, 316, 316L
Filtration Technology	Reverse Osmosis (RO)
Membrane	Filmtec DOW Membrane
Membrane life	3 – 5 years
Raw water source	Seawater/brackish water/ surface water/waste water
Water delivery	Drip irrigation
Contamination	Organic and inorganic, fluoride, chloride, salinity up to 42,000 TDS
Quality of produced water	600 - 1000 TDS
Pre-filters	3x 5μm micron Pre-filter/ 1x Activated carbon filter/ 1 x Sand filter
Soil tester	pH, conductivity, temperature, water content
Fertilizer	6 x Water Soluble Fertilizers tanks
Fertilizer dosage	Fully automatic
Disinfection Unit	1 x UV sterilization
Power supply	Hybrid (solar, wind, diesel)
Power consumption unit	Average 2 kw/M3
Backup batteries	2 x 100ah 12v VRLA
Controlling System	Digital
	24/7 remote monitoring, 3G, 4G, SMS Intake water
Performance monitoring	quality & volume, Outgoing water quality & volume
	Solar panels voltage, Fertilizers tanks, System pressure
Pumps	Submersible, feed, Booster, and elevating, Drip irrigation
System pressure	Max. 45bar
Optional	Extra UV Sterilization, Wind turbine power, extra fertilizer tanks
Warranty	Two Years



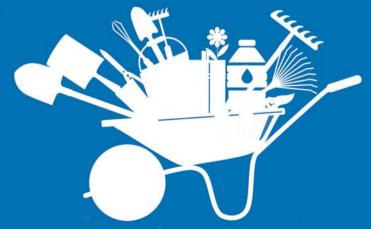
## The integrated approach

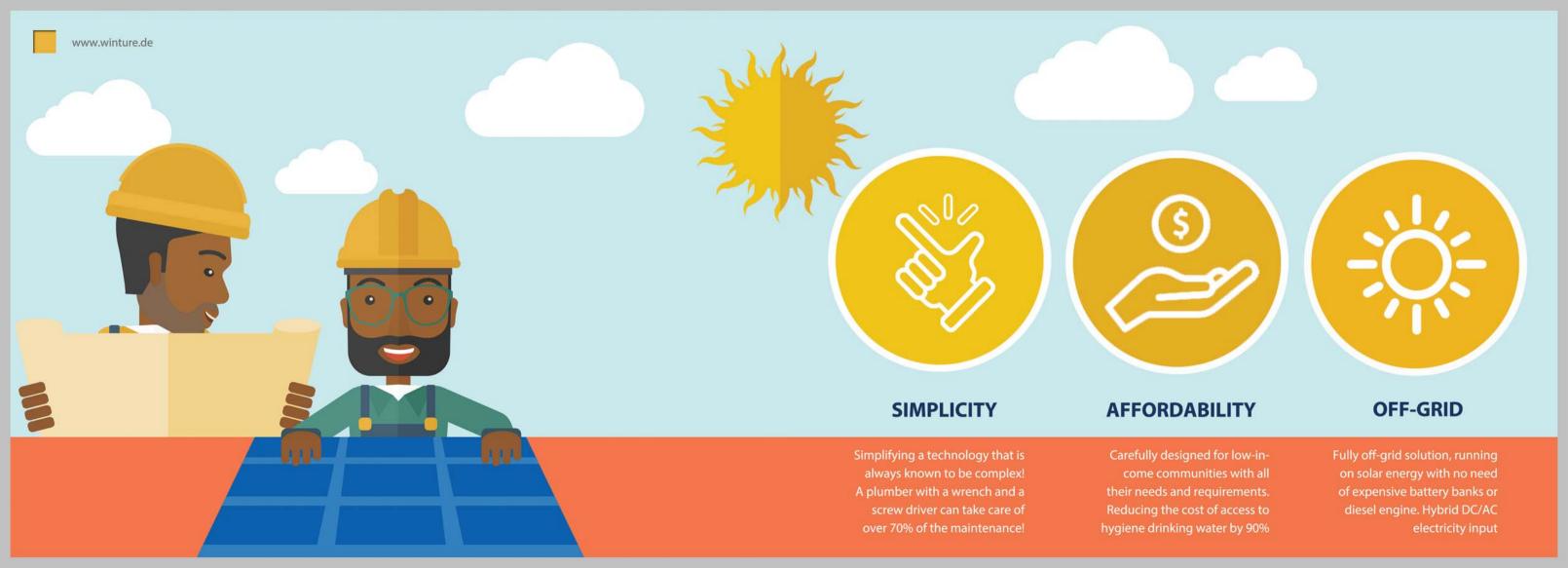
climate change impacts. At Boreal Light GmbH's our commit- and even municipal waste water. ment to provision of water to off-grid communities is not limited to drinking water supply. While providing drinking water is A wide range of options, and a verity of functions to select are making them prosperous. Winture's integrated approach is offering an affordable all-in-one smart irrigation solution added have. to Winture Planet Cube solar desalination system to offer irrigation water and fertilizers to farm lands. A verity of sensors constantly analyse soil characteristics and communicate with Winture's main controller. The smart controller then runs the drip irrigation system and releases right dosage of fertilizers plants may need.

The Plug&Play characteristic of Winture solutions assures farmers in the most remote parts of the world to have the minimum hassles and difficulties over installing the machine, running such a technology and taking care of the maintenance. In addi-

Having an integrated drinking water, irrigation water and elec- farmers deal with any kind of pollutions at their intake water. tricity supply solution for farmers and villagers around the Winture takes all salt, chloride, fluoride, bacteria and viruses out globe is a key to increase their resilience against the growing from any kind of seawater, high brackish water, surface water

letting people survive, offering them irrigation water is what to provide the chance of having a tailored designed solution for the exact needs every individual farming communities may

















### 24/7 Service

A well mixture of remote monitoring/management and local representation of technical teams assures communities hosting any of Winture family, they are not left alone! Boreal Light GmbH's eyes and handesstay with our clients wherever they are.

### An ideal island solution

Winture Planet Cube and Winture Planet Green are the two modern, and at the same time simple, solutions of Boreal Light GmbH for any of off-grid communities struggling with their supply of water and electricity. Being entirely powered by solar energy, with an extra option of running at night time on diesel engine, represent Winture as a flexible solution well-tailored for the needs and requirements of its target market.







#### NAIROBI PROJECT /10K

WaterKiosk, 10,000 liter of water production per day from brackish water resource, at Kitangela - Nairobi 3 Permanent Job 5 Value added jobs

#### MKIROW PROJECT /5K

WaterKiosk, 5,000 liter of water production per day from direct seawater, at Mkirow village, Kenya 3 Permanent Job 5 Value added jobs

#### ADEN PROJECT /20K

Winture Planet Cube , 20,000 liter per day from high brackish water resource Aden, Yemen Plug&Play Containerized O Capital investment

**3** Permanent jobs

**5** Value added jobs

500 Mobile charging

1000 x 201 bottels per day

5000 people drinking water per day

