

GREEN TURBINE



The world's smallest micro steam turbine

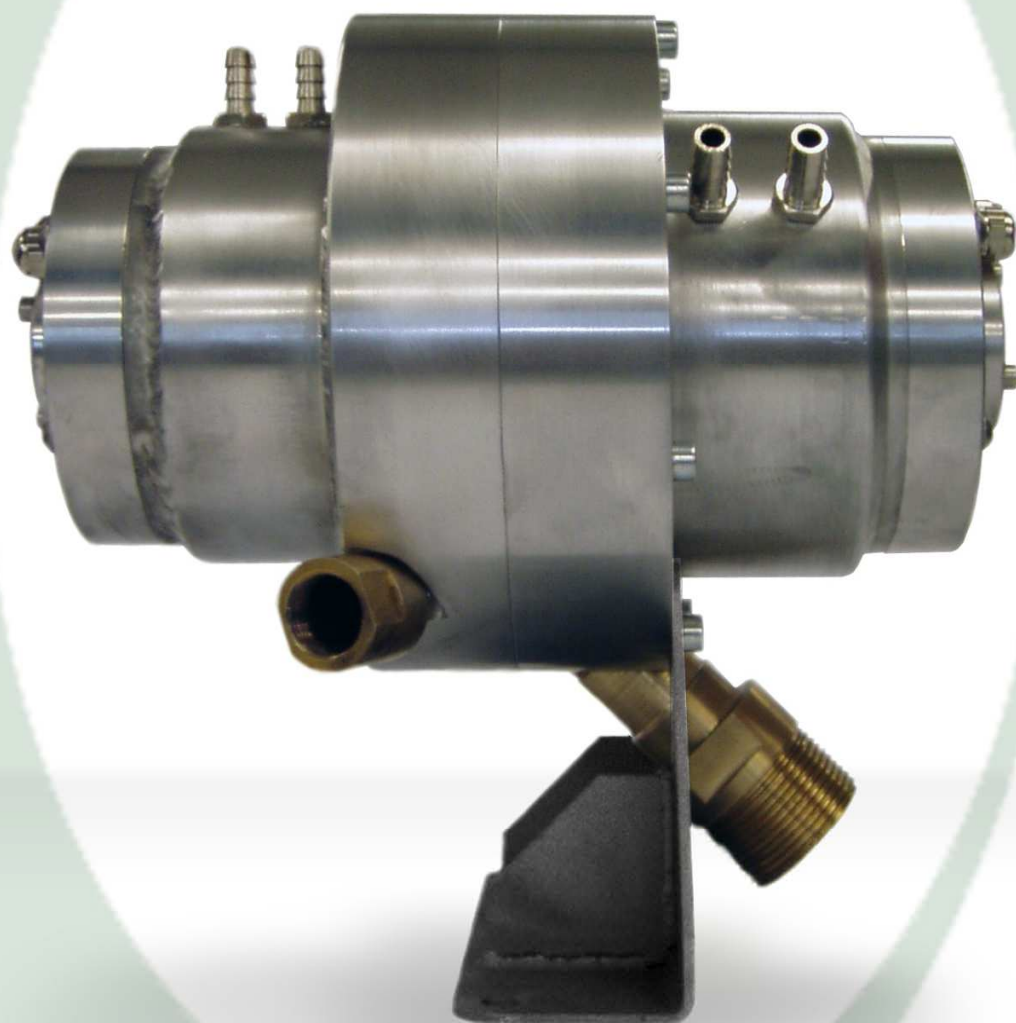
Green Turbine 15 kW

The Green Turbine is a small turbo generator that converts heat into electricity. This makes it very suitable for applications that require both heat and electricity.

Green Turbine can be driven by several fuel types including: biogas, fossil fuels, solar concentrated power, fuel cells and biomass.

Key benefits:

- ⦿ Utilizes Waste heat
- ⦿ Silent operation
- ⦿ Operates with temperatures as low as 130 ° C (266° F)
- ⦿ Low vibration
- ⦿ Practical design
- ⦿ Long service intervals and durability
- ⦿ Cost -reducing
- ⦿ High power to weight ratio
- ⦿ Very flexible in electrical power type; AC, DC, 1 of 3 phase, voltage, frequency



Green Turbine BV

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Green Turbine™ can be used in a number of different applications:

Concentrated Solar Power (CSP) In combination with solar dishes, parabolic trough fresnel reflectors and solar collectors.

Biomass All fuel types are suitable for GREEN TURBINE™. For example, wood, solar, photovoltaic, fossil fuels, fuel cell and biogas, Green Turbine is well suited to be used in the agricultural sector. With, for instance, wood waste, manure, corn or rapeseed.

Waste Heat Our product uses relatively low temperatures (from 130° C/266° F onwards). Using organic fluids is also possible. In combined cycle applications GREEN TURBINE™ can be used together with diesel engines, gas turbines and fuel cells to increase overall efficiency.

Shipping industry Small vessels with GREEN TURBINE™ can both reduce their emissions and save significantly on fuel costs.

Technical Description	Green Turbine 15 kW
Dimensions:	length: 37 cm, width: 26 cm (14.6 x 10 in)
Weight:	25 kg (882 oz)
Inlet conditions:	Superheated Steam 10 - 12 bar abs. Temp. 200-220°C (392-428°F)
Outlet conditions:	0,1 bar abs. 40° C (104 °F)
Steam consumption for 15 kW	0,04 kg/sec
Basic steam rate:	9,8 kg/kWh (steam to electricity after rectification)
Power output:	3 phase AC 1000 Hz, after rectification: DC. Voltage depends upon type of generator. Default is 500 V
Design speed:	26.000 rpm
Speed of steam after nozzle:	> 1000 m/sec
Temperature of turbine housing:	45°C (113 °F)