

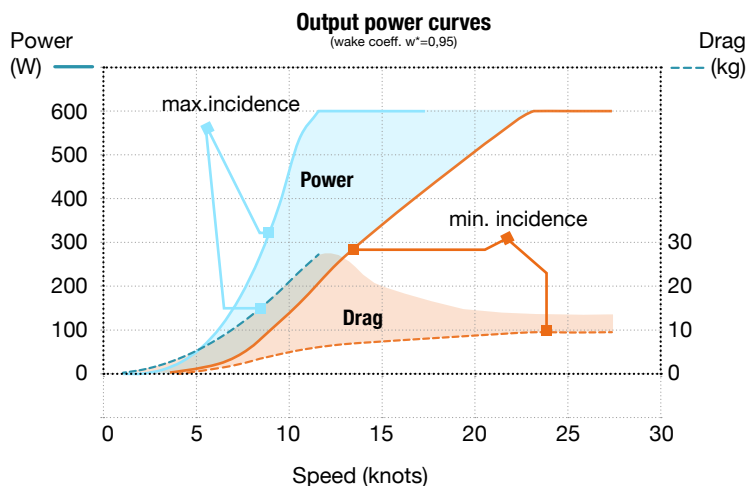
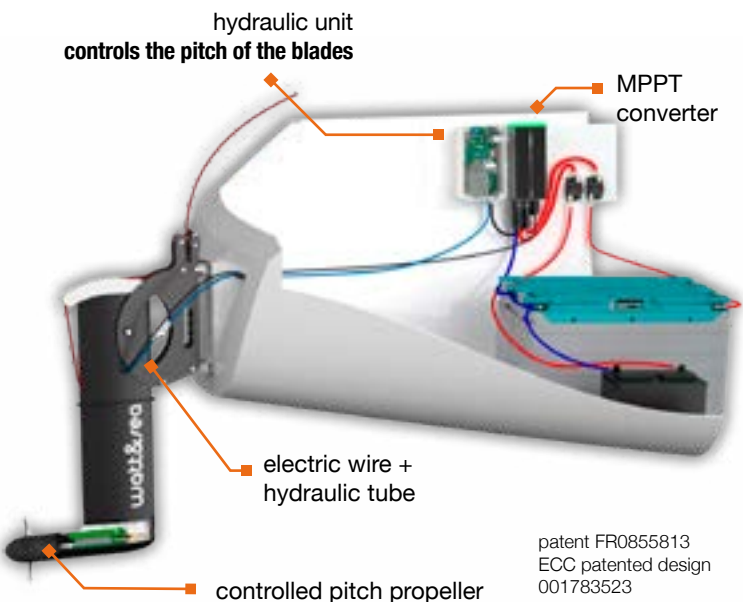


watt&sea RACING hydrogenerators have radically changed energy management on board and have become essential pieces of equipment in offshore races. They are equipped with a controlled pitch propeller, functioning electronically with an independent system. The drag is minimal and the energy output is optimal on a speed range from 5 to 30 knots.

Available in two versions : Aluminium Racing (PK-610-600-PV) and Carbon Racing (PK-610-600-PV/CAR)

### PACK CHARACTERISTICS

Charging voltage	12 or 24 V autodetected	
Maximum using speed	30 knots	
Leg length	610 mm	
Overall length with bracket	920 mm	
3-phases wire length	4 m (13 ft)	
Compatible batteries	All incl. Lithium	
Pack contents	1 hydrogenerator 1 converter 1 hydraulic unit Mounting accessories	
Hydrogenerator weight	7,7 kg	carbon
	8,2 kg	aluminium
Converter weight	1,5 kg	
Hydraulic pump weight	1,0 kg	
Warranty	2 years	



Theoretical drag of the blades calculated in CFD. For equal power, the drag is less at high speed than low speed.

This new-design wind-generator is under testing since one year in collaboration with MACIF Design Team with the goal to achieve **full autonomy** on their giant trimaran.

We applied our knowledge from well-proven hydrogenerator technology to transpose its efficiency to wind generation. The result is a powerful and lightweight windgenerator. The prototype installed on MACIF trimaran showed great durability during *François Gabart's* solo-round-the-world record.

Compared to conventional wind-generators **this new design offers unique advantages for «racing» use :**

- + High stability in turbulences and waves
- + Waterproof
- + Ultra light thanks to brushless alternator technology
- + Storm mode to operate in 30-50 knots range
- + Aerodynamic design : unperceivable drag, not affecting boat speed
- + 120W production (10A in 12Vcc) at 20 knots

**+ high stability :** due to downwind design (= propeller at the rear), the turbine is stable by construction and do not need a stabilizer or a tail fin. It follows the stream just as our hydrogenerators follow the waterflow and produces a very stable output.

**+ high performance :** thanks to this stability, the «real life» net power is well in agreement with laboratory data.

**+ waterproof :** oil-lubricated alternator with hi-tech seals

**+ high wind range : «storm mode»** selectable on the converter to withstand winds up to 50 knots and have power in any conditions.

**+ low drag :** blades have been specially designed to achieve the lowest drag possible and ensure quiet working.

**+ safer :** on sailing multihulls the blades are always turned to the back so that the turbine is easy to handle from the leg.