

Capricorn Tidal Turbines

Reliable, cost efficient and most environmentally sound tidal generator available.

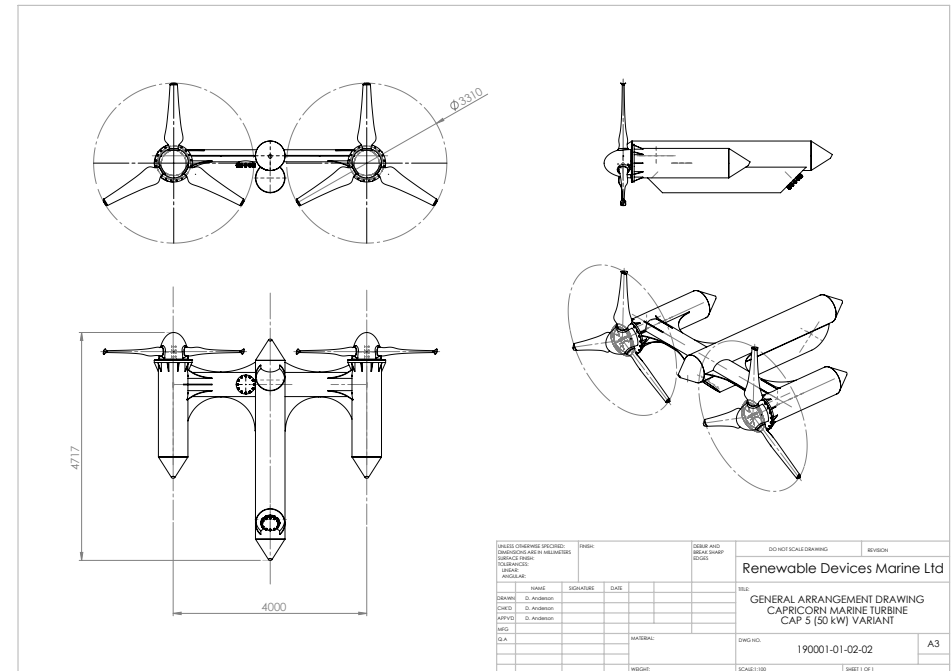
Technology to simplify, strengthen and deliver.

CAPRICORN MARINE TURBINE

OVERVIEW

The Capricorn range of turbines have been assessed by DNV-GL and use technology to decrease complexity and increase reliability. The range of turbines generate environmentally sound energy at the lowest cost of any other marine generation technology.

Using a patented blade profile design to remove the need for the turbines to yaw or the blades to be pitched as the tides vary in magnitude and direction. Using proven generator technology and reliable electrical systems the running gear has been proven efficient and reliable subsea for decades. Other patented features allow our devices to be towed to site by a small vessel and then catenary moored or installed onto sub-sea foundations using a small guide crane only. Thus eliminating the need for large specialised vessels that have made the development and wide scale use of tidal energy so costly. The result is that the deployment and maintenance of the Capricorn turbines is a fraction of the cost of our competitors.



Development of technologies in the Capricorn Marine Turbine come from a wealth of intellectual property developed within the Renewable Devices Group. Building on this exceptional technology pedigree, Renewable Devices Marine Ltd has developed a unique tidal stream turbine. The Capricorn Marine range generates electricity from the lowest tidal marine flows found on coastlines globally to the high flow sites in specialised areas.



Renewable Devices Marine Ltd

House, 15 Roslin Glen, Roslin Country Park, Edinburgh, EH25 9PX, UK

Tel: +44 (0)131 448 0660 Fax: +44 (0)131 440 3094

INFO@CAPRICORNMARINE.COM

WWW.CAPRICORNMARINE.COM

Private Limited Company No. 285878

Bi-directional Rotors

The capricorn turbines have patented Bi- directional rotors, the only tidal turbine able to operated efficiently in both directions of flow. Capricorn turbines have no costly and complex yaw and blade pitch mechanisms.

Hydro-Structural Spar

Manufactured using a patented hydro-structural triaxial spar within a monocoque the fatigue and strength properties are proven and reliable. Elimination of the effect of fibre breakage and fatigue delaminate makes the capricorn rotor the most reliable technology available.

Zero wake acoustic suppression

Patented blade tip design derived from 15 years of research and successful usage across the renewable devices product range eliminate tip vortexes.



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The Renewable Devices group of companies have a reputation for the designing and delivering accessible renewable energy products. From deep sea marine to wind turbines, the companies award winning designs deliver the best value energy possible. Renewable Devices designs and manufactures products with the lowest possible impact to the environment and has a reputation for reliability that is unbeaten within the industry. The philosophy of using modern technology to develop simplicity of design allows the use of the latest materials and innovations without increasing the cost of the end product. The Group's Swift wind turbine, has sold over 3,500 units, won international design awards, been described as "unnaturally quiet" proven reliability globally, now retails at £1,500 which competes with PV, and has been described as unnaturally quiet by the world leading wind energy experts.



| CAPRICORN MARINE TURBINE TECHNICAL DATA | | |
|--|---|---|
| | CAP 5 | CAP 125 |
| Rated power | 50 kW to 500KW | 1.25 MW |
| Rotor diameter | 3.31 m | 16 m |
| Number of blades | 3 x 2 | 3 x 2 |
| Nacelle length | 4.71 m | 22.7 m |
| Nacelle width (incl blades) | 7.31 m | 35.1 m |
| Stream velocity generation range | 0.6 - 6.2 m/s | 0.6 - 3.8 m/s |
| Foundation/ anchoring system | Catenary mooring Monopile Gravity | Catenary mooring Monopile Gravity |
| Installation depth | 11- 50 m | 53 - 100 m |

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