



Photo: Mike Brookes-Poper

Product

BSFI 3000 Braking Systems with SOBO®

Application

Tidal Turbine

Highlights

- Mono-spring, hydraulically-released caliper brake
- 120,000 N clamping force
- Dual function: emergency stop and parking brake
- DNV certified
- Unique soft braking controls (SOBO)
- Hydraulic power units manufactured in-house

A reliable rotor braking solution was needed for a 1MW tidal turbine installed at the EMEC's tidal test site in Scotland. Based on previous successful collaboration with the OEM on a smaller 300 kW turbine design (the world's first tidal turbine permanently connected to the public grid), the new turbine's engineering and construction firm contacted Svendborg Brakes.

Working closely with the customer's team, Svendborg Brake engineers provided all verifications and calculations, along with design and production drawings and documentation for DNV certification. Several service visits to the turbine production plant were also conducted prior to the turbine's shipment to the Orkney Islands for installation.

Svendborg Brakes supplied a pair of Model BSFI 3000 mono-spring, hydraulically-released brakes that provide 120,000 N clamping force each to meet the challenging tidal turbine application requirements.

Each brake is connected to a custom-designed, 2-stage hydraulic power unit (HPU). During normal operation only one unit is active. Both HPUs are operated by a SOBO (Soft Braking Option) control and can be activated individually or together.

Manufactured in-house, Svendborg's specialized HPUs are equipped to monitor oil level and temperature, motor and pump function, and operational pressure.

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