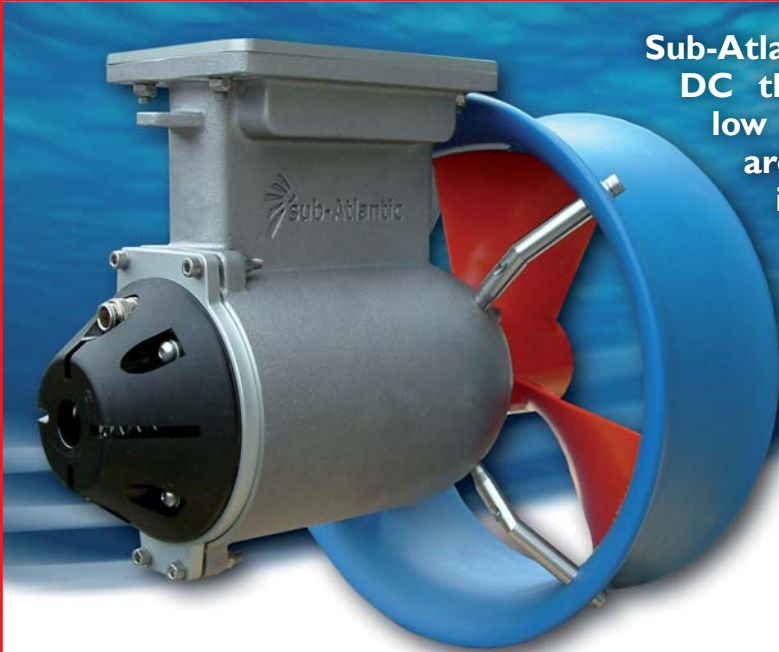


Brushless DC Thrusters







Sub-Atlantic's new direct drive range of brushless DC thrusters break new ground in thrust, low weight and enhanced reliability. They are currently available in four sizes, each incorporating Sub-Atlantic's unique Statorshield™ technology.

- High Reliability, Rugged Design
- Unique Statorshield™ Technology
- Continued Operation in the Event of Shaft Seal Failure
- Forward / Reverse Thrust within 5-10% Band
- Four Sizes Available
- Direct Drive Reliability (no gearbox)
- Lightweight Design
- Integral Drive Electronics
- Various Connector Options
- Various Voltage Options

Sub-Atlantic's unique Statorshield™ system allows the thruster to continue running in the event of a shaft seal failure and subsequent flooding, without damage to the winding or electronic components. Integral electronic drives are oil filled and pressure compensated to 3000 metres / 10,000 feet. Four sizes are available with propeller diameters up to 380 mm / 15" and bollard thrusts up to 220 kgf / 485 lbf.



Image	Thruster Model	Propeller Diameter	Maximum Bollard Thrust	Supply Voltage (Standard)	Control	Weight in Air	Weight in Water
	SPE-75	144 mm 5.7 inches	26 kgf 57 lbf	300 Vdc	+/- 5 Vdc	3.3 kg 7.3 lbs	2.0 kg 4.4 lbs
	SPE-180	178 mm 7.0 inches	45 kgf 99 lbf	300 Vdc	+/- 5 Vdc	5.9 kg 13.0 lbs	3.8 kg 8.4 lbs
	SPE-250	246 mm 9.7 inches	100 kgf 220 lbf	600 Vdc	+/- 5 Vdc & CAN	13 kg 28.6 lbs	8.0 kg 17.6 lbs
	SPE-380	385 mm 15.2 inches	220 kgf 485 lbf	600 Vdc	Requires separate controller	42 kg 93 lbs	25 kg 55 lbs

Statorshield™ Technology Equates to Reliability

Subsea thrusters are prone to water entering through the shaft seals and causing short circuit failure of the stator windings. Statorshield™ technology eliminates this problem by the introduction of an internal



sealed diaphragm located between the rotor and stator, creating two separate isolated and sealed volumes (Rotor cavity and Stator cavity). Water cannot reach the stator and electronics through the shaft seal preventing a catastrophic failure due to shaft seal leakage. Operation can continue until the machine is recovered when the rotor cavity can be flushed, seals replaced and refilled with oil.

Innovative Shaft Sealing

The thruster incorporates our proven ceramic wearing technology used on all our current electric and hydraulic thrusters. The ceramic ring provides a durable hard surface that prevents wear to shaft and the resultant seal damage and consequential flooding.



Integral Drive Electronics

All thrusters (except the SPE-380) have integral drive electronics built into the housing. Electrical connections consist



of main DC power input and a control signal. The control is analogue (+/- 5 Vdc) but serial and CAN control is also available on some thrusters (see table above).

Depth Rating

Thrusters are rated to 3,000 metres / 10,000 feet which is currently limited by the integral oil compensated drive electronics. Rating can be increased to full ocean depth by placing the electronics in a one-atmosphere housing.

Pressure Compensation

Both the Rotor and Stator cavities are compensated separately. The rotor cavity by a integral compensator on the rear of the thruster while the stator cavity must be compensated by a separate external unit. A range of Compensators are available from Sub-Atlantic.

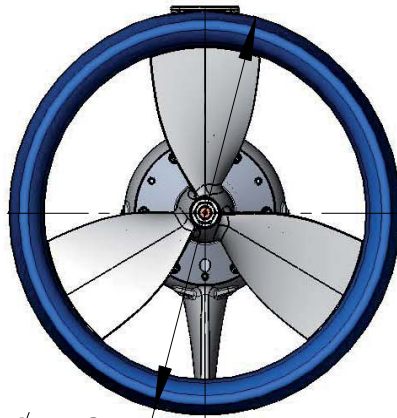


Electrical Connector

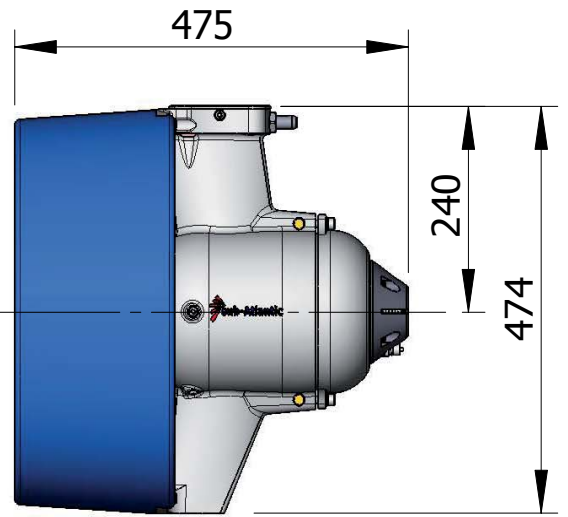
Thrusters can be supplied with either Tygon oil filled cables or standard cable whips with end connections to suit customer's requirements.



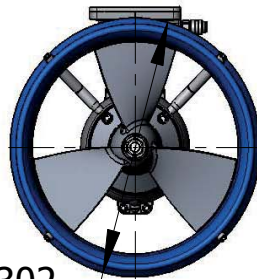
Model SPE-380
Refer to Drawing 3909-GA



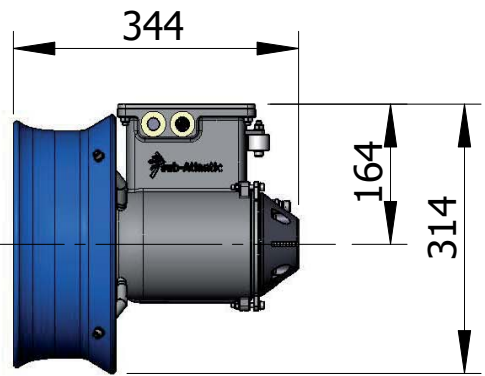
Ø 472



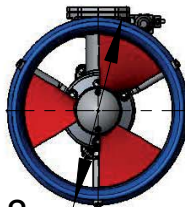
Model SPE-250
Refer to Drawing 3153-GA



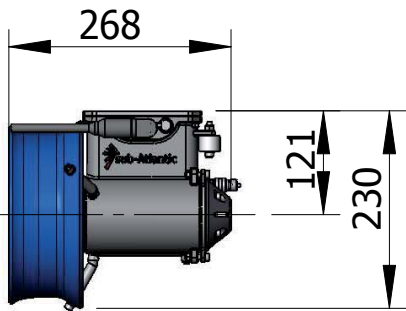
Ø 302



Model SPE-180
Refer to Drawing 3152-GA



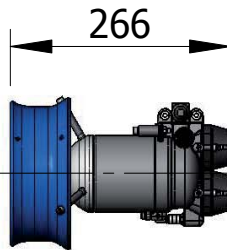
Ø 218



Model SPE-75
Refer to Drawing 1935-GA



Ø 177



■ 3D CAD models are available on request

The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.



Sub-Atlantic Ltd. Woodburn Road, Blackburn Business Park, Blackburn, Aberdeen. AB21 0PS. UK
T: +44 1224 798660 F: +44 1224 798661 E: sales@sub-atlantic.co.uk

Sub-Atlantic Inc. 10642 West Little York, Suite 100, Houston, TX 77041-4014-USA
T: +1 713 329 8730 F: +1 713 329 8299 E: sales@sub-atlantic.com