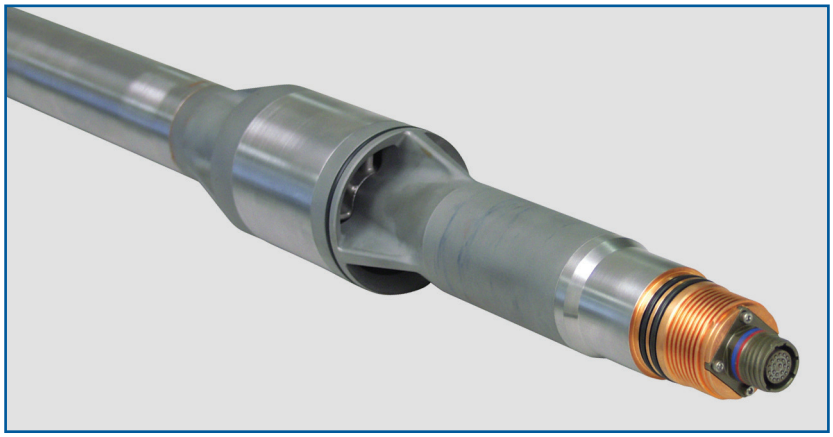
MWD Turbine Alternator

The APS Turbine Alternator[†] is a high-temperature, axial flow design for use in measurement-while-drilling (MWD) and logging-while-drilling (LWD) systems. This device provides reliable, ongoing power at temperatures of up to 175˚C, taking the place of expensive, short-lived disposable batteries. The turbine is configurable to match the required flow rates for typical BHA/hole size combinations.



Product Specifications

Operating Temperature	347˚F (175˚C)
Pressure	20,000 psi (138 MPa)
Output Power	150 W
Voltage, Regulated (Configurable)	28 - 60 VDC
Flow Rate	3.125 in. (79 mm) – 150 to 270 gpm (6.5 to 17 L/sec) 3.75 in. (95 mm) – 250 to 775 gpm (15.8 to 48.8 L/sec) 4.82 in. (122 mm) – 400 to 1300 gpm (25.2 to 82 L/sec)
Housing Diameter	1.875 in. (48 mm) / 2.06 in. (52 mm) / 1.875 in. (48 mm)
Overall Length	60 in. (1,524 mm)
Weight	Approx. 45 lbs. (20.4 kg)
Turbine Housing Diameter	3.125 in. (79 mm) for 4.75 in. (121 mm) drill collar 3.75 in. (95 mm) for 6.5 in. (165 mm) & 6.75 in. (171 mm) drill collar 4.82 in. (122 mm) for 8 in. (203 mm) & larger drill collar
Connections	The uphole and downhole connections use the robust APS 1.625-10 Stub Acme shouldered connections. Male threads are copper plated for galling resistance. Other connections or crossovers can be supplied for different architectures.
Connectors & Feed-Through Conductors	Deutsch 22 conductor connectors with 4 x 26 AWG unshielded and 5 x 32 AWG coaxial shielded feed-through conductors, plus 2 power and 2 ground lines and a frequency line.

[†] *U.S. Patent #7,201,239*

Headquarters ◆ Wallingford ◆ USA
7 Laser Lane, Wallingford, CT 06492 USA
Phone: 860.613.4450 ◆ Fax: 203.284.7428
contact@aps-tech.com

Rev. 160713-vC.01