



EROSION / CAVITATION CORROSION TESTERS

Erosion / Cavitation Corrosion Tester | ASTM D2809 Testing

A cavitation corrosion tester evaluates how well an engine coolant protects an aluminum water pump from cavitation corrosion and erosion-corrosion, the pitting and material loss that forms when vapor bubbles collapse against a pump's metal surfaces. Torontech's TT-2809 runs the ASTM D2809 test, circulating coolant through an aluminum pump under controlled vacuum, flow, and temperature to reproduce these conditions in the lab.

Results distinguish coolants that contribute to pump damage from those that do not, and the same setup can isolate how pump design, materials, and operating conditions affect cavitation resistance.

Why Choose Torontech for Your Erosion / Cavitation Corrosion Tester

Torontech supplies testing and measurement equipment to laboratories and manufacturers across North America and worldwide, backed by responsive technical support and calibration service. The Erosion / Cavitation Corrosion Tester range is built for reliable, standards-driven results, so you can standardize on one supplier as your testing needs grow. Our team helps you match the right configuration to your samples, applicable standards, and throughput, then supports you through installation and beyond.

Request a Quote

Tell us about the coolants or water pumps you need to qualify, and we will help you configure the right ASTM D2809 test setup. [Contact the Torontech team](#) for pricing and lead times.

APPLICATIONS

Applications

Cavitation and erosion-corrosion testing matters anywhere an aluminum water pump runs continuously against circulating coolant.

- Automotive and Engine OEMs: validates coolant formulations before factory-fill approval, protecting aluminum water pumps and the cooling system they support.
- Coolant and Additive R&D: benchmarks new formulations and inhibitor packages for cavitation and erosion-corrosion resistance ahead of field trials.
- Heavy-Duty and Off-Road Equipment: screens coolants for diesel engines that run under sustained high loads, where pump cavitation risk runs higher.
- Water Pump Manufacturing: supports R&D into how pump design, materials, and impeller geometry affect resistance to cavitation and erosion-corrosion damage.

TECHNICAL SPECIFICATIONS

Erosion / Cavitation Corrosion Tester Range

Torontech's range centers on one apparatus built specifically for the ASTM D2809 test method.

Apparatus for Cavitation Corrosion and Erosion-Corrosion Characteristics (TT-2809)

Circulates coolant through an ASTM D2809-compliant aluminum water pump while a vacuum gauge, throttling valve, and heat exchanger hold the pump inlet vacuum, flow, and coolant temperature at the test method's required conditions. Pump speed runs up to $4,600 \pm 100$ r/min, with digital pressure and temperature readouts for a repeatable, controlled run.

How to Choose the Right Erosion / Cavitation Corrosion Tester

- For factory-fill coolant approval on aluminum water pumps: run the TT-2809 before finalizing a coolant formulation for OEM release.
- For heavy-duty and off-road diesel programs: use the TT-2809 to confirm a coolant protects water pumps under the higher cavitation risk of sustained high-load operation.
- For coolant and inhibitor R&D: benchmark new formulations against ASTM D2809 pass/fail criteria before committing to field trials.
- For water pump design validation: run controlled ASTM D2809 tests to compare how pump geometry, materials, or operating conditions affect cavitation resistance.



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