



FREEZING POINT APPARATUS

Freezing Point Tester for Engine Coolant

Freezing point testing is an essential quality control measurement for engine coolants and antifreeze formulations. The freezing point of a coolant directly determines its ability to protect vehicle cooling systems against ice formation at low ambient temperatures — a critical safety and reliability parameter for automotive, commercial vehicle, and industrial engine applications.

Torontech's automatic freezing point tester for engine coolant delivers rapid, accurate freezing point determination of ethylene glycol and propylene glycol-based coolant formulations. The instrument provides reliable freeze protection verification, helping coolant manufacturers, blenders, and end users confirm that their products meet the required freezing point specifications for the intended service environment.

APPLICATIONS

Application

Freezing point test capability is required across a range of coolant and antifreeze applications:

- Automotive engine coolants: Freeze protection verification for passenger car and light truck coolant formulations before packaging and distribution.
- Commercial vehicle and heavy-duty coolants: Truck and bus engine coolants require precise freezing point control for cold-climate fleet operations.
- Industrial heat transfer fluids: Glycol-based process cooling fluids used in manufacturing, HVAC, and refrigeration systems require freezing point test validation.
- Coolant blending operations: Concentrate-to-water dilution ratio verification using freezing point measurement ensures correct antifreeze protection levels.

- Maintenance and service centers: Fleet and vehicle service facilities use freezing point testers to verify that coolant in service vehicles provides adequate freeze protection.
- Coolant quality control: Production laboratories at coolant manufacturers use automatic freezing point testers for batch release testing and specification compliance.

FEATURES

Why Choose Torontech's Series for Your Freezing Point Testing?

Torontech's automatic freezing point tester is designed specifically for the demands of engine coolant quality control:

- Automatic Operation: Fully automated cooling, detection, and result display eliminate operator subjectivity and reduce testing time compared to manual methods.
- Accurate Freeze Protection Determination: Precise temperature sensing and controlled cooling rates ensure accurate freezing point values for ethylene glycol and propylene glycol coolant formulations.
- Standards Compliance: The instrument supports testing in accordance with ASTM D1177 (freezing point of engine coolants), ASTM D3321, and related specifications.
- Rapid Throughput: Automated freezing point test cycles allow multiple samples to be processed efficiently, supporting high-volume coolant production QC.
- Compact, Laboratory-Ready Design: Torontech's automatic freezing point tester is designed for benchtop use, requiring minimal bench space while delivering full analytical capability.
- Broad Coolant Compatibility: Suitable for both ethylene glycol (EG) and propylene glycol (PG) based coolant systems across the full range of commercially available antifreeze concentrations.



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