



DISTILLATION APPARATUS

Distillation Apparatus

Distillation characteristics are among the most important properties of petroleum fuels and solvents. The distillation profile of a product — the temperature range over which it evaporates — directly governs its combustion performance, volatility, cold-weather operability, and storage safety. For fuels such as gasoline, diesel, jet fuel, and kerosene, distillation testing is a mandatory quality control and regulatory compliance requirement.

Torontech's distillation apparatus range encompasses automatic, double-tube, and vacuum distillation systems, addressing the full spectrum of petroleum product distillation testing requirements. Each instrument is engineered for precision, repeatability, and compliance with established ASTM, IP, and ISO distillation standards.

APPLICATIONS

Application

Distillation testing is applied across the full range of petroleum products and refinery streams:

- Gasoline and naphtha: Distillation profiles define front-end volatility, driveability, and vapor lock risk under ASTM D86.
- Diesel and jet fuel: Middle distillate distillation characteristics determine cold filter plugging behavior and combustion quality.
- Aviation fuels: Strict boiling range control ensures ignition performance and thermal stability at altitude.
- Heavy petroleum products: Vacuum distillation (ASTM D1160) is used for high-boiling materials that would thermally crack under atmospheric distillation conditions.
- Crude oil evaluation: Distillation assay data is fundamental for refinery planning and feedstock valuation.
- Solvents and chemical feedstocks: Purity and composition are verified through distillation cut-point analysis.

FEATURES

Why Choose Torontech's Series for Your Distillation Testing?

Torontech's distillation apparatus systems are designed to deliver accurate, repeatable results with minimal operator intervention:

- **Automatic Operation:** The automatic distillation apparatus eliminates manual observation errors, with automated temperature recording, vapor temperature measurement, and volume detection aligned with ASTM D86.
- **Double Capacity:** The double-tube distillation apparatus allows simultaneous testing of two samples, significantly improving laboratory throughput.
- **Vacuum Distillation Capability:** For heavy oils and residues, the vacuum distillation apparatus provides accurate boiling range data under controlled reduced pressure (ASTM D1160), preventing thermal decomposition.
- **Precision Temperature Control:** All Torontech distillation units feature calibrated temperature measurement to ensure compliance with method specifications for each distillation fraction.
- **Durable Design:** Instruments are constructed for long-term laboratory use, with easy maintenance and spares availability.



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