



DIESEL FUEL TESTING EQUIPMENT

Diesel Fuel Testing Equipment

Diesel fuel is the backbone of global commercial transportation, power generation, and industrial equipment operation. As environmental regulations tighten and engine technology advances, the quality requirements for diesel fuel have become increasingly demanding — encompassing not only traditional parameters like flash point, distillation profile, and density, but also ultra-low sulfur compliance, cold operability (CFPP), lubricity, oxidation stability, and precise cetane number determination.

Torontech's diesel testing equipment portfolio is the most comprehensive available for modern diesel fuel quality control and specification compliance. With 23 instruments covering every critical diesel fuel test parameter, Torontech provides petroleum laboratories with the complete analytical capability needed to characterize diesel fuel against ASTM, EN, IP, and ISO standards — from basic safety testing to advanced elemental and compositional analysis.

APPLICATIONS

Application

Torontech's diesel testing instruments address quality control requirements at every stage of the diesel fuel supply chain:

- Ultra-low sulfur diesel (ULSD) compliance: Ultraviolet fluorescence sulfur tester (TT-5453, ASTM D5453) delivers the sub-10 ppm sulfur detection required for Euro 6, EPA Tier 3, and CARB specification compliance.
- Flash point safety verification: Pensky-Martens closed-cup flash point testing (ASTM D93) is the standard safety test for diesel fuel — a mandatory specification parameter for transportation, storage, and handling.
- Distillation profile analysis: Atmospheric distillation (ASTM D86) defines the boiling range characteristics that govern diesel combustion quality, cold-start performance, and cold filter plugging behavior.
- Cold climate operability: CFPP (Cold Filter Plugging Point) testing per EN 116 (TT-6371) predicts diesel filterability at low temperatures — critical for winter-grade diesel specification and fleet operations in cold climates.
- Lubricity assessment: The HFRR (High Frequency Reciprocating Rig, TT-6079, ISO 12156-1) test determines diesel fuel lubricity, essential for protecting fuel injection system components in modern high-pressure common rail (HPCR) diesel engines.
- Cetane number determination: The portable octane/cetane tester (TT-131) enables rapid cetane number estimation for diesel quality screening at terminals, depots, and in-field quality control operations.
- Water content monitoring: Karl Fischer titration (coulometric TT-6304 for trace moisture, volumetric TT-203 for higher levels) ensures diesel fuel meets the tight water content limits required to prevent filter plugging and microbial growth.
- Hydrogen sulfide in fuel oils: The TT-7621 apparatus detects dissolved H₂S in diesel and fuel oils, addressing a critical safety and corrosion concern for bulk fuel storage and marine applications.

FEATURES

Why Choose Torontech's Series for Your Diesel Fuel Testing?

Torontech's diesel testing equipment portfolio is purpose-built for the demands of modern diesel fuel quality control:

- **Ultra-Low Sulfur Detection:** Torontech offers both UV fluorescence (TT-5453) and lamp method (TT-1266) sulfur testers, providing diesel fuel laboratories with the most appropriate technology for every sulfur concentration range and regulatory requirement.
- **Complete Cold Performance Testing:** CFPP (TT-6371) combined with pour point testing provides a complete cold operability assessment for winter-grade diesel and biodiesel blends.
- **Specialized Lubricity Testing:** Torontech's HFRR (TT-6079) for diesel lubricity is a specialist instrument rarely offered by general petroleum testing equipment suppliers, addressing a critical diesel quality parameter for modern high-pressure injection engines.
- **Multiple Distillation Options:** Single-sample (TT-86Z automatic) and dual-sample (TT-86A double-tube) distillation apparatus give laboratories the flexibility to match instrument choice to their testing throughput requirements.
- **Comprehensive Regulatory Coverage:** Torontech's 23-instrument diesel testing range addresses ASTM, EN, ISO, and IP diesel fuel standards simultaneously, supporting laboratories that serve multiple geographic markets with different regulatory requirements.

TECHNICAL SPECIFICATIONS

How to Choose: Diesel Testing Instrument Comparison

Use the table below to select the Torontech instruments that match your diesel fuel testing requirements:

Instrument	Model	Standard
Manual Pensky-Martens Closed-Cup Flash Point Tester	TT-93	ASTM D93
Automatic Pensky-Martens Closed Cup Flash Point Tester	TT-93Z	ASTM D93
Double Tubes Distillation Apparatus	TT-86A	ASTM D86
Automatic Distillation Apparatus for Petroleum Products	TT-86Z	ASTM D86

Instrument	Model	Standard
Dean Stark Distillation Water Content	TT-95	ASTM D95
Coulometric Karl-Fischer Titration Tester	TT-6304	ASTM D6304
Volumetric Karl Fischer Moisture Titrator	TT-203	ASTM D1533
Fully Automatic Cold Filter Plugging Point (CFPP)	TT-6371	EN 116
Sulfur Lamp Method Unit	TT-1266	ASTM D1266
Mercaptan Sulfur Content (Potentiometric Titration)	TT-3227	ASTM D3227
Oxidation Stability Tester for Distillate (Accel. Method)	TT-2274Z	ASTM D2274
Density Test by API Hydrometer	TT-1298	ASTM D1298
Micro Carbon Residue Apparatus	TT-4530	ASTM D4530
Fluorescent Indicator Absorption Apparatus	TT-1319	ASTM D1319
Automatic Reid Vapor Pressure Bath	TT-323Z	ASTM D323
Apparatus for Hydrogen Sulfide in Fuel Oils	TT-7621	ASTM D7621
Colorimeter for Petroleum Products	TT-1500	ASTM D1500
ICP for Middle Distillate Fuels	TT-7111	ASTM D7111
Diesel Lubricity HFRR	TT-6079	ISO 12156
Ultraviolet Fluorescence Sulfur Tester	TT-5453	ASTM D5453
Portable Octane and Cetane Tester	TT-131	ASTM D613
Automatic Digital Refractometer	TT-1218	ASTM D1218
Carbon, Hydrogen and Nitrogen Elements Analyzer	TT-5373	ASTM D5373



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