



# WATER CONTENT DETERMINATION INSTRUMENTS

# Water Content Determination Instruments

Water contamination in petroleum products, fuels, and lubricants is one of the most significant causes of equipment corrosion, microbial growth, emulsification, and reduced combustion efficiency. Accurate determination of water content is therefore a critical quality control requirement throughout the petroleum industry.

Torontech provides a comprehensive range of instruments for water content determination, covering the full spectrum of measurement methods. These include Karl Fischer Titration — both volumetric and coulometric — and traditional distillation methods such as the Dean-Stark apparatus and water-in-crude-oil distillation. Whether you need to detect trace moisture levels or quantify bulk water content, Torontech's portfolio delivers reliable, standards-compliant results.

## APPLICATIONS

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### Application

Water content determination is required across a wide variety of petroleum products and industrial fluids:

- Crude oil: Water-in-crude determination by distillation is essential for custody transfer and refinery feedstock management.
- Refined fuels: Diesel, jet fuel, and gasoline must meet strict water content limits to prevent phase separation, ice crystal formation, and corrosion.
- Lubricants and hydraulic oils: Even trace levels of water detected by Karl Fischer Titration can cause bearing failure and oil degradation.
- Transformer oils: Water content determination by Karl Fischer titration ensures electrical insulation integrity in transformer fluids.
- Biodiesel: Volumetric and coulometric titration methods are used to verify water content in biodiesel (B100) in compliance with EN 14214 and ASTM D6751.

- Industrial process fluids: Any moisture-sensitive system benefits from routine determination of water content to maintain process efficiency.

## FEATURES

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### Why Choose Torontech's Series for Your Water Content Determination?

Torontech's water content determination instruments are selected and engineered to cover every application from ultra-low moisture traces to bulk water quantification:

- Dual Titration Technology: Coulometric Karl Fischer Titration for trace moisture (ppm levels), and volumetric Karl Fischer for higher water concentrations — both methods available in Torontech's portfolio.
- Distillation Method Coverage: Dean-Stark and water-in-crude distillation apparatus for direct volumetric measurement, particularly suited for crude oil and heavy petroleum products.
- Standards Alignment: Instruments comply with ASTM D6304 (coulometric KF), ASTM D1533 (volumetric KF), ASTM D4006 / D95 (distillation methods), and IP standards.
- Accuracy at Every Level: From sub-ppm trace moisture in transformer oil to percentage-level water in crude oil, Torontech's range ensures accurate determination of water content.
- Reagent Efficiency: Optimized titration cell designs minimize reagent consumption, reducing operating costs over the long term.



**Torontech Inc.**

251 Consumers Road, Suite 1200  
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652  
Email: [info@torontech.com](mailto:info@torontech.com)

**Torontech, LLC**

601 Brickell Key Drive, Suite 700  
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919  
Email: [sales@torontech.com](mailto:sales@torontech.com)

**Torontech ME FZE**

Meydan Grandstand, 6th Floor,  
Meydan Road, Nad Al Sheba,  
Dubai-261440, UAE 

Phone: +971 488 19252  
Email: [me@torontech.com](mailto:me@torontech.com)

