

ADVANCED FERROUS WEAR METER



Advanced Ferrous Wear Meter – ToronFWM™ 3500

Ferrous Wear Meter testing helps track metal wear particles in used oil samples so maintenance teams can spot wear trends before damage spreads. Advanced Ferrous Wear Meter – ToronFWM™ 3500 is designed for quick field or onboard checks, with a simple test-tube workflow and a fast on-screen ppm result. The ToronFWM™ 3500 reference method places a sample tube into the meter's well and displays the metal content in less than a few seconds.

Advanced Ferrous Wear Meter – ToronFWM™ 3500 measures ferromagnetic debris concentration in lubricating oil using magnetometry. The instrument detects changes in an induced magnetic field caused by ferrous material suspended in the sample. This approach supports routine condition monitoring where lab access is limited, including ships or remote sites. Data can be stored and exported through a USB workflow for traceable trending.

APPLICATIONS

Advanced Ferrous Wear Meter – ToronFWM™ 3500 Applications

- Wear monitoring of mechanical systems: Trend ferrous debris levels over time to flag rising wear rates in engines, bearings, and rotating assets. The goal is early detection of abnormal wear so teams can investigate before failure occurs.
- Lubricating oil evaluation for mechanical systems: Use ferrous debris readings as a fast health indicator for lubricants supporting gearboxes, bearings, and other lubricated components. Trending supports maintenance decisions when paired with operating hours and load data.
- Ferromagnetic wear debris assessment in gearboxes: Gear wear often releases ferromagnetic particles that respond well to magnetometry-based checks. Ferrous trend spikes can trigger follow-up tests such as analytical ferrography or microscopy review.

- Residual evaluation of bearing lubricating oils: Residual debris checks help confirm whether a bearing issue is stabilizing after corrective action. Repeated readings support decision-making on oil change intervals and inspection timing.



Standards

- ASTM D8120 – Quantitative determination of ferrous debris concentration in lubricants and greases.

FEATURES

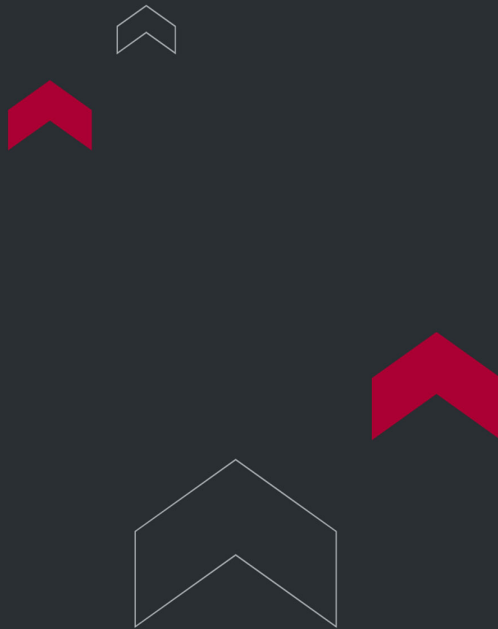
Advanced Ferrous Wear Meter – ToronFWM™ 3500 Key Features

- Fast ppm readout for field checks
 - Test-tube insertion method with a quick on-screen ferrous content display, supporting rapid decisions during routine sampling rounds.
- Magnetometry-based ferrous detection
 - Detects ferromagnetic substances by measuring induced magnetic field variation, suitable for trending wear debris in lubricants.
- Portable, compact build
 - Small footprint and low weight for onboard or remote-site use where full lab analysis is unavailable.
- Touch interface and clear display
 - 3.5-inch display with capacitive touch input for straightforward operation in industrial environments.
- USB data storage and export
 - Embedded software supports saving readings and exporting datasets through USB, with storage capacity listed up to 1000 groups.
- Wide measurement range with practical resolution
 - Range listed up to 3500 ppm with 1 ppm resolution and typical repeatability noted as $RSD \leq \pm 3\%$.

TECHNICAL SPECIFICATIONS

Advanced Ferrous Wear Meter - ToronFWM™ 3500 Technical Specification

Item	Advanced Ferrous Wear Meter - ToronFWM™ 3500
Functional principle	Magnetometry, induced magnetic field variation vs ferromagnetic content
Measuring range	0 to 3500 ppm
Resolution	1 ppm
Repeatability	Typical RSD $\leq \pm 3\%$
Detection speed	≤ 15 s (method text also describes results shown in a few seconds)
Sample tube / sample well	Uses test tube placed in the sample well (sample volume line items vary by document)
Display	3.5-inch LED, 480 × 320
Input	Capacitive touchscreen
Interface	USB (flash drive export workflow)
Data storage	Up to 1000 groups, USB export mode
Operating temperature	0°C to 85°C
Power	DC 12 V adapter
Dimensions	155 × 154 × 65 mm
Gross weight	≤ 2 kg



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

Torontech, LLC

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

Toll-Free: 1-866-383-7919
Email: 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

