

PARTICLE QUANTIFIER INSTRUMENT - TORONPQI™ SERIES



ASTM D8184-Compliant Ferrous Debris Monitoring Solutions

ToronPQI™ Series by Torontech represents a new generation of Particle Quantifier Instruments (PQI) designed for precise, rapid, and reliable determination of ferrous wear debris in lubricating oils, greases, and hydraulic fluids. Conforming fully to ASTM D8184, the ToronPQI™ Series offers standardized and repeatable results for predictive maintenance, oil analysis, and machine condition monitoring.

With three advanced models — ToronPQI™ 1000, ToronPQI™ 2000, and ToronPQI™ 3000 — this series provides scalable options for laboratory and field applications alike, ensuring consistent PQ (Particle Quantifier) readings and superior diagnostic accuracy.

About ASTM D8184 Standard

ASTM D8184 defines the Standard Test Method for the Determination of Ferrous Wear Debris in Lubricating Oils and Hydraulic Fluids by the Particle Quantifier Method (PQ Method).

This globally recognized standard specifies procedures for measuring the magnetic flux disturbance caused by ferromagnetic particles suspended in lubricating fluids. The resulting PQ Index provides a quantitative measure of ferrous contamination — a key indicator of equipment wear.

By conforming to ASTM D8184, Torontech's PQI instruments ensure:

- Reliable, traceable, and repeatable PQ measurements
- Sensitivity to a broad particle size range (typically $\geq 1 \mu\text{m}$)
- Fast, non-destructive testing with minimal sample preparation
- Standardized reporting for consistent oil analysis across sites

Why Choose a ToronPQI™ Particle Quantifier Instrument

- Compliant with ASTM D8184: Meets global testing standards for ferrous debris measurement.
- Fast and Accurate: Obtain precise PQ readings in as little as 7 seconds per sample.
- High Sensitivity: Detects the presence of microscopic and macroscopic ferromagnetic particles in lubricants.
- Simple Operation: Direct measurement — no chemical preparation or dilution required.
- Excellent Repeatability: ± 4 PQ or ± 1 % (whichever is greater) accuracy ensures confidence in every reading.
- Versatile Applications: Ideal for oil analysis labs, maintenance departments, and field condition monitoring.
- Data Management & Connectivity: USB and PC software for easy data export, trending, and archiving.
- Compact & Durable Design: Suitable for both laboratory benchtop and on-site industrial environments.

Particle Quantifier Instrument - ToronPQI™ Models Overview

Model	Measurement Range	Repeatability	Key Highlights
ToronPQI™ 1000	0 - 15,000 PQ	± 4 PQ / ± 1 %	Compact benchtop model for standard lab use
ToronPQI™ 2000	0 - 15,000 PQ	± 4 PQ / ± 1 %	Adds adjustable sample volume and enhanced control
ToronPQI™ 3000	0 - 15,000 PQ	± 4 PQ / ± 1 %	Large touchscreen, portable battery option, rugged housing

Each model utilizes the same magnetic detection principle but is tailored for specific operational needs — from compact laboratory instruments to field-ready units with touchscreen interfaces and battery power.

Reliable Ferrous Debris Analysis — Anytime, Anywhere

Whether in a laboratory or a remote industrial site, the Particle Quantifier Instruments - ToronPQI-Series provide unmatched reliability, accuracy, and speed for ferrous particle quantification. Designed and manufactured under rigorous quality control, each unit ensures compliance with ASTM D8184, offering standardized PQ measurements for confident oil condition assessment.

Explore the models:

- [Particle Quantifier Instrument - ToronPQI-1000](#)
- [Adjustable Volume Particle Quantifier Instrument - ToronPQI-2000](#)
- [Advanced Portable Particle Quantifier Instrument - ToronPQI-3000](#)

Torontech is the source for Precision Particle instruments for wear debris monitoring and lubricant analysis, trusted worldwide.

APPLICATIONS

The ToronPQI™ Series Particle Quantifier Instruments (PQI) serve a wide range of industries where ferrous debris monitoring is critical for reliability and maintenance planning:

- Lubrication and oil analysis laboratories
- Power generation and turbine maintenance
- Mining, construction, and heavy machinery fleets
- Marine, aerospace, and transportation sectors
- Hydraulic and gearbox condition monitoring
- Research and tribology laboratories
- By detecting abnormal ferromagnetic wear early, users can prevent catastrophic failures, reduce downtime, and extend equipment service life.

FEATURES

- Measurement range up to 15,000 PQ
- 7-second test cycle for rapid throughput
- Detection sensitivity for $\geq 1\text{ }\mu\text{m}$ ferromagnetic particles
- No pretreatment required — test oil samples directly
- Stable electromagnetic design with high noise suppression
- PC software for calibration, trend charting, and record storage
- Optional battery-powered model for mobile testing
- Select the Right Particle Quantifier Instruments (PQI) Model

Requirement	Model	Description
Standard oil analysis labs	ToronPQI™ 1000	Compact and economical for routine testing
Variable sample volumes or higher precision	ToronPQI™ 2000	Offers adjustable volume and refined dosing control
Fieldwork and mobile diagnostics	ToronPQI™ 3000	Portable version with large touchscreen and rechargeable battery



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