



TORONTECH



ATOMIC FLUORESCENCE SPECTROMETER

Atomic Fluorescence Spectrometer

An Atomic Fluorescence Spectrometer (AFS) is a highly sensitive analytical instrument used for ultra-trace elemental analysis, particularly for toxic and environmentally critical elements. In atomic fluorescence spectrometry, target atoms are excited by element-specific radiation, and the resulting fluorescence emission is measured to determine elemental concentrations with exceptional selectivity and low detection limits.

AFS is especially effective for elements such as mercury, arsenic, selenium, antimony, bismuth, cadmium, lead, and related species, where traditional techniques may struggle with interference. Because of its high sensitivity, wide linear range, and strong resistance to matrix effects, atomic fluorescence spectrometry is widely used in environmental monitoring, food safety testing, clinical analysis, petrochemical inspection, and regulatory laboratories.

ToronAFS™ is Torontech's dedicated platform of Atomic Fluorescence Spectrometers developed to support routine testing, regulatory compliance, and advanced trace-element research. The ToronAFS™ series integrates dual-channel fluorescence detection, intelligent gas and flame control, high-performance hollow cathode lamps, and automated analytical workflows into compact, laboratory-grade systems.

Designed for both experienced analysts and first-time users, ToronAFS™ instruments emphasize measurement stability, operational safety, and ease of use. Features such as real-time flame observation, automatic gas cutoff, intelligent lamp management, and single-standard calibration allow laboratories to achieve reliable, repeatable results with minimal manual intervention. The ToronAFS™ platform is optimized for laboratories that require dependable ultra-trace detection without the complexity of larger multi-technique systems.

Why Choose ToronAFS™ Atomic Fluorescence Spectrometers?

Choosing ToronAFS™ means selecting an atomic fluorescence spectrometer engineered for precision, safety, and real-world laboratory efficiency.

- Ultra-Trace Sensitivity Where It Matters Most

- Optimized for toxic and regulated elements, ToronAFS systems achieve sub- $\mu\text{g/L}$ detection limits required for environmental, food, and public health analysis.
- High Selectivity with Minimal Interference
 - Element-specific excitation and fluorescence detection reduce spectral overlap and matrix interference compared to conventional techniques.
- Dual-Channel Efficiency
 - Simultaneous multi-element capability improves throughput while maintaining analytical accuracy.
- Built-In Safety and Automation
 - Intelligent gas flow control, automatic abnormal-condition diagnostics, and real-time flame monitoring protect both operators and instruments.
- Simplified Calibration and Operation
 - Single-standard calibration, automatic dilution, and user-friendly software make atomic fluorescence analysis accessible even to non-specialists.
- Compact, Laboratory-Ready Design
 - Space-efficient systems with full analytical capability, ideal for modern laboratories with limited footprint.
- Reliable Performance Across Industries
 - Proven suitability for environmental monitoring, food safety, petrochemical testing, clinical screening, and academic research.



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

