



TORONTECH



OES OPTICAL EMISSION SPECTROMETER

The Torontech TT-OES9000 OES Optical Emission Spectrometer provides rapid elemental analysis for metal production, foundry quality control, alloy verification, and materials testing laboratories. It supports chemical composition testing across Fe, Al, Cu, Zn, Ti, Ni, Pb, and other metal matrices used in industrial QC and process control.

Optical emission spectrometry helps laboratories and production teams measure the composition of solid metal samples with repeatable results. The TT-OES9000 supports OES analysis for incoming material inspection, positive material identification, batch approval, alloy grade confirmation, and routine metal analysis.

OES Analysis for Metal Composition Testing

The TT-OES9000 combines a Paschen-Runge optical system, high-resolution multi-CCD detectors, and a HEPS digital excitation source to support stable spectral analysis across ferrous and non-ferrous alloy workflows. Its high-speed read-out system helps QC teams, metallurgists, and production engineers review samples faster and maintain consistent quality control.

- **Metal matrix analysis:** Supports OES testing for Fe, Al, Cu, Zn, Ti, Ni, Pb, and other alloy groups used in metallurgy, manufacturing, and materials research.
- **Stable optical performance:** Paschen-Runge optics and multi-CCD detection support full wavelength coverage for precise chemical composition analysis.
- **Faster QC workflow:** High-speed spectral data processing helps laboratories manage sample throughput, batch decisions, and production quality checks.

Optical Emission Spectrometer

Optical Emission Spectrometer

APPLICATIONS

Applications: Where Performance is Mandatory

The TT-OES9000 is built to excel in demanding environments where material verification is key to quality, safety, and profitability.

- **Steel and Iron Production:** Master your melt chemistry. Achieve tighter control over your process, ensure compliance with stringent standards, and reduce costly rework.
- **Non-Ferrous Alloys & Fabrication:** Guarantee product quality from raw material intake to final inspection. The TT-OES9000 provides the precise elemental data needed to enhance performance and meet exact customer specifications.
- **Automated Laboratory Environments:** With its modular design, minimal argon consumption, and low-maintenance spark stand, the TT-OES9000 integrates seamlessly into automated workflows, boosting efficiency and ensuring repeatable results 24/7.

Optical Emission Spectrometer

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Available for Fe, Al, Cu, Zn, Ti, Ni, Pb,etc.

Optical Emission Spectrometer

Spark Stand

- Argon flushed with minimal consumption .
- Minimal maintenance requirements
- Customized small sample clamp.

Optical Emission Spectrometer

Read-out System

- Ethernet data transmission based on DM9000A
- High performance Read-out System processes the spectrum data five times faster than traditional systems

Optical Emission Spectrometer

Excitation Source

- Optimized ignition parameters
- Pre-spark with high discharge energy
- HEPS digital excitation source
- Maximum power : 700w,standby 40W

Optical Emission Spectrometer

Software

- High accurate analysis results are easily achieved.
- Status monitor in sparking
- Microsoft Windows 7 operating system
- Strong Database capability
- Customized format of report

Optical Emission Spectrometer

Optical system

- Multi-CCD detectors with high resolution
- Paschen-Runge structure with full wavelength coverage
- Saving valuable analytical time and enhancing accuracy and detection limits.
- Incorporate sample excitation and automated sample monitoring techniques.

Electrical and Environmental Requirements:

- Voltage : AC220V, 50Hz
- Temperature : 10°C~30°C.
- Humidity : 20%~80%
- Purity of Argon □ 99.999%

Dimensions

	Bench top	Floor model
Length	500 mm	830 mm
Width	450 mm	700 mm
Height	300 mm	1450 mm

Upgrade Your Analysis. Solidify Your Reputation

Your work demands precision. Your reputation is built on the quality of your materials. The TT-OES9000 OES Spectrometer is more than an analytical tool; it's a safeguard against material non-conformance and a driver of operational excellence.

Choose the optical emission spectroscopy equipment that empowers your decisions. Contact a Torontech specialist today to configure your TT-OES9000.

FEATURES

Key Features and Benefits of the TT-OES9000

- **Precision and Reliability:** The TT-OES9000 delivers highly precise and reliable measurements, ensuring accurate identification and quality control of materials.
- **Rapid Analysis:** This spectrometer completes analysis within a few seconds, significantly enhancing efficiency and productivity in your laboratory.
- **Versatility and Affordability:** Designed to meet diverse customer requirements, the TT-OES9000 is both versatile and cost-effective.
- **Advanced CCD Technology:** The latest CCD technology provides extreme sensitivity, covering wavelengths from 130nm to 800nm and allowing simultaneous analysis of up to 31 elements.
- **Modular and Portable Design:** The modular systems developed for laboratory automation make the TT-OES9000 easy to use and space-efficient. Its portability adds to its convenience.
- **Sample Compatibility:** Suitable for routine analysis of small samples with diameters ranging from 1mm to 8mm, making it ideal for various applications.
- **User-Friendly Design:** Featuring a humanized design, the TT-OES9000 can be configured as a bench-top or floor model, with ample storage for consumables and spares.
- **Comprehensive Support:** Torontech provides optimal advisory services, along with free technology support and software updates, ensuring seamless operation.
- **Future-Proof Flexibility:** Additional analysis methods can be added without any hardware changes, offering great flexibility for future needs.

TECHNICAL SPECIFICATIONS

Optical System	Optical Structure	Paschen-Runge Mount
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Rowland Circle of Diameter	400mm	
Wavelength Range	130nm-800nm,174nm-460nm,200-460nm	
Detector	Multi high resolution CCD detectors	
Degree of Vacuum	Auto control within 6-15 Pa	
Pixel Resolution	10pm	
Full Spectrum		
Light room temperature is controlled automatically		
Spark Source	Type	Digital arc and spark source/New plasma generator
	Spark Frequency	100-1000Hz
	Plasma Current	1-80A
	Ignition Voltage	>8000V
Spark Stand	Argon flushed with minimal consumption of Argon	
	Spray discharge electrode technology	
	Adjustable sample clamp	
Others	Measurable Elements	Fe base, Al base, Cu base, Zn base, etc.
	Dimension	830mm(L)*700mm(W)*460mm(H)(Benchtop) 830mm(L)*700mm(W)*1230mm(H)(Floor Module)
	Weight	80Kg(Benchtop) 120Kg(Floor Module)
	Storage Temperature	0°C-45°C
	Operating Temperature	10°C-30°C, 23±2°C is recommended

Power	AC220V/50Hz (110V also available)
Power Consumption	Excitation: 700W / Stand by:100W
Argon Quality	99.999%, Argon pressure >4MPa
Argon Consumption	5L/min during spark mode



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