OLYMPUS

FOX-IQ® Process and In-Line XRF Alloy Analyzer

Add Intelligence to Your Process

The FOX-IQ in-line analyzer provides customizable, continuous measurements of titanium (Ti) to uranium (U) on any surface. Designed to operate 24/7, the FOX-IQ XRF system performs fully automated in-line analysis for 100% high-volume process control.

X-ray fluorescence (XRF) is a proven nondestructive technique used to quickly verify alloy grade and chemistry. The FOX-IQ system is compact, with minimal power requirements, making it easy to integrate with new or existing PLC-controlled processes. The system is engineered to endure high levels of vibration, electromagnetic and acoustical noise, dust, and moisture.

Each FOX-IQ system delivers pass/fail results, accurate grade identifications, and material chemistry. It can be controlled by a PC or integrated with a PLC for automated start/stop, data acquisition, decision-making, and communication to external devices.

Quickly Analyze and Compare Alloy Tubes and Rods to Specification

The FOX-IQ system can be configured for fully automated alloy testing with data logging and alerts.

Typical Applications:

- 100% heat or batch alloy type verification
- Quality control of components after the fabrication process
- Use in service centers to confirm alloy type before shipment
- Alloy types: stainless steels, carbon steels, low-alloy steels, tool steels, nickel alloys, nickel-cobalt alloys, titanium alloys, zirconium alloys, copper-nickel alloys, brasses, bronzes, and aluminum alloys

Software

The FOX-IQ® system is driven by powerful and intuitive software developed specifically for the tube/pipe industry. Features include multilevel access, pass/fail and chemistry analysis, and extensive reporting.

The FOX-IQ in-line analyzer consists of three rugged components:

Probe Head Assembly (PHA)

The PHA contains the X-ray tube, detector, and front-end digital signal processing electronics. The unit can be precalibrated, and its modular design makes it easy to swap out.

Electrical Interface Assembly

This assembly supports an external sample trigger input and provides a pass/fail indicator signal that can be used to trigger a "kicker" or other line equipment, such as a PLC, to accept or reject the sample based on the analysis result.

User Interface Computer

The computer runs the PC software that controls the instrument, analyzes the sample, manages the results, and interfaces with customer systems through RS232 or TCP/IP.

Source	X-ray tube; no radioactive isotopes
Detector	Silicon drift detector; <165 eV resolution at 5.95 keV Mn K-alpha line
PC	Windows® XP or Windows 7 operating system
Housing	Anodized aluminum. Sealed from moisture and dust. Shielded from EMI emissions. **Weight**: **Probe Head Assembly:** 1.8 kg (4 lb) **Electrical Interface:** 8 kg (18 lb)
Dimensions	**Measurement Head (L × W × H):** 30.5 cm × 10 cm × 10.5 cm (12 in. × 4 in. × 4.125 in.) **Electrical Interface (L × W × H):** 40.6 cm × 15.88 cm × 50.8 cm (16 in. x 6.25 in. x 20 in.)
Cable Length	**Probe Head Assembly - Electrical Interface:** 15m (50 ft) standard **Electrical Interface - PC:** 15m (50 ft) standard **Max combined cable length:** 30m (100 ft)
Tube Voltage	10 kV – 40 kV
Current	80 µA maximum, 10 µA typical
Tube Filtering	Up to five (5) filter positions for optimal analysis on 25+ elements.
Shutter	Automatic shutter for safety and internal standardization.
Power	AC 110–250 V, 50/60 Hz
I/O	The user interface runs on a PC equipped with the Olympus PC software that controls the FOX-IQ; this software analyzes sample spectra, manages results, and interfaces with external devices through RS-485 or TCP/IP. There are dry contacts on all outputs and 24 V start/stop and interlock signals.
Data Logging	Up to 12 fields of information per sample including Job #, Work Order, Part #. Auto tracks alarms, pass/fails, and elemental results within a work order or run. Stores >100,000 tests, including results, sample ID, and spectral data, in a binary, tamper-proof format.

www.olympus-ims.com

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