

# QUALITY

## X-Supreme8000

A powerful innovative XRF analytical solution  
combining performance with flexibility



**OXFORD**  
INSTRUMENTS

*The Business of Science®*



# Centre of Excellence

**For many years Oxford Instruments has been at the centre of innovative science and its practical application worldwide**

The first technology business to come out of Oxford University fifty years ago, Oxford Instruments is world renowned for introducing unique, powerful, yet simple to use analytical solutions to a wide range of analysis problems. This continues with the introduction of the latest X-ray fluorescence spectrometer the **X-Supreme8000**.

## Performance and simplicity combined

With the ever increasing requirement for high performance analysis, combined with minimal sample preparation and powerful but simple to use instrumentation, the well respected analytical technique of Energy Dispersive X-ray fluorescence (EDXRF) is finding increasing appeal providing simple analytical solutions to a wide range of quality and process control requirements.

Compared to other analytical techniques EDXRF offers numerous benefits including: non-destructive analysis, minimal or no sample preparation, simultaneous multi-element qualitative and quantitative analysis (results in seconds), and operation by 'anyone'. Analysis can be performed on a wide range of sample types including solids, liquids, powders, pastes, films, etc, from ppm to high %, covering the elemental range Na<sup>11</sup> to U<sup>92</sup> in the periodic table.

## Unique solutions

Oxford Instruments has a long and unique association with EDXRF analysis, for example with the world renowned **Lab-X** and **Twin-X** series of instruments, and to obtain optimal performance involves a close and detailed attention to and understanding of the generation and detection of X-rays.

We assure world-class performance of our X-ray tubes and detectors on a global scale. Our Silicon Valley site designs, manufactures and distributes high-reliability X-ray tubes for both industrial and medical applications. We are also heavily involved in the European space program with the design and production of solid-state X-ray detectors. These technologically superior detectors, developed in our Finland production facility, are used extensively in our industrial XRF analysers.

Image: Oxford spires



**Supreme  
technology for  
high performance  
and flexibility in  
XRF analysis**



# Introducing the **X-Supreme8000**

The **X-Supreme8000** is a compact, powerful, easy to use EDXRF spectrometer

It incorporates an application optimised Oxford Instruments' high reliability X-ray tube and high-performance Silicon Drift (SDD), or proportional detector.

This unique best-in-class combination gives highest performance with lowest detection limits, and provides a winning integrated solution for quality assurance and process control requirements.



*Cement*



*Wood Treatment*



*Minerals*



*Mining*



*Healthcare*



*General Analysis*



*Petrochemicals*



*Education*

# X-Supreme8000 As easy as...

## 1 Prepare sample



### Minimal or no sample preparation

- No weighing or volumetric measurements
- No potentially dangerous chemicals
- Non-destructive analysis

## 2 Place sample on tray



### Easy loading

- 10 positions for time saving unattended operation
- Unique design guarantees high precision, consistent, repeatable results from every tray position
- Tested to 1 million cycles, fully loaded – equivalent to 15 years of operation at 200 samples per day

## 3 Press start key



### Rapid results

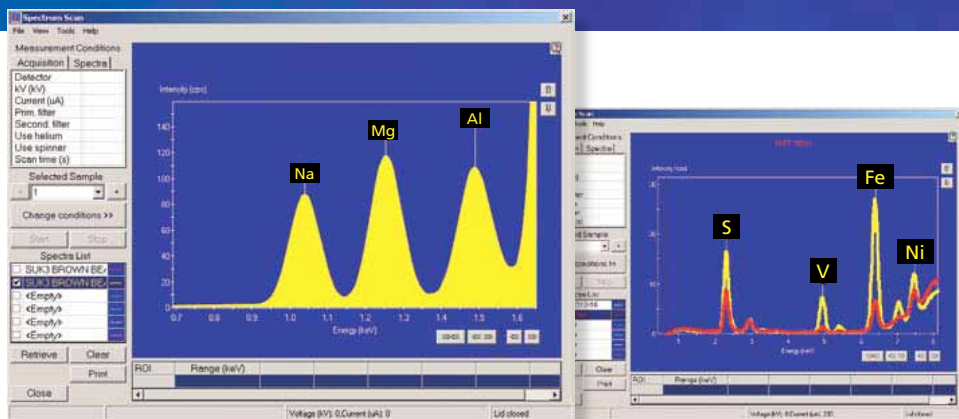
- Simultaneous single or multi-element analysis with 'Live Updates' – results obtained 5 seconds after measurement starts, allowing a rapid assessment to be made
- Results obtained using empirical calibrations for highest accuracy and traceability. Optional Standardless (Fundamental Parameter) Analysis where no or very few standards are available
- Rugged and reliable operation on a 24/7 basis carried out by laboratory or shift personnel

*Results – save, print or send!*



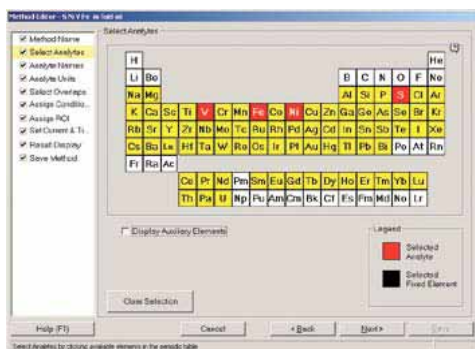
# Comprehensive analysis

The X-Supreme software provides simplicity of operation for routine analysis, with flexibility for qualitative, semi-quantitative and full quantitative analysis



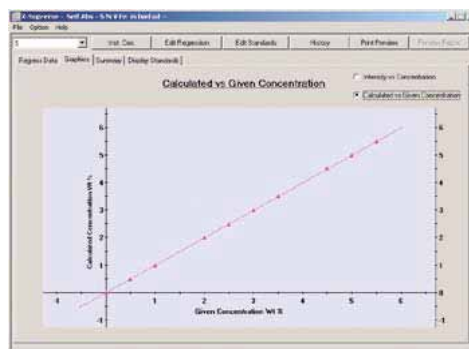
## Investigation (qualitative analysis)

- Focus<sup>SD</sup> – unique elemental sensitivity and separation
- Multi-element X-ray spectrum obtained in seconds
- High resolution, high performance



## X-Supreme method Wizard

- Simple step-by-step setup
- Straightforward editing



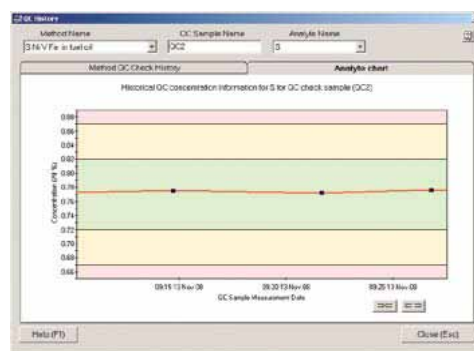
## Calibration (Quantitative Analysis)

- Regression – intensity, ratio, background corrections etc.
- Highest accuracy and traceability of analysis



## Routine Analysis (for production staff)

- Helpful hints for advice on good practice
- QC sample measurement ensuring high quality analysis
- SMARTCHECK software allowing operation 'by anyone'



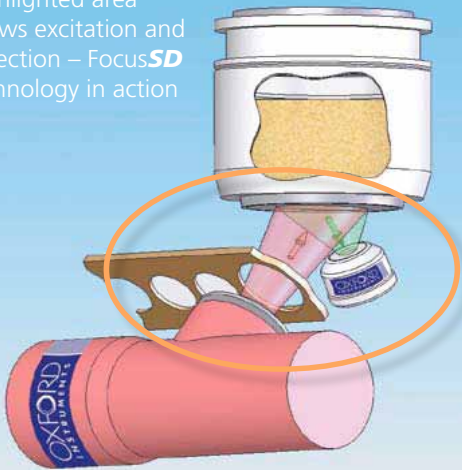
## Quality control

- Monitoring of instrument performance
- Powerful graphical/numerical QC display ensures high analytical performance



# X-Sup

Highlighted area shows excitation and detection – FocusSD technology in action



## Speed, accuracy and long term reliability – FocusSD technology

- Application optimised, high performance solutions
- Oxford Instruments' X-ray tubes with W, Pd or Ti target and state of the art high resolution large area Silicon Drift (SDD) or proportional detector

## Unattended operation

- 10 sample positions with ability to measure QC sample during run giving total confidence in analytical results
- Sample spinner (optional) – reduces errors due to sample preparation, particle size and inhomogeneity
- Optional large trays for holding 51.5 mm (2") diameter steel ring for cement application, or 47 mm diameter filter samples
- Range of Oxford Instruments' sample holders for easy sample loading



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## Minimum bench space

- Integrated PC – compact
- Large, easy to read colour graphics for clarity and ease of use
- Touch screen display (optional) for simple and rapid data input
- High performance, reliable, embedded PC with Windows XP

## Easy communication

- Easy access USB ports on side/underneath PC module for peripheral devices
- Ethernet connection for: transmission of results, interface to Laboratory Information Management System (LIMS) or remote operation and diagnostics

## Rugged and robust design

- Sealed membrane keypad resistant to dust, oils, solvents etc.
- Internal 'wind tunnel' design – cooling fans do not carry dust to sensitive internal components
- Secondary easy-to-change safety window for liquids/powder analysis protects the instrument in the event of sample leakage

# SUPPORT

## ○iService™ and worldwide customer support

Oxford Instruments takes great pride working in close partnership with our customers. Our goal is to provide comprehensive technical support and instrument service throughout the product's life.



The Oxford Instruments Customer Support Team delivers the background technical expertise, maintenance and service to both customers and our global distributor network to keep your analyser running smoothly.

### Our global network provides a wide range of customer support functions:

- Basic and Advanced user courses
- Support and service contracts for minimum downtime, and ISO audit and certification purposes
- Oxford Instruments' expert technical helpdesk
- Warranty support and instrument repair
- Instrument (software and hardware) upgrades
- Spare parts (available through trained distributors)
- Consumables – complete alphabet of products ranging from Aluminium sample cups to Zirconium standards



### Behind your success

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