

QUALITY

X-MET8000 Series

Trust but verify: Ensure product quality at all stages of production



The Business of Science®



X-MET8000 Series

The tool of choice for manufacturing Quality Control and Assurance

To prevent product failures and their costly consequences to the livelihood and reputation of manufacturing companies, quality control and assurance testing at various stages of the production process is essential: from the control of incoming material and components, to the final check of manufactured parts prior to shipment. Handheld X-ray fluorescence (XRF) analysers are often the tool of choice for quality control, because they are easy to use and offer rapid, on-site, non-destructive analysis.

Capitalising on the success of its **X-MET7000 Series**, Oxford Instruments has raised the bar with its latest range of handheld XRF analysers, the **X-MET8000 Series**. The optimised combination of a high performance X-ray tube and Oxford Instruments' large area silicon-drift detector (SDD) delivers the performance required for even the most demanding QA/QC applications

Ultimate performance for reliable material verification

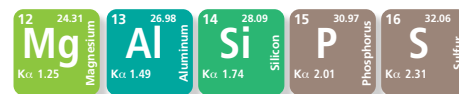
- Superior light elements (Mg to S) analysis for fast and accurate analysis of most commercial alloys, including aluminium alloys, Si and Al bronzes, etc.
- Low limits of detection, for accurate grade separation (e.g. 303-304, 6061-6063)
- Fast analysis and accurate grade identification: get laboratory quality results in seconds, and reduce testing cost and time
- Optimum efficiency: lightweight (1.5kg), small, and ergonomic design, with up to 10-12 hours battery life
- Fast start-up: be up and running in seconds
- Automatic sample size compensation for accurate testing of pipes, rods, wires down to 1mm diameter, welds, fasteners, turnings, chips, etc.



Main menu

SS316			
GOOD MATCH (1/2)			
ELEMENT	%	+/-	LIMIT
Fe	69.20	0.427	60.00 - 73.00
Cr	16.18	0.201	16.00 - 18.00
Ni	10.20	0.195	10.00 - 14.00
Mo	2.09	0.031	2.00 - 3.00
Mn	1.85	0.153	0.00 - 2.00
Si	0.20	0.051	0.00 - 1.00
Ti	0.16	0.049	0.00 - 0.20
Cu	0.12	0.035	

Results screen





Extensive, customisable grade library for accurate alloy identification

The **X-MET8000** includes the most comprehensive grade library: the pre-installed, user-selectable AISI, DIN, JIS, and GB libraries include a total of over 1600 alloys. Users can modify the existing libraries, add new grades (such as manufacturer or location specific grades), or create their own library (e.g. for specific welding material).

The pre-loaded grade libraries include:

- Nickel alloys
- Low alloy steels
- Stainless steels
- Tool steels
- Copper alloys
- Titanium alloys
- Aluminium alloys
- Zirconium alloys
- Cobalt alloys
- And more...



MANUFACTURING

Trust but verify

100% PMI with 100% confidence

Optimised calibrations for results you can trust

The **X-MET8000** offers the best of both worlds with a robust fundamental parameters (FP) method, and empirical calibrations (traceable to certified reference materials) for superior precision and accuracy. Simply select the application that meets your requirements, and analyse alloys in seconds.



Superior
precision &
accuracy



Powerful data management

- Store up to 100,000 results including spectra and sample image (if camera is fitted)
- Download results and reports directly to a USB memory stick, to a PC or a network share using Wifi or Bluetooth, using a CSV format or tamper-proof PDF for ultimate data integrity
- Create customised, professional looking reports using the **X-MET** report generator (no software installation needed): include company logo, sample image, results, spectra, additional sample information (e.g. description, location, batch number) etc.

OXFORD
INSTRUMENTS

CERTIFICATE OF VERIFICATION

Name	Class	Date	Time	Duration		
Noname 1	Alloy FP	26/08/2014	15:14:25	9.5 s		
Element	Fe %	Cr %	Ni %	Mg %	Mn %	Si %
	66.79	16.94	11.50	2.23	1.83	0.20
±	0.295	0.157	0.176	0.028	0.098	0.054

Grade: 55316 (0.00)
Reference:
Batch No: 280714A
Location: Warehouse Unit 24
Part No.: RP128

J. Mills





Easy to use

- Intuitive, icon-driven user interface: minimal operator training required
- Large 4.3" colour touchscreen for excellent results visibility, even in direct sunlight. Easy operation, even with gloves on
- Quick-swap analysis window: no tool required to change the analysis window when broken or dirty
- Customisable results screen for fast decision making: display information that is important to you, e.g. alloy grade, elemental composition, pass/fail messages, elements listed in your chosen order
- Compact and balanced design
- Optional integrated camera for accurate measurement positioning
- Optional small-spot collimator (3mm diameter) to isolate specific features (e.g. in-service fasteners, welds) from surrounding materials and measure them accurately

Compact
and balanced
design



Quick-swap
window with
shield




Rugged for low cost of ownership

- IP54 compliant (equivalent to NEMA 3) for superior protection against dust and water
- Impact-resistant housing with environmental sealing, and rubber bumpers around the screen, nose and battery for protection against shocks
- Large heat sink for optimum robustness and stability, even in hot environments
- Shield (optional on **X-MET8000 Expert** and **X-MET8000 Optimum**) or robust, thick Kapton® window (on **X-MET8000 Smart**) to prevent detector and X-ray tube damage when testing small components and sharp objects

Configuration Options

Our latest range of high performance analysers to suit your analysis needs and budget



	X-MET8000 Smart	X-MET8000 Optimum	X-MET8000 Expert
			
Description	The smart choice for the routine identification and analysis of common alloys	Optimised for the high speed grade identification and analysis, from aluminiums to bronzes and brasses to steels etc	Our top performer provides the ultimate performance for the testing of the widest variety of alloys; with superior light elements (Mg, Al, Si, P, S) and tramp elements analysis
X-ray tube	40kV	50kV for enhanced heavy elements analysis (e.g. Sn, Ag, Cd)	
X-ray tube filters	Single filter	6-position filter wheel for the optimised analysis of all elements from Mg to U	
Detector	Large area SDD	Large area SDD	Large area SDD
Element range	K - U	Mg - U	
Max. sample temperature	400°C	100°C 400°C with HERO™ (heat resistant) window (optional)	
IP54 rating	Yes	Yes	Yes
Protection against detector window damage	Thick Kapton® window	Optional window shield	
Calibrations	Standardless	Standardless (includes light elements analysis)	Standardless + automatic selection of empirical calibrations (traceable to certified reference materials) for superior precision and accuracy

Hardware and software options:

Feature	X-MET8000 Smart	X-MET8000 Optimum	X-MET8000 Expert
Bluetooth	Option	Included	Included
WiFi	Option	Included	Included
Integrated camera	Option	Option	Included
Small-spot collimator	Not available	Option	Option
Report generator	Included	Included	Included

Optional accessories for maximised productivity and operator safety:

Portable Bluetooth printer:

print results on paper or sticky labels, and attach them to the tested pieces; convenient and mix-up free



Holster and belt:

for hands-free on-site transportation of the analyser



Benchtop stand: Transform the X-MET8000 into a benchtop analyser in seconds, to increase productivity and operator safety when measuring irregular shape pieces. The large chamber enables the measurement of a wide variety of sample shapes and sizes.

Light radiation shield: to minimise scattered radiation when analysing light alloys (e.g. Al alloys)



Light stand and safety shield:

for the on-the-go analysis of small samples (e.g. screws, fasteners); fit in the X-MET case for total portability



Bluetooth barcode scanner: prevent typing errors when entering sample labels or additional information in the X-MET user interface. Simply scan the sample barcode to fill in the information in your chosen field on the X-MET screen



Oxford Instruments: the only instruments supplier to meet all your alloy analysis needs

Handheld LIBS: Latest technology for 1-second alloy identification, including aluminium alloys, with no X-rays.



Handheld XRF: For fast, reliable, non-destructive identification and analysis of alloys.



Mobile and portable OES: For high performance analysis of alloyed and trace elements, nitrogen analysis in duplex steels.



OiService - Here to help

OiService aims to keep your **X-MET8000** working as hard as you do. Our global network of Service hubs provides a full range of technical support:

- **Telephone help-desks** – For a fast response to your problem
- **On-line diagnostics** – In-depth support over the internet
- **Rental instruments** – To keep you working when your analyser is not
- **Recertification and maintenance** – Ensures your analyser produces the right result every time
- **Training** – Understand your analyser and its features
- **Extended warranties** – Avoid unplanned costs
- **Consumables and accessories** – From spare batteries to benchtop stands
- **Repairs** – Fast and efficient turn around

X-MET8000 service agreements provide a great way to avoid unplanned costs and ensure your analyser is maintained in excellent condition. Purchasing an agreement with your analyser provides seamless coverage for up to 5 years.

visit www.oxford-instruments.com/X-MET8000 for more information or email: industrial@oxinst.com

Our thanks go to Pipe Supports UK Ltd for their help in providing imagery in this brochure.

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