

SPECTRO xSORT^{XHH03}

HANDHELD EDXRF SPECTROMETER



Superior speed and
accuracy for PMI testing

The new measure of
speed and productivity:

SPECTRO xSORT

For refineries, power plants, and petrochemical complexes, positive material identification (PMI) plays a critical role in ensuring process integrity — as well as facility and personnel safety. Use of the wrong alloy or an off-spec grade of stainless steel can permit flow-influenced or acidic corrosion of pipes, valves, or welds. The consequences can be catastrophic.

Operators must inspect huge volumes of structural materials from a wide range of suppliers with all possible speed and precision. Fortunately, the new SPECTRO xSORT provides an ideal solution for PMI productivity challenges.



THIS HANDHELD ENERGY DISPERSIVE X-RAY FLUORESCENCE (EDXRF) SPECTROMETER furnishes high-throughput elemental testing and spectrochemical analysis of myriad materials in widely varying conditions. Its breakthrough speed, accuracy, and ease of use make SPECTRO xSORT the essential new tool for infrastructure integrity testing across multiple industries.



**FAST: THE ANSWERS YOU
NEED IN 2 SECONDS FLAT**

SPECTRO xSORT delivers metal (alloy) grade identification and material verification in only 2 seconds for most alloys! Just 10 additional seconds are necessary for the sorting of various alloys containing light elements, such as Al, Mg, Si, P and S.

**ACCURATE: ANSWERS YOU
CAN RELY ON IN 2 SECONDS**

SPECTRO xSORT delivers highly dependable laboratory-like analyses in only 2 seconds, except for the light elements, they require a longer measurement time. Service companies may complete several hundreds of inspections per shift, for enhanced productivity and profitability.

**EASY: ANY METAL,
ANY ALLOY, ANY TIME**

With SPECTRO xSORT, operators don't have to switch methods between metals or bother with flushes or vacuum systems. Its compact, one-piece 1.64 kg (3.62 lb) design is optimized for easy use in the field, even in less accessible or tight spots.

SPECTRO xSORT advantages for PMI

FEATURES

Small spot collimation — always just 3mm

X-ray safety shield to prevent backscatter radiation

Allows safe testing of samples up to 500° C (932° F) while in use — without process shutdowns

Optional integrated video camera for precise spot testing of welds, screws, pins, etc.

Interface bezel with operator-defined hot keys to maximize speed of common tasks

Simplified software featuring touchscreen interface with only two menu levels — intuitive ease for highest productivity

Preinstalled grade libraries covering common alloys used for petrochemicals, refining, power, and more

High resolution, high sensitivity SDD detector

One-click triggering to deliver high-reliability grade ID and elemental chemistry analysis in 2 seconds for most metal alloys

Quick-change battery

Exclusive SPECTRO ICAL one-sample, one-time easy calibration system

Exclusive optional SPECTRO Metal Database to create customized grade libraries

Element	Grade	Value
Mn	0.96	Cr 33.0
Mo	0.31	Ni 10.4
Co	0.69	Cu 0.31
Ti	0.70	V 0.11
Fe	99.1	

Corrosion by acidic production (photo courtesy of the Energy Institute, London)

General corrosion (photo courtesy of the Energy Institute, London)

SPECTRO xSORT SERVICE AND SUPPORT

Organizations with high volumes of work must keep their fleets of instruments operating at the highest possible levels of availability. To ensure that SPECTRO xSORT spectrometers meet and exceed these goals, SPECTRO offers the AMECARE Performance Services program.

More than 100 AMECARE service engineers based in 20 countries help to ensure peak performance and extended useful equipment life via high-value, customized services. These can include proactive maintenance programs; application solutions; access to relevant experts; and training.



SPECTRO xSORT Specifications



Detector	High resolution silicon drift detector (SDD)
Excitation	X-ray tube, Rh anode, 50 kV max.
Dimensions and weight (including battery pack)	Height: 270 mm (10.7") Width: 93 mm (3.7") Depth: 230 mm (9.1") Weight: 1.64 kg (3.62 lb)
Spectrometer control	Integrated PC with Touch Screen, Windows Mobile 6.0, Interfaces: Bluetooth, Wireless LAN, USB Host/Client
Software	SPECTRO XRF Analyzer CE ICAL (Intelligent Calibration Logic) Analysis mode with grade ID/grade verification option, Sorting mode (Fast pass/fail assessment) Result manager for post-processing of testing results
Accessories (Included)	Transport case Instrument/battery Holster 2 nd battery pack Charger USB-Cable Consumables (films)
Accessories (Not included)	Docking station Small parts/wire adapter Printer Barcode reader
Options	Video camera Internal GPS receiver

AISI 303			
Element	Measurement time: 12 Sec		
	Certified Value [%]	Average Value [%]	2*SD [%]
Si*	0.63	0.8	0.3
Mn	1.87	1.72	0.07
S*	0.38	0.30	0.04
Cr	17.35	17.8	0.05
Mo	0.58	0.59	0.03
Ni	8.64	8.69	0.06
V	0.11	0.08	0.01
Cu	0.51	0.46	0.05

*Note that only grade identification is possible with S and Si. If more than grade is required using S and Si then other instrumentation is necessary.

AISI 304			
Element	Measurement time: 2 Sec		
	Certified Value [%]	Average Value [%]	2*SD [%]
Mn	1.48	1.3	0.1
Cr	18.37	18.5	0.2
Mo	0.20	0.21	0.02
Ni	8.09	8.1	0.2
Cu	0.40	0.4	0.1

AISI 321			
Element	Measurement time: 2 Sec		
	Certified Value [%]	Average Value [%]	2*SD [%]
Mn	1.52	1.2	0.2
Cr	17.45	17.6	0.1
Mo	0.36	0.38	0.03
Ni	9.42	9.5	0.1
Ti	0.63	0.67	0.04
V	0.13	0.11	0.022
Cu	0.30	0.20	0.080

SPECTRO: The industry's most comprehensive analytical line

Unlike other handheld instruments, the SPECTRO xSORT spectrometer takes its place among today's most complete suite of advanced metals analyzers.

For example, the SPECTROTEST is the mobile spectrometer to select if even more power and accuracy are needed, as when trace elements must be detected. Additional elements like carbon and nitrogen can be analyzed, e.g. L from Non-L grades distinguished by carbon content and duplex steels can be identified by their nitrogen content. And among stationary SPECTRO MAXx and LAB models, SPECTRO's top-of-the-line SPECTRO XEPOS XRF instrument, plus the SPECTRO ARCOS and SPECTRO GENESIS ICP spectrometers, are well-known performers in petrochemical labs worldwide.

Whatever the choice, SPECTRO's more than 30 years of experience in metals analysis and record of technological innovation ensure the best results in the business.



www.spectro.com

AMETEK[®]
MATERIALS ANALYSIS DIVISION

GERMANY

SPECTRO Analytical Instruments GmbH
Boschstrasse 10
D-47533 Kleve
Tel: +49.2821.8922102
Fax: +49.2821.8922202
spectro.sales@ametek.com

U.S.A.

SPECTRO Analytical Instruments Inc.
91 McKee Drive
Mahwah, NJ 07430
Tel: +1.800.548.5809
+1.201.642.3000
Fax: +1.201.642.3091
spectro-usa.sales@ametek.com

Hong Kong (Asia-Pacific)

SPECTRO Analytical Instruments
(Asia-Pacific) Ltd.
Unit 1603, 16/F, Tower III Enterprise Sq.
No. 9 Sheung Yuet Road
Kowloon Bay, Kowloon
Tel: +852.2976.9162
Fax: +852.2976.9132
spectro-ap.sales@ametek.com

Subsidiaries: ▶ **CHINA:** Tel +86.10.8526.2111, Fax +86.10.8526.2141, spectro-china.sales@ametek.com, ▶ **FRANCE:** Tel +33.1.30688970, Fax +33.1.30688999, spectro-france.sales@ametek.com, ▶ **INDIA:** Tel +91.22.28364750, Fax +91.22.28363613, mumbai@unispecmarketing.com, ▶ **ITALY:** Tel +39.02.946931, Fax +39.02.94693650, spectro-italy.sales@ametek.com, ▶ **JAPAN:** Tel +81.3.6809.2405, Fax +81.3.6809.2410, spectro-japan.sales@ametek.com, ▶ **SOUTH AFRICA:** Tel +27.11.9794241, Fax +27.11.9793564, spectro-za.sales@ametek.com, ▶ **SWEDEN:** Tel +46.8.5190.6031, Fax +46.8.5190.6034, spectro-nordic.sales@ametek.com, ▶ **UNITED KINGDOM:** Tel +44.1162 462950, Fax +44.1162 740160, spectro-uk.sales@ametek.com. ▶ SPECTRO operates worldwide and is present in more than 50 countries. For SPECTRO near you please visit www.spectro.com/worldwide. © SPECTRO 2011, Subject to technical modifications • 80902721 • Rev 1 • K-11, Photos: SPECTRO, GettyImages, Corbis, istockphoto. © 2011 SPECTRO Analytical Instruments GmbH. All rights reserved.