



Bruker AXS Handheld



12 Mg 24.30	13 Al 26.98	14 Si 28.08	15 P 30.97
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• **S1 TURBO^{SD}** Portable XRF Alloy Analyzer with SDD

The new Bruker AXS S1 TURBO^{SD} utilizes a revolutionary Silicon Drift Detector – the Bruker XFlash® – to provide unparalleled speed and accuracy in the analysis and identification of all classes of alloys. This analyzer is capable of providing grade identification in less than one second, analysis in a few seconds and analyzing light elements such as aluminum and silicon in all metal matrices. The unparalleled performance of the SDD, operating in combination with Bruker's proprietary analytical software, allows the S1 TURBO^{SD} to provide complete chemical composition and alloy ID. The extremely high sensitivity of the SDD allows the user to analyze all elements in a sample matrix including the light elements such as Al, Si, S and P for iron, nickel and copper alloys.

The Bruker S1 TURBO^{SD} enables the measurement of aluminum in titanium alloys as well as all the major components of aluminum alloys without the use of vacuum or helium.

The diversity of modern alloys available for high strength and corrosion resistant applications places critical demands on the need for accurate alloy identification. In many cases, a small change in the alloy composition yields substantial changes in the mechanical properties of the alloy. This leads to the need for Positive Material Identification (PMI) to ensure industrial safety and product quality. The S1 TURBO^{SD} provides the fastest PMI analysis available for the broadest range of elements in a handheld alloy analyzer.

At the end of life, most alloys are recycled through scrap dealers who sell the alloys based on the content of valuable metals such as Ni, Mo and Co, and the lack of tramp elements. The S1 TURBO^{SD} has the broadest ability to analyze scrap rapidly and analyzes all commonly used alloying elements. Using the Pass/Fail mode even inexperienced operators can quickly sort a mixed load into single alloy categories.

S1 TURBO^{SD} Features:

- Proprietary Bruker XFlash® Silicon Drift Detector (SDD)
- Ability to measure light elements in all alloy classes
- Empirical chemistry libraries for alloys: Al, Ti, Fe, Co, Ni and Cu
- User selection of Empirical or Fundamental Parameters calculation of chemical composition provides a balance of measurement speed and accuracy
- Rapid (<2 sec) grade identification with intuitive display of ranges
- Largest grade library available
- Transfer test results using USB cable, Bluetooth wireless or memory card
- Two year factory warranty
- User radiation safety training included



Certified By The Space Foundation

think forward

Handheld XRF



S1 TURBO^{SD} is the ideal tool for Positive Material Identification (PMI).



Use the S1 TURBO^{SD} to quickly sort recycled metals including titanium and aluminum alloys.



S1 TURBO^{SD} provides analysis of all common alloys.

Preliminary S1 TURBO^{SD} Technical Specifications

Weight	2 kg (4.49 lbs) with batteries, 1.77kg (3.9 lbs) base weight
Dimensions	30cm(L) x 10cm(W) x 28cm(H)
Excitation Source	X-ray tube with Ag target; max voltage 45 kV
Filters	Five (5) available automatic filter positions
Detector	10 mm ² Silicon Drift Detector; typical resolution 145 eV at over 100,000 cps
Operating System	Microsoft® Windows Mobile™ 5.0 for Pocket PC Windows based (Laptop) Bruker AXS proprietary software
Power	3 rechargeable Li-ion batteries; AC adapter included (Hot swappable)
Display	240 x 320; 65,536 colors; back lit; touch screen
Testing Modes	GradeID-Emp; PMI-FP; Pass/Fail; Dual Mode (provides light elements in normal alloys); Universal Mode
Standard Elements	Standard package includes 25 elements. Customer may specify additional elements or use multiple suites of 25 elements each. Light elements (Al, Si, S, P) are available for normal alloys in Dual mode
Standard Alloy Libraries	Tool Steel, Stainless Steel, Aluminum, Titanium, carbon & low alloy steels, Cobalt, Nickel
Data Transfer	USB, Memory Card, wireless Bluetooth
Data Storage	256 MB standard PDA memory, 512 MB Flash Card
Hot Surface	Measure samples at temperatures up to 500°C
Security	Password protected, No sample (backscatter) shutoff, Key lock, Sample proximity (IR) sensor, X-ray on indicator LED
Environmental Range	-10°C to 50°C

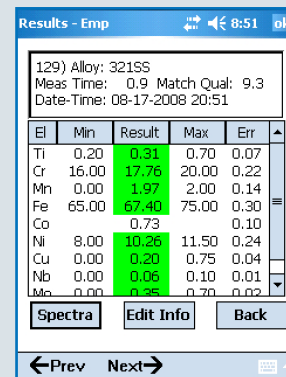
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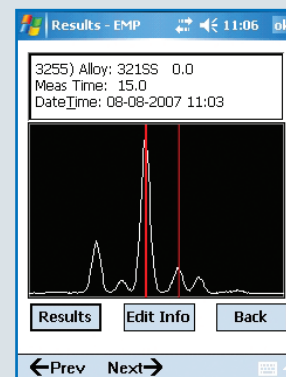
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Software

Bruker S1 TURBO^{SD} utilizes the powerful pocket PC platform combined with our robust proprietary software to deliver a fast, accurate, on-the-spot analysis. View results in your choice of formats – full screen grade ID & chemical analysis, full screen Spectra.



View Grade-ID, Chemistry and UNS specifications



View Spectra and Spectral Energy lines