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BRUKER

New 2020
S1 TITAN

- Scrap Metal Sorting

Handheld XRF has become standard equipment in the metal recycling industry. The S1 TITAN is among the lightest on the market, making it the ideal choice for scrap yard use. All models are equipped with modern graphene window SDD (silicon drift detector) technology, allowing faster scrap sorting compared to traditional Si-PIN based analyzers. As a result, the end-user can expect to have fast, precise analysis regardless of the chosen S1 TITAN model. The analysis provides elemental concentration, alloy identification and scrap value.

Versatility is just one of the S1 TITAN's strengths. Ferrous and non-ferrous metal sorting is the most common recycling application, but the S1 TITAN can also help with recycling of many other materials. The S1 TITAN accurately determines the content of precious metals in various materials like automotive catalytic converters, electronic scrap (E-Scrap), or jewelry. In foundries, handheld XRF can be used to determine the concentration of tramp elements as well.

Benefits:

- TITAN Detector Shield™
- Light weight - only 1.5 kg
- Rugged & weatherproof (IP54)
- Rapid sorting and analysis
- SMART Grade™ automatic timing
- Large grade library (1,000+)
- Detection of up to 37 elements (including Mg and Al)
- Exceptional analysis of Al alloys
- In yard/field measurement
- Averaging for load analysis
- Ease of use- just point and shoot

Scrap Metal Sorting

Applications Include:

- Metal sorting
- Metal valuation
- Precious metals
- E-scrap
- Catalytic converter scrap
- Plastic sorting (PVC/ non-PVC)

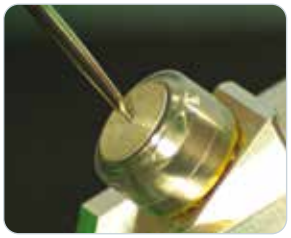
Calibrations:

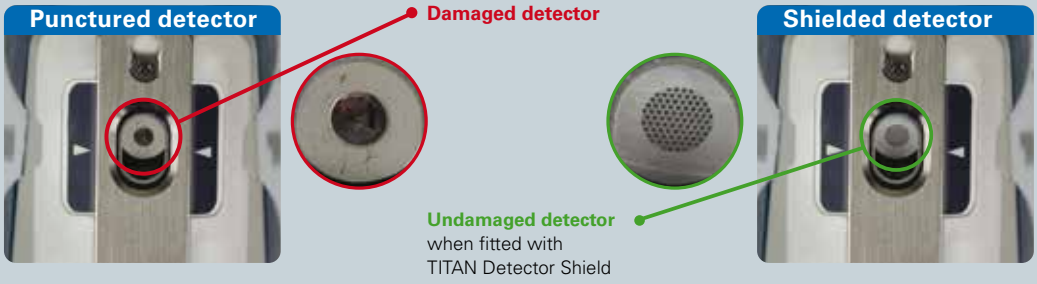
- Multiple specific matrix calibrations based on traceable standards
- Standard-less calibrations
- Automatic selection of calibrations
- Elemental range: up to 37 elements. including Mg and Al
- Accurate elemental analysis of metal samples
- Modes: Assay, Grade ID, Grade pass/fail, Limit testing
- SMART Grade™

TITAN Detector Shield™:

The ultimate defense against punctured detectors - **Guaranteed!** This unique patented S1 TITAN accessory protects the detector window from being punctured by sharp objects like wires or shavings, while still allowing rapid and accurate analysis of almost any material.

- Prevents costly detector punctures
- Increases equipment up-time
- No need to change window or calibration when measuring light elements
- No sacrifice to analytical performance, even when measuring light elements such as Mg, Al or Si





Environmental conditions:

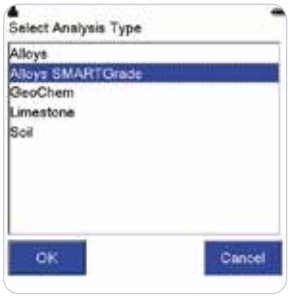
IP54 rated; the S1 TITAN is designed to withstand field operation in all environments, including humid and dusty conditions.

- Sealed against moisture and dust
- Ruggedized with rubber over-molding
- Protected from dirt and windblown dust
- Operating Temperature: -10°C to +50°C

SMART Grade™ (System Monitored Automatic Run Time):

The S1 TITAN 800, when ordered with an Alloy calibration, is automatically equipped with Bruker's patent pending SMART Grade™ calibration. **This application automatically determines the proper conditions and measurement times for each alloy measured.**

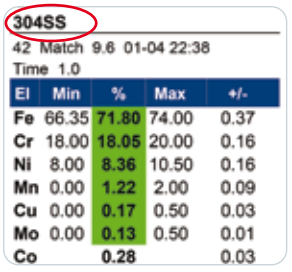
- Pull the trigger and the analyzer does the rest
- Like having an expert operate your analyzer
- Optimum measurement conditions for each alloy
- Multiple condition measurement when required
- Fast measurement (1-3 sec) for standard alloys
- Automatically extended times (5-15 sec) for alloys containing light elements

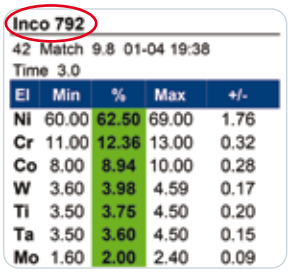


Grade Library:

All S1 TITANS ordered with Alloy calibration includes extensive grade libraries (1,000+ grade definitions) covering various international standards. User selectable libraries: UNS, DIN and others. These libraries cover the following alloy classes:

- Low alloy steels
- Cr-Mo steels
- Tool steels
- Stainless steel
- Specialty alloys
- Nickel alloys
- Zirconium alloys
- Brasses
- Bronzes
- Cobalt alloys
- Zinc alloys
- Aluminum alloys
- Titanium alloys
- Exotic alloys





Easy to use:

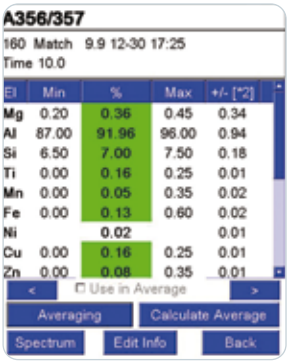
The S1 TITAN is among the lightest portable tube-based XRF analyzers available on the market today. The user interface has been designed to provide intuitive operation and results presentation. Data management and transfer are exceedingly easy to use.

- Intuitive user interface - just point and shoot
- Requires very little operator training
- Multiple fields for sample identification
- Lightweight – only 1.5kg / 3.3 lbs, including battery

Scrap Metal Sorting

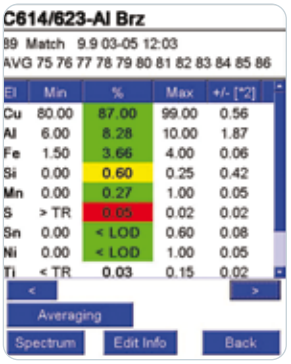
Exceptional analysis of Al alloys:

Thanks to Bruker's SharpBeam™ geometry and SMART Grade™ calibration, sorting aluminum-based metals has never been faster or easier. Using the S1 TITAN 500 with SDD and fixed filter, about half of the Al grades can be indirectly determined based on the concentration of heavy elements. Using the TITAN 500S 29kV alloy calibration, all aluminum and magnesium grades can be determined based on direct and simultaneous measurement of both light and heavy elements. The premium model, S1 TITAN 800, provides ultimate flexibility and performance for both light elements and heavy elements. Using the SMART Grade calibration, all the guess work is eliminated- the calibration automatically determines the proper conditions and measurement times for each alloy measured.



Load averaging, valuation and tramp elements library:

By averaging several readings from a load of scrap and using a valuation source (such as the London Metal Exchange pricing), it is possible to quickly calculate the value of the scrap. When used to examine incoming scrap, the S1 TITAN can determine not only the analysis of the material, but identify situations where there might be mixed scrap. Averaging allows assaying a larger lot of material, including its grade, as well as highlighting problematic melt elements via the S1 TITAN's tramp element library. If a tramp element is above the threshold, its concentration will be displayed in red, along with a ">TR" notation in the display's Min column.



Service Care Programs:

Bruker has been in the instrument business for many years and supplied products and services to companies just like yours. We understand the critical importance of post-sales support to our clients. Our Service Care program provides the highest level of service in the industry. Our care programs cover the following benefits:

- Annual maintenance and re-certification of measurement accuracy
- 50% discount on repair due to accidental damage
- Priority access to technical support hotline
- Warranty: All repair parts/labor included
- Remote diagnostic services
- On-going User Training
- Rental services
- Guaranteed Loaner program*
- Free consumables*
- Free SW updates*

*Conditions apply

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