

HANDHELD XRF

TITAN

Power Over the Elements

Innovation with Integrity



Elemental Analysis from Magnesium to Uranium

The TITAN is a rugged handheld XRF analyzer for the rapid determination of a material's elemental composition. Fast analysis speed and exceptional accuracy make the TITAN the ideal choice for non-destructive analysis and sorting of incoming material, finished goods and in-process production parts, enabling rapid decision-making.

TITAN, with the ability to analyze solids, powders and liquids wherever they are found, can be used in almost any application. Typical applications include alloy identification and quality control, scrap metal recycling, precious metals, wear metals in oil, mining and geochemistry, environmental pollution, consumer safety, food safety, and agriculture.

TITAN

Fast. Rugged. Unstoppable.

TITAN puts power over the elements directly in your hands. This high-performance XRF-gun is built for every operator, engineered for the harshest realities and optimized for fast, consistent results.

Powered by a silicon drift detector equipped with a graphene window, the TITAN delivers fast, stable analysis with exceptional light element sensitivity. With SharpBeam™ geometry and optional small-spot collimation, you get precise, repeatable readings even on small or irregular features.

The TITAN XRF-gun's intuitive touchscreen operation, clear data presentation, and simple workflows reduce training time of personnel while boosting confidence in its use in the field. Just point, shoot and keep going.

Built to work wherever your job takes you.



Made for Every Operator

TITAN's ergonomic and well-balanced design boosts operator productivity. Straightforward handling and controls enable confident and safe operation throughout the workday. With intelligent workflows and clear data presentation, TITAN empowers any operator to achieve reliable results with only minimal training. Smart connectivity and seamless documentation make the capture and sharing of data easy and efficient.

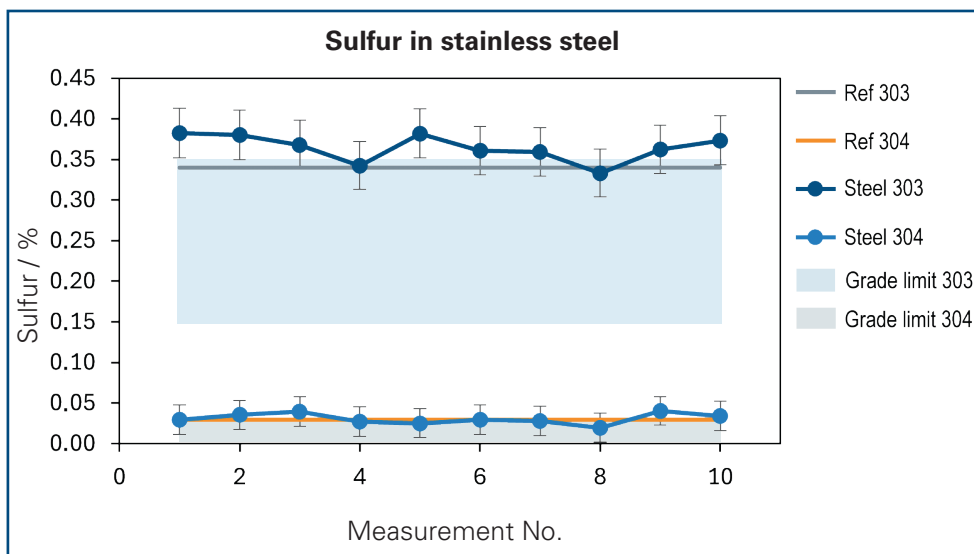


Intuitive user interface

Designed to keep work moving. An easy, touchscreen-driven workflow makes navigation simple and ensures every operator can generate reliable results without limitations.

Optimized for Rapid Results

TITAN is a state-of-the-art XRF analyzer that delivers fast, stable, and traceable quantification across a wide range of materials. Application-optimized measurements guarantee consistent performance in all conditions and reliable results wherever your job takes you.



Improved performance

Optimized measurement parameters enable faster differentiation between the commonly used stainless steels 303 and 304, which differ only in their sulfur content. TITAN can reliably differentiate between the grades in only 3 seconds, i.e., 1 second in the heavy element phase and 2 seconds in the light element phase. This enables faster decision-making in scrap sorting or PMI.

Built for Rough Realities

Designed for use in challenging environments, TITAN can withstand dust, temperature extremes, and daily industrial wear delivering uncompromising reliability. Advanced ingress protection ensures stable results anywhere, no matter the ambient conditions.

Adapter for accessories

Quick attachment of accessories such as desktop stand and radiation shield.

Dust, water and drop protection

The rugged housing and advanced ingress protection keep TITAN operational even in dusty yards, humid plants, and outdoor construction sites.

Graphene-window SDD and patented TITAN Detector Shield™

The graphene window improves the transmission of low-energy X-rays and sensitivity to light elements such as Mg, Si, and Al, enabling faster analysis and lower detection limits. This is especially important for aluminum alloys and geochemical materials.

The TITAN Detector Shield™ protects from accidental damage, reducing downtime and repair costs while improving lifetime performance.

X-ray tube

SharpBeam™ optimized geometry maintains precision and accuracy – even with the small-spot collimator – without increasing measurement time.

View and aiming camera

The dual camera system enables seamless documentation of the entire sample with the view camera and detailed images of the measurement spot using the aiming camera.



Applications ...

Positive Material Identification (PMI)

TITAN is the perfect device for portable metal and alloy analysis, including weld inspection, alloy grades and blend quality control, metal trace and tramp element analysis, incoming material inspection, and more. In safety-critical industries such as oil and gas, power generation, and chemical processing, TITAN delivers instant alloy grade identification and elemental composition within seconds without cutting, grinding, or laboratory delays.

Scrap Metal Sorting and Recycling

TITAN provides the fast and reliable identification of ferrous and non-ferrous alloys directly in the scrapyards. By delivering instant alloy grade identification, TITAN helps recyclers sort materials accurately, prevent costly mix-ups, and maximize scrap value. The result is faster decision-making, improved material quality, and more efficient recycling workflows.

Geochemistry and Mining

With its highly flexible measurement options enabling multi-element sensitivity, TITAN delivers high-quality analyses of mining and mineral samples. When performing ore exploration, drill core analysis and ore grade control, TITAN provides rapid, dependable elemental data without relying on lab turnaround times accelerating decision making.

Precious Metals and Jewelry

Analyzing jewelry with TITAN enables fast, non-destructive verification of precious metal composition and karat value directly at the point of purchase, recycling, or appraisal. TITAN can instantly identify gold, silver, platinum, and common jewelry alloys, reporting both karat and full elemental composition within seconds without scratching, cutting, or damaging valuable items.



... and Calibrations

Regulatory Screening (RoHS, CPSIA, Hazardous Metals)

XRF analysis with TITAN is a fast, non-destructive method for RoHS compliance screening, enabling the on-site detection of restricted hazardous substances in electronics, ceramics and polymers. TITAN allows manufacturers, suppliers, and inspectors to efficiently screen consumer goods for regulated elements such as Pb, Hg, Cd, Cr, and Br, supporting compliance checks to help ensure consumer safety.

Environment and Agriculture

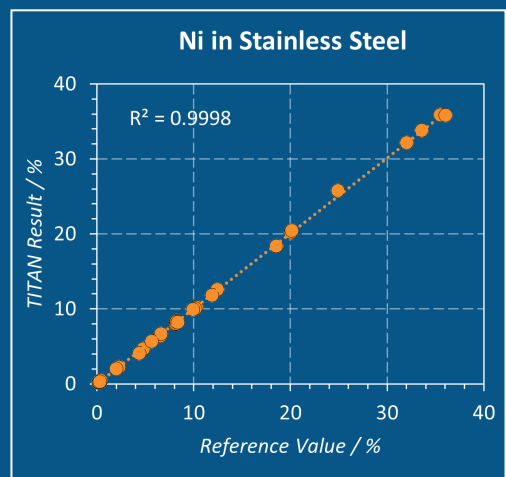
TITAN is a practical field solution for the screening of heavy metals and other potentially harmful elemental pollutants in soils, or for the analysis of essential mineral nutrients, fertilizers and plant material. It delivers immediate insights directly in the field, helping agricultural professionals make informed decisions that support sustainable land use, crop quality, and regulatory compliance.

Food Quality and Safety

TITAN plays a valuable role in food quality and safety by enabling the fast non-destructive elemental screening of raw materials to finished products. Producers and inspectors can use TITAN to quickly monitor mineral nutrients and screen for potentially harmful elements or foreign materials directly on site, with minimal sample preparation.

Matrix-Matched Calibrations

A wide range of different calibration options is available for TITAN to cover all common applications. Each calibration is matrix-matched to deliver stable, trustworthy results across complex alloys, scrap streams, catalysts, soils, and environmental samples. All calibrations can be customized to perfectly fit specific requirements.



Technical Specifications

Detection	Silicon Drift Detector (SDD) with graphene window, 20 mm ² detector area, typical resolution < 140 eV at 800,000 cps
Excitation	Rhodium (Rh) thin window X-ray tube, X-ray generator 5 - 50 kV with 5 - 200 µA, max. 5 W output, operator adjustable current and voltage
Collimators	Automated collimator changer, user selectable small and large measurement spot
Filters	Operator controlled, motorized 5 position primary beam filter wheel
Elemental range (Detection)	Magnesium (Mg) to uranium (U)
Cameras	View camera: 1 MP, 20 FPS, auto zoom Aiming camera: 320 x 320 px, 20 FPS, fixed zoom
Dimensions	L x W x H: 27.3 cm x 9.4 cm x 29.5 cm (10.75 in x 3.7 in x 11.6 in)
Weight	1.7 kg (3.7 lbs) with battery, 1.5 kg (3.3 lbs) without battery
Display	10.9 cm (4.3 in) LCD, 800 x 480 pixels, capacitive touchscreen
Software	Full control OS on analyzer and on PC software, control of all excitation parameters and live spectra displayed on analyzer
Data storage and transfer	Direct storage on USB thumb drive or µSD card, data transfer to PC via USB or Wi-Fi, Bluetooth connectivity for accessories
Power	Li-Ion battery (14.4 V nominal) incl. charger, AC adapter (24 V DC @ 2.7 A), hotswap for up to 30 s, charge battery in device
System safety	Password protection, sample proximity sensor, low count rate (backscatter) shutoff
Operating environment	-10 °C to 50 °C (14 °F to 122 °F), 10% to 90% relative humidity non-condensing, IP64 dust and splash resistant
Optional accessories	Desktop stand, radiation shield

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