



S1 TITAN

- Precious Metal Alloys

Optimized for precious metal alloys, this calibration includes alloy grade ID and karat display.

The S1 TITAN model 500 is the value-based analyzer, containing a high performance, yet economical Silicon Drift Detector (SDD) detector. Performance, resolution and analysis speed of the SDD is far superior to alternative SiPIN detector technology.

The S1 TITAN models 600 and 800 are configured with the FAST SDD® detector for the ultimate in speed and resolution. With the patented SharpBeam™ optimized detector/tube geometry, the S1 TITAN runs at lower power - thus enabling increased battery life. The S1 TITAN's large elemental range makes it especially well suited for the analysis of precious metals.

Benefits:

- Lightweight (1.5 kg with Battery)
- SharpBeam® configuration
- Very intuitive User Interface
- Grade library: Gold karat, Alloy
- Small spot
- 50 kV Tube

Available Options:

- TITAN Detector Shield™
- Integrated camera
- Desktop stand
- Benchtop stand

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S1 TITAN Configuration	Detector	Small Spot	Camera	Detector Shield™	Analysis Time (typical)
Model 800	FAST SDD®	5mm standard 8 or 3mm optional	Included	Included*	2 - 5 seconds
Model 600	FAST SDD®	5mm	Optional	Included	2 - 5 seconds
Model 500	SDD	5mm	Not Available	Included	2 - 5 seconds

The S1 TITAN can measure pure precious metals and numerous alloying elements in: industrially relevant precious metals (Pt, Re, Ir, Ru, Rh, Pd, Ag etc.), dental alloys (Pt, Au, Pd, Ag, Rh, Co, Ti, Cr, Mo, Zr, In, Sn, Sb etc.), genuine jewelry (Pt, Au, Pd, Ir, Ag, Ni, Zn, Cu etc.), and adulterated jewelry (W, Pb, Cr, Fe, Zr etc.). The S1 TITAN can also be used for screening of toxic or regulated elements like Cd, Pb, Hg or Ni.

Using the S1 TITAN's high contrast touchscreen LCD and optional integrated digital camera & small spot, accurately pinpointing the correct target area of the sample is incredibly easy. Additionally, the S1 TITAN can be equipped with the patent-pending TITAN Detector Shield™ – providing unsurpassed protection of the analyzer's sensitive detector from damage by puncture, with no degradation of analytical performance.

The Precious Metal application is designed to enable compensation for small samples, irregular shapes, and curved surfaces - even when they are smaller than the beam diameter. The S1 TITAN can be used directly (handheld) on larger objects or in the optional desktop or benchtop stand. These fully shielded stands allows analysis of rings and chains, as well as larger objects such as serving platters or cups - right at the counter! Our free S1 Toolbox PC-based software allows for remote control of the S1 TITAN, as well as custom reports which can include pictures of the test sample.

The S1 TITAN will quickly identify common jewelry alloys. Results are reported directly in karat, plus all detected elements are reported in weight %. Alerts will be displayed when questionable compositions or under-karat jewelry are detected. With an accuracy of better than 0.2 karats, the S1 TITAN's performance is second only to the destructive fire assay – and by detecting Ir and Rh in an alloy, the S1 TITAN can actually perform better than traditional fire assay!

El	Min	%	Max	+/-[-2]
Au	98.958	59.372	59.375	1.236
Cu	0.000	29.772	41.042	0.629
Zn	0.000	4.543	41.042	0.236
Ni	0.000	4.532	41.042	0.299
Ag	0.000	1.781	41.042	0.216
Ti	0.000	< LOD	41.042	0.338
Cr	0.000	< LOD	40.042	0.196



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* TITAN Detector Shield is not available with 3mm spot