



New 2020 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 40kV X-ray tube and high performance graphene window silicon drift detector (SDD). Performance, resolution and analysis speed of the SDD is far superior to alternative Si-PIN detector technology.

The S1 TITAN 800 is the premium model with 50kV X-ray tube and graphene window SDD for ultimate speed and sensitivity. 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
- TITAN Detector Shield™
- Very intuitive User Interface
- Grade library: Gold karat, Alloy
- Small spot
- 50 kV Tube

Available Options:

- Integrated camera
- Desktop stand
- Benchtop stand
- Gold coating calibration

• Precious Metal Alloys

| S1 TITAN Configuration | Detector | X-ray tube, max kV | Small Spot | Camera | Detector Shield™ |
|------------------------|----------------------|--------------------|-----------------------------------|----------|------------------|
| Model 800 | SDD, graphene window | 50kV | 8mm standard 5 or 3mm optional | Optional | Included |
| Model 500 | SDD, graphene window | 40kV | 8mm | Optional | Included |

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 is equipped with the patented 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 Bruker Instrument Tools 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 %. The optional coating calibrations can measure gold or silver plating thickness providing additional information on jewelry composition. 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!

| 14.2 K Gold | | | | |
|----------------------------|--------|--------|--------|---------|
| 94 Match EXACT 04-13 13:26 | | | | |
| Time 5.0 | | | | |
| El | Min | % | Max | +/-[*2] |
| Au | 58.958 | 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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