



EXA



Overview

EXA is a portable desktop diamond verification instrument for mounted and loose stones designed to separate diamonds from synthetic diamonds and diamond simulants. EXA is manually operated but gives an automatic test result. EXA can also be used in manual mode permitting the operator to classify the stone by interpretation of its fluorescence spectrum.

The instrument tests individual stones by applying the provided probe to the surface of the gem. EXA was tested by ASSURE in manual interpretation mode; the following categories were determined:

- 1) Diamond
- 2) Refer

The 'Refer' category may contain diamonds, diamond simulants or synthetic diamonds. These referrals should be tested further for full verification.

Stone Testing Capabilities

Weight range: **>= 0.005 ct**
Colour range: **D to N (D to K tested by ASSURE)**
Stone shape: **All**
Diamond simulants: **Cubic Zirconium and Sapphire**
Mounted stones: **Yes (open back)**

Instrument Capabilities

Automated feed: **No**
Automated results: **Yes***
Automated dispense: **No**
Detect or Refer (synthetic diamonds): **Refer**
Detect or Refer (diamond simulants): **Refer**
Multiple stones at once: **No**
Training required: **Yes* (manual mode)**

* EXA has both an automated mode and a manual mode. Training is not required for automated mode.

ASSURE 2.0 Performance


Key ASSURE 2.0 test results for EXA:

	Primary Loose	Smalls Loose	Primary Mounted
Diamond False Positive Rate <i>(Optimal rate 0%)</i>	0.0% +/- 0%	0.0% +/- 0%	0.0%
Diamond Referral Rate <i>(Optimal rate 0%)</i>	5.5% +/- 1.1%	10.1% +/- 1.0%	10.2%
Diamond Accuracy Rate <i>(Optimal rate 100%)</i>	94.5% +/- 1.1%	89.9% +/- 1.0%	89.8%
Test Speed <i>Stones per hour</i>	205 +/- 24		

Notes:

Uncertainty ranges (+/-) are based on repeatability testing (three trials) and represent spread of results in absolute terms.
Test Speed based on time to screen the full Primary Loose sample set, and includes time taken to interpret results.

Instrument Specifications

 21 cm (W) x 23 cm (D) x 13 cm (H)

 3.4 kg

Price: 9800 (February 2024)

Contact

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