



De Beers Group Ignite AMS2



Overview

AMS2 is a desktop fully automated diamond verification instrument that is designed to screen large quantities of loose stones at high speed. AMS2 automatically separates diamonds, synthetic diamonds and diamond simulants.

The operator loads up to 500 carats of loose polished stones into a the AMS2 within a specific size range. The instrument then automatically processes the stones and physically dispenses them into their respective categories:

- 1) Pass (i.e. natural diamond)
- 2) Synthetic Diamond
- 3) Non-diamond
- 4) Refer

Stones reporting to 'Refer' should be tested further, and may include potential synthetic diamonds and natural diamonds.

AMS2 requires periodic calibration.

Stone Testing Capabilities

Weight range: **0.0033 ct to 0.2 ct (round brilliant)
0.01 ct to 0.2 ct (fancy shapes)**

Colour range: **D to J***

Stone shape: **Round brilliant and some fancy shapes**

Diamond simulants: **Yes**

Mounted stones: **No**

* failsafe across all colours although natural fancy colours will give a higher referral rate

Instrument Capabilities

Automated feed: **Yes**

Automated results: **Yes**

Automated dispense: **Yes**

Detect or Refer (synthetic diamonds): **Detect**

Detect or Refer (diamond simulants): **Detect**

Multiple stones at once: **Yes**

Training required: **No**

ASSURE 2.0 Performance

Key ASSURE 2.0 test results for the AMS2:

	Primary Loose	Smalls Loose	Primary Mounted
Diamond False Positive Rate <i>(Optimal rate 0%)</i>	0.0% +/- 0.0%	0.0% +/- 0.0%	N/A
Diamond Referral Rate <i>(Optimal rate 0%)</i>	0.7% +/- 0.1%	0.6% +/- 0.0%	N/A
Diamond Accuracy Rate <i>(Optimal rate 100%)</i>	99.3% +/- 0.1%	98.6% +/- 0.2%	N/A
Operating Speed <i>Stones per hour</i>	2,300 +/- 87		

Notes:

Uncertainty ranges (+/-) are based on repeatability testing (three trials) and represent spread of results in absolute terms.

Operating Speed for fully automated instruments is measured when operating at steady state.

See Laboratory Report for full set of performance results.

Instrument Specifications

31.5 cm (W) x 40 cm (D) x 55 cm (H)

25 kg

Price: 45,000 USD (Apr 2023)

Contact

<https://verification.debeersgroup.com/>

dvisales@debeersgroup.com