



# Sherlock Holmes 4.0



## Overview

The Sherlock Holmes 4.0 Detector is a portable desktop diamond verification instrument for loose and mounted stones designed to separate diamonds from synthetic diamonds. The Sherlock Holmes 4.0 Detector is manually operated and requires an operator to interpret the test results.

The Sherlock Holmes Detector 4.0 requires visual interpretation of long UV fluorescence, phosphorescence and fluorescence images. In some cases it is necessary to view stone from multiple angles at maximum zoom to assist with interpretation. The operator can conclude one of the following results:

- i) Diamond
- ii) Synthetic Diamond

There is no Referral category for this device; some diamonds may be categorized as Synthetic Diamond. The operator must supply their own recent model smartphone\* (<3 yrs old) with iOS or Android and installed Yehuda app. Prior to testing, the phone must be color-calibrated using a selection of sample stones of known origin (not included with device).

\*iPhone 15 with iOS 17.2 was used for ASSURE testing

## Stone Testing Capabilities

Weight range: **All**  
 Size of stones: **All**  
 Colour range: **D-K**  
 Stone shape: **All**  
 Diamond simulants: **No**  
 Mounted stones: **Yes**

## Instrument Capabilities

Automated feed: **No**  
 Automated results: **No**  
 Automated dispense: **No**  
 Detect or Refer (synthetic diamonds): **Detect**  
 Detect or Refer (diamond simulants): **N/A**  
 Multiple stones at once: **Yes**  
 Training required: **No** (operating manual and videos)

## ASSURE 2.0 Performance

Key ASSURE 2.0 test results for Sherlock Holmes 4.0:

	Primary Loose	Smalls	Primary Mounted
<b>Diamond False Positive Rate</b> <i>(Optimal rate 0%)</i>	0.0% +/- 0%	0.0% +/- 0%	0.0%
<b>Diamond Referral Rate</b> <i>(Optimal rate 0%)</i>	N/A <sup>1</sup>	N/A <sup>1</sup>	N/A
<b>Diamond Accuracy Rate</b> <i>(Optimal rate 100%)</i>	97.2% +/- 0.1%	92.6% +/- 0.9%	100.0%

**Test Speed** 109 +/- 18

*Stones per hour*

### 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 retest challenging stones at different angles. See Laboratory Report for full set of performance results.

<sup>1</sup> There is no Diamond Referral category; misclassified Diamonds were categorized as Synthetic (2.8% for Primary, and 7.4% for Smalls).

## Instrument Specifications

15 cm (W) x 21 cm (D) x 14 cm (H)

3.7 kg

Price: 6,745 USD + \$10/mth subscription (Sept 2024)

## Contact

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