



# SYNTHdetect



SYNTHdetect is a desktop diamond verification instrument for loose and mounted stones. It is designed to separate diamonds from synthetic diamonds and diamond simulants. SYNTHdetect is manually operated and requires an operator to interpret the test results.

SYNTHdetect captures images and based on visual analysis of the images the instrument automatically displays one of the following results that can be interpreted by the operator:

- ◇ Natural
- ◇ Refer

The 'Refer' result could contain potential synthetic diamonds, diamonds and diamond simulants. These referrals should be tested further for full verification.

The instrument does require user interpretation although it contains the software to aid in this interpretation. SYNTHdetect needs to be calibrated periodically.

## Stone Testing Capabilities

Weight of stones:	<b>0.001 ct - 100 ct</b>
Colour of stones:	<b>D-J</b> failsafe across all colours although natural fancy colours will give a higher referral rate
Shape of stones:	<b>All</b>
Diamond simulants:	<b>Yes</b>
Mounted stones:	<b>Yes</b> not yet ASSURE Tested

## Instrument Capabilities

Automated feed:	<b>No</b>
Automated results:	<b>No</b>
Automated dispense:	<b>No</b>
Detect or Refer (synthetic diamonds)	<b>Refer</b>
Detect or Refer (diamond simulants)	<b>Refer</b>
Multiple stones at once:	<b>Yes</b>
Training required:	<b>Yes</b>

## Instrument Performance

The results demonstrate the performance of the SYNTHdetect tested by an expert operator:

	Core Sample	Smalls Sample
<b>Diamond False Positive Rate</b> <i>Optimal rate 0%</i>	<b>0%</b>	<b>0%</b>
<b>Diamond Referral Rate</b> <i>Optimal rate 0%</i>	<b>0.7%</b>	<b>1.9%</b>
<b>Diamond Accuracy Rate</b> <i>Optimal rate 100%</i>	<b>99.3%</b>	<b>98.1%</b>
<b>Speed</b> <i>Stones tested per hour</i>	<b>583</b>	<b>583</b>

## Instrument Specifications

**31 cm (w) x 34 cm (d) x 45.8 cm (h)**

**30 kg**

**18,500 USD** July 2019

[debeersgroupservices.com/instruments](http://debeersgroupservices.com/instruments)

[contact@debeersgroupservices.com](mailto:contact@debeersgroupservices.com)

**+44 207 858 7887**

**ASSURE Tested March 2019**

**ASSURE ID 375648**