



# LEO



LEO is a portable desktop diamond verification instrument for loose and mounted stones, designed to separate diamonds from synthetic diamonds and diamond simulants. Leo is manually operated but gives an automatic test result.

The Leo was purchased by the Diamond Producers Association and independently tested.

The instrument tests individual stones and automatically one of the following results:

- ◇ Earth mined
- ◇ Type II
- ◇ Simulant
- ◇ Cubic Zirconium
- ◇ Moissanite

The 'Type II' result could contain potential synthetic diamonds and diamonds. These referrals should be tested further for full verification.

## Stone Testing Capabilities

Weight of stones:	<b>0.01 ct - 12 ct</b>
Colour of stones:	<b>D-M</b>
Diamond simulants:	<b>Yes</b>
Mounted stones:	<b>Yes</b> open back settings, not yet ASSURE Tested

## Instrument Capabilities

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

## Instrument Performance

The results demonstrate the performance of the LEO tested by a novice operator:

	<b>Core Sample</b>
<b>Diamond False Positive Rate</b> <i>Optimal rate 0%</i>	<b>4.6%</b>
<b>Diamond Referral Rate</b> <i>Optimal rate 0%</i>	<b>3.7%</b>
<b>Diamond Accuracy Rate</b> <i>Optimal rate 100%</i>	<b>51.6%</b>
<b>Speed</b> <i>Stones tested per hour</i>	<b>219</b>

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