



QChKAdC



Overview

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

After loading the sample in the aluminium plate it is exposed to deep UV and its phosphorescence and fluorescence are monitored in the windows. The phosphorescence of some of the synthetic diamonds can be enhanced when the sample is kept at slightly higher temperature (approx 60-70 degrees C) which can be executed by placing the sample loaded metal plate on a vessel containing hot water. QChKAdC displays one of the following results:

- i) FI Image (Fluorescence)
- ii) P Image (Phosphorescence)

From the observations and inference regarding Natural/Synthetic is by manual interpretation of the colour of Fluorescence and phosphorescence as per the instruction manual supplied.

Stone Testing Capabilities

Weight range: **0.003 ct - 10 ct**
 Size of Stones: **0.86 mm - 3.7 mm**
 Colour range: **D-J**
 Stone shape: **All**
 Diamond simulants: **No**
 Mounted stones: **Yes** not yet ASSURE tested

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: **Yes**

Instrument Performance

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

	Core Sample	Smalls Sample
Diamond False Positive Rate <i>Optimal rate 0%</i>	11.1%	3.7%
Diamond Referral Rate <i>Optimal rate 0%</i>	N/A	N/A
Diamond Accuracy Rate <i>Optimal rate 100%</i>	94.2%	88.6%
Speed <i>Stones tested per hour</i>	731	731

Instrument Specifications

 35.5 cm (W) x 43 cm (D) x 49 cm (H)

 14.5 kg

Price: 7,700 USD (excl. laptop) September 2019

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