



## SELECTING THE RIGHT INSTRUMENT



The selection of a Diamond Verification Instrument can be a daunting task. The number of instruments available in the market with different capabilities and at different prices makes it hard to select the right instrument for your operation. The [ASSURE Directory](#) has been developed to provide you with objective information about Diamond Verification Instruments so you can choose the right one for your operations.

Before you choose which instrument to buy, you should consider the following:

- ◇ Type of diamonds used in your operations (size, colour, shape, and loose/ mounted) as those influence the choice of instrument.
- ◇ Volumes of diamonds processed. Large volumes of melee will require different levels of automation than small number of larger stones.
- ◇ Level of expertise of your team. Some instrument requires no experience at all whereas other devices require trained operators.
- ◇ Need for portable instrument. You may need a portable instrument if you operate in various locations or test stones outside your own premises.
- ◇ Budget. Diamond Verification Instruments vary greatly in cost, due to a number of factors.

These considerations are important to identifying the right instrument for your operation. Below we list some of the different capabilities of instruments available in the market. You can also use the filter function in the [ASSURE Directory](#) to search for specific capabilities to identify which instruments best meet your requirements.

The below lists of instruments with respective capability, will continuously be updated as more ASSURE Test results become available.

## STONE CAPABILITIES

Diamond Verification Instruments included in the ASSURE Program differ in terms of the range of stones they claim to be able to process. All have different capabilities when it comes to the colour, carat weight, size dimensions, and shape of the stones they are able to handle.

**Instrument that can process stones that are smaller than 0.01 ct:** AMS2, DiamondDect 3, DiamondDect 5, DiamondSure, GIA iD100, GV5000, M-Screen+, Sherlock Holmes, SynthDetect

**Instruments that can process fancy shape stones:** AMS2, DiamondDect 3, DiamondDect 5, DiamondSure, DiamondView, GIA iD100, GV5000, Sherlock Holmes, Synthetic Diamond Screener II, SynthDetect

Some instruments can process mounted stones ranging from simple "open back" jewellery designs to more intricate and "closed back" models.

**Instruments that can process mounted stones:** DiamondDect 3, DiamondDect 5, DiamondSure, DiamondView, GIA iD100, GV5000, Sherlock Holmes, Synthetic Diamond Screener II, SynthDetect





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Some instruments can process diamond simulants, whilst others require that you pre-screen all stones to ensure diamond simulants are excluded. Note that diamond simulants have different chemical composition and physical properties than natural diamonds and synthetic diamonds. Examples of diamond simulants are cubic zirconia, colourless corundum, synthetic moissanite and glass crystals.

**Instruments that can process diamond simulants:** AMS2, DiamondSure, GIA iD100, GV5000, M-Screen+, SynthDetect

## VOLUME CAPABILITIES

Instruments have different capacity when it comes to volumes of stones they can manage. Some instruments process one stone at the time and other instruments process batches of stones. There are instruments that have automated feeding and dispensing of stones, whilst others are manually operated.

**Instruments that can process batches of stones:** AMS2, DiamondDect 5, GV5000, M-Screen+, SynthDetect

**Instruments with automated feeding and dispensing of stones:** AMS2, M-Screen+

## INTERPRETATION CAPABILITIES

Some instruments have fully automated interpretation whilst others require the operator to analyse and interpret the results. Contact the manufacturers to learn which level of training is required ahead of purchasing an instrument with manual interpretation.

**Instruments with automated interpretation:**

AMS2, DiamondDect 3, DiamondDect 5, DiamondSure, GIA iD100, M-Screen+, Synthetic Diamond Screener II

## SIZE AND PORTABILITY

Instruments range in size and weight; from small handheld instruments to instruments that require designated floor space. In addition, some of the instruments are designed to be portable whilst others are stationary.

**Portable instrument:** DiamondDect 3, DiamondSure, GIA iD100, Sherlock Holmes, Synthetic Diamond Screener II

## PRICE LEVEL

The prices of the instruments for February 2019 are listed in the ASSURE Directory. For the latest prices, contact respective manufacturer.

**Price of instruments less than \$10,000:** DiamondDect 3, DiamondDect 5, GIA iD100, Sherlock Holmes, Synthetic Diamond Screener II

## AUTHENTICATION AND SCREENING

When purchasing a Diamond Verification Instrument, it is important to note the distinction between screening and authentication instruments. Authentication instruments determine the nature of each specific stone. Screening instruments verify the vast majority of natural diamonds but refer the remaining natural diamonds for further testing – along with any synthetic diamonds. These referred stones, called referrals, can be then correctly classified using authentication instruments or by referring them to gemmological laboratories.

Depending on your operational needs, you may need both screening instruments and authentication instruments (e.g. if you process large number of stones).

Imagine this scenario: You purchase a screening instrument (with a 2% referral rate) to test the 10 diamonds you handle per month. By the end of the year you have tested 120 diamonds and 118 of those diamonds were verified by the screening instrument. The other two diamonds you sent to a gemmological laboratory for verification. Now, let us say you handle 10,000 diamonds per day, suddenly the number of diamonds referred for further testing amounts to 2,000 stones and you decide to purchase an authentication instrument.

**Instruments that use authentication technology:** DiamondView



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### SAFETY FIRST

The most important requirement when selecting a Diamond Verification Instrument is that the instrument meets the safety regulations of your local jurisdiction. On each instrument page in the [ASSURE Directory](#) you can find additional information. Before purchasing an instrument, request that the manufacturer verifies that their instrument complies with all regulatory requirements.

### INSTRUMENT PERFORMANCE

In the ASSURE Directory you can find the independent third-party verified performance test results for the Diamond Verification Instruments. Once you know which instrument have the capabilities that you need, have a look through the [ASSURE Directory](#) to review their performance test results. Keep in mind that the test results show how the instruments performed when tested with the challenging ASSURE Sample in accordance with the Diamond Verification Instruments Standard. This means that the instruments may perform differently in your operations.

