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DIAMOND WORLD

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LONDON CALLING

The far-flung network of
Indian jewellers in the buzzing
capital of England

Diamond Testing
Equipment
NEED OF THE HOUR

Crafting Dreams
Alessio Boschi
Unedited

**Vicenzaoro
September**
Europe's favourite
jewellery show

+ COUTURE India 2019,
HK SHOW, AW Pantone
Palette & more



Technology Talk

WHY DIAMOND TESTING MACHINES ARE A **PRIORITY?**

With the growing demand of lab grown diamonds, it is more important now than before to develop technology that can effectively distinguish natural diamonds from their synthetic counterparts. **Sanjana Parikh** finds out about the different diamond testing machines available in the market and how they are helping in bringing about more transparency

SPECIAL FEATURE

Technology has permeated through every aspect of the jewellery business, so it's no surprise then that the diamond industry too has become rather dependant on this technology. With the sudden increase in the volumes of synthetic diamonds, specialized machines that can accurately identify a natural diamond is the need of the hour. Not only does it give a stamp of authenticity, it also increases the confidence of the consumer towards brands selling diamonds or jewellery. Various diamond grading labs and testing companies have introduced a number of diamond testing machines that have interesting features and are available for purchase by diamond graders.

IMPORTANT FACTORS TO CONSIDER BEFORE PURCHASE

Some of the important aspects to consider before purchasing a verification instrument is types of diamonds used i.e. size, colour, shape, and loose/mounted as those influence the choice of instrument. Large volumes of melee will require different levels of automation than small number of larger stones, so the volume of goods plays a key role. Some instruments require no experience at all whereas other devices require trained operators. So if you are considering purchasing an advanced instrument, you need to make sure that you have a skilled operator who can use it. Depending on your requirement, you must decide if you require a portable instrument if you operate in various locations or test stones outside your own premises. As with any purchase, budget plays a key role in the final deci-



SYNTHdetect by De Beers Industries Services

sion. Diamond Verification Instruments vary greatly in cost, due to several factors and so it's important to keep cost in mind.

Understanding the indispensable nature for diamond verification systems, Diamond Producer's Association (DPA) has launched The ASSURE Program which has developed a universal standard to test the performance of Diamond Verification Instruments in a consistent manner. "The program delivers ongoing testing of Diamond Verification Instruments to ensure the trade is fully informed of the relative performance of the Diamond Verification Instruments

in the market. The instruments are rigorously tested in a transparent manner against a unique common sample and standard. The ASSURE sample will also evolve to include new synthetic diamonds as they are identified. The instruments submitted to ASSURE have been tested in accordance with the methods and protocols in the Diamond Verification Instruments Standard," says Richa Singh, Managing Director - India, Diamond Producers Association.

PUSHING BOUNDARIES

The Gemological Institute of India (GIA) is the authority in diamond



J Mini by DRC Techno

certification and grading. GIA is investing heavily in research and instrument development to understand these new materials that enter in the supply chain, and is in a unique position to develop instruments and services capable of distinguishing natural diamonds from potentially laboratory-grown and treated diamonds. The GIA iD100® gem testing device is a result of these long-standing research efforts. It is a sophisticated and easy-to-operate desktop instrument that combines advanced spectroscopic technology with GIA's 60 years of diamond and gemstone identification research to distinguish natural diamonds from laboratory-grown (HPHT and CVD) diamonds and diamond simulants. Nirupa Bhatt, Managing Director, GIA, India and Middle East shares, "Rapid advances in the technology for laboratory-grown diamonds and treatments make it crucial that the gem and jewellery industry has reliable methods for identifying them. GIA is committed to continued improvements, and the device now has the capabilities to identify blue-to-green and brown diamonds in addition to diamonds in the colourless to near-colourless range. Additionally, a Pink Diamond Software Upgrade now gives

DiaTrue CXL by OGI Systems



Nirupa Bhatt, Managing Director, GIA, India and Middle East

the instrument the ability to distinguish natural pink diamonds from laboratory-grown (HPHT and CVD) pink diamonds and simulants. These two significant improvements make proper identification of laboratory-grown diamonds more accessible to retailers and manufacturers around the world by expanding capabilities of the GIA iD100."

SYNTHETIC VS NATURAL

Based in Surat, India, DRC Techno is a non-profit company actively engaged in research and development of technologies and solutions for the diamond manufacturing and jewellery industry. Vipul Sutariya of DRC Techno says, "Diamond testing is of utmost importance in the current market scenario. Let's say if you have a brand that is 20 or 30 years old and a consumer buys a diamond from you, and it turns out to be a synthetic diamond, it can cause a big problem for your brand. So if you can provide the consumer with an authenticity report, that proves that the diamond is in fact a natural diamond, it can boost consumer confidence in your brand. Since the entire jewellery industry is based on trust, the consumer deserves to be well informed and to have tested products of natural origin. Speed, accuracy, trust and cost effective are the main characteristics of a diamond testing machine. One of the main characteristics of a natural

There are various devices available to the trade in the market. One needs to check for the reliability of such devices before using. It's not only about the price, but also whether the device is meeting the objective of accurately distinguishing between natural diamond, laboratory-grown diamond and simulant material -



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to ensure the trade is fully informed of the relative performance of the Diamond Verification Instruments in the market. The instruments are rigorously tested in a transparent manner against a unique common sample and standard.

-Richa Singh, Managing Director - India, Diamond Producers Association



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- Vipul Sutariya, DRC Techno

SPECIAL FEATURE



Comparison Chart

	De Beers Industry Services (SYNTHdetect)	OGI Systems (DiaTrue CXL)	GIA (iD100)	DRC Techno (J Mini)
Type of product	Mounted jewellery and loose stones	Mounted Jewellery and loose stones	Mounted jewellery and loose stones	Mounted jewellery and loose stones
Size Limit	0.001 ct-100 ct	All	0.005 ct +	0.003 ct +
Result	Pass or Refer	Diamond, Synthetic diamond, Diamond simulants, Suspicion	Pass or Refer	Diamond, Synthetic Diamond, Refer
Speed	583 stones per hour	Multiple stones simultaneously	183 stones per hour	935 stones per hour
Operation	Manual	Manual	Manual	Semi- automatic
Price	\$ 18,500	\$ 12,500	\$ 4,995	\$ 6,499

diamond is the nitrogen content it contains; a natural diamond contains 98% nitrogen. Another characteristic of a natural diamond is the low intensity of phosphorescence. Lab grown diamonds tend to have heavy intensity phosphorescence .”

Providing advanced technological tools for the diamond industry since 1990, OGI Systems has its presence across Europe, Asia, USA and South Africa. OGI Systems owner Daniel Benzano says, “Many parcels have mix lab grown stones and so it is imperative that every jewellery factory should have a testing device within its premises. Each device is judged on three factors namely, accuracy, user friendliness and speed. OGI Systems’ Diatru testing devices can be used for different verticals. For example, Diatru mobile is suitable for loose diamond testing and small jewellery. Retail stores prefer Diatru CS as it helps them test both loose

diamonds and finished jewellery pieces . For manufacturing factories and pawn shops, Diatru CXL is a favourite. Indian markets prefer Diatru A4 as it can test larger jewellery pieces that India is known for.”

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iD100 by GIA

only about the price, but also whether the device is meeting the objective of accurately distinguishing between natural diamond, laboratory-grown diamond and simulant material,” concludes Nirupa Bhatt. 🍷

