

# Motic® Microscopes

## GM168 Gemological Microscope

## product datasheet

### A NEW Gem microscope in a class of its own



The **GM-168** utilizes the optical performance of Motic's SMZ-168 stereomicroscope to enhance distinct three-dimensional details with a zoom function. Rugged and precise, the optics of the GM-168 performs identifications, analyses, and measurements more accurately and efficiently, thus reducing your workload. At a working distance of 113mm, manipulation of the inspected gem or the addition of a further apparatus is permitted without obstruction.

Available in a trinocular version for photographic or digital capture of the gem, the **GM-168** provides you with an opportunity for extra revenue. Moreover, when teamed with Motic's Moticam Camera, the **GM-168** becomes your instrument of instruction for teaching and training by showcasing the gem in real time via a television, a projector, and computer simultaneously.



### GM-168 Optics and Illumination

#### Microscope Zoom body

- Magnification range: 0.75x - 5x
- Zoom Ratio: 1 : 6.7
- Observation angle: 35°
- Working distance: 113mm

#### Eyepieces

- Magnification: 10x
- Field of View range: 30.7mm - 4.6mm
- Mount Diameter: Ø30mm
- Reticules: Ø26mm

### Illumination

Integrating a consistent and powerful 30W Quartz Halogen Bright field illumination with a precise, adjustable aperture diaphragm [Ø41mm - Ø2mm], you are able to measure with a table gauge the proportions and pavilions of a diamond.

#### Darkfield Illumination

Dark field is the ideal illumination for observation of inclusions. With Motic's versatile aperture diaphragm [pictured above], you can control the depth of field and contrast while using the dark field illumination for better identification.

#### Incident Illumination

Designed for use with diamonds, the incident light can be adjusted for a thorough examination of the clarity, colour, and finishing. The bulb has a colour temperature of 6000K to reduce any yellowing effects on the gem.



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### A superb range of accessories included

The **GM-168** has the most comprehensive range of accessories to aid gem classification and grading.



#### Wire Stone Holder (Above)

The ideal holder for diamonds, rubies and sapphires. Comprised of stainless steel for a long working life, the wire stone holder permits the maximum amount of observation.

#### Rounded Edge Stone Holder (Above)

Perfect for irregular gems and jewellery. Precision crafted of stainless steel to provide an adequate grip without corrupting irregular shaped gem samples.



#### Inclusion Pointer (Above)

For rapid location of inclusions and fractures on the surface of gem.

#### Large gem stage plate (A)

Magnetically attachable and covering the stage area of the GM168 base to provide a large surface for rough stones and large gems [i.e. Jade] inspection in conjunction with the incident fluorescent illumination.

#### Diamond Proportion Analyser Kit (B)

Complete kit for effective and accurate identification and measurement of proportions and pavilions. Includes the magnetised diamond mount, diamond proportion reticule, and micrometer eyepiece [10x].



#### Immersion cell (C)

Capable of rapid and easy detection of treated gems characteristics; such as clarity enhancement, HPHT annealing, irradiation, and surface colouration, the immersion cell is especially useful for rubies.



#### Polariser Kit (D)

Perfect for observing the birefringence of crystals and the quality of the finish on certain stones. Mounts conveniently on the zoom body and stage.



#### Diffuser Plate (E)

Eliminates excessive bright spots for true inclusion identification. Magnetically mountable on the stage.

[www.gxoptical.com](http://www.gxoptical.com)

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### Rotary Base

360° rotary base allows you to showcase the gem to a customer or to confer with a colleague on proper identification.



### Focus Adjustment

Allowing for a total travel of 25mm for adaptation to different sizes of gems and stones, no sample is too small or too large.



### Tilting base

With a tilting range of 0° [upright] to 45°, the GM-168's base is accessible to users of various heights.



### Stage

Able to accommodate both a gem holder and inclusion pointer simultaneously in addition to different contrast methods.



### Additional Magnification

In certain cases, the use of auxiliary magnification is necessary to locate and to identify specific types of inclusions in a gem for grading purposes. The GM168 offers two choices of auxiliary magnification in the form of eyepiece or objective to satisfy your requirements.

### Auxiliary Objectives

Additional magnification with the truest optical clarity and large field of view.

	
1.5x auxiliary objective	2.0x auxiliary objective
54mm working distance	34.5mm working distance
75x maximum magnification *	100x maximum magnification *

\*With standard WF10x eyepieces.

### Auxiliary Eyepieces

Convenient additional magnification without the loss of working distance.

	
15x eyepieces	20x eyepieces
75x maximum magnification *	100x maximum magnification *
3.4mm minimum field of view *	2.6mm minimum field of view *

\*With standard 1.0x objective.