

Motic®

GM-168

1 : 6.7 Zoom Ratio Gemmology Microscope



GM-168 Optics and Illumination

Optics



GM-168

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

Eyepieces

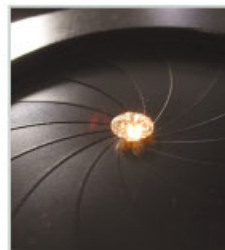
- ◆ Magnification: 10x
- ◆ Field of View range: 30.7mm - 4.6mm
- ◆ Mount Diameter: Ø30mm
- ◆ Reticules: Ø26mm

Overview

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 indentifications, 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 photographical or digital capture of the gem, the GM-168 provides you with an opportunity for extra revenue. Moreover, when teamed with Motic's Moticam 480, 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.

Illumination



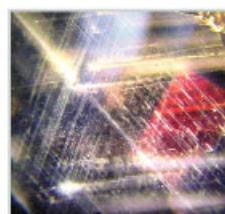
Integrating a consistent and powerful 30W Quartz Halogen Bright field illumination with a precise, adjustable aperture diaphragm [Ø41mm - Ø2mm], you are able to measure with a table gauge the proportions and pavilions of a diamond.

Bright field 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.

Dark field 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.

Incident fluorescent illumination - Diamond Light

Holders, Plates, and Analysers



Wire Stone holder

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

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

Inclusion pointer

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

Large gem stage plate

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

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

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.



Contrasts, Eyepieces, and Objectives

Contrast

Polariser Kit

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



Diffuser Plate

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



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.

STAND AND SCHEMATIC

Stand Features and Benefits

Rotary Base

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



Tilting base

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



Focus Adjustment

Allowing for a total travel of 125mm for adaptation to different sizes of gems and stones, no sample is too small or too large.



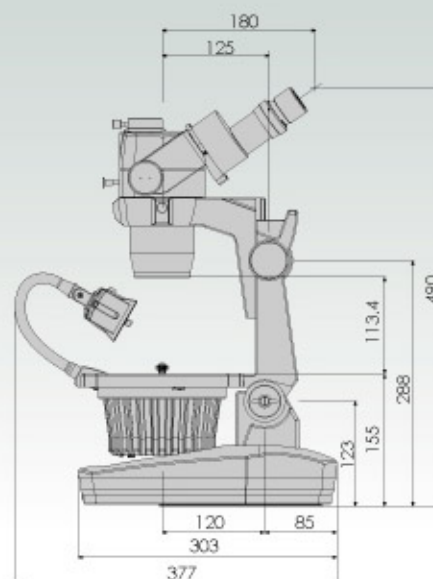
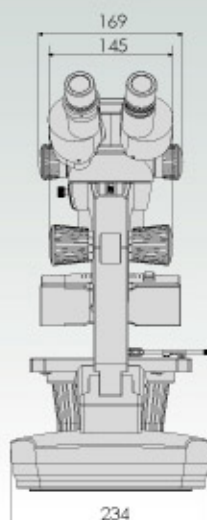
Stage

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



SCHEMATIC DIAGRAM

Unit : mm



Motic[®] Microscopes

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Design Change: The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.

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