

**Nikon**

**EXCEL**<sup>®</sup>  
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Stereoscopic Zoom Microscopes SMZ645/660

# Stereoscopic Zoom Microscopes

# SMZ645

# SMZ660



# A new standard in stereo

The SMZ645 and 660 dramatically improve optical performance and ha



# stereoscopic zoom microscopes.

providing comfort, while continuing the tradition of Nikon microscopes.

At Nikon, a world leader and pioneer in optical instruments, we are proud of our never-ending refusal to compromise and our commitment to providing the very best in optical performance.



At the same time, we realize that our technologies and philosophy mean nothing if we fail to create products designed with the customer in mind. No matter how superior the technology used in a given product may be, that product has no real value unless it serves the needs of the customer. That is why we design our products only after careful, painstaking market research, and use the most advanced Nikon technologies to fulfill the needs of the marketplace.

Nikon's new SMZ645 and 660 microscopes were developed specially to meet the needs of customers who demand more advanced features and higher performance at lower prices. For these reasons, we believe the



SMZ645 and 660 will become the new standard for stereoscopic zoom microscopes in the 21st century.

# A natural design that lets you concentrate on

## Ergonomic design for effortless observations



### **Eyepiece with a built-in diopter adjuster**

The eyepiece was designed especially for the SMZ645/660 and comes equipped with built-in diopter correction. This brings the image and the reticle into focus at the same time, making it easier to view images, while reducing eye strain.



### **Streamlined base allows operation without removing your hands from the microscope**

The plain stand features a trim design that makes handling samples much easier. Moreover, the base has a wide front and smooth curves, allowing operators to work while resting their arms in a natural position.

### **New ergonomic auxiliary objective for correct eye-level positioning**

Nikon has also developed a new G-AL ERG ergonomic auxiliary objective that can be freely adjustable to match the operator's eye level for comfortable viewing.

### **Low-position focus knob for quick, effortless focusing**

The focus knob is located within easy reach of the operator, eliminating the need to twist your shoulders to use it.

### **Diascopic stand with large-diameter stage glass**

The diameter of the stage glass in the diascopic stand has been widened to make it possible to view samples even in large Petri dishes.



# observation, not on operating the microscope

## High magnifications and long working distances



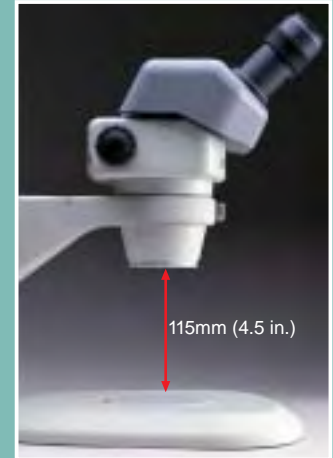
### Easy-to-use 6.3X zoom ratio offers magnifications from 0.8X to 5X

By using twin zooming objective optics developed exclusively by Nikon, the SMZ645 and 660 incorporate a convenient 6.3X zoom ratio, enabling observations at just the right magnification to match the sample. The zooming knob also features click-stops which allow changes in magnification in 1X

intervals from 1X to 4X without removing your eye from the eyepiece. And since it is easy to maintain the same magnification, efficiency is ensured, whether you are using the microscope by yourself or sharing it in a laboratory situation.

### A long working distance of 115mm (4.5 in.)

Even though the SMZ645 and 660 offer extremely high magnifications, they still provide the longest working distances of any microscopes in their class. This allows you to process and manipulate samples with ease, even while performing delicate or complex tasks.



## New three "A" design



### Airtight.

#### This prevents contamination from dust, oil, and water

By making the joints airtight, Nikon has succeeded in preventing contamination from dust, oil, drops of water, or other contaminants. This reduces the need to perform regular maintenance, saving overall costs.

### Anti-mold.

#### These microscopes can be used in hot, humid environments

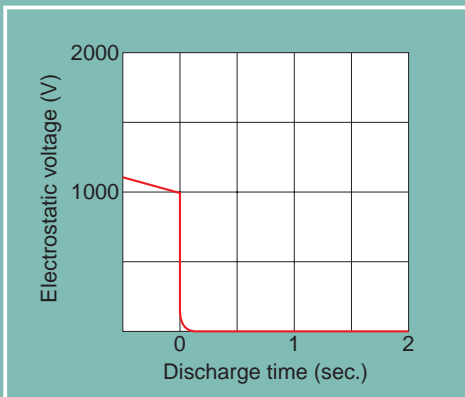
In addition to being airtight, the SMZ645 and 660 have an anti-mold design developed exclusively by Nikon. This ensures peace of mind when these microscopes are used in environments subject to high heat or humidity.

### Anti-electrostatic.

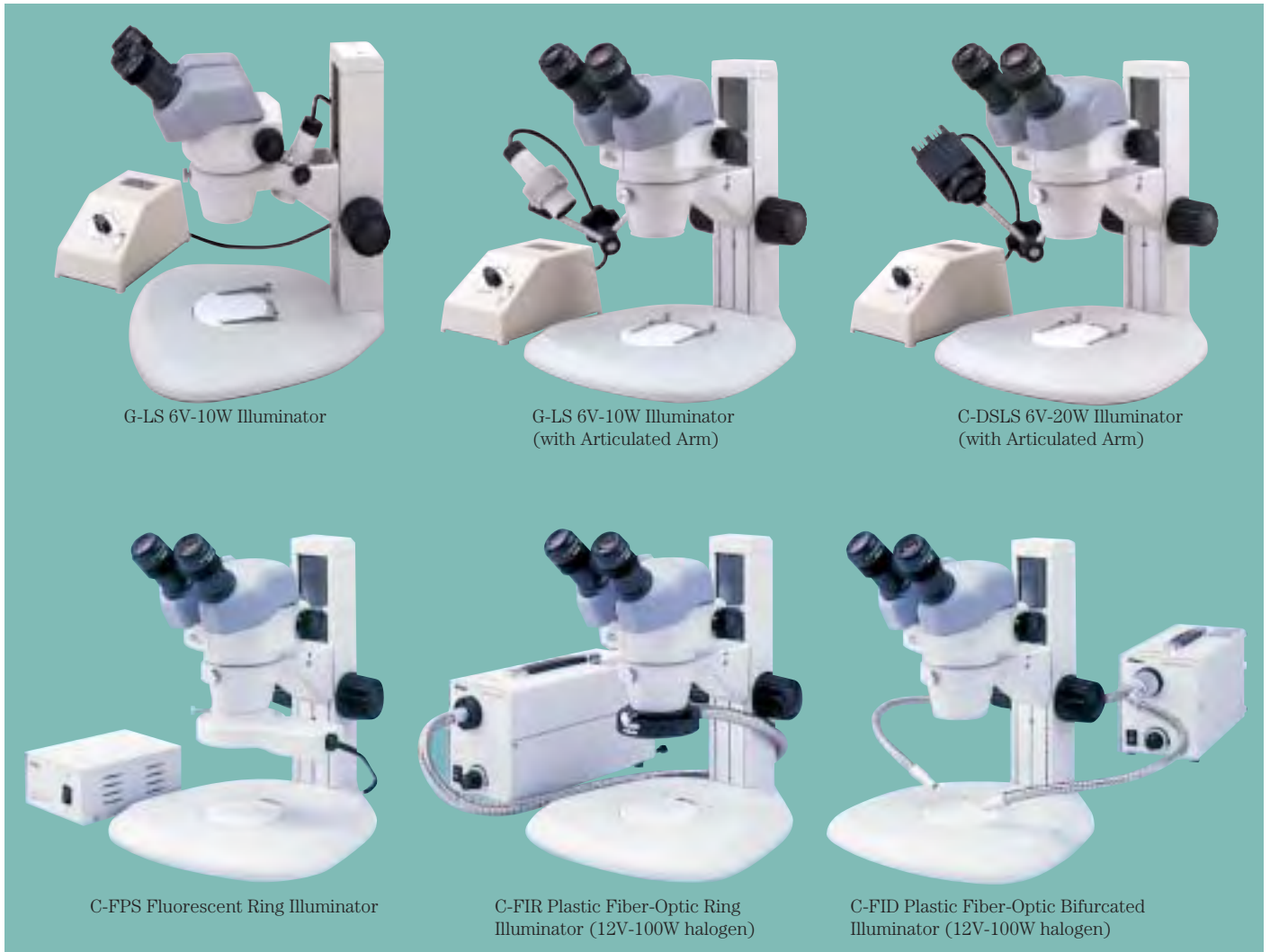
#### For higher yields

The SMZ645 and 660 are designed to discharge static electricity buildup within the microscope almost instantly. This prevents samples from becoming damaged, ensuring higher yields and lowering production costs for your products.

An optional ESD stage plate is also available for greater anti-electrostatic effects.



# Accessories



\*Stage clips pictured are optional.

## Illumination systems

- G-LS 6V-10W Illuminator
- G-LS 6V-10W Illuminator (with Articulated Arm or G-EIA Articulated Supporting Arm)
- C-DSLS 6V-20W Illuminator (with Articulated Arm)
- C-FPS Fluorescent Ring Illuminator
- C-FIR Plastic Fiber-Optic Ring Illuminator (12V-100W halogen)
- C-FID Plastic Fiber-Optic Bifurcated Illuminator (12V-100W halogen)

## Stands

In addition to the C-PS Plain Focusing Stand and the C-DS Diascopic Stand S, the following stands can all be used with these microscopes.

- C-PSC Compact Plain Focusing Stand
- C-PS160 Plain Stand
- C-DSS Diascopic Stand
- C-DSD Diascopic Stand
- C-BD Diascopic Bright/Darkfield Stand
- Large Stage Stand
- G-US1 Universal Table Stand 1
- G-US2 Universal Table Stand 2
- Universal Table Stand US-3



## Focusing mount

In addition to the new C-FMA/B (for universal stands) used to install the zooming body, the C-FMC Focusing Mount C for the SMZ1500/1000/800 stands can be used with these microscopes. The C-FMC Focusing Mount C can accommodate a large-sized stage.

## Auxiliary objectives

Nikon has added new ergonomic auxiliary objectives that can be adjusted to your eye level as well as 0.5X, 0.7X, 1.5X, and 2X auxiliary objectives to its lineup. These new objectives boast long working distances to improve work efficiency.



Ergonomic auxiliary objective "G-AL ERG"

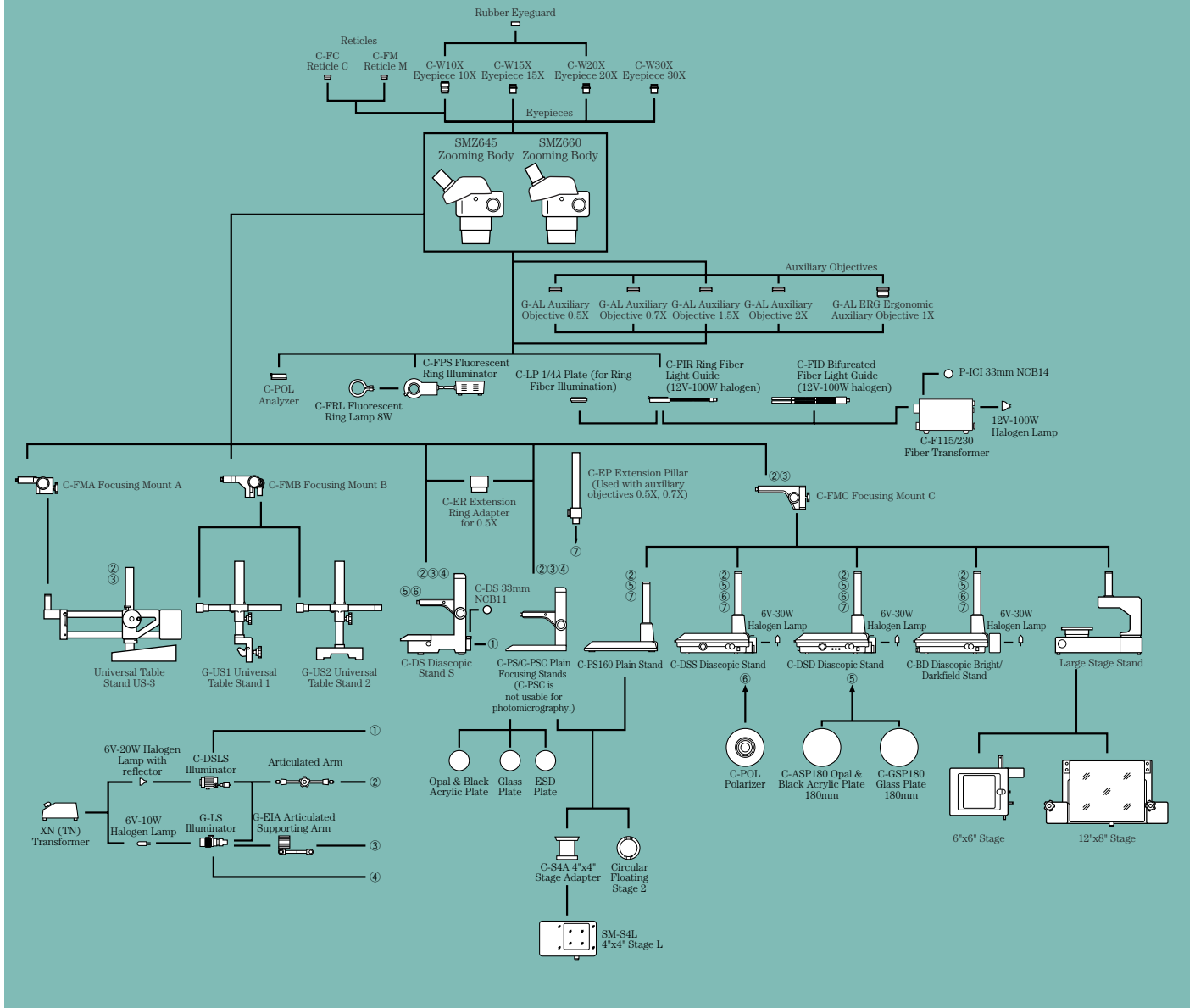
## Eyepieces

Nikon-developed 10X, 15X, 20X, 30X high eye-point eyepieces all feature diopter correction and the ability to add reticles.

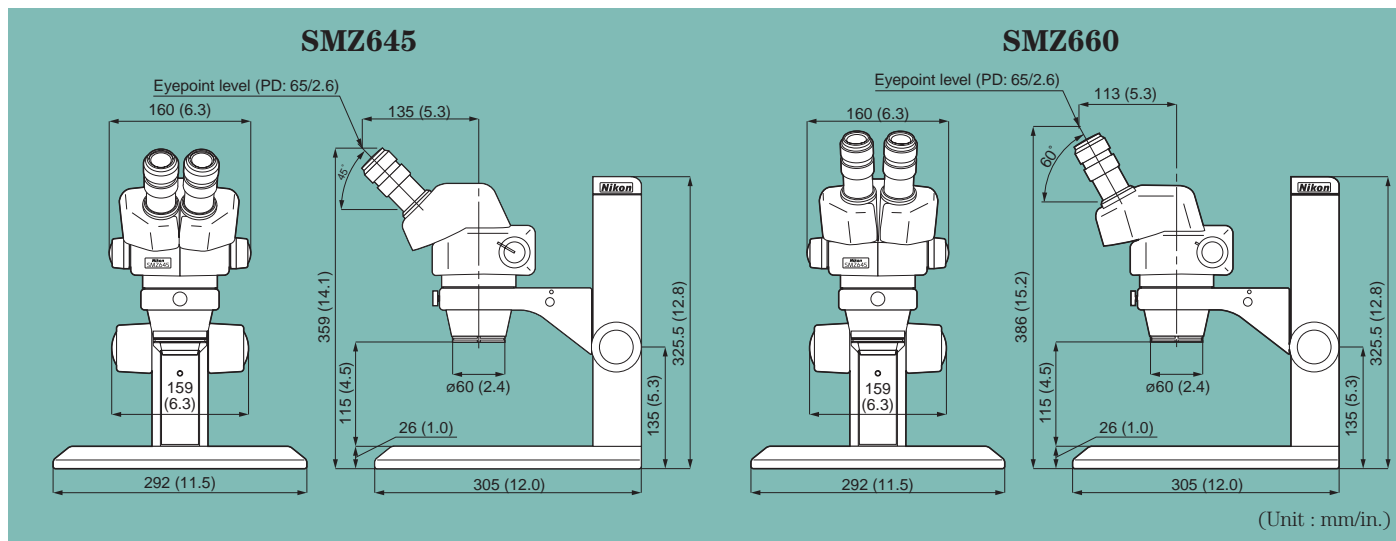
## Reticles

C-FC (with crosshairs) and C-FM (with micrometer) reticles are available exclusively for the 10X eyepiece.

# System Diagram



# Dimensions



## Specifications—SMZ645/660

<b>Optical system</b>	Twin zooming objective
<b>Total magnification</b>	4X to 300X depending on eyepiece and auxiliary objective used
<b>Eyepiece inclination</b>	SMZ645: 45° SMZ660: 60°
<b>Interpupillary distance adjustment</b>	52 to 75 mm (2.0 to 3.0 in.)(C-W10X)
<b>Eyepieces (with diopter adjustment)</b>	C-W10X (F.N. 22) C-W15X (F.N. 16) C-W20X (F.N. 12.5) C-W30X (F.N. 7)
<b>Zooming range</b>	0.8X to 5X
<b>Zooming ratio</b>	6.3 : 1
<b>Auxiliary objectives (working distance)</b>	G-AL0.5X (211mm/8.3 in.) G-AL0.7X (150mm/5.9 in.) G-AL1.5X (61mm/2.4 in.) G-AL2X (43.5mm/1.7 in.) G-AL ERG 0.77X-1.06X (102-48 mm/4.0-1.9 in.)
<b>Working distance</b>	115mm (4.2 in.)

<b>Illumination systems</b>	G-LS 6V-10W Illuminator G-LS 6V-10W Illuminator (with Articulated Arm or G-EIA Articulated Supporting Arm) C-DSLS 6V-20W Illuminator (with Articulated Arm) C-FPS Fluorescent Ring Illuminator C-FIR Plastic Fiber-Optic Ring Illuminator (12V-100W halogen) C-FID Plastic Fiber-Optic Bifurcated Illuminator (12V-100W halogen)
<b>Stands</b>	C-PS Plain Focusing Stand C-PSC Compact Plain Focusing Stand C-DS Diascopic Stand S C-PS160 Plain Stand C-DSS Diascopic Stand C-DSD Diascopic Stand C-BD Diascopic Bright/Darkfield Stand Large Stage Stand Universal Table Stand GS-1/GS-2/US-3
<b>Antistatic function</b>	Discharge time: less than 0.2 sec.
<b>Airtight construction</b>	JIS dew prevention standard Type 1 compliant

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. March 2000.

	<b>WARNING</b>
TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USE.	



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