Operating Microscope

# OM-8

In the Operating Microscope, OM-8, a new system is introduced where the customer chooses suitable component units according to their needs when ordering their microscope.

**Step 1 Select the Microscope Unit**

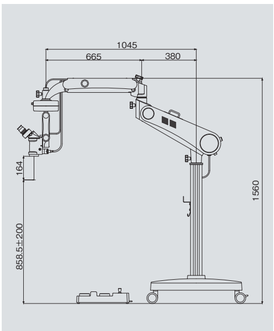
**Step 2 Select the Coupling Unit**

**Step 3 Select the Foot Controller**

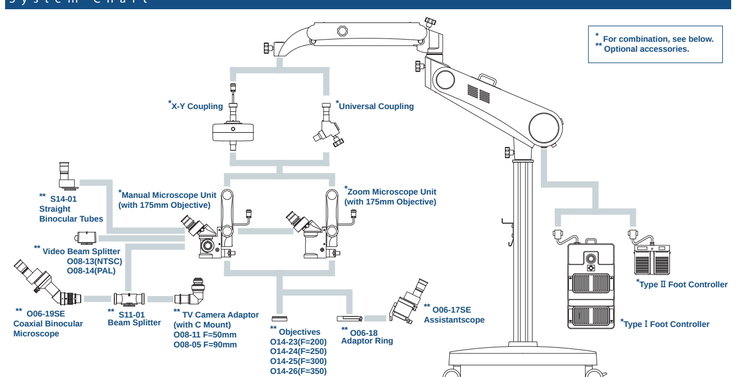
## Specifications

| | | |
|---|---|---|
| Microscope | Magnification changer | Motorized zoom type (zoom ratio 1:5) |
| | | 5-step manual type |
| | Objective | F=175mm (apochromatic corrected optics) |
| | Eyepieces | 12.5x（high-eyepoint & wide field） |
| | Binoculars | 45-degree binocular with converting optics F=125mm |
| | Total magnifications | 4.28x to 21.4x（zoom microscope head） |
| | | 3.6x, 5.4x, 8.9x, 14.3x, 22.3x （manual microscope unit） |
| | Real fields of view | φ52.5mm to φ10.5mm（zoom microscope head） |
| | | φ63mm, φ42mm, φ25.2mm, φ15.8mm, φ10.1mm（manual microscope unit） |
| | Focusing stroke | 30mm |
| | X-Y movement stroke | ±25mm in each direction (with centering function) |
| Illumination | System | Cold light coaxial illumination by fiber light guide |
| | Light source | 15V 150W halogen lamp |
| | Field of illumination | φ55mm |
| | Field of red reflex illumination | φ15mm |
| | Illumination control | Continuous adjustment |
| | Filters | Heat-absorbing, UV(permanent feature built-in), Blue-cut, Retinal protection |
| Arm,base | Mount | Floor stand |
| | Maximum arm extension | 1045mm |
| | Arm vertical stroke | 400mm |
| | Base size | 640mm × 640mm |
| Others | Weight | 82kg |
| | Power consumption | 400VA |
| | Power supply | AC120V, AC230V ; 50/60Hz |

## Dimensions




## System Chart




## Examples of Combinations

| Configuration Number | Voltage | Coupling (Selectable) | Microscope (Selectable) | Foot Controller (Selectable) |
|---|---|---|---|---|
| OM8XZ1120 | AC120V | X-YCoupling | Zoom Magnification changer | Type Ⅰ Foot Controller |
| OM8XZ1230 | AC230V | | | |
| OM8XM1120 | AC120V | X-YCoupling | Manual Magnification changer | Type Ⅰ Foot Controller |
| OM8XM1230 | AC230V | | | |
| OM8UZ1120 | AC120V | Universal Coupling | Zoom Magnification changer | Type Ⅰ Foot Controller |
| OM8UZ1230 | AC230V | | | |
| OM8UM1120 | AC120V | Universal Coupling | Manual Magnification changer | Type Ⅱ Foot Controller |
| OM8UM1230 | AC230V | | | |

● Design and specifications are subject to change as improvements are made to the product.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# Operating Microscope

# OM-8

Aiming at new levels in quality

## Step 1 Select the Microscope Unit

Choose one with motorized zoom magnification changer or with manual magnification changer according to your needs.

The newly designed microscope has the red reflex illumination system built-in (the previous models used an attachment), reducing the overall size of the microscope unit. The unit also is equipped with a motorized focusing system that offers maximum focusing stroke of 30mm, allowing the surgeon to focus precisely on the spot required using the foot controller. The objective is 27% lerger in diameter compared with that of the previous models, achieving a brighter illumination system.

### Microscope with Zoom Magnification Changer

The newly developed motorized zoom magnification changer used in the OM-8 provides a wide range of magnification from 4.28x to 21.4x. By using the Type Ⅰ Foot Controller, the motorized focus and zoom can be controlled with precision, ensuring a comfortable operating environment.

### Microscope with Manual Magnification Changer

With OM-8's newly developed manual magnification changer, the surgeon can select the most suitable magnification for each operation from 5 steps (total magnification of 3.6x, 5.4x, 8.9x, 14.3x, or 22.3x).

## Step 2 Select the Coupling Unit

Choose X-Y Coupling or Universal Coupling according to the configuration selected.

### X-Y Coupling

The ±25mm stroke both in X and Y directions allows the surgeon to cover an extensive area in a cataract operation. With the introduction of an upgraded X-Y stage (the same mechanism as used in the higher model, OM-18), reliability in positioning has been further improved.

### Universal Coupling

Use the Universal Coupling if not selecting the X-Y Coupling. Also use the Universal Coupling for microscopes configured for ENT use.

## Step 3 Select the Foot Controller

There are two types of Foot Controllers. Choose Type Ⅰ or Type Ⅱ according to the configuration selected.

### Type Ⅰ Foot Controller

Type Ⅰ Foot Controller is the default selection where the Zoom Microscope and/or the X-Y Coupling are selected. The Type Ⅰ Foot Controller allows 8-way operations: Main lamp on, Main lamp off, X direction movement, Y direction movement, Focusing up, Focusing down, Zooming up, and Zooming down. There also is a water-resistant version of the Type Ⅰ where the layout of the focus and zoom pedals can be selected to suit user's preference.

### Type Ⅱ Foot Controller

Use the Type Ⅱ Foot Controller in configurations where the X-Y Coupling is not used. The electric motorized focusing system allows the surgeon to focus precisely on the spot required.


## 1 Apochromatic Objective

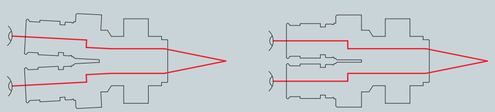
In the optics of the microscope, light that has been transmitted through the prism is dispersed into seven colors. This dispersion causes chromatic halos and fringing in images as well as blurred images. Apochromatic correction corrects the wavelengths that cause such aberrations.

With the apochromatic correction, the OM-8 has reduced chromatic halos and fringing, further improving resolution and contrast.

## 2 Converging Binocular Tubes

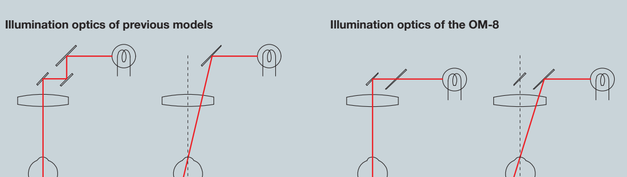
The high- eyepoint eyepieces used in the OM-8 as a standard feature enable a wider visual field. For optics, high grade multi-coated lenses are used, delivering crisp bright images.

The converging binocular microscope, with visual axes slanted inward by 6°, provides surgeons who may have experienced double-vision in other models with easier fusion and a natural eye position for operations. Interpupillary distance can be easily adjusted with the dial-style knob.




## 3 Equipped with the Red Reflex Illumination IN/OUT Switching Mechanism

The illumination optics for red reflex is now integrated inside the microscope, whereas it used to come as an attachment in our previous models of this class. The objective lens is 27% larger in diameter compared to that of our previous models, achieving a brighter illumination system. Use of the red reflex illumination system which enhances the red reflex together with 6° illumination ensures an even more comfortable lighting environment for cataract operations.




## 4 Lamp Unit

A spare lamp is fitted in the Lamp Unit. Therefore, if the main lamp is blown during use of the microscope, switching to the spare one can be done very quickly.

The Lamp Unit is placed on the upper side of the arm. Furthermore, both main and spare lamps are fitted within one unit, making the structure simple. This style resulted in simplified wiring and improved design.
Switching to the spare lamp can be easily done by sliding the Lamp Unit out, turning it around, and placing it back in.

## 5 Improved Transportability and Arm Storage

### Ease of Transportation and Secure Lock

Thanks to new state-of the art wheels, transportability has been further improved. The OM-8 can be moved across different floor levels with ease. Wheel locks secure the unit when it needs to be fixed after transportation.

### Excellent Storage

By folding the counter-balanced arm, the OM-8 can be stored in a limited space. There are now hooks for the Foot Controller and cables, making storage even more convenient.

## 6 Microscopes for ENT Use

By composing the microscope with the Straight Binocular Tubes and the Universal Coupling, the OM-8 can be configured for ENT use. We can provide the microscope with any of the following obejectives fitted as requested : 200mm, 250mm, 300mm and 350mm.
Contact our Sales Department for details.