1. **Compact Microscope**
   The compact design has been realized to the side of the microscope opening up the operating area's field of view.

   The light source is placed away from the microscope's section. Cold light coaxial illumination can thus be used. The fiber light guide system is particularly low in heat transmision, and reduces the projection of the thermal image on the liquids, achieving maximal safety. By removing the light source from the microscope section, we are able to use the light source at different angles and can reduce the space taken up by the illumination system.

2. **Diverse illumination optics**
   With its diverse illumination optics, suitable lighting for the operating environment can be selected.

   - **RED REFLEX Illumination IN/OUT Switching**
     The red reflex is intensified with the use of the red reflex illumination mechanism that is built into the internal part of the microscope. When this mechanism is used, red illumination is applied (60% to 80%), and the field of red reflex illumination is intensified. Performance depends on the acuity of the patient's eye.

   - **STEREOSCOPIC Illumination**
     The newly designed illumination optics provide a helical illumination field with consistent brightness throughout, from low magnification to high magnification. The newly designed tilting mechanism allows for smooth angle adjustment, making it effective in adjusting the incidence angle of the illumination by changing the angle of the microscope towards the operated eye.

3. **Protection against phototoxicity**
   During a cataract surgery, light that used to be absorbed by the crystalline lens would reach the retina after removal of the crystalline lens, inducing retinal phototoxicity. The OM-18 has built-in filters that shield photodamage-causing wavelengths to protect the patient's retina against phototoxicity.

   - **Retina Shield Filter**
     The OM-18 has a built-in heat-absorbing filter that shields visible blue wavelengths in order to protect the patient's eye against the blue-light hazard. This filter can be selected in or out during an operation.

   - **UV Filter**
     The UV filter can be selected in or out during an operation. This filter can be selected in or out during an operation.

   - **Cold Light Coaxial Illumination**
     Cold light coaxial illumination via fiber light guide is used. The fiber light-guide material can project the filament image as hot spots, achieving excellence in the projection of the filament image as hot spots. The OM-18 illumination system is particularly low in heat transmission, and reduces the projection of the filament image on the liquids, achieving maximal safety. The light source is placed away from the microscope section. Cold light coaxial illumination can thus be used. The fiber light guide system is particularly low in heat transmission, and reduces the projection of the thermal image on the liquids, achieving maximal safety.

   - **Protection against phototoxicity**
     During a cataract surgery, light that used to be absorbed by the crystalline lens would reach the retina after removal of the crystalline lens, inducing retinal phototoxicity. The OM-18 has built-in filters that shield photodamage-causing wavelengths to protect the patient's retina against phototoxicity.

   - **Cautery Instrument**
     In order to avoid the overstimulation of the surgical area, the OM-18 is equipped with a cautery instrument. The cautery instrument is used by selecting the cautery instrument with the cautery switch on the optical part.

   - **Optical Part**
     The optical part can be selected in or out during an operation. The newly designed tilting mechanism allows for smooth angle adjustment, making it effective in adjusting the incidence angle of the illumination by changing the angle of the microscope towards the operated eye.
Operating Microscope

OM-18

4 Newly designed 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 to images as well as blurred images. Apochromatic correction compensates for the wavelengths that cause such aberrations.

With the apochromatic correction, the OM-18 has reduced chromatic halos and fringing, further improving resolution and contrast. The correction given to indigo (G-line, 435nm), in particular, contributes to clear images.

5 Surgeon-friendly tiltable binocular tubes with converging optics
Visual axes are directed inward by 6°, which enables easy fusion at a natural eye position. The angle of the binocular tubes is adjustable extensively from upright (straight) to 60° (inclined) depending on the posture and the physique of the operating surgeon. Visual axes of the binocular tubes are slanted inward by 6°, which allows easy fusion at a natural eye position. Fine-tuning of the microscope’s depth range can be easily performed.

6 Improved vibration damping
The counter-balanced arm, a new mechanism, has reduced shaking in the head caused when the arm is moved, to a minimum, particularly in the X-Y direction.

Safety stopper mechanism
The OM-18 is equipped with a safety stopper mechanism, where the lowest arm position can be easily set according to the height of the operating surgeon. Safety stopper mechanism, where the lowest arm position can be easily set according to the height of the operating surgeon.

7 Improved transportability and excellent arm storage
Ease of transportation and secure lock
Large-diameter wheels and a maneuvering handle have further improved its transportability.

Larger-diameter wheels and a maneuvering handle have further improved its transportability. The OM-18 can be moved across limited space.

Excellent storage
By holding the counter-balanced arm, the OM-18 can be closed in a compact form. Excellent storage

8 Lamp switching at the touch of a lever
With the use of the Star light-guide system, the dual lamp source is positioned away from the microscope section, allowing surgeons to concentrate on the operation. Lamp switching can be easily checked prior to an operation.

Lamp switching at the touch of a lever

9 Foot controller
The foot controller allows it to be operated. Most lamp-switching, Main lamp on, Main lamp off, X direction movement, Y direction movement, switching on, switching off and zooming in and zooming out are all operated via the foot controller. There is also a water-resistant version of the foot controller where the layout of the foot and zoom pedals can be selected to suit the surgeon’s preference.

Foot controller

10 Diverse options
Coaxial stereoscopic microscope for assistant

<table>
<thead>
<tr>
<th>Features</th>
<th>12.5 x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnification</td>
<td>0.05-1.0</td>
</tr>
<tr>
<td>Real field of view</td>
<td>3.7 x 5.6, 6.8 x 11.4, 17.3 x 29.5</td>
</tr>
</tbody>
</table>

The OM-18 provides the assistant with a stereoscopic view of the field with superior illumination. The OM-18 is compatible with video beam splitter and video camera adapter. The assistant's microscope can be equipped either side of the operating surgeon's microscope. Visual axes of the binocular tubes are slanted inward by 6°, which allows easy fusion at a natural eye position. Fine-tuning of the microscope’s depth range can be easily performed. The angle of the binocular tubes is adjustable extensively from upright (straight) to 60° (inclined) depending on the posture and the physique of the assistant, ensuring the optimum position.

Beam splitter / TV Camera adaptor
The beam splitter and the camera adaptor are equipped to install a coaxial CCD camera. The beam splitter is equipped with an on/off control and the camera is equipped with a diaphragm mechanism. The camera can be used in conjunction with the camera adaptor. The camera can be used in conjunction with the camera adaptor.

Video beam splitter
The monocular CCD camera measures 17 mm diameter, 10 mm height. The camera is equipped with an upright and an inverted adapter. The light source and signal are transmitted on a single cable. Two types of the Video Beam Splitters are available.

Oculus SDI/Biom 3 and 4 adaptations are available for OM-18.