EVIS LUCERA GASTROINTESTINAL VIDEOSCOPE

GIF-FQ260Z

High-Sensitivity CCD Specially Designed for Fluorescence Observation, Plus Optical Magnification Function
High-sensitivity CCD for fluorescence imaging provides a powerful new way to observe the mucosa

AFL
Auto Fluorescence Imaging

Visualizing subtle differences in mucosal structures

Although it has been known for some time that fluorescence is generated when blue light is irradiated on the mucosa, there has been no effective way to exploit this phenomenon because the fluorescence is too weak that conventional CCDs can barely detect it. Now, thanks to a newly developed high-sensitivity CCD, Olympus has developed an AFL system able to accurately detect this fluorescence, making it possible to visualize subtle differences in mucosal structures that would be difficult to discern in normal observation.

The world's first GI scope for AFL fluorescence observation

In addition to a conventional CCD for normal and NBI observation, the GIF-FQ260Z incorporates a high-sensitivity CCD designed specifically for fluorescence observation. The incorporation of both a dedicated AFL CCD and conventional CCD has made it possible to integrate functions for normal and fluorescence observation into a single scope.

Narrow Band Imaging and optical magnification

In addition to AFL capability, the GIF-FQ260Z features optical magnification up to 85 X, enabling a clearer, more detailed view in normal observation. NBI (Narrow Band Imaging) capability is also available, further supporting and enhancing observation capabilities. With just this one scope, you can take advantage of three very different and highly useful observation modes — normal, AFL, and NBI. Modes can be switched at the touch of a button, and the ability to use both AFL and NBI modes to view the same site is expected to increase diagnostic accuracy.

Scope ID function for simplified scope management and setup

A built-in memory chip stores scope-specific information such as product code, serial number, and basic specifications. Every time the scope is connected to a processor, the stored information and updated settings are transmitted to the processor. This saves time when preparing for an examination since you won’t have to readjust settings such as white balance each time.

The Principle of AFL

Differences in fluorescence intensity on the mucosal surface

When blue light is irradiated on mucosal tissue, green fluorescence is produced. AFL takes advantage of the fact that the intensity of this fluorescence differs between normal and diseased mucosa.

How AFL images are created

When blue light reaches the submucosal layer, strong fluorescence is produced. There is any change relative to the development of a lesion such as an abnormal aggregation of capillaries in the superficial layer or thickening of the mucosa. The light is blocked, alternating the fluorescence. These changes are depicted by AFL on color information, so that changes in fluorescence strength between a normal section and a lesion are shown as alternately normal sections are displayed with a green color tone, whereas an abnormal section is shown with a magenta color tone.

AFL imaging process:

Blue and green light is generated by the optical filters and irradiated on the tissue, and the weak fluorescence is mapped by the processing circuitry.

Image Comparison — Stomach

Normal Image

AF Image

Observation Mode Solution — Stomach

AFL Image

Normal Image (magnified)

NBI Image (magnified)
Main Features

- Optical magnification function enlarges images up to 85X (when displayed on a 19-inch monitor) without sacrificing image quality.

- Two exclusive new image enhancement functions: Auto Fluorescence Imaging, which is designed to help image the difference between normal and tumorous mucosa; and Narrow Band Imaging, which is designed to help emphasize fine capillary patterns.

- Extra-wide 140° field of view enables accurate observation of a wider area.

- Large instrument channel measures 2.8 mm across for compatibility with a wide range of instrumentation.

- Four-way angulation (210° up, 90° down, and 100° right/left) permits complete and comprehensive examination of the upper digestive tract.

- Scope ID function retains individual scope information in the memory chip and displays it on the monitor. Also stores settings such as Automatic White Balance to facilitate endoscopy suite management.

Specifications

<table>
<thead>
<tr>
<th>Optical System</th>
<th>Field of view</th>
<th>Normal: WIDE - 140°, TELE - 60°, AFI: 140°</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direction of view</td>
<td>Forward viewing</td>
</tr>
<tr>
<td></td>
<td>Depth of field</td>
<td>Normal: WIDE - 7 to 100 mm, TELE - 2 to 3.5 mm; AFI: 5 to 100 mm</td>
</tr>
<tr>
<td>Distal End</td>
<td>Outer diameter</td>
<td>11.0 mm</td>
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<tr>
<td>Insertion Tube</td>
<td>Outer diameter</td>
<td>10.5 mm</td>
</tr>
<tr>
<td>Bending Section</td>
<td>Angulation range</td>
<td>Up 210°, Down 90°, Right 100°, Left 100°</td>
</tr>
<tr>
<td>Working Length</td>
<td></td>
<td>1030 mm</td>
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<tr>
<td>Total Length</td>
<td></td>
<td>1345 mm</td>
</tr>
<tr>
<td>Instrument Channel</td>
<td>Inner diameter</td>
<td>2.8 mm</td>
</tr>
<tr>
<td></td>
<td>Minimum visible distance</td>
<td>Normal: 3 mm from distal end; AFI: 4 mm from distal end</td>
</tr>
<tr>
<td>Endotherapy accessory entrance/exit position in field of view</td>
<td>Normal AFI</td>
<td></td>
</tr>
</tbody>
</table>

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.