Taking a step beyond
The new standard for routine screening

One step beyond precise imaging

One step beyond operating efficiency

One step beyond routine usability

OLYMPUS endoscopic systems set the pace around the world. Consistently, we have tried to create new values for medical professionals by making the best of our technology. And we will continue to expand the possibilities of endoscopy. Now, our technology is concentrated in an even more compact package, adding tremendous value to routine screening. The previously impossible is now the new standard. OLYMPUS Optera is here.

Optera

*This trolley is not available in some areas.
HDTV image capturing and processing takes routine screening one step further with advanced observation capabilities.
HDTV
Featuring HDTV imaging capability, Optera endoscopes deliver an edge-to-edge high-resolution image with sharp and clear details. The result is superior imaging with minimal halation and image noise. From now on, high-definition imaging will become standard.

NBI (Narrow Band Imaging)
NBI enhances the visibility of capillaries and other structures on the mucosal surface, which minimizes invasion such as unnecessary biopsies and improves examination quality. NBI is now available in the Optera system where it can be combined with HDTV for maximum effectiveness.

Close Focus
With the close focus function, lesions that used to be out of focus in conventional closeup observation can be observed clearly as close as 2 mm. You can observe and capture clear, large-sized images of fine mucosal tissues and vascular patterns.

Pre-freeze Function
A new pre-freeze function saves time and eliminates the physician’s frustration when capturing still images. The new CV-170 automatically buffers a continuous, rapid series of procedural images. When capturing a still image, the pre-freeze function analyzes the previous images and displays and saves the sharpest image of the desired view. This function helps physicians obtain a clear visual record of the procedure in the shortest possible time.

Structure Enhancement
Structure enhancement increases the sharpness of endoscopic images by using sophisticated processing algorithms to suppress noise. It highlights subtle tissue textures and slight color variations on the mucosa. In addition to the popular Type A, Type B is also provided. Mainly, the conventional Type A is ideal for observation of larger mucosal tissues with high contrast in the lower gastrointestinal tract, while the new Type B is suitable for observation of vascular tissues in the upper gastrointestinal tract.

NBI Structure
NBI is an optical image enhancement technology that improves the visibility of vessels and other structures on the mucosal surface. Because the gastrointestinal tract is mainly composed of blood vessels and mucosa, narrowband illumination, which is strongly absorbed by hemoglobin and penetrates only the surface of tissues, is ideal for emphasizing the contrast between the two.

NBI Structure
415 nm: Capillaries on mucosal surface displayed in brown
540 nm: Veins in submucosa displayed in cyan

Press the sharpest image is selected
The sharpest image is selected
Pre-freeze button
Pre-freeze
Continuous capture
Pre-freeze
Image held
Several images saved in internal memory are detected
Press

415 nm: Capillaries on mucosal surface displayed in brown
540 nm: Veins in submucosa displayed in cyan

Structure enhancement A7
Structure enhancement B7

*Except the GIF-XP170N
This low-maintenance system is easy to use, while running costs are drastically lower than any other conventional systems, too.

One Step Beyond
Operating Efficiency

LED Light Source

The Optera processor (CV-170) is equipped with a built-in light source that uses LED lamps. LED light source offers 50% higher brightness than a 150 W halogen lamp. It achieves the sufficient level of brightness for observation in gastrointestinal tract. In addition, since it has much longer lifetime, you rarely have to change the lamp. So both maintenance time and running costs are minimized.

Expected Lifetime

Waterproof Connector

Unlike previous generations of endoscopes, Optera endoscopes do not require a water-resistant cap. This simplifies reprocessing and minimizes the risk of repair costs due to liquid ingress. The enhanced efficiency delivered by the new waterproof connector also helps expedite procedure room setup and turnover.
Variable Stiffness

Variable stiffness allows the flexibility of OLYMPUS colonoscopes to be changed incrementally by manipulating a flexibility adjustment ring. This innovative feature allows the scope to be adjusted on a case-by-case basis, to meet the unique anatomical needs of the patient and the handling preferences of the physician. You can realize more effective and smooth colonoscopy than with conventional colonoscopes.

Portable Memory Compatibility

Portable memory (MAJ-1925) has become an accepted standard for data exchange. OLYMPUS now offers a memory port incorporated into the CV-170. A high-speed dedicated portable 2 GB memory is compatible with PCs. The CV-170 automatically transfers released images to the memory, allowing you to download information to a PC or recording devices. This enables you to save system settings, user preset settings and patient data. High-speed data recording using the portable memory provides you with fast and efficient data management.
## Power Supply
- **Voltage**: 100-240 V AC (NTSC)/220-240 V AC (PAL) within ±10%
- **Frequency**: 50/60 Hz within ±1 Hz
- **Rated input**: 200 VA

## Size
- **Dimensions (W x H x D)**: 295 x 145 x 425 mm
- **Weight**: 11.0 kg

## Observation
- **Examination lamp LED lamp**: Either RGB (1080i60: NTSC)/(576i50: PAL), Y/C (1080i60: NTSC)/(576i50: PAL), and RGB (480i60: NTSC)/(256i50: PAL) can be selected.
- **Analog HDTV signal output**: VBS composite (480i60: NTSC)/(576i50: PAL), Y/C (480i60: NTSC)/(576i50: PAL), and RGB (480i60: NTSC)/(256i50: PAL) simultaneous outputs possible.
- **Digital signal output**: HD-SDI (SMPTE 292M), SD-SDI (SMPTE 259M), and DVI (WUXGA, 1080p or SXGA) can be selected.
- **White balance adjustment**: White balance adjustment is possible using the white balance button on the front panel.
- **Color tone adjustment**: Red adjustment: ±8 steps, Blue adjustment: ±8 steps, Chroma adjustment: ±8 steps
- **Automatic gain control (AGC)**: The image can be electronically amplified when the light is inadequate due to the distal end of the endoscope being too far from the object.
- **White balance adjustment**: Noise is corrected by image processing.
- **Iris**: The auto iris modes can be selected using the “iris mode” switch on the front panel.
  - Peak: The brightness is adjusted based on the brightest part of the endoscopic image.
  - Average: The brightness is adjusted based on the average brightness of the endoscopic image.
- **Image enhancement setting**: Fine patterns or edges in the endoscopic images can be enhanced electrically to increase the image sharpness.
- **Freeze**: An endoscopic image is frozen using an endoscope or the “FREEZE” key on the keyboard.
- **NBI observation**: This is one of optical-digital observations using the narrow band observation light.
- **Remote control**: The following ancillary equipment can be controlled (specified models only).
  - DVR • Video printer • Image filing system • Flushing pump • Endoscopic CO₂ regulation unit
- **Patient data**: The following data can be displayed in the endoscopic image screen.
  - Patient ID • Patient name • Sex • Age • Date of birth • Date of recording (time, stopwatch) • Comments
- **Displaying the record state**: The recording state of the following ancillary equipment can be displayed on the monitor.
  - Portable memory and internal buffer • DVR • Video printer • Image filing system
- **Advance registration of patient data**: Up to 50 patient’s data can be registered.
  - Patient ID • Patient name • Sex and age • Date of birth

## Documentation
- **Portable Memory**
  - **Media**: MAJ-1925 (OLYMPUS)
  - **Recording format**: TIFF: no compression • JPEG (1/5): approx. 1/5 compression • JPEG (1/10): approx. 1/10 compression
  - **Number of recording images**: TIFF: approx. 227 images • JPEG (1/5): approx. 1024 images • JPEG (1/10): approx. 2048 images

## Specifications
- **Gastrointestinal Videoscope**
  - **OLYMPUS GIF-H170**
  - **OLYMPUS GIF-XP170N**
  - **OLYMPUS CF-H170L/I**

## Optical System
- **Field of view**: 140° 140° 140°
- **Direction of view**: Forward viewing Forward viewing Forward viewing
- **Depth of field**: 2-100 mm 3-100 mm 2-100 mm

## Insertion Section
- **Distal end outer diameter**: 9.2 mm 5.4 mm 12.8 mm
- **Insertion tube outer diameter**: 9.2 mm 5.8 mm 12.8 mm
- **Working length**: 1030 mm 1100 mm L : 1680 mm I : 1330 mm

## Instrument Channel
- **Channel inner diameter**: 2.8 mm 2.2 mm 3.7 mm
- **Minimum visible distance**: 3.0 mm from the distal end 2.0 mm from the distal end 5.0 mm from the distal end
- **Direction from which endotherapy accessories enter and exit the endoscopic image**
  - Available Available Available

## High-frequency
- **Cauterization treatment**: Available Available Available

## Bending Section
- **Angulation range**: Up 210° Down 90° • Right 100° Left 100°
  - Up 210° Down 90° • Right 100° Left 100°
  - Up 180° Down 180° • Right 160° Left 160°

## Total Length
- **OLYMPUS GIF-H170**: 1350 mm 1420 mm L : 2005 mm I : 1655 mm
- **OLYMPUS GIF-XP170N**:
- **OLYMPUS CF-H170L/I**:

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