OLYMPUS

Your Vision, Our Future

Taking a step beyond

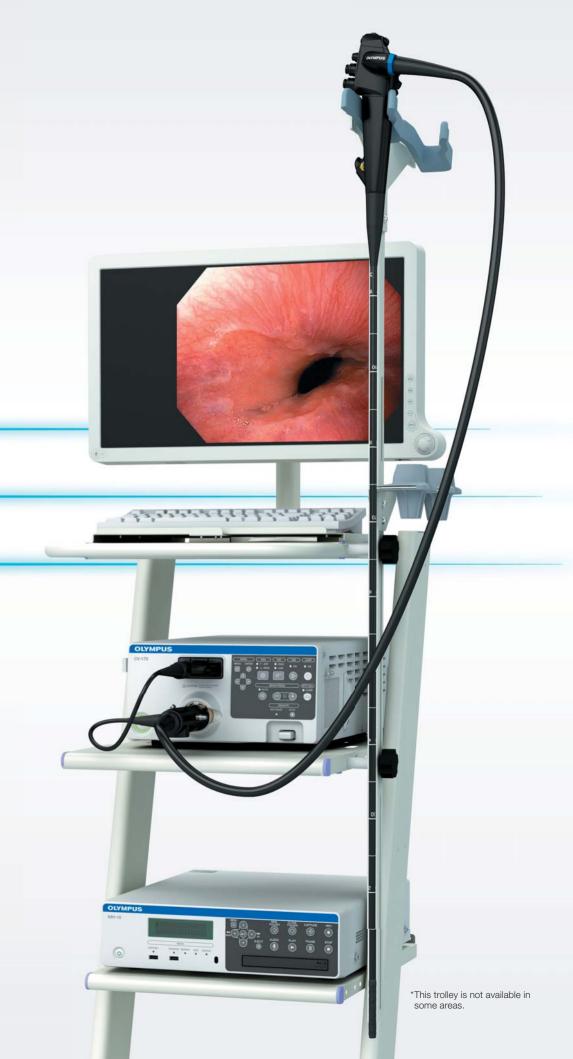# The new standard for routine screening

One step beyond precise imaging

One step beyond operating efficiency
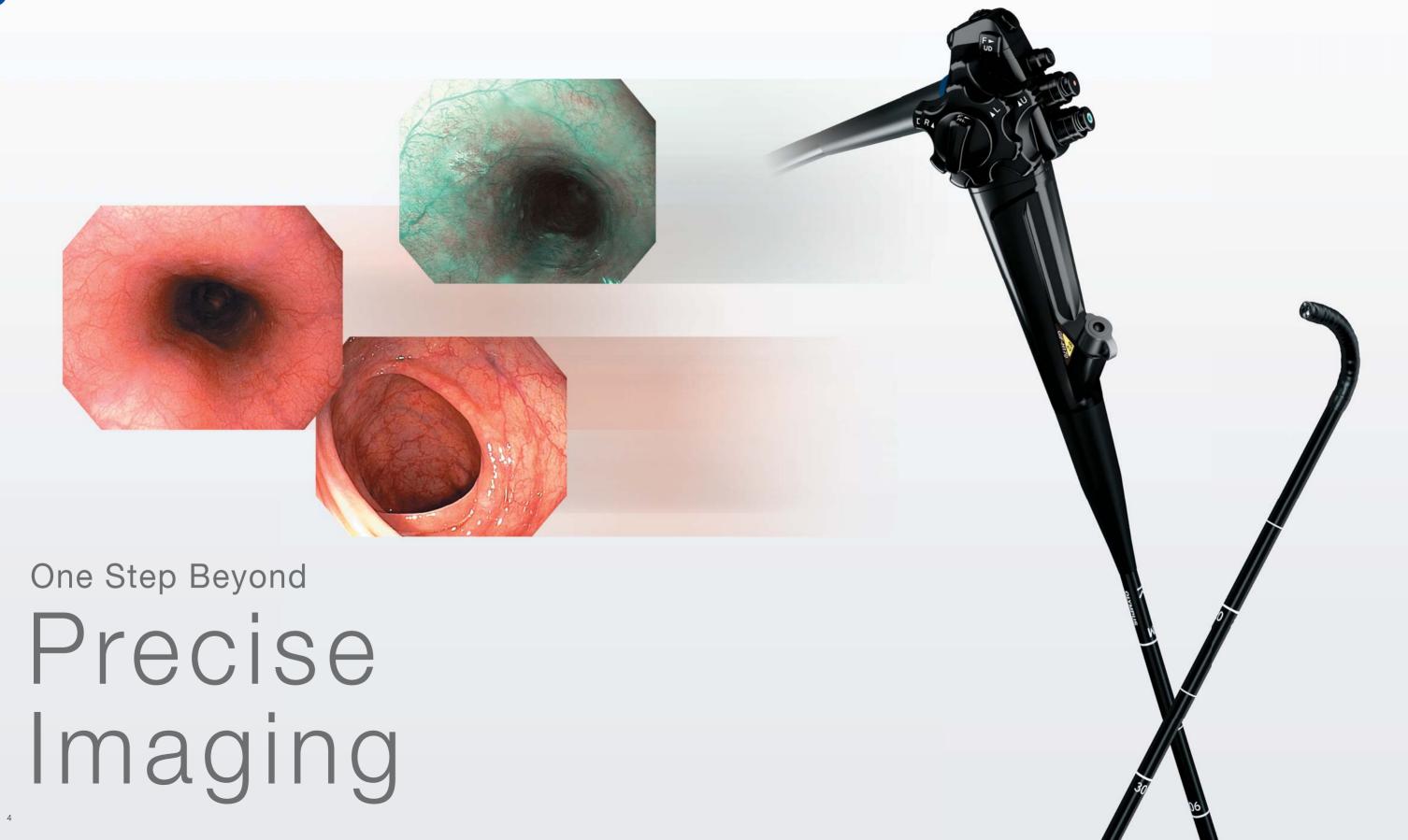
One step beyond routine usability

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.
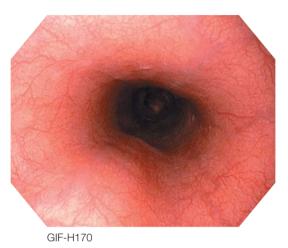
Optera

*This trolley is not available in some areas.

HDTV image capturing and processing takes
routine screening one step further with
advanced observation capabilities
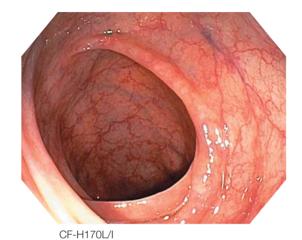
One Step Beyond

Precise
Imaging

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.
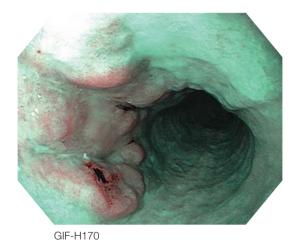
*Except the GIF-XP170N
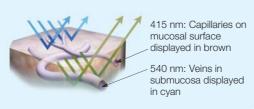
GIF-H170

CF-H170L/I

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.
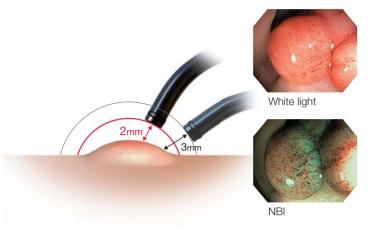
GIF-H170

CF-H170L/I

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.

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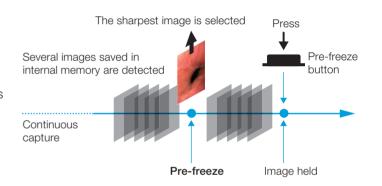
540 nm: Veins in submucosa displayed in cyan

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.

2mm

3mm

White light

NBI

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.

The sharpest image is selected

Press

Several images saved in internal memory are detected

Pre-freeze button

Continuous capture

Pre-freeze

Image held

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.
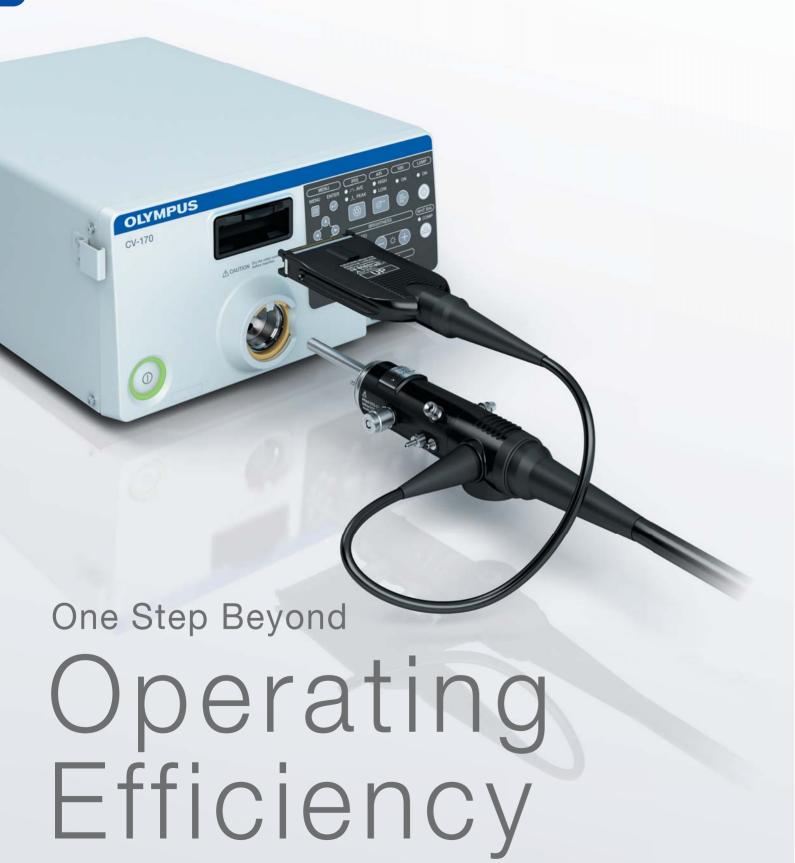
Structure enhancement A7

Structure enhancement B7

This low-maintenance system is easy to use,
while running costs are drastically lower than any other
conventional systems, too

One Step Beyond
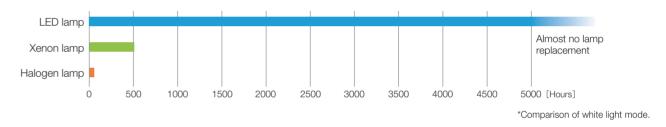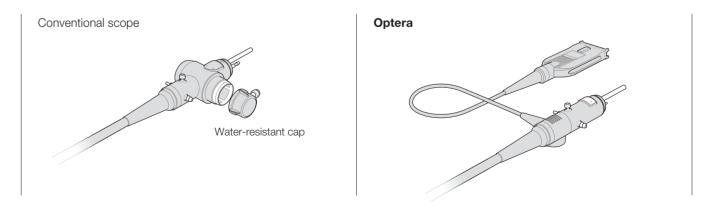
Operating Efficiency

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

LED lamp
Xenon lamp
Halogen lamp

0   500   1000   1500   2000   2500   3000   3500   4000   4500   5000 [Hours]

Almost no lamp replacement

*Comparison of white light mode.

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.

Conventional scope

Water-resistant cap

Optera

No one has more experience than OLYMPUS,
and that translates into greater convenience and
more user-friendly functions

One Step Beyond

Routine Usability

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.

Video System Center
OLYMPUS CV-170

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
	Analog HDTV signal output	Either RGB (1080/60I: NTSC)/(1080/50I: PAL) or YPbPr (1080/60I: NTSC)/(1080/50I: PAL) output can be selected.
	Analog SDTV signal output	VBS composite (480/60I: NTSC)/(576/50I: PAL), Y/C (480/60I: NTSC)/(576/50I: PAL), and RGB (480/60I: NTSC)/(576/50I: PAL); simultaneous outputs possible.
	Digital signal output	HD-SDI (SMTPE 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	The following color tone adjustments are possible. • 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.
	Noise reduction	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. Either the structural enhancement or edge enhancement can be selected according to the user setup. • Structural enhancement: Enhancement of contrast of the fine patterns in the image. • Edge enhancement: Enhancement of edges of the endoscopic image.
	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 CO_2 regulation unit
Documentation	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
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

Compatible with EVIS 100/130/140 Series, Actera 150 Series, EVIS EXERA 160 Series, EVIS EXERA II 180 Series and GI/BF/VISERA Series scopes.
Please note that there are some exceptions.

		Gastrointestinal Videoscope **OLYMPUS GIF-H170**	Gastrointestinal Videoscope **OLYMPUS GIF-XP170N**	Colonovideoscope **OLYMPUS CF-H170L/I**
Optical System	Field of view	140º	140º	140º
	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			Water Jet
High-frequency	Cauterization treatment	Available	Available	Available
Bending Section	Angulation range	Up 210º Down 90º	Up 210º Down 90º	Up 180º Down 180º
		Right 100º Left 100º	Right 100º Left 100º	Right 160º Left 160º
Total Length		1350 mm	1420 mm	L: 2005 mm I: 1655 mm

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