OLYMPUS

Your Vision, Our Future

Optera

OPTERA

Taking a step beyond.

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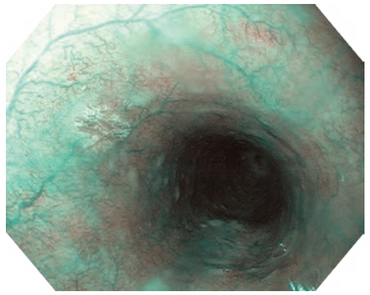
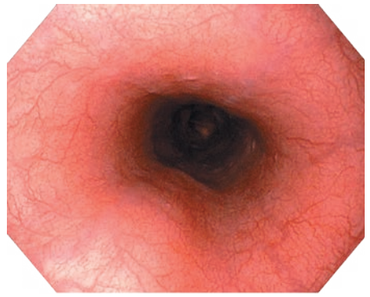
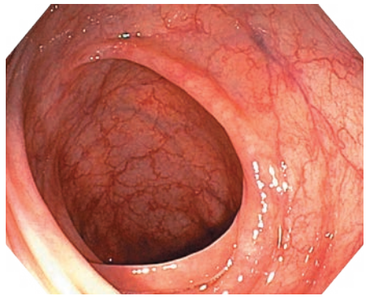
THE NEW STANDARD FOR ROUTINE SCREENING

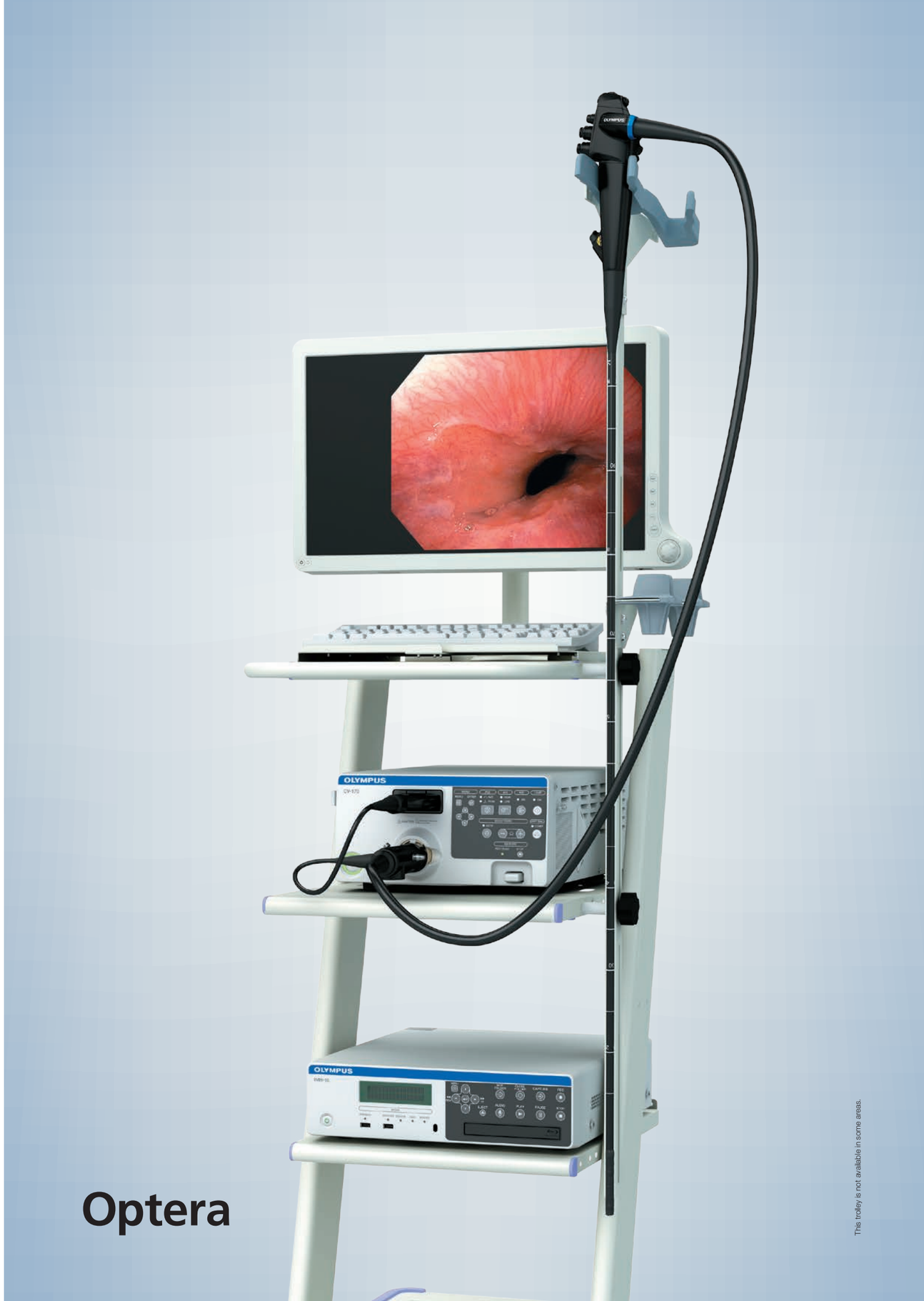
OLYMPUS endoscopic systems set the pace around the world. Consistently, we have tried to create new values for medical professionals by making the best of our technology. And we will continue to expand the possibilities of endoscopy. Now, our technology is concentrated in an even more compact package,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

- **One step beyond precise imaging:** HDTV image capturing and processing take routine screening one step further with advanced observation capabilities.
- **One step beyond routine usability**
- **One step beyond operating efficiency**









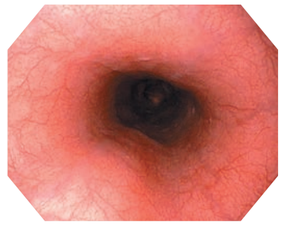
Optera

This trolley is not available in some areas.

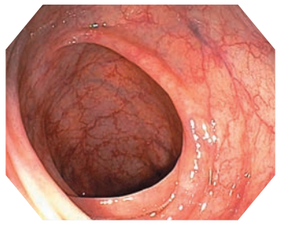
ONE STEP BEYOND PRECISE IMAGING

HDTV

Featuring HDTV imaging capability, Optera endoscopes deliver a high-resolution image with sharp and clear details edge to edge. The result is superior imaging with minimal halation and image noise. From now on, high-definition imaging will become standard.



GIF-H170

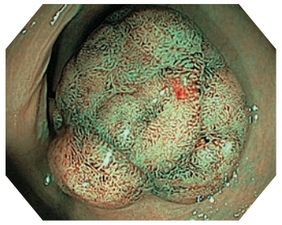


CF-H170L/I

Narrow Band Imaging (NBI)

NBI enhances the visibility of capillaries and other structures on the mucosal surface, which minimises unnecessary invasive procedures such as biopsies, and improves the examination quality. NBI is now available in the Optera system where it can be combined with HDTV for maximum effectiveness.

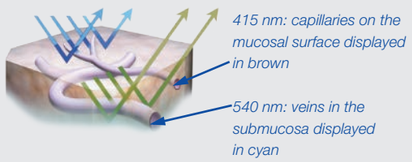
GIF-H170



CF-H170L/I

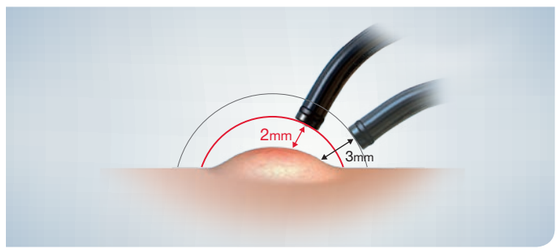
NBI structure

NBI is a technology for the enhancement of optical images 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, narrow band illumination, which is strongly absorbed by haemoglobin and penetrates only the surface of tissues, is ideal for emphasising the contrast between the two.

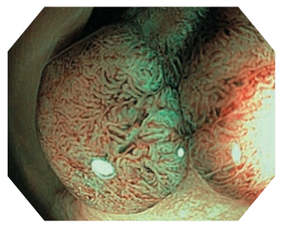


Close Focus

With the close focus function, lesions that used to be out of focus in conventional close-up 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.



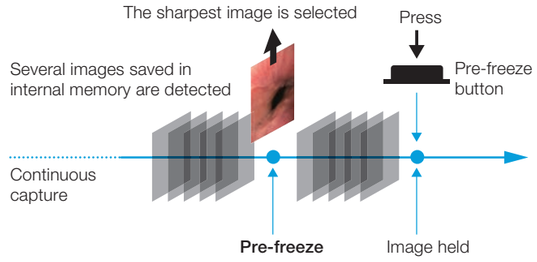
White light



NBI

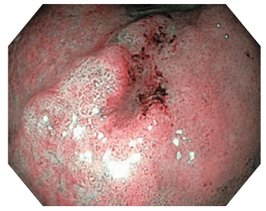
Pre-freeze Function

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 analyses the previous images and displays and saves the sharpest image of the desired object. This function helps physicians obtain a clear visual record of the procedure in the shortest possible time.

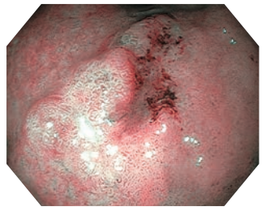


Structure Enhancement

Structure enhancement increases the sharpness of endoscopic images by using sophisticated processing algorithms to suppress noise. It highlights subtle tissue textures and slight colour variations on the mucosa. In addition to the popular Type A, Type B is also available. In general, 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



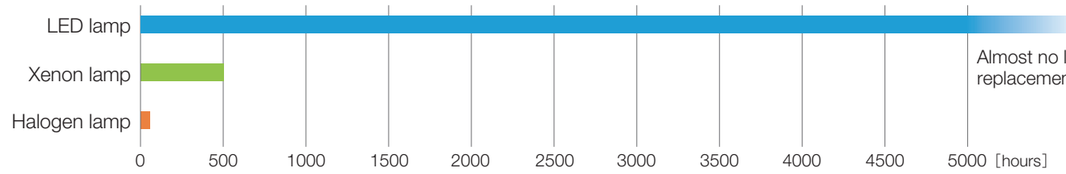
Structure enhancement B7

ONE STEP BEYOND OPERATING EFFICIENCY

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

LED light source

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

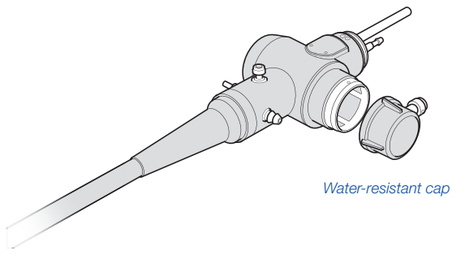


*Expected lifetime**

Waterproof Connector

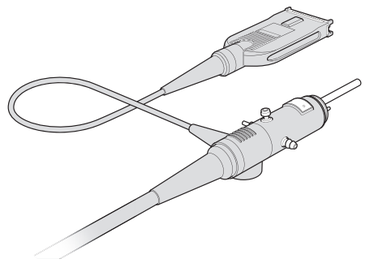
Unlike previous generations of endoscopes, Optera endoscopes do not require a water-resistant cap. This simplifies reprocessing and minimises the risk of repair costs due to liquid ingress. The enhanced efficiency delivered by the new waterproof connector also helps expedite procedure room set-up and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

Conventional scope



Water-resistant cap

Optera



*Comparison of white-light mode.

ONE STEP BEYOND ROUTINE USABILITY

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

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 perform a 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 portable high-speed 2 GB memory drive 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, preset user settings and patient data. High-speed data recording using the portable memory provides you with fast and efficient data management.

OPTERA

Specifications and technical data

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	295 × 145 × 425 mm
	Weight	11 kg
Observation	Examination lamp	LED lamp
	Analogue HDTV signal output	Either RGB or YPbPr output can be selected.
	Analogue SDTV signal output	VBS composite, Y/C and RGB. Simultaneous outputs possible.
	Digital signal output	HD-SDI, SD-SDI and DVI can be selected.
	White balance adjustment	White balance adjustment is possible using the white balance button on the front panel.
	Colour tone adjustment	The following colour tone adjustments are possible: red adjustment ±8 steps, blue adjustment ±8 steps and 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 set-up. · Structural enhancement: enhancement of the contrast of the fine patterns in the image. · Edge enhancement: enhancement of the 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 the 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 on 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 and image filing system
	Advance registration of patient data	Up to 50 patients' data can be registered: patient ID, patient name, sex, age and 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. 1,024 images, JPEG (1/10): approx. 2,048 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.

		GIF-H170	CF-H170L
Optical system	Field of view	140°	140°
	Direction of view	Forward viewing	Forward viewing
	Depth of field	2-100 mm	2-100
Insertion section	Distal end outer diameter	9.2 mm	12.8 mm
	Insertion tube outer diameter	9.2 mm	12.8 mm
	Working length	1,090 mm	L: 1,680 mm I: 1,330 mm
Instrument channel	Channel inner diameter	2.8 mm	3.7 mm
	Minimum visible distance	3.0 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	Cauterisation treatment	Available	Available
Bending section	Angulation range	Up 210°, down 90°, right 100°, left 100°	Up 180°, down 180°, right 160°, left 160°
Total length		13,050 mm	L: 2,005 mm, I: 1,655 mm

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