

## CV-190

Video processing powering advanced endoscopy.



## Main features

- NBI (Narrow Band Imaging) in EVIS EXERA III 190 series scopes provides twice the viewable distance of EVIS EXERA II 180 series scopes and offers much greater contrast between blood vessels and mucosa
- The CV-190 video processor in combination with all HQ scopes contains the necessary technology for dual focus imaging, which delivers an optimal view in two modes: near focus or normal focus
- The newly designed waterproof one-touch connector enables a one-step connection to the light source and does not require a separate scope cable for the video processor
- New and improved image processing delivers sophisticated image quality via enhanced colour reproduction, minimised image noise and reduced halation
- The pre-freeze function automatically selects the clearest still image, saving time
- Compatible with the EVIS 100/130/140/150, EVIS EXERA 160, EVIS EVERA II 180, EVIS EXERA III 190 and GI/BF/VISERA series scopes
- 16:9 and 16:10 output for an HDTV monitor is available; compatible with analogue, HD-SDI and DVI output
- Link connection to peripheral devices avoids complicated cable connections and accelerates transmission speed
- OLYMPUS documentation system enhances networking expandability
- Picture-in-picture and index function effectively enhance your observation
- Portable memory is compatible – standard for data management; simply connect and upload
- Supports DV output to compatible documentation devices



## Specifications

<b>Power supply</b>	Voltage	100-240 V AC (NTSC)/220-240 V AC (PAL); within ±10%
	Frequency	50/60 Hz; within ±1 Hz
	Electric power consumption	150 VA
<b>Size</b>	Dimensions (W × H × D)	370 × 85 × 455 mm; 382 × 91 × 489 mm (maximum)
	Weight	10.7 kg
<b>Classification (medical electrical equipment)</b>	Type of protection against electric shock	Class I
	Degree of protection against electric shock of applied part	Depends on applied part. See applied part (camera head or videoscope).
	Degree of protection against explosion	The video system center should be kept away from flammable gases.
<b>Observation</b>	Analogue HDTV signal output	Either RGB or YPbPr (1080/50i: PAL) output can be selected.
	Analogue SDTV signal output	VBS composite, Y/C and RGB (576/50i: PAL); simultaneous outputs possible.
	Digital signal output	HD-SDI (SMPTE 292M), SD-SDI (SMPTE 259M), DV (IEEE 1394) 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.
	Standard colour chart output	The 'colour bar' or the '50% white' screen can be displayed.
	Color tone adjustment	The following colour tone adjustments are possible using the colour tone level adjustment button and colour tone selector button on the keyboard. · Red adjustment: ±8 steps · Blue adjustment: ±8 steps · Chroma adjustment: ±8 steps
	Automatic gain control (AGC)	The image can be electronically amplified when there is inadequate light due to the distal end of the endoscope being too far from the object.
	Contrast	· N (Normal): Normal image · H (High): The dark areas are darker and the bright areas are brighter than in the normal image. · L (Low): The dark areas are brighter and bright areas are darker than in the normal image.
	Iris	The auto iris modes can be selected using the 'iris mode' switch on the front panel. · Auto: The brightness is adjusted based on the brightest part of the central part and the average brightness of the periphery part. · 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.
	Switching the enhancement modes	Three levels of enhancement can be selected using the image enhancement mode button on the front panel.
	Image size selection	The size of the endoscopic image can be changed using the IMAGE SIZE key on the keyboard.
	Freeze	An endoscopic image is frozen using an endoscope or the FREEZE key on the keyboard.
	Switching the method of freezing the endoscopic image	Pre-freezing: The image with the least blur is selected from the images captured in the set time period before the freeze operation and is displayed.
	Fog-free function	When a compatible endoscope is connected to the video system center, the fog free function can be used.
	Endoscope's remote switches function	The functions of the remote switches on the endoscope can be set in the user settings.
	Reset to defaults	The following settings can be reset to their defaults using the reset button on the front panel. · Colour tone · Iris mode · Image enhancement mode · Colour enhancement mode · Optical-digital observation · Image size · Contrast · Freeze · Release index · Electronic zoom · Optical-digital observation · Arrow pointer · Stopwatch · Characters on screen · PIP/POP
Remote control	The following ancillary equipment can be controlled (specified models only). · Monitor · DVR · Video printer · Image filing system	
<b>Documentation</b>	Patient data	The following data can be displayed on the monitor using the keyboard. · 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
	Displaying the image information	The following data can be displayed on the monitor. · Structure enhancement level · Edge enhancement level · Zoom ratio · Color mode · Focus
	Advanced registration of patient data	Up to 50 patient data sets can be registered. · Patient ID · Patient name · Sex and age · Date of birth
<b>Portable memory</b>	Media	MAJ-1925 (OLYMPUS)
	Recording format	· TIFF: no compression · JPEG (1/5): approx. 1/5 compression · JPEG (1/10): approx. 1/10 compression
<b>Memory backup</b>	Number of recording images	· TIFF: approx. 227 images · JPEG (1/5): approx. 1024 images · JPEG (1/10): approx. 2048 images
	User settings	Up to 20 user settings can be registered.
	Memorisation of selected setting	The following settings are stored even after the video system center is turned off. · Colour tone · Iris mode · Enhancement · Colour enhancement mode · Contrast · AGC · Colour mode · White balance
	Lithium battery	Life: 5 years

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