GASTROENTEROLOGY

ULTRASONOGRAPHY SYSTEMS WITH

Ultrasonography revolutionised the clinical approach to patients with digestive and respiratory diseases. Nowadays, ultrasonography is being used to examine and visualise internal body structures for possible lesions, supporting definitive diagnosis and helping doctors to decide on suitable treatment approaches.

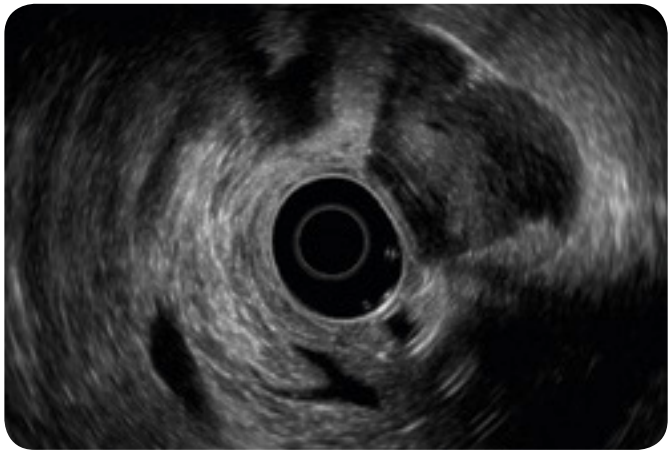
EUS Tower: All-in-one concept

Years of research and development to reduce patient discomfort and improve operator efficiency during endoscope examinations led to the development of Sonart, the integration of ultrasonographic diagnosis and endoscopy systems. For a more accurate diagnosis, advanced image processing technology integrates improved endoscope manoeuvrability and insertion capability. The compact, one-cart system supports various applications.

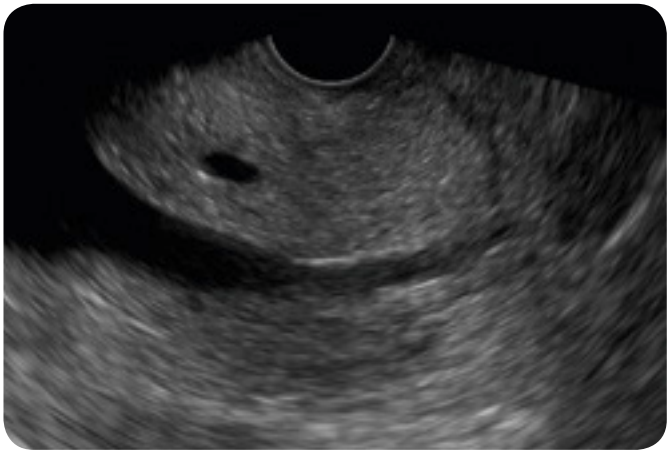
NUMEROUS MODES

HIGH RESOLUTION B-MODE -H- -S-

With a new ultrasonic wave transmission and reception design, the development of a proprietary image processing technology and high-sensitivity transducers, the SU-1 ultrasonic processor achieved a significant improvement in high resolution B-mode images. By pinpointing the affected area, small vessels or pancreatic ducts can be viewed clearly, thus supporting accurate evaluation of the affected area and high-precision ultrasonographic results.



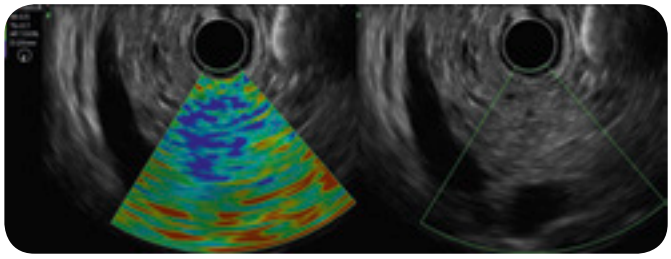
EG-580UR



EG-580UT

ELASTOGRAPHY* -H-

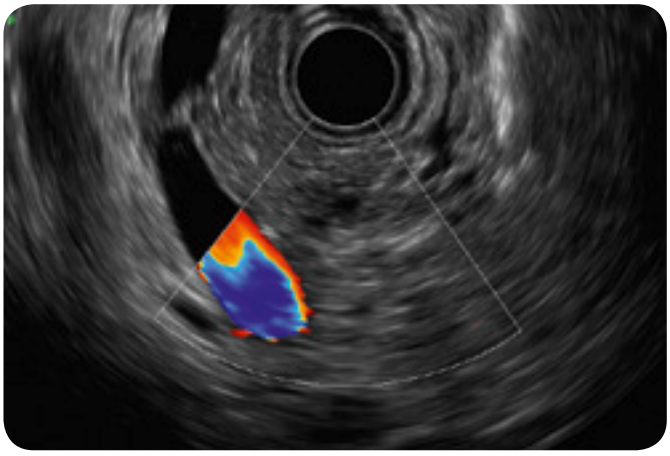
Relative stiffness of the tissue is visualised as a colour distribution map by calculating the distortion of the tissue caused by external compression or inner vibration, and displaying disparities in stiffness levels as different colours.



Elastography Mode B Mode

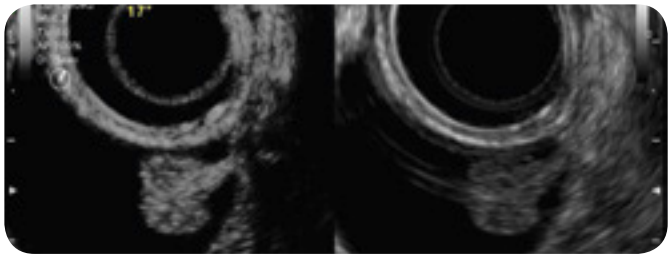
COLOUR DOPPLER -H- -S-

Colour Doppler obtains hemodynamic information. It helps to locate an observation site and blood flow. Improved sensitivity of Colour Doppler can depict blood flow more precisely and reduce artifacts.



CHI (CONTRAST HARMONIC IMAGING)* -H-

Images are created by extracting and emphasising higher harmonic signals generated by the injected contrast medium, assisting in the detection of tumours and abnormal growths.



CHI Mode B Mode

*CHI and Elastography modes are available only in SU-1 -H-

THI (TISSUE HARMONIC IMAGING) -H- -S-

Images are configured using higher harmonic components that are generated when ultrasound waves are transmitted through the body's tissue. By increasing resolution and reducing artifacts, this mode enables ultrasound image observation with reduced noise.

CH (COMPOUND HARMONIC IMAGING) -H- -S-

This mode visualises clear images in deep-lying areas while maintaining high resolution images in shallow lying areas to support accurate diagnoses.

SOUND SPEED CORRECTION -H- -S-

Images are recomposed using the estimated optimal sound speed inside the body. With the SU-1, it is possible to display a clearer image of the targeted area.

Endoscopic Ultrasonic Processor SU-1 -H- SU-1 -S-

Power supply	Power rating	AC 100–240 V
	Frequency rating	50 Hz/60 Hz
	Power consumption	2.0–1.2 A
Size	Dimensions	390 × 135 × 485 mm
	Weight	13.0 kg
Ultrasonography image display	Scanning method	Electronic scanning
	Probe types	Curved linear array/Radial
	Scanning modes	B, M, CD, PD, PW, THI, CH
	Special modes*	Elastography/CHI
Received signal processing	Received gain correction	0–100, 2-step
	STC	6-step gain settings per depth
	Sound speed correction	Full screen ROI settings
	Dynamic Range	40–100, 5-step
Display	PinP	Endoscopic/Ultrasound Imaging
	Observation screen	Hospital/Date/Time/Patient
Applicable	Curved linear array	EG-580UT, EG-530UT2, EB-530US
	Radial	EG-580UR, EG-530UR2
Frequency		5 MHz, 7.5 MHz, 10 MHz, 12 MHz
Image input terminal	DVI image input terminal	1

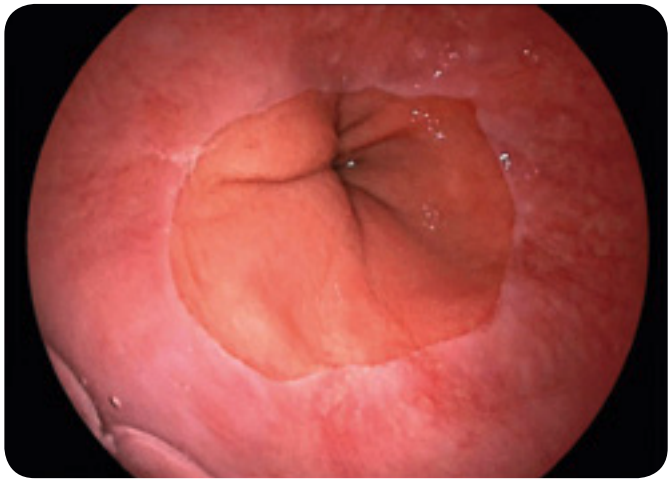
* CHI and Elastography modes are available only in SU1-H-

Image output terminals	Video terminal	1
	S-video terminal	1
	RGB TV terminal	1
	DVI terminal (digital)	1
	DVI terminal (digital/analog)	1
	HD-SDI terminal	2
Sound output	RCA terminal	1
Control terminal	Remote terminal	2
	Remote terminal (input)	1
	RS-232C terminal	1
	Keyboard terminal	1
	Foot switch terminal	1
	Network terminal	1
Measurement function	Measurement items	Distance, perimeter, area, volume, flow speed
Storage	Data formats	JPEG, TIFF, DICOM, AVI
	Storage device	Internal/External memory (USB)
	Cine memory	Storage/Playback
Accessories		Keyboard and foot switch

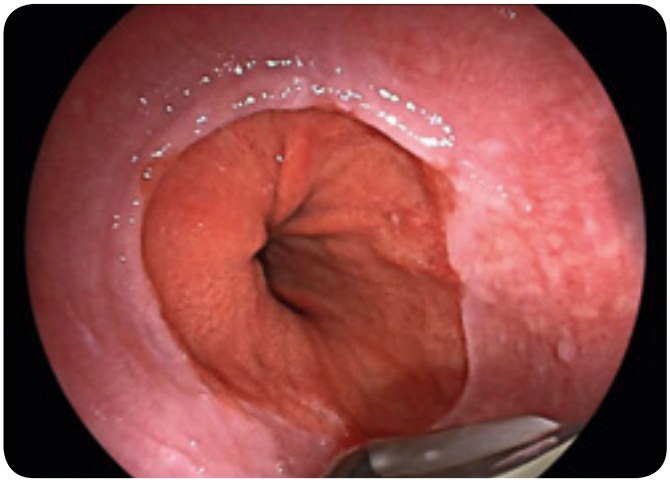
Easy-to-clean flat keyboard for use by touch panel and touch pad, also available with trackball keyboard

HIGH RESOLUTION IMAGES WITH ULTRASONIC ENDOSCOPES

Both the EG-580UR and EG-580UT are equipped with a Fujifilm high resolution image sensor, High Resolution Super CCD which, together with a highly efficient optical lens, allows a wide range of sensitive and brilliant quality images to be obtained to help diagnosis.



EG-580UR

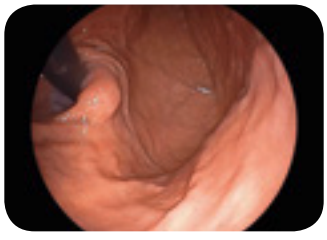


EG-580UT

OPERATION-FRIENDLY CONTROL PORTION: G7 GRIP

We have renewed the layout and size of the components of the control portion and repositioned the angulation knobs to increase accessibility from the grip. The G7 grip is designed to have an easy and comfortable feel to optimise performance and minimise stress during clinical procedures.

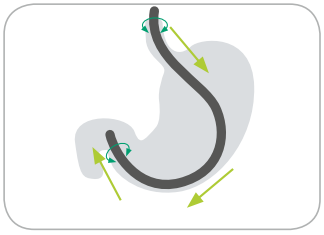
EXCELLENT INSERTION CAPABILITY



The newly designed structure of the flexible portion improves insertion capability. A small bending radius provides better observation.

HIGHLY MANOEUVRABLE FLEXIBLE PORTION

Materials for the flexible portion have been completely reviewed, especially in terms of their elasticity, in order to enhance manoeuvrability and insertion capabilities as well as torquability. Using the exclusive new material, the flexible portion is designed to be stiffer at the control portion side and become gradually more flexible towards the distal end side for better pushability.



IN PURSUIT OF BALLOON OPERABILITY

An air/water and suction button inflates and deflates water into and from the balloon.

ULTRASONIC ENDOSCOPE **EG-580UR** Radial Scan

Equipped with a slim distal end diameter of 11.4 mm and a shorter rigid section, the echo-endoscope is highly flexible. The enhanced manoeuvrability makes it easier to approach in retroflex observation of fundus and cardia, and with its round tip design and a direct forward view, the EG-580UR can be inserted into narrow lumen – just like a standard gastroscopic procedure. Furthermore the upward bending capability of 190° allows maximum flexibility.

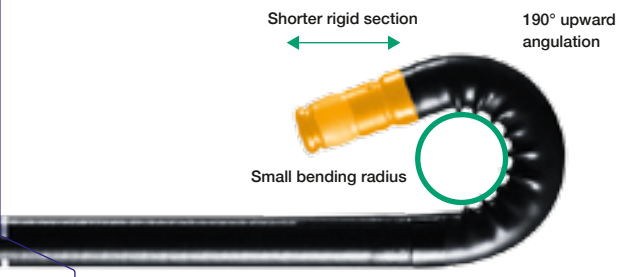
Endoscopic functions

Viewing direction	0°
Observation range	3–100 mm
Field of view	140°
Distal end diameter	11.4 mm
Flexible portion diameter	11.5 mm
Bending capability	Up 190°/Down 90° Right 100°/Left 100°
Working length	1,250 mm
Overall length	1,550 mm
Working channel diameter	2.8 mm

Ultrasonic functions

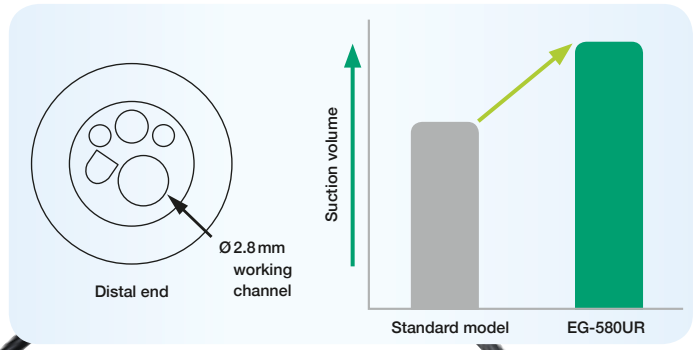
Scanning mode	Colour Doppler, Power Doppler, Pulse Doppler, B mode, M mode
Scanning method	Electronic radial scan
Scanning angle	360° (in combination with SU-1)
Frequency	5 MHz/7.5 MHz/ 10 MHz/12 MHz

GREAT APPROACH ABILITY



Ø2.8 MM WORKING CHANNEL SUPPORTING IMPROVED SUCTION POWER

The use of a larger working channel of Ø2.8 mm allows easy suctioning of blood and bodily fluids, providing a clear view during endoscopic observation.



SLIM DISTAL END 11.4 MM

ULTRASONIC ENDOSCOPE **EG-580UT** Curved Linear Array

The therapeutic echo-endoscope with a small bending radius and a short rigid section enables easier access to the targeted areas. A wide puncture range assists for FNA. The 140° endoscopic field of view, together with the 40° forward oblique view, reduces stress during the insertion process. Combined with a powerful 150° up angulation, the scope is suitable for both observation and therapeutic procedures.

Endoscopic functions

Viewing direction	**40° (Forward oblique)**
Observation range	**3–100 mm**
Field of view	**140°**
Distal end diameter	**13.9 mm**
Flexible portion diameter	**12.4 mm**
Bending capability	**Up 150°/Down 150° Right 120°/Left 120°**
Working length	**1,250 mm**
Overall length	**1,550 mm**
Working channel diameter	**3.8 mm**

Ultrasonic functions

Scanning mode	**Colour Doppler, Power Doppler, Pulse Doppler, B mode, M mode**
Scanning method	**Electronic curved linear array scan**
Scanning angle	**150° (in combination with SU-1)**
Frequency	**5 MHz/7.5 MHz/ 10 MHz/12 MHz**

40° FRONT OBLIQUE, 140° ENDOSCOPIC FIELD

WIDE PUNCTURE RANGE

FORCEPS ELEVATOR ASSIST

The Forceps Elevator Assist function ensures a steady maximum UP forceps elevation when the lever on the control portion is pulled down completely and clicked into place. This function reduces strain on the thumb caused by repeatedly operating the lever during procedures. It also enables flexible and subtle endoscopic operations during therapeutic procedures and supports stable puncture trajectory.

Hold maximum upwards forceps elevator