

PRESS INFORMATION

Universal Endoscopic Ultrasound Center EU-ME1

Olympus Announces the Global Launch of the Universal Endoscopic Ultrasound Center EU-ME1. The EU-ME1 is the world's first* endoscopic ultrasound processor to combine electronic and mechanical scanning in a single device. It is ideal for a wide range of endoscopic ultrasound procedures in the digestive and respiratory fields.

Hamburg, February 16, 2009

Olympus Medical Systems Corporation (President: Haruhito Morishima) will launch the Universal Endoscopic Ultrasound Center EU-ME1 worldwide on March 2, 2009. The EU-ME1 is the world's first* endoscopic ultrasound system to combine electronic and mechanical scanning in a single device and is ideal for a wide range of endoscopic ultrasound procedures, supporting the diagnosis and staging of pancreatic and lung cancers and other diseases, and assessments of the spread of cancers in the esophagus and stomach.

Eight Olympus ultrasound scopes and fourteen ultrasound probes that previously required different processors can now all be connected to the EU-ME1. The EU-ME1 can also be mounted on the trolley for the Olympus EVIS endoscopic videoscope system and connected to the same hi-vision monitor and keyboard, for optimal efficiency in procedures ranging from digestive endoscopy to endoscopic ultrasonography.

* As of February 16, 2009. Based on Olympus research relating to endoscopic ultrasound products

Main features

- 1. World's first general-purpose processor combining electronic and mechanical scanning in a single unit**
- 2. High quality of ultrasound image and Doppler function of electronic scanning**
- 3. Compatible with Olympus EVIS endoscopic videoscope systems**

The Universal Endoscopic Ultrasound Center EU-ME1

Background

Endoscopic ultrasound systems were first developed and introduced in the 1980s to support the early detection of pancreatic cancer, which was difficult to detect using external diagnostic modalities. The applications for this technology have continued to expand, and today it can be used to assess the spread of biliary tract and stomach cancers. Innovations in the 21st century have included the use of ultrasound-guided needling to diagnose lymph node metastasis of lung cancer. As the developer of the world's first practical endoscopic ultrasound systems, Olympus has continued to contribute to the advancement of medicine by developing new equipment in step with advances in related procedures. Innovations have included the improvement of resolution and the use of electronic scanning technology to allow high-quality viewing at all levels from tissue surfaces to deeper areas of organs. The first new model in eight years, the EU-ME1 was designed for versatility, image quality and ease of use and will allow medical professionals to carry out a wide range of procedures with optimal efficiency.

Detailed Features

1 World's first general-purpose system combining electronic and mechanical scanning in a single unit

Olympus ultrasound imaging tools, including electronic radial scanning ultrasound endoscopes, mechanical radial scanning ultrasound endoscopes and ultrasound probes, and curved linear array scanning endoscopes used for ultrasound-guided needling, can all be connected to the EU-ME1. The system can therefore be used for diagnostic imaging of the esophagus, stomach and other digestive organs, as well as the pancreas, biliary tract and respiratory organs, and for a wide range of other procedures, including tissue and cytological sampling by means of ultrasound-guided needling.

2 High quality of ultrasound image and Doppler function of electronic scanning

Though the EU-ME1 is a general-purpose processor, it supports high-quality ultrasound imaging based on electronic scanning. It also provides two Doppler functions—color flow and power flow—that allow blood vessels to be located according to blood flow motion in areas of interest.

3 Compatible with Olympus EVIS endoscopic videoscope systems

The compact design of the EU-ME1 allows it to be mounted on the trolley for Olympus EVIS endoscopic videoscopes systems. Because the EU-ME1

is compatible with the EVIS Series and can be used with the same Hi-Vision monitor and keyboard, procedures ranging from digestive endoscopy to endoscopic ultrasonography can be carried out with optimal efficiency.

Note: The company names and product names specified in this release are the trademarks or registered trademarks of each company.

Reference

Ultrasound Endoscopes

An ultrasound endoscope is an endoscope with an ultrasound transducer on the tip of the scope. High-frequency sound beyond the range of human hearing is emitted within body cavities, and the reflected sound waves are used to create images of target areas. This technology is widely used to obtain images of areas that are difficult to observe externally, such as the esophagus, stomach and other digestive organs, as well as the pancreas, biliary tract and respiratory organs.

Scanning Methods for Ultrasound Endoscopes

—Mechanical Scanning—

Mechanical scanning system transmits and receives ultrasound signals by means of motor-drive rotation achieved by applying a voltage to the ultrasound transducer. Olympus has developed ultrasound endoscopes with mechanical radial scanning system capable of producing 360° images, and ultrasound probes that can be inserted into the instrument channel of a standard endoscope.

—Electronic Scanning—

Electronic scanning system transmits and receives ultrasound signals consecutively by electrically controlling multiple reed-shaped transducers. Olympus has developed an ultrasound endoscope with a 360° electronic radial scanning system based on reed-shaped transducers arranged in a circle. Another product developed by Olympus is an ultrasound endoscope with a curved linear array scanning system. This produces fan-shaped scans in the direction of probe insertion, allowing the operator to obtain samples while checking ultrasound images by means of needling procedures with an aspiration needle inserted into the instrument channel of the scope.

Doppler Functions

The Doppler effect is a phenomenon that causes the frequency of a sound to rise as the source of the sound approaches the listener and fall as it moves away. This phenomenon is used to detect motion, especially the motion of blood, within ultrasound tomographic images. The image can indicate the presence or absence of blood flows (power flow mode) and show the direction of flows by means of coloration (color flow mode).

Milestones in the History of Olympus Ultrasound Endoscopes

1978	Olympus starts development of ultrasound endoscopes for use in the early detection of pancreatic cancer.
1980	The first prototype ultrasound endoscope is developed (mirror reflecting system, 5MHz, 90° imaging range).
1981	The five-layer structure of the stomach wall is discovered using an ultrasound endoscope, providing a basis for diagnosing the extent of stomach cancer.
1982	Olympus launches the EU-M1, the world's first endoscopic ultrasound center (rotating transducer, 7.5MHz).
1988	The EU-M3 endoscopic ultrasound center (switchable between 7.5MHz and 12MHz) is launched.
1990	The UM-1W ultrasound probe for endoscopes (capable of insertion into the pancreas and bile duct) goes on sale.
1991	Olympus launches the EU-M20 endoscopic ultrasound center (20MHz capability).
1993	Olympus introduces ultrasound videoscopes.
1996	Olympus launches the EU-M30 endoscopic ultrasound center (compatible with the EVIS system).
2001	The EU-M60/2000 endoscopic ultrasound center (high-resolution, 3D imaging from ultrasound probe) is launched.
2001	Olympus launches the EU-C60/2000 endoscopic ultrasound center (curved linear array scanning).

Specifications for the Universal Endoscopic Ultrasound Center EU-ME1

Dimensions	Main unit: 370(W) x 185(H) x 480(D) mm Keyboard: 393(W) x 41(H) x 205(D) mm
Weight	Main unit: 23.0kg Keyboard: 2.7kg
Scanning modes	Electronic radial scanning Curved linear array scanning Mechanical radial scanning Helical scanning
Display modes	B-mode Power flow mode Color flow mode
Frequency	Electronic scanning: 5MHz, 6MHz, 7.5MHz, 10MHz, 12MHz Mechanical scanning: C5, C7.5, C12, C20 7.5MHz, 12MHz, 20MHz, 30MHz
Display patterns	Full circle, bottom sector, top sector, scroll
Measurement functions	Distance, area, circumference
Video signals	Standard TV, B/W, HDTV

For questions or additional information, please contact:

Dr. Ingolf Mesecke-von Rheinbaben
Department Manager
Gastroenterology & Respiratory Endoscopy

OLYMPUS MEDICAL SYSTEMS EUROPA GMBH
Wendenstr. 14-18
D- 20097 Hamburg
phone: + 49 40 23773-3263
fax: + 49 40 23773-3243