ACUSON Origin
ultrasound system

AI-powered genius

3.0 software release

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SIEMENS
Healthineers

ACUSON Origin
ultrasound system

Redefining cardiac imaging with proven artificial intelligence, usability and image quality

As cardiovascular cases grow in both volume and complexity, healthcare professionals face daunting challenges. The new ACUSON Origin ultrasound system was designed to address these head-on with best-in-class AI technology that can enhance workflow efficiency with walk-up usability and enhanced ergonomics. Welcome to the revolution in cardiac care, where the genius is in the details.

System intelligence
SMART.

With just a touch of a button, launch AI Assist, 2D Heart^{AI} or any of the other 5600+ AI-powered measurements — fueled by over 2 billion* images across multiple modalities.

Image quality innovation
CLEAR.

Continuing decades of leadership in image innovation, superb image quality delivers superior clinical data acquisition in your everyday scans.

Usability and efficiency
EASY.

Featuring walk-up usability, the system is intuitive and quick to learn. Its ergonomic console reduces repetitive motion and risk of strain by the operator.

*Data on file

ACUSON Origin is an all-in-one workhorse that can be used for diagnostics, structural heart, EP, and pediatrics — to help address the entire patient care continuum.

Smarter, truly integrated AI. Designed to provide both speed and accuracy, the system's view classification and quantification capabilities are informed by over 2 billion* images across multiple modalities — one of the largest medical imaging databases in the world.

Supports custom workflows to save valuable time for doctors, sonographers, and patients. In fact, the diagnostic volume rates of ACUSON Origin are among the highest in the industry.
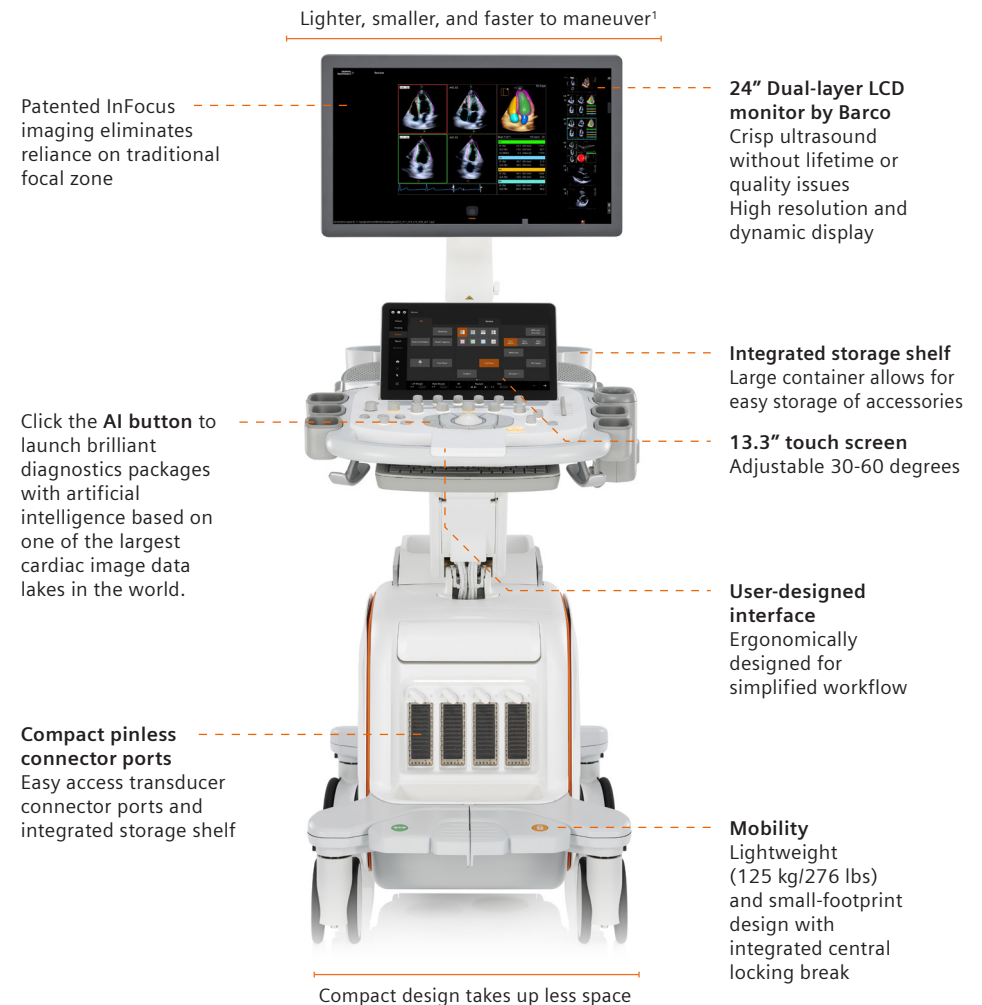
Versatile for a range of imaging, from early diagnostic through structural heart screening procedure to follow-up.

The genius is in the details

ACUSON Origin may look similar to other ultrasound machines, but it's a leap forward in some seemingly simple yet very important ways.

Lighter, smaller, and faster to maneuver[1]

Patented InFocus imaging eliminates reliance on traditional focal zone

24" Dual-layer LCD monitor by Barco
Crisp ultrasound without lifetime or quality issues
High resolution and dynamic display

Integrated storage shelf
Large container allows for easy storage of accessories

Click the **AI button** to launch brilliant diagnostics packages with artificial intelligence based on one of the largest cardiac image data lakes in the world.

13.3" touch screen
Adjustable 30-60 degrees

User-designed interface
Ergonomically designed for simplified workflow

Compact pinless connector ports
Easy access transducer connector ports and integrated storage shelf

Mobility
Lightweight (125 kg/276 lbs) and small-footprint design with integrated central locking break

Compact design takes up less space

*Data on file

[1] Compared to ACUSON SC2000

Delivering a brilliant new world of clarity for you

Increasing case volume and complexity requires clarity.

◎ **Diagnostic accuracy**

📶 **Repeatable results, regardless of operator**

👁 **Intuitive system**

The genius is in the details

Many unique enhancements support you in new ways:

SMART
- ACUSON Origin leverages AI to provide more than 5600+ automated measurements.
- 2D Heart[AI] automatically produces estimates of left ventricular volumes and GLS, both for contrast-enhanced and non-contrast enhanced acquisitions, achieving 98% correlation coefficient* with GLS estimates.
- 4D Heart[AI] on both 3D TTE and TEE acquisitions achieved 96% accuracy when compared with estimates provided by three experienced readers.

EASY
- Workflow enhancements such as instant view classification that automatically recognizes your view and places color, pulsed, and continuous Doppler over the appropriate anatomy.
- AI Assist demonstrates a 99% accuracy rate of 42 automated view classifications and placements of the Doppler color box or PW/CW spectral Doppler gate, across 12 echocardiographic views which encompass 23 anatomical locations as assessed by multiple expert users.
- Quick to learn and highly intuitive to reduce learning curve, plus important ergonomic updates reduce strain and repetitive motion.

*Average for all views

Patented and proven use of AI features sets ACUSON Origin apart

AI Assist

Smart

- One of the only systems on the market with real-time AI view recognition for the standard echo workflow. Instant structural identification streamlines imaging.

- Automatically places color Doppler ROI and spectral Doppler sample.

- AI button cycles through target anatomy.

- System offers you both the control and the flexibility to override auto placement and easily switch between auto and manual.

- Available on cardiac TTE transducers for complete routine echocardiogram (5Z1, 5V1, and 8V3).

- With AI Assist and AI Measure, the AI button automatically launches and quantifies over 60 ASE-guideline spectral Doppler measurements, reducing keystrokes while helping improve reproducibility and guideline compliance.

AI Assist automatically recognizes 12 standard TTE views with 99% accuracy and streamlines Doppler imaging with 42 automated Doppler assessments across 23 anatomical locations. In real-time, a single button press places the color Doppler box or PW/CW Doppler cursor on the relevant cardiac structure, ensuring precise hemodynamic assessment, reduced exam time, and minimized repetitive motion.

Color box placement is 98% accurate* and PW/CW cursor placement is 95% accurate*, meaning little to no adjustments are needed.

"The ACUSON Origin is the first machine [that] was built with the imager in mind."

Tony Gallagher
Director of Noninvasive Services
Baptist Health, Lexington, KY

*Average accuracy for all views

2D Heart^AI

Using cutting-edge AI provides fast and precise automatic view recognition and contour placement for chamber volumes, function, and GLS while giving you the flexibility to edit as needed.
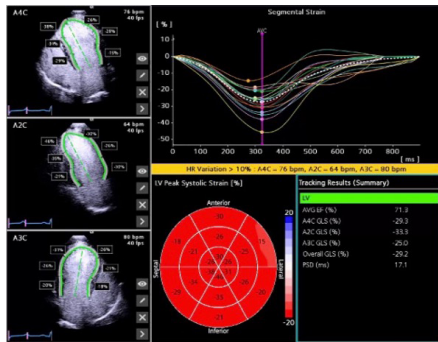
Comprehensive insights:
- Strain analysis for contrast imaging
- Analysis for irregular heartbeats
- Ability to change ED/ES and AVC timings
- Average up to five beats
- Includes auto view detection and auto contour placement
- LV length variation message alert notifies users of >10% variation in LV ED axis length
- Can be done with or without ECG

99% accuracy for detecting LVEVD and LVESV (across different users)

100% accuracy on view classification for A4C, A3C, A2C (with and without contrast, across multiple sonographers)

*Average

4D Heart^AI

Instant insights and real-time results: 4D Heart^AI utilizes AI to process complex cardiac data instantaneously, for real-time quantification of key parameters across all four heart chambers.
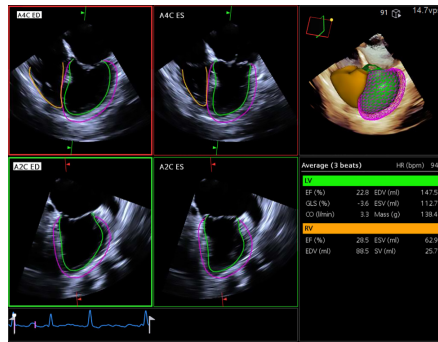
Complete cardiac profiling:
- From strain to EF, covers the entire spectrum of cardiac measurements
- 4D Heart^AI adaptability ensures accurate quantification regardless of the imaging method (4D auto-contouring of all four chambers in TTE and both ventricles in TEE)
- Easy to edit ED/ES frames, AVC and Pre-A
- Can be done with or without an ECG

96% accuracy for detecting LV ED and ES volumes using both TTE and TEE

98% accuracy* in MPR identification and alignment

"This is truly revolutionary. Most of the time with a technology advancement, you can't say that because it is just a new feature on an old system, but this is a completely new creature. For the first time, the machine knows what it is looking at, so it knows what the next three steps are to help you do them."

Robert Burke, MD
Director of Noninvasive Cardiovascular Diagnostic Imaging
HonorHealth, Phoenix, AZ

AI Measure

The AI Measure feature on the ACUSON Origin ultrasound system combines one-click cardiac measurement tools with advanced AI technologies, focused on improving efficiency, consistency, and reliability in routine cardiac measurements. It is also designed to reduce examination durations and optimize workflow processes.
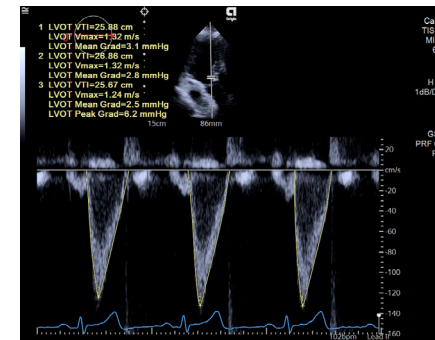

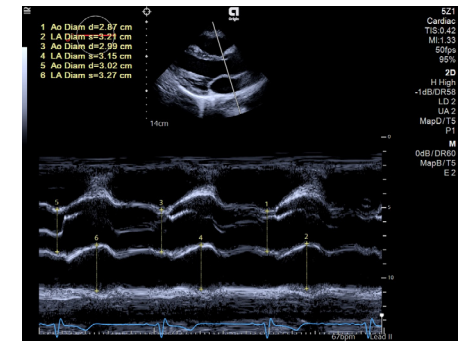## 89%* AI Measure (B-mode, Doppler, and M-mode) was judged accurate by the user

*Average
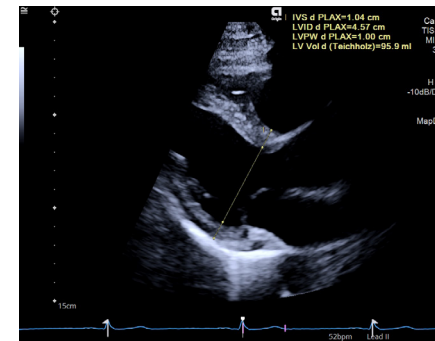
AI 2D measurements
The system seamlessly computes B-mode measurements adhering to the American Society of Echocardiography guidelines. Leveraging learned models, it autonomously locates landmark points using left ventricle and heart structures, such as the mitral and aortic valves to determine chamber measurement location.

AI M-mode measurements
Algorithm harnesses knowledge-based imaging technologies and expert annotations to detect landmark points for left ventricle and aortic root measurements. Employing a probabilistic, hierarchical, and discriminant framework, the system swiftly and accurately identifies deformable anatomical structures from M-mode images.

The AI Doppler measurement algorithm uses a Doppler knowledge-based framework to detect various parameters across different structures. It utilizes shapes like a triangle (for mitral inflow), a quadrilateral (for aortic regurgitation), and a curve (for tricuspid regurgitation) for precise detection.

Trace[AI] enhances accuracy by measuring circumference and max/min diameters, providing precise contours of orifice-type structures on MPRs, with an impressive overall accuracy of more than 95%. This advanced AI-driven tool enhances procedural efficiency and reproducibility for structural heart interventions.

Why choose ACUSON Origin over other systems?

Product details

AI database	Data lake of over 2 billion images across multiple modalities
Image quality	Excellent clarity and color on system as well as PACS, both 2D and Doppler
Number of AI-powered measurements	5,600+

AI Assist accuracy rate for:

View classification	99% (with minor or no adjustment)
Color Doppler box placement	98%* (with minor or no adjustment)
PW gate placement	95%* (with minor or no adjustment)

Patient continuum coverage

Diagnostics	Yes
Structural heart	Yes
EP	Yes
Pediatrics	Yes
Vascular	Yes

Smart features

|	
Single crystal technology	Yes
4D ICE capability	Yes
Expert CV case support	Yes
Automatic view classification	Yes
Segmented strain	Yes
Customizable workflow protocols	Yes

Average accuracy for all views
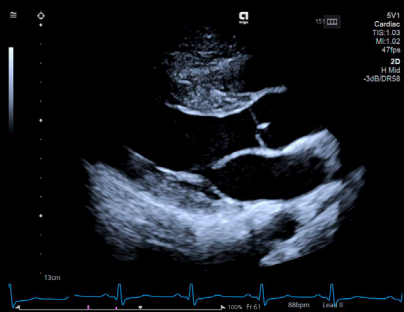
Utilizing single Crystal transducer technology to its fullest potential, the system ensures consistently sharp images throughout varying depth ranges via its optimized InFocus imaging capability.
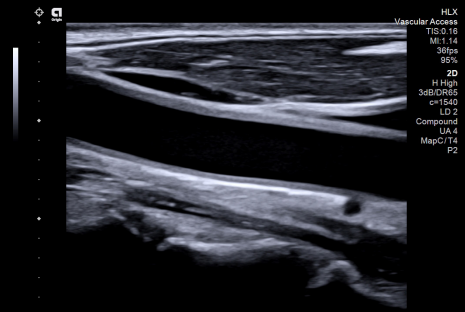

Superior vascular imaging and unparalleled clarity using InFocus imaging technology and the new HLX transducer.
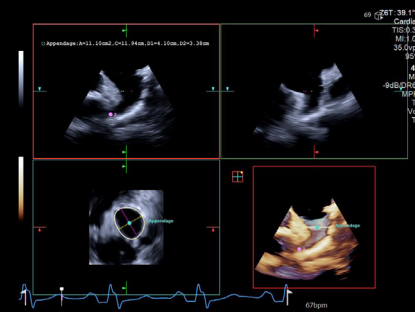
Trace[AI] with AcuNav Lumos provides precise sizing of the left atrial appendage for occluder device placement, measuring max/min diameters and circumference for accurate device sizing.
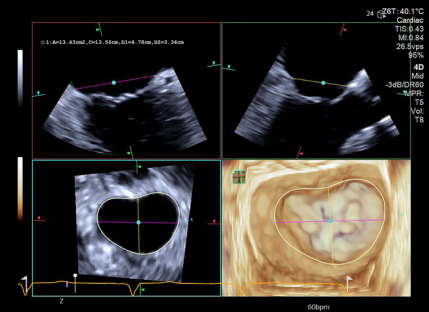

Trace[AI] for automated orifice assessment precisely contours the annulus, providing real-time circumference, maximum, and minimum diameter measurements with over 95% accuracy.
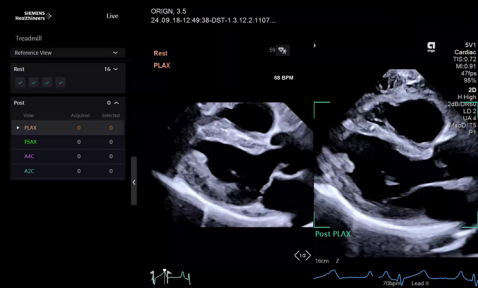

Customizable stress echo protocols: Wall motion scoring, staged measurements, and post-stage reference clip for enhanced comparison and analysis.


4D and 2D TEE with comprehensive visualization, aiding in precise assessments of cardiac structures and functions from multiple angles, enhancing diagnostic accuracy and treatment planning.
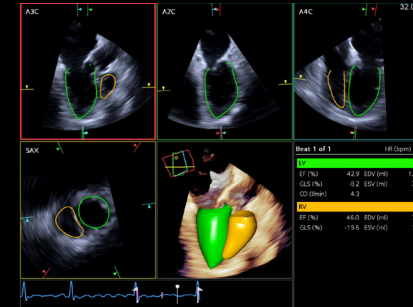

4D Heart[AI] contours both ventricles simultaneously and dynamically at 32 VPS.
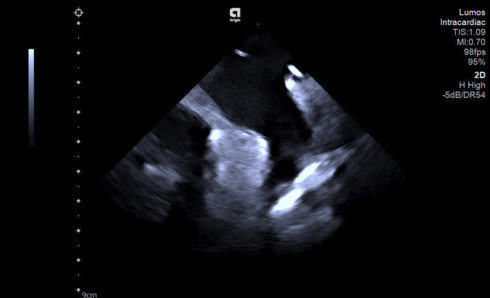

AcuNav Lumos 2D ICE imaging of the left atrial appendage. Note the image quality, definition and resolution.
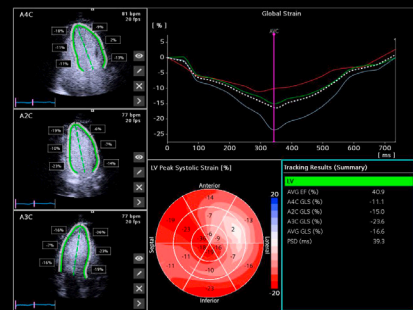
2D Heart[AI] revolutionizes cardiac ultrasound by offering automatic multiple beat analysis, eliminating the need for an ECG and seamless functionality with or without contrast.
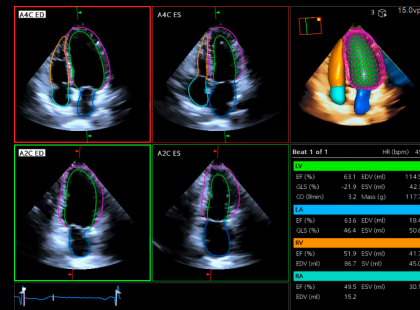
4D Heart[AI] streamlines diagnostics through automatic multiple beat analysis, obviating the necessity for an ECG significantly boosting diagnostic efficiency.
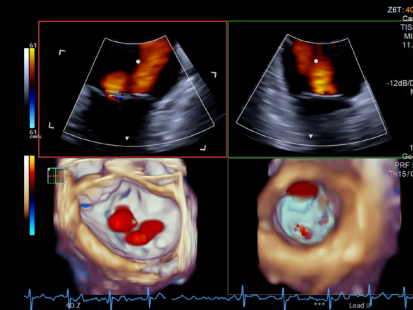
4D TEE image illustrates the color definition and clarity in both the MPRs and the 4D imaging looking from the LA (left) and from the LV (right) with 4D color, noting two distinct jets.
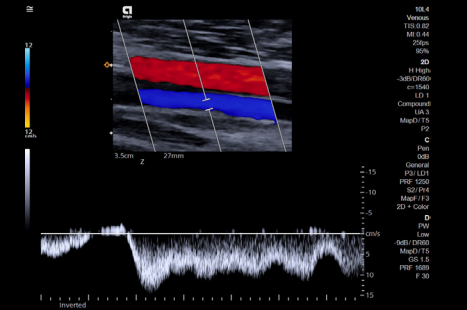
Auto Doppler automatically steers and positions the color box and PW gate to help reduce carotid exam time and over 25% of keystrokes.

Beyond service. Peace of mind.

Choosing Siemens Healthineers as your ultrasound service partner gives you more than performance reliability. With our partnership comes dedication to helping you advance patient care.

Partnering with Siemens Healthineers means:

- Optimized uptime, including real-time service resolution through remote connection
- Access to our fleet management portal
- Online courses to stay up to date with your systems
- Service contracts to protect your investment

With Siemens Healthineers, you gain a trusted partner committed to your success and the excellence of your patients' care – giving you the ultimate peace of mind.

Kinectus Remote Service

Kinectus Remote Service is a secure, easy-to-use, cloud-based solution that keeps your ultrasound system connected, your software up to date, all while minimizing service costs and adhering to current security and compliance guidelines.

Powered by Amazon Web Services (AWS), Kinectus service enables quicker resolution via remote technical support and remote application support. It also provides faster updates through on-demand and automatic remote software updates — all with a secure connection.

Software upgrades

TechUp 18 protects your investment with a service contract including a software upgrade program. This program guarantees eligible customers to receive at least one software upgrade every 18 months. Software upgrade may include enhancements to existing software licenses and workflow improvements.

TechUp NOW* is our newest and most flexible software upgrade package. Extend the lifespan of your ACUSON ultrasound fleet with regular software upgrades throughout your service contract. TechUp NOW* also gives you the freedom to choose whether to upgrade when a new software release comes out, allowing you to maintain uninterrupted staff workflow.

TechUp 18 and TechUp NOW* are add-on options for qualifying service contracts to help enhance the investment in your Siemens Healthineers ultrasound system.

teamplay Fleet

teamplay Fleet is an online portal supporting easy management of service, cybersecurity, and evolution of your Siemens Healthineers fleet. It is available 24 hours daily from any device.

Digital education with Siemens Healthineers Academy**

Personalized education and performance experience to increase staff competency, efficiency, and productivity.

*Currently only available in the USA
**Previously PEPconnect

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Our portfolio, spanning in vitro and in vivo diagnostics to image-guided therapy and cancer care, is crucial for clinical decision-making and treatment pathways. With the unique combination of our strengths in patient twinning[1], precision therapy, as well as digital, data, and artificial intelligence (AI), we are well positioned to take on the greatest challenges in healthcare. We will continue to build on these strengths to help overcome the world's most threatening diseases, enable efficient operations, and expand access to care.

We are a team of more than 73,000 Healthineers in over 70 countries passionately pushing the boundaries of what is possible in healthcare to help improve the lives of people around the world.

1. Personalization of diagnosis, therapy selection and monitoring, after care and managing health.