

The ACUSON SC2000 PRIME system provides next level visualization and quantification in 2D and 3D TTE, TEE, and ICE to handle all your echo-guided structural heart disease (SHD) procedures. With TrueFusion*, you can now efficiently guide your SHD interventions with a truly integrated solution combining echo and fluoro images.



Z6Ms True volume TEE



ACUSON AcuNav V ultrasound catheter

A complete system solution for interventional cardiology, the ACUSON SC2000 PRIME can help improve patient management from diagnosis to pre-procedural planning, from intervention to follow-up.

*TrueFusion represents a workflow consisting of syngo® TrueFusion and TrueFusion™ echo-fluoro guidance.



Diagnostic Assessment

eSie Measure Workflow Acceleration

Improve quality and reproducibility by integrating one-click automated measurements and eSie Scan protocols to ensure complete, consistent exams in less time.





eSie Left Heart

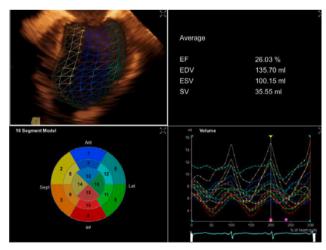
Achieve one-click reproducible ejection fraction (EF) measurements for both the left and the right ventricle without manual tracing.





eSie LVA Volume LV Analysis

Increase EF reproducibility and accuracy with automated one-click quantification of 3D TEE or TTE .

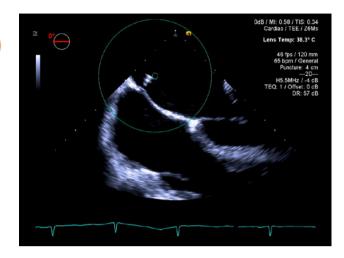


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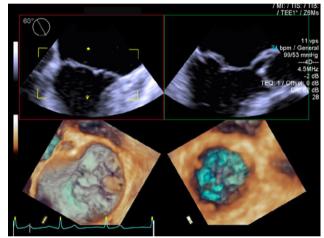
Septal Guide

Septal puncture is a critical step for interventions in the left heart. With septal guide, you can guide real-time monitoring of the puncture to help ensure proper catheter placement in an intervention. Siemens Healthineers Exclusive



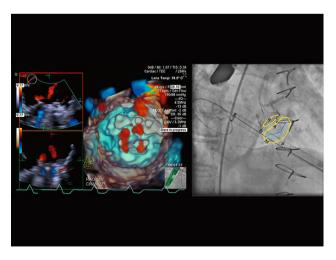
Dual V & D'Art

Easily crop and view real-time 3D anatomy and flow for a mitral valve from both atrial and ventricular perspectives simultaneously for enhanced device guidance.



TrueFusion* Echo-fluoro Guidance

Simplify your complex procedures with integrated realtime echocardiography and X-ray imaging with TrueFusion. Combine up to 15 marker overlays and valve models for efficient guidance that could potentially lower dose, reduce contrast and decrease time during procedures.



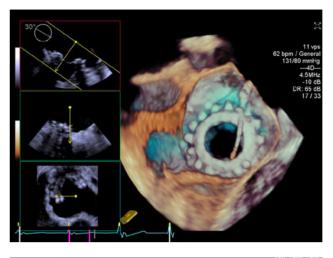
*TrueFusion represents a workflow consisting of syngo® TrueFusion and TrueFusion™ echo-fluoro guidance.

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Real-time Volume

See the heart in 3D beat by beat in real-time, without stitching, just as easily and real-time as your 2D imaging.



Volume Color Doppler

Real-time volume and volume color Doppler is essential for diagnosis and interventions. It provides real-time assessment of anatomy and physiology at clinically relevant volume size and volume rates without stitching, even for patients with arrhythmia.



True Fidelity Color Doppler

Improve diagnostic confidence with exceptional color resolution and better physiological presentation of color while reducing artifact and color flash.



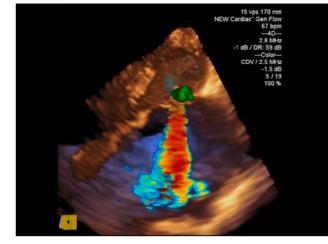
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Pre-procedure Planning

eSie PISA Volume Analysis

Quantify regurgitant volume and EROA in 3D without geometric assumptions.

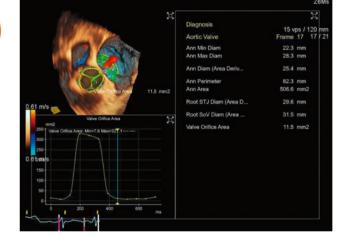




eSie Valves Advanced Analysis

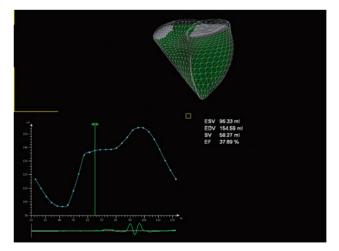
Improve workflow with 3D modeling of the mitral and aortic valves within seconds with up to 60 measurements for diagnosis, intervention and surgery.





Right Ventricular Analysis (RVA)

Volume RVA is designed specifically to provide you the required insights for the complex anatomy of the right ventricle. Analysis includes Global Volume Curve and Ejection Fraction.



Siemens Healthineers offers three shared service cardiovascular products: ACUSON P500, ACUSON S Family and ACUSON X700 ultrasound systems. The ACUSON SC2000 PRIME is the only dedicated premium cardiovascular ultrasound offering in Siemens Healthineers cardiology segment.

The products/features are not commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

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ACUSON SC2000 PRIME Ultrasound System Precision at the

Speed of Life





siemens.com/SC2000

Addressing your challenges in echocardiography

Healthcare professionals in the field of cardiology are facing challenges at many levels. Demanding caseloads, increasing age and diversity of patients, as well as the severity of chronic diseases lead to a rising need for relevant clinical information. This places a new demand for high-quality cardiovascular imaging.

What users need today is a versatile cardiovascular ultrasound platform with intelligent, knowledge-based applications that help you gain quick comprehensive insights.

The ACUSON SC2000 PRIME ultrasound system offers outstanding image quality without compromise and helps increase productivity with one-click measurements, automated protocols and navigational tools. It is a versatile system for your cardiovascular needs, providing the precision and speed clinicians require today.





Facts and figures

Structural Heart Disease (SHD):

People who are 75+ are 19 times more likely to have valvular heart disease (VHD) than those who are 18-44.¹

2017 19X more likely to have VHD 8.5% of the

population

worldwide is 65+.²

2050

17% of the population worldwide will be 65+.²

Heart Failure (HF):

Heart failure incidents will increase by 46% from 2012 to 2030. $^{\scriptscriptstyle 3}$

46%

Atrial Fibrillation (AF):

One out of four adults over 40 will develop AF in their lifetime. $\!\!^{\scriptscriptstyle 4}$



It starts with the power of the platform



The market-exclusive 64-beam technology – four times more than conventional technology – drives extraordinary imaging performance of the ACUSON SC2000 PRIME. Two groundbreaking technologies enable clinicians to see the unseen, quantify every detail, and accelerate their workflow.

IN Focus coherent technology, True Volume and volume color Doppler offer never-beforeseen details of anatomy and physiology in real-time without stitching, taking your cardiovascular diagnosis to the next level.*

* based on competitive data available August 2017.

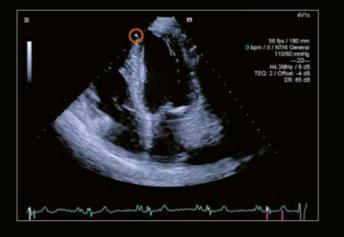
The system with the power to capture high-quality 2D & 3D images in real-time.

IN Focus coherent technology

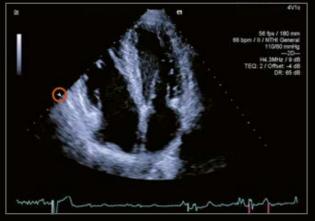
Why only focus on one section of the heart at a time? IN Focus focuses every pixel at every depth at the same time. See increased spatial resolution, precise border definition, and blood flow visualization in the same view, without compromising frame rates.

True Volume and volume color Doppler

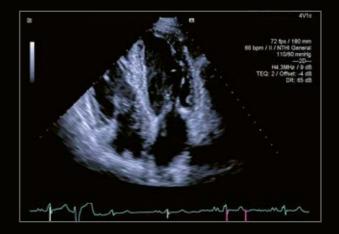
What if your 3D imaging were as easy and as real-time as your 2D imaging? The ACUSON SC2000 PRIME is the only platform on the market today to provide both volume and volume color Doppler imaging – in real-time. Essential for diagnosis and structural heart disease (SHD) interventions, it provides real-time assessment of anatomy and physiology at clinically relevant volume size and volume rates without stitching.



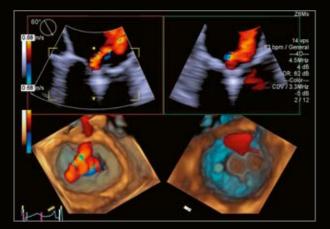
Conventional apical 4-chamber view with focus on the apex. Notice progressively inferior spatial resolution further away from the focal zone, typical of a conventional focus.



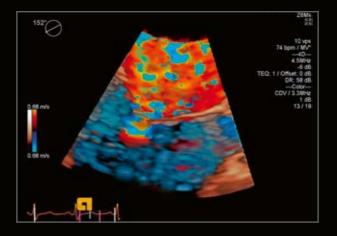
Conventional apical 4-chamber view with focus at the level of the mitral valve. Notice progressively inferior spatial resolution further away from the focal zone, typical of a conventional focus.

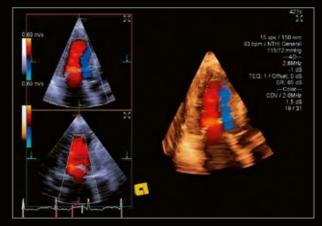


IN Focus apical 4-chamber view with no focal zone highlighting superior detail resolution throughout the entire field of view.



En-face view of the mitral valve from simultaneous ventricular and atrial perspectives using Dual V and volume color Doppler with the Z6Ms True Volume TEE transducer.





TEE view of the mitral valve with True Volume Color Doppler using the Z6Ms True Volume TEE transducer.

TTE view of the mitral valve with True Volume Color Doppler using the 4Z1c TTE transducer.

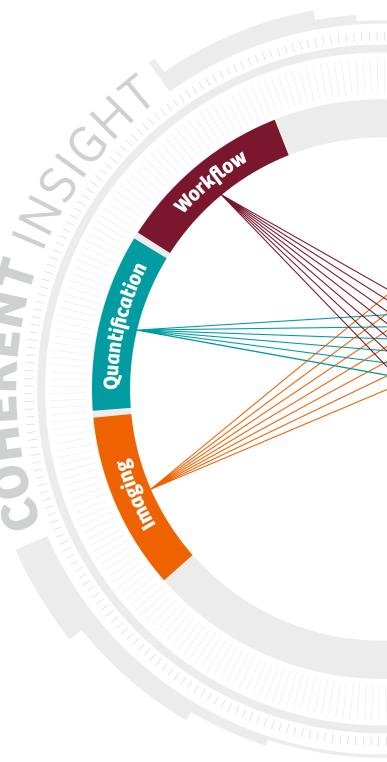
Coherent insight: working for you, thinking with you

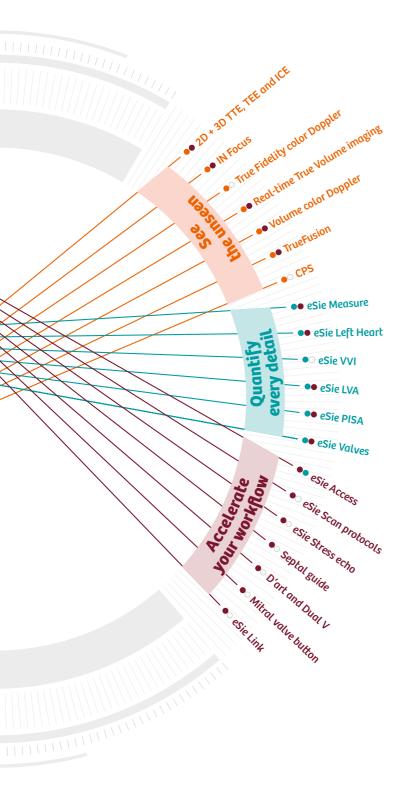
Cutting through non-diagnostic images and imprecise measurements from traditional ultrasound technology, the ACUSON SC2000 PRIME offers coherent insight for today's changing echo environment.

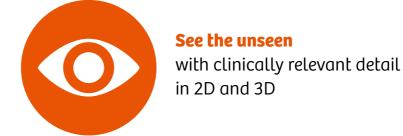
Coherent Insight provides you with coherent imaging, coherent quantification and coherent workflow.

A comprehensive suite of 2D and 3D one-click knowledge-based clinical applications helps you acquire accurate and reproducible images. 2D and real-time True Volume imaging provides clinically relevant physiologic and anatomic information without missing a beat.

With relevant information, consistent image quality and reproducible measurements, the ACUSON SC2000 PRIME connects high-quality imaging and measurements with optimized clinical workflows. All of this improves and accelerates decision making, bringing you *Precision at the Speed of Life.*







Quantify every detail

with the most comprehensive one-click knowledge-based 2D and 3D applications



Accelerate your workflow

with one-click automated knowledge based measurements



As the only system capable of TTE, TEE and ICE – both in 2D and 3D – the ACUSON SC2000 PRIME can handle all your cardiovascular imaging needs. Outstanding imaging performance makes the ACUSON SC2000 PRIME the system of choice throughout all stages of patient management, improving your workflow, maximizing your system utilization and supporting you in more exams and interventions than ever before.

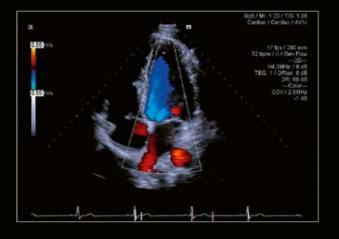
Now with TrueFusion^{*} guidance, you can add ultrasound TEE guidance to your live fluoroscopy with ease – enabling more efficient target-oriented device navigation to improve quality of care.

2D Imaging

3D Imaging

TrueFusion^{*} takes a truly integrated approach to interventional procedures by combining Artis PURE angiography and ACUSON SC2000 PRIME to harness the advantages of X-ray and ultrasound in one view.

* TrueFusion represents a workflow consisting of syngo® TrueFusion and TrueFusion™ echo-fluoro guidance.



2D TTE

Apical 4-chamber view with true Fidelity color Doppler with the 4V1c transducer.



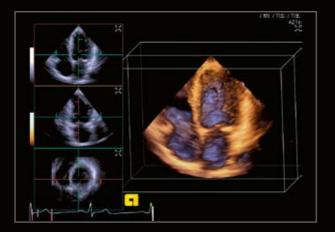
2D TEE

Mitral valve imaged with the Z6Ms True Volume color TEE using volume color Doppler.



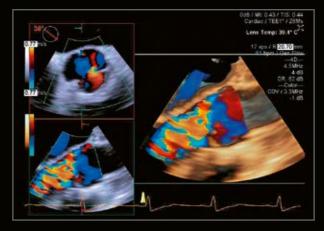
2D ICE

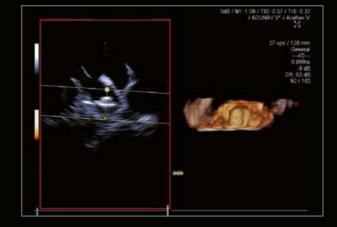
Short axis view of left ventricle for real-time monitoring throughout interventional procedures with ACUSON AcuNav V ultrasound catheter.



3D TTE

Apical 4-chamber view using high volume rates, real-time full volume imaging with the 4Z1c transducer.





3D TEE

Aortic valve imaged with the Z6Ms True Volume TEE using volume color Doppler.

3D ICE

Left atrial appendage closure device visualized in 3D with the ACUSON AcuNav V ultrasound catheter.

TTE Imaging

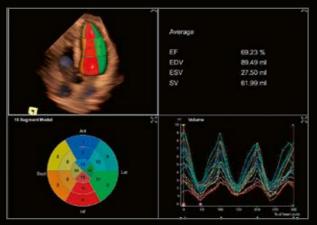
Quantify every detail

Having the right information at the right time is key for successful patient care – from diagnosis to planning, from treatment to follow-up. Providing you with a comprehensive suite of accurate and reproducible 2D and 3D quantification tools, the ACUSON SC2000 PRIME supports you every step of the way...

- In the diagnosis stage, improve reproducibility with 118 one-click automated knowledge-based measurements during your TTE exams.
- During pre-procedural planning, improve accuracy for your SHD procedures by modeling and quantifying the aortic and mitral valves in four seconds with over 60 measurements.
- When treating your patients, have quick objective information available in seconds with one-click automated knowledge-based spectral Doppler and volume EF measurements in both TTE and TEE imaging.
- Follow-up and assess myocardial function with eSie LVA.







TTE eSie LVA

Automated multi-beat eSie LVA with automated measurements of beat-to-beat EF, stroke volume and LV volumes.



TTE eSie Measure

Description Paul

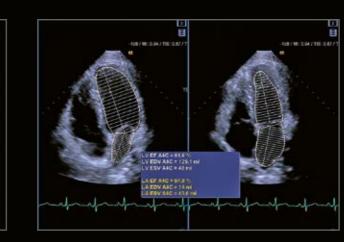
Automated measurement of PLAX B-mode image with eSie Measure.

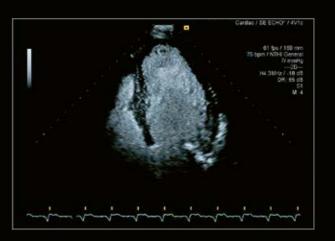
Time to Pea

Time to Peak Endo Long Strain

TPE A4C

WOWD (2-5)





TTE eSie VVI

Avg A3C

linne

Overall Peak Endo Long Strain

Bullseye display of results obtained for strain analysis using VVI technology.

TTE eSie Left Heart

Automated measurement of volume and ejection fraction for LV and LA function in 2D echo with eSie Left Heart.

TTE Contrast Pulse Sequencing (CPS)

Apical 4-chamber contrast image with high sensitivity and specificity using CPS.

3D quantitative assessment of regurgitation using 3D TTE dataset and eSie PISA.

TTE eSie PISA



TEE Imaging

Manual measurements using conventional ultrasound technology can be cumbersome, time-consuming and less reproducible. This may lead to lower overall efficiency and quality of care, lower satisfaction scores and longer patient wait times. The ACUSON SC2000 PRIME has the most comprehensive* suite of knowledgebased automated measurements on the only system to combine them with automated protocols. This is key when addressing time constraints, reproducibility, and exam quality. Save 6 minutes per exam with knowledge-based automated clinical applications.



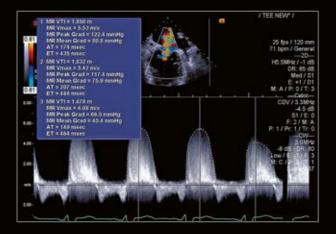
Achieve accurate and reproducible measurements with real-time True Volume and volume color Doppler imagining without stitching.⁵

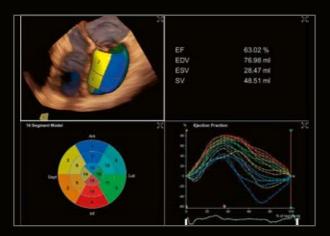


The ACUSON SC2000 PRIME offers more than 200 automated measurements for TTE and TEE exams.



* based on competitive data available August 2017.





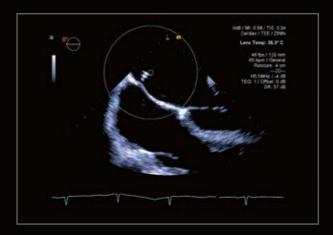
TEE LVA

Automated multi-beat eSie LVA with automated measurements of beat-to-beat EF, stroke volume and LV volumes.



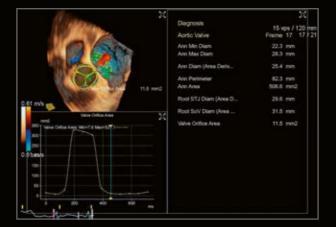
TEE eSie Measure

One-click measurement of VTI on a mid-esophageal CW Doppler trace of mitral regurgitation (MR) measured using eSie Measure spectral Doppler.



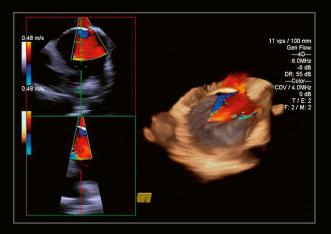
TEE Septal Guide

Real-time septal Guide for trans-septal puncture during a procedure.



TEE Dual V

Simultaneous ventricular and atrial perspectives with Dual V visualization of a prosthetic mitral valve.



TEE eSie Valves

Multi-frame dynamic assessment of both aortic and mitral valves using eSie Valves.

ACUSON AcuNav V Ultrasound Catheter

Patent foramen ovale (PFO) visualized in real-time 3D with color on the ACUSON AcuNav V ultrasound catheter for intracardiac echocardiography (ICE).

Maximize your investment : ergonomics, service and offline analysis



62% improvement in turning and

steering performance with the new control panel lock and with the system in the ideal moving position **Ergonomics**

CUSON SC2000

You need to be able to work quickly and efficiently anywhere in the hospital or clinic. The ACUSON SC2000 PRIME ultrasound system was designed with ergonomics and workflow in mind. Its user interface and panel control positions are intuitive, enabling you to move more quickly and work more efficiently anywhere in the hospital or clinic.

> Rear Handle

70% improved leverage from rear handle

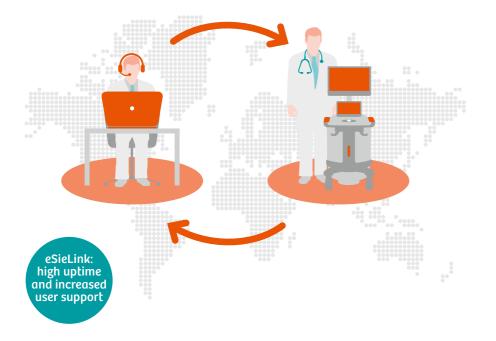
> Casters with highend swivel bearings



* Mobility improvements derived from mechanical testing on the ACUSON SC2000 system.

Service: remote assistance technology

You need to know that you have access to support when and where you need it. With eSieLink Remote Assistance technology, you get just that so you can work more confidently. eSieLink enables fast problem resolution and overall increased productivity.



Offline analysis

To suit your individual needs, Siemens Healthineers offers a range of offline workplace solutions: *syngo*[®] SC2000 Workplace, *syngo*[®] Ultrasound Apps Suite, *syngo*[®] Dynamics, and TOMTEC-ARENA™.

Select from a range of options customizable for single practices as well as entire hospital systems enabling comfortable offline analysis to adapt to changing work environments.



The products/features mentioned in this document may not be commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

Standalone clinical images may have been cropped to better visualize pathology.

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Endnotes

- 1. Nkomo VT, Gardin JM, Skelton TN, et al. Burden of Valvular Heart Diseases: a Population-based Study. Lancet, September 2006.
- 2. Wan He, Daniel Goodkind, and Paul Kowal, U.S. Census Bureau, International Population Reports, P95/16-1, An Aging World: 2015, March 2016.
- 3. Mozaffarian, Dariush, et al. "Heart Disease and Stroke Statistics—2016 Update." Circulation, December 2015.
- 4. Circ. J American Heart Association 2004: Vol 11; Issue 7.
- Macron, Laurent, et al. "Single-Beat Versus Multibeat Real-Time 3D Echocardiography for Assessing Left Ventricular Volumes and Ejection Fraction A Comparison Study With Cardiac Magnetic Resonance." Circulation: Cardiovascular Imaging 3.4 (2010): 450-455.

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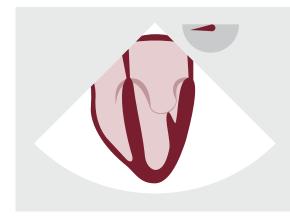
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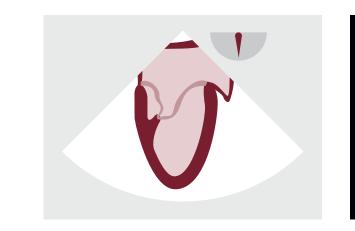
Guidelines for Perioperative **TEE Views**

Mid-esophegeal (ME) Views

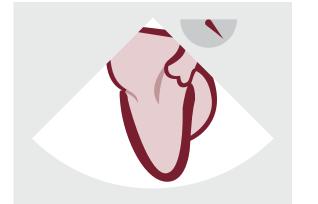




View: ME 4-CH Normal angle: 0–20° Structures seen: left atrium, right atrium, AS, left ventricle, right ventricle, IVS, mitral valve,



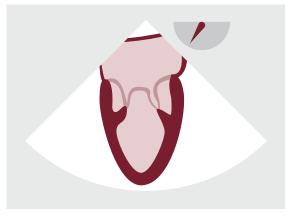
View: ME 2-CH Normal angle: 80–100° Structures seen: left atrium, coronary sinus, left atrial appendage, left ventricle, mitral valve





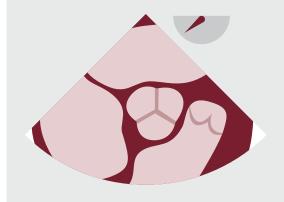
View: ME LAX Normal angle: 120–160° Structures seen: left atrium, left ventricle, LVOT, RVOT, mitral valve, aortic valve,

tricuspid valve



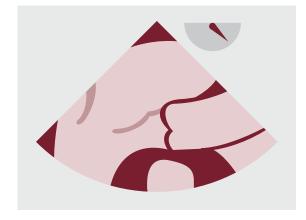


View: ME mitral commissural Normal angle: 60–70° Structures seen: left atrium, coronary sinus, left ventricle, mitral valve, papillary muscles, chordae tendineae



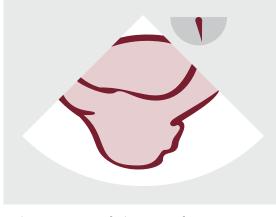
View: ME AV SAX Normal angle: 30–60° Structures seen: aoric valve, right atrium, left atrium, superior IAS, RVOT, pulmonary valve







View: ME AV LAX Normal angle: 120–160° Structures seen: left atrium, LVOT, RVOT, mitral valve, aortic valve, proximal ascending aorta



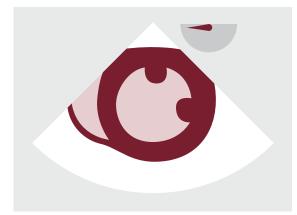


View: ME bicaval Normal angle: 80–110° Structures seen: left atrium, right atrium, right atrial appendage, IAS, SVC, IVC

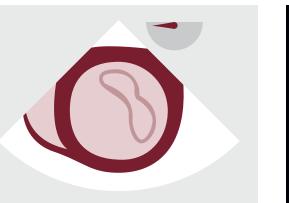


View: ME RV inflow-outflow Normal angle: 60–90° Structures seen: left atrium, right atrium, right atrial appendage, IAS, SVC, IVC









View: TG basal SAX



View: Deep TG LAX

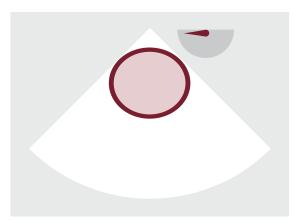


View: TG mid SAX – ASE mid papillary SAX Normal angle: 0–20° Structures seen: left ventricle (mid), papillary muscles, right ventricle (mid)

Aortic Views

Normal angle: 0–20° Structures seen: left ventricle (base), right ventricle (base), mitral valve (SAX), tricuspid valve (short-axis)

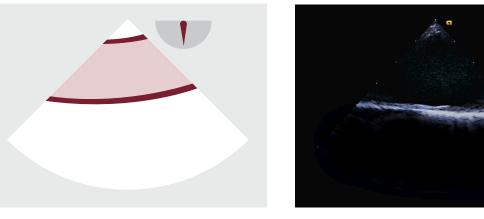
Normal angle: 0–20° Structures seen: left ventricle, left ventricle outflow track, right ventricle, aortic valve, aortic root, mitral valve



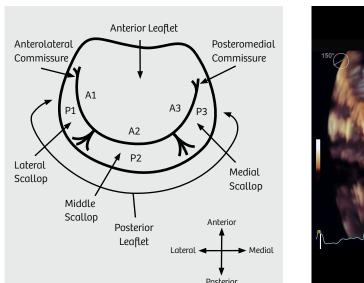
View: desc aortic SAX Normal angle: 0–10° Structures seen: descending aorta

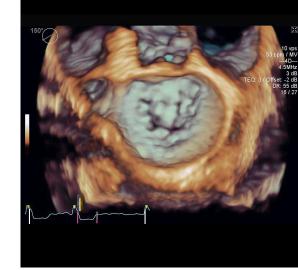
3D View





View: desc aortic LAX Normal angle: 90°–110° Structures seen: descending aorta, left thorax,





Siemens Healthineers offers three shared service cardiovascular products: ACUSON P500, ACUSON S Family and ACUSON X700 ultrasound systems. The ACUSON SC2000 PRIME is the only dedicated premium cardiovascular ultrasound offering in Siemens ealthineers cardiology segmer

View, normal angle and structures seen are based on the article "American Society of Echocardiography.ASE/SCA Guidelines for Performing a Comprehensive Intraoperative Multiplane Transesophageal Echocardiography Examination." that was published in the Journal of the American Society of Echocardiography, October 1999. References: Anesthesia & Analgesia 1999; 89:870-84; J Am Soc Echocardiogr 1999; 12:884-900



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Visualize what's needed in Electrophysiology

ACUSON SC2000 PRIME Ultrasound System

The ACUSON SC2000 PRIME system provides you next-level visualization on a versatile system that offers 2D, 3D and volume ICE imaging with the broadest portfolio of ICE catheters on the market today.*



ACUSON AcuNav ultrasound catheters



Z6Ms True volume TEE

A complete solution for your electrophysiology needs, the ACUSON SC2000 PRIME, can help improve the management of patients from diagnosis to pre-procedural planning and from treatment to follow-up.

Siemens Healthineers offers three shared service cardiovascular products that are capable of 2D ICE imaging: ACUSON P500, ACUSON S Family and ACUSON X700 ultrasound systems. The ACUSON SC2000 PRIME is the only dedicated premium cardiovascular ultrasound offering that has 2D and 3D ICE capabilities in Siemens Healthineers cardiology segment.

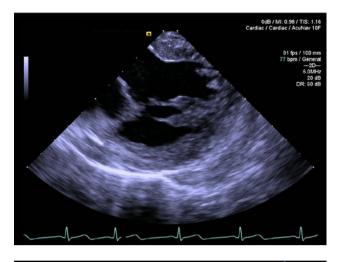
*Based on competitive data available July 2017.



ACUSON AcuNav Ultrasound Catheter Family

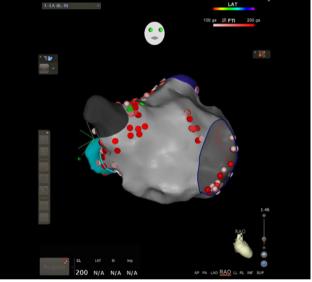
ACUSON AcuNav ultrasound catheters

Imaging with ACUSON AcuNav catheters offers insights into anatomical details so you can confidently guide and navigate procedures with real-time monitoring throughout the entire procedure.



SoundStar® Catheter

CartoSound® Module technology with the SoundStar® Catheter brings ICE imaging to the next level. It enables you to create same day, three-dimensional heart shells for improved anatomical accuracy. Ablation tip overlay provides real-time visualization of the catheter tip to improve visual accuracy.

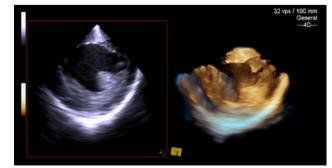


ACUSON AcuNav V Ultrasound Catheter

ACUSON AcuNav V catheter

The ACUSON AcuNav V catheter advances the current ICE technology by bringing the first volume imaging capability in an ICE catheter offering a 90°x 24° field of view.

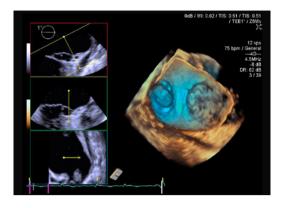




Transesophageal Echo (TEE)

Z6Ms True volume TEE

Real-time volume and volume color Doppler is essential for diagnosis and interventions, it provides real-time assessment of anatomy and physiology at clinically relevant volume size and volume rates without stitching, even for patients with arrhythmia.



Septal guide

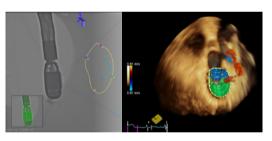
Septal puncture is a critical step for catheter based procedures in the left heart. With septal guide, you can guide real-time monitoring of the puncture to help ensure proper catheter placement in an intervention.





TrueFusion* echo-fluoro guidance

Simplify your complex procedures with integrated real-time echocardiography and X-ray imaging with TrueFusion. Combine up to 15 marker overlays and valve models for efficient guidance that could potentially lower dose, reduce contrast and decrease time during procedures.



ACUSON SC2000 PRIME Ultrasound System Precision at the Speed of Life:

- With the ACUSON AcuNav family of catheters and the Z6Ms True Volume TEE transducer, you can assess the left atrial appendage, have real-time procedural guidance and utilize the CartoSound® Module technology for a complete anatomical assessment for your Electrophysiology procedures.
- The ACUSON SC2000 PRIME can support more electrophysiology and structural heart procedures increasing asset utilization and potentially lowering training costs.
- With real-time true volume imaging capabilities along with the Z6Ms true volume TEE transducer and ACUSON AcuNav Family of ICE catheters, the ACUSON SC2000 PRIME truly is the most complete package on the market today.**

The products/features are not commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

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