SAMSUNG

Hera I10
Ultrasound Reimagined

ESK
Ergonomic Design Award

Changing the way you think about Ultrasound

Hera, Samsung's new women's health ultrasound platform, is committed to delivering exceptional image clarity and color sensitivity to help clinicians see the tiny details in every image without the need for excessive manipulation. With re-imagined ergonomics, advanced technologies that reveal additional anatomical detail and elevated patient interactions, Hera is transforming ultrasound in ways never seen before.

The Hera I10 is the latest addition to the Hera family of premium Women's Health ultrasound systems and is re-inventing the ultrasound experience. The "I" represents integration and a first of its kind ergonomic design and combines 3 essential pieces needed to elevate the ultrasound experience that women and their caregivers deserve: Ergonomics, Technology and Patient Interaction.

Elevating the Ultrasound Experience

Your patients and staff demand and deserve the best experiences possible and with the Hera I10, the ultrasound experience has been elevated in ways never seen before. Reimagine the ultrasound exam experience for your patients and take your patient satisfaction to a new level.

Comfort and Safety

Assisting patients on and off of the exam table and helping them into a reclined position for their ultrasound exam can be difficult and a prevalent, at-risk task, clinicians perform[1]. Integrating a motorized, adjustable exam chair into the design of the Hera I10 helps safely and comfortably move patients into the optimal position needed to capture the necessary images to provide a confident diagnosis.

Start Position

Abdomen Position

Full Flat Position

Lithotomy Position

Revolutionary Design

Samsung and the Hera I10 are setting a new standard for ergonomics and changing how you think about healthy scanning. "Effortless", "Game Changer" and "Groundbreaking" are just some of the words we've heard to describe the Hera I10, and here's why.

Extremely wide range of motion on both the console and transducer station puts the user in control of their comfort.

Transition between abdominal and transvaginal scanning with ease. Users can expect to see a reduction in peak pull force of almost 83% compared to a traditional, wheeled premium console[2].

90.6 inch (230 cm)

23.6 inch (60 cm)

72 inch (183 cm)

120° Biopsy Position
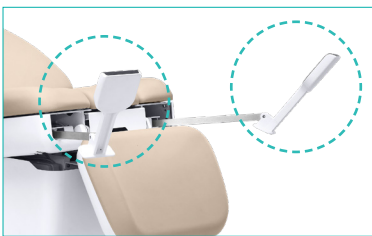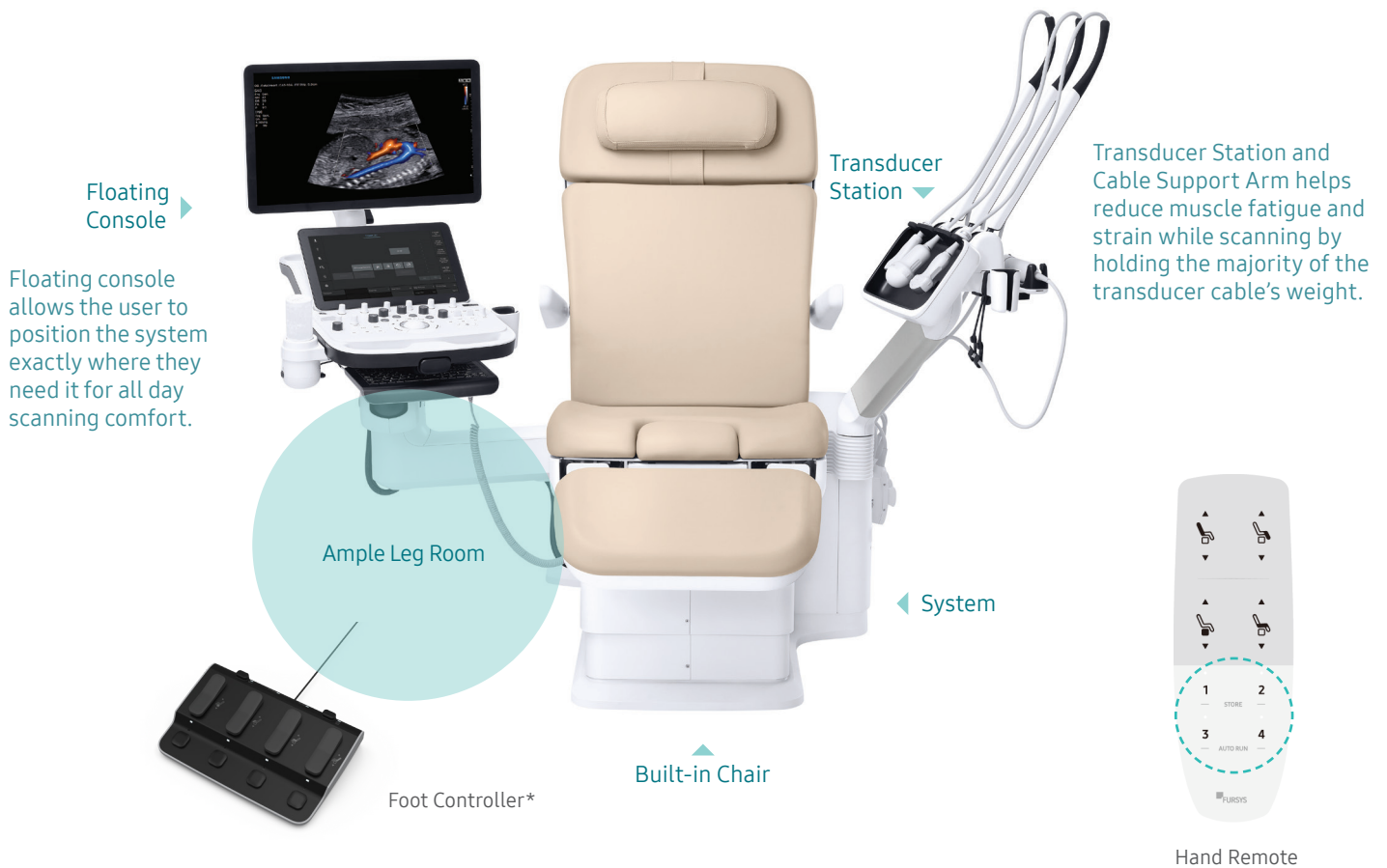
0° Basic Position
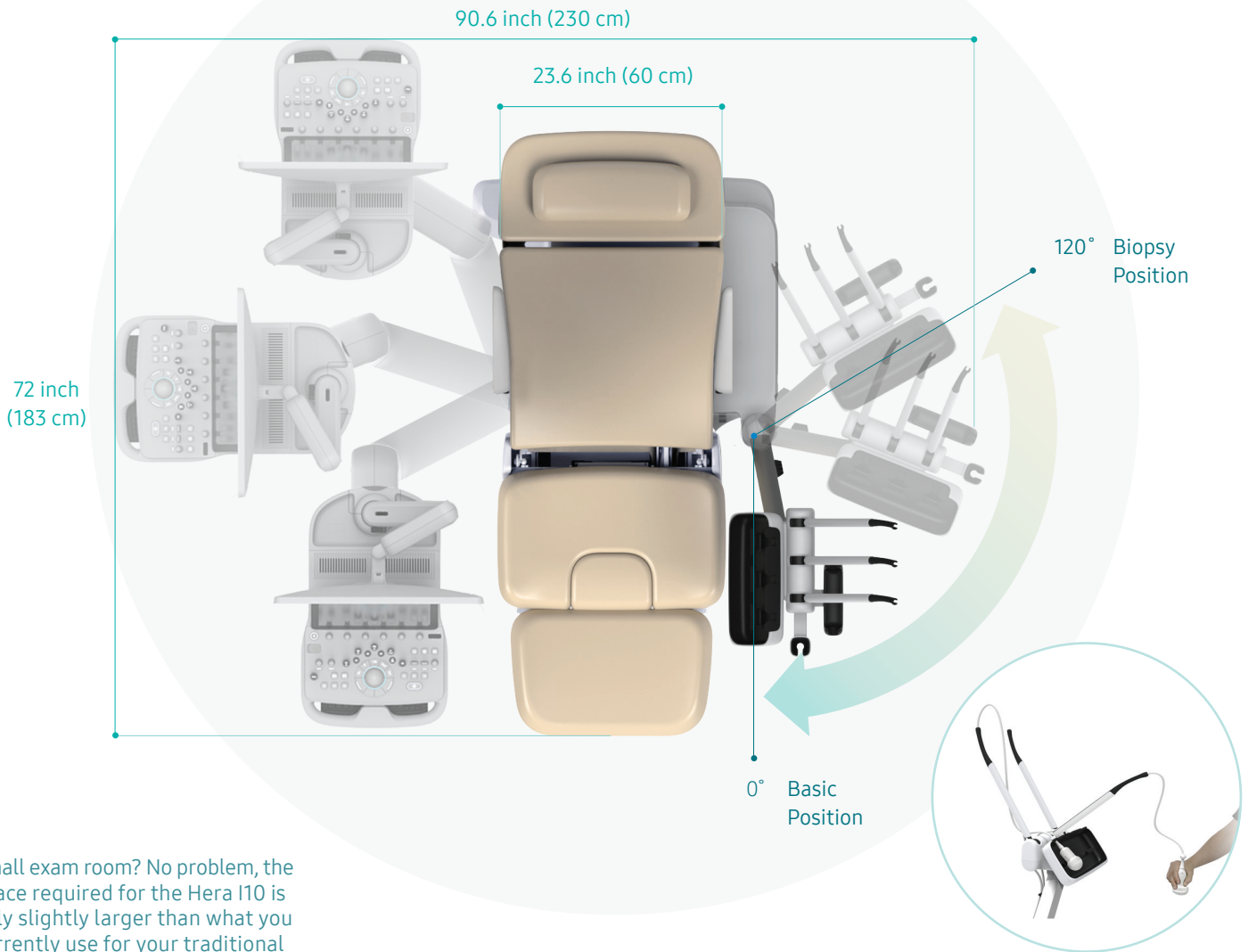
Small exam room? No problem, the space required for the Hera I10 is only slightly larger than what you currently use for your traditional exam table and ultrasound system.

The transducer station cable arms hold the majority of the weight of the transducer cable, reducing the force on the scanning wrist by more than 52%[2].

Effortless Ergonomics

Ultrasound systems have been stuck in the same basic form for more than 40 years, why? Samsung is thinking outside the "box" and putting the user first, in this brand new, revolutionary design. During the development of the Hera I10, we worked with more than 300 doctors and sonographers in 40 countries over the course of 3 years to create our new Hera I10. According to a recent study, 90% of clinical sonographers experience the symptoms of Work Related MSK Disorders[3] (WRMSDs) that cost employers up to $20 billion a year[4]. Even worse, 20% of sonographers that are symptomatic of WRMSDs, experience a career ending injury[5,6,7]. Samsung is committed to helping keep sonographers and physicians healthy so they can do what they love best — deliver outstanding patient care.

Floating Console

Floating console allows the user to position the system exactly where they need it for all day scanning comfort.

Transducer Station

Transducer Station and Cable Support Arm helps reduce muscle fatigue and strain while scanning by holding the majority of the transducer cable's weight.

Ample Leg Room

System

Built-in Chair

Foot Controller*

Hand Remote

Stirrups for Foot Placement
(Lithotomy Position)

Integrated, motorized chair helps safely position patients in the ideal scanning position. The adjustable height allows the sonographer to position the patient at the best level for their greatest comfort while scanning.

* The Built-in Chair (WMH152) displayed with HERA I10 is an independent product designed to be compatible with HERA I10.

Extraordinary Detail

At Samsung, our unique and proprietary way of processing digital signals has made us a global leader in the consumer electronics arena and is the foundation of our new Crystal Architecture™.

## Crystal Architecture™

CrystalBeam™ ➕ CrystalLive™

Our state of the art **beamformer** leverages Massive Parallel Processing to efficiently and consistently create uniform image clarity throughout the field of view while maintaining high frame rates.

Our advanced signal and image processing provides exceptional detail and contrast resolution, artifact reduction and shadow suppression.

A combination of innovative beamforming and sophisticated image and signal processing working seamlessly with our transducers is at the heart of our exceptional image clarity, color sensitivity and penetration.
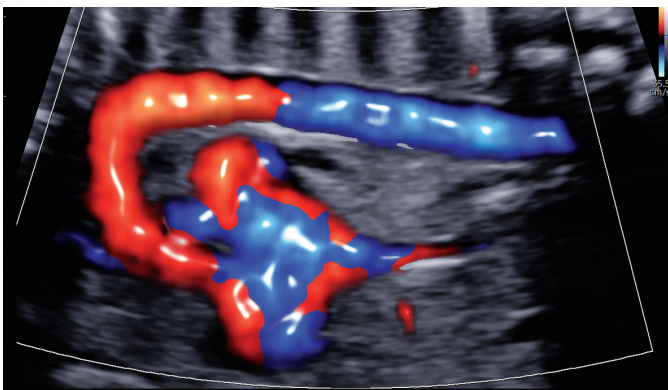
Ductal Arch with LumiFlow™

Fetal Abdomen

In the end, it's all about the images. Exquisite image clarity, sharp interfaces and excellent contrast and spatial resolution provide clinicians the tiny details needed to support confident answers.

Advanced 2D Imaging

2D imaging is at the heart of each and every ultrasound exam and integral to a confident diagnosis. Hera elevates 2D imaging to a level not seen before thanks to shadow suppression, artifact reduction and image clarity techniques that produce grayscale images with crisp interfaces, outstanding contrast resolution and precise spatial detail.

ShadowHDR™

ShadowHDR™ improves image clarity by separating the ultrasound image into low and high frequency components. Shadow HDR then performs dynamic shadow suppression to reveal additional details, otherwise obscured. This proprietary technique is advantageous when assessing the fetal brain as it suppresses cranial shadowing for a more complete display of intracranial anatomy.

ShadowHDR™ Off   ShadowHDR™ On   ShadowHDR™ Off   ShadowHDR™ On
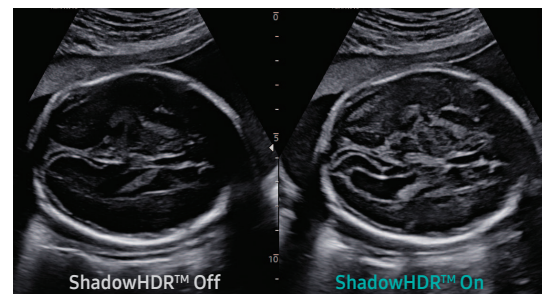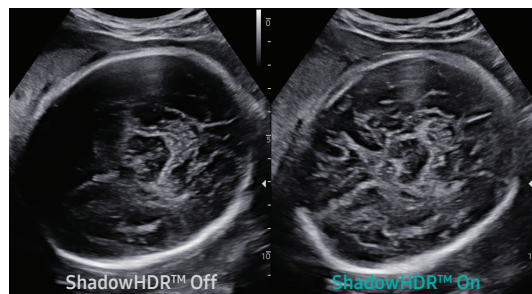
HQ-Vision™

HQ-Vision™ is a sophisticated image processing technology designed to compensate for natural signal distortion as sound propagates through tissue. HQ-Vision continuously analyzes, deconstructs and then recalculates the received ultrasound image to display maximum sharpness and precise spatial clarity. This is especially helpful when performing detailed documentation of subtle interfaces, as well as fetal vertebrae.

HQ-Vision™ Off   HQ-Vision™ On   HQ-Vision™ Off   HQ-Vision™ On
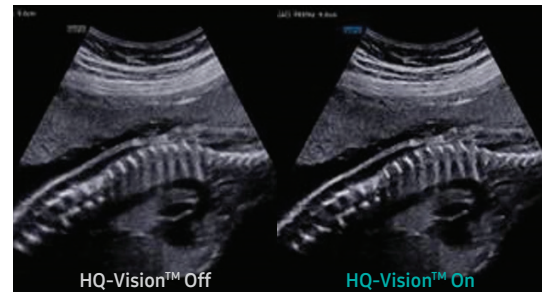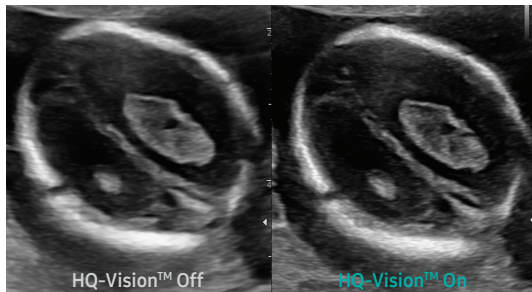
Advanced ClearVision

Advanced ClearVision is an adaptive image optimization technology designed to remove distracting speckle artifacts, while sharpening tissue interfaces and enhancing subtle changes in the displayed grayscale image.

Advanced ClearVision Off   Advanced ClearVision On
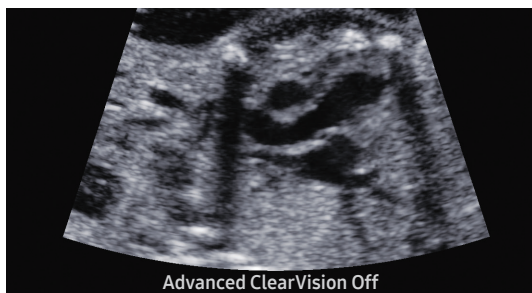
Superb Volume Imaging

Volume imaging is so much more than capturing a beautiful baby's face. Seeing the anatomy in 3D and or 4D provides a more comprehensive understanding of anatomical spatial relationships and rendering techniques like RealisticVue™ and CrystalVue™ continue to evolve to show the tiny details even in first trimester. These new perspectives provide clinicians more information, earlier than ever before, helping identify anomalies and better prepare for surgery and other early interventions.

HDVI™ 2.0

High Definition Volume Imaging (HDVI) 2.0 provides detailed edge definition and exceptional clarity of three dimensional anatomy. HDVI 2.0 is especially useful when visualizing skeletal dysplasia and spinal defects.
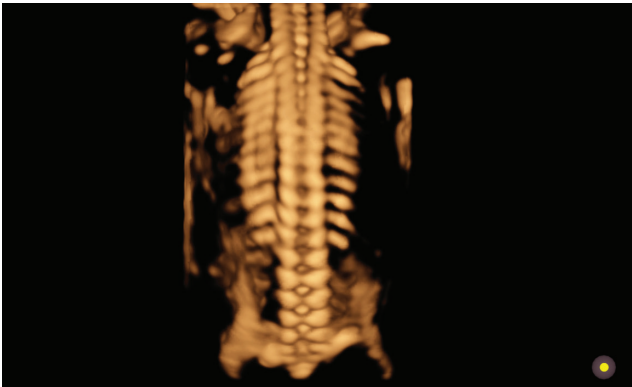
3D Fetal Spine with HDVI™ 2.0
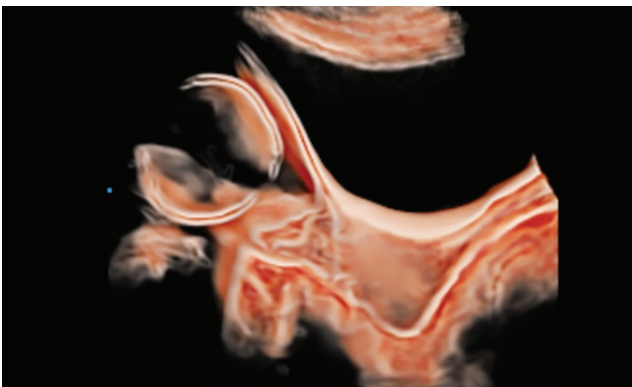
CrystalVue™ Flow™

CrystalVue™ Flow ™, based on Crystal Vue technology, adds vascular structures to the rendered volume for improved spatial precision of hemodynamic flow and morphological information. Providing a more comprehensive view and deeper understanding of relational anatomy with associated vessels.

Umbilical Cord with CrystalVue™ Flow™

CrystalVue™

CrystalVue™ is an advanced volume rendering technology that enhances visualization of both internal and external structures in a single rendered image. The resulting image provides more definitive documentation of skeletal dysplasia, early neural tube defects, as well as first trimester brain development.

Normal tramline sign of the uterine/bladder interface using CrystalVue™

RealisticVue™

RealisticVue™ displays high resolution 3D anatomy with exceptional detail and depth perception. User selectable light source direction creates intricately graduated shadows for better defined anatomical structures. From detailed understanding of complex pathology to patient consultation and education, RealisticVue is a versatile and important tool for effective diagnostics and communication.


3D Fetal Face with RealisticVue™

Hemodynamics, Amplified

Assessing blood flow is an important part of every ultrasound exam performed. Fetal movement or the small size of the structure provide unique challenges to completing your assessment, but without this information, a confident diagnosis cannot be reached. Samsung has introduced two new technologies to help you visualize blood flow; MV-Flow™ and LumiFlow™, technologies that can be used independently or in combination with each other to provide additional insights.

MV-Flow™ is an advanced Doppler technology that provides detailed visualization of microvascular perfusion into tissues and organs. Sophisticated spatial filtering differentiates slow moving blood flow from adjacent tissues for a more confident display of color Doppler hemodynamics. Fetal lung perfusion, ductus venosus and the MCA may be easier to visualize with MV Flow.
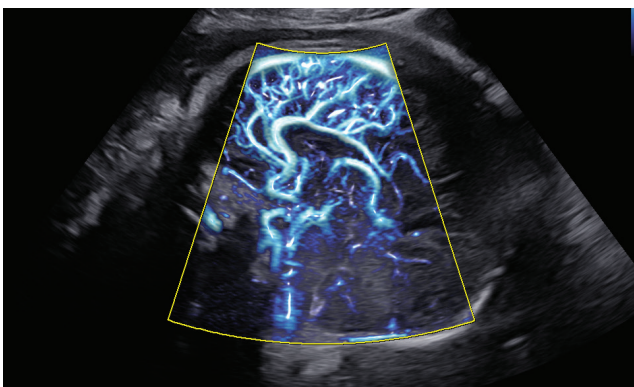
LumiFlow™ provides dimensional visualization of blood flow which aids in quickly understanding vessel boundaries and may provide additional spatial comprehension when documenting vasa previa, placental cord insertion or outflow tracks.
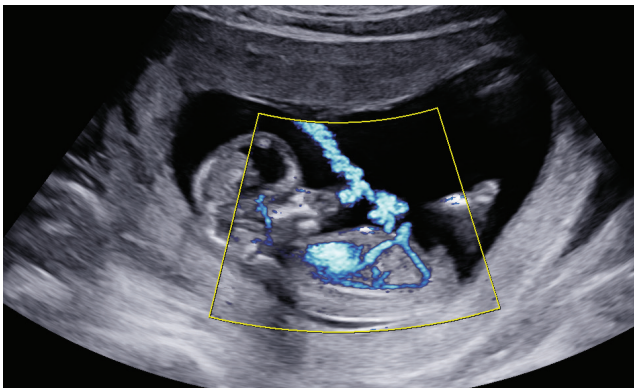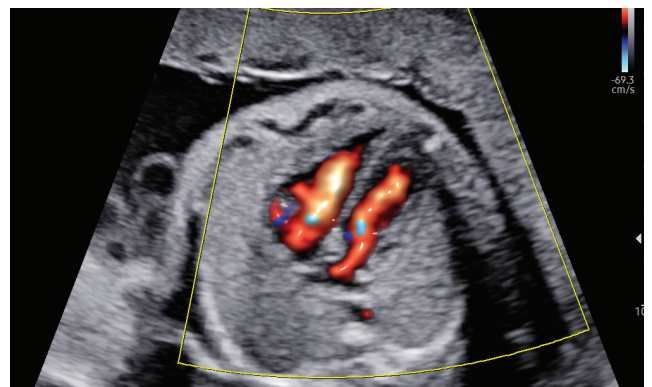

Fetal Circulation with MV Flow™

Liver Vasculature with S-Flow™ and LumiFlow™

Pericallosal Artery with MV Flow™ and LumiFlow™

Fetal Heart with LumiFlow™

Advanced Tools for Confidence and Consistency

Advanced tools can help you see the fetal anatomy in new ways and provide additional information to help you make confident decisions quickly and provide women and the people they care for, calming reassurance. Samsung's innovative technologies not only help provide answers, but they can also add consistency and efficiency to the ultrasound exam.

Biometry Assist™ streamlines routine biometry measurements including BPD, HC, AC, and FL. Biometry Assist enables users to measure fetal growth more quickly and with greater accuracy while maintaining exam consistency.

5D

5D ultrasound helps streamline workflow and enhance reproducibility with a suite of semi-automated tools.

Advanced 5D Heart

5D Heart increases the sensitivity and specificity of ultrasound for the assessment of congenital heart disease. 5D Heart quickly generates the nine recommended fetal echocardiography views for a more thorough sonographic examination of the fetal heart. This enhanced technology includes Auto Fetal Positioning and Predictive Cursor which may help to display the nine views even easier by letting the software do some of the work for you.
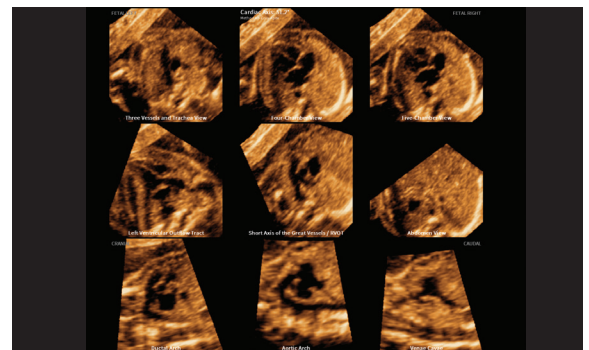

Advanced 5D Heart

5D NT

5D NT automatically locates the mid-sagittal plane from an acquired 3D dataset and measures the maximum NT distance, reducing inter-user variability.
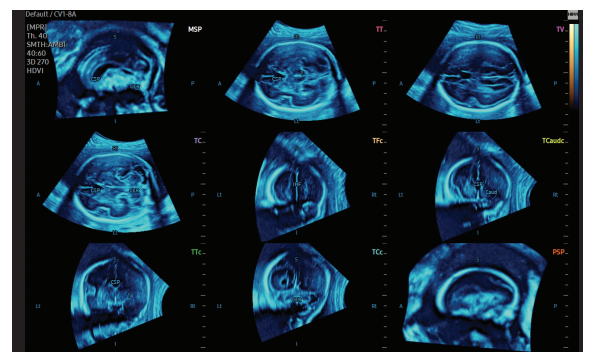
5D CNS+™

5D CNS+™ simplifies the fetal brain assessment by automatically providing nine planes simultaneously with biometric measurements. This innovative tool aids in visualization of intracranial anomalies.

5D Limb Vol.™

5D Limb Vol.™ is a semi-automated tool to estimate fetal weight by quickly and accurately measuring upper arm or thigh volumes from 3 simple seed points on a single volume data set.

5D CNS+™

See More, In Less Time, with Greater Confidence

Samsung offers a wide variety of transducers to fit your unique practice needs and patient population.

Convex Array Transducers

S-Vue Transducer™

CA1-7A
Abdomen, obstetrics, gynecology, contrast

S-Vue Transducer™

CA3-10A
Abdomen, obstetrics, gynecology

S-Vue Transducer™

CA2-9A
Abdomen, obstetrics, gynecology

CF4-9
Pediatric, vascular

Endocavity Transducers

EA2-11AR
Obstetrics, gynecology

EA2-11AV
Obstetrics, gynecology

Linear Array Transducers

L3-12A
Small parts, vascular, musculoskeletal

LA2-9A
Small parts, vascular, musculoskeletal

Phased Array Transducers

PA4-12B
Cardiac, pediatric

PM1-6A
Cardiac, TCD, abdomen

PA3-8B
Cardiac, pediatric, abdomen

Volume Transducers

S-Vue Transducer™

CV1-8A
Abdomen, obstetrics, gynecology

EV2-10A
Obstetrics, gynecology

SonoSync™

SonoSync™ *
SonoSync™ is a real-time image sharing solution that allows collaborative communication for care guidance and training between doctors and sonographers. In addition, voice chatting and real-time marking function are provided for efficient communication, and the MultiVue function is included to monitor multiple ultrasound images on a single screen.
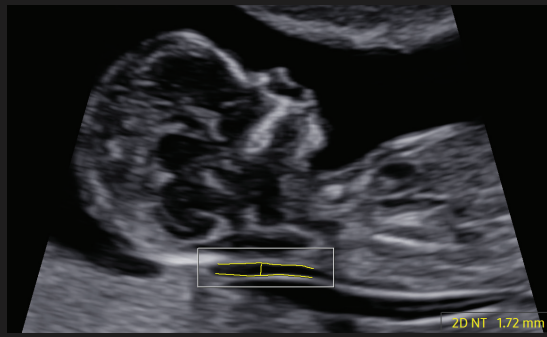
* SonoSync™ is an image sharing solution, not a diagnostic solution.

Ultrasound System

Voice   Video   Marking

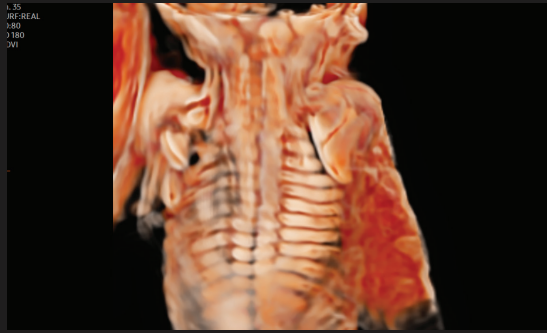Network

PC/Tablet/Smart Phone
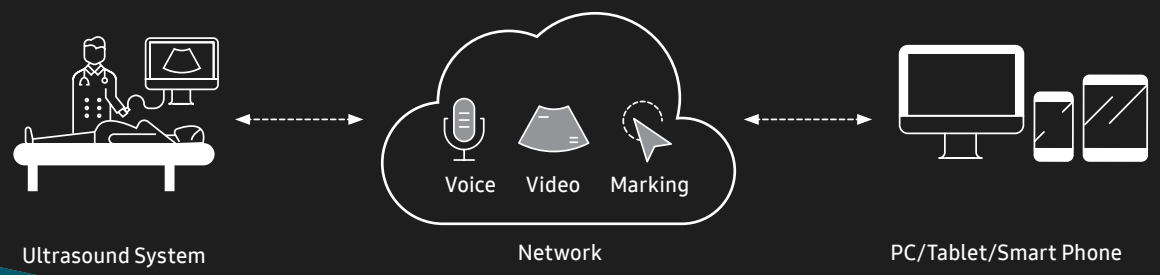
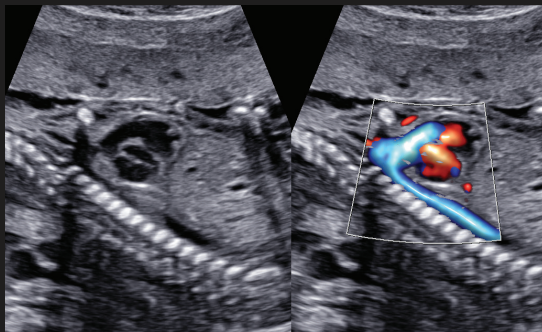3rd trimester fetal face with RealisticVue™

2D NT
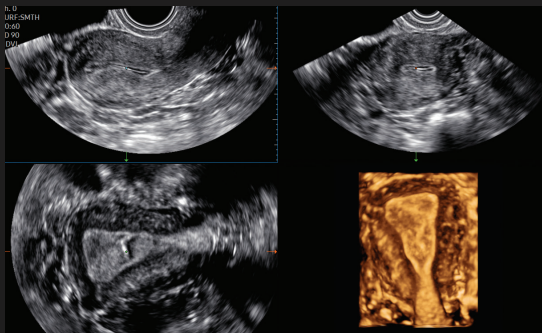

Placental Perfusion with MV flow™
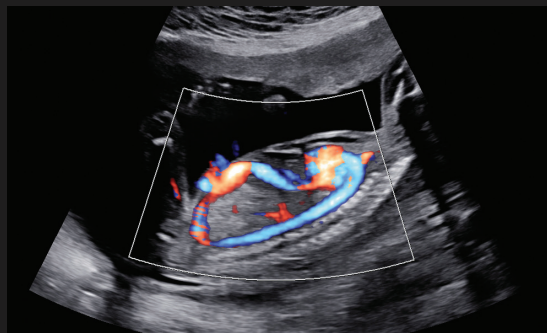

Fetal spine with CrystalView™

Ductal Arch with Dual Live and LumiFlow™

Fetal heart in 4-chamber view

3D MPR of Uterus

Fetal circulation with S-Flow™

Hera I10 IMAGE GALLERY

SAMSUNG

NeuroLogica, the healthcare subsidiary of Samsung Electronics Co., Ltd., develops, manufactures, and markets innovative imaging technologies and is committed to delivering fast, easy and accurate diagnostic solutions to healthcare providers. NeuroLogica, the global corporate headquarters and manufacturer of Samsung computed tomography, is also the US headquarters for sales, marketing and distribution of all Samsung digital radiography and ultrasound systems. NeuroLogica's growing portfolio of advanced medical technologies are used worldwide in leading healthcare institutions helping providers enhance patient care, improve patient satisfaction, and increase workflow efficiency. Samsung is committed to being leaders in the field of healthcare imaging.

Samsung Medison, an affiliate of Samsung Electronics, is a global medical company founded in 1985. With a mission to bring health and well-being to people's lives, the company manufactures diagnostic ultrasound systems around the world across various medical fields. Samsung Medison has commercialized the Live 3D technology in 2001 and since being part of Samsung Electronics in 2011, it is integrating IT, image processing, semiconductor and communication technologies into ultrasound devices for efficient and confident diagnosis

*The built in chair, WMH752 displayed with Hera I10 is an independent product designed to be compatible with the Hera I10.
* This product, features, options and transducers are not commercially available in all countries.
* Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local sales network for further details.
* This product is a medical device, please read the user manual carefully before use.

1 Reducing Risk: Fragala G. Reducing Occupational Risk to Ambulatory Caregivers. Workplace Health Saf. 2016 Sep; 64 (9): 414-9. doi: 10.1177.2165079916642776. Epub 2016 May 12. PMID 27174130

2 Internal study comparing the Hera I10 to WS80A with Elite

3 Evans K, Roll S, Baker J. Work-related musculoskeletal disorders (WRMSDs) among registered diagnostic medical sonographers and vascular technologists: a representative sample. J Diagn Med Sonogr. 2009;25(6):287-299.

4 Occupational Safety and Health Administration (2014). Prevention of work-Related Musculoskeletal Disorders. Retrieved from the United States Department of Labor website: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=4481&p_table=UNIFIED_AGENDA.

5 Mazzola M, Forzoni L, D'Onofrio S, Andreoni G. Use of digital human model for ultrasound system design: A case study to minimize the risk of musculoskeletal disorders. International Journal of Industrial Ergonomics 2016;60:35-46.

6 Muir M, Hrynkow P, Chase R, Boyce D, McLean D. The nature, cause, and extent of occupational musculoskeletal injuries among sonographers: recommendations for treatment and prevention. Journal of Diagnostic Medical Sonography; 2004;20;317-25.

7 Paschoarelli LC, Oliveira AB, Coury HJCG. Assessment of the ergonomic design of diagnostic ultrasound transducers through wrist movements and subjective evaluation. International Journal of Industrial Ergonomics 2008;38:999-1006.