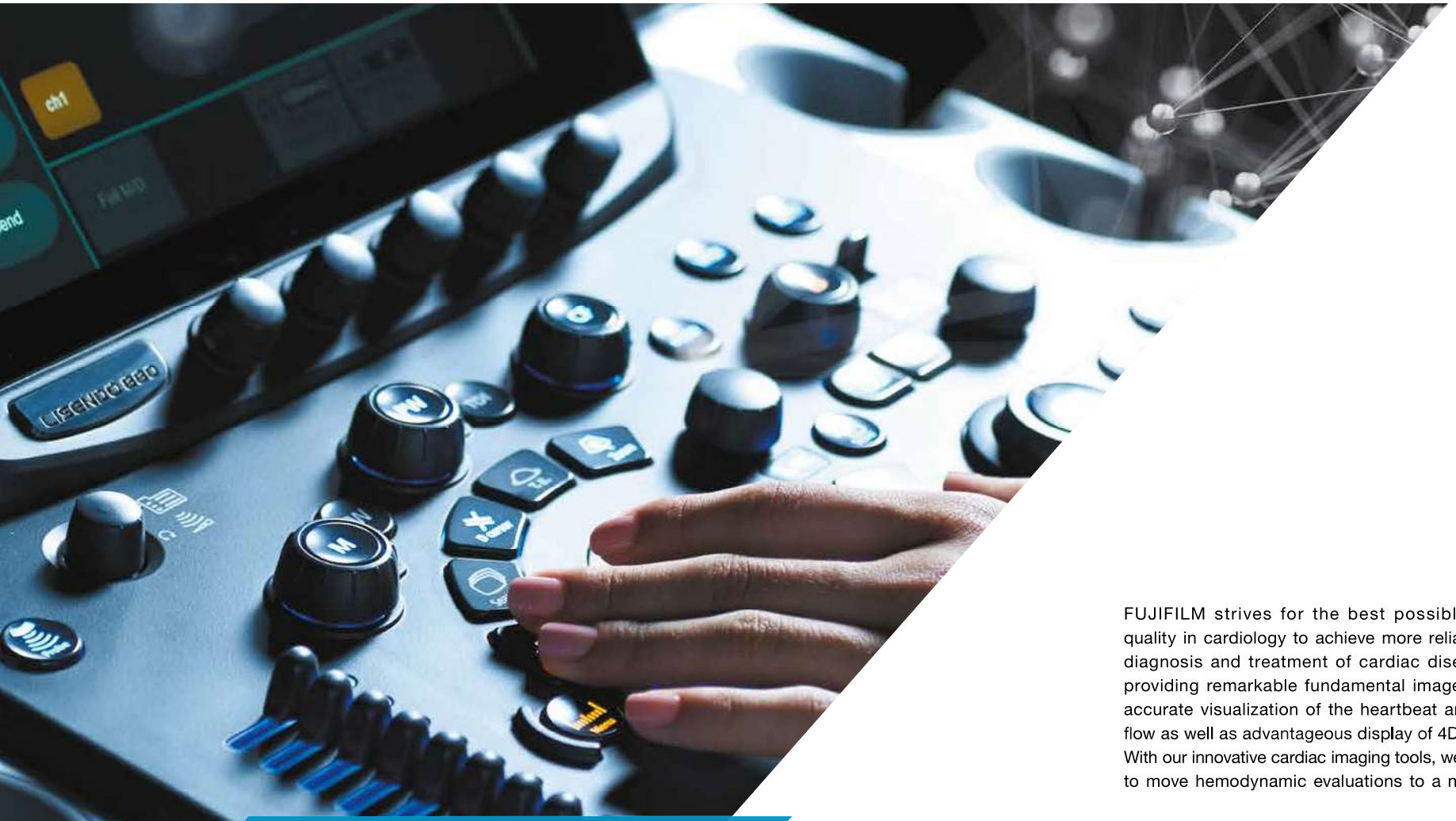
FUJIFILM
Value from Innovation

LISENDO 880LE

REDEFINING THE VISION OF CARDIOVASCULAR ULTRASOUND

the next level in cardiovascular ultrasound imaging



Redefining the Vision of Cardiovascular Ultrasound.

FUJIFILM strives for the best possible image quality in cardiology to achieve more reliability for diagnosis and treatment of cardiac diseases by providing remarkable fundamental image quality, accurate visualization of the heartbeat and blood flow as well as advantageous display of 4D images. With our innovative cardiac imaging tools, we are able to move hemodynamic evaluations to a new level.

Cardiovascular Diagnosis supported by three Innovations.

What do optimum image quality, applications, and operability mean to the cardiologist? These are the definitive challenges FUJIFILM has been continuously addressing since we released the world's first diagnostic ultrasound system. From the complete redesign of platform components and functions, to arrive finally at the three core innovations of LISENDO 880LE: "Pure Image", "Your Application", "Seamless Workflow", meeting your requirements and aspirations for cutting-edge cardiovascular diagnosis.

Pure Image

Attaining the next level of image quality

Technologies fostered by FUJIFILM to hone the high quality "sound" have evolved further, giving life to Pure Symphonic Architecture. The combination of transducer/front-end, variable beam-former, active back-end, and OLED monitor: all technologies work together to realize the highest level of premium class performance.

Your Application

Attaining the next level of diagnostic confidence

LISENDO 880LE performs within an extensive variety of advanced applications that offer support across a broad clinical range. With efficient assistance for rapid and accurate diagnosis, treatment guidance, and research opportunities, FUJIFILM creates new clinical value.

Seamless Workflow

Attaining the next level in operability

The ergonomic design of the LISENDO 880LE minimizes operator fatigue. Supporting seamless workflow, the many easy-to-use functions shorten examination time and provide a more comfortable examination environment. As a result, the patient experience is also improved.

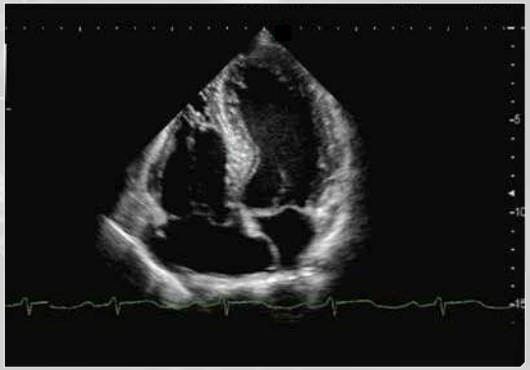
LISENDO 880LE

REDEFINING THE VISION OF CARDIOVASCULAR ULTRASOUND

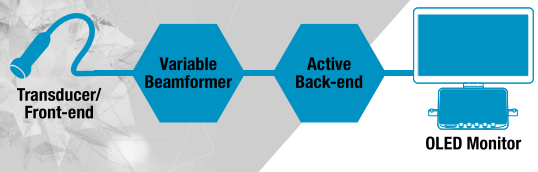
Pure Image

Attaining the next level of image quality

A wide range of essential image adjustment parameters dedicated to optimizing cardiac image quality; a variety of technologies to reduce confounding factors that inhibit signal fidelity such as patient dependent variability; transducers, image processing algorithms, monitor display: FUJIFILM has further refined technologies at every level for LISENDO 880LE. PURE SYMPHONIC ARCHITECTURE providing premium level image clarity for cardiac diagnosis.

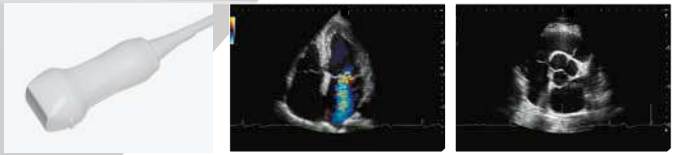


PURE SYMPHONIC ARCHITECTURE



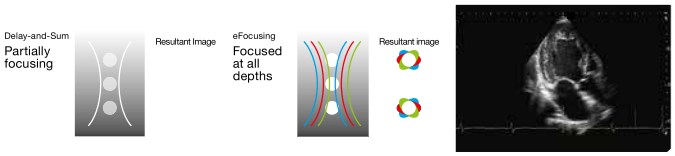
2DTTE Transducer

The phased array transducer has been newly designed to realize the high spatial, temporal and contrast resolution especially required for cardiology. With an improved shape that is comfortable to hold and easily fits in intercostal spaces, it can reduce variable factors such as user skill- and patient disease-dependencies that can inhibit image clarity.



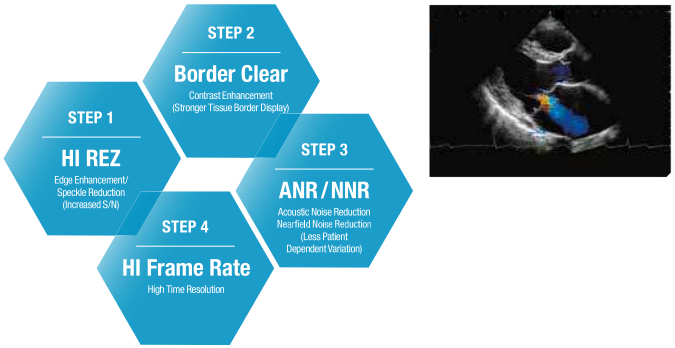
eFocusing

The eFocusing transmission and reception technology newly developed for LISENDO 880LE significantly improves S/N and reduces focal dependency. The outstanding clarity of clinical images is performed from near to far field with excellent penetration at higher frequencies.



Active Back-end

FUJIFILM's unique image processing technologies evolved from former models are further refined for LISENDO 880LE. Combined with the newly developed transducers and eFocusing technology, they deliver imaging with outstanding definition which can be optimized for each user's preference.



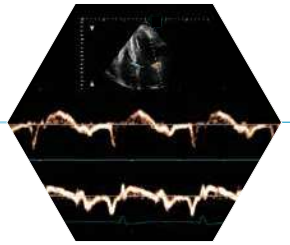
Your Application

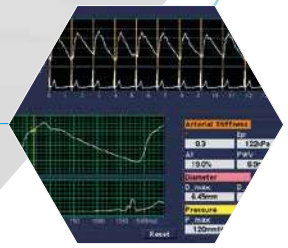
HemoDynamic Analytics

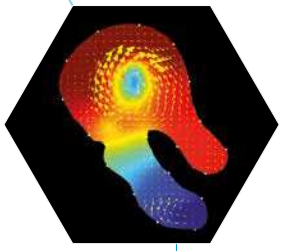
HDAnalytics (HemoDynamic Analytics)
for Heart Failure Diagnosis

Understanding the hemodynamics of the heart is essential when assessing cardiovascular performance. FUJIFILM is the gold standard in hemodynamics and redefines the vision of cardiovascular ultrasound by offering a ground-breaking collection of cardiovascular analytic tools. HDAnalytics provided by LISENDO 880LE is a unique and accurate analysis package for cardiac hemodynamic assessments in your daily practice.

HDAnalytics Package for Heart Failure Diagnosis







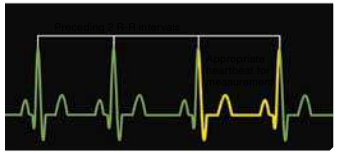
LV eFLOW

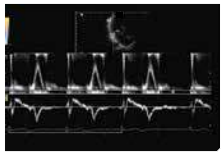
LV eFLOW is a non-invasive, high definition and sensitivity blood flow imaging mode that drastically improves visualization of the endocardial border in the left ventricle.
With technically difficult patients, LV eFLOW may improve time and cost efficiency in the Echo Lab.

iDGD (Dual Gate Doppler) with R-R Navigation

Automatically measure the E/e' value in only 5 seconds (83% time saving compared to LISENDO's manual measurement method)

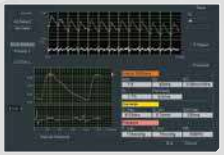
Based on Artificial Intelligence technology, the automatic settings of two separate sample volumes simultaneously provide Doppler waveforms in real time during the same cardiac cycle, eliminating beat-to-beat variations. In addition, R-R Navigation automatically detects appropriate heartbeats for measurement in patients with irregular heartbeats.
Measurements such as the E/e' ratio, isovolumetric contraction and relaxation times as well as evaluation of dyssynchrony in septal and lateral walls can be obtained from the same heartbeat.

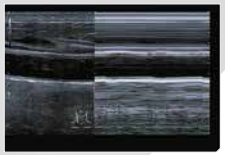




eTRACKING with Wave Intensity (WI)

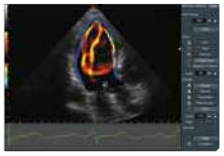
eTRACKING provides multiple parameters, including arterial stiffness, necessary for early-stage detection of atherosclerosis.
In addition, Wave Intensity (ventriculo-arterial coupling) is able to provide information about the dynamic behavior of the heart, the vascular system and their interactions.





VFM (Vector Flow Mapping)

Vector Flow Mapping is a validated application that evaluates blood flow distribution and patterns in the heart in a completely new way. From one loop, flow direction without angle dependency, vorticity, energy loss, wall stress and relative pressure can be identified onboard the system.



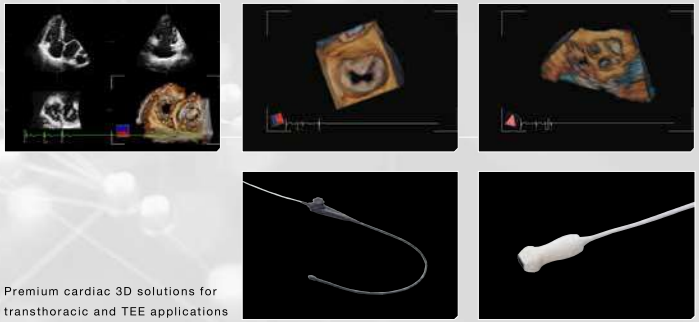
Your Application Cardiac

Attaining the next level of diagnostic confidence

LISENDO 880LE supports multiple easy-to-use advanced application tools that can enhance diagnostic accuracy and offer new clinical value. In specific clinical settings where high precision and rapid diagnosis are a premium requirement, simple steps result in the highest level of performance and effective diagnostic information in cardiology.

Cardiac 3D

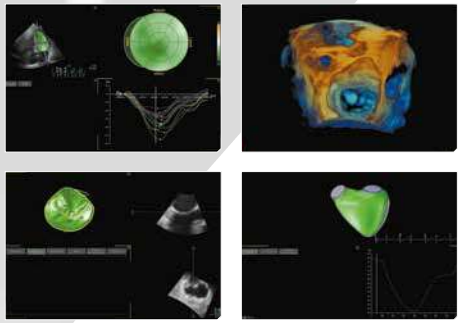
Cardiac 3D is becoming an indispensable part of the cardiac examination. Diagnostic information is attained at the next level for diagnosis and treatment in cardiac disease. Renown Japanese quality is achieved in all aspects of image quality, operability, and functionality.



Premium cardiac 3D solutions for transthoracic and TEE applications

Analysis of Cardiac 3D

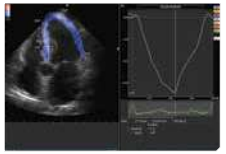
The acquired 3D data can be used for different analysis packages, including valve diameter measurement, 3D morphological observation, volume calculation, and tracking.



Analysis is performed using ASTRELLA CV – Linq.

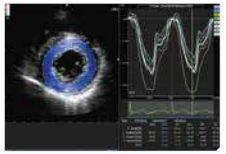
GLS (Global Longitudinal Strain)

Recent interest has been shown in the GLS, the ratio of change in LV endocardium length, which can be altered significantly in patients with heart failure even when a normal Ejection Fraction (EF) is maintained. The enhanced workflow for both the tracing and GLS calculation has significantly reduced the measurement and analysis time, bringing its use into routine examinations.



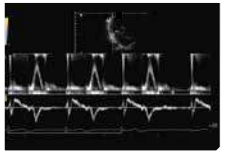
i2DTT

The fully automatic speckle tracking function of LISENDO 880LE provides precise quantification of strain and strain rate for the left and right ventricles and the left atrium to visualize, quantify and analyse regional and global myocardial mechanics. Not only GLS, but also SAX radial strain and ejection fraction measurements in the apical view are available.



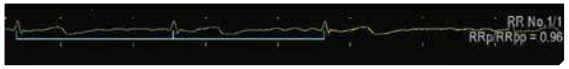
iDGD (Dual Gate Doppler)

Simultaneous analysis from two sample gates is provided by Dual Gate Doppler, including the combination of PW and TDI. This function has special value in the measurement of E/e' and TE-e' for evaluating diastolic performance.



R-R Navigation

By automatically detecting the most accurate and optimum time phases during the examination of arrhythmia, atrial fibrillation, and in other situations, R-R Navigation overcomes former difficulties by choosing an appropriate waveform, to significantly enhance workflow.



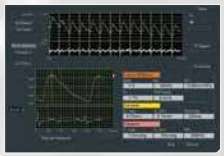
Your Application Vascular

Attaining the next level of diagnostic confidence

Blood pumped from the heart is circulated throughout the body by the blood vessels. Various applications provided by LISENDO 880LE evaluate and display different functional changes of the vessels and blood flow with time, giving a more detailed understanding of the morphology, kinetics, and physiology of the vasculature throughout the body.

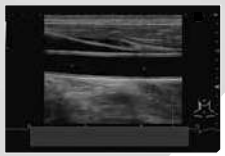
eTRACKING

A gate automatically tracks the time-dependent distension of the vessel, calculating diameter change in real time with high precision. One of the parameters calculated automatically, Stiffness Parameter, provides a key indication of the "stiffness" of the arterial wall with less dependence on the change in blood pressure.



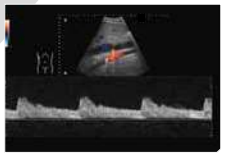
Auto IMT

Automatically detects the Intima-Media Thickness (IMT) following the placement of a ROI on the long axis view of the carotid artery, measuring max and mean IMT according to diagnostic guidelines. By calculating the maximum, minimum, average and Standard Deviation (SD) from all points in the ROI, Auto IMT is expected to improve quantification accuracy.



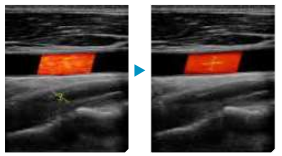
Linear CW

Continuous Wave Doppler mode is available with linear and convex transducers, allowing a fast and accurate evaluation of stenotic blood flow without changing transducers.



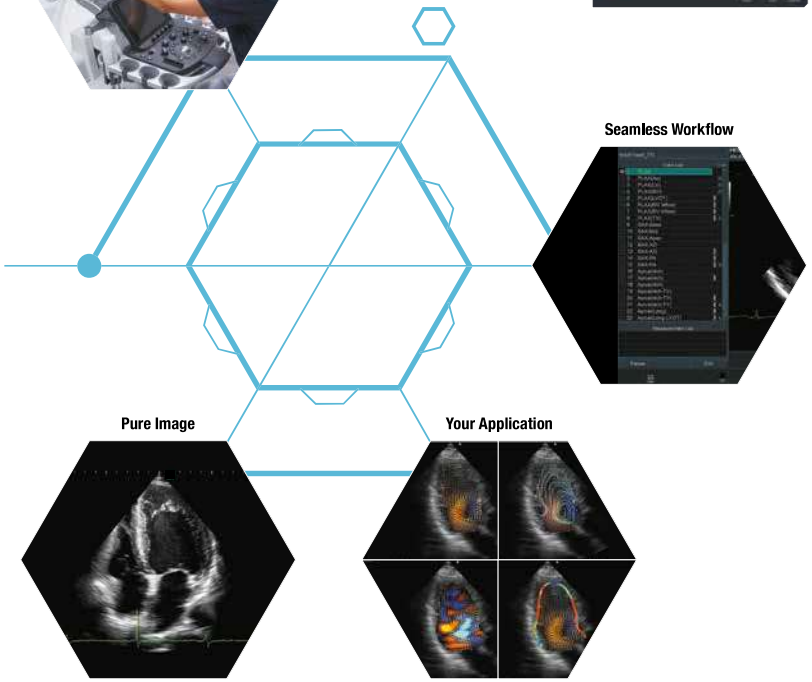
iVascular

Automatically adjusts the ROI position and the settings of sample gate (e.g. position, size, angle, etc.) by single press of a switch in Color and Doppler modes of vessel examinations. It is expected to shorten examination time by reducing the number of operations.



Wave Intensity (WI)

The Wave Intensity (WI) function allows observation of the pulse wave of the vessel, with analysis of the relationship between the systolic function of heart in the early systolic phase to the diastolic function at the end of the systolic phase. This will reflect the stiffness and stenosis of peripheral vessels.



Seamless Workflow

Attaining the next level in operability, using our HemoDynamic Structural Intelligence (HDSI)

LISENDO 880LE is equipped with a sophisticated automatic cardiac function measurement package based on our HDSI (HemoDynamic Structural Intelligence). Using learning data structured by FUJIFILM's big data and Artificial Intelligence (AI) technology, high precision in automated diagnosis can be attained, leading to significant workflow improvements.
Our AI fueled analytics HDSI provides a collection of automated analysis tools of complex cardiac functions to which measurement accuracy has been improved with the addition of a vast knowledge-based data bank. The resultant ease-of-use and exam consistency significantly improve throughput, streamlining workflow. Rapid, accurate examinations in a comfortable environment are realized for both operators and patients, thanks to our smart cardiac measurements.

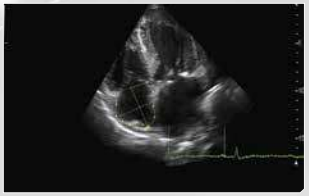
Automated anatomical and structural intelligent measurements and design

- Beat Mode: Automated detection of End Diastolic & End Systolic frames
- Auto LV, LA, and RA Volumes and FAC
- Auto LA/Ao
- Auto EF: in 2D and M-Mode
- Doppler Cursor Assist: Uses AI technology to identify MV flow, AV flow and Annulus placement automatically
- Protocol Assistant: Move through your study protocol efficiently with automated progressions of modes, measurements, and annotations
- Ergonomic Design: Provides maximum scanning comfort and individual user configuration

Fractional Area Change (FAC)

LV Volume (EF)

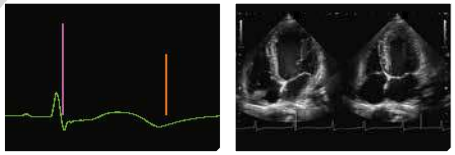
RA Volume



LA Volume

Automated ED-ES Detection

When this function is selected, ED and ES frames are automatically detected and displayed instantly. The combination of automated ED-ES detection and automatic measurement packages offers seamless workflow.



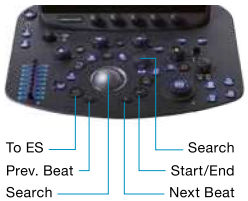
Streamlined Measurement Operation

The measurement menu tree display allows an easiest measure management without looking down at the touch panel. The groupings and orders of measurement protocols can be changed flexibly, which delivers stream-lined workflow.

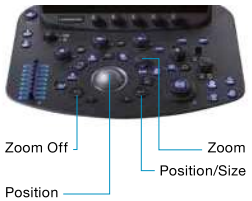
Intuitive Operating Console

The freeze button is located close to the trackball, bringing basic console operations together. Additionally, the core 5-switch arrangement around the trackball streamlines the workflow for intuitive performance of more advanced functions such as Cardiac 3D and cardiac function analysis.

Beat Mode



Zoom



Advanced Cardiac Report

An ASE-compliant measurement package is available. Multiple measurement results are managed with the work sheet display and findings can be entered into a report page which can be exported in PDF format.

LISENDO 880LE

FUJIFILM

Manufactured and distributed by
FUJIFILM Healthcare Corporation
2-1 Shintoyofuta, Kashiwa-shi, Chiba, 277-0804, Japan
www.fujifilm.com/fhc/en

Distributor for Europe
FUJIFILM Healthcare Europe Holding AG
Sumpfstrasse 13, 6312 Steinhausen, Switzerland
www.fujifilm.com/hce

LISENDO 880LE-FF/EU-Version/EN,07/2021/v1/NIK