

See what you've never seen.
Do what you've always planned.

KODEX-EPD system for cardiac imaging and mapping





Discover KODEX-EPD

The KODEX-EPD system is an open platform that works with any qualified EP catheter and uses dielectric imaging to give physicians new insights to guide their interventions. It has been developed to address key unmet needs in EP procedures today. It shows real-time HD imaging, delivering true anatomy, and creates voltage and activation maps.

KODEX-EPD uses dielectric sensing to build anatomy, discriminate cardiac structures, and assess tissue properties. Dielectric imaging creates high-definition 3D images of a patient's cardiac structures in real time, without using ionizing radiation or contrast media. This technology overcomes many limitations of other technologies and offers benefits for both cryo and RF ablation procedures. It has the potential to provide new insights into complex cardiac structures to greatly simplify navigation and therapy delivery. Discover how the KODEX-EPD system can enhance your procedural efficiency and patient care.



See **true anatomy** without radiation



Personalize therapy based on intraprocedural insights



Simplify your workflow for **more efficient procedures**



Optimize your **quality of care**

The KODEX-EPD system provides real-time, high-definition imaging that visualizes true anatomy during EP procedures. No ionizing radiation or contrast medium is required with this technique. These images show variations in cardiac anatomy, including accessory veins that might otherwise be missed using conventional mapping systems.

The PANO shows all relevant structures in one overview to enhance understanding of 3D anatomy, enabling catheter navigation in an intuitive way. It may also assist in distinguishing anatomical nuances like LAA and ridge morphologies. The system does not need a locational reference point, and is free from the limitations of existing magnetic technologies, such as artifacts due to distortions from metal objects in the field.

KODEX-EPD visualizes patient-specific anatomical details with excellent clarity, such as the fossa ovalis, pulmonary veins, LAA and eustachian ridge to allow personalized therapy planning and delivery. It may also assist clinicians in identifying PFOs during cardiac imaging in EP procedures.

Tissue Engagement Viewer uses local dielectric measurements to determine an electrode's engagement with cardiac tissue using any qualified catheter. This is displayed by a simple 'No Touch', 'Touch' and 'High Touch' visualization, ensuring optimal tissue engagement for accurate chamber navigation and optimal electro-anatomical mapping.

The system provides accurate navigation using any standard qualified catheter. In parallel, it creates continuously updated voltage and activation maps to support efficient collection of additional insights and confirm therapy impact.

The KODEX-EPD system supports the Medtronic cryoablation procedure. Dielectric imaging visualizes the pulmonary veins to determine size, shape, trajectory and helps in identifying the location of the ostium using any qualified ablation or mapping catheter, including the Medtronic Achieve™ mapping catheter.

Saline-based occlusion assessment workflow can reduce the need for contrast media when confirming cryo occlusion, which may help improve workflow, reduce the use of fluoroscopy and lessen the impact on renal deficiencies and comorbidities.*

Every aspect of this system is designed to save you time during EP procedures. KODEX-EPD provides detailed 3D anatomy in as little as 3 minutes. The system is easy to set up for fast EP lab turnover and the user interface is very intuitive.

* Data on file

This imaging modality offers many ways to support you in optimizing the quality of care for your patients. The system is an open platform so you can choose your preferred ablation method, like RF or cryo, and use any qualified EP catheter to provide the optimal treatment for each individual patient. KODEX-EPD is compatible with the Medtronic DiamondTemp™ ablation system.

Dielectric imaging does not use ionizing radiation and contributes to reducing the overall X-ray exposure to patients and staff. This technique is patient friendly as it uses no contrast medium and reduces the need for pre-procedural CT/MRI images.

During Medtronic cryoballoon ablation procedures, the KODEX-EPD system with its Occlusion Viewer provides an assessment of pulmonary vein occlusion, reducing the dependency on X-ray, by utilizing dielectric sensing with the Medtronic Achieve™ mapping catheter.¹

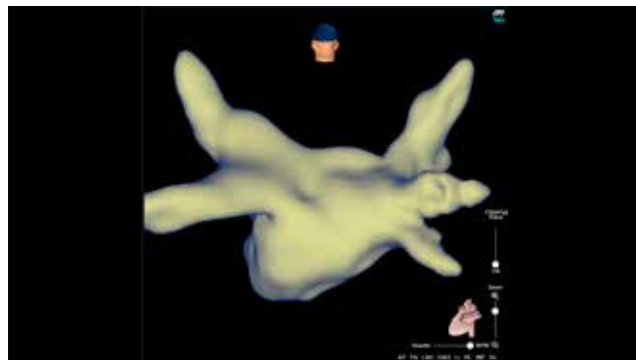


Figure 1: Left atrial anatomy posterior 3D image



Figure 3: Tissue Engagement Viewer enabled in a conventional ablation catheter during navigation in a left atrium anatomy.

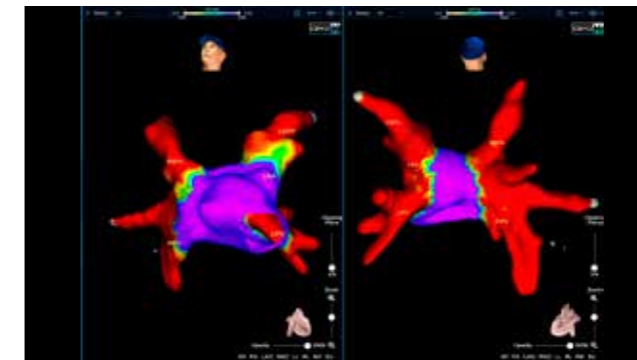


Figure 5: Voltage mapping in a left atrial anatomy.

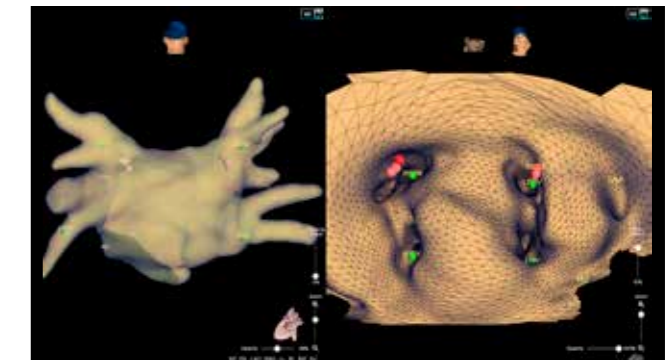


Figure 7: Left atrial anatomy imaged with Medtronic DiamondTemp™ ablation catheter.

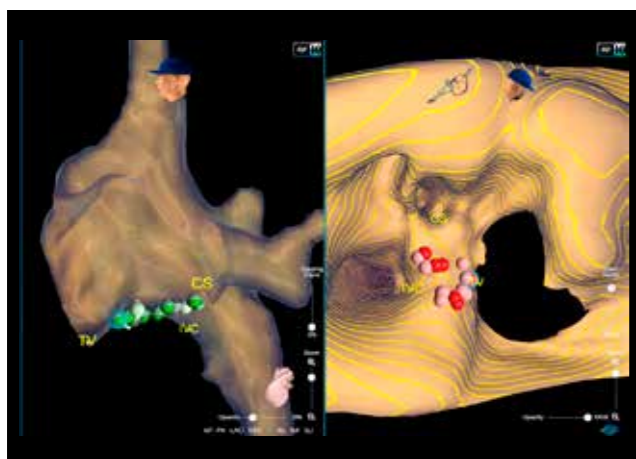


Figure 2: Right atrium 3D and PANO showing cavotricuspid isthmus ablation line.

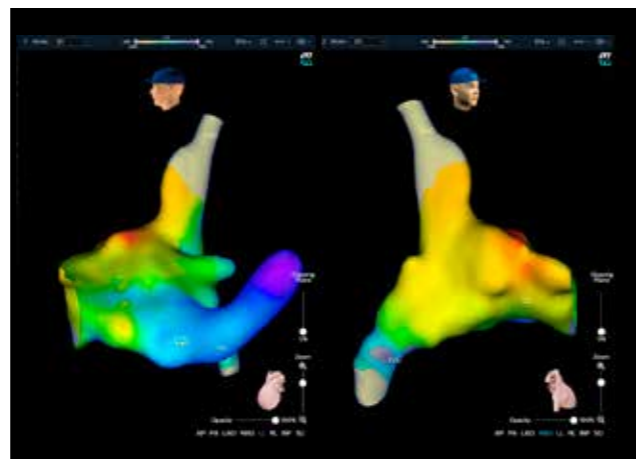


Figure 4: LAT mapping in a right atrial anatomy.

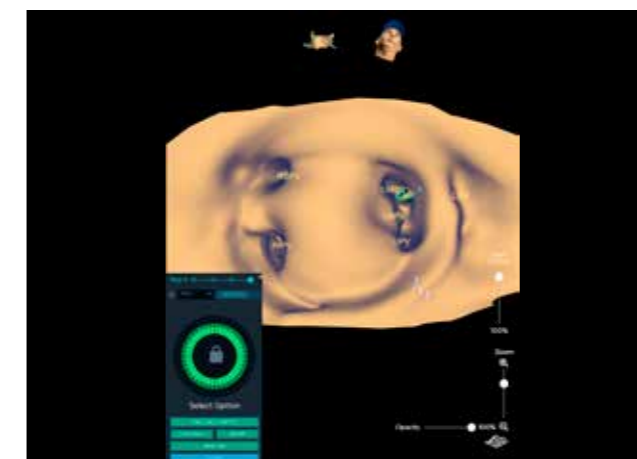


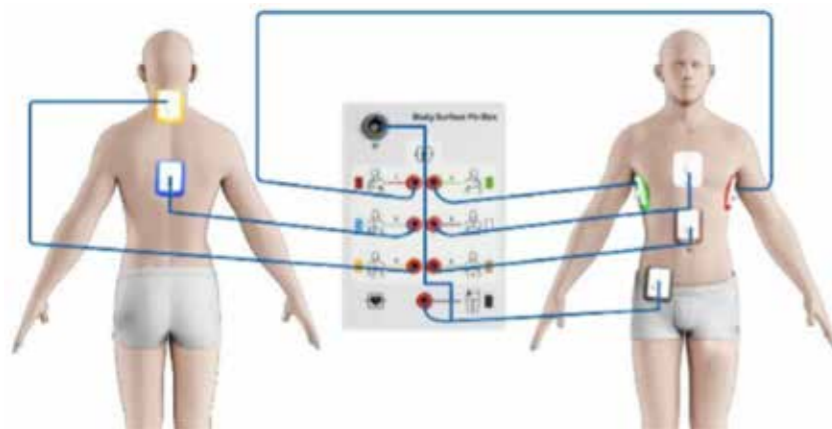
Figure 6: Saline-based occlusion assessment workflow provides an accurate indication of PV occlusion, with minimal contrast dye, during cryo procedures.



Figure 8: Dissipation Waveform Graph showing occlusion assessment result with injection workflow.

Specifications

KODEX-EPD processing unit	Dimensions (HxWxD)	47 cm x 45 cm x 24 cm (18.5" x 17.7" x 9.4")
	Weight	16 kg (35.3 lb)
	Power inputs	100-240 VAC 2.0/1.0A 50-60 Hz
KODEX-EPD workstation: Dell Precision 5820	Dimensions (HxWxD)	42 cm x 18 cm x 52 cm (16.5" x 7.1" x 20.5")
	Weight	15.4 kg (34 lb)
	Power inputs	950 W 100-240 VAC, 50-60 Hz



KODEX-EPD Dielectric Sensors used for each procedure

For more information about the procedure, indications, contraindications, warnings and cautions, refer to the KODEX-EPD user manual or contact EPD Solutions, a Philips company.

Clinical images courtesies

Figure 1 and 8: Dr. Johnson, Baptist Memorial Hospital, Memphis, TX, US
 Figure 2: Dr. Oholi Tovia-Brodie, Hadassah University Hospital, Jerusalem, Israel
 Figure 3 and 7: Dr. Rillig, Universitäres Herz- und Gefäßzentrum UKE, Hamburg, Germany
 Figure 4 and 5: Dr. Moshe Rav-Acha, Sharee Zedek Medical Center, Jerusalem, Israel
 Figure 6: Dr. Jean-Manuel Herzet, Hôpital de la Citadelle, Liège, Belgium

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