



Premier Cath Lab

Where Vision Meets Precision

Why Choose Innvolution Healthcare?

Innvolution Healthcare was founded in 2010 by a group of highly accomplished leaders in the medical device industry, with a combined experience of over 100 years in Cardiovascular Devices. Innvolution is India's second-largest Cath Lab selling company with best-in-class solutions for the treatment of Cardiovascular Disease.

Drug Eluting Stents, Balloon Catheters and Guidewires are part of the Cardiovascular Devices Portfolio, while the multiple award-winning and fastest-growing Cath Lab Pinnacle and Premier is part of the Imaging Solutions Portfolio.

Innvolution, with its deep-rooted history and connection to VJ Technologies, a prominent player in Nondestructive Testing, X-ray Source and Nuclear technologies, along with ex-Alpha Group, known for spearheading Asia's inaugural Cath Lab outside Japan in 2004 and the first DSA in 2006 before its merger with Philips in the Netherlands, collaboratively established "IITPL," a successful partnership aimed at creating acclaimed Cath Labs.

Innvolution is a research-focused entity celebrated for its many groundbreaking accomplishments.



Proven Track Record



Innvolution Cath Lab isn't just a choice; it's a recognized leader. With accolades like 'The Fastest Growing Cath Lab of India in 2018–2019 and Asia's most awarded Cath lab company with 14 National and International Awards, our achievements reflect our dedication to excellence.

Unmatched Customer Satisfaction



At Innvolution, our focus goes beyond technology; we prioritize customer satisfaction. With an impressive **89% customer satisfaction** rate, we take pride in being a trusted partner for a seamless experience.

Reliability at its Best



Our commitment to your success is unwavering. Since our inception, we have experienced less than **48 hours of downtime** at any installation, ensuring that you operate smoothly without interruption.

Global Impact



Our solutions have earned the trust of healthcare providers on a global scale and we have a strategic initiative to expand into 20 countries across Southeast Asia, Western Europe, Latin America, Africa and the Middle East. Innvolution is deeply committed to improving the lives of countless cardiac patients every day.

Innovate with Confidence



Innvolution's R&D initiatives focus on Drug Eluting Balloon, Tele-echocardiography, Live QCA, Dynamic Coronary Roadmap, Virtual-FFR and 3D rendering of the entire coronary tree. These efforts will pave the way for a future where innovation, expertise, and patient-centric care converge.

Our Awards



2023 Best Practices Award

Indian International Imaging
Company of the Year Award

FROST & SULLIVAN

India Medical Device Company of the Year 2020

Department of Pharmaceuticals,
Government of India



Good Design Award 2019

Ministry of Commerce, Japan



National Innovation Award - TDB

President of India



Top 25 Innovative Companies of India 2019

Confederation of Indian Industry (CII)



India Design Mark

India Design Council



Design Excellence Award

Confederation of Indian Industry (CII)



R & D Company of the Year

Indian Chamber of Commerce



Our Happy Cath Lab Customers





Key Features



Advanced Imaging
with a high-frequency 100kW X-ray generator and an advanced 3 MHU grid controlled liquid metal bearing tube for exceptional imaging quality.



ASPIRE™ Algorithms
empowering high-speed noise reduction and achieving the sharpest image quality



Versatile Table Functionality
offering comprehensive head-to-toe coverage, table swivel movement and achieving minimal table height



Unique Upgrade Capability
without necessitating a full system overhaul



Seamless Software Integration
with Stent Clarity - QCA, IVUS, OCT, Live QCA and vFFR



Monitor Flexibility
with a ceiling-suspended monitor for 330-degree rotation



Enhanced Image Acquisition
with real-time high-resolution imaging and low-dose fluoroscopy recording



Dual-Level Anticollision System
ensuring patient and healthcare personnel safety



Comprehensive Monitoring
with large displays, multiple views and integrated monitoring



Post Processing Tools
for image inversion, flipping, clarity adjustment and magnification modes



Digital Subtraction Angiography
Integrated with peak opacification, landmarking, pixel shift, and roadmap



Stent Enhancement Tools
for precision enhancement, substantial time reduction and real-time adjustments



Enhanced Safety & Customizable Angulation
with ergonomic design and user-friendly controls. L-arm movement upto 240° and C-arm angulation of 120° (LAO/RAO) and 55° (CRA/CAU)



Comprehensive Patient Coverage
for cardiovascular, neurovascular, and peripheral vascular interventions



Comprehensive Solutions
for ventricular assessment, vessel analysis, integrated ultrasound guidance, live QCA and TAVI planning



The Premier Cath Lab, harnesses the synergy between our cutting-edge technology and your skilled hands. The seamless collaboration between you and our state-of-the-art technology re-enforces precise diagnosis, enhanced safety, and versatility in tackling of complex cardiovascular scenarios.

Comprehensive Confident Care



Assured Precision for Optimal Results

Full patient - body coverage for accurate diagnosis and treatment of complex cardiovascular, neurovascular and peripheral vascular conditions.

Enhanced medical imaging for accurate diagnosis and improved visualization of anatomical structures.

Optimized decision-making through Advanced Image Acquisition, Real-time Image Processing & Advanced Imaging Tools.

Versatile mechanical movements for optimal imaging angles, for improved patient care and clinical outcomes.



Confidence with Safety

Ergonomic design and user-friendly control

- For longer interventions, without compromising patient comfort and safety
- Focusing on reducing physical strain, discomfort and fatigue

Two layer anti collision system with sensors around the tube and detector side to mitigate patient risks.

Parallel lead shutters and multi - beam Filters for safer environment to patients and healthcare professionals.



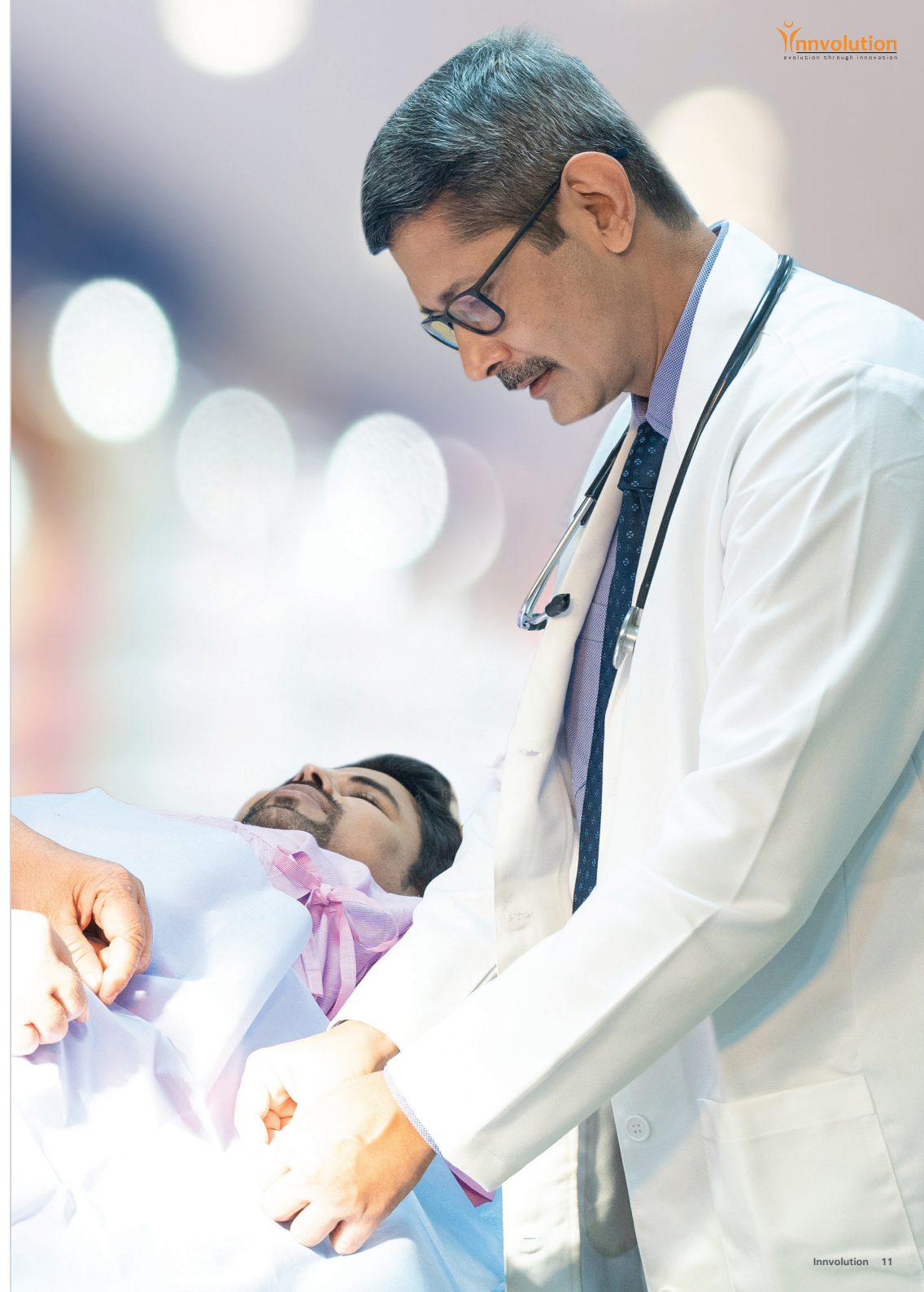
Confidence with Versatility

Optimum space and positioning for cardiac, neuro and peripheral treatments.

Multi-angle imaging to diagnose complex conditions, plan interventions and ensure accurate device placements.

Enhanced adaptability through upgrade opportunities without overhauling the entire system.

Seamless integration with Intravascular Ultrasound (IVUS), Optical Coherence Tomography (OCT) and Virtual Fractional Flow Reserve (vFFR) as a comprehensive toolkit.

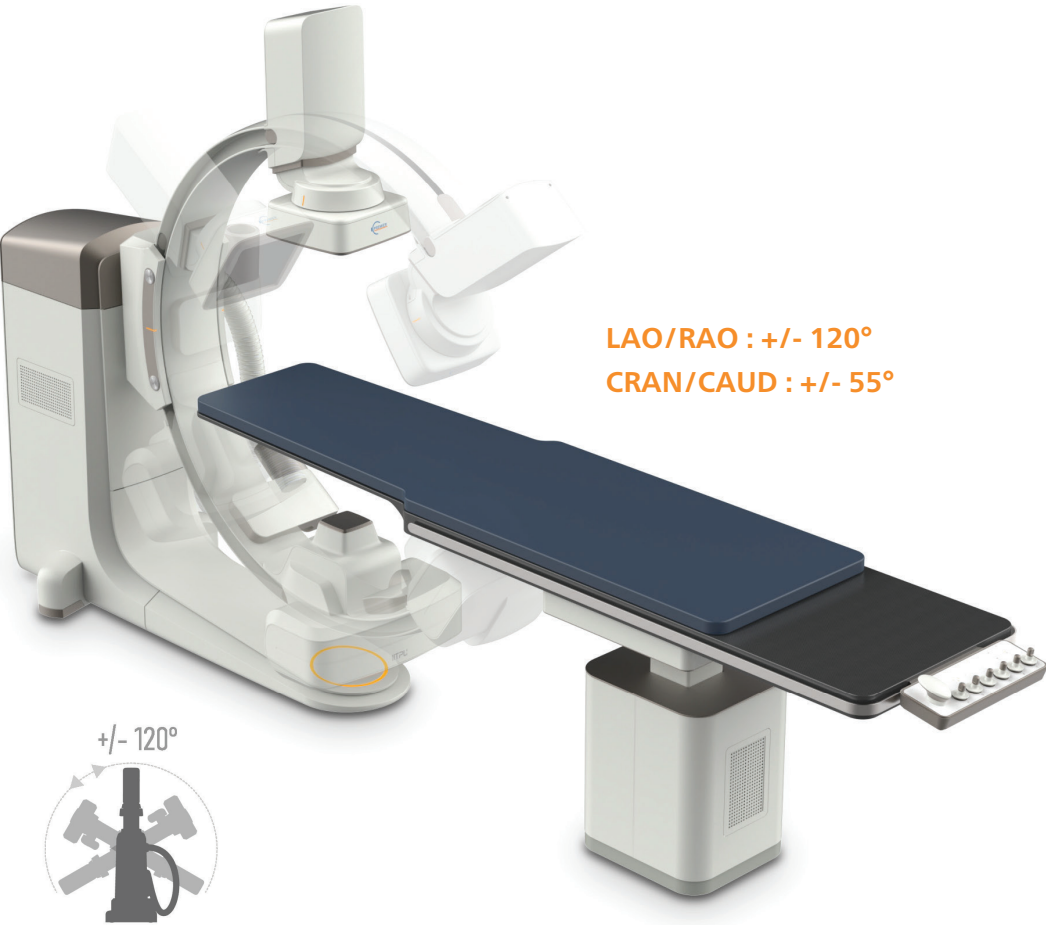


Confidence with Precision

Enhanced Diagnosis with Comprehensive Patient Coverage

Premier Elite's Adaptable Technology Ensures

- | | | |
|--------------------|--|--|
| Full-body coverage | Accurate diagnosis and treatment of complex conditions | Improved clinical decisions and optimized treatment strategies |
|--------------------|--|--|



Better Diagnosis with Enhanced Visualization

With High Frequency X-ray Generator and Liquid Metal Bearing Tube

Clinical Aspects

Specifications

High-quality X-ray imaging

- Max. output of 100 kW for 0.1 seconds
- Real time imaging upto 25 fps
- Max. current of 1000 mA for continuous sequences
- 3MHU Grid Controlled Liquid Metal Bearing Technology
- X-ray tube with 8.5-degree anode angle operating at 10,000 rpm

Clear images with minimized radiation exposure

- Adjustable voltage range of 40-125 kV
- Current range of 10-130 mA for dynamic fluoroscopy
- Dual-focus feature with choices of 0.4mm and 0.8mm, for focal spot selection

Digital auto dose rate control

- Adjustment of dose rate

Features of Tube Collimator

Preview Collimation

Fine-tunes collimation settings, to enhance image quality and control radiation exposure

Cardiac Soft Collimation

Empowers healthcare professionals to capture Precise images



Confidence with Safety



**Safer Extended
Interventional
Procedures**



**Optimized Ergonomic
Design for Better
Outcomes**



**Enhancing Patient
Safety with Two-Layer
Anti-Collision
Protection**



Radiation Safety Enhancements in X-ray Technology

Within the realm of radiation safety, Premier Cath Lab incorporates advanced features in its X-ray technology to safeguard patients and healthcare professionals.

Multi - Beam Filters (MBF)

MBF is an innovative feature designed to optimize image quality and control radiation exposure

ASPIRE™

Sharp clinical images at the lowest radiation dose designed for patients and healthcare personnel safety

Dynamic Lead Shutters

These intelligent shutters automatically adapt to the Source-to-Image Distance (SID), effectively reducing scatter dose and enhancing patient safety during interventional procedures

Confidence with Versatility



Improved Flexibility through Dynamic Motion

Premier Cath Lab's table features offer unrivaled versatility. With a table pivot movement of $\pm 90^\circ$, healthcare personnel can perform vascular hybrid cases including coronary angiography, angioplasty, stent placement, valve interventions and more, with ease. The table's sweep provides seamless head-to-toe coverage for peripheral vascular, neurovascular, cardiac and lower extremity interventions.

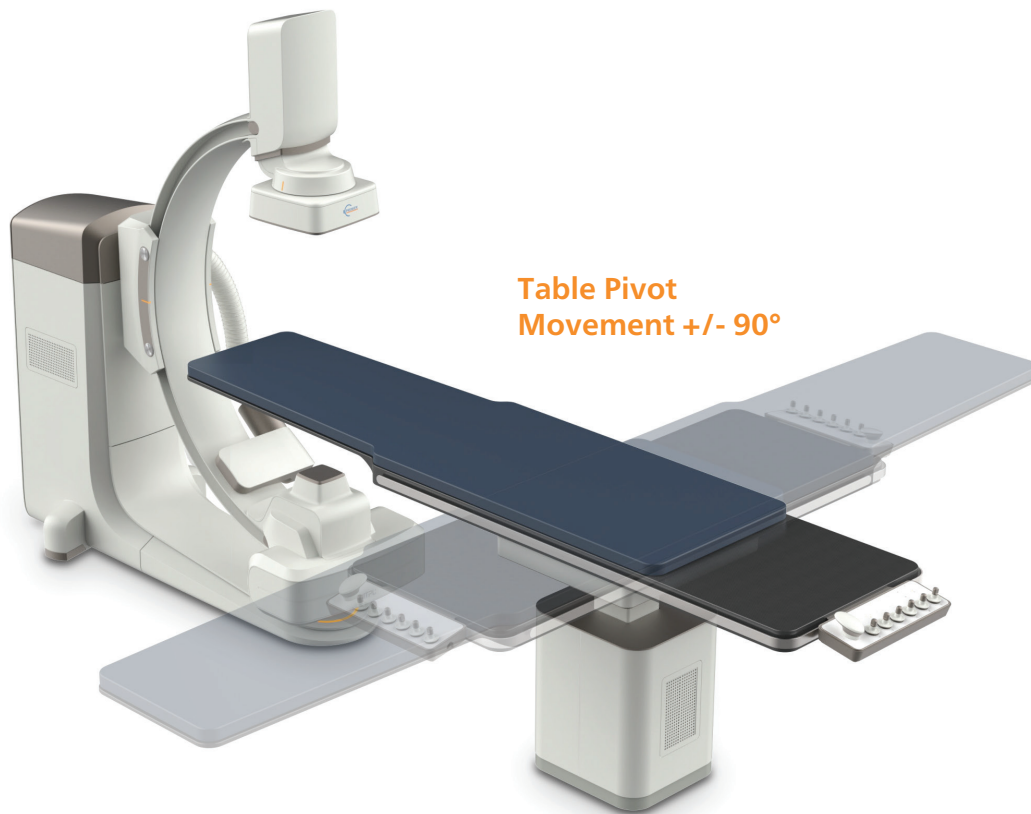
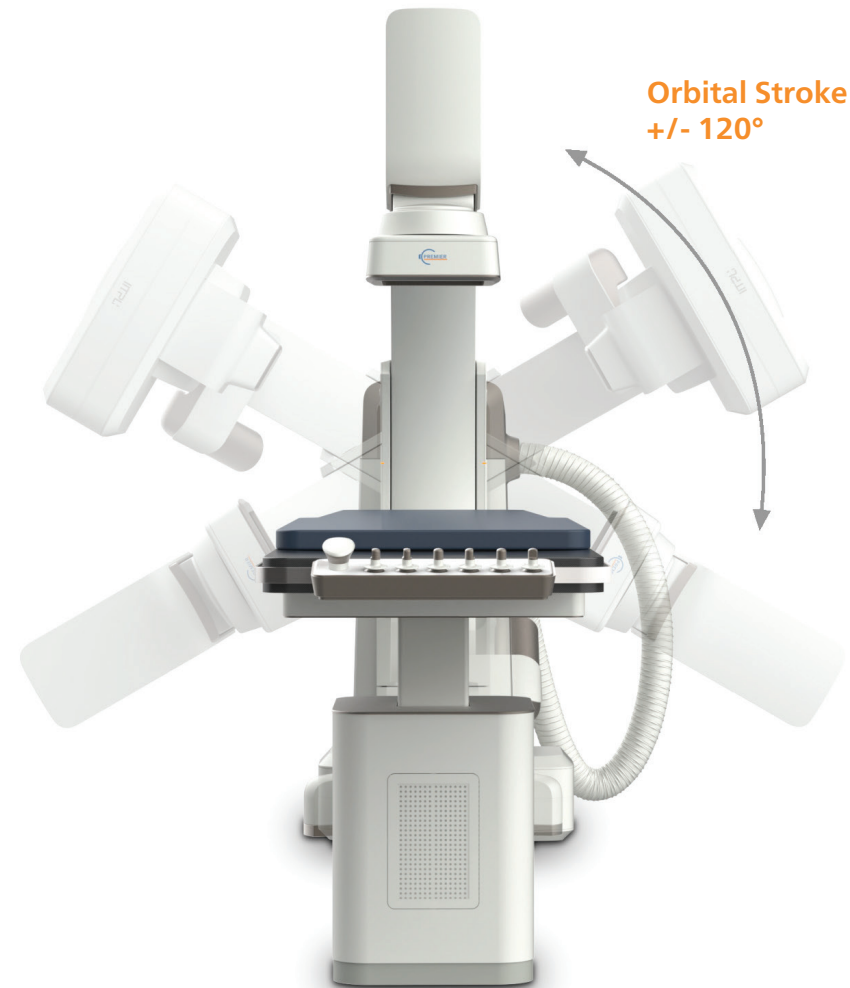


Table Pivot
Movement $\pm 90^\circ$

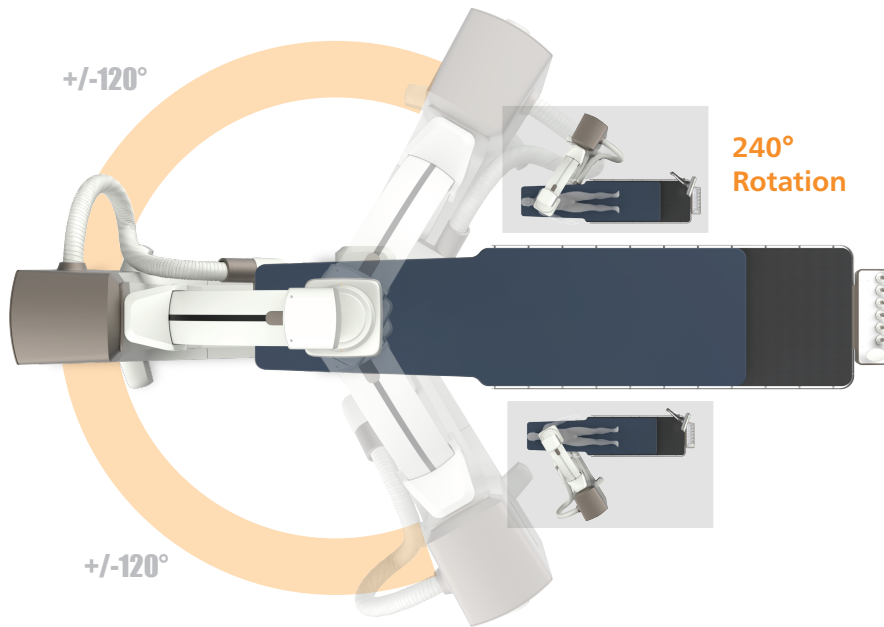
Premier Cath Lab's commitment to unify diverse diagnostic modalities showcases our dedication to delivering the most advanced cardiac care solutions available.



Orbital Stroke
 $\pm 120^\circ$

Versatility through Flexibility

Our floor-mounted single-plane cath lab offers a rotation of $\pm 120^\circ$. This setup optimizes space efficiently and accommodates a wide range of procedures, including those related to cardiac, neuro and peripheral vascular interventions, even at deeper angles. Additionally, it facilitates the smooth implantation of arrhythmia-related devices. Further flexibility comes from the CRAN/CAUD angulations allowing precise adjustments in cranial and caudal directions.



Optimal Imaging Angles through Precise Mechanical Movements

The mechanical movements in the Premier Cath Lab refer to the intricate system of motorized components and sophisticated machinery that allow for precise positioning and angulation of the imaging equipment, crucial during cardiac catheterization and other interventional procedures. Here's how the versatile mechanical movements contribute to optimal imaging angles:

Customizable Angulation for Precise Imaging

Gantry Rotation:
240 deg

C-arm angulations:

LAO/RAO:
+/- 120 deg

RAN/CAUD:
+/- 55 deg

With 240 Degree Rotation

Provides unmatched space optimization, enabling a wide range of cardiac, neurovascular and peripheral vascular procedures at deeper angles. It also offers ease of implantation for all arrhythmia-related devices.

With Dynamic Imaging

Visualize the catheter's movement and its interaction with the blood vessels and cardiac structures in real-time

With Enhanced Precision

Accuracy of interventions is exemplified by targeting specific areas more effectively reducing the risk of unnecessary damage to surrounding tissues

With Reduced Patient Exposure

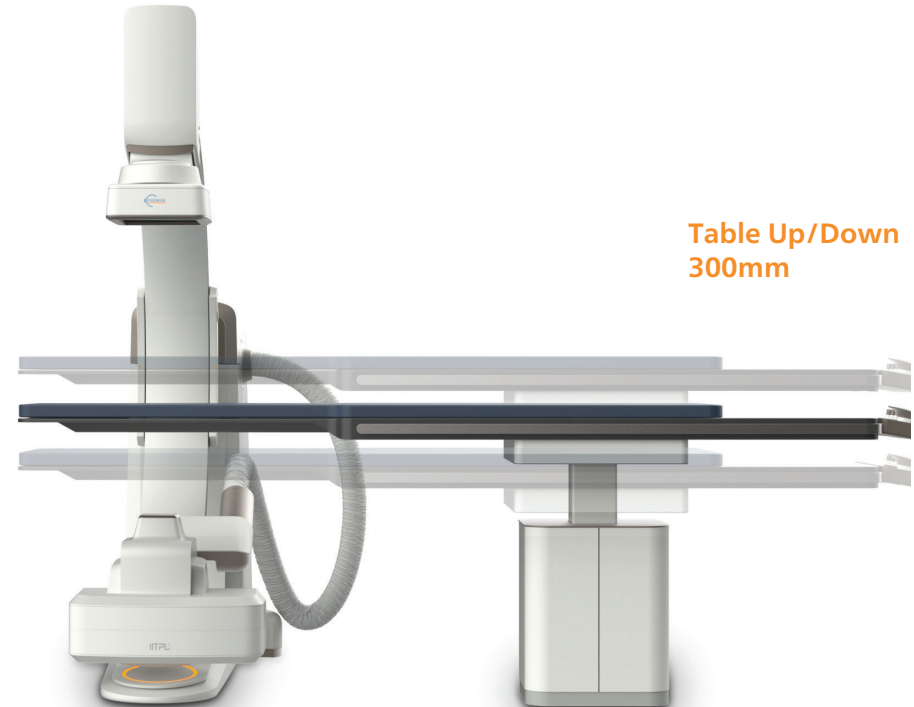
Optimize imaging angles to reduce the need for repeated imaging shoots, thus lowering the overall radiation exposure

With Enhanced C-arm speed

Up to 25 degrees per second, minimize procedure time for efficient procedures

With Lower Table Height

Avoid the need for a patient trolley to assist in sitting up & dismounting.





Optimized Decision-Making through Advanced Imaging

Real Time Image Processing

Premier Cath Lab is equipped with advanced image processing software to ensure:

Real-time image capturing and storage

High resolution display (1344 x 1344)

Anatomical details with precision and accuracy

CINE Recording

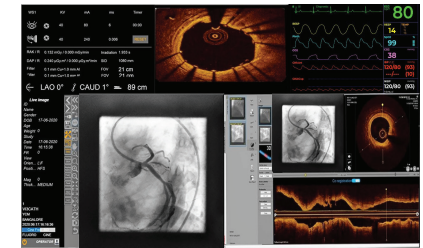
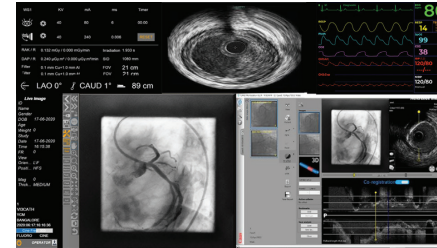
Capability of upto 3-25 frames per second (FPS)

Real time capture and preservation for analysis

Enhanced clinical decision-making



Integrated MPM (Multi Para Monitor)



Cine, fluoro, DSA, road map and stent view display onto a single 43" monitor

Live QCA, vFFR, IVUS/OCT Coregistration on a single monitor enhances workflow efficiency

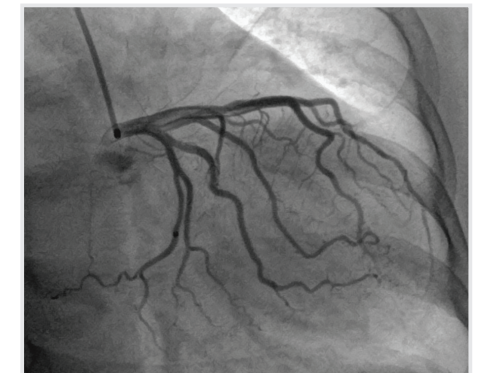
Better data visualization and decision-making

43" Live Display Monitor

High resolution display with a 43" Live Display Monitor

Superior visualization and comprehensive analysis of various imaging modalities and patient parameters

Multi-view functionality for simultaneous visualization in 4K resolution



Real-time Radiation Dose Display

- Real-time display of DAP readings, irradiation time and RAK values
- Precise control over radiation exposure
- Contributes to a more secure and efficient clinical environment



Virtual Fractional Flow Reserve (vFFR)

vFFR is a less invasive angio-derived FFR calculation method. Without the need of adenosine and pressure wire achieving 94% correlation with invasive FFR measurements to enhance procedural efficiency and patient care.



Enhanced Detectors with Generous Imaging Area

Advanced detectors to enhance imaging capabilities for precise visualization of intricate structures with a distance setting and a large imaging area, handling complex procedures becomes easier to manage.

Tab-based User Interface

- Industrial-grade tablet for entire workflow
- Managing display screen and image processing features
- User-friendly UI





ASPIRE™ (ADVANCED SUPERCOMPUTING BASED PINNACLE IMAGE RESOLUTION) Algorithms

Premier Cath Lab incorporates ASPIRE™ (ADVANCED SUPERCOMPUTING BASED PINNACLE IMAGE RESOLUTION) proprietary supercomputing algorithms, for sharp clinical images at the lowest radiation dose designed for patients and healthcare personnel's safety.

Digital Subtraction Angiography (DSA)

Peak Opacification

Visualize the peak opacification of vessels

Mask Overlay

Enhancing the visibility of blood vessels and structures of interest in DSA images

Roadmap

Find and track important interventional devices

Pixel Shift

Image adjustment for best quality view

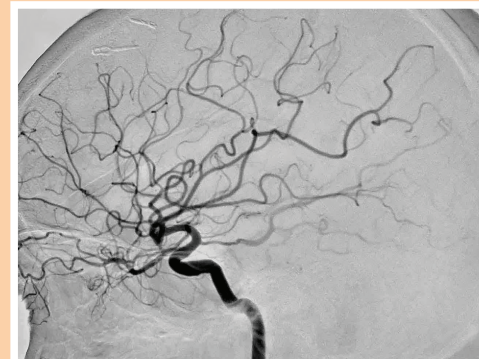
Image Processing Metrics

Real-time Path Map enables precise guidance for catheter movement during procedures, ensuring optimal accuracy and procedural success.

Adjustable Visibility not only enhances visualization but also contributes to streamlined guidance, allowing one to navigate intricate pathways with efficiency.

Stent Noise Reduction facilitates a clear and steady stent's view and reduces movement blurriness during procedures.

Customizable Image Settings expedite imaging processes and allows personalized configuration for the specific procedures. It streamlines the workflow, ensuring precision and efficiency throughout a range of interventions.





Better Stent Placement outcomes

Premier Cath Lab's innovative stent enhancement tool is transforming stent placement procedures, helping healthcare professionals achieve better outcomes in less time.

Integrated Foot Pedal

- Enables seamless work with our smart software
- Visualize vital insights for accurate stent placement in real-time

Stent Enhancement Tool

- Ensures streamlined stent placement
- Leads to shorter procedures and better workflow efficiency

Real-Time Stent Enhancement

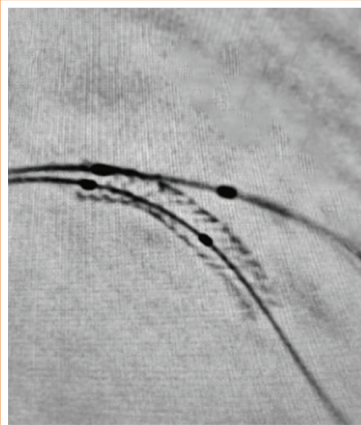
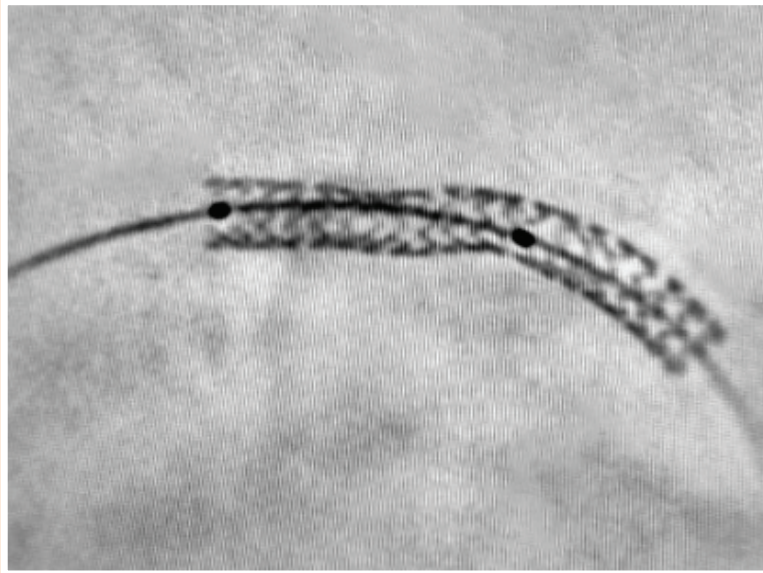
- Procedure time of 3 to 5 seconds
- Enables instant enhancement of stent visualization during procedures

Online Stent Enhancement

- Enables online stent enhancement procedure in 8 to 12 seconds with 40 Cine frames
- Access enhanced stent images for post-procedural analysis

Offline Stent Enhancement

- Procedure time of 12 to 15 seconds
- Enhances stent visualization during offline review and analysis





Additional Key Software Features (Optional)

Live Quantitative Coronary Analysis

AI powered real-time QCA helps in automated vessel segmentation, lesion analysis, stent recommendation, automated vessel classification

Virtual Fractional Flow Reserve

vFFR is a less invasive angio-derived FFR calculation method. Without the need of adenosine and pressure wire achieving 94% correlation with invasive FFR measurements to enhance procedural efficiency and patient care

IV-LINQ

Real-time co-registration of IVUS/OCT with angiography to obtain a detailed view of the lesion and its exact location in the coronary tree. Vendor independent Software runs with almost every X-ray, IVUS and OCT system

Advanced Ventricular Assessment

Enhances ventricular assessment with LVA/RVA Analysis for automated workflows to precisely calculate volumes, analyze wall motion and assess ejection percentage

Precise Peripheral Vessel Analysis

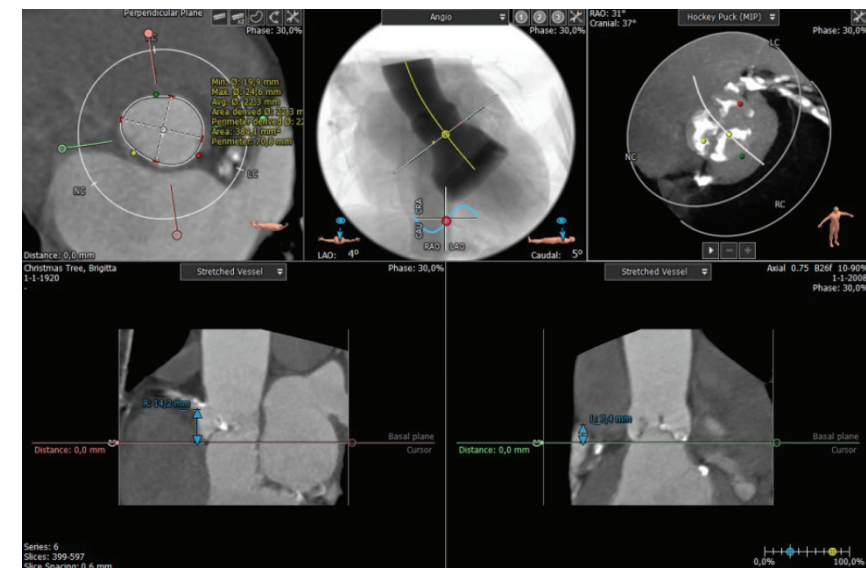
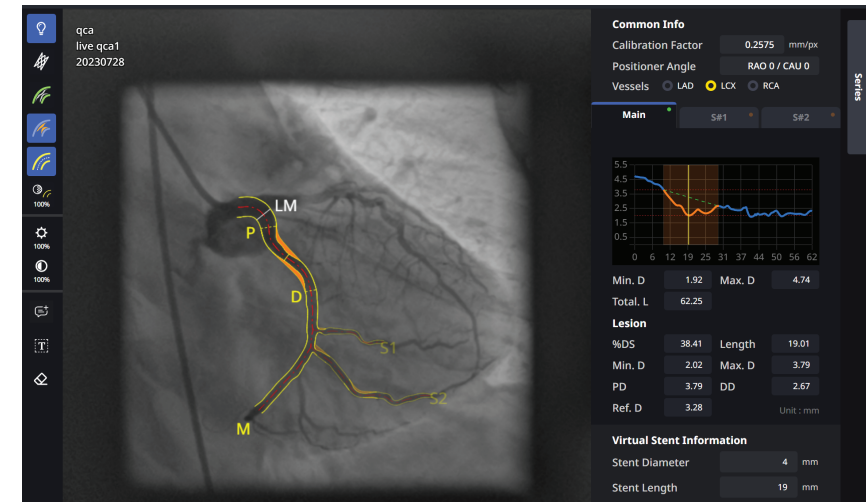
From the abdominal aorta to carotid, renal, iliac and femoral arteries, the workflow offers unparalleled precision to improve procedural efficiency and accuracy

Integrated Ultrasound

With combined precision and ultrasound guidance, including vascular Doppler studies, perform guided arterial punctures and transthoracic echocardiography during procedures

Elevated TAVI Planning

(TAVI) planning before the procedure with the 3mensio Structural Heart software that enables in elevating procedural success rates with detailed visualization and meticulous analysis





Enhanced Procedural Agility and Monitor Adaptability

An adjustable monitor setup is included to achieve seamless positioning and unmatched flexibility, ensuring your access to essential information effortlessly for improving clinical versatility and enabling real-time procedural guidance.

Perform Cardiovascular Procedures with Flexible Monitor Ceiling Suspensio and adjustable MCS counter balance featuring

6-Foot

Radius Spring Arm

Single 43"

Live Display Monitor with Mounting with Rotational Flexibility

500 mm

Height Adjustment Range



The single monitor can be divided into:

Multiple sections for live display

Reference window

Hemodynamic monitoring, thumbnail views

Radiation control

Patient database management



Versatility through Upgrade Facilities

The Premier Cath Lab provides a game-changing pioneering benefit, effortlessly upgrading basic models to advanced ones, enabling swift adaptability to evolving clinical requirements without the need for a complete system overhaul.

Versatility through Integration

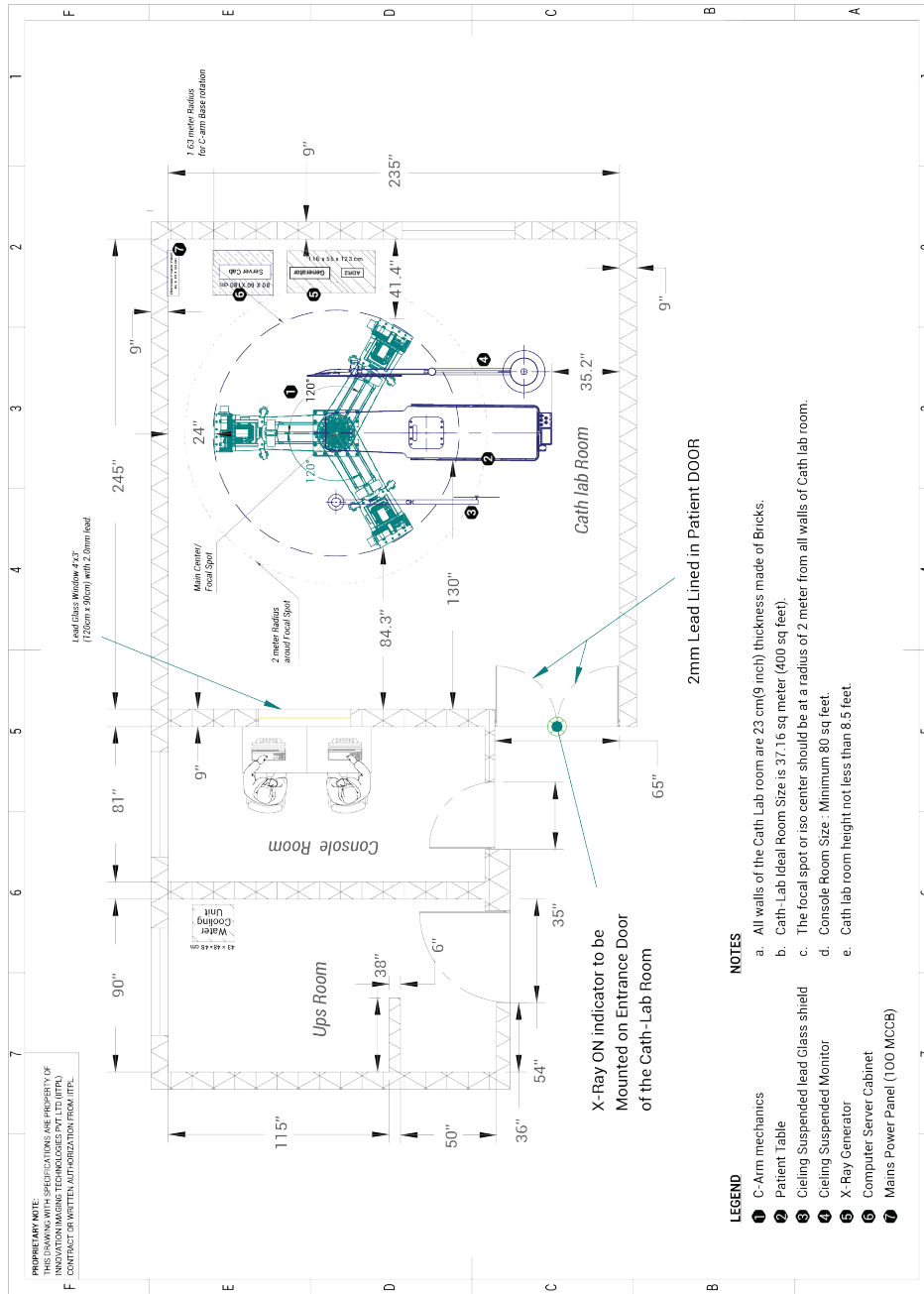
Experience the seamless integration with different diagnostic modalities with Premier Cath Lab:

Exceptional capability to seamlessly integrate a variety of diagnostic modalities, including OCT and IVUS

vFFR enhances diagnostic accuracy, offering insights almost equivalent to invasive measurements while conserving resources

This integrated approach eliminates the need for disjointed procedures and ensures a smooth workflow

Compact Floor-mounted Design for Space Optimization





Available at:

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