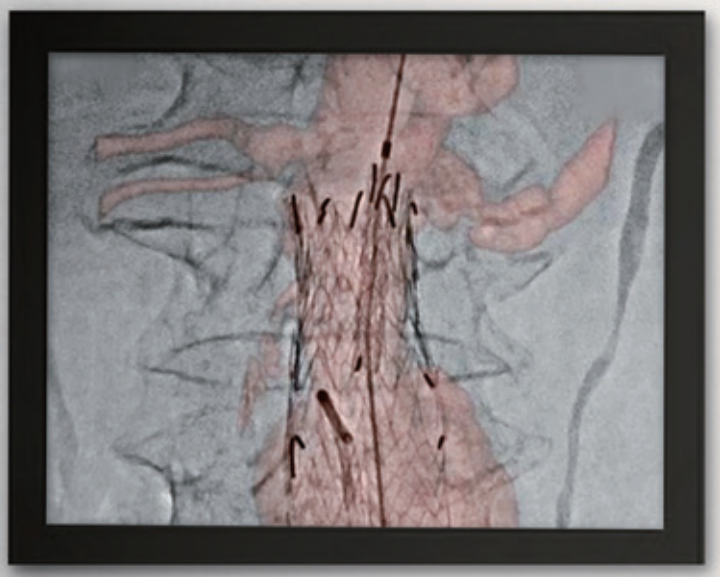
Canon

Interventional
Radiology Systems

Alphenix

Together,
Redefine Intervention



See New Possibilities Beyond the Image

The new Alphenix family of interventional systems deliver images with greater clarity and precision. Combined with industry-leading dose optimization technologies, enhanced workflow, and a new set of features, Alphenix continues Canon Medical's commitment to supporting you and your mission to provide patients with safe, accurate and fast imaging.

Maquet Magnus is a product by Getinge.

Technology to help you deliver the best possible outcomes for your patient.

WorkRite

WorkRite technologies help you optimize workflow and provide an unprecedented range of patient access and coverage.

ImagingRite

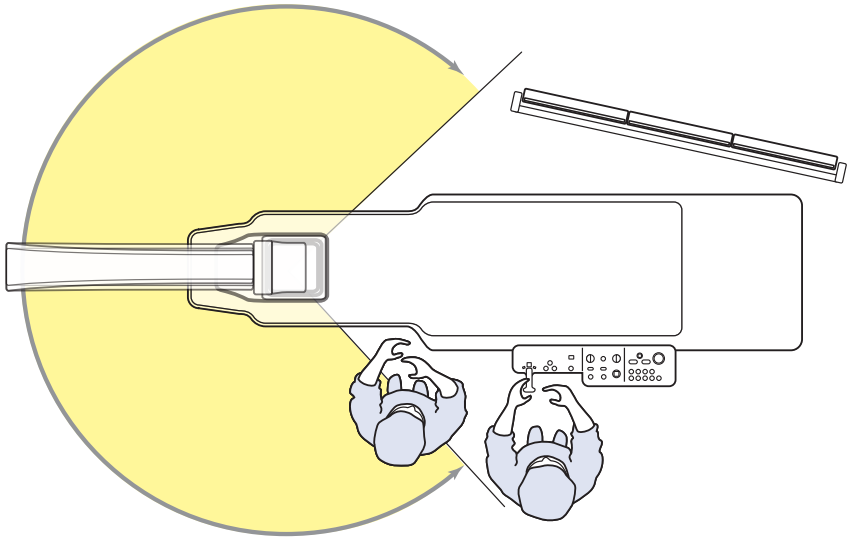
ImagingRite technologies enable you to deliver high-quality imaging and offer a full complement of fully customizable advanced imaging tools.

DoseRite

DoseRite technologies provide a comprehensive dose management suite of tools designed to help you minimize patient X-ray exposure while maintaining optimum image quality, enabling you to prioritize safe operating conditions for patients and clinical staff.

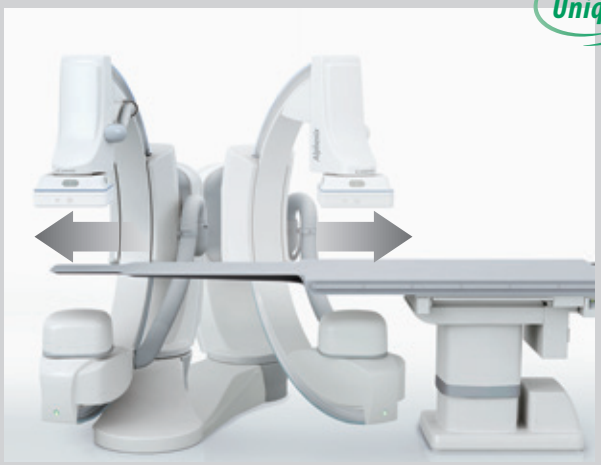
Unparalleled flexibility and access to your patient.

Every patient is different. The Alphenix, with its WorkRite technologies, including the C-arm and 5-axis C-arm, provides you with unprecedented access to the patient and flexible anatomical coverage from any angle.



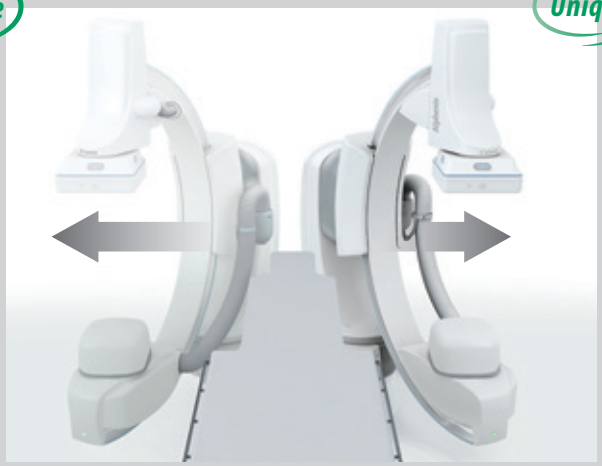
Move the machine, not the patient

Unique



Head-to-toe coverage with multi-access floor-mounted C-arm

Unique

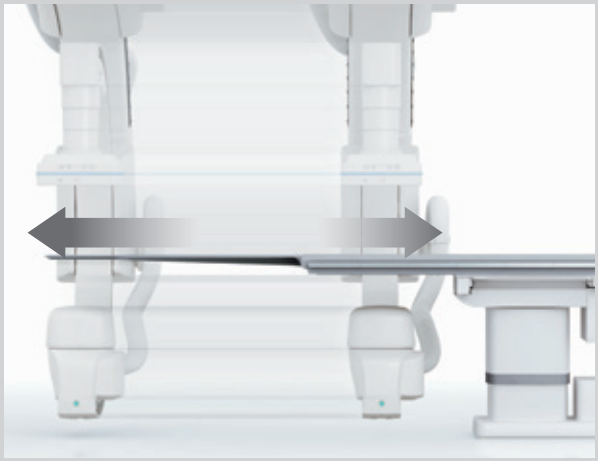


Fingertip-to-fingertip coverage with multi-access floor-mounted C-arm

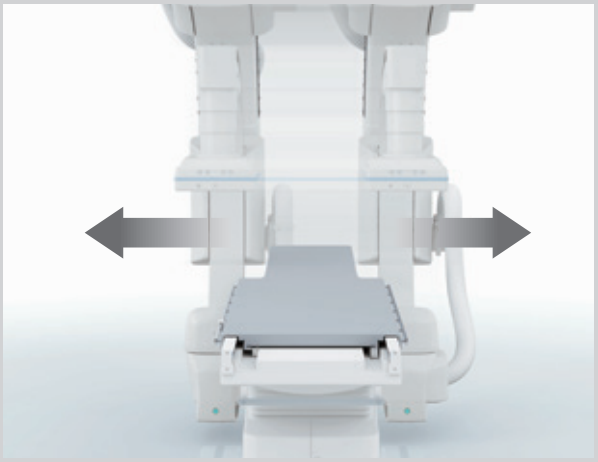
Smart parking*

The Alphenix ceiling suspension enables you to create and automate customized parking routes including circumnavigating obstacles.

*Only available for Alphenix Sky+ and Alphenix Hybrid+



Head-to-toe coverage with ceiling-mounted C-arm



Fingertip-to-fingertip coverage with ceiling-mounted C-arm

Integrated with Getinge for versatile operation.

Integrated operation with the MAGNUS 1180* is available.
Auto positioning and positioner information (such as collision interference) is performed, providing safe and efficient operation.

Touch sensor

When the touch sensor is actuated, Maquet Magnus table operation is locked.

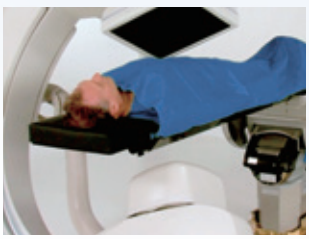
Auto positioning

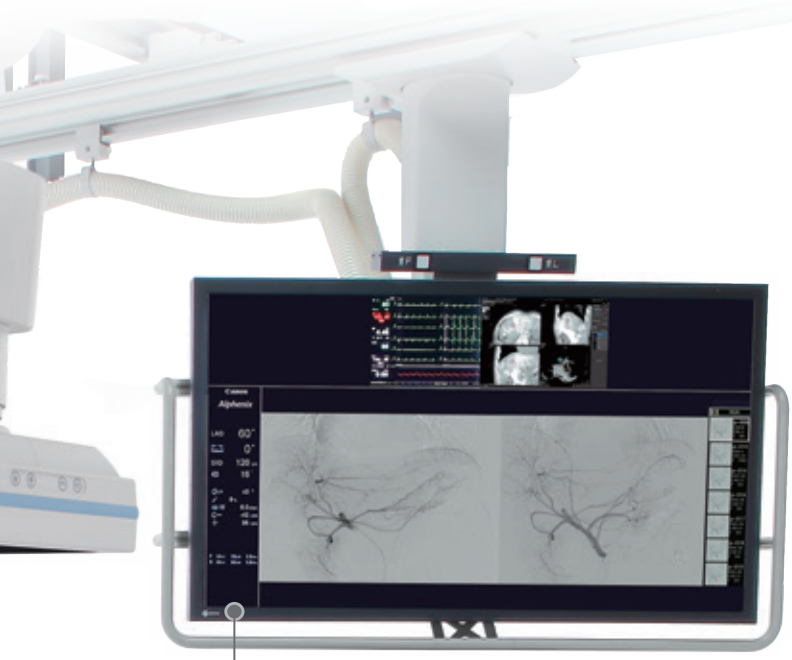
For efficient operation, up to 64 position types can be set for each study protocol.

— C-arm
— Compensation filters
— SID
— Tabletop height

Interference control

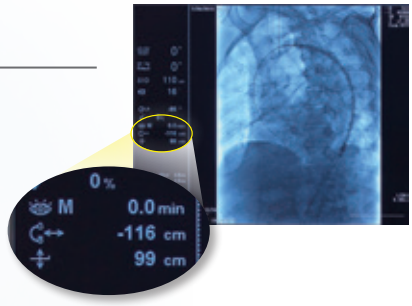
Interference control functions for tabletop tilting as well as C-arm movement (when the carbon tabletop is used).

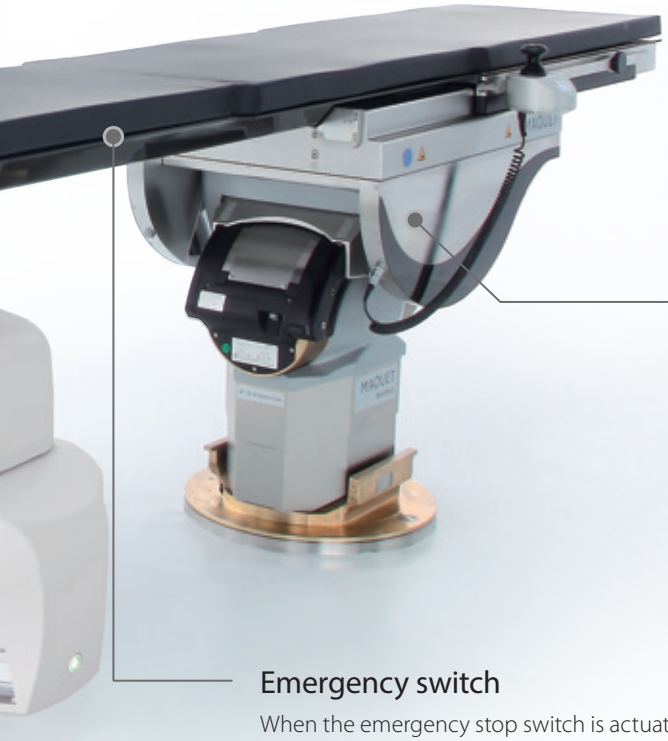




Information display

The height information of the Maquet Magnus table can be displayed on the fluoroscopic monitor in the same manner as for the catheterization table.





Operation from Alphenix console

Vertical movement of Maquet Magnus table is possible from the Canon angiography system consoles.

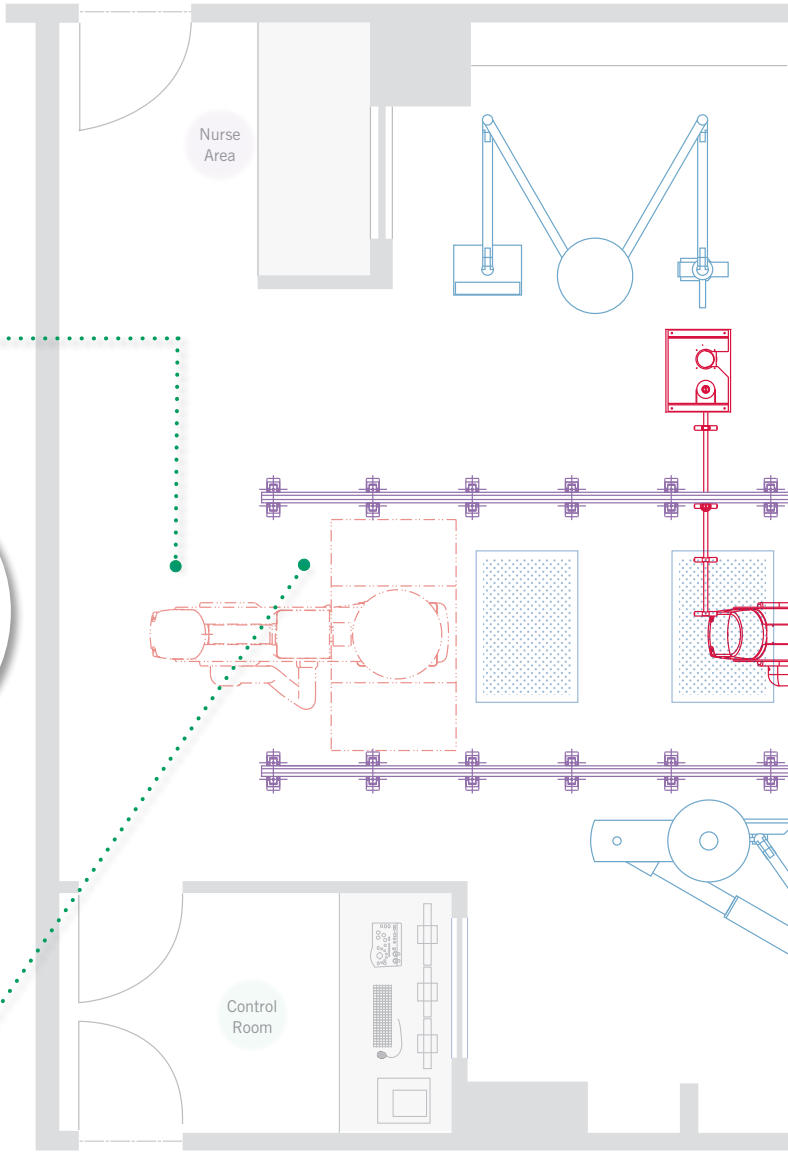
Emergency switch

When the emergency stop switch is actuated, Maquet Magnus table operation is locked.

*Optional

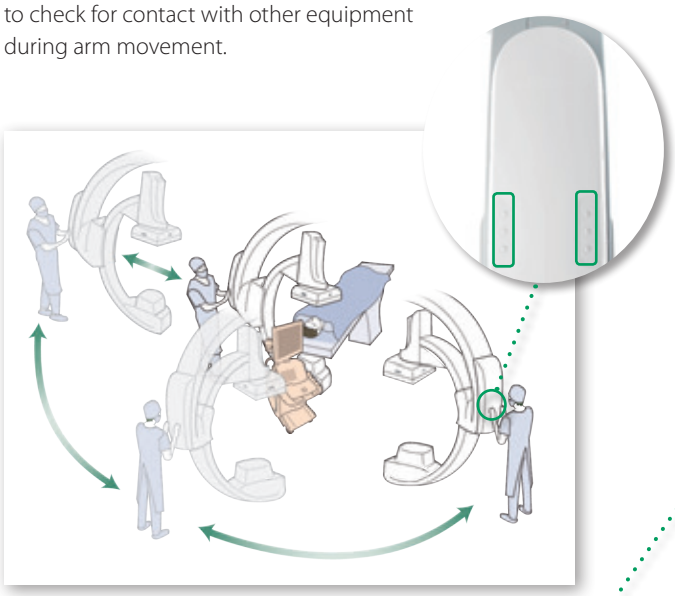
An optimized operating room environment.

We start by identifying your needs with a comprehensive review of our system in order to create a customized hybrid solution to meet your specific needs. Our many years of experience in imaging, research, and intervention place us at the forefront of hybrid technology development. We can help you install exactly the hybrid configuration that best suits your needs.



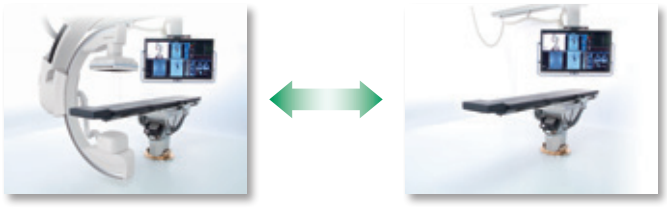
Parking C-arm

C-arm longitudinal movement, lateral movement, and support column rotation can be performed using the local operating switches on the rear of the C-arm, allowing the operator to check for contact with other equipment during arm movement.



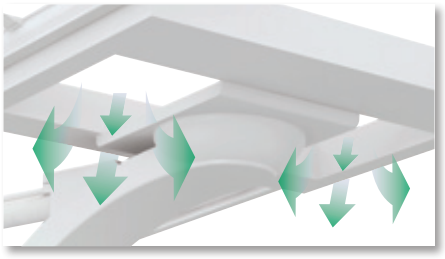
Easy switching between cath lab and OR

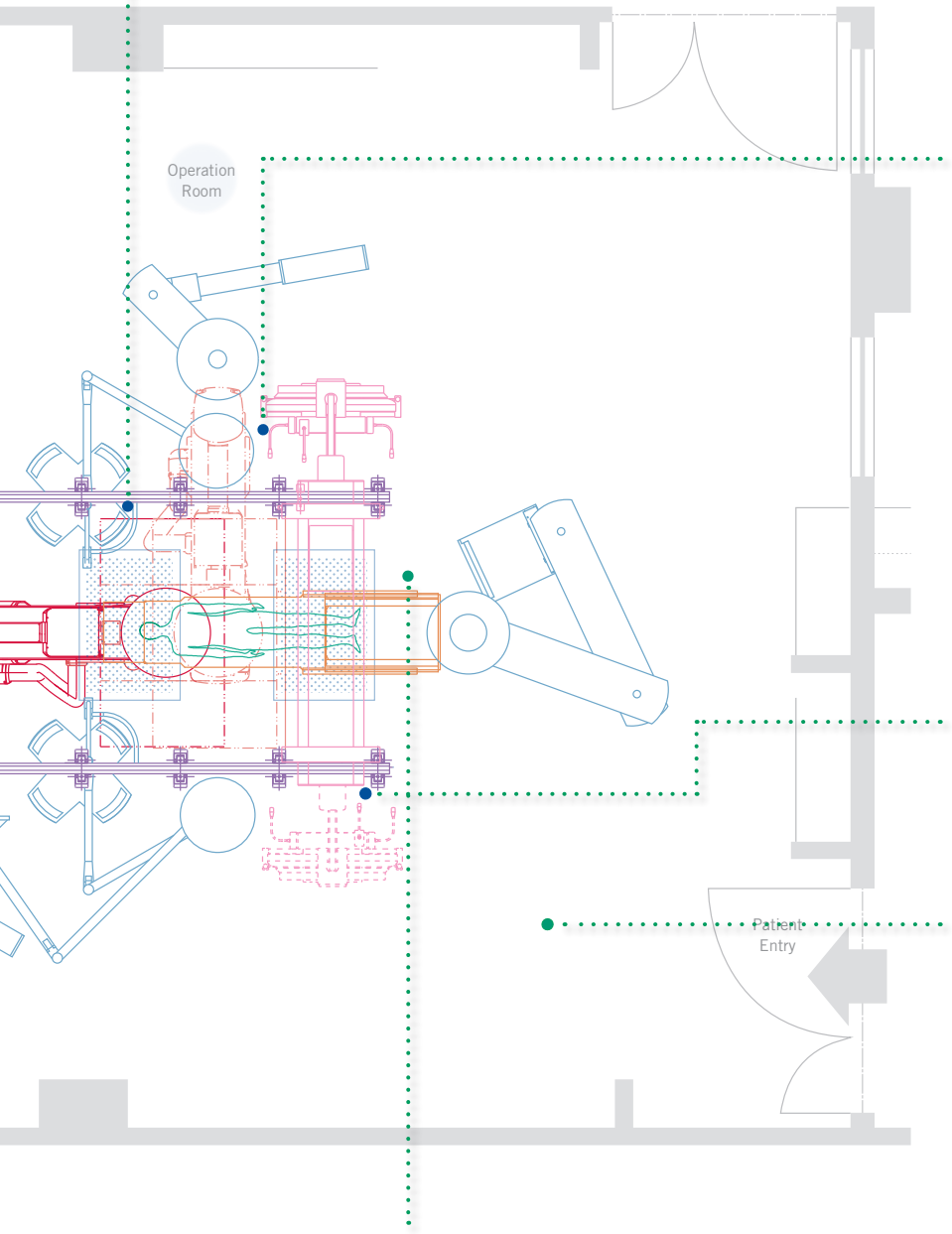
With the C-arm set in the park position, there is equivalent clearance around the operating table to that available in a general operating room.



Laminar flow

The ceiling of the system is designed to allow optimal laminar flow so that the HEPA filters are not obstructed.





Wide rail intervals

Our Alphenix hybrid OR system uses widely spaced rails for a cleaner operating environment (clearance around HEPA filters etc).

Flexible monitor positioning

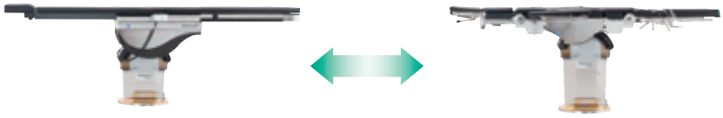
The monitor suspension is mounted on the same ceiling rails as the systems. The monitors can be moved to either side, according to the preference of the viewer.

Compact installation

As the required installation area is small, our hybrid system can be installed even in very limited spaces, providing total coverage for patients.

Easy Exchange of OR Table

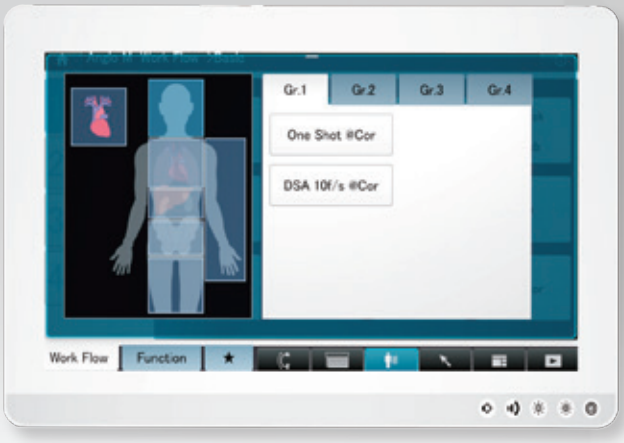
The carbon operating tabletop can be changed to a universal operating tabletop for general purpose use. The appropriate tabletop can be selected according to the procedure.



A fast, seamless, and intuitive work experience.

Easily select acquisition protocols and C-arm positions using the tableside Alphenix tablet.

Startup screen



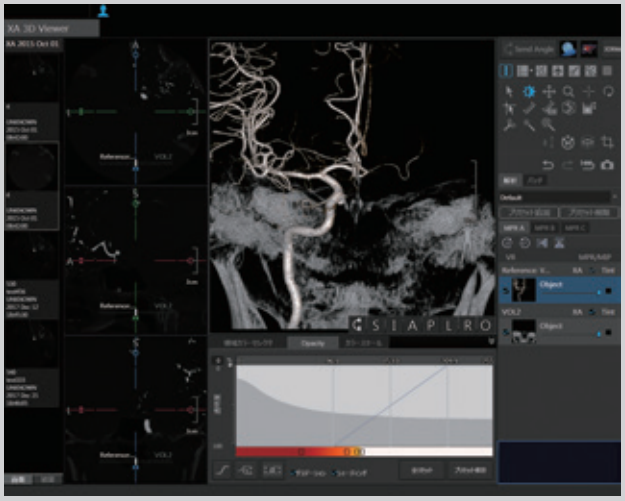
Program tabs

Related functions

Intuitively select the position of the C-arm

A feature-rich workstation to enhance your productivity.

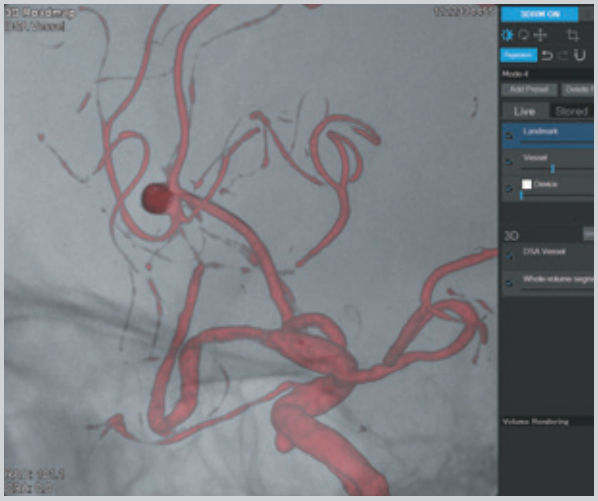
Integrated applications help you plan, analyze, and perform interventional procedures.



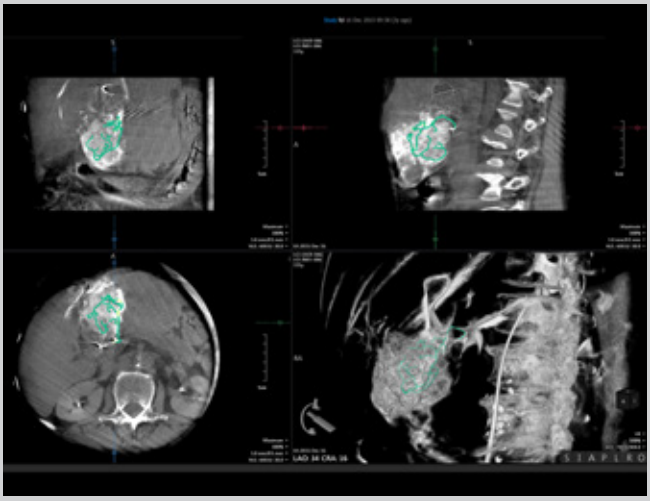
3D viewer The GUI has been refreshed for easy operation and workflow. Viewing of 3D volume data, multi-segmentation of clinical regions, and editing features such as trimming are available.

BP Auto angle Biplane positions can be registered as planned working angles, allowing biplane positioning to be performed easily.

This is a computer generated image



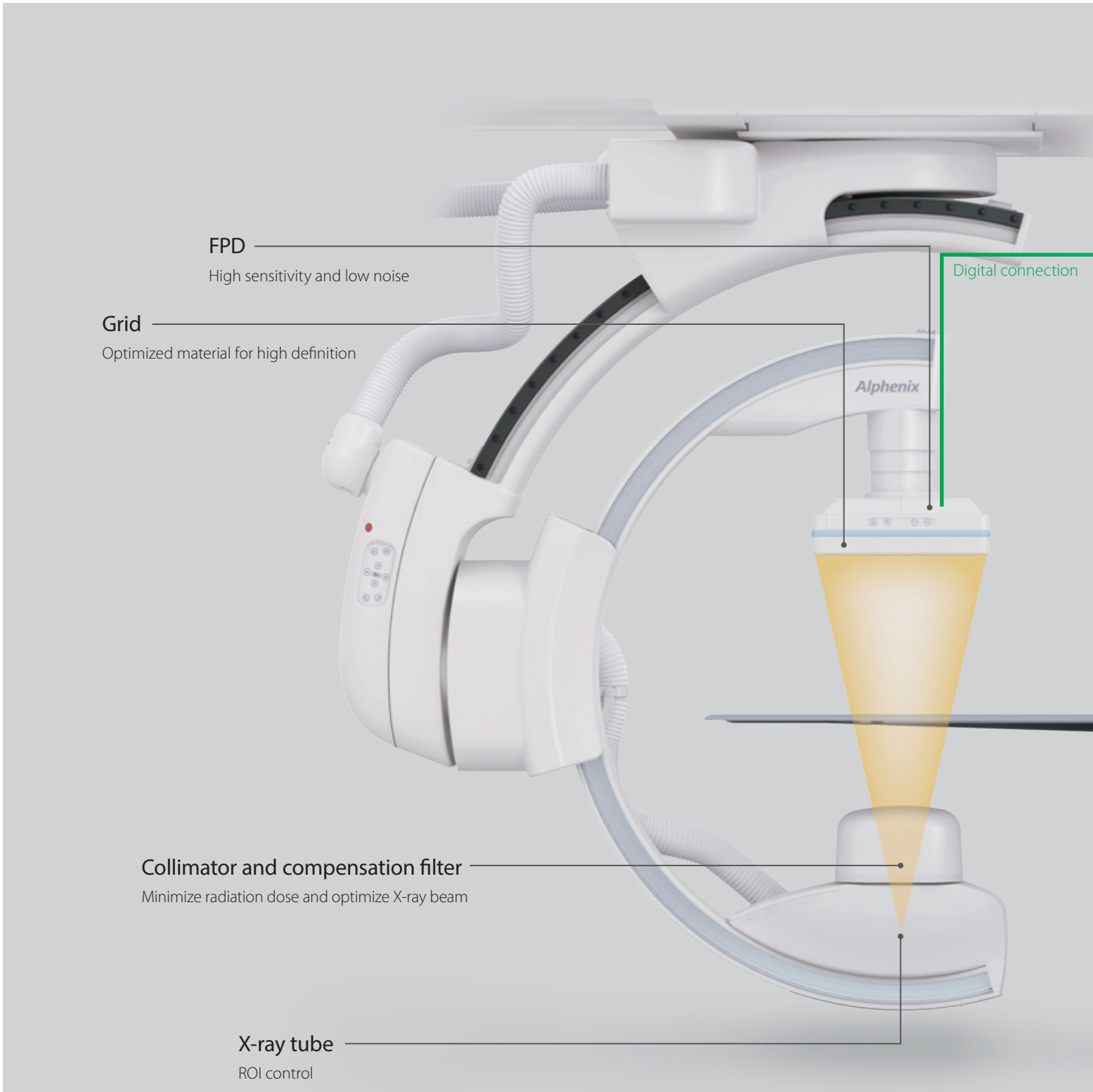
3D/Multi-modality Roadmap* The GUI has been refreshed for easy operation and workflow. Any segmented regions of 3D volume data from Alpha CT (CBCT), CT, or MR can be selected and fused with fluoroscopy for easy reference.



Embolization Plan* A comprehensive planning tool that allows for quick and intuitive analysis prior to embolization procedures. Starting with imported CT or Alpha CT volume data, the corresponding feeding vessels are segmented. This segmented data can be fused on fluoroscopy as an overlay to assist in guiding the procedure.

* option

Optimize image quality while reducing the exposure dose.



ImagingRite

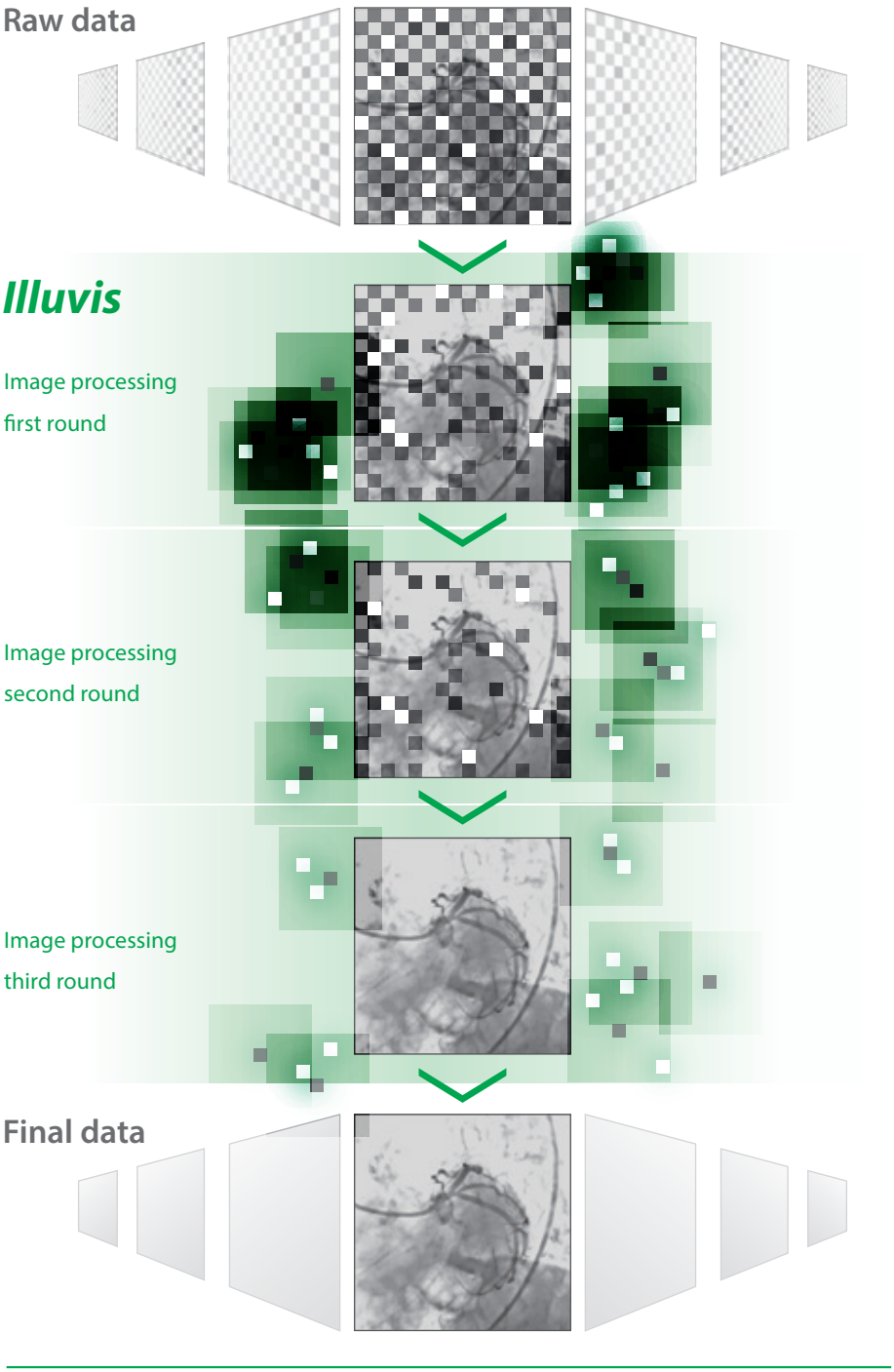
· High-speed processing
· New noise reduction management

16-bit

Digital connection

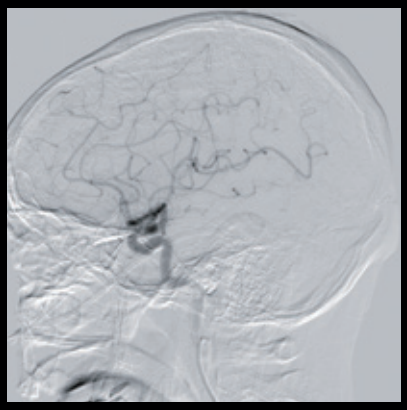
Powerful imaging and processing tools.

Illuvis technology takes advantage of new hardware and software improvements to reduce noise, enabling you to see through the clutter. Each frame is triple-processed in real time to reduce background noise and enhance features.

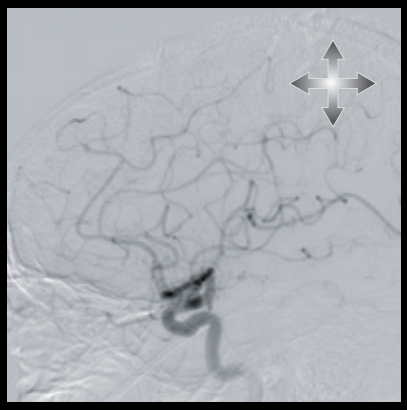


Real Time Auto Pixel Shift

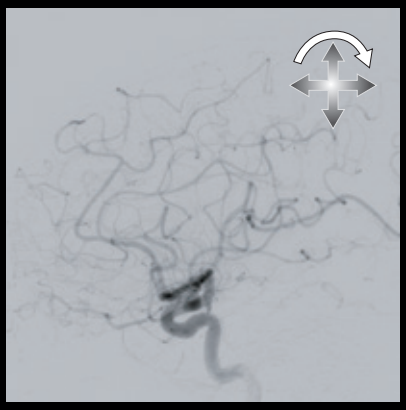
Automatically correct position shifting of the mask image generated by body motion during DSA or 2D roadmapping.
Real time auto pixel shift automatically corrects position shifting.



Manual auto pixel shift no longer required



Conventional auto pixel shift: only parallel movement in the vertical or lateral direction.

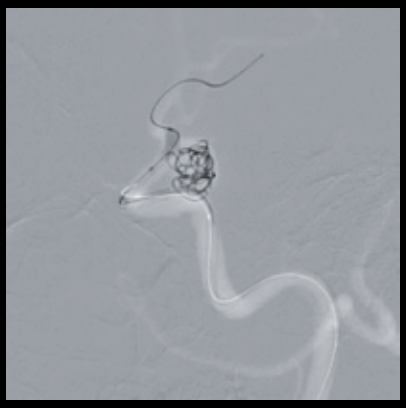


New auto pixel shift: parallel movement in the vertical/lateral direction + rotation

This function is automatically activated during image acquisition. No user operation is needed to apply this processing.

Instant Roadmap

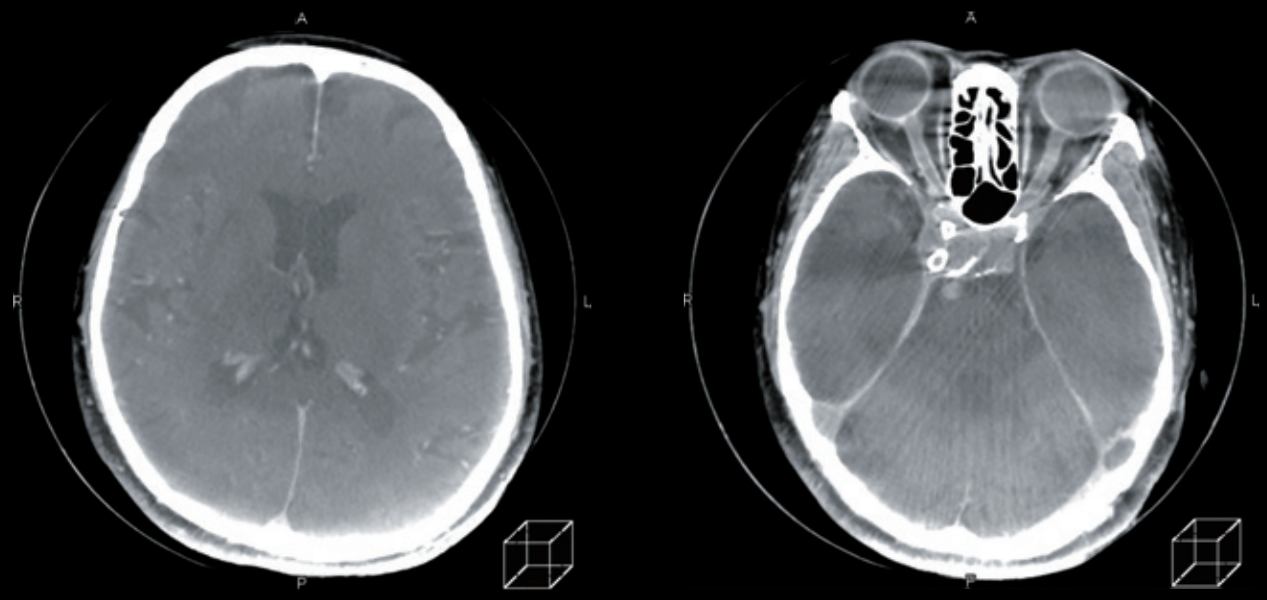
Simplified operation allows the immediate smooth transition from DSA acquisition to 2D roadmap. 2D Roadmap enables clinicians to create a roadmap from an injection or previous acquisition to assist with guidance of catheters and devices during fluoroscopy.



Enhanced visualization with advanced 3D tools.

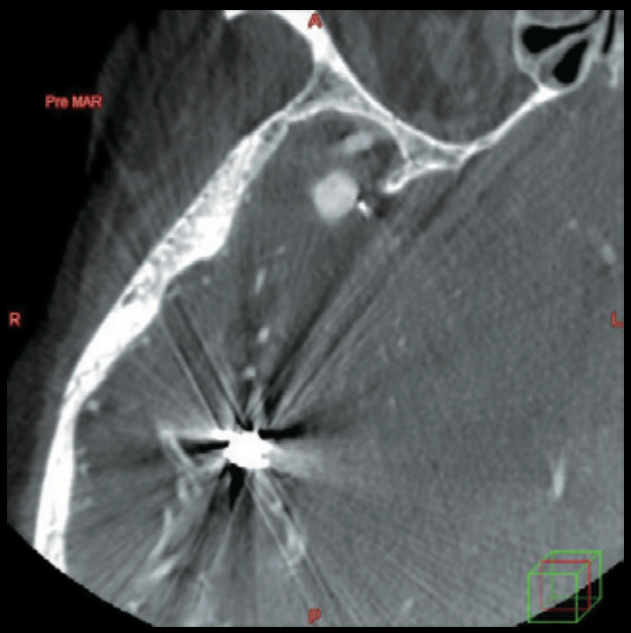
Alpha CT

To supplement 3D imaging, CT-like Imaging is available to support visualization of anatomy or pathology during interventional procedures. Alphenix systems utilize low contrast imaging to provide a view of three overlapping carotid/cerebral stents of varying radiopacity.

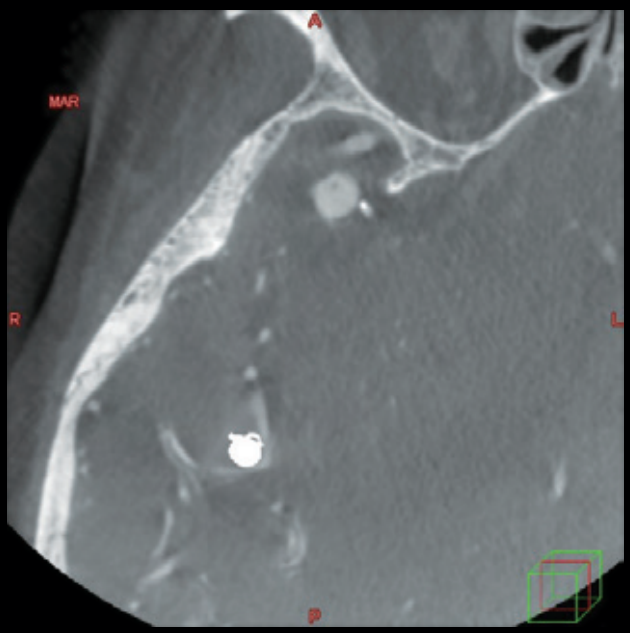


Metal Artifact Reduction (MAR)

It was previously difficult to observe areas near metal objects such as stents and embolization coils due to metal artifacts. This reconstruction technology reduces metal artifacts present in images.



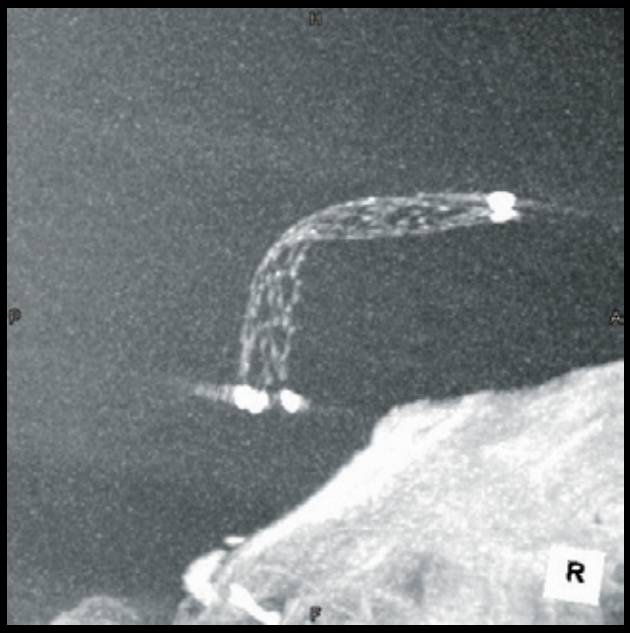
Without MAR



With MAR

Stent Imaging

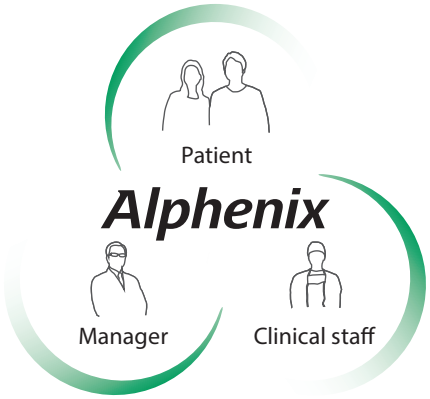
In order to visualize devices such as stents with high resolution, a dedicated reconstruction mode is provided to support the most advanced intravascular interventional procedures.



Optimize exposure dose while delivering high-quality imaging.

DoseRite

A redesigned imaging platform with next-generation AIP and noise reduction technology. Even standard system configurations offer many dose management features to provide benefits for everyone, from patients to clinical staff and management.



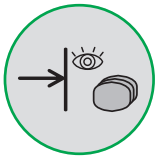
Dose Management for Everyone.

- X-ray beam filter to reduce patient dose and scatter radiation
- Removable grid
- Live zoom to digitally increase image size without performing field of view magnification
- Variable dose mode to pre-programmed combinations of pulse rate, dose level and image processing parameters
- Virtual collimation and filtration to adjust collimation without additional fluoroscopy

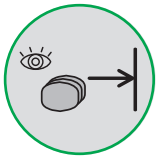
DoseRite PF

Dose Adjustment Filter

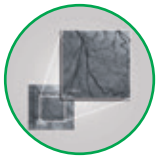
DoseRite F-Rec



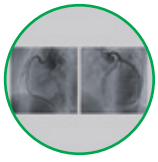
DoseRite F-Store



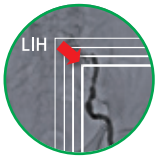
DoseRite Live Zoom



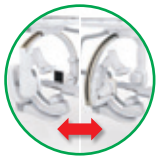
Virtual Filter/
Virtual Collimator



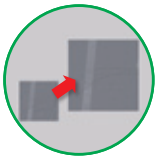
DoseRite Position



Reverse Geometry



Auto Pixel Shift

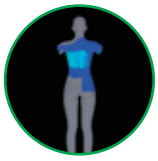


3D Road Map

DoseRite SPOT ROI

DoseRite SpotFluoro

DoseRite DTS



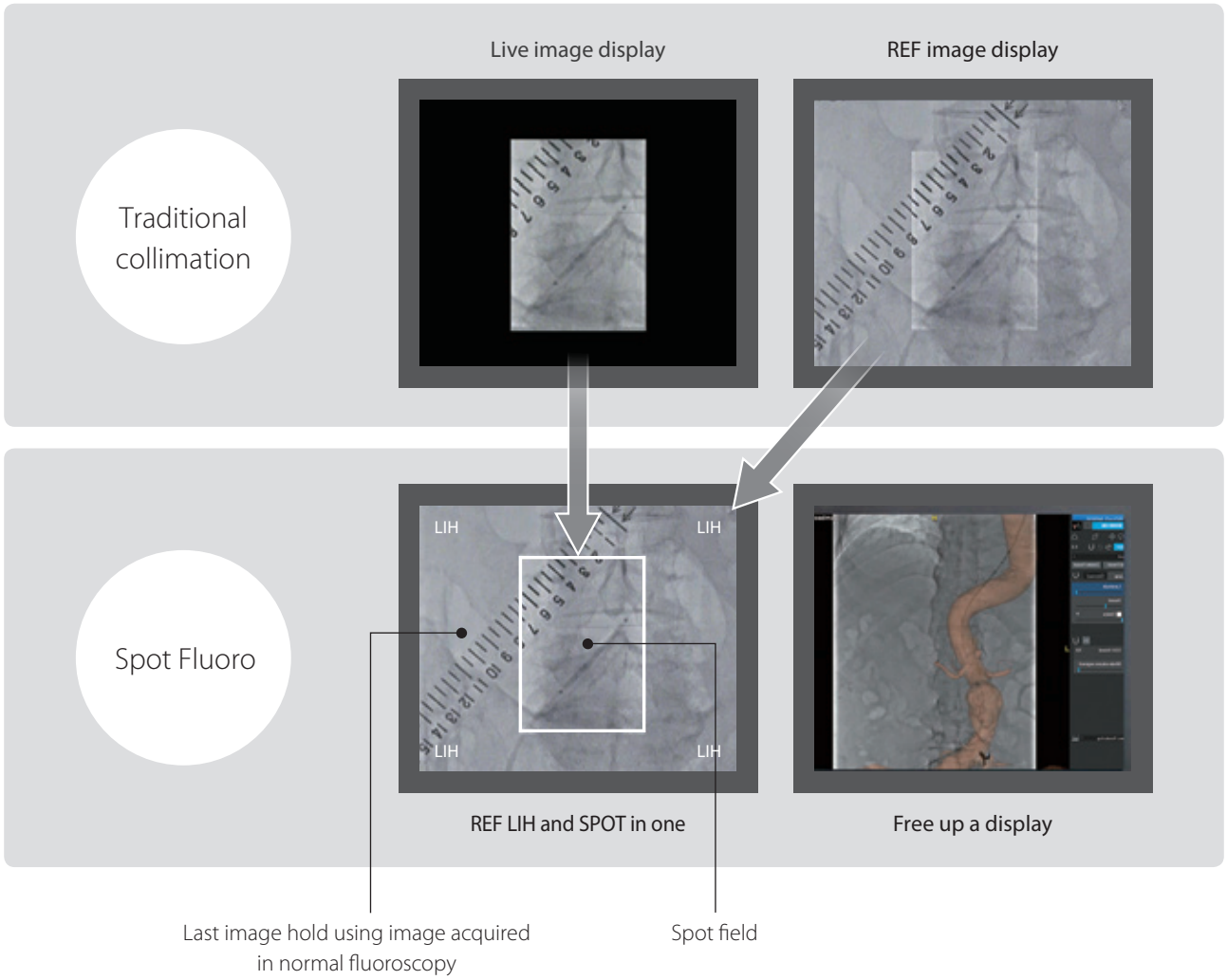
DoseRite Report

Asymmetric collimation allows reductions in patient dose.

DoseRite SPOT Fluoro: Industry's first spot fluoroscopy technology.

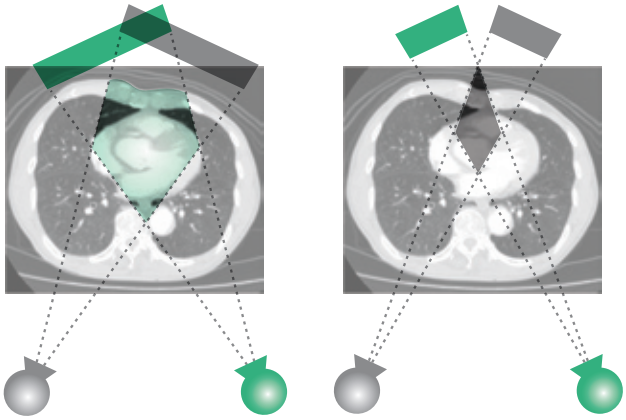
Unique

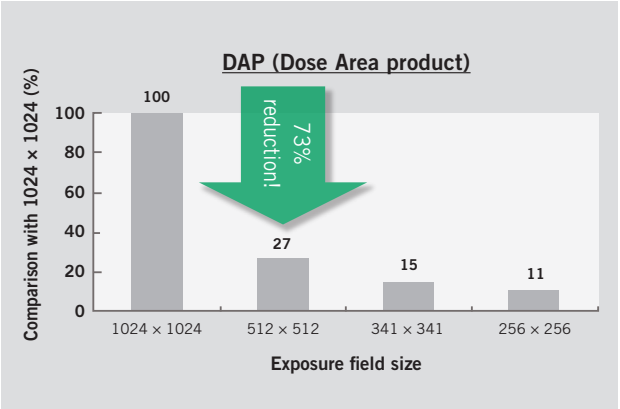
Conventional X-ray collimation has two disadvantages: black areas caused by the collimator blades are distracting for the interventionist, and there is an increased exposure dose for the patient because the system compensates for the reduction of scatter radiation due to collimation in the ABC Region of Interest (ROI).



Reduce DAP with Spot Fluoroscopy

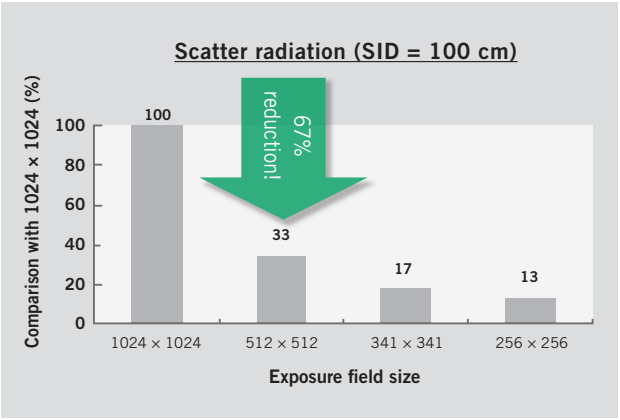
The cumulative DAPs (dose area products) measured on the three selectable live fluoroscopy ROI sizes are shown in the graph on the right (where this is defined as the patient exposure dose). Compared to normal-field fluoroscopy, Spot Fluoroscopy can reduce the dose by more than 50%.
The illustration on the right shows an additional benefit. Spot Fluoroscopy can greatly reduce the overlap between each exposure, saving the patient from unnecessary exposure when different angles are required.





Reduce exposure of patients, clinicians, and staff

Spot Fluoroscopy realizes a reduction in scatter radiation of more than 50%, as shown in the graph on the right, which is beneficial for clinicians and staff as well as the patient.
As these figures show, our exclusive Spot Fluoroscopy minimizes unnecessary exposure and reduces the radiation burden on the patient and clinical staff in the examination room.

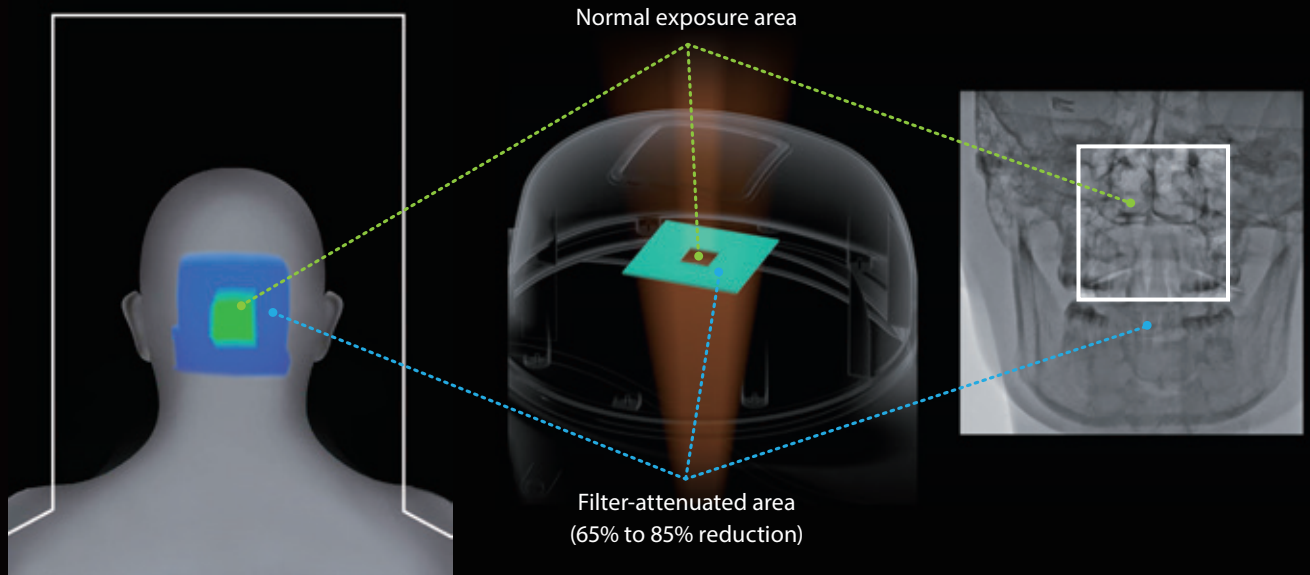


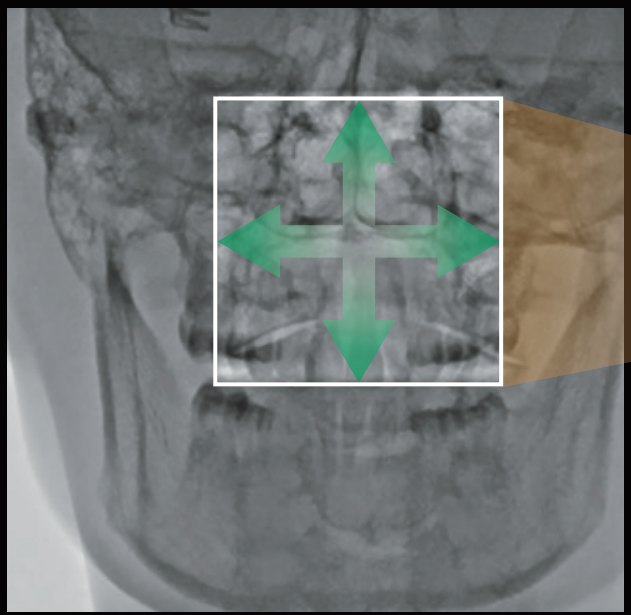
See more of interest, with less exposure.

DoseRite SPOT ROI*

Unique

During device placement visualization not only of the device, but also the surrounding anatomy is critical for success. Spot ROI provides dose reduction outside of the region of interest, while still allowing visualization of the surrounding anatomy utilizing an X-ray attenuation filter.





The ROI position can be moved up/down and right/left using this joy-stick button.

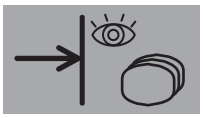
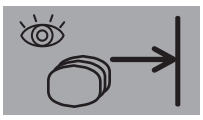
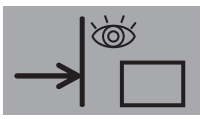
* Only for Alphenix Core+ and Alphenix Biplane

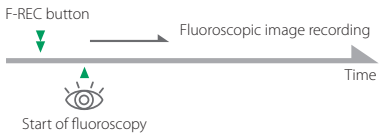
Advanced dose management tools.

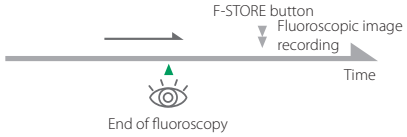
Fluoroscopic acquisition

Unique

Using the footswitch, the operator can capture still and dynamic images for future reference.

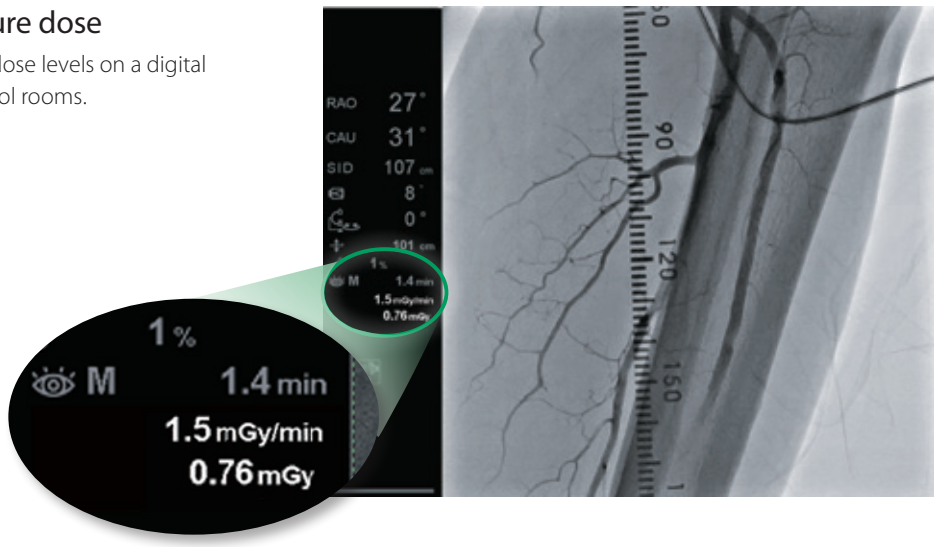
F-REC		Fluoroscopic images acquired after pressing the fluoroscopy start button are recorded. Images can be recorded for up to 90 seconds or 1020 frames. (Dynamic image recording)
F-STORE		Fluoroscopic images acquired in the last 10 seconds are recorded. Press the F-STORE button after fluoroscopy is completed to save the run as part of the patient file. (Dynamic image recording)
F-REC (S)		The LIH (last image hold) image acquired in fluoroscopy is recorded. (Still image recording)





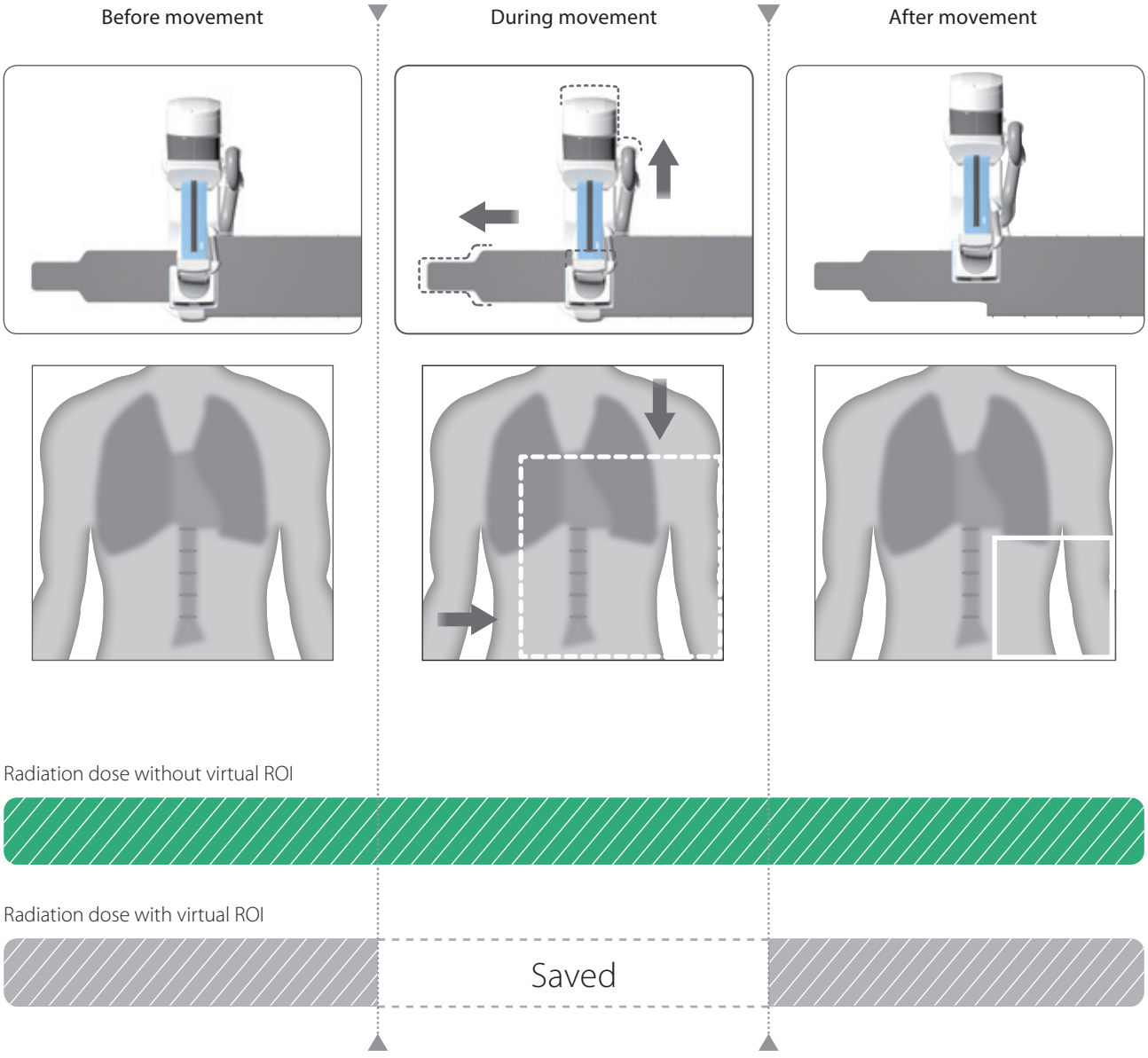
Real time display of exposure dose

The operator can observe real time dose levels on a digital display in the examination and control rooms.



DoseRite position

Virtual Position provides the desired ROI for the next image using Last Image Hold (LIH) while panning the table or during C-arm movement, enabling the operator to avoid unnecessary X-ray exposure.



By applying a graphical outline on the Last Image Hold (LIH) image, Virtual ROI can provide the ROI position for the next image after the C-arm or the tabletop is moved. By anticipating the position, unnecessary exposure during movement of the arm or tabletop is prevented.

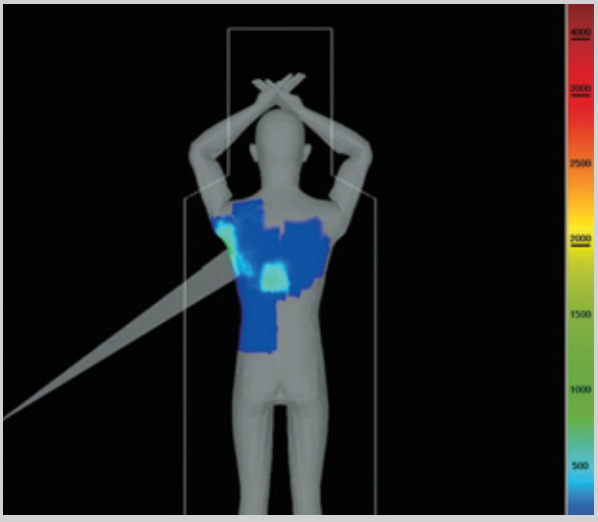
Visualize estimated peak skin dose in real time, and act on it.

Dose Tracking System (DTS)

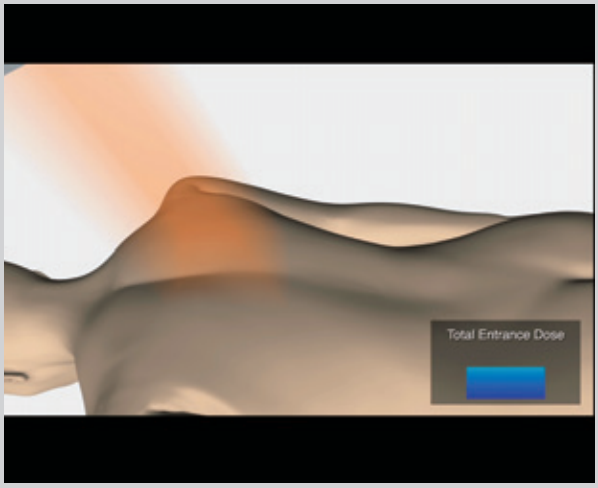
Unique

Enhanced dose awareness is available through the DTS tool, providing estimated skin dose in real time. Displayed as a 3D color map on a realistic patient graphic, this data can be used to exclude regions of previous high exposure both during and in subsequent procedures.

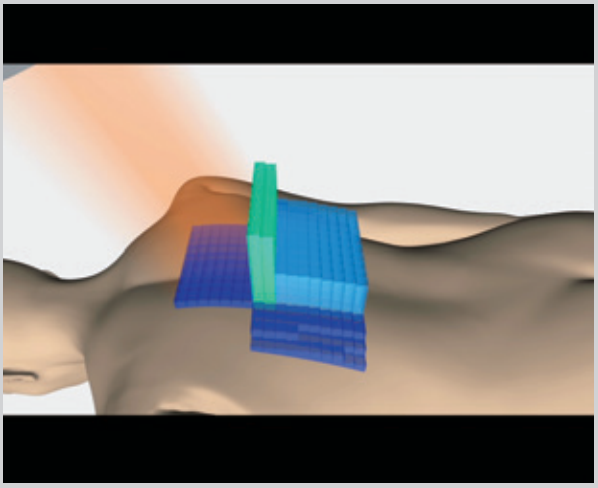
Multiple 3D patient models are defined in advance and a patient model is selected for each study.



DTS makes it possible to show the maximum accumulated skin dose on the patient's body and peak skin dose in the field of view in real time.



Standard system



DTS

DTS can display a color coded estimate of skin dose in real time on a realistic patient graphic. To learn more about the DTS, use the MedicalAR App to view the accompanying video from this page.

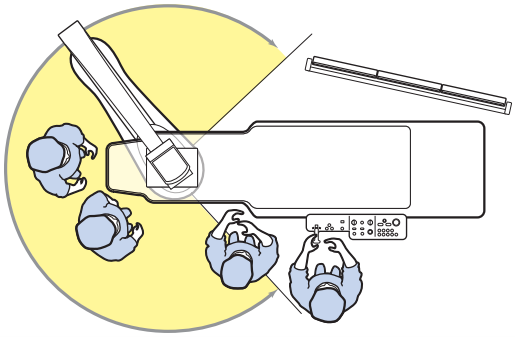
Work with unprecedented access.

Unique multi-access floor and ceiling mounted C-arm positioners were developed through extensive collaboration with leading clinicians. This resulted in designs that optimize C-arm positions in order to assist clinicians in providing optimal patient care.

Alphenix Core+

FLOOR-MOUNTED MULTI-ACCESS SINGLE-PLANE SYSTEM

Providing patient access unmatched by other systems, the 5-axis floor-mounted C-arm is ideally suited for a wide range of applications.



Selectable table

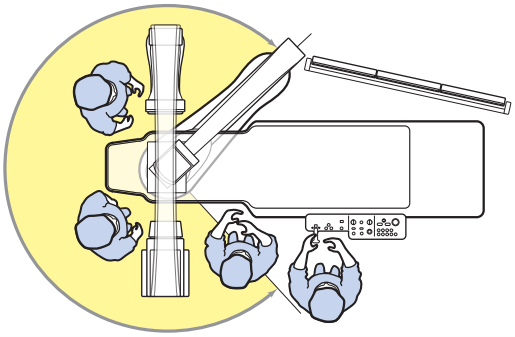
Standard table or

Tilting table

Alphenix Biplane

MULTI-ACCESS BIPLANE SYSTEM

Combining the exceptional flexibility of a floor-mounted and ceiling-mounted C-arm combination, the biplane system is an ideal choice for vascular and neuro diagnostic and interventional procedures.



Selectable table

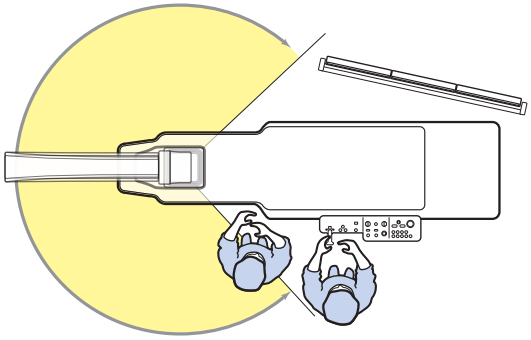
Standard table or

Tilting table

Alphenix Sky

CEILING-MOUNTED SYSTEM

Unique ceiling-mounted C-arm offers unparalleled motorized longitudinal and lateral coverage to support upper extremity examinations.



Selectable table

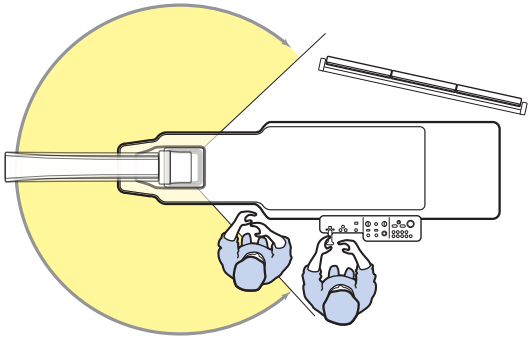
Standard type or

Tilting type

Alphenix Sky+

ADVANCED CEILING-MOUNTED SYSTEM

Advanced ceiling-mounted C-arm offers unprecedented flexibility and full body 3D imaging capability with fast acquisition.



Selectable table

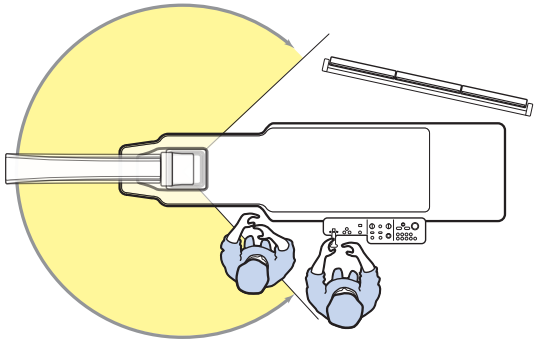
Standard type or

Tilting type

Alphenix *Hybrid*

CEILING-MOUNTED & INTEGRATED WITH HYBRID OR

This is a dual-track ceiling-suspended C-arm system dedicated for use with an operating table.



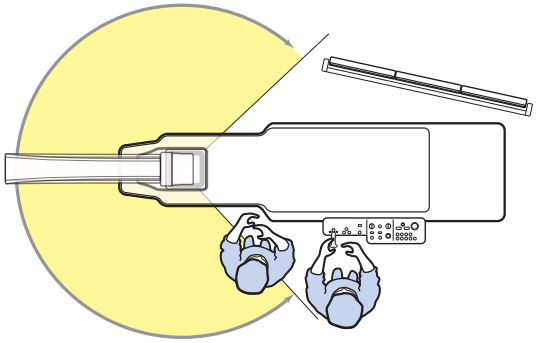
Table

Maquet Magnus

Alphenix *Hybrid+*

ADVANCED CEILING-MOUNTED & INTEGRATED WITH HYBRID OR

Dedicated for use with an operating table, advanced ceiling-mounted C-arm offers unprecedented flexibility and full body 3D imaging capability with fast acquisition.



Table

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Made For life