Canon

Interventional Radiology

Alphenix

Redefine Intervention

See New Possibilities Beyond the Image

The 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.

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

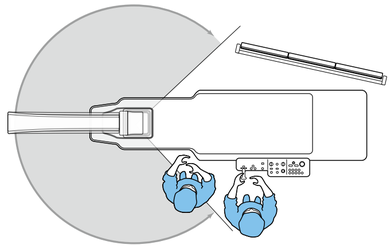
ImagingRite technologies enable you to deliver high-quality imaging and offer a full complement of fully customizable advanced imaging tools.

DoseRite

DoseRite technologies provide a comprehensive dose management suite of tools designed to help you minimize patient X-ray exposure.

Unparalleled flexibility and access to your patient.

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

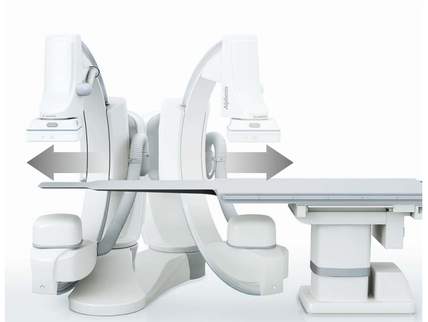


Create and automate customized Smart Parking* routes that avoid obstacles.

* Only available for Alphenix Sky + and Alphenix Hybrid +

Lateral 3D acquisition from head to toe is possible.

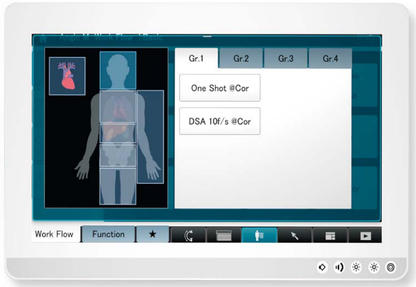
Multi-access floor-mounted C-arm allows for head-to-toe and fingertip-to-fingertip coverage for greater clinical flexibility



Ceiling-mounted C-arm provides unparalleled full-body lateral access without moving the patient or the table

A fast, seamless, and intuitive work experience.

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



Program tabs
The intuitive graphical interface allows you to select the appropriate acquisition program by clinical region.

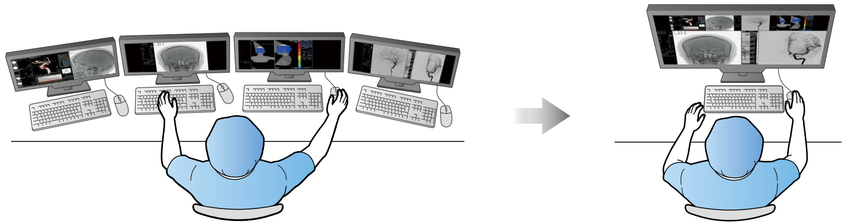
Related functions
Additional functions customized for each workflow can be readily accessed when needed.

Intuitively select the position of the C-arm
Quickly register, select and move the C-arm into position from the menu screen.

Interoperable access control
Alphenix Workstation Pro, the large monitor layout, and QMAPP® can be controlled from our tablet.

* option

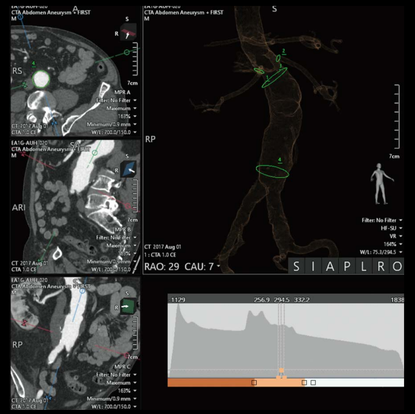
Alphenix Unispot* can manage multiple image sources with one keyboard and mouse, keeping the layout of the control room organized. The medical grade 32-inch monitor delivers high quality images with fine details to meet your clinical needs and simplify workflows.

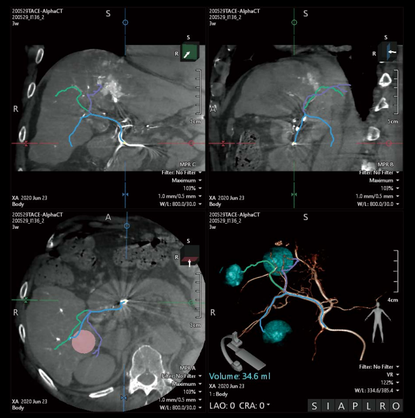


* option

Alphenix Workstation Pro enhances your productivity.

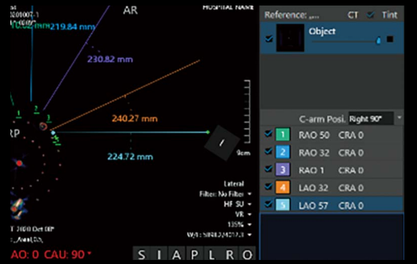
3D Viewer[*1] An intuitive graphical user interface (GUI) and faster 3D volume rendering with graphics processing unit (GPU) maximize operation and workflow efficiencies.
Vessel Indicator[*2], a series of tools to highlight anatomical landmark for treatment can be fused onto fluoroscopy providing continuous guidance throughout your procedure.





3D/Multi-modality Roadmap[*1] 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[*1] A comprehensive planning tool that allows for quick and intuitive analysis prior to embolization procedures. Starting with imported CT or Alpha CT (CBCT) 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. Up to 10 tumors can be analyzed. Feeding arteries are categorized as different colors respectively.

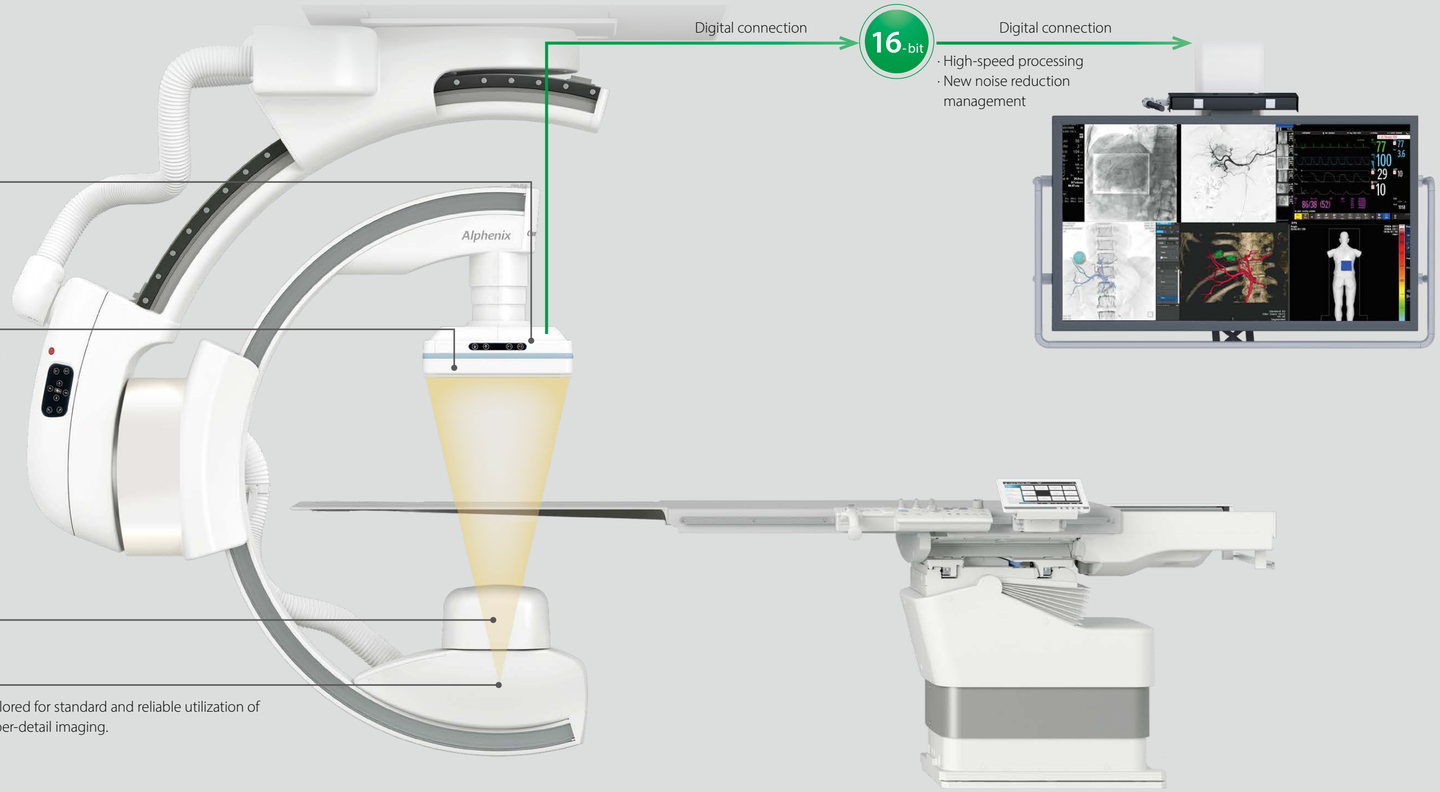


Multi needle guidance[*1] This function streamlines switching between path direction and path depth views during biopsies or needle treatment cases. Up to five separate needle paths can be planned.

[*1] option
[*2] Refers to the tools on 3D Viewer such as Edge enhancement and Ellipse drawing.

Optimize image quality while reducing the exposure dose.

ImagingRite



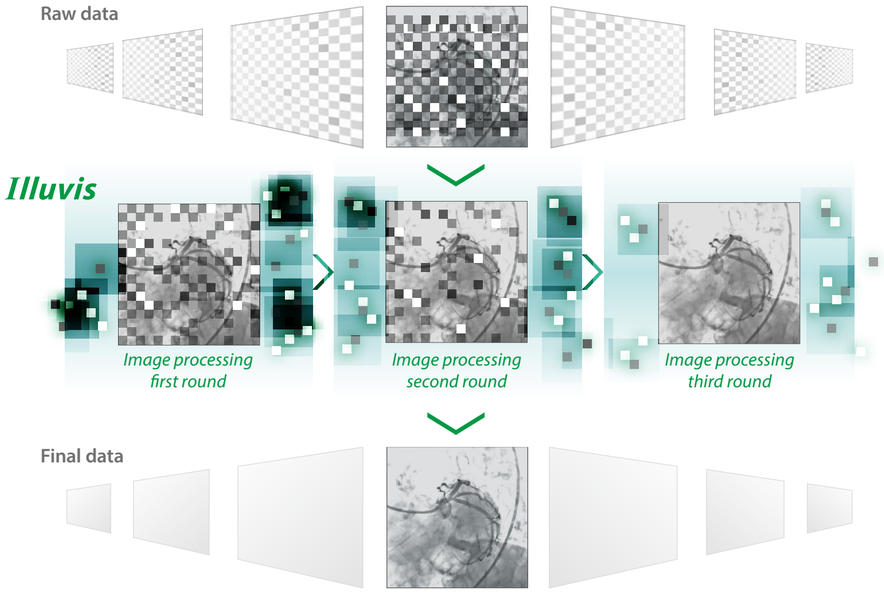
FPD
High sensitivity and low noise

Grid
Optimized material for fine visualization

Collimator and compensation filter
Minimize radiation dose and optimize X-ray beam

X-ray tube
In-house X-ray tube tailored for standard and reliable utilization of small focal spot for hyper-detail imaging.

Powerful imaging and processing tools.



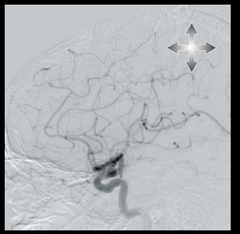
Illuvis technology takes advantage of new hardware and software improvements to reduce noise, enabling you to see through the clutter. Each frame is triple-processed in real-time to reduce background noise and enhance features.

Clearer, sharper images in an instant.

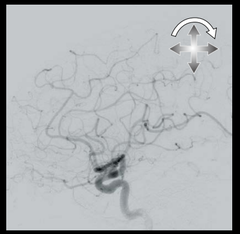
Realtime Auto Pixel Shift

Automatically corrects position shifting during DSA or 2D roadmapping.

Manual auto pixel shift no longer required



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



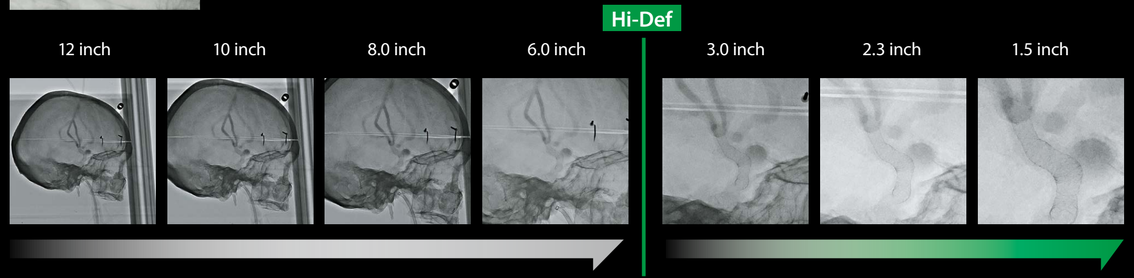
New auto pixel shift: parallel movement in the vertical/lateral direction + rotation

Instant Roadmap

Instant and automatic creation of a mask image after DSA acquisition, which is reflected to fluoroscopy roadmap without any manipulation or input from user.

Refine and redefine intervention using our novel Hi-Def technology.

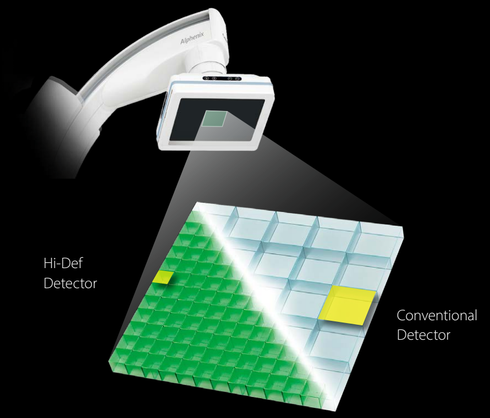
Hi-Def imaging*1 mode allows you to effortlessly zoom up image up to 1.5" in resolution without losing image quality.
Available for multiple clinical departments sharing one economical and efficient universal system*2.

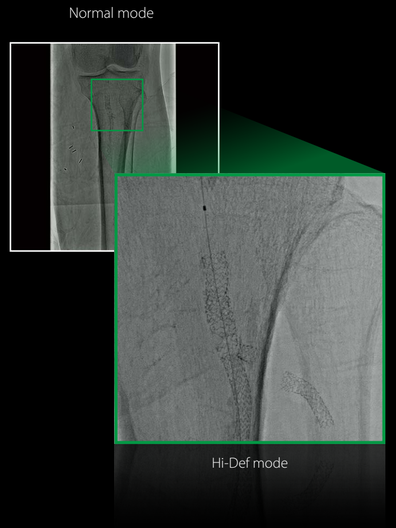


" During the critical parts of the case when you deploy a complex intravascular device - for example, a coil, a stent, a flow diverter, an endosaccular flow disrupter, anything where you really need to appreciate how the device is behaving in a small space and it is of critical implication - there's nothing that comes close to the ability to visualize these implements than high def technology."

Adnan SIDDIQUI, M.D., Ph.D. FACS FAHA FAANS
CEO & CMO, Jacobs Institute
Director, Neurosurgical Stroke Services, Kaleida Health
Vice-Chairman and Professor of Neurosurgery SUNY University at Buffalo

More than twice the spatial resolution of conventional flat panel detectors, Hi-Def Imaging enables you to visualize fine details with the ability to facilitate interventional procedures.

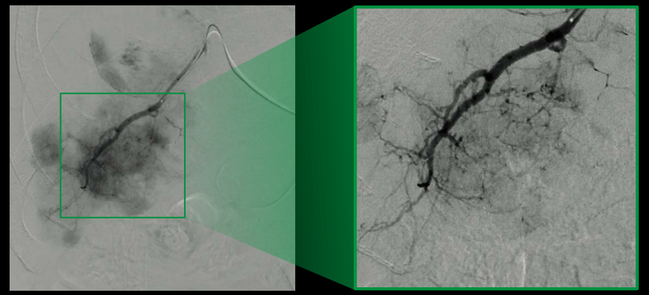




*1 option
*2 12"x12" detector is available for Alphenix Core +, Alphenix Biplane and Alphenix Sky.
12"x16" detector is available for Alphenix Core +, Alphenix Biplane, Alphenix Sky + and Alphenix 4D CT.

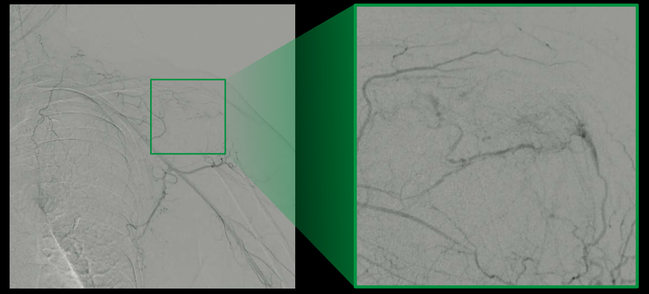
See the unseen using Hi-Def Technology

Hepatic tumor vessels*1



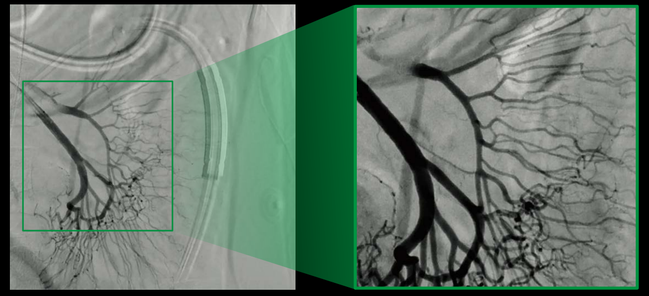
Normal mode　　Hi-Def mode

Transcatheter arterial microembolization (TAME) for shoulder pain management*1



Normal mode　　Hi-Def mode

Mesenteric artery angiography*1



Normal mode　　Hi-Def mode

Lymphangiography*2

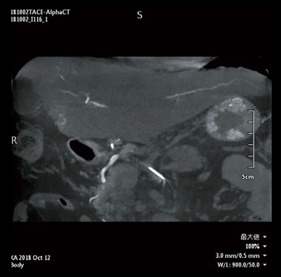
Normal mode　　Hi-Def mode

*1 Courtesy of Nara Medical University Hospital / *2 Courtesy of Dr. Evans Heithaus, MD

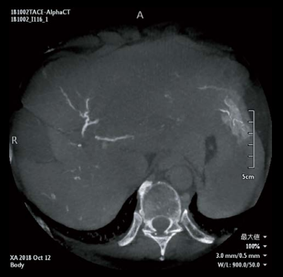
Enhanced visualization with advanced 3D tools.

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 details such as overlapping stents.



MIP image (Cor) 3 mm slab



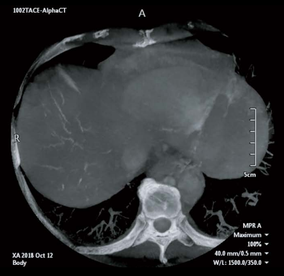
MIP image (Ax) 3 mm slab

Mass & vessel's VR images.

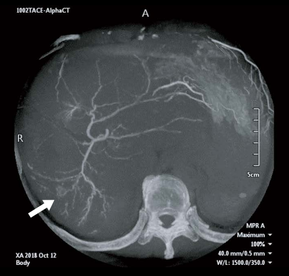
MPR
20 mm slab

MPR
20 mm slab

MPR
3 mm slab



MIP image (Ax)
40 mm slab



Mass & feeder

Clinical gallery

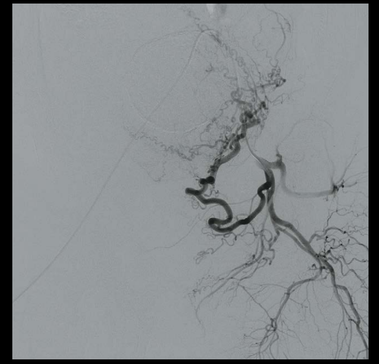
In TACE, even small feeding arteries can be identified

TACE

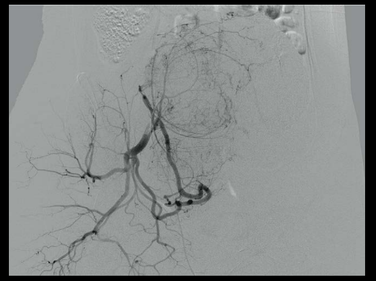
TACE

TACE

In UAE, the feeding arteries are cleary visualized



UAE



UAE

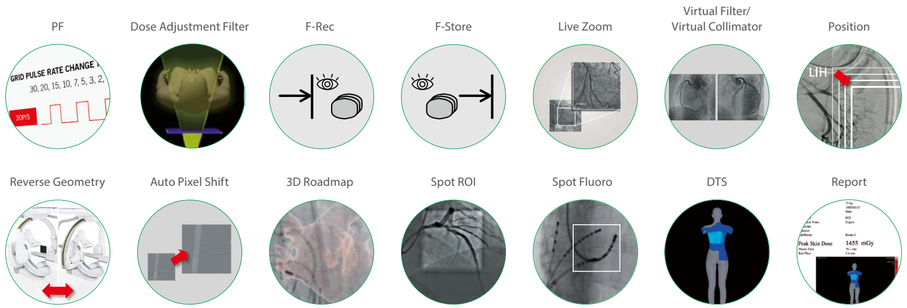
UAE (Post IR)

Optimize exposure dose while delivering high-quality imaging.

DoseRite

- 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

Dose Management for Everyone.

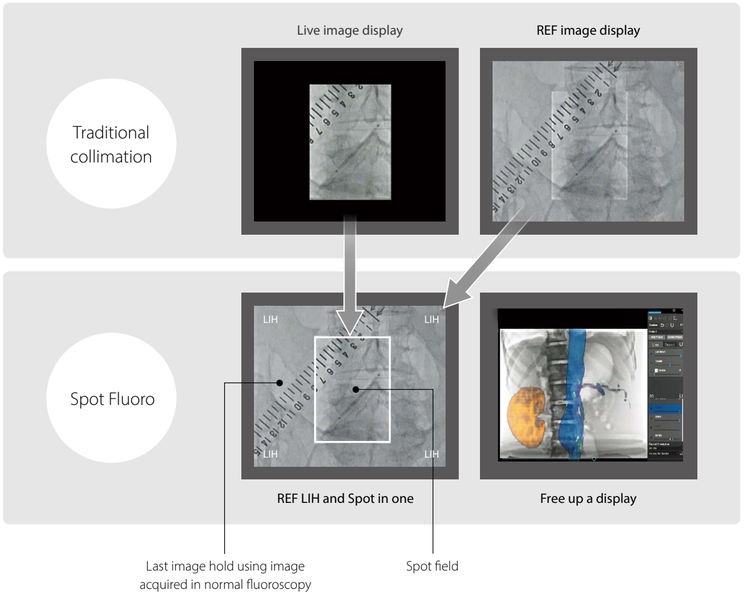


Asymmetric collimation allows reductions in patient dose.

Spot Fluoro: Industry's first spot fluoroscopy technology.

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 due to collimation in the ABC Region of Interest (ROI).

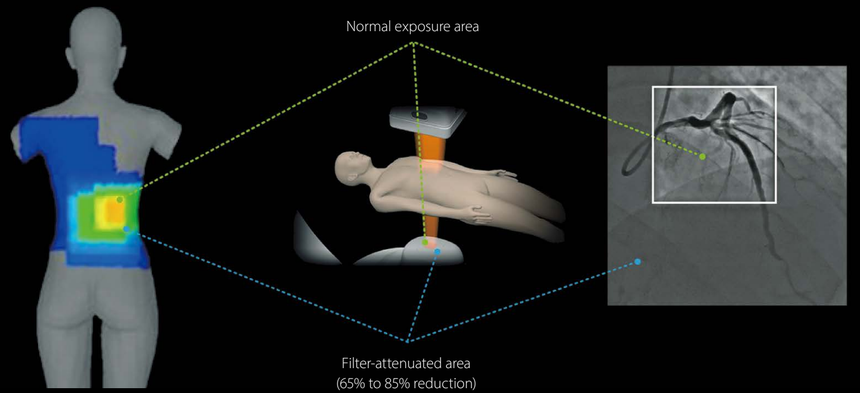
Spot Fluoro can reduce the cumulative dose area product by more than 50%.
Moreover, scatter radiation can also be reduced by more than 50%.
Spot Fluoro reduces unnecessary exposure and radiation burden to both the patient and the clinical staff present in the cath lab.



See more of interest, with less exposure.

Spot ROI*

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. During device placement visualization not only of the device, but also the surrounding anatomy is critical for success.



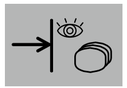
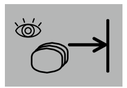
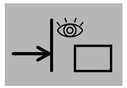
The ROI position can be moved up/down and right/left using this joy-stick button.

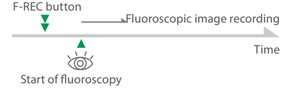
* Available for Alphenix Core +, Alphenix Biplane, Alphenix Sky and Alphenix Sky +

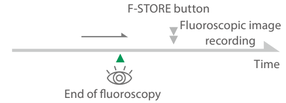
Advanced dose management tools.

Fluoroscopic acquisition

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

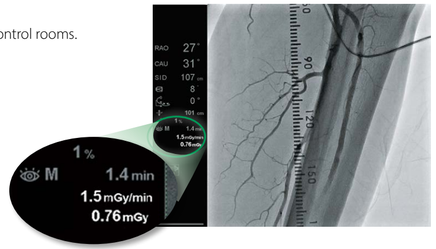
F-REC		Fluoroscopic images acquired after pressing the fluoroscopy start button are recorded. Images can be recorded for up to 90 seconds or 1020 frames. (Dynamic image recording)
F-STORE		Fluoroscopic images acquired in the last 10 seconds are recorded. Press the F-STORE button after fluoroscopy is 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)





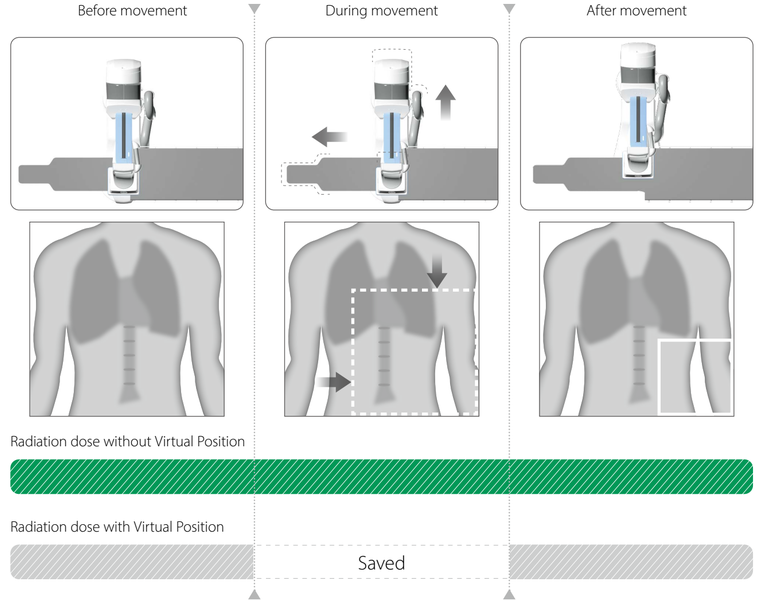
Real-time display of exposure dose

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



Virtual 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.

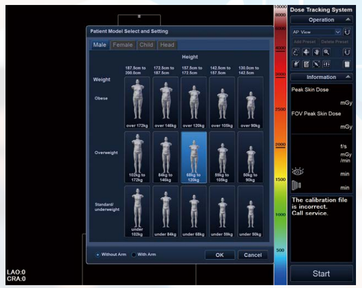
Dose Tracking System* (DTS)

Visualize and record in real-time

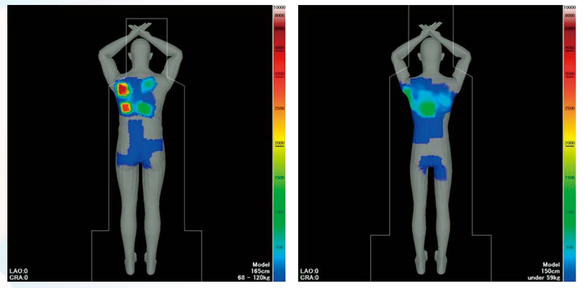
Enhanced dose awareness is available through the DTS tool, providing estimated skin dose in real-time. Displayed as a 3D color map on a realistic patient graphic, this data can be used to exclude regions of previous high exposure both during and in subsequent procedures.

Guide the procedure

Each patient's estimated peak skin dose is represented on a 3D color map. Live data can be displayed allowing the clinical staff to avoid regions of previous high exposure. During long procedures, the operator can choose alternative approaches to optimize patient radiation dose while continuing the treatment.

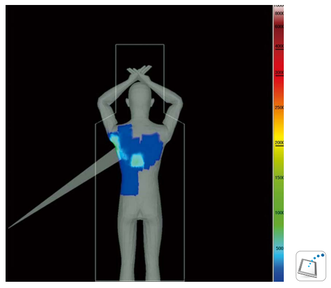


Multiple 3D patient models are defined in advance and a patient model is selected for each study.



without DTS　　with DTS

With DTS, the operator can choose different angulations and modify their approach during procedures to avoid regions where dose thresholds could be exceeded.



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.

* option

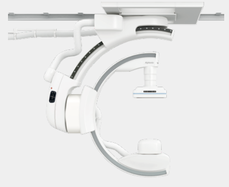
Work with unprecedented access.

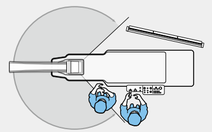
Unique multi-access floor and ceiling mounted C-arm positioners were developed through extensive collaboration with leading clinicians. This resulted in designs that optimize C-arm positions in order to assist clinicians in providing optimal patient care.

Alphenix *Sky+*

Advanced ceiling-mounted system

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



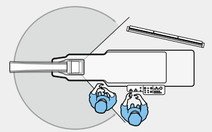


Selectable table

Alphenix *Sky*

Ceiling-mounted system

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

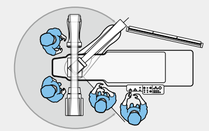


Selectable table

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.



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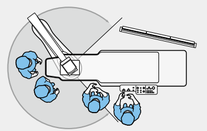
Alphenix *Core+*

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.



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