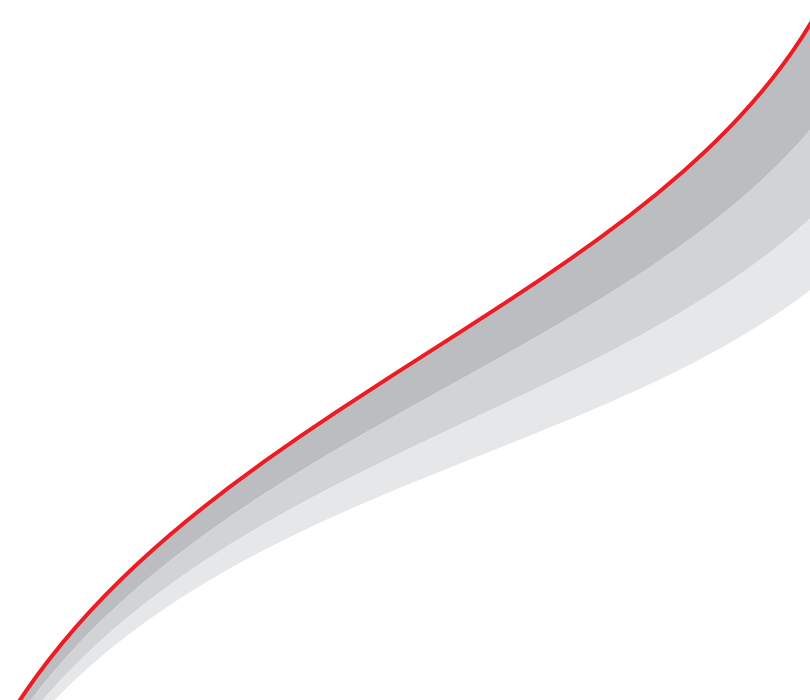


SURGICAL MOBILE C-ARM IMAGING SYSTEM

OPESCOPE ACTENO

FD type





Easy to view for the doctor, and

easy to use for the operator.





SURGICAL MOBILE C-ARM IMAGING SYSTEM
OPESCOPE ACTENO™
FD type

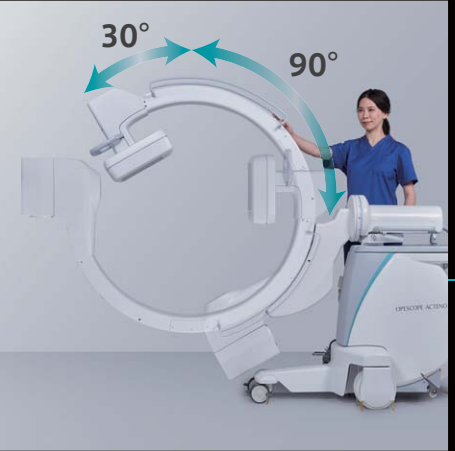
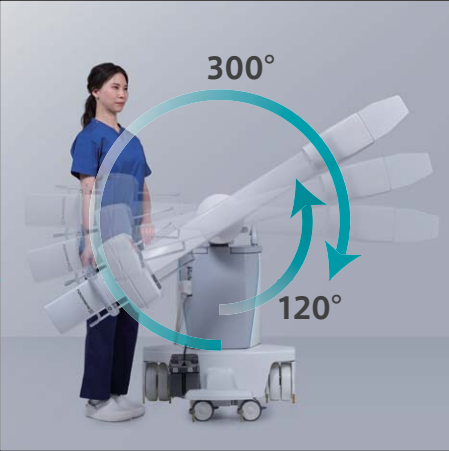
Free and easy positioning achieves performance to
meet the demands of the operation room and emergency room.
The high-resolution FPD takes Surgical Imaging to new levels.



Simple and Smart Operability

Inheriting the easy operability for both the doctor and the operator from the conventional model, ACTENO FD type meets the challenge of "how to reduce stress for the doctor and the surgical staff" with the OPESCOPE cleverly designed operability.

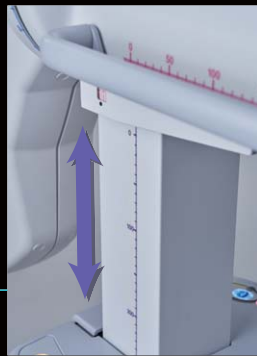
C-arm operation



Color matched buttons

Manually operable C-arm with electromagnetic locks for every direction

The C-arm can be moved without releasing the lever lock. The counterbalance system enables C-arm fully manual operation including vertical movement. The C-arm lock can be released by one button for each direction with all electromagnetic controls. Buttons color-matched to the direction of movement of the C-arm are located at each side of the C-arm unit for intuitive operation.



Doctor handle

C-arm lock can be released from the doctor's side.

Fluoroscopy image view position can be easily adjusted by the doctor. The doctor handle enables a doctor to perform the C-arm positioning and turn the laser pointer ON/OFF for speedy surgery.



Compact Design for Easy & Stable Mobility

The center of gravity of the C-arm unit is designed to be above the rear-wheel.
The compact, carefully designed C-arm unit offers excellent mobility and is surprisingly light and smooth to move. ACTENO FD type provides a comfortable operating environment by making effective use of the limited space around the surgical area.

Easy to drive



Less interference with the operating table

The short distance between the front wheel and the main body enables easy C-arm unit access to the operating table. Free positioning is possible because the front wheel cover and C-arm do not interfere.



Large double wheels for lighter drive

Easy to move by large double wheels. The operator can easily change C-arm unit direction because each wheel rotates independently.



Round shape for easy driving

The round bottom is applicable to put the operator's foot under the unit and makes it easy to apply force to the initial action when moving.



Wide working space Comfortable and flexible positioning

Compact X-ray tube supports flexible positioning

The X-ray tube is also compact and has a smart design. The design enables operators to perform complicated positioning such as hip joint axis positioning.

Clean C-arm



Absence of cables on the C-arm for easy cleaning

All cables around the C-arm are built-in, and the curvilinear design of the C-arm unit makes wiping and cleaning easier. You can always keep the unit clean and it reduces cleaning time after surgery.

Low Dose x High Image Quality Real-time Image Processing

SCORE PRO Advance

ACTENO FD type is equipped with the SCORE PRO Advance, real-time image processing system, which is popular in our flagship angiography systems, and the multi-purpose R/F system. It instantly displays low-dose, high-quality images optimized for each body part and procedure on the monitor.



Without SCORE PRO Advance



With SCORE PRO Advance

Motion tracking noise reduction

By performing block matching between frames, and recursive processing between the most matched blocks, noise is efficiently reduced without any lag. The technology improves the visibility of the device especially during fluoroscopy, and there is no afterimage when observing while operating the C-arm or a surgical device.

Line detected edge enhancement

SCORE PRO Advance emphasizes only the line structure of the target object without enhancing background noise. It minimizes any artifacts that normally occur with multiple image parametric equalization, which allows more natural and intensive edge enhancement. It emphasizes only the target object such as a spinous process or a needle tip that the doctor wants to observe. By pressing the switch, a fluoroscopic image is instantly displayed on the monitor.



Auto & pinpoint brightness control

Auto brightness control — The brightness of a fluoroscopic image is analyzed in real time and the X-ray conditions are automatically adjusted to control the region of interest (ROI) to always keep the optimal brightness.

Pinpoint brightness control [OPTION] — Touch Focus, which optimizes brightness for any touched area, is recommended when metal like operating table rails, implants is reflected in the field of view. Like a familiar mobile device, it automatically controls the brightness where you touch it. Get the images of your choice.



High-resolution FPD

The compact 8-inch high-resolution FPD provides distortion-free and clear images. A fiber-based grid is used for the intermediate material. This hardware achieves low dose and high image quality.



Boost pulse mode

Pulsed X-rays are radiated at high power to obtain high-contrast images while minimizing the dose. Clear image observation can be achieved even for thick body parts such as the lateral aspect of the lumbar spine.

Consideration for Dose Reduction

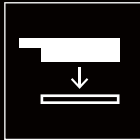
A combination of SCORE PRO Advance achieving no-afterimage fluoroscopy, and pulse fluoroscopy at up to 15 fps effectively reduce exposure while controlling motion artifacts. ACTENO FD type supports low dose operation with special dose reduction technology.



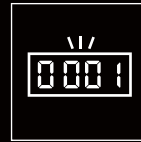
Low dose mode
Two different low-dose modes can be used depending on the situation.



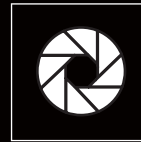
15 fps pulse fluoroscopy
Good tracking in device moving scenes.



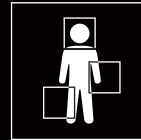
Removable grid
X-ray dose reduction for pediatric patients.



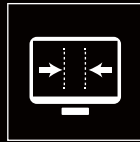
Real-time calculated dose display
Real-time display on fluoroscopy monitor and touch panel monitor.



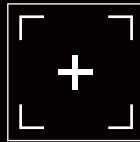
Octagonal collimation
Limiting the radiation field to the necessary area.



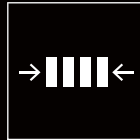
Smart APR
The optimal X-ray condition program is set for each body part.



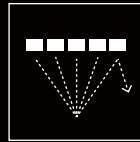
Virtual collimation
Adjusting collimator position without X-ray dose.



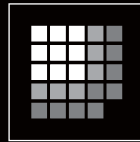
Laser pointer OPTION
Support C-arm positioning without X-ray dose.



Fiber grid
High grid-ratio and density provides both low dose and high image quality.



Beam hardening filter
The optimal Beam Hardening filter to eliminate soft X-ray is automatically set according to APR.



SCORE PRO Advance
Shimadzu's image processing technology achieving both low dose and high image quality.



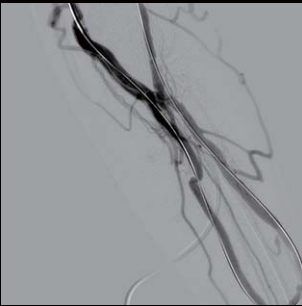
C-Memory
C-Memory function can memorize two sets of image rotation position, collimator position and X-ray condition to reduce fluoroscopy for re-positioning.

Real-Time DSA OPTION

High speed real-time DSA at up to 7.5 fps and shunt imaging are available.

Misregistration-free RSM filter processing

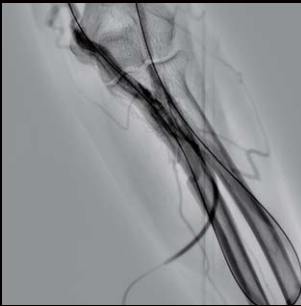
If misregistration occurs due to body movements during contrast imaging, RSM filter processing creates images unaffected by movement. It is also effective when you want to track and view the contrast medium flowing in the blood vessels.



Normal DSA



Misregistration image



RSM filter processing



Long cable foot switch OPTION
X-ray exposure can be performed from outside of the operating room.



Communication support functions for the doctor, the operator and the operating room staff

The touch panel of the C-arm unit can display the fluoroscopy image, which supports the operator who has difficulty seeing the monitor unit. OPTION

The operator sometimes can hardly see the image on the monitor because it faces the doctor. ACTENO FD type can display a fluoroscopy image on the touch panel in front of the operator. This helps smooth communication between the doctor and the operator.



Fluoroscopy image clone function OPTION

The monitor angle can be easily adjusted and fluoroscopy image can be shown on the reference monitor. This improves communication between the doctor and the other staff.



Image output function to an external device OPTION

The function can output images to an external device such as a ceiling-support monitor in the operating room.



Comfortable wireless environment OPTION

ACTENO FD type meets the demand from operating staff to reduce even one cable on the floor.



Wireless hand switch

※Availability of the option depends on regional radio regulations. Please contact a Shimadzu representative in the region regarding availability.



Wireless network connection

※Availability of the option depends on the country. Please contact Shimadzu representative in your country regarding availability.

Area dosimeter OPTION

Supporting dose management by area dose measurement.

C-Memory

Memorizes the image rotation position, collimator position and X-ray condition in cases where frontal/lateral switching occurs frequently.



Power specification

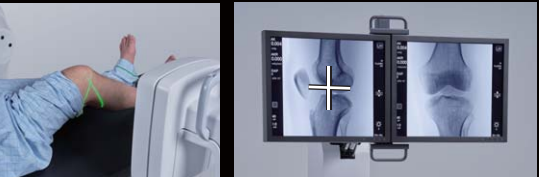
Power can be supplied from a 100 V or 200 V outlet.

Image save to USB memory

JPEG/BMP image can be saved to USB memory.

Laser pointer OPTION

Laser marker supports position alignment. The marker can be displayed on fluoroscopy image.



DICOM network connection

ACTENO FD type can connect to the hospital network by wired or wireless LAN (option).

- MWM
- STORAGE
- PRINT
- RDSR OPTION
- MPPS OPTION

Monitor vertical adjusting and folding function

The monitor can be adjusted to a height that is easy for the doctor to see. Also, it can be folded and stored compactly after surgery.



Hand switch OPTION

Fluoroscopy and radiography can be selected by hand switch.



Label Description: SURGICAL MOBILE C-ARM IMAGING SYSTEM OPESCOPE ACTENO

Founded in 1875, Shimadzu Corporation, a leader in the development of advanced technologies, has a distinguished history of innovation built on the foundation of contributing to society through science and technology. We maintain a global network of sales, service, technical support and applications centers on six continents, and have established long-term relationships with a host of highly trained distributors located in over 100 countries. For information about Shimadzu, and to contact your local office, please visit our website at www.shimadzu.com



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Shimadzu Corporation Medical Systems Division has been certified by TÜV Rheinland as a manufacturer of medical systems in compliance with ISO9001:2015 Quality Management Systems and ISO13485:2016 Medical Devices Quality Management Systems.

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