

A new Dimension of Versatility

FD technology enters the fluoroscopy suite.

Fluoroscopy is one of the last modalities to introduce flat detectors. The main drivers for this development is the need for an increased versatility in utilizing a flat detector for radiographic examinations in a fluoroscopic room.

The mix makes the challenge

For studies where real time imaging is critical, such as swallow studies and examinations of the gastrointestinal tract, fluoroscopy is the modality of choice, making fluoroscopy systems to be standard equipment in every hospital. The

wide applications range in a fluoroscopic room includes various contrast-media studies, as well as general radiographic work and even angiographic procedures. For that reason fluoroscopy systems are usually equipped with an image intensifier and a CCD camera for dynamic imaging as required for real-time studies. For acquisition of radiographic images many fluoroscopy systems are equipped with a Spotfilm device for cassette operation. In order to achieve optimal capacity utilization general radiographic work performed on a fluoroscopy system became a growing relevance in the past decade. Thus the requirement of high-resolution imaging and a more streamlined workflow were the key drivers for the first in-

roduction of FD technology in the fluoroscopy suite.

Introducing workflow smoother than ever

As a first step – launched at RSNA 2005 – a mobile flat detector (mFD) was available for the AXIOM Luminos TF conventional fluoroscopy system. This 35 cm x 43 cm (14" x 17") detector enables digital image acquisition either in the table or wall stand, as well as free exposures. The mFD provides the high spatial resolution and necessary detail information as needed for excellent radiographic imaging.

The images taken with mFD are available on the imaging system of AXIOM Luminos TF within a few seconds. This smoothes and greatly shortens workflow because cassette processing and merging image on a PACS station are eliminated. Digital radiographic images such as decubitus view during a barium enema study will show up in the same patient folder of the fluoroscopic imaging system.

The results speak for themselves. One third of all AXIOM Luminos TF systems delivered worldwide are equipped with mFD.

Revolutionizing the fluoroscopy suite

Dynamic flat detectors have long since displaced image intensifiers on C-arm systems for angiography and cardangiography.

AXIOM Luminos TF with mobile flat detector provides full flexibility for any projections.





Brilliant image quality with a large field of view. Overview radiograph after a Barium enema.



AXIOM Luminos dRF revolutionizing the fluoroscopy suite.

The two key challenges faced by a flat detector in a fluoroscopy system are

- the need to perform dynamic sequences and real-time imaging to replace the image intensifier.
- fulfill requirements of general radiographic imaging such as high resolution and large field of view.

With the availability of a brand new detector that is able to perform dynamic as well as static imaging, Siemens was able to develop AXIOM Luminos dRF. This remote fluoroscopy and radiography system combines both imaging technologies in one system, eliminating image intensifier and cassette tray.

A new dimension of versatility

Since its launch at RSNA 2006, AXIOM Luminos dRF brought the worldwide market a new dimension of versatility and workflow to the fluoroscopy suite. With its universal flat detector, the fully digital 2-in-1 system for fluoroscopy and radiography fulfills the needs of both imaging techniques. Therefore, it can be utilized flexibly based on examination

mix – from classical fluoroscopy studies to radiography and even angiographic procedures – all fully digitally acquired with one and the same flat detector.

Larger, lower, faster

The large 43 cm x 43 cm (17" x 17") flat detector can cover about 50% more area than an image intensifier with a diameter of 40 cm (16"). AXIOM Luminos dRF delivers distortion-free images with consistent brightness distribution and a high resolution of up to 3,4 lp/mm comparable to a dedicated digital radiography system. Based on medical indications, image resolution and hence radiation dose can be selected optimally from a variety of imaging modes to keep the dose level as low as reasonably possible.

The system architecture has also changed considerably thanks to the flat detector. Now the table can be lowered down to a comfortable 48 cm (19"), which allows easier patient transfer and positioning facilitating a new level of comfort for patients and staff.

Workflow steps for cassette processing are eliminated, significantly shortening examination time and also providing optimal integration into the clinical network.

The ultimate combination

Thanks to its versatility and workflow efficiency, AXIOM Luminos dRF can easily reach high utilization rates. It is suitable for changing examination mixes and thus a future-proof investment.

All these benefits were made possible by the combination of essential detector technology and sophisticated system design, demonstrating how the union of technology and medical equipment delivers brilliant clinical results, a smoother-than-ever workflow, and a new dimension of versatility.

But there is even more to come

Look forward to full flexibility for any projections with forthcoming system enhancements: the brand new wireless flat detector wi-D* and the new overhead tube support*. Even further broaden the clinical versatility of AXIOM Luminos dRF.

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