



# High image quality, dramatic dose reduction

Philips MicroDose Mammography system

**PHILIPS**  
sense and simplicity

# Enhancing patient care and business productivity

By combining features that enhance image quality and speed with those that provide outstanding patient comfort and low dose, Philips MicroDose mammography system can contribute to your business growth and productivity while helping you provide outstanding patient care.

Philips MicroDose mammography system provides exceptional mammography images at low radiation dose. With MicroDose, clinicians report using a significantly lower average X-ray dose as compared to other full-field digital mammography (FFDM) systems.<sup>1,2</sup>

MicroDose delivers future-proof technology that will allow you to be competitive and deliver excellent patient care. Its exclusive photon counting detector technology opens up opportunities for advanced future breast applications.



## We're there for you

Philips Healthcare Services supports you in delivering quality breast imaging. We help keep your screening and diagnostic solutions performing at their peak, motivate and educate your staff, and help drive your operational efficiency. Our service solutions help you to enhance your workflow efficiency while reducing costs, and are always focused on helping you deliver the best care possible.

## Grow profits with MicroDose marketing

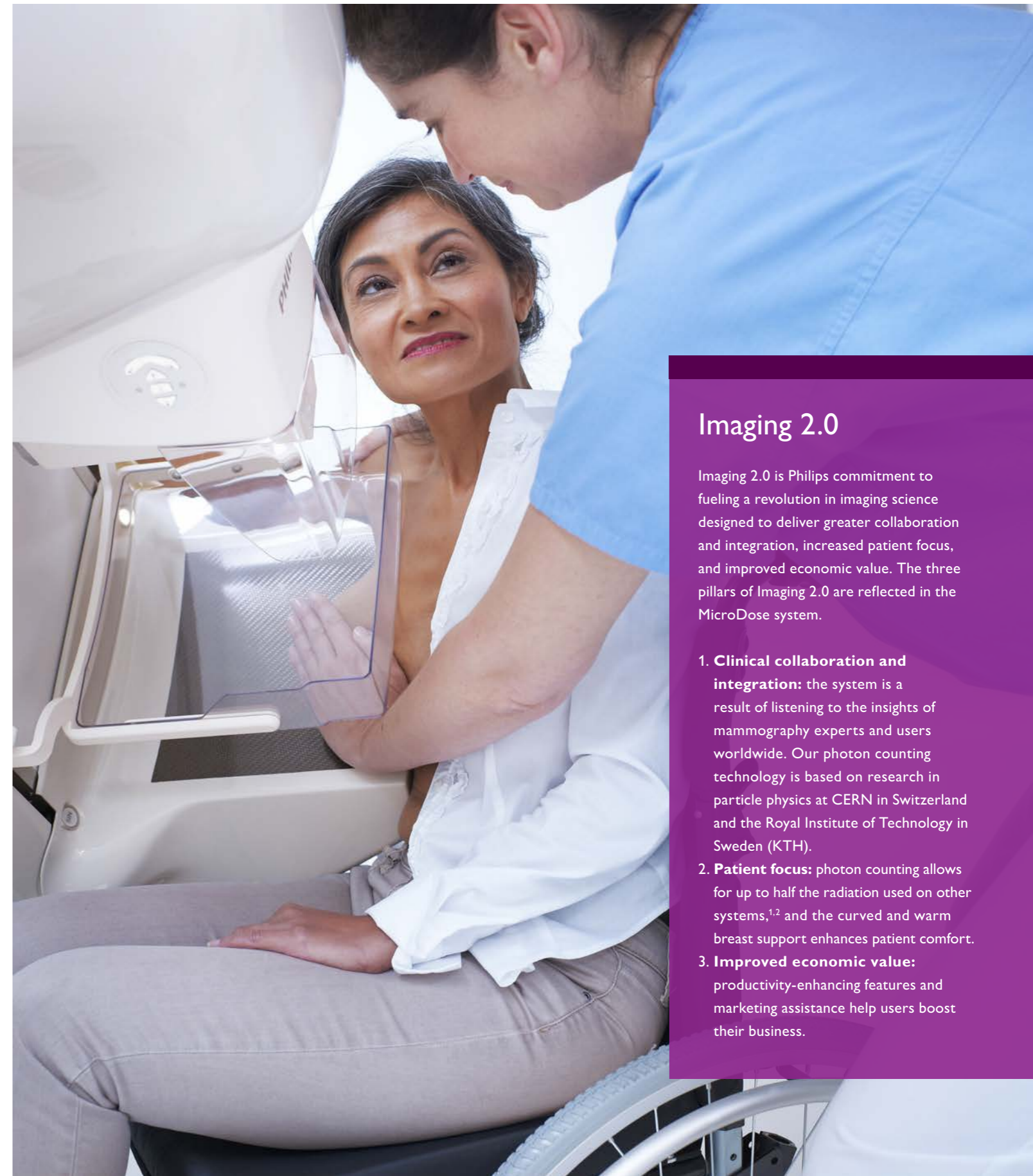
The considerable dose reduction<sup>1,2</sup> possible with MicroDose gives your business a strong competitive edge. Our MicroDose marketing program includes a variety of printed information for your waiting room, plus a powerful market launch package with news releases and marketing tools that help you boost awareness of the benefits of your MicroDose mammography system.

## Dose matters

Breast tissue is sensitive to radiation. With Philips MicroDose, clinicians have achieved substantially lower radiation dose than with other mammography systems,<sup>1,2</sup> without compromising image quality.

## Designed to enhance comfort

MicroDose is designed to provide a less stressful mammography experience. The exam – including image acquisition – takes less than five minutes, offering speed and convenience that patients appreciate. The system also provides a curved patient support and a comfortably warm positioning surface. The ergonomic operation makes it easy for users to focus on patients and put them at ease. The result? Shorter examination times and high patient throughput.



## Imaging 2.0

Imaging 2.0 is Philips commitment to fueling a revolution in imaging science designed to deliver greater collaboration and integration, increased patient focus, and improved economic value. The three pillars of Imaging 2.0 are reflected in the MicroDose system.

- 1. Clinical collaboration and integration:** the system is a result of listening to the insights of mammography experts and users worldwide. Our photon counting technology is based on research in particle physics at CERN in Switzerland and the Royal Institute of Technology in Sweden (KTH).
- 2. Patient focus:** photon counting allows for up to half the radiation used on other systems,<sup>1,2</sup> and the curved and warm breast support enhances patient comfort.
- 3. Improved economic value:** productivity-enhancing features and marketing assistance help users boost their business.



# Exclusive photon counting technology yields high dose efficiency

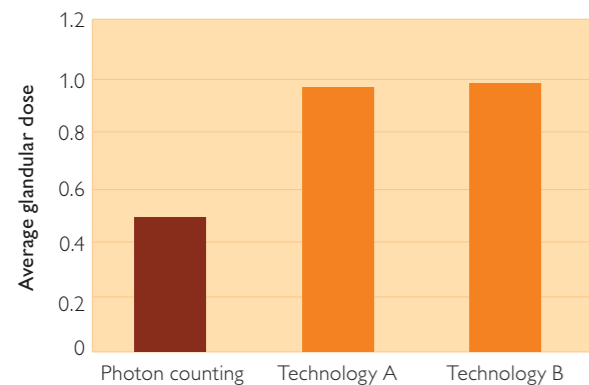
The key factor in reducing breast cancer mortality rates is the early detection of small lesions. This requires highly effective equipment with superb image quality

A number of factors, such as electronic noise, scattered radiation and information loss during analog-to-digital signal conversion can negatively affect image quality. To compensate, most FFDMs have to increase the radiation dose.

In contrast, MicroDose removes these factors almost entirely, using photon counting to facilitate confident detection at low radiation dose. Our patented detector counts the digital X-rays one by one, resulting in the following benefits:

- **No scattered radiation or electronic noise:** the image is acquired by a scanning method that uses a patented multi-slit collimator, eliminating 97% of scattered radiation.<sup>3</sup> In addition, the signals from the individual photons are clearly separated from the background electronic noise. Together, these factors significantly reduce the noise level in the image, allowing for high dose efficiency.
- **No signal conversion and no data loss:** the direct capture of the individual X-rays occurs without the analog-to-digital conversion steps used by other FFDM systems, so no information is lost in conversion.

- **No ghost images:** because Philips photon counting detector is fast enough to be ready when the next photon arrives, there are no “ghost images” that can interfere with image interpretation or slow down your workflow.
- **50 µm pixel size:** a pixel size of 50 µm enables visualization of fine structures in the breast, such as microcalcifications and spiculations, at up to half the radiation dose.<sup>1,2</sup>
- **100% fill factor:** flat panel systems typically have part of the detector surface covered by read out electronics, leading to a waste of dose and active pixel area. Thanks to the design of the photon counting detector, 100% of the detector surface is active, putting every single photon to use.
- **No additional dose from scout images with SmartAEC:**<sup>4</sup> SmartAEC continuously adjusts the radiation exposure depending on the density of the breast throughout the scan. This provides correct exposure without the need for scout images.



Average mean glandular dose per image in digital mammography screening programs, reported to the Swedish Radiation Protection Agency in 2010.

| Photon counting at glance |                             |
|---------------------------|-----------------------------|
| Detector technology       | Photon counting             |
| Detector material         | Crystalline silicon         |
| Dynamic resolution        | 1 photon                    |
| Resolution                | 25 megapixels (4800 x 5200) |
| Pixel size                | 50 µm                       |
| Field of view             | 24 x 26 cm                  |
| Fill factor               | 100%                        |
| Pixel warranty            | 100%                        |

**100% pixel warranty**

MicroDose's scanning technology eliminates dead pixels and associated image data loss, making faulty pixels and possible obscuring of microcalcifications a thing of the past. Photon counting gives you images you can trust.



# Simplified and enhanced workflow

MicroDose is designed to fit the way you work.

## The logical mobile choice

Mobile mammography brings breast examinations to women who might not otherwise have them. Philips MicroDose can be installed in almost any trailer, and the stable detector handles transport and storage temperatures from -10° to 50° C, providing year-round performance.

MicroDose in a mobile setting brings the same high quality, ergonomics and reliability as when it is in a stationary clinic, resulting in confidence and comfort for both the technologist and the woman.

### Easy positioning

With MicroDose, positioning is easy and efficient.

- Scanning technology allows flexible positioning because the breast can be placed anywhere in the field of view (FOV).
- The system features a curved patient support and a comfortably warm positioning surface designed to relax patients.
- The optimal size of the FOV (24 x 26 cm) decreases the need to capture extra views for larger breasts.<sup>5</sup> Small breasts are equally easy to position.

### High patient throughput

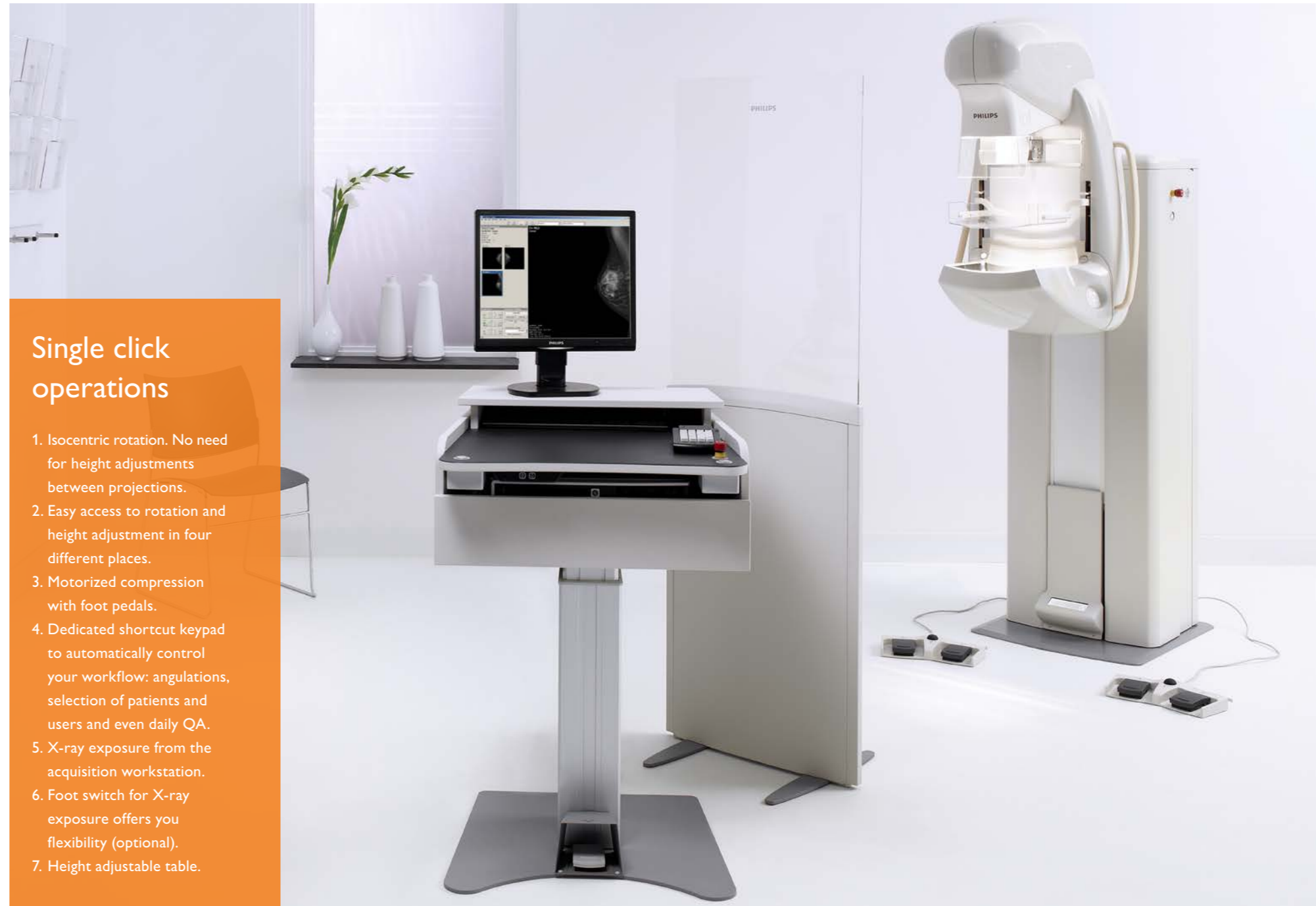
Equipped with one of the fastest and most efficient detectors on the market, MicroDose users perform as many as 15 four-image examinations per hour, and the system allows for even higher productivity if needed. By eliminating the need for scout images,<sup>4</sup> SmartAEC also adds to the system's throughput efficiency.

## Single click operations

1. Isocentric rotation. No need for height adjustments between projections.
2. Easy access to rotation and height adjustment in four different places.
3. Motorized compression with foot pedals.
4. Dedicated shortcut keypad to automatically control your workflow: angulations, selection of patients and users and even daily QA.
5. X-ray exposure from the acquisition workstation.
6. Foot switch for X-ray exposure offers you flexibility (optional).
7. Height adjustable table.



Dedicated compression paddles are available in the following sizes: standard, high edge, small, medium, spot.



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Please visit [www.philips.com/microdose](http://www.philips.com/microdose)



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