PHILIPS

*Digital**Diagnost C90***

Digital radiography

Release 1.1

Accelerate exam performance

Key advantages

- Fast workflow
- Diagnostic confidence
- High flexibility

Philips DigitalDiagnost C90 premium DR room is designed to meet the diagnostic imaging needs of the most demanding institutions. It allows you to comfortably see more patients per day and shorten patient wait times by decreasing the time to diagnosis with innovative tools that help drive workflow efficiency. DigitalDiagnost C90's live tube head camera, versatile room configurations, and exam automation technologies all help provide outstanding patient throughput.

DESIGN AWARD 2019

reddot award 2019 winner

UX DESIGN AWARDS product 2019

Save time and provide exceptional patient care

with the versatile DigitalDiagnost C90

Faster workflow and easier collimation
DigitalDiagnost C90 integrates a touchscreen and an optional live camera into the Eleva Tube Head for extended Eleva control, right in the exam room. The live camera helps with patient positioning by providing a clear view of the collimation area which can help alleviate potential imprecise collimation such as with bariatric patients. Better positioning can also help eliminate time consuming retakes that add unnecessary X-ray dose.

Utilizing the DigitalDiagnost C90 allows you to see 15 more patients per day.[1]

If you prefer a grid-less workflow, the optional SkyFlow Plus assists by producing images with grid-like contrast for all anatomies. There's no need to attach and detach a grid, so detector/patient positioning is fast and easy. Without a grid, retakes due to grid misalignment are a thing of the past. SkyFlow Plus helps you work more efficiently by rapidly acquiring high-quality images, while effectively managing scatter radiation.

Utilizing the DigitalDiagnost C90 allows you to avoid around 28 retakes per week.[1]

Since 67,5 %[3] of retakes in radiography result from wrong patient positioning, this problem is addressed by the optional Eleva Tube Head Live Camera.
The Live Camera allows the user to check on correct positioning prior to image acquisition also at the working console by means of live camera images.

94 % of the users think that the live camera images at the work station helps to avoid retakes.[2]

Faster setup time
- Live images of the collimated anatomy assist staff in initial patient positioning (optional)
- Detect patient movement and incorrect collimation early with a view of the collimated area at the Eleva Tube Head and Eleva workspot (optional)
- Double check all relevant system parameters, images, and order of views at the tube head as well as at the Eleva workspot

75 % of the users consider the Eleva Tube Head as helpful spending more time with the patient.[2]

Diagnostic confidence
DigitalDiagnost C90 now offers two features to improve your ability to provide a confident diagnosis.

Philips UNIQUE 2 image processing uses next generation image processing software to provide superb images of all anatomical areas. UNIQUE 2 improves clinical image quality by providing selective enhancement of tiny details, increased contrast, and reduced background clutter.

UNIQUE 2 beats the Philips' benchmark, with 80.1 % of the reader votes showing preference or equivalence.[4]

Philips Bone Suppression[5] software helps remove bone structures from adult erect chest images for an unobstructed view of soft tissue. This clear view allows you to have a more accurate image interpretation. Philips Bone Suppression can improve actionable nodule detection by 16.8 %[6] without the need to expose the patient to additional X-ray dose. As part of Philips' Eleva platform, Bone Suppression is integrated into the regular system workflow. Depending on the protocol it provides automatically processed images without the need to send them separately to PACS.

[1] Compared to the previous release of DigitalDiagnost and based on 100 patients per day. Actual results in other cases may vary.
[2] Validated by clinicians in a Philips' development environment.
[3] Little, K.J., et al. (2016) Unified Database for Rejected Image Analysis Across Multiple Vendors in Radiography, Journal of the American College of Radiology, 14(2), 208-216.
[4] Results of a blinded image comparison study of UNIQUE 2 versus UNIQUE.
[5] Riverain Technologies' ClearRead Bone Suppression
[6] Freedman M et al. Improved detection of lung nodules with novel software that suppresses the rib and clavicle shadows on chest radiographs. Radiology. 2011.

High performance room VM90 with vertical movable stand and table

High performance room VS90 with vertical stand and table

Flex room VM90 with vertical movable stand and single side suspended table TH-S

Value room VS90 with SkyPlate sharing between vertical stand, table or free exposures

Chest room VS90 with vertical stand

Emergency room with ceiling suspension and SkyPlate or SkyPlate E[7]

High flexibility

DigitalDiagnost C90 offers a variety of configuration options to fit your clinical application and budgetary needs. It gives you the opportunity to choose the configuration that best satisfies your departmental requirements.

1. High performance room VM90 – High patient throughput and outstanding ergonomics with the vertical movable stand and workflow efficiency with up to three detectors
2. High performance room VS90 - High patient throughput with up to three detectors
3. Flex room VM90 – All applications performed in a small space
4. Value room VS90 – Cost-effective room with one detector
5. Chest room VS90 –Dedicated geometry for a full range of chest exams
6. Emergency room – Designed to offer more space for trauma work

DigitalDiagnost C90 moves around the patient with ease, giving you flexibility of exam preparation. Optionally the system offers a 'move to position' function that allows it to travel automatically to a selected exam position. With the further optional fully automated ceiling suspension, both detector and tube move in unison at the touch of a button. This allows you to reduce patient repositioning with virtually unlimited predefined position settings.

The High performance room VM90 and Flex room VM90 also add a vertical movable stand to compensate for patient movement and further reduce the need for repositioning. The Flex room VM90 then takes flexibility to the next level with a single-side suspended table including swivel option. The detector on the vertical movable stand slides freely under the table for spine imaging. For bed and trolley exams, the table can be quickly swiveled away to allow space for easy access.

However you choose to configure your DigitalDiagnost C90, you can select from a wide variety of innovative features to personalize your room setup, reinforcing your primary commitment of providing exceptional patient care. So, go ahead and create a premium DR room like no other.

[7] SkyPlate E is not available for sale in all countries.

Height adjustable table (TH2)

Height adjustable table with floating tabletop, removable grid and 3 AEC measuring chambers

Height adjustment	51.5 cm to 91.5 cm (1′ 8.3″ to 3′)
Tabletop dimensions	240 cm × 75 cm (7′ 10.5″ x 2′ 5.5″)
Tabletop travel range	longitudinal +/- 56cm (1′ 8.4″) transverse +/- 12.8 cm (5.0″)
Max. patient load	375 kg (826 lbs)
Table also available as single side suspended table (TH-S)	

Movable vertical stand (VM)

Movable vertical stand for efficient upright, cross-lateral and under-the-table examinations

Vertical movement range	35 cm to 185 cm (13.8″ to 6′ 0.8″)
Maximum horizontal travel	5.5 m (18′ 0.5″)
Detector unit dimension (w x h)	59.6 cm x 57.5 cm (23.5″ x 22.6″)
Tilt angle	horizontal axis –20° to +90°, motorized tilting vertical axis +45° to –23°, manual tilting
Vertical stand also available as fixed vertical stand (VS).	

Movable Ceiling Suspension (CSM)

Travel with Comfort Track and Comfort Move (optional)	longitudinal 3.44 m (11′ 3.4″)
Travel with fully motorized Comfort Position[8] (optional)	longitudinal 3.28 m (10′ 9.1″)
Ceiling height at source image distance 110 cm (44″)	2.83 m to 3.21 m (9′ 3.4″ to 10′ 6.4″)
Also available with extended longitudinal travel for Comfort Track, Comfort Move and Comfort Position.[8]	

Fixed detector

Type	Digital Cesium Iodide flat detector
Detector size	43 cm x 43 cm (17″ x 17″)
Active area	42 cm x 42.5 cm (16.5″ x 16.7″)
Image matrix size	2,840 x 2,874 pixel
Pixel size	148 µm

X-ray tube assembly

Dual-focus rotating anode X-ray tubes for excellent performance over a long lifetime

High power X-ray tube (SRO 33100)	
Maximum voltage	150 kV
Focal spot 0.6 mm	maximum power 33 kW
Focal spot 1.2 mm	maximum power 100 kW

Generator

Mains voltage	380 V / 400 V; 50/60 Hz, 3-phase 480 V; 60 Hz, 3-phase
Nominal power	65 kW or 80 kW

Eleva workspot

480 GB SSD total	
RAM storage capacity	16 GB
Monitor	21.3″ LCD color touch monitor
Matrix depth	16 bit/pixel
CD/DVD drive	24x CD reader/writer 8x DVD reader/writer

Eleva Tube Head (ETH)

Full color LCD touch display width	30.7 cm (12.1″)
Minimum viewing angle in horizontal and vertical viewing field	160°
6 color-coded control buttons – one for each direction	
Capacitive sensor for three-axis brake-release	
Data displayed at the Eleva Tube Head amongst others:	Patient data, Preview images, Collimation field size, Generator setting, Live Camera image (optional)

Large SkyPlate detector

Type	Digital Cesium Iodide flat detector
Detector size	35 cm x 43 cm (14″ x 17″)
Active area	34.5 cm x 42.1 cm (13.6″ x 16.6″)
Image matrix size	2,330 x 2,846 pixel
Pixel size	148 µm
Detector pixels	6.6 Megapixel
A/D conversion	16 bits
Weight	2.8 kg (6.2 lbs)
Also available as small SkyPlate detector.	

SkyPlate E detector

Type	Digital Cesium Iodide flat detector
Detector size	35 cm x 43 cm (14” x 17”)
Active area	34.5 cm x 42.5 cm (approx. 13.6” x 16.7”)
Image matrix size	2,156 x 2,653 pixels
Pixel size	160 µm
Detector pixels	5.7 Megapixel
A/D conversion	16 bits
Weight	3.1 kg (6.8 lbs)

[8] Comfort Position is not available for the Emergency room configuration

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