PHILIPS

ProxiDiagnost N90
Release 1.1

Digital radiography and fluoroscopy solutions

Redefining your fluoroscopy suite

The versatile ProxiDiagnost N90 digital radiography-fluoroscopy (DRF) room is a compact 2-in-1 powerhouse, with premium Philips imaging innovation, designed to enhance your clinical confidence.

The ProxiDiagnost N90 is the result of years of dedicated development, reflected in a system that offers versatility and premium features to meet virtually every exam need.

The system provides exceptional access to the patient with excellent image quality at a low dose. It achieves the perfect balance between radiography and fluoroscopy for fast exams that enhance patient and staff satisfaction.

Key Benefits

- Comprehensive dose management tools
- Improved image quality and faster workflow
- Enhanced clinical applications and ease of patient access
- Latest IT standards

Advantages of ProxiDiagnost N90

The ProxiDiagnost N90 premium DRF system is clinically comprehensive. Applications include gastrointestinal exams, arthrography, voiding cystourethrogram, swallow exams, as well as chest, spine, upper and lower extremities, and skull, to name a few. The system is suitable for a wide variety of patients, from pediatrics, where short procedure times and low dose are required, to obese patients up to 300 kg (661 lb.), where accessibility and penetration are most important.

Our best in class imaging chain
The reliable and well-proven Philips imaging chain is a product of years of industry leadership. Each element from the generator to the tube and beyond work in harmony to ensure image quality, diagnostic confidence, and low dose in every pulse.

Exceptional workflow features
- Dynamic UNIQUE enhances real-time fluoroscopy image processing with advanced de-noising and brightness stabilization.
- 7-Field AEC chamber allow for greater flexibility in positioning and image orientation regardless of detector placement
- Two high resolution monitors (one with touchscreen) are equipped with the customizable Eleva user interface to facilitate easy workflow in as little as three clicks

Comprehensive dose management
Dose management features like Philips patented in-pulse controlled Grid-Controlled Fluoroscopy (GCF), Intelligent Exposure (IQX), automatic filters, and collimation on last image hold (LIH), benefit both patient and staff by reducing patient dose without impacting image quality – perfectly suited for pediatrics.

Compact, scalable design
Build and adapt a system to suit your needs. Buy just the table for pure fluoroscopy, or add a ceiling suspended 2nd tube for radiography work. If you experience high volume, include a vertical stand and wireless SkyPlate detector to improve workflow. Then expand your software capability with stitching, clinical QC, Bone Suppression, and more.

Cost effective
The ability to perform high-quality radiography as well as fluoroscopy applications in one room facilitates high utilization. Share the SkyPlate wireless detector with other Philips systems and realize further cost efficiencies.

IT security
Security best practices are embedded within the lifecycle of ProxiDiagnost N90 in order to safeguard the confidentiality, integrity and availability of the system and its associated data. These security best practices are based upon the NIST 800-53 security and privacy control set. In addition, security related aspects of ProxiDiagnost N90 are designed based on US Department of Defense cybersecurity requirements.

For pediatric examinations, Philips Grid-Controlled Fluoroscopy (GCF) enables a **dose rate[1] reduction up to 68%[2]** compared to Pulse Controlled Fluoroscopy (PCF) depending on patient type and clinical application.

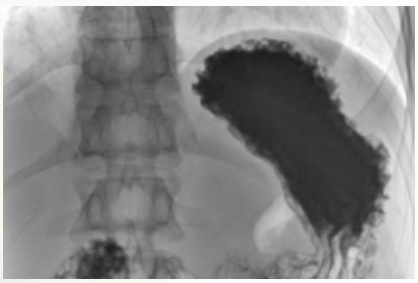
Outstanding accessibility

The small table footprint gives free access at the back. Combined with a slim detector housing. it allows oustanding access to the patient during procedures.

Table can accommodate patients up to 300 kg (661 lbs), and the detector parking position frees the tabletop completely for easy and safe access for the patient.

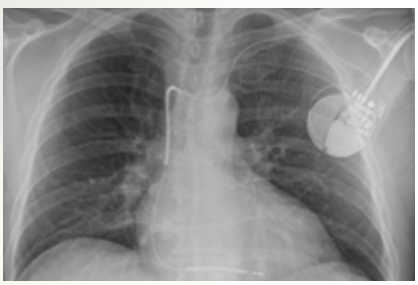
High flexibility with a true 2-in-1 system

Upper gastrointestinal examinations at up to 30 fps



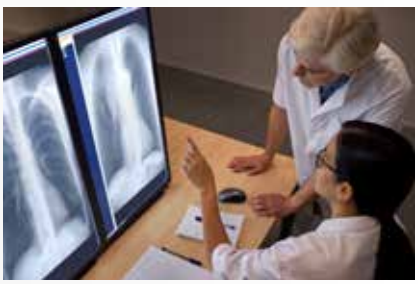
Dynamic UNIQUE image processing, in-pulse control technology, 7-Field AEC chamber and cutting-edge detector combine to offer you exceptional images from the first frame onwards

Experience fast workflow with ceiling suspended Eleva Tube Head with Live Camera Package



Improve the visibility of details (while the overall impression remains natural) with UNIQUE 2 image post-processing software.

Perform Digital Substraction Anglography (DSA) examinations with the ease of Eleva



Enjoy increased clarity of chest radiographs with Bone Suppression[3] technology for better clinical outcomes.

Superb image quality

The 43 cm x 43 cm (17 in x 17 in) dynamic flat detector facilitates high-resolution radiography and high-speed fluoroscopy. Optional SkyPlate wireless portable detectors feature outstanding image quality at a low X-ray dose with high DQE and MTF. UNIQUE 2 for radiography and Dynamic UNIQUE for fluoroscopy are well-established post processing software applications designed to increase diagnostic confidence through enhanced detail, contrast harmonization, and reduced noise/background clutter, with similar image impression.

Eleva – a common platform and user experience

As part of the Philips community of diagnostic X-ray systems, the ProxiDiagnost N90 shares the innovative Eleva platform including the Eleva workstation and now the Eleva Tube Head. The 30.7 cm (12.1 in) tube head touchscreen allows you to confirm patient identity, check or change all relevant system parameters while staying by the patient, and review radiography images after acquisition. The user interface delivers a smooth, patient-focused workflow with customizable presets and automation for excellent efficiency and increased throughput. The live camera collimation gives a bird's eye view of the collimated area and better visibility of collimated lines, helping technologists achieve accurate collimation with limited movement and manipulation of the system. The live tube head camera can also be activated at the Eleva workspot, allowing you to confirm patient position and collimation before any exposure is made. This helps prevent retakes and saves dose.

Build your own DRF suite

With ProxiDiagnost N90's adaptive design, you can tailor the system's geometry and options to suit your unique needs and those of your patients. Remarkably, the minimum room requirement for the system begins at only ~5.50 m x 3.50 m (~18 ft x 12 ft) for the pure fluoroscopy table and increases in a space effective manner as you add components.

	DRF high performance room	DRF value room	Pure fluoroscopy room
Table with large dynamic detector	⊙	⊙	⊙
Table with SkyPlate tray	⊙	⊙	
Ceiling suspended 2nd tube	⊙	⊙	
Vertical stand with large fixed detector	⊙		
Vertical stand with SkyPlate tray		⊙	

Utilizing the ceiling suspended Eleva Tube Head **speeds up your radiography workflow by 28 seconds** per examination.[4,5]

System at a glance

1 Accessibility
Outstanding access to patient during procedures through free access to all tablesides and a slim flat detector housing

Easy and safe patient access thanks to a tabletop that moves completely clear from detector housing

2 Image quality
Impressive high quality fluoroscopy from the first frame onward thanks to in-pulse control and dynamic UNIQUE image processing

Table Bucky work with large fixed or removable SkyPlate detector

3 Comprehensive dose management
Fully automatic adjustment of exposure settings to body thickness with intelligent exposure (IQX)

Optional Grid-Controlled Fluoroscopy (GCF) with in-pulse control for ultra-sharp pulses, frame rates as low as 0.5 fps and dedicated settings from newborn to bariatrics

4 Bariatrics
Spacious clearance area under detector and a wide tabletop accommodate large patients

Robust construction and high static table load of 300 kgs (661 lb) and high penetration settings for bariatric patients. Motorized Tube-lift to adjust SID as needed by patient type.

5 Exam control
Eleva Tube Head common user interface for radiography work. 30.7 cm (12.1 in) touchscreen allows user to confirm patient identity and check/change all relevant parameters.

The live camera supports precise collimation and patient position confirmation.

6 Clarity
Ceiling suspended, diagnostic grade, high quality monitor for clarity and confident decisions at patient side

Benefits per stakeholder

Radiologist
- Next generation easy-to-learn and use fluoroscopy controls with proven design on large installed base of Philips EasyDiagnost systems
- Confident diagnoses with flat detector technology, Dynamic UNIQUE and UNIQUE 2 image processing
- All high quality fluoroscopy runs can be recorded to document findings

Hospital administrator
- Excellent room utilization due to compact footprint, fully featured DRF system and fast workflow
- Fits clinical needs and space through flexible room concepts
- Lower costs by combining radiography and fluoroscopy rooms and sharing SkyPlate detectors with other compatible Philips products

Technologist
- Fast exams with Eleva's automatic patient exposure parameters
- Peace of mind thanks to in-pulse control for automatic adjustment of exposure parameters to body thickness
- Workflow and user interface harmonization between Philips DRF products

Patient
- Exceptional image quality and comprehensive dose management for targeted diagnoses
- Easy access to system thanks to slim design
- High static table load of 300 kg (661 lb.) supports wide range of patient types

Specifications

Table geometry

Weight capacity	Static Tilting All movements	300 kg (661 lb) 250 kg (551.2 lb) 185 kg (407.9 lb)
Footrest weight capacity	250 kg (551.2 lb)	
Table tilt angle	+90° – -30°, optional -45°/-85°	
Tabletop	200 cm x 80 cm (78.7 in x 31.5 in)	
Tabletop to detector housing clearance	25 – 60 cm (9.8 in – 23.6 in)	
Tabletop height	83.3 cm (32.8 in)	
Detector for table Bucky	SkyPlate 35 cm x 43 cm (14 in x 17 in) except for pure fluoroscopy room configuration	

Dynamic flat detector

Type	Cesium Iodide (CsI)
Detector size	43 cm x 43 cm (17 in x 17 in)
Active area	42 cm × 42.6 cm (16.5 in × 16.8 in)
Pixel size • **Radiography mode** • **Fluoroscopy mode**	 max. 148 µm max. 444 µm
Image matrix size	2840 x 2874 pixel
Acquisition mode continuous fluoroscopy	Up to 30 fps
Acquisition mode pulsed fluoroscopy with Grid-Controlled Fluoroscopy (GCF)	0.5 – 30 fps
Acquisition mode pulsed fluoroscopy with Pulsed- Controlled Fluoroscopy (PCF)	Up to 6 fps

Vertical stand (option)

Vertical travel (motorized)	30 – 180 cm (11.8 – 5 ft 11 in)
Detector	Fixed 43 cm x 43 cm (17 in x 17 in) or SkyPlate 35 cm x 43 cm (14 in x 17 in) or cassette
Tilting (motorized)	Optional, -20° – +90°

Generator

Power	65 kW, 80 kW optional
Exposure Techniques	• Manual: kV-mAs or kV-mA-s • Automatic Exposure Control (AEC) • Intelligent Exposure (IQX), in-pulse controlled • Automatic kV reduction techniques
Fluoroscopy Techniques	• Pulsed-Controlled Fluoroscopy (PCF), in-pulse controlled • Grid-Controlled Fluoroscopy (GCF) (optional), in-pulse controlled
Tube voltage exposure	40 – 150 kV
Tube voltage fluoroscopy	40 – 125 kV

Tubes	SRO 2550	SRM 2250 GS (with GCF option)	SRO 33100 ROT380 (for CSM)
Focal Spot	0.6 / 1.0	0.5 / 1.0	0.6 / 1.2
Anode heat storage capacity	300 kHU (220 kJ)	380 kHU (280 kJ)	300 kHU (220 kJ)
Maximum voltage	150 kV	125 kV	150 kV

Ceiling suspension (CS) with Eleva Tube Head (option)

Type	Four-part telescopic column
Ceiling height at SID 110 cm (44 in)	2.83 m to 3.21 m (8 ft 8.3 in - 10 ft 5.9 in)
Collimator	Motorized, automatic
Data displayed at the Eleva Tube Head amongst others:	Patient data, Preview images, Collimation field size, Generator setting, Live Camera image

SkyPlate detector (option)	Small	Large
Type	Digital CsI (Cesium Iodide) flat detector	Digital CsI (Cesium Iodide) flat detector
Detector Size	24 cm x 30 cm (approx. 10 in x 12 in)	35 cm x 43 cm (14 in x 17 in)
Active area	28.4 cm x 22.2 cm (11.2 in x 8.7 in)	34.5 cm x 42.1 cm (13.6 in x 16.6 in)
Image Matrix Size	1500 pixel x 1920 pixel	2330 pixel x 2846 pixel
Weight (incl battery)	1.6 kg (3.5 lb)	2.8 kg (6.2 lb)

1 Dose rate determined according to IEC 60601-2-54, 203.5.2.4.5.102, System set up: detector format 43 cm x 43 cm (17 in x 17 in), patient type children, 0.1 mm Cu + 1 mm Al filter, reduced dose and pulsed slow fluoroscopy mode with 2 pulses/s, Phantom: 5 cm (2 in) PMMA

2 Relative difference of two reference air kerma rates between system with GCF and system with PCF

3 ClearRead Bone Suppression by Riverain Technologies

4 Based on 4 images on average per examination

5 Validation with participants in test environment

4522 991 69391 * SEP 2021

How to reach us
Please visit www.philips.com
healthcare@philips.com