1 ****** **Easy Diagnost with WPD** **1**

EasyDiagnost Eleva DRF

The EasyDiagnost Eleva is a nearby controlled (conventional) R/F system for routine Radiographic and Fluoroscopic examinations like barium and iodine studies, dedicated vascular and non-vascular diagnostics and interventional procedures. All system controls are at tableside, so in every phase of the examination the patient can get full attention. The spring balanced servo assisted tower allows easily controlled movements. The system can easily be integrated in today's hospital and departmental workflow requirements.

Comprising:

- EasyDiagnost Eleva Stand and Spot Film Device Digital
- Eleva concept
- Ergonomic Eleva User Interfaces
- Accessories
- Remote access

EasyDiagnost Eleva Stand and Spot Film Device Digital

The high quality R/F stand is designed with life-time quality in mind. From the choice of the materials up to the process oriented production line, the EasyDiagnost Eleva sets world standards in production quality and reliability.

The Spot film device ensures easy handling in every phase of the examination.

Stand and Spot film device feature:

- a highly durable and top quality stand, supporting an under table tube
- a smart overall design as well as low-noise and low-vibration mechanics to help patients feel taken care of during treatment
- servo assisted longitudinal and vertical movement of the tower for exact and fast positioning of the x-ray beam in all tilt positions
- spring balanced and servo assisted compression movements for effortless GI work
- a compression stop can be set in various positions for patient safety e.g. in myelograms
- covered table mechanics for protection of patient and user as well as for easy way to clean the system
- anti-collision protection ensures safe movement of the stand during tilting and avoids damage to movable items (like stools, etc.)

Stand specifications:

Aramid tabletop

- foam core from 25 mm hard foam, upper layer 1.7 mm scratch resistant Aramid, bottom layer 0.8 mm plastic material with high durability
- filtration value (typical): 0,7 mm (at 100 kV, 2,7 mm AL HVL)
- size 200 cm x 69 cm (78.7 inch x 27.2 inch)
- maximum load 275 kg (606 lbs.)
- longitudinal movement +/- 83 cm (32.7 inch), constant speed of 6 cm/s (2.4 inch/s)
- lateral movement -10 / + 9 cm, (-3.9 inch / + 3.5 inch), constant speed of 4.2 cm/s (1.7 inch/s)
- flat section rails for accessories

carrier for spot film device with patented spider servo for effortless and sensitive movements:

- longitudinal direction, servo assisted: 75 cm (29.5 inch)
- lateral direction 22 cm (8.7 inch), manual movement
- compression 30,5 cm (12 inch), spider-assisted (EasyTouch)
- parking 52 cm (20,5 inch), manual

Spot film device digital

Eleva Control Console (see below)

- carrier for different image intensifier 23, 31, 38 cm (9,12 or 15 inch)
- motorized oscillating and moveable carbon fibre covered grid 60 lines/cm (152.4 lines/inch), ratio 10:1, focus 80 cm 31.5 inch) without tube lift or 90 cm (35.4 inch) with tube lift
- AMPLIMAT chamber with automatic selection of measuring fields
- compression cone with motorized movement from and into parking position
- automatic collimation in X- and Y-direction, secondary shutters close to image intensifier entrance
- removable lead rubber radiation protection

X-ray shielding for under table tube operation resulting in optimal protection of the operator during routine operation

Eleva concept and Eleva User Interfaces

The Eleva concept increases productivity by adapting the system to the way you work: The system is customizable and performs to the users specification from pre-exam to archive to support varying workflow patterns (from high throughput exams to time consuming procedures) and increase overall efficiency.

The Eleva concept features:

customizable system pre-sets like SpectraBeam RF filter selection (option) and pre-defined print formats

bi-directional RIS coupling (option) automatically activating the appropriate Eleva system pre-sets to increase exam efficiency even more

revolutionary User Interface Concept, including several modules:

- Eleva Stand Control at the spot film device (examination room)
- Table Side Operation control
- Eleva Footswitch (examination room)

Eleva Examination Control

The Eleva Examination Control (incl. keyboard and mouse) integrates all functions for patient administration, selection of acquisition and fluoroscopy parameters as well as all controls for operating the different subsystems in one desk. It provides convenient, logical and ergonomic arrangement of controls and displays.

It supports the philosophy that only those controls and related displays are active that are required for a certain type of examination.

Eleva Handswitch

Ergonomically designed handswitch for exposure control from the control room.

Eleva Stand Control at the spot film device

To operate the system at table side (nearby operation).

All stand movements, operation of main imaging functions, fluoroflavour selection, image intensifier field size selection, collimator control, etc. can be selected without leaving the patient.

Eleva Control Console with:

- table movement controls (tilting, lateral & longitudinal tabletop moves)
- collimator control
- EasySelect display and control for Eleva settings
- SmartWindow display provides information on the system status
- single/serial exposure technique selection
- controls for 4 image intensifier formats
- frame speed selection
- more operational functions needed for examinations

EasyGrip:

The ergonomic handle for ambidextrous one-hand operation on the system. All system controls are available at the table for full attention to the patient. The dynamic fluorograb button is integrated within reach for instantaneous grabbing of fluoroscopic images and complete runs.

EasySelect:

Eleva programming parameters, dose levels and pulse rates can be selected via 10 softkeys for easy adjustment of examination parameters partly even under fluoroscopy.

SmartWindow:

Display of guidance for all operational functions of the EasyDiagnost Eleva. A clear, situation dependent online information for error free handling is provided to the user.

Table Side Operation (available only with 2nd tube option, CS 3):

Located close to the footend of the table the TSO gives the user a convenient possibility to move the tabletop with the patient in the right position for e.g. phlebography studies. Longitudinal, lateral and tilting movements can be controlled.

In case of tomography (option) a test run can be executed from here without leaving the patient.

Eleva Footswitch:

For exposure and fluoroscopy control in the examination room.

Accessories

The following accessories are standard:

- detachable footrest with easy-to-clean surface
- pair of ergonomic handgrips

A wide range of accessories are available as option to support the systems' multifunctional capabilities.

Remote access

Access to the system's service software procedures from a remote location via network or modem connection. Remote access to a system can shorten the time needed e.g. changing system settings or problem diagnosis.

It contains:

- License for use of the Remote Access service software

WPD set

Philips wireless portable detector is part of the Eleva platform and defines a new dimension of flexibility and freedom within the radiography room.

Main benefits at a glance:

- DR speed and excellent image quality with the positioning flexibility comparable to CR
- Reduced patient infection risk and easy handling thanks to the detector's cable-free design
- Everlasting connection, no broken cable
- Easy handling for exposures in bed, wheelchair or weight-bearing feet

- Flexible positioning for lateral or oblique projections
- Instant image display
- State-of-the-art CsI detector technology and UNIQUE image processing for optimal image quality at the lowest dose
- Easy, precise and safe positioning around the patient, even for difficult projections, provided by a rich set of dedicated accessories
- Wireless portable detector sharing license, to use the wireless detector on another compatible Philips X-ray system

The wireless portable detector covers all relevant anatomy with its large detector area of 35 x 43 cm (14 x 17"). Depending on anatomy, it can be positioned in different orientations and offers full diagnostic information even with large patients. Combined with Philips advanced UNIQUE image processing, grid-line correction algorithm and state-of-the-art Cesium Iodide (CsI) technology, it has an excellent quantum efficiency (DQE) and helps to reduce the required patient dose. It provides instant image display with superb image quality on the Eleva workspot for increased diagnostic confidence.

Thanks to its cable-free design, the wireless portable detector allows quick and efficient procedures with high hygienic standards. The integrated handle on the detector, its robust design and a rich set of optional dedicated accessories (mobile holder, bed holder, click-on grids, detector protector and hygienic bags) offer easy, safe and quick positioning in the room. Special projections like laterals can easily be performed without moving the patient. Its slim design is optimized for critical environments and minimizes the risk of interfering with life supporting equipment, cables, tubes and catheters.

The detector features advanced low-power WiFi connection technology and is designed according to IEC 60601-1-2. It is compliant with life supporting devices and with pacemakers designed according to IEC (EN) 45502-2-1. The detector battery is automatically recharged when the detector is placed in its wall-mounted docking station and can be used up to 2.5 hours without charging. An additional backup cable connection allows instant image transfer in case WiFi connection is not available or the battery power becomes low.

Specifications

- 35 x 43 cm (14 x 17") wireless portable digital flat detector with Cesium Iodide (CsI) technology, active detector area 34.1 x 43.2 cm (13.4 x 17"), resolution 7.1 megapixel (2372 x 3000 pixels), pixel pitch 0.144 mm, pixel depth 16 bits
- Image resolution: up to 3.47 line pairs per mm
- Weight: 4.8 kg (10.6 lbs)
- Maximum patient weight: 100 kg (220 lbs) for weight-bearing examinations
- WLAN network standard: IEEE802.11 a or g (configurable)
- Encryption: default WPA2
- Optional click-on grids 8/40/130: ratio 8, 40 lines/cm (100 lines/inch), focus 130 cm (51") for use with source-image distance from 110 to 180 cm (44" to 56"), available in portrait and landscape orientations

Comprising:

- Wireless portable detector 35 x 43 cm (14 x 17")
- wall-mounted docking station
- battery and backup cable

- Set of hygienic plastic bags
- Software licenses
- Wireless portable detector sharing license
- Documentation

Compatible with:

- EasyDiagnost Release 5.0 and above

To protect a wireless portable detector investment, Philips is offering an optional dedicated accident protection program. Especially for frequent usage and when sharing the detector between rooms or systems, it prevents hospitals from high replacement costs in case the wireless portable detector is damaged from an accidental drop.

mShield

Philips mShield is part of an overall strategy to safeguard the data integrity of medical information systems. It protects Philips fluoroscopy modalities from potential malicious software attacks within the hospital network. It decouples the modality from the network and creates a secure environment. By restricting traffic to only authorized devices, mShield acts to prevent malicious activity directed from the modality to unrelated devices on your hospital network.

Network communication can be restricted to DICOM communication and remote service only.

Thereby channels, which hackers need for attacks or viruses need to spread become unavailable.

The total system uptime can be increased. The cycle time of required security upgrades (patches) can be elongated and synchronized with regularly maintenance activities. No valuable treatment time is lost through system downtime or staff dealing with network problems. Once installed it requires almost no maintenance or update.

Philips mShield's design is based on the latest recommendations of International industry standard bodies, such as NEMA,COCIR and JIRA, which recommend firewalls as an "effective and flexible tool" to safeguard the data integrity of medical information systems.

The mShield hardware is designed to fit into a professional medical environment with dedicated robustness against high temperature or high- voltage hazards.

It is located between the modality and the department network.

mShield comprises:

- mShield hardware
- Software license and documentation on CD
- Dedicated modality rule types

Compatible with:

- EasyDiagnost Eleva Rel. 3.1 and higher

- EasyDiagnost Eleva DRF Rel. 3.1 and higher

Extended Digital Imaging

The Extended Digital Imaging System for the Eleva family offers high performance digital image acquisition for fluoroscopic applications. All image-processing parameters are pre-prorammed instantly, so that EasyDiagnost Eleva is ready to acquire and display high quality digital images immediately. Due to the outstanding image quality, the user can prepare his diagnosis and report directly from the monitor, during or immediately after the examination.

Images can be acquired in 1K or 0,5K matrix sizes, with a maximum speed of 8 images/s or even 30 frames/s for 512 x 512 images (requires option High Speed Acquisition).

Live fluoroscopy images can be captured as single images or as complete runs. Any run of images can be displayed in a loop with adjustable speed and direction.

In addition it offers automatic on-line digital image processing and reviewing with the integrated ViewForum software.

Extended Digital Imaging offers printing facilities by preset layout, a number of preset layouts for specific examinations are available. The printing functionality can be extended with tailor-made printing protocols according to personal settings with the optional Print Protocol. Printing can be done by the touch of a button utilizing print protocols, which have been pre-programmed for the examination, making the workflow even more efficient.

Extended Digital Imaging is, in combination with the Subtracted Acquisition and Vascular Post processing option able to support vascular procedures.

Main features of Extended Digital Imaging:

- Acquisition
  - 12 bit deep digital image acquisition
  - Single and multiple shot exposures
  - Acquisition speed up to a maximum of 8 images/sec.
  - Acquisition matrix 1K or 0,5K
  - Acquisition memory of 1024 MB
  - FluoroGrab: grabbing of single fluoroscopic images
  - Dynamic FluoroGrab: grabbing of runs of fluoroscopic images
  - AutoStore of images into the ViewForum database on the hard disk
- Viewing
  - Easy navigation through examinations, runs and images
  - Viewing memory of 1 GB
  - On-line (re-)viewing of high quality images
  - Automatic, adaptive image processing
  - Automatic electronic shutters
  - Last Image Hold
  - Run Cycle: display of images in a loop with adjustable speed and direction
  - Flexible image overview
  - Excellent image quality by using optimized harmonization algorithms

        - Direct Mouse Manipulation (DMM)
        - User log-on
        - Default display protocols
        - Flexible screen layouts
        - Contrast, brightness, edge enhancement and grayscale inversion
        - Measurements (for length measurements in mm manual pixel size calibration is necessary)
        - Multiple free text annotation with adjustable font size
        - Copy annotation strings within a run
        - Up to 16 bit deep image processing
        - Automatic and manual asymmetric rectangular and circular electronic shutters
        - Rotate, flip
        - Zoom, zoom to shutter, pan
        - Magnification
    - Printing
        - One-touch printing according to personal settings or preset layouts
        - Manual printing with free style layout
        - True size and scaled printing
        - Multi tasking: background printing
        - Paper printing
        - DICOM print
    - Storage
        - Local storage on hard disk (minimum 72 GB)
        - AutoStore (to the hard disk) in the background
        - Archiving to e.g. PACS in the background with optional DICOM Export
        - Support of CD/DVD recording (CD/DVD-Storage SW license optional)
        - Movie export to *.avi
    - CR/F prepared (patient merge function)
        - To create a fully digital RF suite by seamless integration of CR and RF studies in the same patient folder on ViewForum
        - Simplifies workflow by providing just one single case to PACS

Comprising:

- Cabinet
- Acquisition memory of 1024 MB
- Alpha numeric keyboard
- Quick Review Module
- ViewForum keyboard with mouse for image processing
- Infrared viewpad for reviewing and postprocessing
- 72 GB hard disk
- 1 GB viewing memory
- CD/DVD writer/reader (note: CD/DVD Storage software license is optional)
- Floppy drive (3.5")

UPS

Uninterruptable Power Supply

The UPS feeds in case of a power breakdown the EasyDiagnost core components (System Controller, Remote Input/Output, Automatic Image Processing, ViewForum, Ethernet Switch, Firewall) to store images and/or complete the last task.

- Bridging time: 60 minutes
- Max. charging time: 6h

Clinical Education Program for Digital R/F Systems

RAD Handover OnSite Education: Clinical Education Specialist will provide one 24 hour onsite training for RAD (Digital Radiography) for up to four(4) technologists, selected by the customer including technologists from night/weekend shifts if necessary. CEU credits may be available if the participant meets the guidelines provided by Philips. Depending on your system configuration, the first four (4) hours onsite may be spent configuring new equipment for specific clinical needs, as well as reviewing important safety features and quality procedures. Please read training guidelines for more information.

RF Handover OnSite Education: Clinical Education Specialist will provide one 28 hour onsite training for RF (Radiographic Fluoroscopy) for up to five (5) technologists, selected by the customer including technologists from night/weekend shifts if necessary. CEU credits may be available if the participant meets the guidelines provided by Philips. Depending on your system configuration, the first four (4) hours onsite may be spent configuring new equipment for specific clinical needs, as well as reviewing important safety features and quality procedures.

Please read training guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref#226227-080418

Both RF (28 hours) and RAD (24 hours) weeks must run consecutively and students should attend both training sessions.

Training on DVD recorders (if purchased) will be conducted by the manufacturer of the DVD recording system and not Philips Clinical Education.

System Parts

- 989001003371 FLOOR PLATE EASY D. 45/90
- 989001003392 INSULATION KIT ED 45/90
- 980306030007 CABINET BOX (Quantity of 3)
- 980306690109 CABLES F/ EASY DIAG-SCP INSTALL
- NRFA791 UPS

2	****	**Bucky device for wireless detector in the table**	**1**

Easy-to-operate tray, allowing the positioning of the wireless portable detector in portrait or landscape orientation.
Automatic collimation for X-ray beam limitation to digital flat detector, according to pre-programmed examination parameters. Removable grid for optimal image quality and dose. An integrated three-field automatic exposure control chamber ensures optimum image quality with correct radiation dose even for difficult projections.
Comprising:

- Tray for wireless portable detector
- AMPLIMAT measuring chamber
- Removable grid: 40 lines/cm (100 lines/inch), ratio 8, focus 110 cm (44 inch) default. The grid specification might vary according to your selection.

3 ****** **Ceiling suspension including tube SRO 33100** **1**

Ceiling suspension for over-table radiographic work with ergonomic handle, control buttons, and release brake, as well as convenient color-coding of movements.
Wide 16.5 cm (6.5") LCD display on tube head for clear status information.
Integrated centering laser in the tube head for easy positioning.

- Four-part aluminium telescopic column with spring counter balanced holder for X-ray tube assembly, adaptable to individual room heights
- Ceiling height at source-image distance 110 cm (44"): 2.65 m to 3.20 m (8' 8.3" to 10' 5.9")
- Minimum ceiling source distance: 87.1 cm (34.3")
- Possible room height adjustment: 37.5 cm (14.8")
- Lowest tube position: 30 cm (11.8") measured from center of beam to the floor
- Length of rails: base rails 4.3 m (14' 1.3"), optional rails extension 2.7 m (8' 10.3")
- Longitudinal travel: 3.44 m (11' 3.4"), 6.14 m (20' 1.7") with rails extension option
- Transverse travel: 1.50 m (4' 11") with short transverse rails, 3.22 m (10' 6.7") with long transverse rails
- Vertical travel: 1.65 m (5' 5.2")
- Rotation of focal spot around vertical axis of column: 360° (±180°), with rotation stop +180°/-165° and lock position every 45°
- Angulations of focal spot around horizontal axis: ±125°, lock positions 0° and ±90°

Control handle

- Centering device in longitudinal and transversal directions
- Brake/locking controls and central three-axis brake-release at lowest position of handle
- Wide 16.5cm (6.5") LCD information display and control buttons

Automatic Collimator

- Motorized automatic collimation, manual overrule possible, with light field indicator
- Angle of aperture and rotation: 2 x 15°, ±45°, depending on the collimator (see type number plate)
- Timer switch: up to 30 s
- Inherent filter value: <0.3 mm at 100 kV, depending on the collimator
- Added filters: 2 mm Al or 1 mm Al + 0.1 mm Cu or 1 mm Al + 0.2 mm Cu
- Source-image distance measurement tape

Equipment for cassette size sensing (automatic collimation) and automatic beam limitation for radiographic exposures on EasyDiagnost Eleva's second plane for improved workflow.
Sensing functionality detects the size of the inserted cassette or Portable detector and adjusts the shutters to the correct field size.

Comprising:
Sensing functionality in the automatic collimator

X-ray tube SRO 33100:

High quality SRO 33 100 Super ROTALIX tube for the EasyDiagnost Eleva system.

Specification:

- Tube voltage 40 - 150 kV
- Nominal focal spot values 0.6 / 1.2 (IEC 336/93)
- Anode diameter 90 mm
- Anode target angle: 13 degrees
- Anode heat storage capacity 300 kHU (220 kJ)
- Maximum continuous heat dissipation 250 W (with cooling)
- Maximum heat content of assembly 1700 kHU (1260 kJ)
- ROT 360 air-cooled ROTALIX housing with thermal safety switch.

4 ****** **15" I.I./TV-CCD** **1**

15-Inch (38 cm) Image Intensifier

Image Intensifier / Television subsystem: X-ray imaging subsystem for fluoroscopy and Digital Imaging for EasyDiagnost Eleva

Image Intensifier

- 15-inch (38 cm) multi-mode image intensifier
- Possible field sizes: 15 12.2 9.8 and 6.7" (38 31 25 and 17 cm)
- Titanium input screen for high spatial resolution high DQE and low dose.
- Fibre optic output screen for high light-transfer efficiency and high contrast.

CCD

- Camera

- TV chain with 1024 x 1024 matrix CCD camera
- Horizontal and vertical scan reversal
- Average automatic dose rate control (ADC)
- Automatic gain control (AGC)
- Variable measuring fields

5 ****** **TUBE LIFT** **1**

Tube Lift

The Tube Life increases the distance between the object and the under-table tube device improving the imaging geometry. The movement is position-dependent by software control. The results can be seen in sharper images and a maximization of anatomical coverage.

Includes:

- Motorized holder for under-table tube assembly. It increases the focus-to-tabletop distance from 50 cm to 64 cm (19.7" to 25.2") with a speed of about 5 cm/s (2"/s)
- Motorized oscillating and movable carbon-fiber-covered grid 60 lines/cm (152 lines/inch) r = 10:1 FFD = 90 cm (35.4 inch)instead of the grid with FFD 80 cm (31.5 inch)

6 ****** **90 DEGREES TRENDELENBURG** **1**

90 Degrees Trendelenburg

90/90 tilting of the entire tabletop of the EasyDiagnost Eleva. This setting enables the user to move the patient from an upright position to an 85ºhead-down position (trendelenburg) for a flexible use of the EasyDiagnost Eleva depending on the room layout. Various applications such asstomach colon or myelography etc. can be performed either in "right"or "left" use of the system.

A variable speed allows a smooth and careful start; acceleration to 6ºmoves the table quickly in the required position. Standardly the system slows down and stops at 0º for the user's convenience. A "no-stop" button next to the tilting handle avoids a stop in 0º position if an uninterrupted movement is required.

Specifications:

- Positive tilting angle: 90º
- Negative tilting angle: 85º (Trendelenburg position)
- Tilting speed: Variable from 0-6º
- Tlting movement controls at Spot film device as well as on the tableside operation console (TSO) in case the over-table tube (option) is available.

7 ****** **80 kW Generator with IQX** **1**

The 80 kW power pack is a microprocessor-controlled X-ray generator with sophisticated high-frequency inverter technology.

The generator is designed for a wide range of fluoroscopy and radiography applications. The unique dose-management system supports features like Grid Controlled Fluoroscopy, Pulsed Fluoroscopy and IQX. The generator is engineered for long-term reliability and a minimum single-space requirement.

Specification:

- Automatic and manual exposure techniques and automatic kV reduction (bolus chase)
- The generator supports the IQX function which regulates exposure settings during the exposure pulse (in-pulse controlled)

- Exposure output power:
  - kV 40 - 150 kV (Second beam table and wall Bucky)
    40 - 125 kV (II TV exposures)
  - mA 1 - 1100 mA
  - ms 1 ms - 4 s with AEC (Automatic Exposure Control)
    1 ms - 16 s without AEC
- Manual:
  - Two factor technique (kV - mAs)
  - Three factor technique (kV - mA - s)
- Automatic:
  - One factor falling load (kV)
  - Two factor constant load (kV/mA)

Automatic kV reduction (bolus chase)
Support of IQX Intelligent exposure

- Fluoroscopy techniques:
  For enhanced image quality and dose management the generator supports continuous fluoroscopy, Grid Controlled Fluoroscopy (option) and Pulsed Fluoroscopy (option) techniques
- Fluoroscopy output power:
  - kV 40 - 110 kV
  - mA 0.2 - 6 mA
- Access times:
  - from fluoroscopy standby to fluoroscopy mode: < 0.3 s
  - from fluoroscopy to radiography mode: 0.4 - 0.8 s (dep. on tube)
  - from radiography to fluoroscopy mode: 0.4 s
- Up to two double-focus tubes can be operated by a dual-speed rotor control Philips compatible tubes : RO, SRO, SRM
- Area Dose Calculation and display (option) and fluorosopy entrance dose rate limitation
- Automatic mains adaptation

IQX provides excellent, reliable and consistent image quality for digital exposures, both in static and dynamic studies. IQX controls and adapts the exposure parameters within the X-ray pulse. The automatic and fast regulation of kV during each exposure leads to crisp image quality for all types of studies, for all patients.

<u>IQX features:</u>

- Short exposure times eliminates motion blur.
  Exposure times are kept within an application-dependent customizable time range. This ensures that every single image is correctly exposed and free from motion blur, even with rapidly changing density.
- Automatic kV-optimization.
  IQX automatically adjusts the settings, relative to the standard kV-value recommended for a particular organ type. Thus the settings are optimized for the actual object density.

- Fast, in-pulse adaptation to (changes in) density.
  This kV-adjustment takes place within the first millisecond of the exposure, enabling adaptation to sudden changes in object density (e.g. during dynamic studies).

Tube voltage: 55 -125 kV
Controlling range: customizable relative to a defined start value

8 ** DOSE CALCULATION 1

Dose Calculation

Area dose product and patient entrance dose are calculated from the values of the examination known in the Eleva system (kV mA time patient settings etc.)

The system calculates and provides the values for:

- area dose
- area dose rate
  -entrance dose
- entrance dose rate
  and displays those on the Eleva Examination Control and on a Reference monitor (optional)

Includes:

- Dose calculation software license

Compatible with:

- EasyDiagnost Eleva

9 ** DoseWise incl. GCF 1

SRM 22 50 Super ROTALIX Metal tube assembly, including tube housing and automatic collimator in combination with Grid Controlled Fluoroscopy (GCF).

Grid Controlled Fluoroscopy

GCF is a Philips exclusive method of pulsed fluoroscopy, providing superb image quality at minimum dose. This is achieved by the use of a grid-switched X-ray tube SRM 22 50 and the control of X-ray parameters kV, mA and time within each single pulse (in-pulse control).

Major features of GCF are:

- Excellent image quality for fluoroscopy with each single pulse
- Maximum dose reduction
- On the fly selection of three different pulse rates (user programmable between 0.5 to 30 f/s) and continuous fluoroscopy for maximum user flexibility
- Dedicated and proprietary pediatric settings with a further decreased pulse time and an optimized kV/mA-curve
- GCF lock-in mode to maintain image quality during abrupt variations in absorption e.g. bringing lead gloves in the beam to position a patient

- Adaptive measuring fields maintain a constantly high image quality even when the field of interest is limited by shutters moving in

It contains:

- Grid controlled fluoroscopy (GCF):
  - Pulse time: 5 ms - 20 ms (typical)
  - Pulse frequency: 0.5 - 30 f/s

High-quality SRM 22 50 Super ROTALIX Metal Tube with electronic grid for EasyDiagnost Eleva and DRF room solutions.

Specification:

- Tube voltage: 40-125 kV
- Nominal focal spot values: 0.5 / 1.0 (IEC 336/93)
- Anode diameter: 100 mm
- Anode target angle: 15 degrees
- Anode heat storage capacity: 380 kHU (280 kJ)
- Maximum continuous heat dissipation: 300 W (with cooling)
- Maximum heat content of assembly: 2040 kHU (1510 kJ)

ROT 504 GS Air-Cooled ROTALIX Housing with Thermal Safety Switch

Automatic X-ray beam collimator with:
- Motor driven rectangular and circular collimation
- Power-up selftest
- Auto calibration at power-up
- Supports a maximum of 4 pre-filters programmable with SpectraBeam RF

SpectraBeam RF
SpectraBeam RF is an automatic X-ray beam spectrum optimization for EasyDiagnost Eleva. Depending on personal preference, regarding dose and image quality, the optimal filter can be pre-programmed in the Eleva settings for automatic selection.

Comprising:

- Automatic, remote-controlled spectral filter disk with 4 filter values
- 2 mm AL
- 1 mm AL + 0.1 mm Cu
- 1 mm AL + 0.2 mm Cu
- None

10	**	**DICOM InterOperability Package**	**1**

DICOM Interoperability Package
The Interoperability package provides the EasyDiagnost Eleva with a complete set of DICOM interoperability functions.

Comprising:
· DICOM Q/R & Multimodality View
· DICOM Export / Storage Commit
· DICOM Worklist Management
· MPPS
DICOM Query/Retrieve and Multimodality View

EasyDiagnost with Extended Digital Imaging supports DICOM Import (DICOM Store (SCP)), meaning that a DICOM mode can push images into the Extended Digital Imaging database.

The DICOM Q/R Multimodality View package adds the following capabilities:
· DICOM Query and Retrieve (both DICOM Q/R (SCU and SCP)), allowing the Extended Digital Imaging to Query / Retrieve images from another DICOM node and vice versa.
· Import and basic viewing functionality for DICOM images of non X-Ray modalities e.g. MRI, CT, etc.
All DICOM SOP-classes as described in the related DICOM Conformance Statement are supported.

DICOM Export/Storage Commit

The DICOM Export/Storage Commit package provides exporting capabilities for images from the EasyDiagnost with Extended Digital Imaging to other DICOM workspots, workstations and PACS systems.

The DICOM Export packages includes the following capabilities:
· DICOM Export (DICOM Store (SCU)), allowing the export of images in DICOM format
· DICOM Storage Commit (SCU)
All DICOM SOP-classes as described in the DICOM Conformance Statement of Extended Digital Imaging are supported.
DICOM Worklist Management

DICOM Worklist Management provides the connection to a RIS (Radiology Information System) in order to query and receive patient and examination request information (scheduled worklist).

With the DICOM Worklist Management packages EasyDiagnost Eleva with Digital Imaging or Extended Digital Imaging acts like a DICOM WLM (SCU) with these capabilities:
· Query RIS for current scheduled worklist automatically
· Query RIS for current scheduled worklist on demand
· Customize RIS Query
All DICOM SOP-classes as described in the DICOM Conformance Statement of Digital Imaging and Extended Digital Imaging are supported.

MPPS

A DICOM Modality Performed Procedure Step (MPPS) is an information object that describes the activities, conditions and results of an examination (imaging procedure) performed on a

modality.The MPPS package is capable of reporting this information back to the connected RIS (Radiology Information System).

With the DICOM MPPS package the EasyDiagnost Eleva System supports DICOM MPPS as SCU with the following capabilities:
· Report status of the current examination back to RIS
· Provide RIS with examination information
The MPPS DICOM SOP-class as described in the DICOM Conformance Statement of Extended Digital Imaging is supported.

Comprising:
· DICOM Query and Retrieve software and license
· DICOM Multimodality Import and Viewing software and license
· DICOM Export software and license
· DICOM WLM software and license
· DICOM MPPS software and license

11 ** Eleva Examination Control-A 1

Eleva Examination Control

The Eleva Examination Control (including keyboard and mouse) is a 19” flat panel color TFT LCD display designed for touch input. It offers sturdy hardware buttons to modify most frequently adjusted exposure parameters.
It integrates all functions for patient administration, selection of acquisition and fluoroscopy parameters as well as all controls for operating the different subsystems in one user interface.

The Eleva Examination Control user interface offers facilities for:
Patient and examination administration

Preparation:

- Manual entry of patient data
- Import of RIS work list (DICOM) (optional)
- Display of user-defined help text for room preparation and procedure

Examination:

- Automatic adaptation of X-ray parameters depending on patient age, size and weight, as retrieved from RIS
- Automatic selection of system settings according to scheduled examination from RIS
- Manual selection of acquisition parameters, like:
- Auxiliary selection and indication
- Selection and display of exposure parameters
- Selection of parameters for special examinations like bolus chasing and full spine scan, etc. (optional)
- Selection of predefined acquisition programs
- Selection of different fluoroscopy flavors for pulsed fluoroscopy & Grid Controlled Fluoroscopy (optional)
- Selection of spectral filters for fluoroscopy and exposure (optional)
- Collimation on last image hold

Reporting:

- Printouts of dose report (optional)
- Support of DICOM MPPS (optional)
- Display of dose-information either calculated (Option: Dose Calculation) or measured (Option: Dose Measurement)

Comprising:

- Active Matrix TFT LCD display with anti-reflex touch front, hard coated top sheet
- Wide visible screen size: 19 inches diagonal
- Integrated hardware buttons for control of exposure parameters and system power on/off

12 **** **LCD 19" Control Room Monitor** **1**

High-quality 19-inch LCD monitor for medical applications which is absolutely flicker-free and requires little space in the control room.

Specification:

- Monochrome display 19"
- Native format 1280 x 1024 SXGA
- Wide viewing angle
- High brightness with brightness control (500 cd/m2)
- Internal selectable lookup table for grayscale transfer function

Comprising:

- 19 inch LCD monitor
- Cable set
- Pedestal

13 **** **LCD 19" Examination room monitor** **1**

High-quality 19-inch LCD monitor for medical applications delivering flicker-free images. For use in the examination room as live monitor. The flat design requires little space in the examination room and is easy to maneuver due to its light weight.

Specification:

- Monochrome display 19" LCD monitor
- Native format 1280 x 1024 SXGA
- Progressive display (flicker-free) mode
- Wide viewing angle
- High brightness with brightness control (500 cd/m2)
- Internal selectable lookup table for grayscale transfer function
- Internal power supply (110 - 240 VAC)
- Weight: approximately 10 kg (3,9 lbs)

14 **** **Monitor Ceiling Suspension Height Adjustable** **1**

Height-Adjustable Monitor Ceiling Suspension
This device supports one or two monitors and allows the user a flexible position of the monitors in the the examination room depending on the application and the preferred working position. The counterbalanced arm holds the monitors at any desirable height and gives free space on the floor. The design allows easy movements and a one-hand use.

Specification:
The height-adjustable swivel arm has a:
· 430 cm (172 inch) longitudinal travel
· 340 degrees rotation
· 105 cm (42 inch) vertical range
· length of 120 cm (48 inch)
Comprising:
· monitor ceiling cart
· counterbalanced swivel arm
· monitor carriage

15 ****** **Clinical QC** **1**

This convenient image statistic tool provides the advanced user with functionality to analyze rejected images by operators and rejection reasons. It serves as well for monitoring and analyzing general parameters. Data files can be downloaded for further usage or archiving on a standard PC.

It perfectly supports the quality standards of the department and supports teaching situations.

Comprising:

- Software license

Compatible with:

- EasyDiagnost Eleva 3.0

16 ****** **Dose Reporting in DICOM Structured Report format** **1**

This DICOM service allows exporting patient radiation dose details in the Structured Report DICOM standard format.

Main benefits at a glance

- Standard, modern and comprehensive format for exporting patient radiation exposure information
- Exports dose information on study (accumulated) and exposure levels
- Allows detailed exposure dose monitoring on the PACS or dedicated dose management system

Typically, one dose report is created at the end of each procedure step performed on the system. This dose report collects together all the irradiation events from the procedure step and cumulates all dose values for the procedure step as a whole.

By exporting patient radiation dose in a comprehensive, very detailed and standard format, DICOM Structured Report allows to perform precise dose monitoring and analysis on the PACS or with a dedicated dose management system. This assists institutions to ensure their policies, procedures and protocols are adequate and being followed appropriately in the department. Moreover, it can help determining how changes in techniques and protocols impact radiation dose as well as image quality, to maintain patient doses As Low As Reasonably Achievable (ALARA).

Comprising:

- Software license

Compatible with:

- EasyDiagnost Eleva 5.x and above

17 ****** **PAIR OF SHOULDER RESTS** **1**

SHOULDER SUPPORTS/ Pair of shoulder rests

18 ****** **Ankle Clamps** **1**

Ankle clamps For patients in a.p. or p.a. position in connection with shoulder rests. Compatible with: diagnostic tables with footrest provided with 30 mm mounting hole accessory facilities Successor of 9890 010 03601 due to the modification of the bolt.

19 ****** **Set of CS Ceiling Rails** **1**

For longitudinal carriages of CS monitor ceiling suspension or auxiliary ceiling suspension; length 4.3 M.

Comprising:

- 2 CS rails.
- Adjustable end/stops.
- Spacer strips.
- Fixing parts.
- Brake rails.

Compatible with:

- CS 2 CS 4.
- Monitor ceiling suspension.
- Rail extension 9890 010 01622.
- Rail for cable carrier 9890 010 02422.

20 ****** **Mobile holder for the wireless portable detector** **1**

The wireless detector mobile holder is designed to take full advantage of the wireless portable detector to perform free exposures in optimal conditions.

Main benefits at a glance

- Mounted on wheels for easy moving and positioning in the room

- Holds the wireless portable detector in a safe and precise position
- Very easy to put the detector in and to take it out
- High detector positioning flexibility
- Can hold the wireless portable detector with or without a grid on it
- Brakes on the wheels for fixed and safe positioning
- Also compatible with 35 x 43 cm (14 x 17”) CR cassettes

The mobile holder provides outstanding positioning flexibility for the wireless portable detector. Mounted on wheels, it is easily positioned in the room and all around the patient. With or without a grid on it, the wireless portable detector can be held in various positions depending on projection requirements. The positioning is achieved quickly and easily, thanks to very intuitive use and self-locking joins. Featuring a height adjustable arm with swivel, the detector is safely held and can be lifted, tilted, swiveled or rotated to the best convenience.

Specifications

- Dimensions: length 68 cm (26.8”), width 67 cm (26.4”), height 150.7 cm (59.3”)
- Vertical movement range of holder arm: 68 to 128 cm (26.8 to 50.4”), center of large portable detector
- Weight: 53.2 kg (117 lbs)

Comprising

- Mobile detector holder

Compatible with

- Wireless portable detector 35 x 43 cm (14 x 17”) and CR cassettes 35 x 43 cm (14 x 17”)

21 ** Detector Holder for Patient Bed 1

The detector holder for the patient bed is designed to take full advantage of the wireless portable detector to perform free exposures at the patient bed.

Main benefits at a glance

- Slim design for easy positioning at the patient bed, Bucky table or trolley
- Holds the wireless portable detector in a safe and precise position, in portrait or landscape orientation
- Can hold the detector in a tilted position for angulated projections
- Very easy to put the detector in and to take it out
- Can hold the wireless portable detector with or without a grid on it
- Also compatible with 35 x 43 cm (14 x 17”) CR cassettes

Specifications

- Dimensions: length 41.5 cm (16.3”), width 23 cm (9.1”), height 72 cm (28.3”)
- Weight: 4 kg (8.8 lbs)

Comprising

- Detector Holder Patient Bed

Compatible with

- Wireless portable detector 35 x 43 cm (14 x 17”)
- Large SkyPlate detector 35 x 43 cm (14 x 17”)
- CR cassettes 35 x 43 cm (14 x 17”)

22 **** **Holder to park grids of wireless portable detector** **1**

Wall mounted holder to safely park the grids of a wireless portable detector when not used.
With its robust, painted metal design, it is made to be fixed on the wall in the radiography room for convenient, safe and quick grids handling.

Specifications

- Holds 2 wireless portable detector grids
- Dimensions (approximately): depth 15 cm (5.9”), width 60 cm (23.6”), height 25 cm (9.8”)
- Weight (approximately): 4.7 kg (10.3 lbs)

Comprising

- Holder and wall mounting accessories

23 **** **Grid WPD 40/8/130 Landscape** **1**

Attachable, fixed grid in landscape orientation for the wireless portable detector.

Main benefits at a glance

- Easy to attach/detach to/from the wireless portable detector, thanks to its click-on mechanism
- For examinations where the detector is used in landscape orientation
- Can be used with source-image distance from 102 to 181 cm (40” to 71”)
- Fiber interspaces and carbon fiber cover plates ensure higher contrast and lower required dose than conventional aluminium interspaces grids
- Combined with Philips advanced UNIQUE image processing and grid-line correction algorithm, it provides optimal image quality for increased diagnostic confidence

Specifications

- Fixed grid 40/8/130: 40 lines/cm (100 lines/inch), ratio 8, focus 130 cm (51”)
- Fiber interspaces and carbon fiber cover plates
- Interspaces in landscape orientation
- Attenuation equivalent: = 2.4 mm Al
- Weight: 1.8 kg (3.9 lbs)

Comprising

- Attachable, fixed grid

Compatible with

- Wireless portable detector 35 x 43 cm (14 x 17”)

24 **** **Grid WPD 40/8/130 Portrait** **1**

Attachable, fixed grid in portrait orientation for the wireless portable detector.

Main benefits at a glance

- Easy to attach/detach to/from the wireless portable detector, thanks to its click-on mechanism
- For examinations where the detector is used in portrait orientation
- Can be used with source-image distance from 97 to 198 cm (38” to 78”)
- Fiber interspaces and carbon fiber cover plates ensure higher contrast and lower required dose than conventional aluminium interspaces grids
- Combined with Philips advanced UNIQUE image processing and grid-line correction algorithm, it provides optimal image quality for increased diagnostic confidence

Specifications

- Fixed grid 40/8/130: 40 lines/cm (100 lines/inch), ratio 8, focus 130 cm (51”)
- Fiber interspaces and carbon fiber cover plates
- Interspaces in portrait orientation
- Attenuation equivalent: = 2.4 mm Al
- Weight: 1.8 kg (3.9 lbs)

Comprising

- Attachable, fixed grid

Compatible with

- Wireless portable detector 35 x 43 cm (14 x 17”)

25 **** **XD3671 Bio BUCKY DIAGNOST PartII CTC 5** **1**

This course trains the CS Engineer to a technical and applicational level which will enable him to perform full PM and CM according to the service philosophy. The course includes information on the Optimus Generator family, as far as it is relevant for the Bucky applications. During this course the engineer will learn the following High Level Tasks: System configuration, Corrective maintenance level 1, Setting to work, Software installation, System operation and (Pre-)installation

The engineer will learn the following knowledge and skills: How to configure the Optimus generator, How to load new system firm ware, How to program APRs, How to calibrate the Fu_KV, How and when to condition and or adapt a X-Ray tube, How to handle the software tools: AgenT, APR manager, X-Scope and VT100, How to test and trouble shoot the system.

OPTIONS

1 **Vertical stand with Bucky tray for WPD** **1**

Motorized vertical stand for chest and wall Bucky applications.
Vertical movement of detector unit 30 cm - 180 cm (12 inch - 72 inch) (centre of detector above floor). Counterbalanced vertical carriage, automatic collimation, AMPLIMAT measuring chamber 5 fields and user interface, Bucky unit with static, removable grid and parking slit for 2 grids.

Comprising:

- Tray for wireless portable detector
- 5 Field AMPLIMAT measuring chamber
- Patient data display
- Integrated parking place for 2 grids
- Exchangeable grid: 40 lines/cm (100 lines/inch), ratio 8, focus 140 cm (56 inch) default. The grid specification might vary according to your selection.