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## **Ingenuity Elite w IMR**

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### **Ingenuity Elite w/ IMR Configuration**

Until now, CT scanning has too often been about trade-offs. Well, no longer. Welcome to the benefits of 128-slice scanning, improved spatial resolution and excellent advanced clinical capabilities. It's scanning that offers low dose and high image quality. And it's fast, any way you look at it, with speed of reconstruction, as well as speed of collaboration with the IntelliSpace Portal option. The Ingenuity Elite with IMR features IMR Platinum, which provides improvement in low-contrast resolution, is a breakthrough made possible through Philips' first iterative reconstruction technique built on a knowledge-based model, the iDose4 Premium Package and iPatient; an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future. Meet the Ingenuity Elite with IMR.

With a focus on clinical integration and collaboration, patient focus, and improved economic value, the Philips Ingenuity Elite with IMR offers you high performance with virtually no tradeoffs. High image quality at low dose is a scanner staple, providing up to 57% improvement in spatial resolution. This system is built to help personalize image quality depending on your clinical needs at low dose. Fast reconstruction with the majority of factory protocols in less than one minute with iDose4, and up to 15% less injected contrast with SyncRight. These essential fundamentals allow for enhanced imaging and patient care.

One of the innovations of the Ingenuity Elite with IMR is Ingenuity Data Acquisition and Sampling (DAS), which provides high-resolution, thin reconstructions. DAS is excellent for neuro, cardiac, spine, and abdominal CTA scanning, and has a 33% improvement in z-axis spatial visualization.

### **Ingenuity Elite with IMR Key Features**

- IMR Platinum
- iDose4 Premium Package
- NanoPanel Elite Detector
- iPatient
- Rate Responsive Toolkit for Cardiac capabilities
- Step & Shoot Complete
- kV stations of 80, 100, 120, 140 kVp
- 80 kW (105 KW equivalent)
- Ingenuity DAS
- MRC Ice X-Ray Tube designed for long life
- 4 cm of coverage for better patient compliance

### **Features**

The Ingenuity family is built on the best in Philips class intelligent technologies for the speed, accuracy, and reliability to enhance your workflow on a daily basis.

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### *IMR Platinum*

IMR sets a new direction in CT image quality with virtually noise\*-free images and industry-leading low-contrast resolution. Long associated with MR, this improvement in low-contrast resolution is a breakthrough made possible through Philips' first iterative reconstruction technique built on a knowledge-based model. IMR is the first knowledge-based solution that overcomes motion-sensitivity associated with traditional model-based solutions; allowing it to be used in even the most advanced acquisitions, such as Cardiac CTA. Enabled by next-generation HyperSight IMR hardware and reconstruction algorithm innovation, its reconstruction speed allows IMR Platinum to be used in even the most time demanding applications, such as Trauma.

#### IMR Platinum Key Benefits:

- Industry-leading low-contrast resolution (2 mm @ 0.3% @ 10.4 mGy)
- Significantly lower dose while simultaneously improving image quality\*
- Significantly improved image quality (noise / low-contrast detectability / spatial resolution)
- First knowledge-based iterative reconstruction for gated acquisitions
- Fast reconstruction speed, with majority of reference protocols reconstructed under 3 minutes.
- Integrated design with minimal siting impact

IMR may be used for patients of all ages for a wide range of routine body & neuro clinical applications. Additionally, IMR Platinum may be used for advanced gated applications, such as Cardiac CTA and Pulmonary-gated studies.

### *iPatient*

Philips' iPatient is an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future. This powerful Windows® 7-based platform will put our customers in control of innovative solutions that drive confidence and consistency through personalized patient centric workflow, increase the ability to do complex and advance procedures with ease and efficiency. iPatient removes unnecessary complexity and allows our customers to get the job done while driving confidence and consistency 24/7, and prepares for future innovations that will help improve the care being delivered to the patient.

### *ExamCards*

ExamCards are the evolution of the scanning protocol. With ExamCards, the results are planned, not the acquisition as traditionally done in CT; this reduces decision points and clicks, saves time and improves operator-to-operator consistency. ExamCards can include axials, coronals, sagittals, MPRs, MIPS, and other results, all of which will be automatically reconstructed and can be sent off to where they will be read with no additional work required by the operator.

### *MRC Ice X-ray Tube*

Liquid coolant carries heat away from the MRC Ice X-ray tube, so Ingenuity Elite is ready for the most demanding scans, one right after the other. The Philips MRC Ice X-ray tube is designed to be one of the most reliable in the industry. Built for high volume and 24-hour consistency, there is no waiting for the tube to warm up before the scan and no waiting for it to cool down.

### *NanoPanel Elite Detector*

The NanoPanel Elite, the second generation of tile detector technology from Philips, was engineered for low-dose, low-energy and low-noise imaging. The detector provides marked image noise improvement, direct integration technology, and linearity improvements at low energy and low current. Philips was first to bring the NanoPanel tile detector design in 2007.

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#### *Generator*

The Ingenuity generator uses low-voltage slip ring technology to provide a constant high voltage to the CT x-ray tube assembly.

#### *Scan Times*

0.4, 0.5, 0.75, 1, 1.5, 2 seconds for full 360° scans

### **Reconstruction**

#### *iDose4 Premium Package*

The iDose4 Premium Package includes two leading technologies that can improve image quality – the iDose4 iterative reconstruction technique and metal artifact reduction for large orthopedic implants (O-MAR). iDose4 is a 4th-generation advanced iterative reconstruction technique that improves image quality\* through artifact prevention and increased spatial resolution at low dose. O-MAR reduces artifacts caused by large orthopedic implants. Together they produce high image quality with reduced artifacts.

With the iDose4 Premium Package, reconstruction is achieved in seconds rather than minutes. This is due to the innovative RapidView IR reconstruction engine. Designed to support iDose4, this proprietary technology allows for this iterative reconstruction technique to be used routinely in inpatient, outpatient, and emergency-care settings. The design seamlessly integrates into your CT department, and provides you the look and feel of conventional, higher-dose images without long processing times.

#### *ClearRay Reconstruction*

A revolutionary solution to beam hardening and scatter artifact, modeling and simulation technology pre-computes and stores beam hardening and scatter corrections in a database that is later referenced to create a correction that is personalized to each individual patient. As a fully three-dimensional technique, contrast scale stability is preserved across different patient sizes, image uniformity is improved, and organ boundaries are better visualized.

#### *Evolving Reconstruction*

Provides real-time 256 x 256 matrix image reconstruction and display in step with spiral acquisition. Images can be modified for window width and level, zoom and pan prior to reconstruction. At the end of the acquisition, all images are updated with the desired viewing settings.

#### *Fast Preview*

Display real-time 512x512 matrix image reconstruction and 5mm x 5mm contiguous slice display with helical acquisition or off-line reconstruction. Images can be modified for window width and level, zoom, and pan prior to larger matrix reconstruction at the end of the acquisition.

#### *Adaptive filtering*

Adaptive filters reduce pattern noise (streaks) in nonhomogenous bodies, improving overall image quality.

#### *HyperSight IMR Reconstruction*

HyperSight IMR reconstruction is the result of years of advanced research, and was designed specifically to satisfy the performance requirements and processing power needed to seamlessly integrate the iDose4 Premium Package and iPatient into your department. HyperSight IMR provides dramatic improvements in workflow by displaying images at breakthrough rates, regardless of acquisition speed or reconstruction parameter. The majority of factory protocols with iDose4 are reconstructed in less than a minute, with reconstruction speeds up to 18 images per second with iDose4 and up to 25 image per second with standard reconstruction.

#### *ConeBeam Reconstruction Algorithm - COBRA*

Philips patented Cone Beam Reconstruction Algorithm (COBRA) enables true three-dimensional data acquisition and reconstruction in helical scanning.

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#### *Ultra High Resolution Matrix Sizes*

Exclusive to Philips, 768 × 768 and 1024 × 1024 image reconstruction matrix sizes display all of the high-resolution data acquired in applications, such as inner ear, spine and high-resolution lung imaging. As scan resolution increases, larger reconstruction matrix sizes are required maintain the full scan resolution for the reconstructed field of view.

### **Cardiac**

#### *Step & Shoot Complete*

Step & Shoot Complete enables low-dose, prospectively ECG-triggered, axial thoracic imaging. Step & Shoot Complete allows gated, submillimeter, isotropic imaging of the entire thorax (up to 50 cm transaxial field of view), including the coronary arteries.

Step & Shoot Complete is ideal for patients with heart rates below 65 bpm. Arrhythmias are managed in real-time using proprietary, prospective-detection algorithms to pause acquisition during unstable heart rhythms.

#### *RateResponsive CV Toolkit*

The "Rate Responsive CV toolkit" package is a set of features designed to allow basic cardiovascular imaging of the heart. This package is a prerequisite to the cardiac packages and to the "Stand Alone" applications, it includes:

#### *0.4 Second Rotation*

0.4 second 360° rotation provides better temporal resolution in advanced clinical applications such as coronary artery imaging, cardiac perfusion and other high-speed, motion-free imaging. The higher speed especially benefits prospective gating, with up to a 20% improvement in temporal resolution.

#### *DoseRight(TM) Cardiac*

ECG-triggered dose modulation reduces tube current up to 80% during acquisition of non-desired phases (estimated overall dose reduction of ~45% for single-phase, end-diastolic imaging). For example, only one phase may be required for coronary CTA, and the system will reduce the mA during the other portions of the acquisition, saving considerable dose.

#### *Retrospective Tagging*

Spiral Retrospective Tagging allows the CT system to acquire a volume of data while the patient's ECG is recorded. The acquired data is "tagged" using AccuTag and reconstructed retrospectively at any desired phase of the cardiac cycle. This phase selection is accomplished using the Philips' patented Beat-to-Beat Variable Delay Algorithm, which automatically finds the best phase for cardiac CT imaging.

#### *Prospective Gating*

Prospectively triggers axial scans using Philips' patented Beat-to-Beat Variable Delay Algorithm for accurate and reproducible calcification scoring studies.

#### *Integrated ECG Monitor*

Philips' advanced ECG monitor is used for gated cardiac scans. Integrated design eliminates the need for an additional ECG monitor and stand in the scan room.

#### *COBRA(TM) Reconstruction (COBRA Cardiac)*

Philips patented Cone Beam Reconstruction Algorithm (COBRA) enables true three-dimensional data acquisition and reconstruction in both axial and helical cardiac scanning.

#### *Cardiac Viewer*

A comprehensive cardiac review application that allows quick visualization of one or more cardiac phases, synchronization of multiple cardiac phases with interactive slab-MIP tools for review

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purposes, cine mode for cardiac axes views and a calculation of End Systolic Volume (ESV), End Diastolic Volume (EDV), Cardiac Output (CO), and Ejection Fraction (EF) for ventricular functional assessment.

#### *Calcium Scoring*

Provides Agatston, Volume, and Mass scores. Incorporates a database of greater than 5,000 asymptomatic multislice calcium scoring scans.

#### *CT Reporting*

Provides capabilities for editable paper, print, and electronic clinical reports; including display of key images and results. Reports are available for paper or electronic distribution to referring physicians, patients, or for medical records.

#### **Dose Management**

Philips' DoseWise philosophy is a set of principles and practices that ensures the best possible outcomes with minimal risk to patients and staff. The iCT platform employs a number of features that help provide high dose efficiency.

#### *NEMA XR-29 Compliance*

This system complies with the NEMA XR-29-2013 Standard Attributes on CT Equipment Related to Dose Optimization and Management. The standard includes a group of CT attributes that contribute to or help perform optimization/management of doses of ionizing radiation while still enabling the system to deliver the diagnostic image quality needed by the physician. It encompasses: DICOM Radiation Dose Structured Reporting, Dose Check Feature (Dose Notification and Dose Alerts), Automatic Exposure Control (Dose Modulation) and Reference Adult & Pediatric Protocols.

#### *NEMA XR-25 (DoseCheck)*

DoseCheck enables the ability to set dose thresholds and provides alerts and notifications to the scan operator when radiation dose levels will be exceeded.

There are two threshold level values: Notification Values, Alert Values

Notification values apply to a single image series, and Alert values apply to an overall exam. Both CTDIvol and Dose Length Product (DLP) values can be set.

For Alert values that will be exceeded, the system requires the user provide name and password information before proceeding to scan. Also, an additional indication will appear in the Dose Info Page Series when the Notification or Alert values have been exceeded during a scan.

#### *DICOM Structured Report for Dose (DICOM SR)*

Dose SR complies with the IEC, DICOM PS and IHE standards for dose reporting. The report includes CTDIvol and DLP dose values.

#### *Dedicated Pediatric Protocols*

Developed in collaboration with top children's hospitals, age and weight-based infant and pediatric protocols enhance image quality at low dose.

#### *DoseRight ACS (Automatic Current Selection)*

Personalizes the dose for each patient based on the planned scan by suggesting the lowest mAs settings to maintain consistent image quality at low dose throughout the scan.

#### *DoseRight Angular Dose Modulation*

Automatically controls the tube current angularly, increasing the signal over areas of higher attenuation (e.g., lateral) and decreasing signal over areas of less attenuation (e.g., anteroposterior).

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#### *DoseRight Z-DOM (Longitudinal Dose Modulation)*

Automatically controls the tube current, adjusting the signal along the length of the scan, increasing the signal over regions of higher attenuation (e.g., shoulders, pelvis), and decreasing the signal over regions of less attenuation (e.g., neck, legs).

#### *Dose Displays*

- Volume Computed Tomography Dose Index (CTDIvol)
- Dose-Length Product (DLP)
- Dose Efficiency

### **Scan and Image Acquisition**

#### *Scan Ruler*

Provides a visual, highly interactive view of the entire procedure that allows 1-click updates to important study events.

#### *Spiral Scanning*

Multiple contiguous slices acquired simultaneously with continuous table movement during scans allowing for multiple, bidirectional acquisitions

#### *Axial Scanning*

Multiple-slice scan with incremental table movement between scans.

#### *Ingenuity DAS*

One of the innovations of the Ingenuity family is Ingenuity Data Acquisition and Sampling (DAS), which provides high-resolution, thin reconstructions.

#### *Test Injection Bolus Timing*

Establishes the optimum contrast injection delay time using a test injection. A real-time graph of the enhancement in a selected region of interest is displayed. The delay time is then selected to provide optimal peak contrast enhancement and reduced contrast usage.

#### *Bolus Tracking*

An automated injection planning technique that permits a user to monitor actual contrast enhancement and to initiate scanning at a pre-determined enhancement level. Combine with SAS for full automation.

#### *Spiral Auto Start*

Spiral Auto Start allows the injector to communicate with the scanner. This allows the technologist to monitor the contrast injection and to start the scan (with a predetermined delay) while in the scan room.

#### **NOTE:**

- Costs to upgrade an approved injector and any cabling is the responsibility of the user.
- Compatible with following Injectors:  
Medrad Envision/Stellant, Medrad Vistron, Liebel-Flarsheim, Tyco CT 9000, Medtron CT 2, Nemoto Dual Shot, Mallinckrodt OptiVantage DH, E-Z-EM Empower, Swiss Medicare, Ulrich Injectors

### **Image Management, Storage, and Filming**

DICOM 3.0-compliant image format. Lossless image compression/decompression is used during image storage/retrieval to/from all local storage areas. Images can be auto-stored to selected archive media

- 500 GB Hard Disk
  - Image Storage Capacity: 512 X 512 Image Matrix = 900,000 typical number of uncompressed images
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#### *DVD-RAM Storage*

Provides a solution for data storage. DVD-RAM disks are written in a proprietary Philips format and are able to be read only on Philips EBW (v3.0.1 or higher), and CT scanner units (v2.3 or higher) with a DVD-RAM drive.

- 4.7 GB DVD-RAM
- Image Storage Capacity: 512 X 512 Image Matrix = 15,000 typical number of compressed images

#### *Filming*

Allows the user to set up and store filming parameters. Pre-stored protocols can be set to include auto-filming. The operator can film immediately after each image, at the end of a series, or after the end of a study, and review images before printing. The operator can also automatically film the study at three different windows and incorporate Combine Images functionality to manage large datasets. Basic monochrome and color DICOM print capability are supported.

#### *Networking*

Network connections should be located within 10 feet of the console. Supports 10/100/1000 Mbps (10/100/1000 BaseT) networks. For optimal performance, Philips recommends a minimum 100 Mbps network (1 Gbps preferred) and for the CT network to be segmented from the rest of the hospital network.

#### *DICOM Connectivity*

Full implementation of the DICOM 3.0 communications protocol allows connectivity to DICOM 3.0 compliant scanners, workstations, and printers; supports IHE requirements for DICOM Connectivity. Further details on connectivity and interoperability are provided within the DICOM Conformance statement.

### **Operator Console, Patient Handling, and Setup**

Philips provides an operator work environment that is both flexible and easy to use. The operators' console includes the necessary hardware to use the scanner including host computer, cabinets, dual monitor configuration, and control box. The system provides applications that assist clinicians to improve workflow and planning as well as post processing analysis and review to help you quickly gain the desired view. All of these combine in a graphical interface that allows you to easily execute scans and analyze images.

#### *Manual Scan*

Places slice-by-slice scans under operator control with on-line or off-line reconstruction, background image archiving to local or remote storage devices. At any time, the operator is able to switch from automatic to manual scan and back.

#### *Automatic Scan*

Enables automatic execution of pre-planned studies, with concurrent, on-line or off-line reconstruction, background image archiving to local or remote storage devices, without operator intervention

#### *Gantry Control Panels*

*Gantry Control Panels* for gantry tilt, patient couch elevation and stroke are located at the operator's console as well as on front and back and left and right sides of the gantry. Additional functions at the operator's console include emergency stop, intercom and scan enable/pause buttons.

*Gantry Aperture:* 700 mm diameter

*Gantry Tilt:* -30° to +30°; 0.5° increments.

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#### *Infant Calibration Phantom*

The Infant Calibration Phantom is a Philips-exclusive tool used to calibrate system parameters to optimize the system for scanning infants.

#### *Patient Centering on Surview*

Centering the patient properly is one of the most important factors in getting good image quality. Traditionally, patients are centered using the gantry laser lights; with this feature it is possible to improve patient centering using the lateral surview with real time feedback.

#### *Intercom System and Multilingual Autovoice*

The intercom system provides two-way communication between the scan room and the operator console. Additionally, a standard set of commands for patient communication before, during and after scanning is available in several pre-selected languages. Customized messages can also be created. Pre-selected languages available include:

-English, Hebrew, German, French, Arabic, Danish, Spanish, Russian, Swedish, Italian, Georgian, Chinese, Japanese, Turkish and Portuguese.

#### *Dual Surview Planning*

Provides flexibility in exam planning with both anteroposterior and lateral survivals.

#### *Automatic Procedure Selection*

Maps the procedure selection from the HIS-RIS with individual scan protocol(s) simplifying the scanning process. Only the most relevant scan protocol(s) for any requested procedure are shown to the user, ensuring that only the desired scanning procedures are performed. This is especially useful for infrequent users of the CT scanner.

#### *Table Accessories*

Prevent fatigue and discomfort and give both patients and technologists a sense of security: patient restraint kit, table extension, standard head holder, table pad, IV Pole, arm rests, cushions, and pads.

#### *Also Includes*

- *Expert Protocol Planning*
- *Preset Post-Processing*
- *DICOM Modality Worklist*
- *Prefetch Study*
- *Split Study*

### **Applications**

#### *Vessel Analysis*

Ingenuity Elite with IMR offers a set of tools for general vascular analysis. It allows the user to easily remove bone, and extract and segment the vessels to quickly perform typical measurements such as intra-luminal diameter, cross sectional lumen area, and length of vessel's segments, and angle of the vessels. The package allows the user to display the dataset using volume rendering, Average, or MIP with cross sections images that can be used to delineate aneurysm, presence of mural calcification and lining mural thrombus, branch vessel (celiac, mesenteric, renal) and the ilio-femoral arterial runoff circulation.

#### *Curved MPR*

With the Curved MPR feature, MPR (Multiplanar Reformatting) curved cuts along vascular structures can be defined on Maximum Intensity Projection (MIP) or volume rendered images to display panoramic and cross-sectional views that accurately visualize the vasculature.

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#### *Organ ID*

Automatically isolates lung images for better viewing, including lung limit detection, zoom and pan setting, lung windowing, image enhancement, and image filming.

#### *Volume Rendering*

Provides simultaneous visualization of vasculature, soft tissue, and bone. Offers real-time, interactive control of opacity and transparency to permit viewing through and beyond surrounding structures, such as metallic stents and arterial calcifications, and virtually eliminates the need for organ segmentation prior to visualization.

#### *Q-CTA - Quantitative CT Measurement Tool Package*

Q-CTA is a tool kit for quantitative measurements of anatomic structures, such as vasculature pathology from 2-D, 3-D or volume-rendered images.

Also includes:

- *Survival Plan*

#### **ScanTools and ScanTools Pro**

The ScanTools package of advanced components and productivity features streamlines routine imaging studies, and comes standard with your scanner. ScanTools Pro is a supplemental set of tools standard on your scanner that enhances productivity, workflow, and diagnostic confidence. The components of ScanTools and ScanTools Pro are located throughout the quote under the appropriate headings.

#### **Power Requirements**

- 200/208/240/380/400/460/415/480/500 VAC at 112.5 kVA (150 kVA preferred) and 50/60Hz
- Three-phase distribution source

\* In clinical practice, the use of IMR may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

*Note: Windows is a registered trademark of Microsoft Corporation in the United States and other countries.*

#### **Enhanced System Warranty Coverage:**

The Philips Ingenuity CT System will get the following enhanced service coverage for a period of twelve (12) months after completion of installation or availability for patient use, whichever occurs first.

- Extended service coverage hours, Monday - Friday, 8am to 9pm
- Flexible Planned Maintenance scheduling from Monday - Friday, 7am to 12am and Saturday, 8am to 5pm
- Onsite labor response of 2 hours\*
- Expedited parts delivery on same day\*

\* Please note that response and delivery times are dependent on local factors and conditions

#### **Clinical Education Program for Ingenuity Systems:**

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**Essentials OffSite Education:** Philips will provide up to two (2) lead technologists, as selected by customer, with in-depth lectures covering basic clinical applications, Philips-specific imaging techniques, protocol optimization and scan parameters. A CT "system emulator" is used during the lab sessions to simulate all basic scanning operations without x-ray exposure. Students will graduate from this class with an 80% understanding of the base system functionality. The remaining 20% is covered during the Handover OnSite experience. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration, geography, and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover OnSite Education, and should be attended no earlier than two weeks prior to system installation. ASRT CEU credits may be available for each participant that meets the Guidelines provided by Philips during the scheduling process. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292078 (CT Full Travel Pkg OffSite) is purchased with all OffSite courses.

**Handover OnSite Education:** This twenty-eight (28) hour training event will fine tune and expand upon knowledge learned during the Essentials OffSite with focus on maximizing scanning techniques and protocols. This session is to be attended by the same two (2) technologists from Essentials OffSite, and up to two (2) more of your dedicated CT Technologists, preferably from night or weekend shifts if necessary. ASRT CEU credits may be available for each participant that meets Philips Guidelines. 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.

**Follow-Up On-Site Education:** Clinical Education Specialists will provide twenty-eight (28) hours of follow-up CT On-Site Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases.

**Follow-Up OnSite Education:** Clinical Education Specialists will provide twenty-four (24) hours of follow-up CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Note: 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).

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## Bariatric Table

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The Bariatric Patient Support is designed to meet the CT imaging needs of the growing bariatric population. Allowing for patient loads of up to 295kg (650 lbs.), the Bariatric Patient Support provides CT imaging access to a larger patient population than current offerings.

### Table Specifications:

#### *Longitudinal motion:*

Scannable range:

1750mm (iCT, Brilliance CT 16-slice, Brilliance CT Big Bore)  
1860mm (Ingenuity Family)

Acquisition Speed: 0.5 to 185 mm/sec (iCT, Ingenuity Elite, Ingenuity Core, Ingenuity Core128)  
0.5 to 100 mm/sec (Brilliance CT 16 - slice, Brilliance CT Big Bore)

Load/Unload Speed: 0.5 to 185 mm/sec (iCT, Ingenuity Elite, Ingenuity Core, Ingenuity Core 128)

Position accuracy: ±0.25 mm

#### *Vertical motion:*

Range: 578 to 1028 mm; 1.0 mm inc. (Brilliance CT 16-slice)  
 579 to 1022 mm; 1.0 mm inc (Ingenuity Core, Ingenuity Core 128, Ingenuity Elite)  
 579 to 1012 mm: 1.0mm increment (Brilliance CT Big Bore)  
 645 to 1065mm; 1.0 mm inc. (iCT)  
*Table load capacity:* 295 kg (650 lbs)  
*Floating tabletop:* Carbon-fiber table top with foot pedal and handrail control for easy positioning and quick release.

The Bariatric Patient Support includes the Radiology Flat Top Kit. This kit, comprised of a wide accessory flat top, wide mattress pad and extra long patient restraint straps, provides additional comfort and security for patients. A quality assurance phantom holder fitted for the flat top is also included. Note: This flat top is not qualified for oncology radiation therapy usage and cannot be used to support the iCT calibration phantom.

<b>3</b>	<b>**</b>	<b>Operator's Manual - English</b>	<b>1</b>
<b>4</b>	<b>**</b>	<b>Keyboard Language - English</b>	<b>1</b>
<b>5</b>	<b>**</b>	<b>Operator's Chair</b> One (1) standard height operator's chair.	<b>1</b>
<b>6</b>	<b>**</b>	<b>Computer Table</b> Computer Table, for the Brilliance Console or the Extended Brilliance Workspace, provides a large enough working space (120cm) to accommodate dual monitors and other peripheral devices.	<b>1</b>
<b>7</b>	<b>**</b>	<b>Jog Scan</b> This Philips-exclusive feature provides up to 160 mm (iCT TVI or iCT), 80 mm (iCT SP, Ingenuity CT, Ingenuity Core, Ingenuity Core128, Brilliance CT 64-channel, or Brilliance CT 40-channel), or 48mm (Ingenuity Flex32, Ingenuity Flex, Brilliance CT 16-, 10- or 6-slice ) of imaging area for perfusion studies. An axial scan is taken in one location, the couch translates to another location within a few seconds, and another axial scan is taken. These multiple datasets are registered automatically to provide the extended coverage. Combined with Philips advanced Brain Perfusion with summary maps, the Jog Scan application can position CT as the modality of choice for acute stroke evaluation, providing unprecedented functional information over the functionally significant area of the brain.	<b>1</b>
<b>8</b>	<b>**</b>	<b>CT Interventional - Ceiling</b> The CT Interventional – Ceiling includes both CT Fluoroscopy and Continuous CT (CCT) applications utilizing a ceiling-mounted monito.	<b>1</b>

Philips' CT Fluoroscopy application provides real-time guidance for interventional procedures (up to 8fps). The user can view one fused image while time and dose displays keep the interventional radiologist aware of exposure levels throughout the procedure. In addition to the real-time mode, Continuous CT (CCT) biopsy mode enables the clinician to perform gantry room scans using a foot pedal and includes a remote monitor for viewing. Each exposure is a 240° axial centered beneath the patient to shield the clinician's hands from direct X-ray exposure. Exposures are single and series (continuous) selectable via foot switch.

View four, two or one image(s) per exposure

Time to first image is <1.5 seconds from exposure start

This option also includes the Philips interventional couch control which improves operational efficiency during CT-guided interventional procedures through table side control of longitudinal movements for patient positioning.

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|--|----|--|----------|
| 9  | ** | <b>Load and Unload Foot Pedals</b>                     | <b>1</b> |
| <p>Load and Unload foot pedals allow the operator to move the patient couch to the load or unload position using a foot pedal thus improving patient handling efficiency by the freeing the operator's hands to prepare, restrain, or release the patient.</p> <p><i>Prerequisite: Rear Gantry Panel for Field Upgrades</i></p>  |    |  |          |
| <br>   |    |  |          |
| 10   | ** | <b>Head-Arm Rest Pad</b>                               | <b>1</b> |
| <p>The Head &amp; Arms Rest is a patient positioning pad that provides patient support during examinations when the patient's arms are raised above his/her head. The pad provides an ergonomic rest for the patient's head and arms and straps to secure the patient. The pad is intended to be used outside of the scan length and should not be scanned.</p>  |    |  |          |
| 11   | ** | <b>30 Min Console UPS</b>                              | <b>1</b> |
| <p>Uninterruptible Power Supply (UPS) provides up to 30 minutes of battery backup for computer/reconstruction system.</p>  |    |  |          |
| 12   | ** | <b>Ceiling Mounting Kit</b>                            | <b>1</b> |
| <p>The ceiling mounting kit is an installation kit to support interventional CT ceiling options. This item may be delivered with the interventional option or before the interventional option.</p>  |    |  |          |
| 13   | ** | <b>Teal 100kVA Isotran Plus</b>                        | <b>1</b> |
| <p>Teal 100 kVA isolation voltage adapting transformer:</p> <p>Input voltage: 200/208/240/380/400/416/480/500, 3-phase, delta plus protective earth. 50/60 Hz</p> <p>Output voltage: 480 VAC (277 VAC wye).</p> <p>Includes: Programmable input circuit breaker.</p> <p>Includes: TVSS (Transient Voltage Surge Suppression), load side filtration for noise attenuation and remote control contactor.</p> <p>Weight: 598 lbs. (271 kg)</p> <p>Dimensions: 27.8" (70.7 cm) wide, 20.5" (52.1 cm) deep, 44.0" (111.8 cm) high.</p>  |    |  |          |
| 14   | ** | <b>Add. Manual - English</b>                           | <b>1</b> |
| <p>Additional Operator Manuals may be ordered. One set is included with the base system.</p>   |    |  |          |
| 15   | ** | <b>24 Hours of Additional OnSite Clinical Training</b> | <b>2</b> |
| <p>Clinical Education Specialist will provide twenty-four (24) hours of tailored CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Note: 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 the earlier of equipment delivery date or purchase date.</p> |    |  |          |
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16	**	<b>Full Travel Package for OffSite Training</b>	<b>3</b>
Includes one (1) participant's airfare from North American customer location to Cleveland, Ohio, with modest lodging, ground transportation, and meal expenses. Breakfast/dinner provided by the hotel, and lunch/breaks are catered by Philips. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Expires one (1) year from the earlier of equipment delivery date or purchase date.			
17	**	<b>CT Brilliance Ess Add OffSite 28h</b>	<b>1</b>
Philips will provide one (1) lead technologist, as selected by customer, with in-depth lectures covering basic clinical applications, Philips-specific imaging techniques, protocol optimization and scan parameters. A Brilliance CT "system emulator" is used during the lab sessions to simulate all basic scanning operations without x-ray exposure. Students will graduate from this class with an 80% understanding of the base system functionality. The remaining 20% is covered during an OnSite experience. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration, geography, and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. If purchased with a system, this class is a prerequisite to your equipment handover OnSite Education, and should be attended no earlier than two weeks prior to system installation. ASRT CEU credits may be available for each participant that meets the Guidelines provided by Philips during the scheduling process. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292078 (CT Full Travel Pkg OffSite) is purchased with all OffSite courses.			
18	**	<b>CT Cardiac Add OffSite Educ 28h</b>	<b>1</b>
Philips will provide one (1) lead technologist with twenty-eight (28) hours of training, which will give the participant a complete understanding of the Brilliance Cardiac functionality. A fully loaded Brilliance Cardiac system is used during the lab sessions to perform all areas of image manipulation and advanced processing. The Essentials OffSite Education is a prerequisite to this course. This class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration, geography, and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. CEU credits may be available for each participant that meets the Philips Guidelines. Tuition and lunch expenses are included. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292078 (CT Full Travel Pkg OffSite) is purchased with all OffSite courses. Education expires one (1) year from equipment installation date (or purchase date if sold separately).			
19	**	<b>CT Cardiac Add OnSite Educ 24h</b>	<b>1</b>
Clinical Education Specialists will provide twenty-four (24) hours of tailored CT Cardiac OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Note: 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).			
20	**	<b>One-Hundred (100) CEUs</b>	<b>1</b>

This quotation includes 100 CEUs (Continuing Education Units) to be obtained from the Philips Online Learning Center for up to one year after account set-up. Includes account set-up on the Online Learning Center and continuing customer support for one year from initial date of account set-up. Includes the following management functions for designated customer site manager:

- Monitor CEU use by designated learners
- Monitor number of CEUs left in account
- Add new learners to account
- Remove learners who are no longer part of department from account
- Assign number of CEUs to learners or add more CEUs as needed by learners until all CEUs are used

CEUs can be used for any courses or case studies in the catalog once your online account has been set-up on the Online Learning Center. Variety of topics can be chosen from the course catalog:

- Computed Tomography
- Magnetic Resonance Imaging
- Cardiovascular Angiography
- Ultrasound
- Anatomy and Physiology
- Departmental Topics
- Medical Information Technologies
- Case Studies
- Nuclear Medicine and PET
- Orthopedic Radiography

The Online Learning Center has been developed specifically for the healthcare professional by healthcare professionals:

- offers original tutorials and case studies which are non-specific to any technology manufacturer
- provides accredited tutorials and case studies for ASRT Category A CE and SDMS CME
- allows staff members to comply with their continuing education requirements without leaving the department
- includes features which gives users and imaging department managers online tools to help manage their continuing education needs
- allows instructors, authors, and subject matter experts to develop asynchronous learning activities
- available via the Internet from anywhere, anytime, 24 hours a day, 7 days a week, 365 days a year

The Philips Learning Center offers flexible, continuing education(CE), designed around you and the changing needs of your department or facility. Hundreds of CE-approved learning activities provide the variety, quality, and depth of learning that you need, regardless of clinical focus or departmental role. Courses are available for nurses, radiologic technologists, sonographers, and other healthcare professionals. This option includes 100 Continuing Education Units (CEUs) CE-approved by various recognized continuing education evaluation mechanisms to be obtained online from the Philips Learning Center (<http://www.theonlinelearningcenter.com>).

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Please contact us at 1-800-692-4295 or tech@theonlinelearningcenter.com in order to set-up your account once your order has been booked.

**Visit the Online Learning Center:**

**<http://theonlinelearningcenter.com>**

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|--|-----------|--|-----------|
| <b>21</b>  | <b>**</b> | <b>Airfare to Cleveland for Biomed Training</b>              | <b>2</b>  |
| <p>Includes one (1) participant's airfare from North American customer location to the Cleveland Training Center (CTC) in Cleveland, Ohio. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Expires one (1) year from the earlier of equipment delivery date or purchase date.</p>   |           |  |           |
| <b>22</b>  | <b>**</b> | <b>Food Transpt Lodging for Cleveland Biomed Training</b>    | <b>18</b> |
| <p>Includes one (1) day of modest lodging, ground transportation, and meal expenses in Cleveland, Ohio for one (1) attendee. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced. Although this part is only for one day, it is sold in multiple quantities to account for entire length of course. Expires one (1) year from the earlier of equipment delivery date or purchase date.</p> |           |  |           |
| <b>23</b>  | <b>**</b> | <b>CT3021 Brilliance Air Family</b><br>Brilliance Air Family | <b>1</b>  |

Course Title: Brilliance Air Family

Modality: CT

**DESCRIPTION:**

The customer service engineer who completes this course will be able to troubleshoot, repair and maintain any of the seven systems in the Brilliance Air Family:

Brilliance Air 6/10/16  
Brilliance Air 16Power  
Brilliance Big Bore  
Brilliance Air 40-slice  
Brilliance Air 64-slice (U or TDMS configurations)

## COURSE OBJECTIVES:

At the end of this course, the student will be able to:

### System Overview

follow the procedures in the Installation Manual to install the Brilliance system  
demonstrate safe practices when working with, in or around a Brilliance scanner  
physically identify system covers and follow the procedures to remove, replace and align them

### Operator Interface

Identify a Gantry Controls-related failure to the lowest Field Replaceable Unit using a time effective method

Follow the instructions provided to calibrate or adjust the components related to the Operator Interface

Follow the instructions to perform key system operations related to the Operator Interface

Physically identify Field Replaceable Unit components of the gantry controls and follow the procedures to remove, replace and align them

### Power Distribution

Identify a power distribution-related failure to the lowest Field Replaceable Unit using a time effective method

Follow Installation instructions to connect the power distribution components of the system

Follow the prescribed safety methods to avoid electrical and ESD hazards pertaining to power distribution

Physically identify Field Replaceable Unit components of the power distribution and follow the procedures to remove and replace them

### Communications

Identify a communications-related failure to the lowest Field Replaceable Unit using a time effective method

Identify and use the procedures to remove, replace and align the Field Replaceable Units related to communications

### Service Tools

Identify and use key service tool diagnostic to diagnose failures in the system in a time effective method.

### DMS (Data Measurement System)

Identify a DMS/TDMS-related failure to the lowest Field Replaceable Unit using a time effective method

Physically identify Field Replaceable Unit components related to the Data Measurement System and follow the procedures to replace them

### High Voltage

Identify a high voltage system-related failure to the lowest Field Replaceable Unit using a time effective method

Physically identify Field Replaceable Unit components related to the high voltage system and follow the procedures to remove and replace them

### Rotor Motion

Physically identify Field Replaceable Unit components related to rotor motion and follow the

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procedures to remove, replace and align them  
 Identify a rotor motion-related failure to the lowest Field Replaceable Unit using a time effective method  
 Beam Path  
 Identify a collimator-related failure to the lowest Field Replaceable Unit using a time effective method  
 Physically identify Field Replaceable Unit components of the beam path and follow the procedures to remove, replace and align them  
 Perform calibrations related to the collimator to ensure accurate CT image quality  
 Image Quality  
 Perform the constancy tests  
 Perform acceptance testing  
 Calibrate the Brilliance Air scanner

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**CT3020**  
**Brilliance/Ingenuity/iCT**  
**Gateway**

1

Brilliance/Ingenuity/iCT Gateway

Course Title: Brilliance/Ingenuity/iCT Gateway

Modality: CT

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## DESCRIPTION:

This course contains the material required for a FSE not trained on the Brilliance (air) CT system to prepare to attend the Brilliance Air system course or the Brilliance iCT differences course. The course provides the engineer with the knowledge and the skills required to safely install, calibrate and repair the Couch, CIRs and Host subsystems. In addition, the FSE learns the System operation, Software installation and Remote Services Network configuration processes.

## COURSE OBJECTIVES:

At the end of this course, the student will be able to:

- Operate a Brilliance System
  - Identify failures pertaining to the operator interface
  - Use Gantry State information to troubleshoot system problems
  - Troubleshoot problems related to Gantry communications
  - Follow prescribed Safety procedures
  - Use available Service Tools for troubleshooting
  - Calibrate Gantry angulation and couch
  - Perform Planned Maintenance tasks following the recommended schedule
  - Identify and perform the procedures to Remove and Replace key FRUs
  - Perform corrective maintenance for the Couch, CIRS, Host and Gantry Angulation and Communication subsystems
  - Perform documented software installation procedures
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- Enable Philips service level diagnostics with IST/ICE

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**CT1020 BASICS VIRTUAL  
CLASS 4**

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CT Basics Virtual Classroom

Course Number: CT1020  
 Course Length: 4 days Virtual Classroom  
 Delivery Method(s): Blended Learning – ILT-Virtual  
 Modality: CT  
 Location: Remote training via Adobe Connect  
 Target Audience: Service Engineers, Biomedical Engineers

**DESCRIPTION:**

This course provides the biomedical service engineer a service-related overview of the fundamental concepts of CT systems. It prepares the engineer for advanced study in CT equipment-specific courses.

- The on-line portion of the course will be conducted in an average of 4 to 6 hours each day over the course of 4 consecutive scheduled days. To successfully complete this course, the time for completion during these 4 days must be set aside, just as if the service engineer were physically at the Academy location.
- Assessments will be given in class.
- Lessons will be delivered on-line, via webinar-style real-time sessions with all the students participating at the same time, or by podcasts with interactive discussions and question & answer sessions to follow.
- Students will be given assignments and will receive points for participation and completion. A minimum number of points must be received in order for successful completion of the knowledge portion of the class and for participation in the skills portion.

**PREREQUISITES:**

The student must have a PC with internet access, Internet Explorer 8 or higher, a current and valid IST license and IST entitlements to Customer Service.

#### **COURSE OBJECTIVES:**

Upon successful completion of the CT Basics course, the student will be able to:

- Given any CT System, list the major physical components of a CT System.
- Given any CT System, list the functions a CT system performs to make an image.
- Given any CT System, describe the steps an operator would take to make a typical study.
- Define terms commonly used in CT.
- Given any CT system, explain how x-ray data is collected and transferred.
- Given any CT system, explain how the data is reconstructed into image data.
- Given any CT System, explain how the data is displayed on a monitor.
- List typical image manipulations.
- Given any CT System, list the functions of the patient support.
- Given any CT system, list the factors influencing image quality and how each affects spatial and contrast resolution.
- Relate the preceding knowledge to the Philips CT Systems.

#### **MAJOR TOPICS:**

- System Overview
- Scanning a Patient
- Collecting Data
- Image Reconstruction
- Image Display
- Factors Affecting Image Quality
- Controlling the System
- Medical Imaging Overview
- Basic X-ray Fundamentals

Ingenuity CT 3.x  
Course Number: CT3008  
System Codes: NA  
Course Title: Ingenuity CT 3.x  
Course Length: 2 DAYS  
Delivery Method(s): Virtual Classroom  
Modality: CT  
Location: Adobe Connect  
Target Audience: Service Engineers

**DESCRIPTION:**

- This course provides the engineer with comprehensive knowledge and skills required for troubleshooting the Ingenuity CT system. This course is a blended learning course, with prerequisites of topics in eLearning which do not require the physical presence of the learner in the Training Academy, and Virtual Classroom instruction. This course replaces CT3001, with addition of material on the Ingenuity Flex model.

**COURSE OBJECTIVES:**

Upon successful completion of the Ingenuity CT course the learner will be able to:

- Explain prescribed safety procedures and avoid known equipment hazards
- Describe the general theory of operation for the Ingenuity CT scanner.
- Describe the general theory of operation of iDose.
- Identify proper use of troubleshooting / diagnostic tools and techniques for troubleshooting iDose related problems.
- Describe the theory of operation of the Ingenuity CT Reconstruction subsystem.
- Describe the theory of operation of the Ingenuity CT Data Acquisition and Sampling (DAS) System.
- Describe the theory of operation of the Ingenuity CT High Voltage subsystem.
- Describe the theory of operation of the Ingenuity CT Extended Range Couch.
- Identify and describe proper use of troubleshooting / diagnostic tools and techniques.
- Describe the Ingenuity CT system installation process.

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**CT3004 CT Ingenuity v4  
Software with IMR**

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Course Number: CT3004

Course Title: CT v4 Software with IMR

Course Length: 3 days

Delivery Method(s): Virtual Classroom/Simulators

Modality: CT

Location: CTC/Best/SLC Virtual Training classrooms using Adobe Connect

Target Audience: Service Engineers/BioMeds

**DESCRIPTION:**

This course provides the engineer with the comprehensive knowledge and skills required to use the v4.x software to operate and calibrate the CT system. This course is a blended learning course, using virtual machine simulators and Virtual Classroom instruction.

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#### PREREQUISITES:

- Ingenuity CT v3.5 CT3001 or iCT CT8011/CT3022

#### COURSE OBJECTIVES:

Upon successful completion of the course the learner will be able to:

- Discuss the software installation process
  - Demonstrate ability to plan and perform basic scans including Surview, axial and helical studies
  - Demonstrate image manipulation
  - Demonstrate window adjust and center values to obtain desired image
  - Demonstrate their ability to perform a functional scan
  - Use the Image Directory menus
  - Demonstrate image archiving and restore
  - Identify selectable options in the Preferences button on the scan directory
  - Perform software-only calibrations on the scanner
  - Execute system performance validation tests
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- Use of the Philips Support Connect (PSC) tools to troubleshoot and diagnose system problems

Describe Iterative Model-based Reconstruction (IMR) and its hardware requirements

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## INTRODUCTION TO iDOSE4

1

This course is available on the Philips Learning Center (PLC) website at <http://theonlinelearningcenter.com>

All of the Academy e-learning courses are located on this site in the Course Catalog under the Academy folder and Modality sub-folder.

Course Number: CT9011

Modality: CT

Location: Adobe Connect

Target Audience: All CT Service Engineers

### DESCRIPTION:

- This class will provide all CT service engineers with an introduction to iDose4.

### PREREQUISITES:

- None
-



#### COURSE OBJECTIVES:

Upon successful completion of the Ingenuity CT course the learner will be able to:

- Define iDose4 and explain how it works

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#### **Bayer Stellant P3T C/A/PA 2.0 Bundle**

1

Bayer Stellant P3T Cardiac/Abdomen/Pulmonary Angiography 2.0 SW

Bayer Healthcare Catalog # 3034852

#### **P3T Cardiac:**

P3T Cardiac enables clinicians to automatically calculate and deliver personalized contrast injection protocols. It is indicated for use with CT imaging of cardiac organs. The P3T Cardiac automatically adjusts contrast volume based on scientific methods, according to patient, procedure, and prescribed physician parameters.

#### **P3T Abdomen:**

P3T Abdomen enables clinicians to automatically calculate and deliver personalized contrast injection protocols. It is indicated for use with CT imaging of abdominal organs (i.e. liver, pancreas, and kidneys). The P3T Abdomen automatically adjusts contrast volume based on scientific methods, according to patient, procedure, and prescribed physician parameters.

#### **P3T Pulmonary Angiography:**

P3T Pulmonary Angiography enables clinicians to automatically calculate and deliver personalized contrast injection protocols. It is indicated for use with CT imaging of pulmonary organs (i.e. lung, and pulmonary vessels). The P3T Pulmonary Angiography automatically adjusts contrast volume based on scientific methods, according to patient, procedure, and prescribed physician parameters.

P3T facilitates consistency amongst clinicians in delivering a personalized contrast injection protocol. P3T aids in patient safety by tailoring contrast volume according to unique patient-

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imaging needs. Added safety constraints on Maximum Iodine Load and Maximum Flow Rate will help ensure individualized protocols are compliant with a clinician's practice.

Philips does not warranty the Bayer Stellant CT Injector System or its options but will pass on the Bayer warranty. Bayer Healthcare warrants each new injector system; including control unit, display control, remote panel and injector head sold in North America and Europe against defects in material and workmanship, under proper, normal use and service for a period of one year (12 months) from the date of installation. There will be no charge for any action deemed necessary by Bayer, including parts, travel, or labor to fulfill the terms of the warranty, during normal business hours (8:30am to 5:00pm, local time, Monday through Friday, except holidays).

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**Trade in Allowance**

**1**

Customer represents and warrants that (i) Customer has, and shall have when title passes, good and marketable title to the equipment being traded in and (ii) has the authority to effect such trade in.

Product: Siemens VOLUME ZOOM  
Serial Number: 64758  
Manufacturer: SIEMENS MEDICAL SYSTEMS INC

Trade-In authorization number: 37429