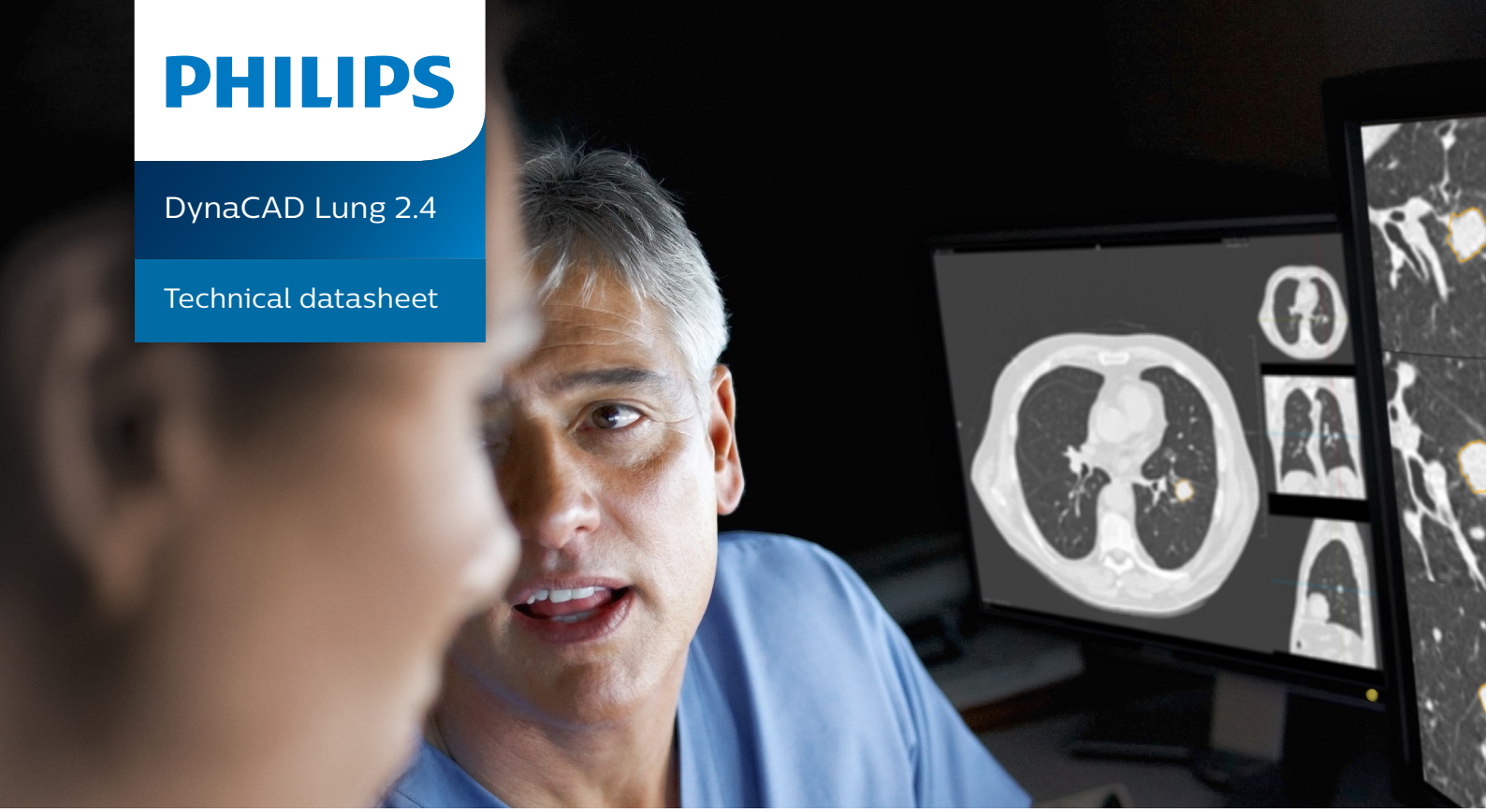
PHILIPS

DynaCAD Lung 2.4

Technical datasheet



Advanced visualization with DynaCAD Lung

DynaCAD Lung 2.4 Specifications

DynaCAD Lung from Philips is a vendor-neutral, medical imaging software system that provides fast, efficient viewing as well as quantification, manipulation, communication and reporting of multi-slice CT exams of the chest.

With flexible report templates and automated image registration, DynaCAD Lung helps facilitate synchronous display and navigation of multiple patient exams for initial review and easy follow-up comparison of current and prior study findings – helping to reduce manual tasks so you can make the best use of your time. transformation journey with the aim to improve your decision-making in precision diagnostics.

DynaCAD Lung 2.4 recommended software specifications

	Client	Server[1,2]
Operating system	Windows 7 64 bit Windows 10 64 bit	Windows 10 64 bit Windows Server 2012 R2 64 bit Windows Server 2016 64 bit Windows Server 2019 64 bit

DynaCAD Lung 2.4 recommended hardware specifications

	Client	Server[3]
Processor	Quad Core CPU	Quad Core CPU
Memory	8 GB	16 GB
Available disk space	Drive 1 (application + cache): ≥10 GB	Drive 1 (application): ≥250 GB (7200rpm)
	n/a	Drive 2 (database): ≥250 GB (7200rpm)
	n/a	Drive 3 (workspace): ≥1 TB (7200rpm)
Graphics card	OpenGL compatible (version ≥ 2.0), 512 MB PCIe x16	n/a
Display	2 displays, landscape orientation, 1920 x 1080 resolution	n/a

Network connection >= 1 Gbit/s required

1. Virtualization possible
2. High end RAID controller required
3. Processing a single paitient can benefit from a high single core performance.

DynaCAD Lung 2.4 scanning protocol recommendations

Detector parameters	4 or more rows
Field of view	Minimum of 18 cm Must include entire organ under review
Patient orientation	Head First Supine (HFS) Feet First Supine (FFS) Head First Prone (HFP) Feet First Prone (FFP)
Scan range	Apex to lung bases No image gaps *Note: Additional slices outside this range could impede successful segmentation of the lung and subsequent CAD processing.*
Slice thickness	0.5 mm - 3.0 mm Constant throughout scan
Image spacing	Less than or equal to slice thickness (i.e. no gaps between slices) Constant throughout scan
Matrix	Square, up to 1024 x 1024 Constant throughout scan
Pixel size	Constant throughout scan
Contrast agent support	Nodule CAD supports with or without contrast
Reconstruction properties	Reconstruction with either a standard, lung or bone algorithm
Convolution Kernel	See notes below for the choice of a suitable Convolution Kernel
Image type	Lossless compression accepted Lossy compression not accepted ImageType derived not accepted
Scan technique	Minimize motion by single breath hold scan Cardiac gating is accepted
Data type	12 bit unsigned 16 bit signed/unsigned

Convolution Kernel

Reconstruction in the lung window in general requires the use of a sharpening lung kernel. However, for thin-layer acquisition with low doses (HRCT), excessive emphasis of the edges should be avoided.

Examples: In the Siemens “Application Guides” for the “Lung LowDose” protocol, in contrast to the routine thorax protocol, the ‘B50’ kernel is recommended instead of ‘B70’. GE’s instruction manuals also state that for thin-layer lung images, the less edge-stressing ‘Bone’ kernel should be used instead of the ‘Lung’ kernel.

Manufacturer	Lung routine	Low dose / HRCT
GE	Lung	Bone
Philips	L, Resolution “High”	B or C, Resolution “High”
Siemens	B70	B50
Toshiba	FC 51, FC 52, FC 53	FC 55, FC 84, FC 85

Metal artifacts

Metal artifacts (e.g. caused by pacemaker, metal implants or contrast agent bolus that has not yet reached the heart) may lead to image distortions that affect image quality and successful CAD processing. Please also consider shielding.

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