

PHOENIX · LAB-SCALE CT PLATFORM

# V|tome|x S Neo.



Advanced inspection.  
**Minimal footprint.**

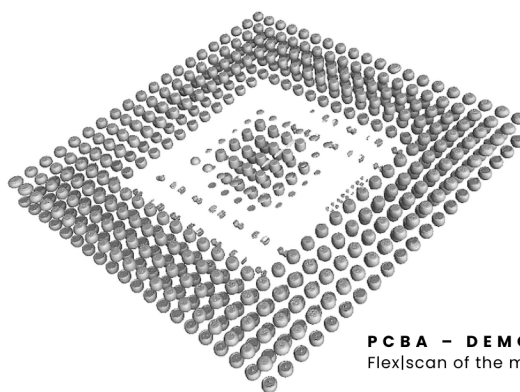
# Stop choosing between detail, speed, and space.



Most CT platforms force a compromise: high performance usually means moving into a larger system class, finer detail often requires a more specialized system, and broader coverage typically comes with a larger footprint. The V|tome|x S Neo removes those trade-offs in one 3.25 m<sup>2</sup> platform.

First launched in 2003, the Phoenix V|tome|x S set the benchmark as the world's first lab-scale CT system combining high-resolution imaging with true flexibility.

The newest release of the **V|tome|x S Neo** extends that legacy with expanded configuration options that bring finer detail, dimensional measurement, and broader coverage in the same proven platform.



PCBA - DEMOBOARD  
Flex|scan of the mirrored BGA

**2003** FIRST  
LAUNCHED

**650+** INSTALLED  
WORLDWIDE

**VDI2630** METROLOGY  
READY

01



## See what others miss.

Detail detectability down to 0.2 μm with the optional nanofocus tube — see sub-micron features, fine-pitch electronics, and micro-defects in one system.

↳ down to 0.2 μm detail

02



## Configure for the application.

Three detector options & Dual|tube let V|tome|x S Neo be configured for the right balance of coverage, speed, or detail — helping users tailor the system to the task at hand.

↳ ~3.25 m<sup>2</sup> footprint

03



## Measure with confidence.

Metrology|edition extends the system from internal CT inspection into dimensional verification — bringing measurement workflows into the same platform.

↳ SD ≤ (14 + L/50) μm

# One platform. Tuned to your inspection needs.



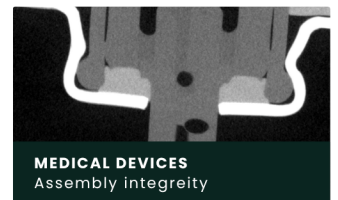
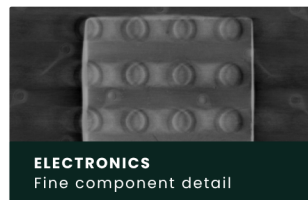
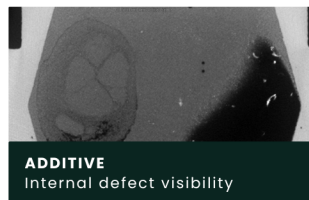
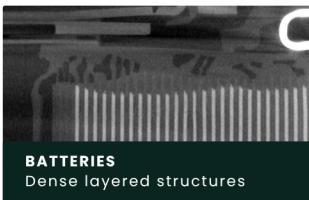
## 01 · DUAL|TUBE OPTION

### Dense samples. Sub-micron features. Same platform.

Switch between a 240 kV microfocus tube for higher-power inspection of dense or larger components and a 180 kV nanofocus tube for fine detail on small, complex features at the push of a button. With both tubes integrated into one platform, V|tome|x S Neo gives users the flexibility to move from broad industrial inspection to high-resolution CT workflows without stepping up to a larger system class.

MICROFOCUS	<b>240 kV</b>	NANOFOCUS	<b>180 kV</b>
POWER	<b>320 W</b>	DETECTABILITY	<b>0.2 μm</b>

From dense battery structures to fine electronic features, V|tome|x S Neo delivers the detail you need.



## 02 · A DETECTOR FOR EVERY JOB

Speed · Coverage · Detail

STANDARD	
<b>DXR S100 Pro</b>	
PIXEL	100 μm
MATRIX	7.5 MP
FRAME RATE	up to 20 fps
ACTIVE AREA	300 × 250 mm

FAST IMAGING	
<b>Dynamic 4I 200</b>	
PIXEL	200 μm
MATRIX	4 MP
FRAME RATE	up to 30 fps
ACTIVE AREA	400 × 400 mm

HIGH RESOLUTION	
<b>Dynamic 4I 100</b> <span style="background-color: #008080; color: white; padding: 2px;">NEW</span>	
PIXEL	100 μm
MATRIX	16 MP
FRAME RATE	up to 5 fps
ACTIVE AREA	400 × 400 mm

02.A — DYNAMIC 41|100 · IN PRACTICE

# Bigger picture. Faster answer.

The **Dynamic 41|100** detector delivers a 400 × 400 mm field of view at 100 μm pixel resolution — a 113% larger active area than conventional detectors. That single upgrade changes two important outcomes: how much detail you capture per scan, and how fast you get to a result.

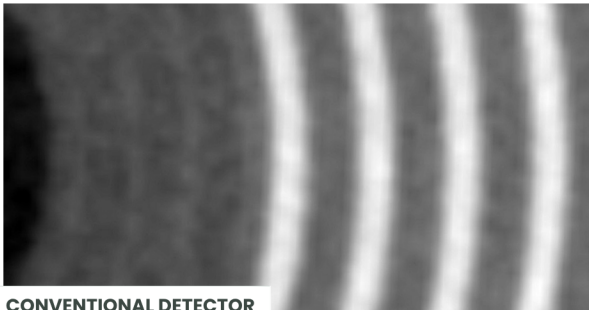
ACTIVE AREA <b>400 × 400 mm</b>	RESOLUTION <b>16 MP</b>
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LARGER THAN CONVENTIONAL <b>~113 % FOV</b>	PIXEL SIZE <b>100 μm</b>
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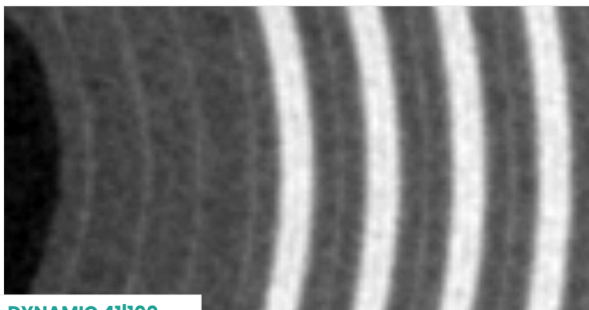
## 01 · BATTERY & CELL INSPECTION

### Capture More Details In One Optimized Scan.

See the whole battery in a single scan at higher possible magnification. With a larger detector, more detail can be captured on the same component without the tradeoff of reduced magnification. No compromises. No stitching.



CONVENTIONAL DETECTOR



DYNAMIC 41|100

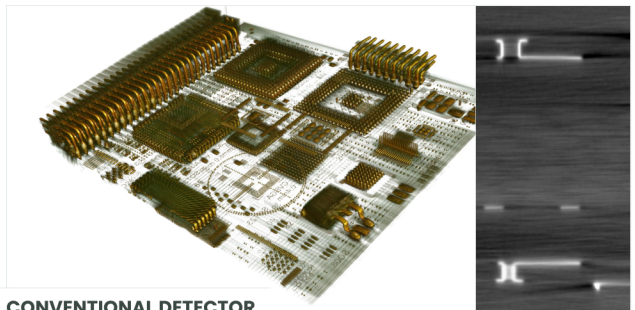
CONVENTIONAL FOV  
**300×250 mm**

WITH DYNAMIC 41|100  
**400×400 mm**

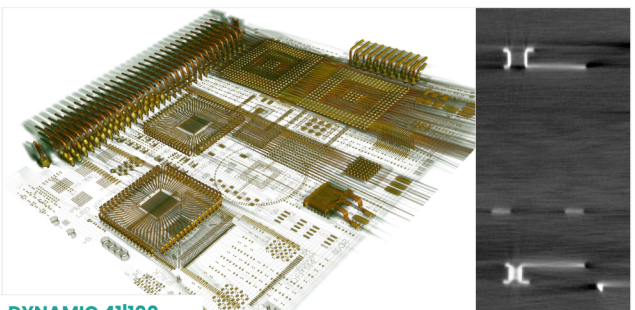
## 02 · ELECTRONICS & PCB INSPECTION

### High Speed with the Same Quality.

Accelerate inspection by reducing scan count and minimizing volume stitching. Dynamic 41|100 captures more of the PCB at the same achievable resolution — shortening time-to-answer without compromising image quality.



CONVENTIONAL DETECTOR



DYNAMIC 41|100

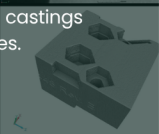
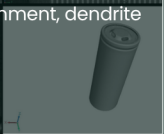
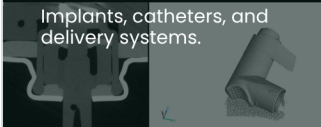
RESULT  
**Less stitching**

BENEFIT  
**Fewer scans**

QUALITY  
**Unchanged**

# Built for the applications that matter.

From sub-micron electronics to dense automotive castings — the V|tome|x S Neo is qualified across the inspection workflows that CT teams run every day.

<p><b>A.01</b></p> <p><b>Automotive &amp; aerospace</b></p> <p>Safety-critical castings and assemblies.</p> 	<p><b>A.02</b></p> <p><b>Industrial failure analysis</b></p> <p>Root-cause investigation and QA across manufactured parts.</p>	<p><b>A.03</b></p> <p><b>Electronics &amp; semiconductor</b></p> <p>Solder-joint, BGA, and wire-bond inspection.</p>	<p><b>A.04</b></p> <p><b>Battery cell &amp; material analysis</b></p> <p>Electrode alignment, dendrite detection.</p> 
<p><b>A.05</b></p> <p><b>Materials science &amp; R&amp;D</b></p> <p>Micro-structural characterization for development.</p>	<p><b>A.06</b></p> <p><b>Additive manufacturing QC</b></p> <p>Porosity, lack-of-fusion, and print-quality control.</p>	<p><b>A.07</b></p> <p><b>Medical device inspection</b></p> <p>Implants, catheters, and delivery systems.</p> 	<p><b>A.08</b></p> <p><b>Precision metrology</b></p> <p>Dimensional verification and CAD comparison.</p>

## 04 — METROLOGY|EDITION · NEW

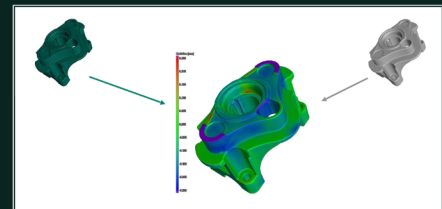
# Closing the loop between design and reality.

CT metrology extends inspection into dimensional verification — including hidden features and difficult-to-access internal surfaces. It supports repeatable nominal/actual comparison and measurement workflows across a wide range of part geometries.

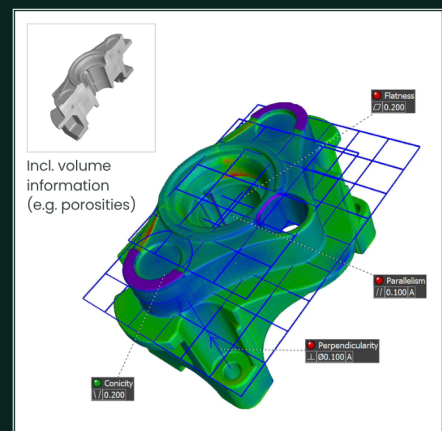
- Nominal / actual CAD comparison
- Dimensional & wall thickness analysis
- Internal geometry measurement
- Conformity with standard VDI/VDE 2630

ACCURACY AT VDI/VDE 2630 POSITIONS

$SD \leq (14 + L/50) \mu\text{m}$  — supported by Ruby|plate calibration



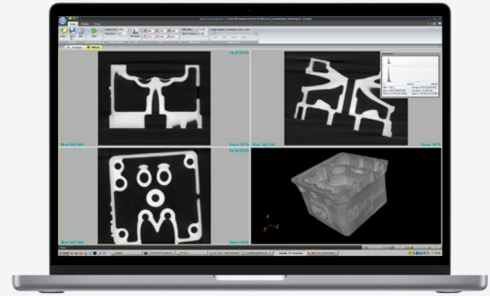
CAD · NOMINAL VS ACTUAL



COMBINE DIFFERENT ANALYSIS

PHOENIX DATOS|X

# From scan to answer, in one environment.



Hardware is only half of a CT platform. V|tome|x S Neo combines configurable hardware with **Phoenix Datos|x** to bring acquisition, reconstruction, and volume processing into one intuitive CT workflow. Built on 20+ years of development and optimized for Waygate hardware, it helps users move from setup to result faster.



## Step 01 · Acquire

### Scan.

Guided setup and automated acquisition workflows help users move from setup to scan faster. Advanced scan modules support larger, longer, and more challenging geometries.



## Step 02 · Reconstruct

### Reconstruct.

Fast reconstruction and automated optimization tools help deliver high-quality CT volumes with less operator effort. Multi|BHC is designed to improve results on demanding multi-material scans.



## Step 03 · Evaluate

### Evaluate.

Review reconstructed volumes in a streamlined CT workflow and prepare data for inspection, metrology, or failure analysis.

PROPRIETARY  
**Phoenix Datos|x**

ONE-CLICK  
**Flash! processing**

ADVANCED  
**Multi|BHC**

3D SAMPLE Ø  
**up to 400 mm**

## ADVANCED SCAN MODES

Optional advanced scan modules

### Offset|CT

Increase effective scan volume by up to 70% — or improve resolution on the same setup.

### Helix|scan

Capture longer parts in one scan with reduced stitching artifacts and improved quality on challenging geometries.

### Fast|scan

Continuous-rotation CT mode designed to reduce total scan time for higher-throughput workflows.

### Sector|scan

Region-of-interest scan mode for focused inspection of selected areas.

### Multi|scan

Automates multi-scan acquisition and reconstruction for larger volumes or extended sample coverage.

### Flex|scan

Flexible trajectory designed to improve voxel resolution, especially for higher-aspect-ratio samples.

# The specs, end-to-end.

A complete technical reference for specification, site-planning, and procurement. Contact Waygate for site-specific configuration.

## TUBE & TARGET

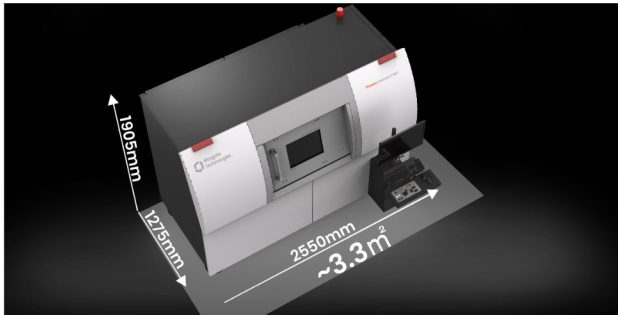
Tube type	Microfocus Directional	Nanofocus (optional) Transmission
Max. energy	240 kV	180 kV
Max. power	320 W	20 W
Detectability	down to 1 µm	down to 0.2 µm
Target	High-flux target (optional)	Diamond window

## MANIPULATOR & ENVELOPE

Manipulator	5-axis, including tilt
Focus-detector distance	850 mm (Dynamic 41) 874 mm (DXR S100 Pro)
Max. sample dimension	∅ 400 × 400 mm
Max CT FOV	up to ∅ 400 mm with Offset CT scan
Max. sample weight (CT)	10 kg (22 lbs.) opt. upgrade to 15 kg (33 lbs.)

## DETECTOR

	DXR S100 Pro Standard	Dynamic 41 200 Fast Imaging	Dynamic 41 100 High Resolution <span style="background-color: #008080; color: white; padding: 2px;">NEW</span>
PIXEL SIZE	100 µm × 100 µm	200 µm × 200 µm	<b>100 µm × 100 µm</b>
PIXEL MATRIX	3008 × 2512 px (7.5 MP)	2000 × 2000 px (4 MP)	<b>4000 × 4000 px (16 MP)</b>
FRAME RATE	up to 20 fps	up to <b>30 fps</b>	<b>up to 5 fps</b>



## CABINET & SYSTEM

System dimensions W×H×D	2,550 × 1,905 × 1,275 mm (100.4" × 75.0" × 50.2")
Depth w/ user panel & generators	2,800 mm (110.2")
System weight	Approx. 4,050 kg / 8,990 lbs. (without ext. components)

## CT TRAJECTORIES (OPTIONAL)

Offset CT	Scan bigger parts or same size with higher resolution
Helix scan	For long part scans with less artifacts and better quality
Fast scan	Continuous movement for every image to minimize scan time
Sector scan	Highest resolution on flat parts by using a limited angle for the data acquisition
Multi scan	Scan long samples by combining multiple individual CT scans into a single CT volume
Flex scan	Enhance voxel resolution for high aspect ratio samples by dynamically adjusting focal object distance (FOD) during CT acquisition

## Phoenix V|tome|x S Neo Metrology|edition

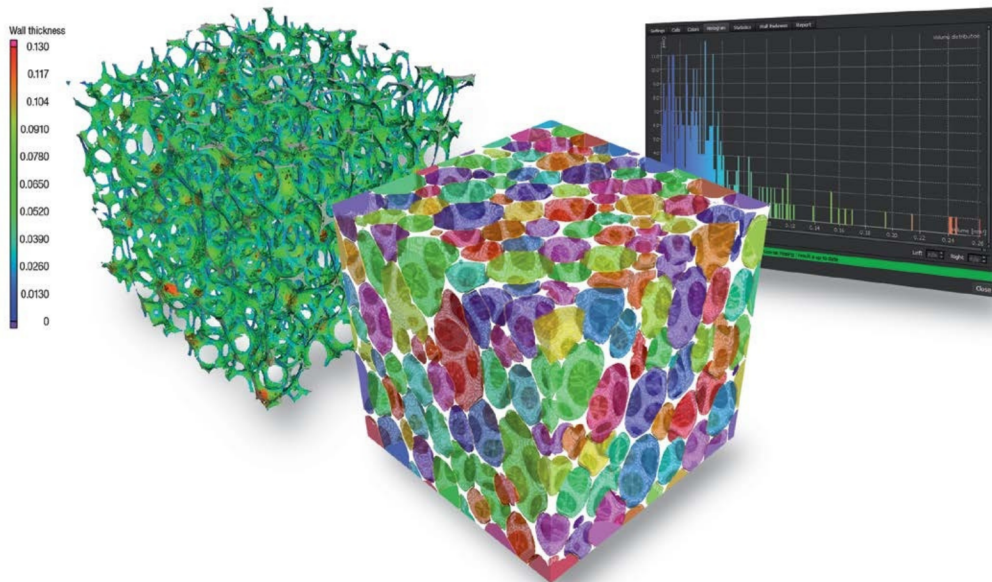
Available with Dynamic 41|100 & Dynamic 41|200 detectors

Software	Phoenix Datos x "Metrology" CT software package
Measuring accuracy	VDI/VDE 2630 positions: (14+L/50 mm) µm Any other positions: (14+L/50 mm) µm with Easy calib
Verification tools	Waygate's patented Ruby plate for automated VDI 2630-1.3 verification*. Ruby plate phantom max. measurement length: <b>130 mm</b> .

\*Measured as deviation of sphere distance in tomographic static mode SD(TS) with True|position and Ruby|plate. Method details referring to VDI 2630-1.3 guideline available on request. Valid only for Phoenix V|tome|x S Neo Metrology|edition.

# A partnership for improved performance.

The excellent price/performance ratio of the versatile Phoenix V|tome|x S Neo is just one example of how Waygate Technologies makes scientific research and industrial quality assurance and manufacturing processes more efficient. With our entire precision CT line, a variety of optional innovations, and expert service, we are committed to enhancing precision and productivity for your operations through our global service network.



SEE IT IN ACTION

**Book a demo →**

[waygate-tech.com/vtomex-s](http://waygate-tech.com/vtomex-s)



TALK TO A SPECIALIST

**Connect with a Waygate CT expert.**

Regional teams · worldwide · [waygate-tech.com](http://waygate-tech.com)

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