

PROVEN TECHNOLOGY IMPROVED

The DoseView 3D is a new 3-axis water phantom for performing comprehensive linear accelerator beam commissioning and quality assurance measurements quickly, accurately and intuitively



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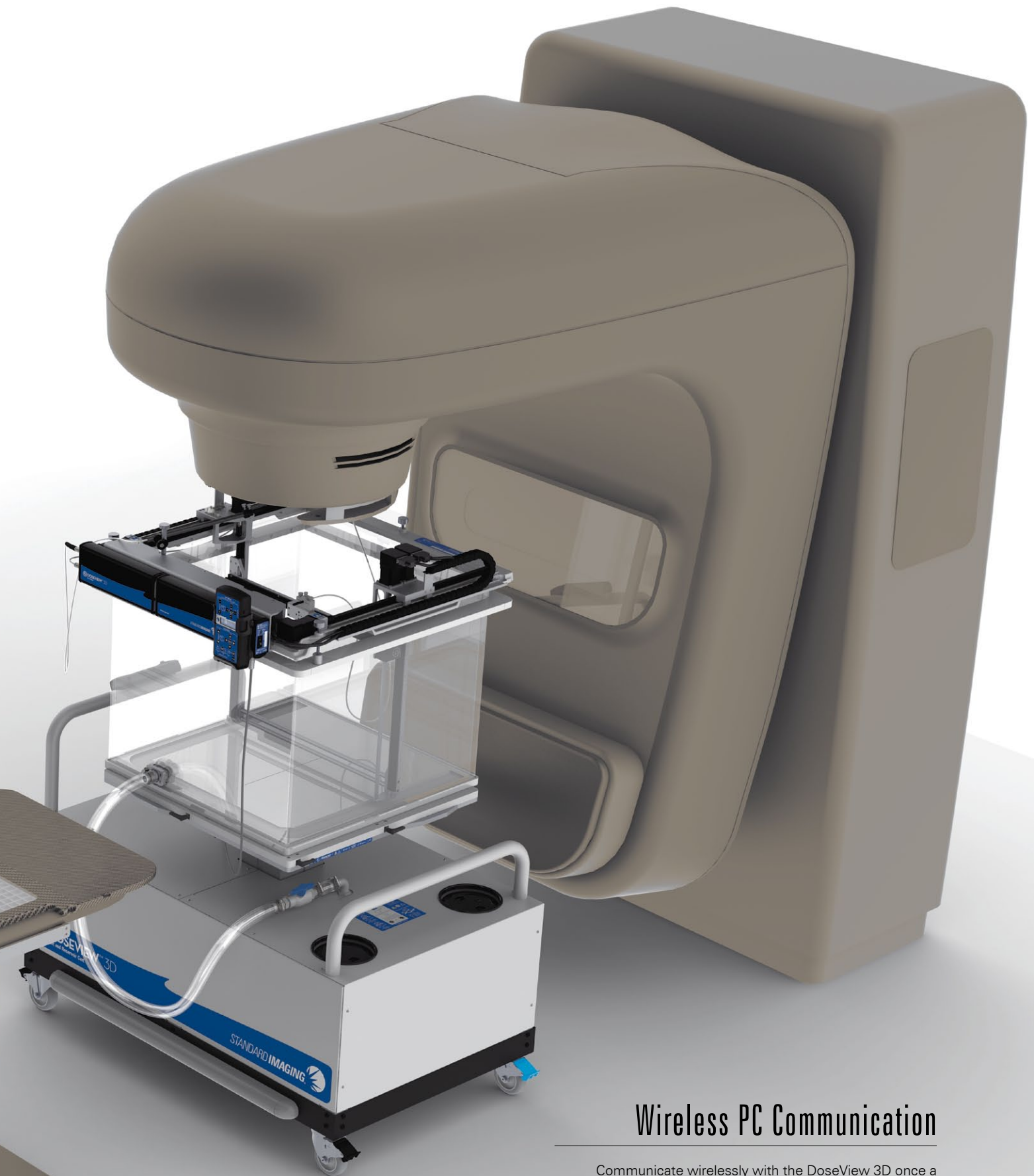
Convenient, Fast and Integrated **3D Water Scanning**

At Standard Imaging we strive to produce the most precise and practical quality assurance tools available to medical physicists. Our previous ventures into dosimetry equipment, Exradin Ion Chambers, the MAX 4000 and SuperMAX electrometers and 1D Water Scanning System, have built upon this ideal by integrating convenient, automated features into 3D water scanning to save you time and improve data quality.

The DoseView 3D continues this legacy, providing customers with the quality and integrity they demand, at a price that won't strain their budget. Built for sustained durability, the DoseView 3D's single piece robust frame and reliable components maintain accuracy even after thousands of repetitions. The Lift and Reservoir Cart, with automatic fill and drain functionality and a variety of precision positioning features, aids in hassle-free setup, use and storage of the phantom.

Further increasing efficiency, before and during scans, is the DoseView 3D's intuitive software. The ability to export data to a variety of treatment planning systems, programmable automatic acquisition scan queuing and a suite of data processing tools are just a few features that facilitate scanning for both novice and expert users.

When coupled with Standard Imaging's renowned customer service and support, the DoseView 3D enhances and expedites our customers' QA testing and commissioning processes.



Wireless PC Communication

Communicate wirelessly with the DoseView 3D once a standard serial cable is run into the vault. **The only direct connection needed to the phantom is a power cable.**

Built for **Consistency, Convenience**

1 **Robust Construction Provides Foundation for Accuracy, Consistency**

Manufactured with a rigid, one-piece cast aluminum frame and stainless steel leadscrews, the DoseView 3D provides a durable platform for repeated QA testing. This construction ensures consistent measurement accuracy within $\pm 0.1\text{mm}$ per axis.

2 **Precise, Three-Point Leveling**

The DoseView 3D's three leveling screws are mounted above the phantom's scanning volume, making it easy to fine-tune leveling even when the phantom is filled with water.

3 **Fewer Cables, Faster Setup, Better Data**

A fast-acquisition electrometer and motion controller are mounted on board the DoseView 3D, reducing the length of detector cables required for testing. This lessens settling time and opportunity for cable leakage, streamlining setup.

4 **Durable, Accurate Stepper Motors**

The DoseView 3D's 5 stepper motors maintain superior precision over the phantom's lifetime, minimizing degradation even after 30,000 repetitions.

5 **Convenient, Wireless Pendant**

An intuitive wireless pendant allows for easy vault operation without restricting movement around the phantom and linear accelerator. The pendant's audible and visual cues and backlit display makes configuring and controlling the DoseView 3D a straightforward process for any user. Fine-tune positioning with 0.1mm per-press step mode.

6 **Thorough, Automatic Phantom Drain**

The automatic drain feature and advanced suction drain lets users empty the DoseView 3D while cleaning up the rest of their QA materials. The advanced suction drain ensures that you return to an empty tank, not a quarter-inch of standing water.

7 **Keep cables organized during testing**

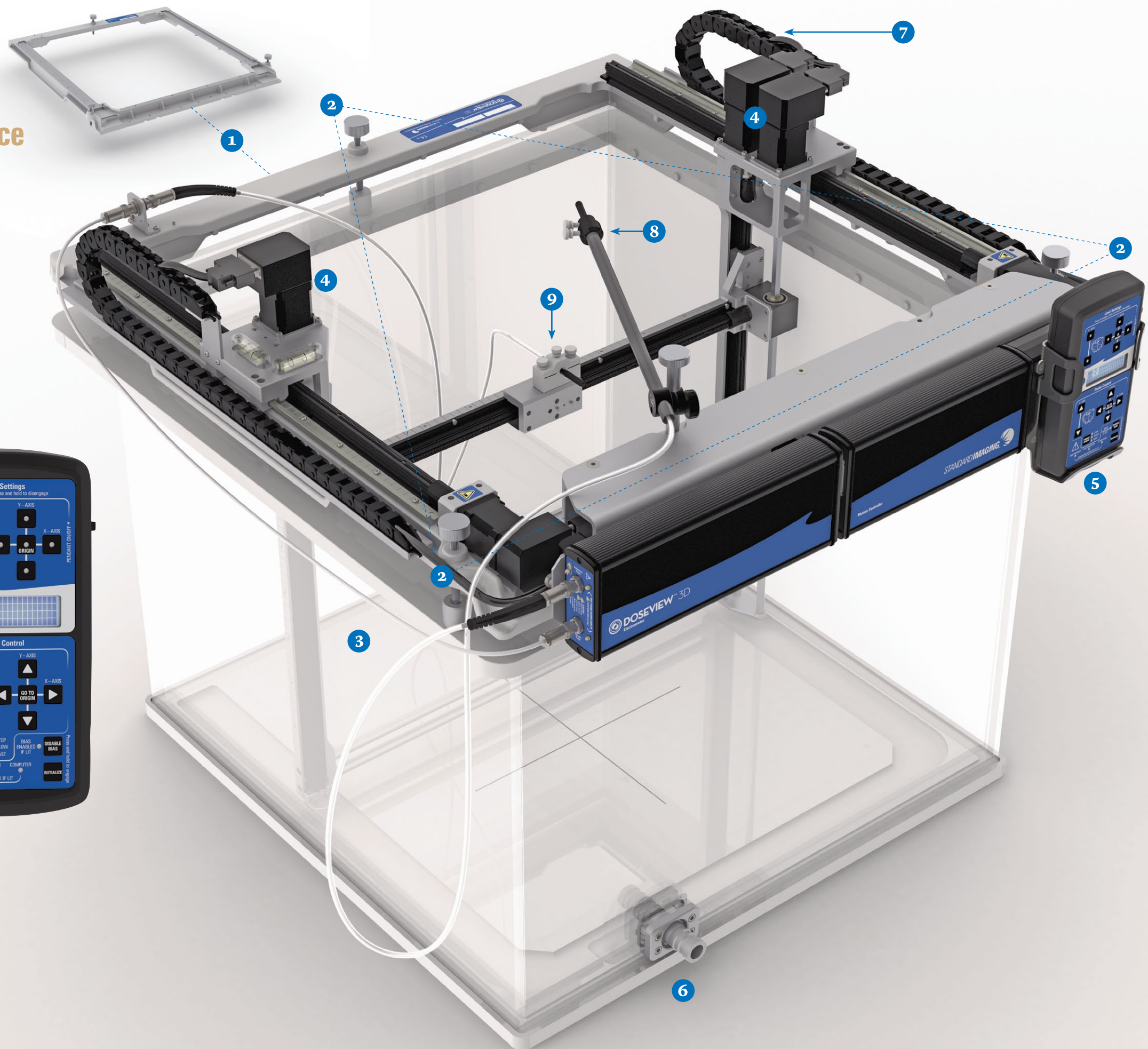
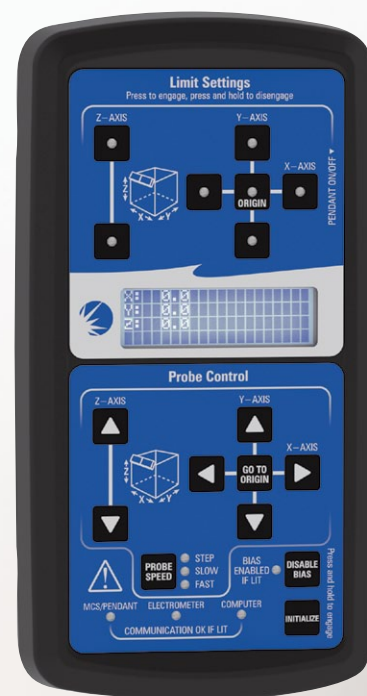
Cable carriers keep the motor connections compact and unobtrusive throughout the entire range of motion.

8 **Reference Detector Holder**

This modular detector holder can be used in 3 length configurations to accommodate a wide range of field sizes. A carbon fiber support tube prevents reference detector vibration during scanning.

9 **Sample Detector Holder**

A series of included holders can be positioned either horizontally or vertically while maintaining a consistent origin location using the Detector Alignment System.



Built for **Accuracy**

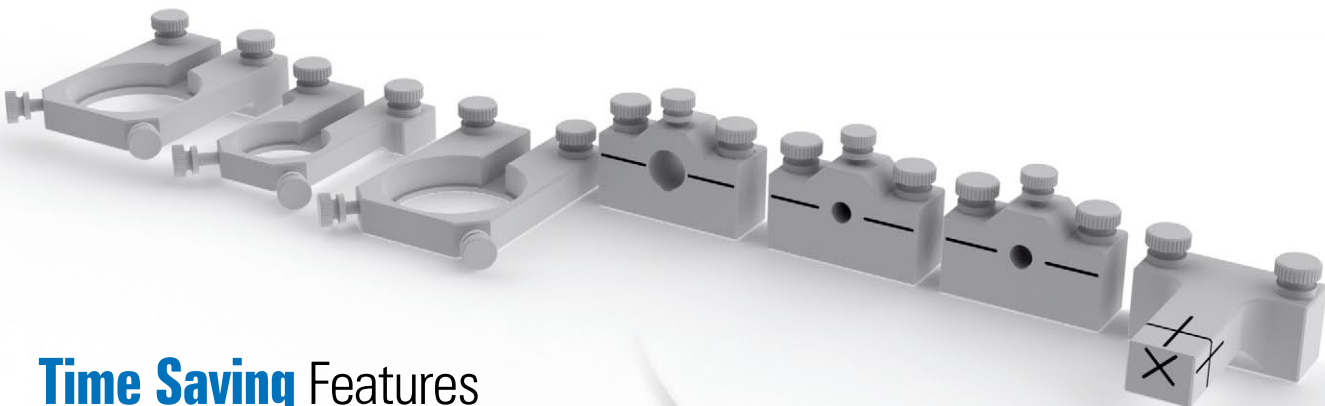


New **High-Speed Electrometer**

The DoseView 3D Electrometer is a dual-channel, fast-acquisition electrometer that carries Standard Imaging’s renown for precision and efficiency. Bias voltage can be enabled independently per channel for chamber/diode simultaneous operation. Mounted on board the phantom, this electrometer can also be positioned in a separate location per the user’s convenience. Low noise performance helps ensure post-processing operations are kept to a minimum.

Accurate, Reliable **Exradin** Ion Chambers

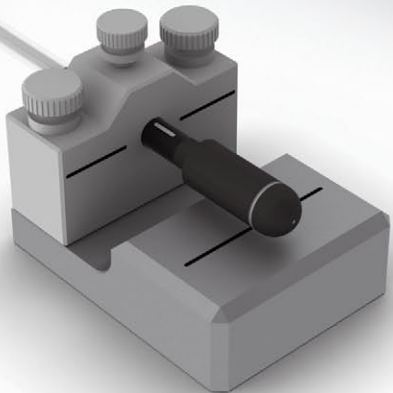
For over 35 years, Exradin’s quality has been recognized by the top research institutes and standard laboratories in the world. The DoseView 3D comes with two Exradin A18 Ion Chambers (0.125cc), producing sustained accuracy and confidence in your QA testing.



Time Saving Features

Expedite accurate set up with the Detector Alignment System

Innovative detector-holder system places the center of all detectors at the same position relative to the water’s surface, allowing users to swap detectors without resetting isocenter/origins. Initial setup is performed with the crosshair alignment jig which provides ample surface area and fiducials to aid in matching to the ODI and/or room lasers. This bracket system is compatible with Exradin Ion Chambers and supports chambers and diodes from most other manufacturers. This system ensures faster setup time and provides confidence in accurate leveling and beam center positioning.



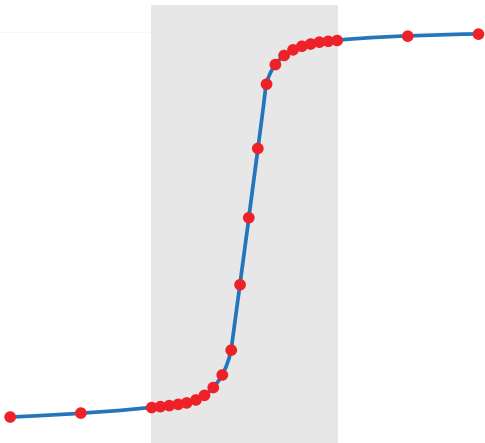
Automatically find beam center

Once leveling is performed, the DoseView 3D determines the center of a radiation field by locating the field edges using an ion chamber or diode. This test can be performed at multiple depths to identify any issues with system leveling and/or gantry alignment.



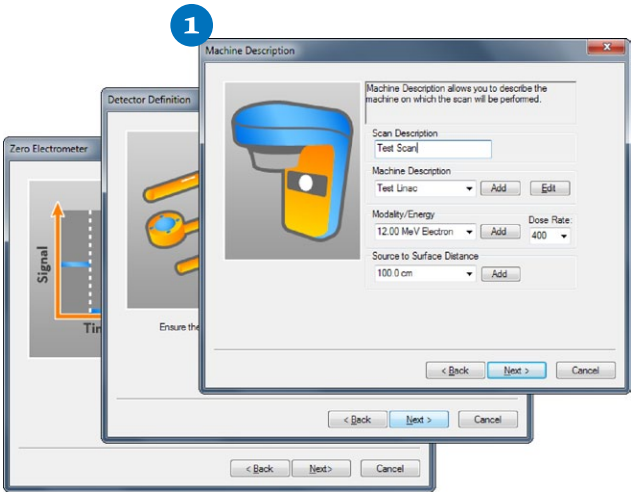
Variable step size acquisition

The DoseView 3D can be programmed to move in varying step sizes throughout a scan. Implement tighter steps toward the penumbra to account for increased variability without significantly increasing overall scan time.



More resolution in high gradient region

Easy to Use Software Modules



Scan Acquisition

- 1 Setup wizard guides users through data acquisition in an easy to learn, step-by-step progression. Manual setup offers flexibility for more detailed control of scans
- 2 Prior to setup, create a set of scan routines in Auto Acquisition mode and save them for use in later testing. Scan sets can be implemented and organized on a TPS or custom basis to streamline commissioning and QA procedures.
- 3 Acquire depth dose and profile data in single setup operation
- 4 Resume scans and preserve data, even if the beam shuts off
- 4 Auto sampling and minimal range selection takes the guesswork out of electrometer setup

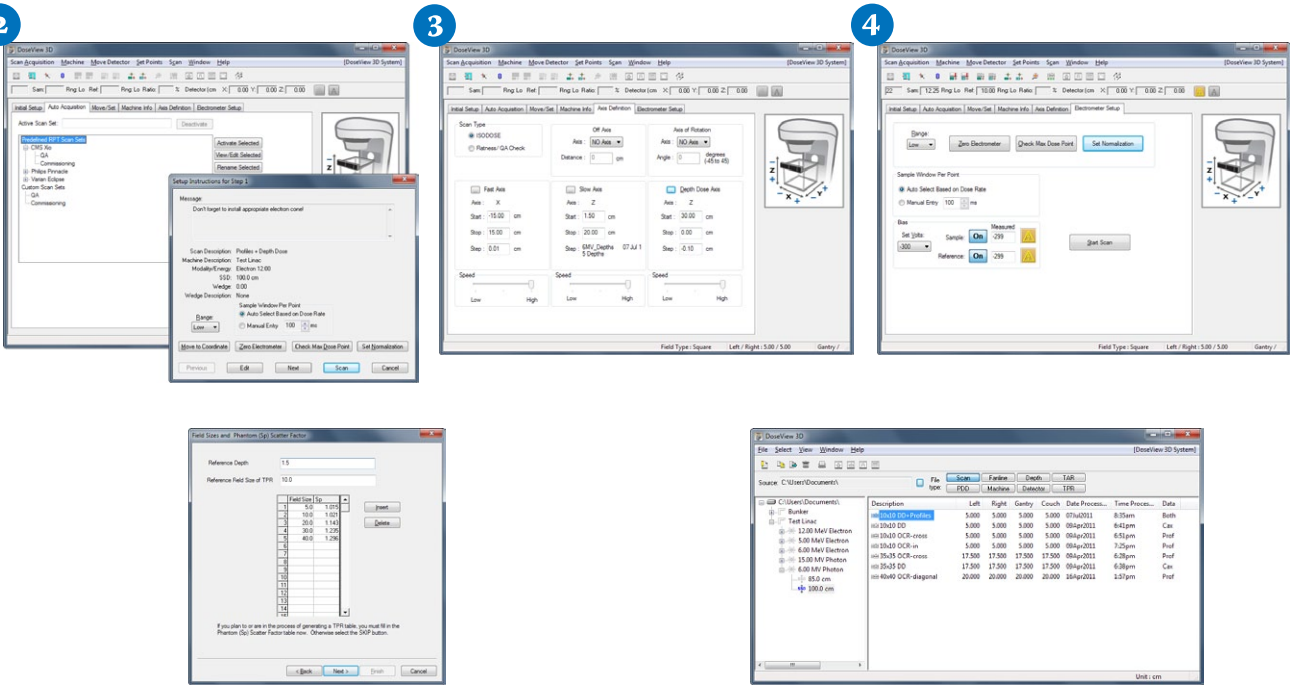
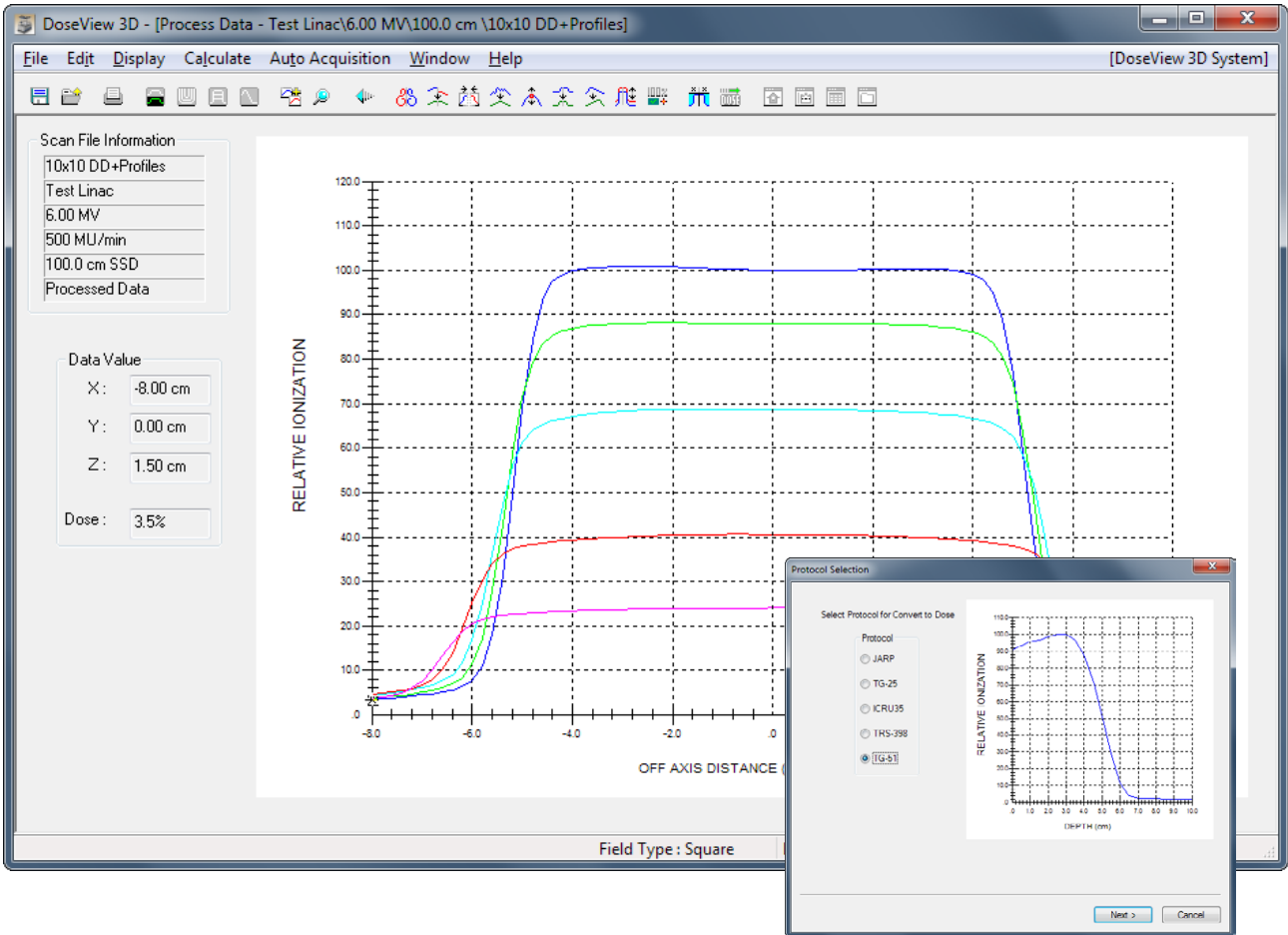


Table Generation

Quickly create PDD, TAR and TPR/TMR data tables for printing or exporting, using CAX data acquired from the DoseView 3D or manually entered values.

Database Management

Facilitates browsing, editing, re-organization and printing of existing scan files, making pertinent data readily available. Scan data is stored in a hierarchy of machine → energy → SSD so specific files are always easy to find.



The Convert to Dose module supports most current US and international dose conversion protocols including TG-51 and TRS-398

Scan Processing

The Scan Processing Module features a comprehensive suite of tools facilitating data manipulation, including:

- Mirror Data: Replace one half of a profile with a mirrored copy of the other half
- Average Data: Average scan points at equal distances from the central axis
- Concatenate Data: Combine two half scans together to form large profiles
- Smooth Data: A suite of algorithms allows removal of unwanted noise or anomalies from a scan file
- Point Edit: Edit the relative dose level of any point in a profile or CAX scan
- Profile Center: Re-center profile data based on the data on either side of the central axis
- Surface Shift: Shift the Z-axis of profile and/or CAX data ±3 cm for effective point of measurement corrections

Treatment Planning System Export

Transition scan data to a variety of treatment planning systems, including:

- Varian Eclipse
- Philips Pinnacle
- CMS XiO

All supported TPS systems are included at no additional charge.

Lift and Reservoir Cart, Precision Positioning Platform

Fully Integrated with Lift and Reservoir in One

The DoseView 3D's cart contains both an electronic lift mechanism and 60 gallon (265 liter) water reservoir, resulting in hassle-free storage and setup. Additionally, a convenient storage area holds the power supply and other accessories. The lift and pump are powered by a single power cable, and a power pass-through cable allows convenient connection to the water phantom.

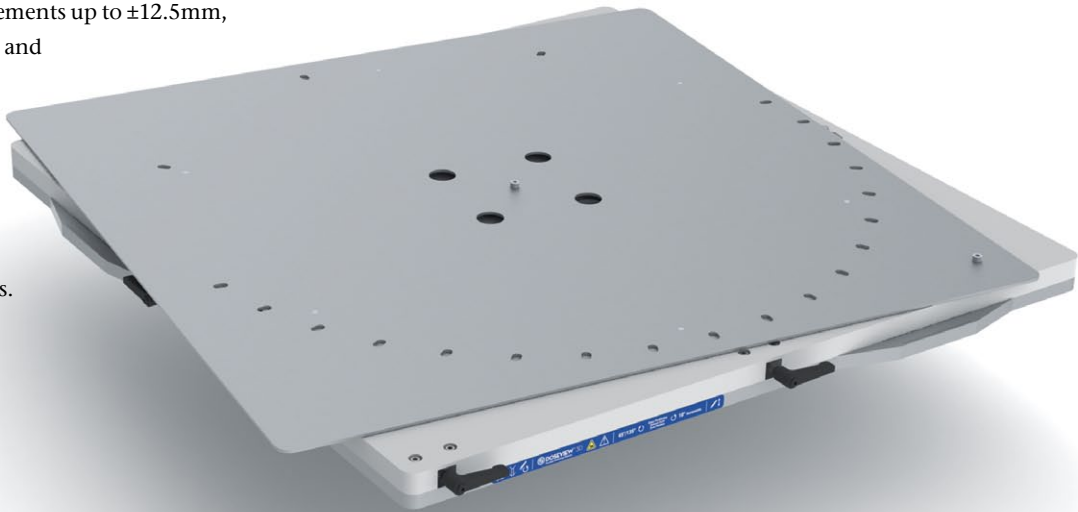


Auto-Fill, Auto-Drain Operations

Automatic tank-fill and tank-drain functionality allows users to prep the DoseView 3D while taking care of other setup tasks. The water phantom's advanced suction drain ensures that the tank is thoroughly drained upon completion of testing.

Extensive Adjustments Capabilities

The Precision Positioning Platform provides an ideal medium for maneuvering the DoseView 3D. This added flexibility allows subtle X and Y axis movements up to ± 12.5 mm, phantom rotation of $\pm 1^\circ$ and positive engagement at 10°, 45° and 90° intervals. Achieve consistent detector orientation during in-plane, cross plane and diagonal scans.



Fully integrated cart for quick setup and storage



Working Together for Complete Support

Standard Imaging's acclaimed customer service and support ensures an easy transition of the DoseView 3D into your QA workflow and will guide you through any issues that may arise in the future.

For more information on warranties and additional maintenance and support packages please contact your Standard Imaging Account Manager or regional distributor.

Visit www.standardimaging.com or call **800-261-4446** for more details.

DOSEVIEW 3D SPECIFICATIONS

MOTION CONTROL SYSTEM

| | |
|---------------------------|--|
| Measurement Speed | 25 mm/s |
| Positioning Accuracy | ± 0.1 mm per axis |
| Positioning Repeatability | ± 0.1 mm per axis |
| PC Communication | Wireless or wired via RS-232 |
| Control Method | Onboard controls, PC or via wireless pendant |

WATER PHANTOM (ACRYLIC TANK ONLY)

| | | |
|---------------------|-----------------------------|--------------------------|
| Outer Dimensions | [LENGTH × WIDTH × HEIGHT] | 704 mm x 693 mm x 570 mm |
| Scanning Dimensions | [LENGTH × WIDTH × HEIGHT] | 500 mm x 500 mm x 410 mm |
| Wall Thickness | 12 mm | |
| Other | Replaceable Fill/Drain Port | |

LIFT CART AND RESERVOIR

| | | |
|------------------|---------------------------------------|------------------|
| Outer Dimensions | [LENGTH × WIDTH] | 1247 mm x 762 mm |
| Vertical Range | 685 mm – 1185 mm (tank base to floor) | |
| Water Pump | Electric fill, gravity drain | |
| Water Capacity | 60 gal (227 liters) | |
| Fill Speed | 6-7 min | |
| Drain Speed | 16-20 min | |

PRECISION POSITIONING PLATFORM

| | |
|----------------------------|-----------------------------|
| X / Y Fine Adjustment | ± 12.5 mm |
| Fine rotational adjustment | ± 1° |
| Discreet engagement | 10°, 45°, and 90° intervals |

DOSEVIEW 3D ELECTROMETER

| | |
|----------------|--|
| Channels | 2 |
| Bias Voltage | 0, ±150 to 450 (VDC) in 50 volt increments |
| Range | 2 pC – 999,999 nC |
| Resolution | 10 fC |
| Connector Type | Triaxial BNC or TNC |

EXRADIN A18 ION CHAMBER

| | |
|--------------------------------------|------------------------------------|
| Collecting Volume | 0.125 cc |
| Centroid of Collecting Volume | 4.9 mm from tip of chamber |
| Collector Diameter | 1.0 mm |
| Outside Diameter of Sensitive Region | 6.9 mm |
| Nominal Inherent Leakage Currents | < 10 ⁻¹⁵ A |
| Shell, Collector, Guard Material | Shonka air-equivalent plastic C552 |
| Waterproof | Yes |

DOSEVIEW 3D SOFTWARE

System Requirements

| | |
|-------------------|--|
| Operating System | Microsoft® Windows® XP SP3 or greater, Microsoft Windows Vista® SP2 or greater, Microsoft Windows 7, 32 and 64 bit |
| Processor | Intel® or AMD®, 350 MHz or greater |
| Memory | 256 MB or greater |
| Hard Drive | 30 MB or greater |
| Screen Resolution | 1024 x 768 or greater |
| CD-ROM Drive | 2X speed or greater |
| Connectivity | 9-pin serial RS-232 port or USB port with USB to RS-232 adapter |

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DoseView 3D REF 92260, DoseView 3D Lift and Reservoir Cart REF 72260