



# Dosimetry and QA Solutions for Halcyon™ **Product Overview**

# BEAMSCAN® FOR HALCYON™

Speed and accuracy for your peace of mind.

Automated



Wireless



Ultrafast



*"Our experience with the new BEAMSCAN® and the Halcyon™ was flawless."*

*The Auto Level function is a massive time saver with Halcyon™. All initial scanning was completed with ease, and the results spoke for themselves. From setup to results the BEAMSCAN® system performed well.*

*We are very happy with our decision and would make the same decision if faced with a similar situation."*

Jonathan Haynes, Consulting Medical Physicist,  
BUSAMED Hillcrest Oncology Centre,  
South Africa



As the first truly automated, wireless 3D water phantom, BEAMSCAN® has set the new standard for efficiency and simplicity in beam data commissioning and QA.

Optimized to perfection, it not only saves you valuable setup and measurement time, but also significantly improves data accuracy thanks to automation.

Simply upgrade your BEAMSCAN® for use with Halcyon™, and get started.

## BEAMSCAN® Key Benefits for Halcyon™

### Wireless Auto Setup: From setup to scan in less than 20 minutes

BEAMSCAN® provides you with a fully automated, wireless setup that reduces time-consuming setup tasks to a minimum. Simply access the interactive BEAMSCAN® Wizard on your mobile device or iPod – done. No tools required.

### TRULEVEL™ Auto Leveling: Faster, easier, less error-prone

Level your water tank in less than two minutes using TRULEVEL™, a unique patented auto leveling function that aligns the scanning axes virtually to the water surface without moving the tank or scanning arms. TRULEVEL™ automatically compensates for tank tilt caused by a slight sag in the treatment couch. No leveling tools, no tank shifts required.

### Perfect scans at maximum speed

From all built-in design to clip-in detector installation, from auto setup to wireless operation, BEAMSCAN® combines speed and precision, eliminating typical error sources in system setup and alignment. With its automated features and fast scanning speeds, it cuts commissioning time in half without compromising accuracy.

### T-REF Reference Detector: Perturbation-free measurements of small fields

As a thin, plane-parallel transmission chamber which easily mounts on the edge of the BEAMSCAN® water tank, the T-REF chamber eliminates perturbation effects, making it the perfect reference detector for small field dosimetry. Simple to install, suitable for all small field sizes. No repositioning required.

### Streamlined, fully integrated workflow

Increase your efficiency with an integrated solution from scanning to reporting. BEAMSCAN® comes with powerful software features that help you perform your commissioning tasks more effectively – from importing golden beam data for comparison to automated beam data acquisition, and from FFF evaluation to protocol-based reporting with Track-it.

### Halcyon™ Packages

- ▶ Halcyon™ Upgrade Package for new BEAMSCAN® installations
- ▶ Halcyon™ Retrofit Package for current BEAMSCAN® users

### Options

- ▶ T-REF Reference Detector for Small Field Dosimetry
- ▶ microDiamond® Detector for Small Field Dosimetry
- ▶ Track-it QA Data Management Software

Learn more about BEAMSCAN® and its time-saving features at [www.beamscan.de](http://www.beamscan.de).



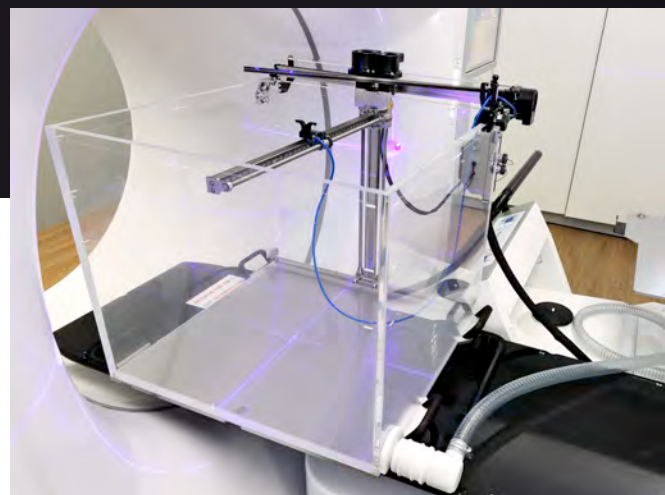
# BEAMSCAN® FOR HALCYON™

Ready to scan in four simple steps, in less than 20 minutes.



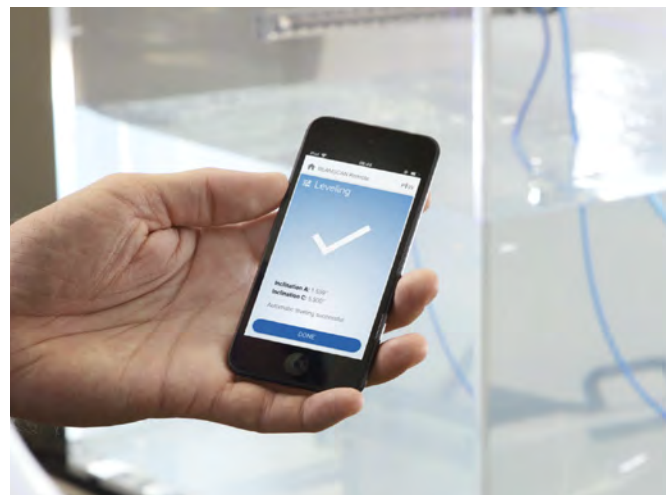
## Install.

BEAMSCAN® for Halcyon™ comes fully assembled, and is ready to install in a few minutes. Simply lift the BEAMSCAN® water tank to the same height as the treatment couch, unlock the Halcyon™ base plate, slide the tank onto the couch, turn it by 180°, then connect the extended water hose. Done.



## Align.

Align the BEAMSCAN® water tank to the lasers, mount the detectors, then move the tank into the Halcyon™ bore and set the SSD. Your BEAMSCAN® is ready for operation.



## Run Wireless Auto Setup.

Get your BEAMSCAN® ready to scan. Access the BEAMSCAN® Wizard from your mobile device or iPod to start BEAMSCAN® Wireless Auto Setup which will perform all setup tasks fully automatically. From water filling to tank leveling – a single touch is all it takes.



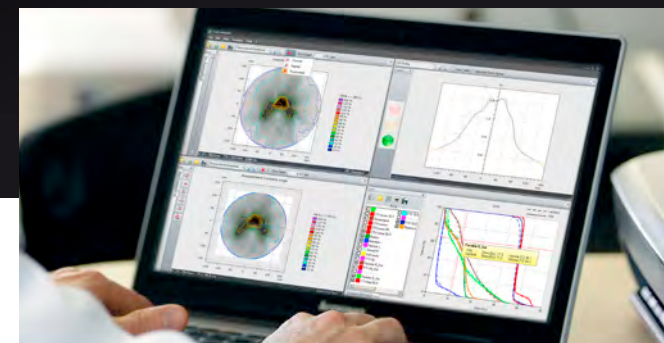
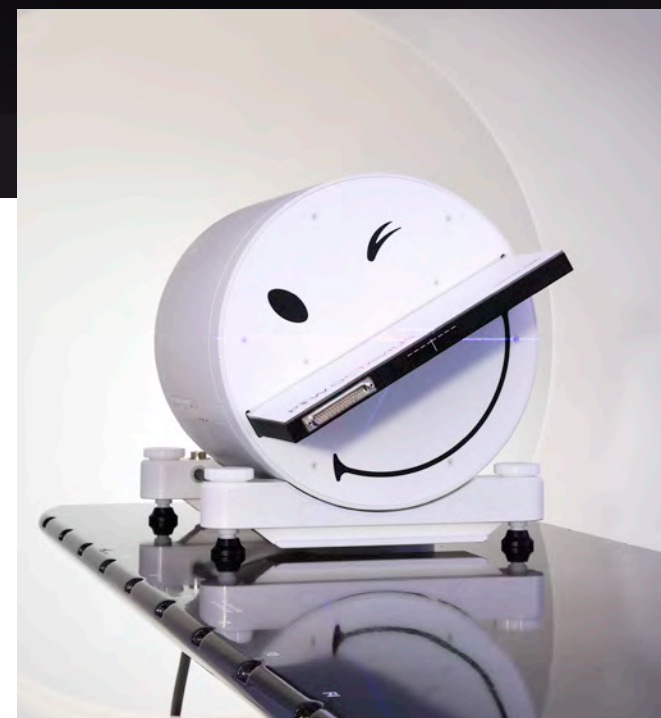
## Ready to scan.

Move into the control room and launch the BEAMSCAN® software to complete the remaining steps of the BEAMSCAN® Auto Setup which require radiation – no corrections needed. Your BEAMSCAN® is ready for measurement. In less than 20 minutes.

# OCTAVIUS® 4D 1500

Phantom-Based 3D Dose Verification

With its rotating, modular phantom design and industry-leading detector technology, OCTAVIUS® 4D is perfectly adapted for 4D patient and routine machine QA with your Halcyon™ treatment machine. Today and tomorrow.



## OCTAVIUS® 4D Benefits for Halcyon™

### True 3D dose verification

OCTAVIUS® 4D rotates synchronously with the gantry, measuring the dose in the entire phantom volume. As it requires no TPS data for 3D dose and patient DVH calculation, OCTAVIUS® 4D is capable of detecting clinically relevant dose errors more effectively.

### Isotropic, angle-independent measurements

Its unique rotating phantom makes OCTAVIUS® 4D an ideal system for rotational treatment verification with your Halcyon™. It keeps the detector always aligned perpendicular to the beam, requiring no angular corrections or calibrations for dosimetric accuracy.

### Outstanding detectors for better results

With the largest field coverage and a resolution perfectly adapted to their application, OCTAVIUS® detectors increase the chance of detecting a hot spot or measuring dose at steep gradients.

### One system for multiple applications

Modular in design, OCTAVIUS® 4D provides you with unrivaled flexibility and a future-proof solution. Phantom tops and detectors are exchangeable to suit specific application needs perfectly, e.g., for stereotactic treatment or machine QA.

### The ion chamber advantage

OCTAVIUS® detectors use gold standard ionization chambers that not only deliver reliable results over time, but are clearly visible on MV images, making it possible for you to check phantom setup accuracy safely.

### Integrated QA

OCTAVIUS® 4D provides you with a complete solution – from accurate dose measurements in a variety of treatment situations to patient-based DVH analysis, and from routine machine QA checks during gantry rotation to efficient monitoring of QA results in Track-it.

### Halcyon™ Packages

- ▶ OCTAVIUS® 4D 1500 for Halcyon™ Package for new installations
- ▶ Halcyon™ Upgrade Package for current OCTAVIUS® 4D users

### Options

- ▶ Track-it QA Data Management Software
- ▶ LINAC QA for OCTAVIUS®
- ▶ OCTAVIUS® Detector 1000 SRS and SRS Phantom Top for 4D SRS/SBRT QA

For more information on OCTAVIUS® 4D systems, visit [www.octavius4d.de](http://www.octavius4d.de).



## Absolute Dosimetry

# UNIDOS<sup>webline®</sup>

### Reference Class Electrometer



#### Highlights

- ▶ Industry-leading, high-precision electrometer exceeding IEC 60731 and IEPM standards
- ▶ Comprehensive, built-in detector library – less setup time, fewer potential error sources
- ▶ Auto-start-stop function for time-saving data collection
- ▶ Two air-density correction methods (t & p or  $k_p$  &  $k_m$ )
- ▶ Standalone and remote operation
- ▶ Integrated self-tests with status reports via e-mail

#### Options

- ▶ Semiflex 3D Ionization Chamber 0.07 cm<sup>3</sup> (31021)
- ▶ RW3 Slab Phantom for Monitor Calibration and PDD Measurements
- ▶ MP1-M Manual Water Phantom for Absolute Dosimetry and PDD Measurements

## Advanced LINAC QA

# STARCHECK<sup>®</sup>

### High-Resolution Ionization Chamber Array



#### Highlights

- ▶ Comprehensive, protocol-specific machine QA with one single device
- ▶ All relevant beam data, including dose and beam energy, acquired in one single shot
- ▶ Exceptional detector resolution (3 mm)
- ▶ Expert measurement and analysis tools, including movie mode for live beam diagnostics, profile comparisons, FFF beam analysis and trend view
- ▶ Streamlined workflow – from measurement to automated reporting with Track-it
- ▶ 3D machine QA measurements with OCTAVIUS<sup>®</sup> 4D phantom

#### Options

- ▶ RW3 Slab Phantom
- ▶ BQ-CHECK<sup>®</sup> for Beam Energy Verification
- ▶ Track-it QA Data Management Software

## Imaging QA

# EPID QA SUITE

### Turnkey Package for Planar MV Imaging QA



#### Highlights

- ▶ Complete solution for portal imaging QA
- ▶ Simultaneous check of all MV image quality parameters in one exposure: signal-to-noise ratio, low-contrast resolution, spatial resolution (MTF), linearity, geometric distortion
- ▶ High-resolution line pair patterns (0.125 to 3.33 lp/mm), arranged in diagonal, horizontal and vertical direction, for accurate MTF determination
- ▶ Focal spot geometry for best spatial resolution
- ▶ Automated image registration and analysis, including baseline comparison, trending and paperless PDF reports
- ▶ Fully integrated with Track-it for automated trending and reporting

#### Package includes:

- ▶ EPID QC Phantom
- ▶ epidSoft Software

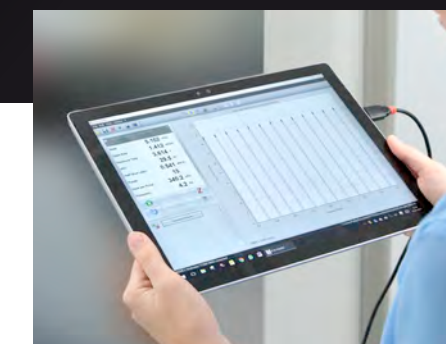
#### Options

- ▶ Track-it QA Data Management Software

## Imaging QA

# NOMEX<sup>®</sup> Multimeter IGRT

### Turnkey Solution for kV Imaging QA

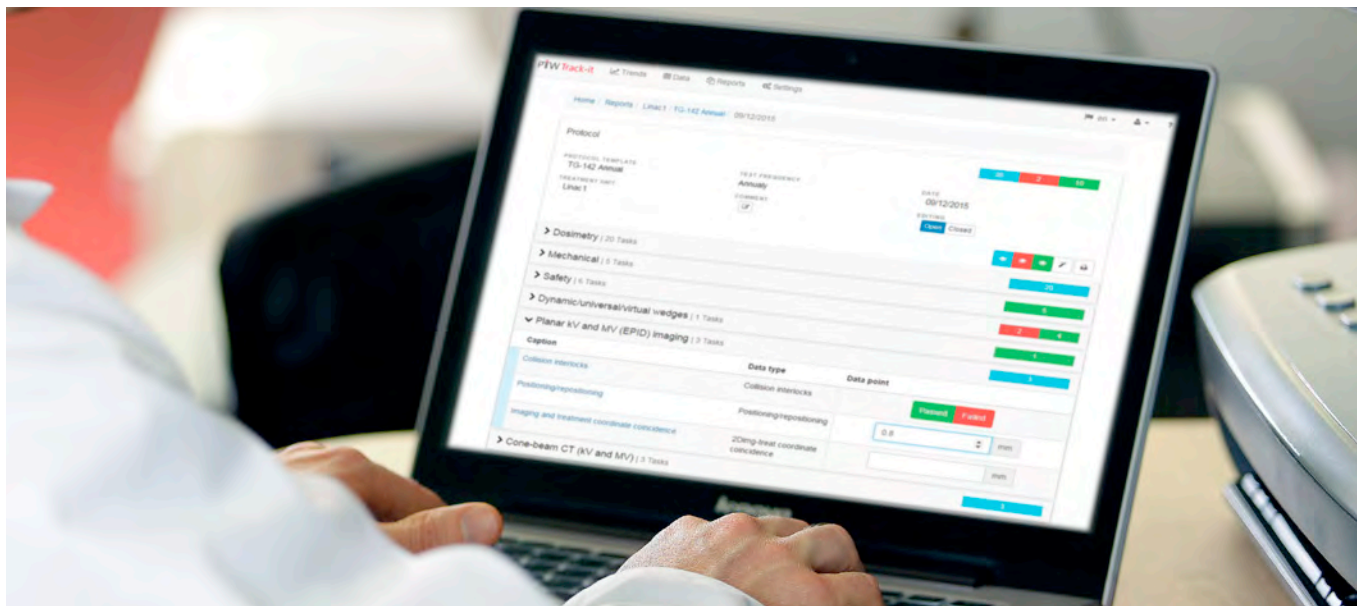


#### Highlights

- ▶ PC-based, state-of-the-art multiparameter measurement system for comprehensive kV dosimetry in radiotherapy
- ▶ Ultrafast setup – ready to use, only one cable to connect
- ▶ Automatic data collection and immediate access to test results via NOMEX<sup>®</sup> Software
- ▶ Fully automated, no user interaction required – all relevant beam parameters, such as dose, dose rate, kVp, HVL and waveforms, captured in one single exposure and instantly displayed on screen
- ▶ Enhanced software features, including multilingual user interface, customizable display options, statistical calculations and convenient one-click export of data and waveform charts to MS Excel<sup>®</sup> report templates
- ▶ Fully integrated with Track-it for long-term trend analysis

#### Options

- ▶ Track-it QA Data Management Software



### Highlights

- ▶ Integrated platform to automate and streamline data management in radiotherapy QA
- ▶ One-click export of analyzed QA data from PTW devices
- ▶ Quick browser-based access to QA data from multiple sources, devices or satellite sites
- ▶ Automated monitoring of QA tasks and QA reports on one single platform
- ▶ Standard and customizable protocol templates, e.g., for AAPM TG-142 or DIN, to facilitate documentation
- ▶ Smart AutoFill function to update reports automatically
- ▶ Offline/online data synchronization
- ▶ Trend charts for easy tracking of performance changes over time

For more information on PTW dosimetry and QA solutions, visit [www.ptw.de](http://www.ptw.de) or contact your local PTW representative.

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