

Dosimetry and QA Solutions for MR-Guided Radiotherapy

Product Overview

The Complete MRgRT Portfolio

OCTAVIUS 4D MR completes the PTW MRgRT portfolio



Everything made from a single source –
MR Conditional products for all your
tasks in MR-guided radiotherapy



MR-guided radiotherapy is now a well-established addition to standard radiotherapy. Because of the strong magnetic fields necessary for MR imaging, dedicated dosimetry equipment is required for patient- and machine-specific MRgRT QA.

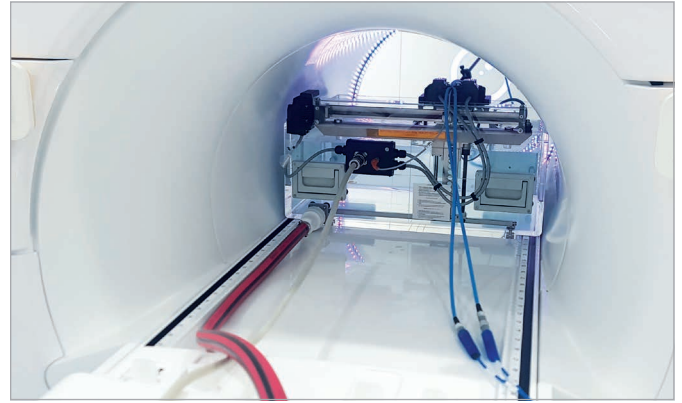
| Product | Beam Commissioning | Machine QA | Daily QA | Reference Dosimetry | System QA | Patient QA |
|----------------------------|--------------------|------------|----------|---------------------|-----------|------------|
| BEAMSCAN MR | ✓ | ✓ | | ✓ | | |
| STARCHECK maxi MR | | ✓ | ✓ | | | |
| OCTAVIUS 4D MR | | ✓ | | | | ✓ |
| OCTAVIUS Detector 1600 MR | | ✓ | | | | ✓ |
| OCTAVIUS Detector 1500 MR | | ✓ | | | | ✓ |
| RUBY | | | | | ✓ | ✓ |
| UNIDOS Tango, UNIDOS Romeo | | | | ✓ | | |
| MP1 Manual MR | | | | ✓ | | |

Beam Commissioning



BEAMSCAN® MR is a complete solution for the commissioning and QA of MR linacs – from automatic beam data acquisition and processing to data analysis and protocol-based documentation. The system is dedicated for use with MR linacs up to 1.5 T.

Built to the highest quality and technological standards, BEAMSCAN MR is exceptionally robust, incredibly versatile and straightforward in its operation. As a completely built-in system, it comes ready to use in a single trolley with everything included. An easy-to-use touch screen panel guides you step by step through the installation and setup process.

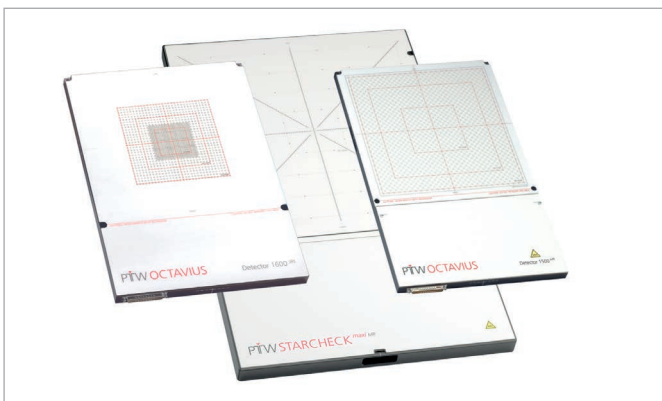


The system includes three 0.07 cm³ Semiflex 3D ionization chambers. More **MR Conditional detector** types are available. Two models with vendor-specific water tanks for optimized scanning ranges are available:

568 mm x 145 mm x 355 mm for Elekta Unity and
408 mm x 248 mm x 355 mm for ViewRay® MRIdian®

BEAMSCAN MR comes with a powerful, feature-rich software that makes it easy for you to collect and analyze your beam data the way you need it. Select from ready-to-use, TPS-specific task lists and perform multiple measurement tasks in one go. Export your data to the optional Track-it QA database to track machine performance.

Machine QA



Apart from BEAMSCAN MR, machine QA in MRgRT may also be performed with our range of MR Conditional array detectors. With just one shot, all relevant beam data for radiation fields are delivered. Profiles are measured in real-time, making these array detectors an ideal tool for real-time beam tuning.

Experience the efficiency and versatility of the **STARCHECK® maxi MR**, an array detector that is easy to set up on the treatment couch. Typical applications are quality control and linac beam adjustment measurements. STARCHECK maxi MR delivers all relevant beam data for radiation fields up to 40 cm x 40 cm.



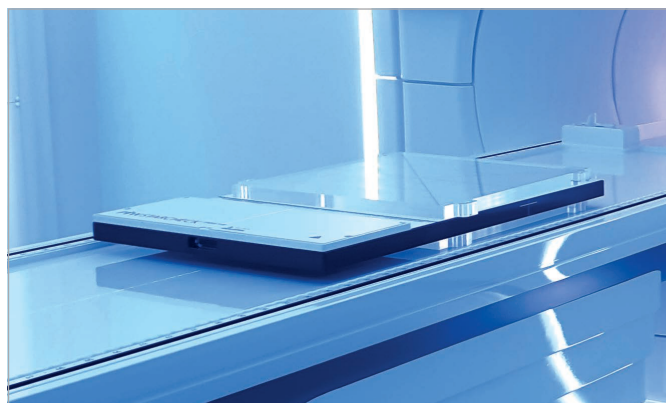
The **OCTAVIUS Detector 1600 MR** is the MR Conditional version of the OCTAVIUS Detector 1600 SRS. It is a liquid-filled 2D array detector. The very small detector size of only 2.3 mm x 2.3 mm x 0.5 mm makes this array detector ideally suited for small field dosimetry.

The **OCTAVIUS Detector 1500 MR** is an MR Conditional array detector with ion chambers of 4.4 mm x 4.4 mm x 3 mm in size and a center-to-center spacing of 7.1 mm, providing a maximum field size of 27 cm x 27 cm. The square chamber design offers unique 50% field coverage.

Daily QA



The **STARCHECK® maxi MR** is a precise and reliable tool for fast measurements in radiation therapy beams. A typical application of this array detector is quality control. The ionization chambers feature an excellent relative response stability, eliminating the need for frequent recalibration. A full set of 4 profiles is measured every 400 ms (or one profile every 100 ms).



The excellent spatial resolution of only 3 mm ensures precise measurements even in penumbra regions. The scanning lengths covered by the detectors are 40 cm along the principal axes and 56.5 cm along the diagonals. This makes STARCHECK maxi MR an easy-to-use tool for your daily QA tasks.

Reference Dosimetry



The **UNIDOS® Tango** is a secondary standard reference class electrometer which meets and exceeds both IEC and IPEM performance requirements. With the best available resolution in the market of 0.1 fA, it is the perfect choice for high-precision measurements, especially in small field dosimetry. UNIDOS Tango automates detector management and identification using Intelligent Detector Recognition. Simply scan the data matrix code on your calibration certificate or detector label with the built-in camera, and a new detector is added to the database or the right detector chosen for the measurement. With its built-in webserver and LAN interface, UNIDOS Tango provides fully remote control capabilities. Change settings or start measurements conveniently from your PC, view results instantly on your tablet or smartphone.



The **MP1 Manual MR** is an MR Conditional one-dimensional water phantom to measure dose in different depths. A radiation detector can be positioned in the water-filled phantom using a manually driven 1D moving mechanism. The measuring signal of the radiation detector is read out with an electrometer, e.g., the UNIDOS Tango. The tank has a vertical moving range of 254 mm and external horizontal phantom dimensions of 320 mm x 370 mm. A selection of **MR Conditional detectors** is available.

System QA

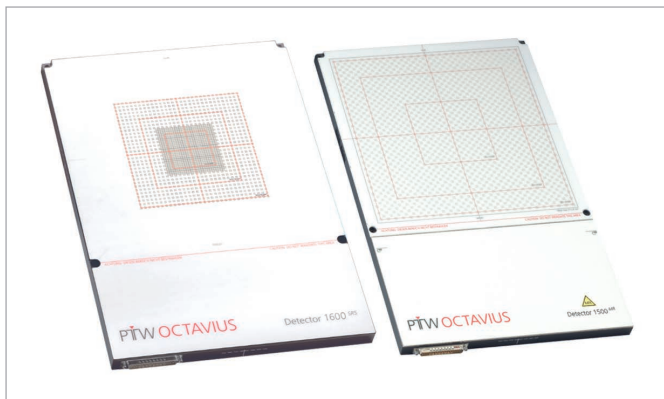


RUBY is a modular phantom platform for radiotherapy QA. With its unique modular phantom design and variety of application-specific inserts, RUBY combines versatility with unrivaled flexibility. It allows you to perform integrated tests of the entire treatment chain with one basic phantom by adding and expanding QA capabilities as and when needed.



The System QA insert features MR visibility in T1 and T2 at 1.5 T and allows the positioning of an MR compatible detector in the center of RUBY. End-to-end QA can be performed using the adapt-to-position or the adapt-to-shape workflow.

Patient QA



OCTAVIUS 4D MR is a modular system for independent 3D patient plan verification and machine QA measurements in MRgRT. Its unique modular phantom design and the available array detectors make it an excellent choice for patient QA on MR linacs. By measuring the dose in a volume entirely independent from the treatment planning system, OCTAVIUS 4D MR is capable of detecting errors in the treatment planning system that might otherwise go unnoticed.



The OCTAVIUS 4D MR can be used with the MR Conditional array detectors **OCTAVIUS Detector 1600 MR** and **OCTAVIUS Detector 1500 MR**.



Making Radiation Safer.

PTW is a global market leader for dosimetry and quality control solutions in radiation medicine, serving the needs of medical radiation experts in more than 160 countries worldwide. Starting with the famous Hammer dosimeter in 1922, the German manufacturer is the pioneer in medical radiation measurement, known for its unparalleled quality and precision.

For PTW, making medical radiation safer is both a passion and lifetime commitment. The family-run, high-tech company operates the oldest and largest accredited calibration laboratory in the field of ionizing radiation and established THE DOSIMETRY SCHOOL to globally promote the exchange of knowledge in clinical dosimetry.

For more information on our products visit ptwdosimetry.com or contact your local PTW representative: ptwdosimetry.com/en/contact-us/local-contact

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