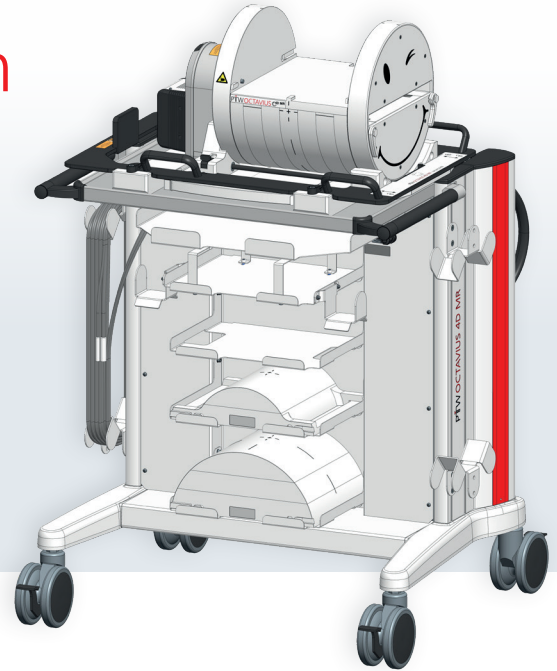


# How to get started with the OCTAVIUS 4D MR

## Introduction

The OCTAVIUS 4D MR is used for dosimetry measurements at a combined MRI (Magnetic resonance imaging) radiotherapy system at photon irradiation. It is intended for patient plan verification and for periodic quality assurance (e.g. constancy checks).



The OCTAVIUS 4D MR consists of the OCTAVIUS rotation unit modular MR and different phantom tops which can be mounted on the rotation unit for varied applications. With the OCTAVIUS 4D MR carrying plate, the rotation unit is fixed on the OCTAVIUS 4D MR trolley. All optional and non-optional components as the OCTAVIUS 4D MR marker plate or the OCTAVIUS 4D MR chamber plate Semiflex 3D can be stored on the trolley. Additionally, the trolley is intended for safe transportation and for the angular control of the OCTAVIUS rotation unit modular MR in combination with the software AngleSelectionTool.

The OCTAVIUS 4D MR can be used in combination with the OCTAVIUS detector 1600 MR or the OCTAVIUS detector 1500 MR. For the measurement evaluation, the VeriSoft and BeamAdjust softwares are available.

## Preconditions

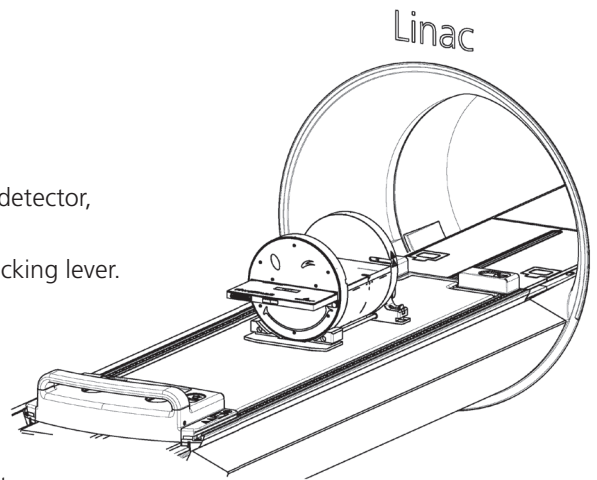
- The OCTAVIUS 4D MR and an OCTAVIUS MR detector are available.
- The softwares VeriSoft, BeamAdjust and the AngleSelectionTool are installed.  
BeamAdjust is automatically included with the VeriSoft installation.
- If you want to use the device with an Elekta Unity, you will need access to the iCOM interface. Please check if there is access and note the linac ID and the server IP address of the Elekta iCOM server. The linac ID can be found in the Elekta Integrity linac software and the server IP address is usually the same as the one for the Elekta NSS.
- Prepare the patient plan to be measured and export the RT Plan and RT Dose file. A different code of practice can be downloaded depending on the treatment planning system used which explains how to start with the OCTAVIUS.  
Tip: The distance between the couch and the OCTAVIUS rotation unit modular MR isocenter is 162 mm.
- Prepare your PDDs. Check if you want to use the default PDDs or your own PDD data. For further information, read the document 'Determining linac specific PDD data for the use of OCTAVIUS 4D MR'.

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### Setup

- Transport the OCTAVIUS 4D MR, including the OCTAVIUS MR detector, into the treatment room.
- Position the trolley at the foot of the couch and activate the locking lever.
- Prepare the couch (e.g. remove the comfort inlay or the coil).
- Place the rotation unit with the carrying plate on the couch.



- Mount the top that you will use for the measurement and fix it.
- Slide the OCTAVIUS MR detector into the slot in the rotation unit and fix it.
- Connect all components (e.g. connection cable, network cable, power supply).
- Align the rotation unit by means of the lasers and the engraved lines.  
It is also possible to use the marker plate and check the alignment by means of MV imaging.
- Turn on the system.
- Deactivate the transport lock on the rotation unit and perform a reference run.
- Enable the remote control at the trolley control panel.
- Open the corresponding softwares (e.g. VeriSoft and the AngleSelectionTool).
- Connect VeriSoft with the OCTAVIUS 4D MR and the OCTAVIUS Detector.
- Connect the AngleSelectionTool with the OCTAVIUS 4D MR and with an Elekta Unity connect it to the iCOM interface.

Tip: We recommend using a direct connection to the Elekta iCOM interface and activating automatic IP assignment (e.g. DHCP) for the PC. If automatic IP assignment is not possible, it might be necessary to assign a static IP address. If this is the case, please ask your IT administrator and the PTW customer support for further instructions.

### Measurement

- Perform a cross-calibration of the detector.
- Select the RTPlan mode or with an Elekta Unity the iCOM mode in the AngleSelectionTool.
  - In RTPlan mode, load the RT Plan and move the rotation unit to each angle.
  - In the iCOM mode, activate the automatic following of the rotation unit.
- Load the plan to be measured at the linac control center.
- Start the measurement in VeriSoft.

Tip: With the Elekta Unity, always use the off-axis functionality with 22 mm in BT-direction.

Tip: If you have a plan with many monitor units, check that the dose integration time in VeriSoft is long enough.

- Start the irradiation and measure your patient plan.

### Analysis

- Save your measurement.
- Load your measured data and your comparison data (RT Plan and RT Dose) in VeriSoft and compare it using the gamma criterion.