



FLASH QA Tools

Introduction

In recent years, there have been many studies on the benefits of delivering a radiation dose to a tumor with a very high dose rate of at least 40 Gy/s (FLASH), see e.g. [1], [2].

Currently, a lot of research & development effort is focused on moving on from these studies to routinely available clinical treatments using electron and proton radiation.

PTW aims to be ready with a complete package of FLASH compatible dosimetry solutions as soon as possible.

This document lists products already available for standard radiation therapy as well as products under development specifically for use in FLASH radiotherapy.

[1] J.D. Wilson et al, Front Oncol 2020 Jan 17;9:1563

[2] J.R. Hughes and J.L. Parsons, Int J Mol Sci 2020 Sep 5;21(18):6492

Products available for research use in proton and electron FLASH radiotherapy dosimetry



L981629, -30, -31 UNIDOS Tango

Reference class electrometer for dose measurements in radiation therapy with WLAN module and 2D code scanner. Set consists of power cable, network cable, inclined stand and USB stick.

Connecting system M, N or W.



T34045 Advanced Markus Chamber

Wide guard ring, parallel-plate, polyethylene therapy chamber with graphite coated acrylic electrode. Open chamber volume. Chamber is waterproof when using 0.87 mm acrylic cap.

Connecting system M, N or W.



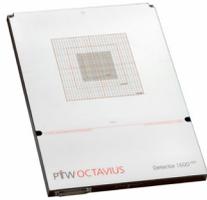
T60019 microDiamond

Synthetic single crystal diamond detector. Sensitive volume 1.1 mm radius, 1 μm thickness. No detector bias needed.

Connecting system M, N or W.

This detector has been successfully tested in proton FLASH beams.

For measurements in electron FLASH beams use the new flashDiamond T60025.



L981585 OCTAVIUS Detector 1600 XDR

For dosimetry of proton and heavy ion beams. Field size 15 x 15 cm², 1521 vented ionization chambers, 2.5 mm resolution in the center area of 6.5 x 6.5 cm², 5 mm in the outer area. Includes electronics, data acquisition software and detector carrying case.



L981635 RUBY Set "All-inclusive"

Consisting of RUBY phantom, RUBY case, RUBY insert Patient QA "Detector", RUBY insert Patient QA "Film", RUBY insert Linac QA "Alignment/Isocenter", RUBY tilted base, RUBY insert System QA "End2End" and five detector holders.



L981474, -5, -6 BEAMSCAN Water Phantom

for 50 x 50 x 41 cm scans. Includes lifting carriage/reservoir, dual-channel electrometer, two Semiflex 3D chambers (field detector and reference detector), TRUFIX detector holding system, BEAMSCAN software with PLAMO option. Connecting system M, N or W.



L981403, L981526 MP3-P or MP3-PL Water Phantom

Water scanning system for particle therapy for 35 x 25 x 38 cm or 49 x 40 x 49 cm scans. Including SCANLIFT, positioning device, TANDEM XDR electrometer, Bragg Peak chambers T34070 and T34080, chamber holders and reference chamber holders, MEPHYSTO mc² software. Exchangeable entrance window. Connecting system M, N or W. Also available with different detector types.

Introducing flashDiamond and flashAdapter:



T60025 flashDiamond

Synthetic single crystal diamond detector. Special optimized design for ultra high dose rates at pulsed beams. Sensitive volume 1.1 mm radius, 1 μm thickness. No detector bias needed. Connecting system M, N or W.



T16055 flashAdapter

Pulse converter to combine with PTW radiation detectors like the flashDiamond to make FLASH pulse structures more compatible to standard PTW electrometers. Connecting system M, N or W.



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 PTW products visit ptwdosimetry.com or contact your local PTW representative:
ptwdosimetry.com/en/contact-us/local-contact

PTW Freiburg GmbH
Lörracher Str. 7
79115 Freiburg · Germany
Phone +49 761 49055-0
info@ptwdosimetry.com
ptwdosimetry.com

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