*my*QA **Patients**

Efficient Patient QA - Hardware
Detectors, Phantoms & Accessories

iba

Efficiency
& Precision

Smartly designed measurement tools are your basis for efficient & precise patient QA. IBA Dosimetry offers a wide range of dedicated solutions to ensure your patient plan verification is the fastest, most accurate and most reliable.

MatriXX - the **ONE** Detector for your Patient QA and Machine QA.

Compatible with:
- ✓ Conventional & IMRT
- ✓ VMAT/RapidArc©
- ✓ FFF Beams
- ✓ Tomo Therapy©

myQA *Patients*

Patient QA on the Platform

- ✓ All-in-One: With your Machine QA and Beam Scanning. Menu guided workflow, easy analysis, and reporting
- ✓ All Connected: Connected to myQA for network wide data access
- ✓ All Secure: Secure patient treatments with a clear workflow status and due dates

myQA Patients Gamma Comparison

COMPASS

3D Patient Dose QA

- ✓ Verify the plan in the patient anatomy
- ✓ Understand the impact of the actual delivery
- ✓ Maximize efficiency with the best 3D solution

3D Dose

DVH Comparison

myQA *Machines*

Intelligent Machine QA

- ✓ Protocol based machine QA (including TG-142 and other protocols)
- ✓ Full coverage of tests with a flexible scheduling tool to manage your tasks
- ✓ Comprehensive analysis, archiving and reporting tools

myQA Machines Profile Analysis

MatriXX *Evolution*

- ✓ Proven and effective for conventional, IMRT and rotational cases
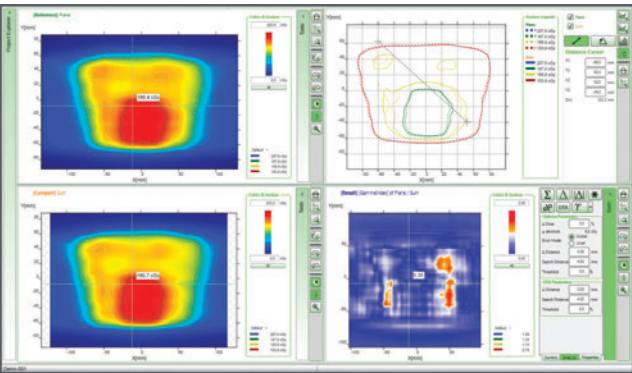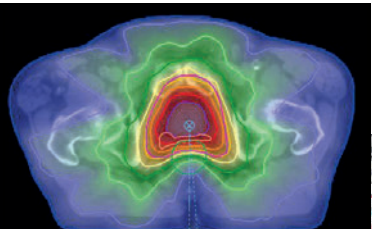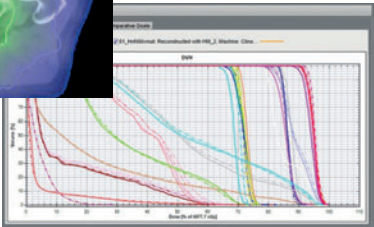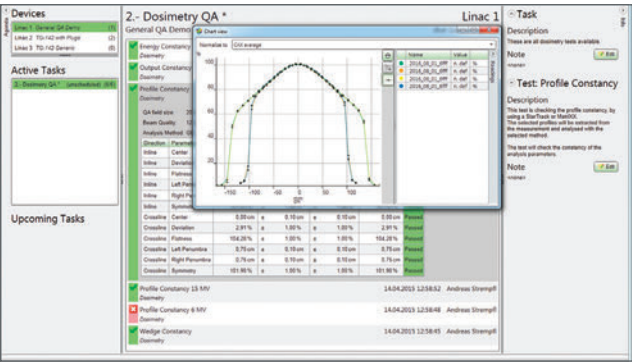- ✓ Suitable for high-dose-rate cases (see specifications)

MatriXX *FFF*

- ✓ Optimized to support current and future high-dose-rate delivery systems
- ✓ Dedicated for high-dose-rate Flattening-Filter-Free (FFF) as well as for conventional measurements

MatriXX Family in Detail

MatriXX Evolution and MatriXX FFF are products of IBA's philosophy to provide the fastest, most accurate, and most reliable QA solutions.

Fastest
✓ Seamless and intuitive from set-up, to measurements and analysis
✓ Quick verification of conventional, IMRT and rotational dose distributions
✓ Workflow efficiency with myQA for plan verification and Linac QA

Most Accurate
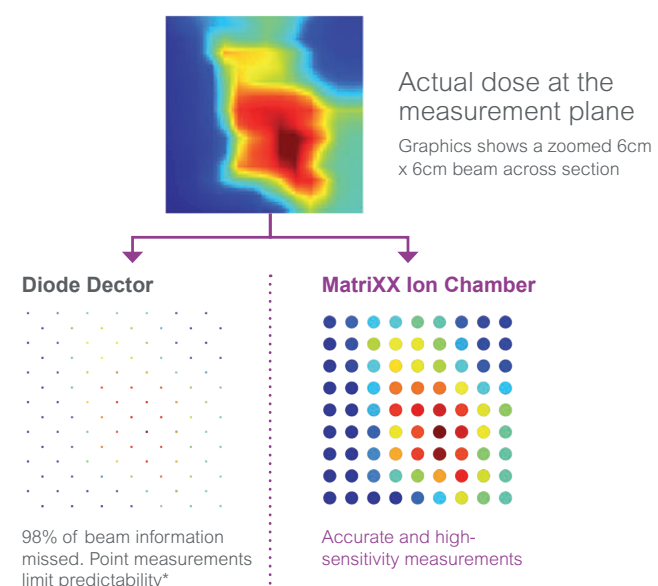✓ Shortest 20 ms sampling time: real-time measurements for rapidly changing fields and doses; ideal for monitoring online machine adjustments
✓ High spatial resolution: 1020 ionization chambers with 24,4 x 24,4 cm² active area

Most Reliable
✓ Ion Chambers offer a long term stability and measurement without blind spots
✓ **>1500** MatriXX users worldwide

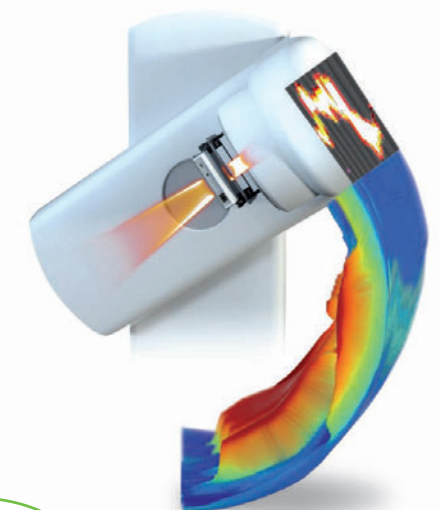## More Sensitivity to Fluence Variation

MatriXX ion chambers increase the sensitive area of the array, and the sensitivity to fluence variations by providing the most complete and accurate picture.*

Actual dose at the measurement plane

Graphics shows a zoomed 6cm x 6cm beam across section

Diode Dector

98% of beam information missed. Point measurements limit predictability*

MatriXX Ion Chamber

Accurate and high-sensitivity measurements

MatriXX Accessories

3D anatomy-based Patient QA with the Gantry Holder

✓ Simple and rigid mounting of MatriXX/Startrack
✓ Perpendicular to the beam: Optimal for rotational treatments
✓ Ideal for 3D Patient QA

MatriXX mounted to the gantry head

Automated gantry angle correction with the Gantry Angle Sensor

360°

2D phantom-based Patient QA with the miniPhantom

✓ Fast and easy setup, high-end material RW3
✓ Reproducible position of the MatriXX and film
✓ Ideal phantom shape for rotational treatments

Or combine with the MULTICubes or the Universal IMRT Phantom for multiple configurations of the MatriXX, films and ion chambers.
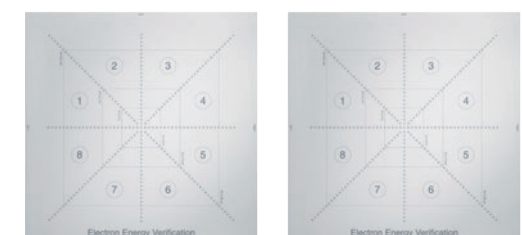

miniPhantom

MULTICube

Machine QA with the Energy Verification Plates

✓ Measure profiles, output, energy constancy, and wedge factor in one shot with the MatriXX

Energy Verification Plates

*Gago-Arias et. al "Evaluation of chamber response function influence on IMRT verification using 2D commercial detector arrays", Phys. Med. Biol. 57 (2012) 2005

Efficient and Precise Patient QA

" *The MatriXX is hard to beat for its versatility and robustness in a wide variety of measurement situations.*

It is a fast and dependable tool for LINAC QA and IMRT validation. It is so reliable, that you could bounce it against the wall and it would probably still work. "

Prof. Dr. med. Frank Lohr, University Medical Center Mannheim

Technical Specifications	MatriXX *Evolution*	MatriXX *FFF*
Number of chambers and type	1020 air-vented ionization chambers	
Read-out time	20ms without dead time (parallel read-out of all chambers)	
Active area	24.4 x 24.4 cm²	
Sensor layout	MatriXX in a plane arranged in a 32 x 32 grid	
Pixel spacing (center-to-center)	7.6 mm	
Chamber size / volume	4.5 (Ø) x 5 (h) mm² / 0.080 cm³	4.5 (Ø) x 2 (h) mm² / 0.032 cm³
Nominal sensitivity	2.0nC/Gy	1.4nC/Gy
FFF compatible	Suitable for FFF beams	Optimized for FFF beams
Charge collection efficiency (at 24Gy/min; 10MV FFF at 100cm SDD)	> 97 % at 1.0 mGy/pulse	> 99 % at 1.0 mGy/pulse
Deviation from linearity	≤ 1 % if the dose is ≥ 0.02 Gy	≤ 1 % if the dose is ≥ 0.15 Gy
Temperature & pressure sensor	Automated k(t,p) correction of the chamber signal	
Weight	10 kg. Easy to carry	
Data communication method	Ethernet connection (via standard network cable)	
Gantry Angle Sensor accuracy	+/- 0.6°	

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