



**Intelligent Machine QA:**  
Detectors, Phantoms & Accessories



# Intelligence and focus

Smartly designed measurement tools are your basis for efficient linac QA. IBA Dosimetry offers a wide range of dedicated solutions to make your routine QA the fastest, most accurate, and most reliable.



# Your natural selection

Designed to integrate seamlessly with **myQA Machines**

- ✓ Protocol based machine QA (including TG-142 and other protocols)
- ✓ Generic tests and customizable protocols
- ✓ Full coverage of tests with a flexible scheduling tool to manage your tasks, resources, and time
- ✓ Comprehensive analysis, archiving, and reporting tools
- ✓ Interface to myQA Cockpit for quick and easy access to all QA results and trends

All results can be exported to reports, saved in the

**myQA Central Database**

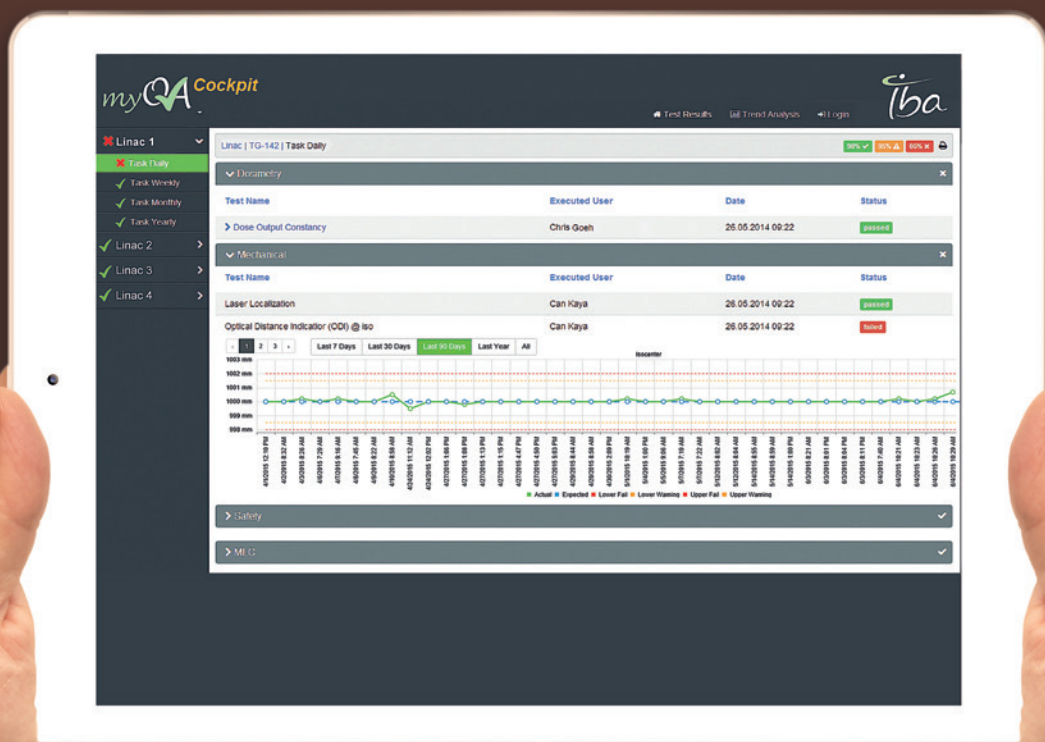
benchmarked in the



and are displayed in the

**myQA Cockpit**

- 1 Test Setup
- 2 Test Run
- 3 Test Archive



\*To be released mid-2015

## StarTrack: Linac Dosimetry

### Your Universal QA Solution

- ✓ All main tests in one shot: dose, profiles, diagonals energy verification, etc.
- ✓ 453 air-vented ionization chambers with optimized geometry for Machine QA
- ✓ Convenient beam constancy verification in one single shot using specific build-up plates
- ✓ Automatic  $k(t,p)$  correction
- ✓ Parallel readout from independent electrometers
- ✓ Instant results and real-time analysis using the Dosimetry Plug-in for myQA Machines
- ✓ Patented energy verification method
- ✓ Tabletop or gantry mount (optional)

For more information please refer to the IBA white papers 'Tg-142\_Dosimetry' and 'Tg-142\_Daily Generic Tests'



## MatriXX Family

Connect your MatriXX to myQA Machines for fast and accurate Linac Machine QA.



## Technical Specifications

### Energy Range

Photons: Co60, 4 MV-18 MV, flattened and FFF beams. Electrons: 6 MeV-21 MeV.

### Dose Linearity

0.5% from 10 cGy to 5 Gy integral dose.  
0.5% from 0.1 Gy/min up to 4 Gy/min dose rate.

### $k(t,p)$ Correction

Temperature (10-40 °C), pressure (70-110 kPa).

### Sensor Layout

Chamber arrays organized along main axes and diagonals, 8 additional chambers for energy constancy check.

### Spatial Resolution

5mm for horizontal and vertical lines.  
7mm for diagonals.

### Chamber Type

Vented pixel ionization chambers.

### Chamber Size

Cylindrical, 3 (O) x 5 (h) mm, sensitive volume 0.035 cm<sup>3</sup>.

### Typical Sensitivity

1.1 nC/Gy (Co60).

### Electrometer

8 TERA ASICs (each contains 64 independent electrometers).

**Sampling Time** min. 10 ms.

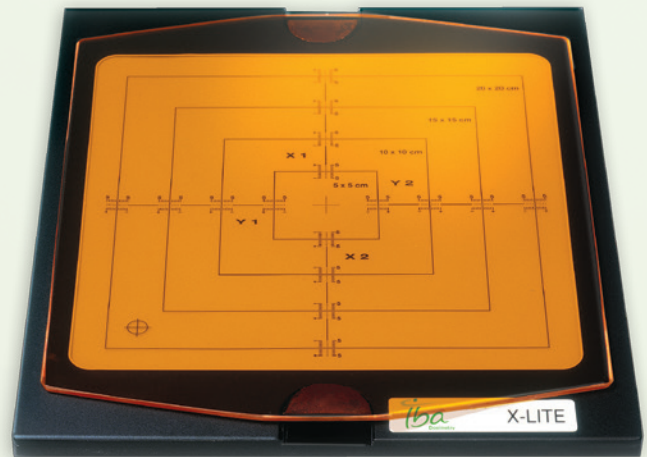
### Readout

Parallel and synchronous readout with no dead time.

## X-LITE

### Light Field Alignment Checks

- ✓ Fast and precise check of the radiation and light fields without film or additional hardware
- ✓ Easy setup against the light field
- ✓ Fluorescent plate visualizes your radiation field right after the irradiation without additional processing
- ✓ Field scales marked for 5x5, 10x10, 15x15, and 20x20 cm<sup>2</sup>

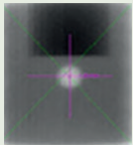


## Cylindrical Phantom

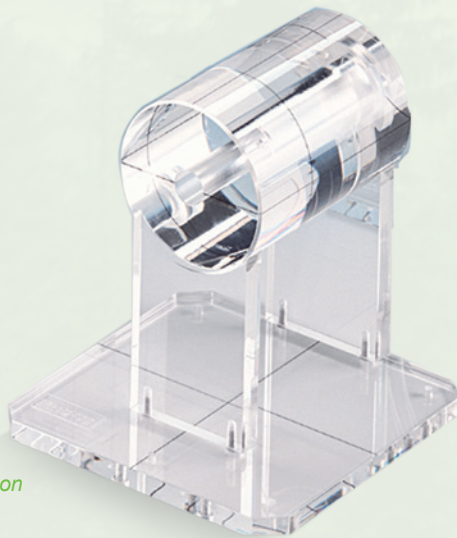
### Dose constancy and isocenter check

- ✓ Verify the mechanical stability of gantry/ imager position (CBCT/ EPID) with a small steel ball insert (Winston Lutz Test)
- ✓ Measurement of dose constancy in various gantry angles and in rotational beams
- ✓ Adaptors available for most common ion chambers

For more information please refer to the IBA white paper 'Tg-142\_Daily Generic Tests' and 'Winston Lutz & Star Shot Test'



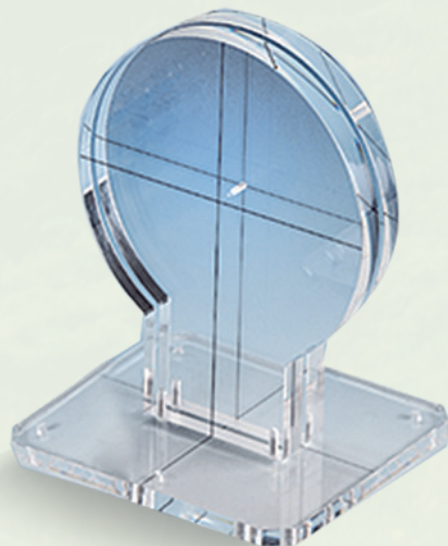
Example of a verification image using the IBA Cylindrical Phantom.



## Disk Phantom

### Isocenter Verification with Film

- ✓ Easy and precise method of verifying isocenter accuracy (e.g. for stereotactic applications, star-shot)
- ✓ Isocenter is determined by an appendant marker

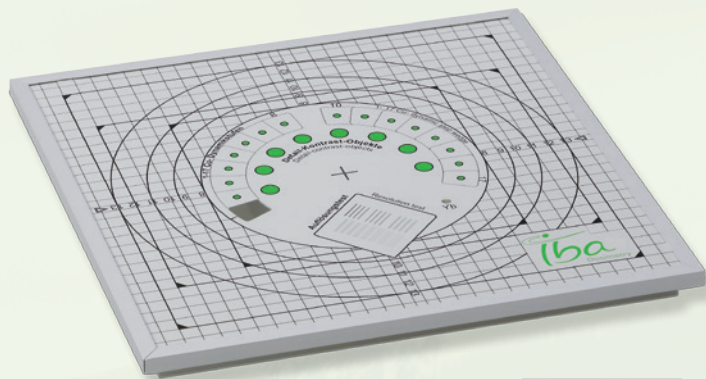


## Primus L Test Plate

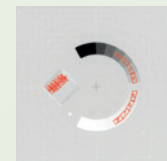
kV/MV planar image QA

- ✓ Easy image QA of your IGRT imaging systems or flat-panel imager (EPID)
- ✓ Verify complete contrast determination, special resolution, scaling discrepancy, uniformity and positioning offsets
- ✓ Automatic image analysis using the EPID QA Plug-in for myQA Machines

For more information please refer to the IBA white paper 'Tg-142\_Planar-Imaging-kV-MV'



kV image of Primus L automatically analyzed in myQA Machines highlighting passed, warning and failed test status.



## MagicMaX

Imaging-Dose Multimeter

- ✓ Fast, simple, and accurate beam analysis and dosimetry for your CBCT, OBI, and CT-Sim
- ✓ In a single exposure, evaluate your kV beam and imaging dose or flat-panel imager (with the Primus L Test Plate)
- ✓ Ideally suited for Varian OBI, Elekta or CyberKnife



## Additional Hardware

- ✓ Gantry holders for MatriXX and StarTrack
- ✓ Full set of chambers and diodes
- ✓ Reference class electrometers
- ✓ Plastic slabs Phantoms and chamber inserts
- ✓ Round CT and RTPS Phantom



# Fast and easy Machine QA implementation

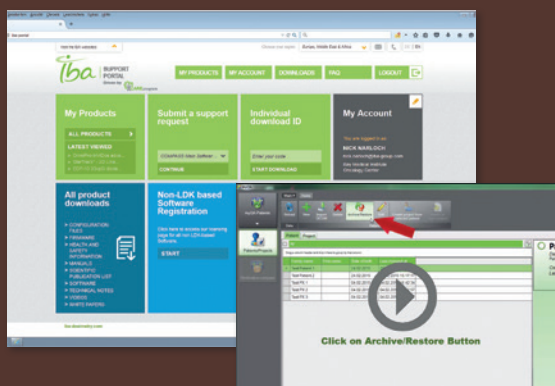
## White Papers

- ✓ Learn various applications step-by-step
- ✓ Efficient use of myQA Machines, detectors, and phantoms



## NEW Support Portal

- ✓ Training videos
- ✓ Papers and publications
- ✓ Manuals & technical notes
- ✓ Software updates



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