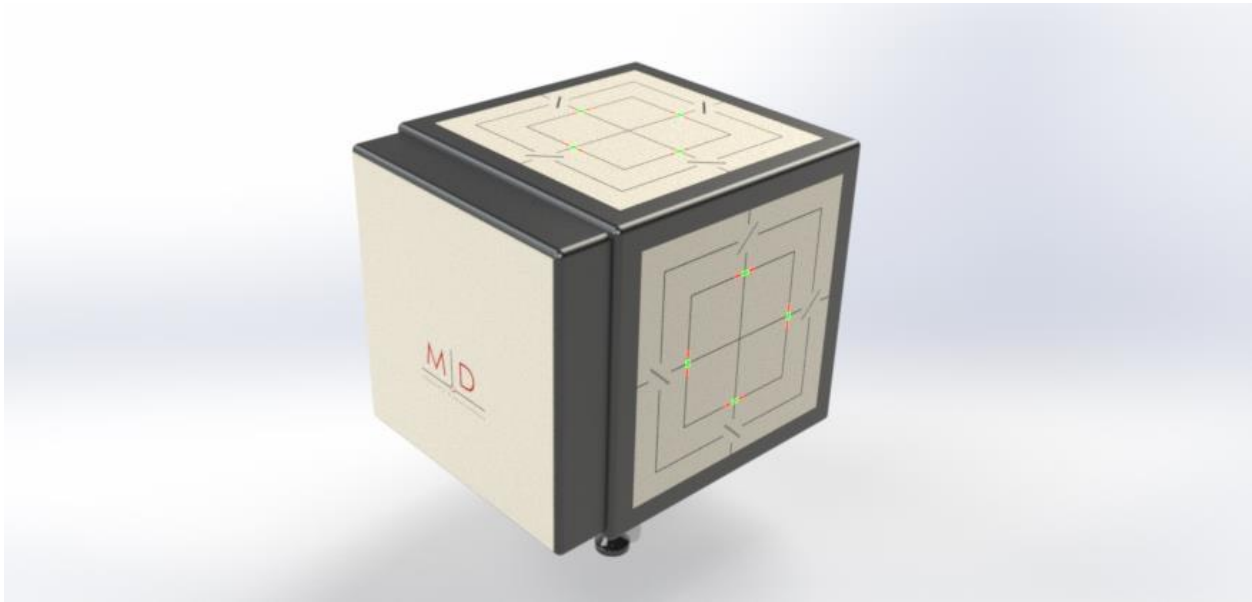


D-Cube Smart QA System

New Generation Medical Linac QA Device with Laser Alignment Option



One Device for Necessary LINAC Daily QA Tests: Fast, Accurate and Sensitive

The D-Cube has been developed to perform QA tests of Medical LINAC devices quickly and precisely. It has the feature of completing the tests without the need of electricity with the battery inside. In addition, with the indicator lamps on the D-Cube, basic tests can be performed quickly without using the software.

The D-Cube Basic device automatically corrects the necessary angle and position corrections. Therefore, it eliminates the possible user dependent uncertainties.

There are light photodiodes placed on the measurement array with special geometry.

It is easy to detect the possible deviations during test with the real time measurements. For instance, during rotational gantry test it is possible to detect the deviation length and its angle.

Key Features

- ✓ Patented design and measurement method
- ✓ User independent measurement
- ✓ Automatic isocenter detection
- ✓ Real-time measurements – view data instantly
- ✓ Export PDF reports
- ✓ Absolute Measurement: Since the D-Cube checks each parameter separately during the test, it can easily find the actual deviation source. D-Cube never assumes.
- ✓ Automatic Laser Alignment: All laser sources can be aligned according to the isocenter automatically.
- ✓ Smart QA: Thanks to the combination of different measurement results, more than 30,000 different treatment points are controlled from approximately 30 measurements.

D-Cube Test Capability

Procedure	Tolerance Level		
	Non-IMRT	IMRT	SRS/SBRT
Mechanical			
Laser localization	2mm	1.5mm	1mm
Cross-hair centering		1mm	
Coincidence of radiation and mechanical isocenter	2mm	2mm	1mm
Gantry/collimator angle indicators		1°	
Treatment couch position indicators	2 mm/1°	2 mm/1°	1 mm/0.5°
Treatment couch position indicators weight on couch	2 mm/1°	2 mm/1°	1 mm/0.5°
Collimator rotation isocenter		1mm	
Gantry rotation isocenter		1mm	
Couch rotation isocenter		1mm	
Couch rotation isocenter weight on couch		1mm	

Couch Sag according to movement Lateral/Vertical/Longitudinal				2mm
Couch Sag according to movement Lateral/Vertical/Longitudinal weight on couch				2mm
Couch Pitch&Roll Angle				1°
Couch Pitch&Roll Angle weight on couch				1°
Planar MV (EPID) imaging				
Imaging and treatment coordinate coincidence four cardinal angles				2mm
Planar kV imaging				
Imaging and treatment coordinate coincidence four cardinal angles				2mm
CBCT imaging				
Imaging and treatment coordinate coincidence				2mm
Smart QA: Combination of all the measurements				
Maximum Possible Deviation	2 mm/1°		2 mm/1°	1 mm/0.5°
D-Cube Sensitivity				0.01mm/0.1°

D-Cube Basic Specifications

Hardware		Software	
Dimensions: (cm) Height 27 Width 23 Length 23		Operating System: Microsoft® Windows® 10 SP1 or higher Microsoft® Windows® 8.x SP1 or higher Microsoft® Windows® 7 SP1 or higher (any edition: 32-64 bit)	
Connection Cables: Power Input 5V - DC Data Cable USB Connection Protocol RS232		Processor: Intel® i3 or higher AMD® A10 or higher	
Base Material: Delrin		Memory: 1 GB or higher	
Photodiode Detectors for Geometric Measurement: Detector Type Si Photodiode Array Detector Spacing (mm) 1.58 Detector Count in Each Array 16 Spectral wavelength range (nm) 340-1100		Hard Drive: 1 GB or higher	
MV / kV Detector: Radius of Sphere Pins (mm) 1.5		Screen Resolution: 1024 x 768 or higher	
		Requirements: .NET Framework 4.7.2	

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Specifications subject to change without notice.