

Yes We Do

RITTMG142

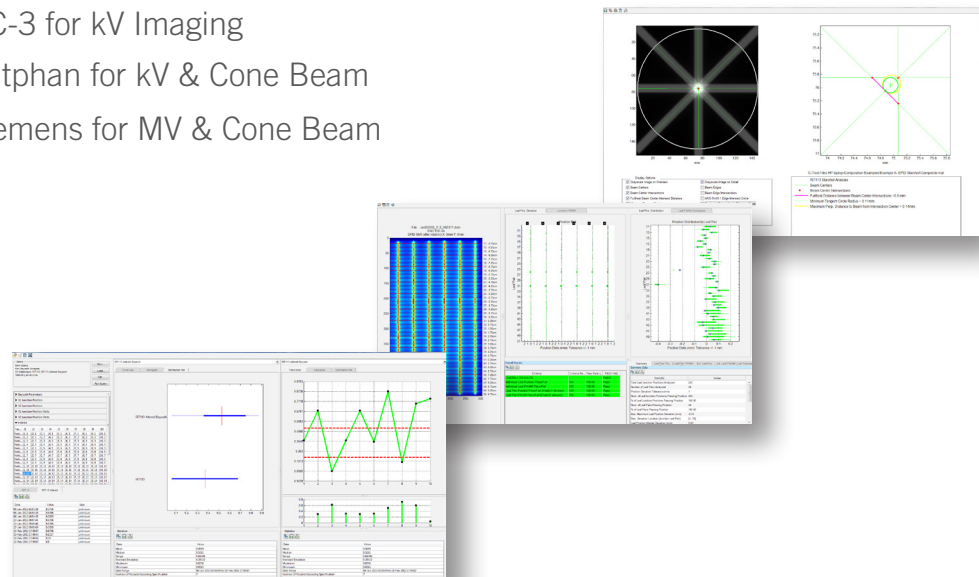
just what you need

RIT software
is the single vendor solution
that performs or trends

Every Test
recommended in TG142

Automated Analysis For These Phantoms:

- ISO Cube - kV/MV Matching
- DISC Plus for KV Imaging (30 x 30cm)
- IBA Primus L for kV Imaging (30 x 30cm)
- PTW NORMI 4 FLU for kV Imaging (30 x 30cm)
- PTW EPID for MV Imaging (25 x 25cm)
- RIT LRAD Radiation/Light Field
- Las Vegas for MV contrast
- Leeds TOR 18FG for kV Imaging
- QC-3 for kV Imaging
- Catphan for kV & Cone Beam
- Siemens for MV & Cone Beam



Note:

This datasheet lists, in the format of the TG142 Report, every test recommended in TG142, along with the corresponding RIT and Radia routine used to perform or trend the analysis.



RITtrend™ is much more than a statistical database. You easily set your own specifications and then automatically analyze process control limits on RIT113 analyzed equipment, knowing when and where to make changes in your system to reduce its overall variability. **The new Multi Source Data Manager gives you even more control for reporting on your entire Medical Physics program. It's customizable format allows you to add analysis data from any and all equipment used in your Medical Physics program, including non RIT113 analyzed data.** It redefines database recording into a major tool for analysis and recordkeeping in your department.

Table One Daily Tests

Dosimetry

RIT113	X-ray output constancy (all energies)	
RIT113	Electron output constancy (weekly, except for machines with unique e-monitoring requiring daily)	

Mechanical

RIT113	Laser Localization	, ISO Cube
RIT113	Distance Indicator (ODI) @ iso	
RIT113	Collimator Size Indicator	, ISO Cube

Safety

RIT113	Door Interlock (beam off)	
RIT113	Door Closing Safety	
RIT113	Audiovisual Monitor(s)	
RIT113	Stereotactic Interlocks (lockout)	
RIT113	Radiation Area Monitor (if used)	
RIT113	Beam On Indicator	

Table Two Monthly Tests


Dosimetry

RIT113	X-Ray Output Constancy	
RIT113	Electron Output Constancy	
RIT113	Backup Monitor Chamber Constancy	
RIT113	Typical Dose Rate Output Constancy	
RIT113	Photon Beam Profile Constancy	Cross Section
RIT113	Electron Beam Profile Constancy	Electron Energy
RIT113	Electron Beam Energy Constancy	

Mechanical		
RIT113	Light/Radiation Field Coincidence	Light Field/RIT LRAD Phantom, ISO Cube
RIT113	Light/Radiation Field Coincidence Asymmetric	Asymmetric Field/Match Line
RIT113	Distance Check Device for Lasers Compared with Front Pointer	
RIT113	Gantry/ Collimator Angle Indicators	
RIT113	Accessory Trays	
RIT113	Jaw Position Indicators Symmetric	
RIT113	Jaw Position Indicators Asymmetric	
RIT113	Cross-Hair Centering	
RIT113	Treatment Couch Position Indicators	
RIT113	Wedge Placement Accuracy	
RIT113	Compensator Placement Accuracy	
RIT113	Latching of wedges, Blocking Tray	
RIT113	Localizing Lasers	 , ISO Cube
Safety		
RIT113	Laser Guard-Interlock Test	
Respiratory Gating		
RIT113	Beam Output Constancy	
RIT113	Phase, Amplitude Beam Control	
RIT113	In-Room Respiratory Monitoring System	
RIT113	Gating Interlock	
Table Three Annual Tests		
Dosimetry		
RIT113	X-ray Flatness Change From Baseline	Cross Section
RIT113	X-ray Symmetry Change From Baseline	
RIT113	Electron Flatness Change From Baseline	
RIT113	Electron Symmetry Change From Baseline	
RIT113	SRS Arc Rotation Mode	
RIT113	X-Ray/Electron Output Calibration	
RIT113	Spot Check of Field Size Dependent Output Factor for X-ray (2 or more Field Sizes)	

RIT113	Output Factors For Electron Applicators (Spot Check Of One Applicator/Energy)	 RITtrend
RIT113	X-ray Beam Quality (PDD_{10} or TMR_{10}^{20})	
RIT113	Electron Beam Quality (R_{50})	
RIT113	Physical Wedge Transmission (Factor Constancy)	 RITtrend
RIT113	X-Ray Monitor Unit Linearity (Output Constancy)	
RIT113	Electron Monitor Unit Linearity (Output Constancy)	Electron Energy
RIT113	X-ray Output Constancy vs Dose Rate	RapidArc Analysis
RIT113	X-ray Output Constancy vs Gantry Angle	
RIT113	Electron Output Constancy vs Gantry Angle	 RITtrend
RIT113	Electron and X-ray Off-Axis Factor	
RIT113	Arc Mode (Expected MU, Degrees)	
RIT113	TBI/TSET Mode	
RIT113	PDD or TMR and OAF Constancy	
RIT113	TBI/TSET Output Calibration	
RIT113	TBI/TSET Accessories	
Mechanical		
RIT113	Collimator Rotation Isocenter	Star Shot, ISO Cube
RIT113	Gantry Rotation Isocenter	
RIT113	Couch Rotation Isocenter	
RIT113	Electron Applicator Interlocks	 RITtrend
Radia/ RIT113	Coincidence of Radiation and Mechanical Isocenter	Stereotactic Routines / ISO Cube Phantom
RIT113	Table Top Sag	 RITtrend, ISO Cube
RIT113	Table Angle	 RITtrend
RIT113	Table Travel Maximum Range	
RIT113	Stereotactic accessories, lockouts, etc.	
Safety		
RIT113	Follow manufacturer’s test procedures.	 RITtrend
Respiratory Gating		
Radia	Beam Energy Constancy	PTW EPID / PTW EPID Phantom
RIT113	Temporal Accuracy of Phase/Amplitude Gate On	 RITtrend
RIT113	Calibration of Surrogate for Respiratory Phase/Amplitude	
RIT113	Interlock Testing	

Table Four Dynamic/Universal/Virtual Wedges**Daily Tests**

RIT113	Morning Check-Out Run For One Angle	
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Monthly Test

RIT113	Wedge Factor For All Energies	Water Tank
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Annual Test

RIT113	Check of Wedge Angle for 60 Degree, Full Field and Spot Check for Intermediate Angle, Field Size	Water Tank
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Table Five Multileaf Collimation (With Differentiation of IMRT vs Non-IMRT Machine)**Weekly Test**

RIT113	Qualitative Test (Matched segments aka “Picket Fence”)	MLC Picket Fence Tests
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Monthly Tests

RIT113	Setting vs Radiation Field for Two Patterns (Non-IMRT)	Light Field / RIT LRAD Phantom, ISO Cube
RIT113	Backup Diaphragm Settings (Elekta Only)	Backup Diaphragm Test
RIT113	Travel Speed (IMRT)	MLC DMLC Patterns
RIT113	Leaf Position Accuracy (IMRT)	MLC MSK



Annual Tests

RIT113	MLC Transmission (Average of Leaf and Interleaf Transmission) All Energies	MLC DMLC Patterns
RIT113	Leaf Position Repeatability	MLC Picket Fence
RIT113	MLC Spoke Shot	Star Shot
RIT113	Coincidence of Light Field and X-ray Field (All Energies)	Light Field / RIT LRAD Phantom, ISO Cube
RIT113	Segmental IMRT (Step and Shoot) Test	MLC Tests
RIT113	Moving Window IMRT (Four Cardinal Gantry Angles)	RapidArc Analysis

Table Six Imaging Tests
Daily Tests
Planar kV and MV (EPID) Imaging

RIT113	Collision Interlocks	 RITtrend
RIT113	Position/Reposition	 RITtrend, ISO Cube
Radia	Imaging and Treatment Coordinate Coincidence (Single Gantry Angle)	IGRT / ISO Cube Phantom

Cone-beam CT (kV and MV)

RIT113	Collision Interlocks	 RITtrend
Radia	Imaging and Treatment Coordinate Coincidence	IGRT / ISO Cube Phantom
RIT113	Position/Repositioning	 RITtrend, ISO Cube

Monthly Tests
Planar MV Imaging (EPID)

Radia	Imaging and Treatment Coordinate Coincidence (Four Cardinal Angles)	IGRT / ISO Cube Phantom
Radia	Scaling	PTW EPID, QC-3, Las Vegas Phantoms
Radia	Spatial Resolution	
Radia	Contrast	
Radia	Uniformity and Noise	

Planar kV Imaging

Radia	Imaging and Treatment Coordinate Coincidence (Four Cardinal Angles)	IGRT / ISO Cube Phantom
Radia	Scaling	DISC Plus, Primus L, NORMI 4, TOR 18FG Phantoms
Radia	Spatial Resolution	
Radia	Contrast	
Radia	Uniformity and Noise	

Cone-beam CT (kV and MV)

Radia	Geometric Distortion	Catphan or Siemens OBI/CT, Elekta XVI Phantoms
Radia	Spatial Resolution	
Radia	Contrast	
Radia	HU Constancy	
Radia	Uniformity and Noise	

Annual Tests

Planar MV Imaging (EPID)		
RIT113	Full Range of Travel SDD	
RIT113	Imaging dose	
Planar kV Imaging		
RIT113	Beam Quaility/Energy	
RIT113	Imaging dose	
Cone Beam CT (kV and MV)		
RIT113	Imaging dose	

The RIT Family of Products	Patient QA	Machine QA	MLC QA	Imaging QA
RIT Complete All of RIT's therapy products in one convenient and comprehensive package	✓	✓	✓	✓
RIT113 Classic The original RIT product combining patient and machine QA	✓	✓	✓	
RITG142 All of the machine and imaging tests for TG-142 in a "just what you need" package		✓	✓	✓
RITG148+ A comprehensive test suite for helical tomotherapy machines		✓	✓	✓
iRadia therapy Automated phantom analysis for QC of Therapy CT, CBCT, kV and MV imagers				✓



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