# General Specifications (applies to all unless noted)

- **Browser support**: Google Chrome (recommended), IE 11
- **Meets Reimbursement/Reporting Requirements**: Yes
- **Supported Treatment Modalities**: 3D CRT, IMRT, VMAT, SRS and SBRT

## Plan Quality Checks - PlanCHECK™

- **Treatment Planning Systems Supported**: Varian Medical Systems® Eclipse™ via Scripting, others via DICOM
- **Physics Checks**: Rules-based checks: Treatment and non-treatment beam verifications, plan parameters, structures and deliverability
- **Dosimetric Checks**: Structure-based checks: Dose/volume metrics with user-definable constraints; complex dosimetry metrics such as: Conformality Index, Conformation Number, Gradient Index and Gradient Measure for multiple structures, plus Homogeneity Index, Inhomogeneity Index and more

## Secondary Calculations - DoseCHECK™

- **Supported Systems**:
  - Elekta and Varian Medical Systems® Linacs, including Varian Medical Systems® Halcyon™ System
  - Accuray TomoTherapy Hi-Art® and H-Series™ Systems
  - Varian Medical Systems® and Elekta HDR Brachytherapy Systems
- **Dose Calculation Algorithms**:
  - Conventional Linacs: Collapsed Cone Convolution Superposition
  - TomoTherapy Systems: Monte Carlo
  - HDR Brachytherapy: TG-43 compliant algorithm
- **Available Analysis & Pass/Fail Criteria**:
  - Photon: Composite & Beam Point doses, MUs*, 3D Dosimetric Analysis
  - Electron: Beam Point doses
  - HDR: Composite Point doses, Source Information, 3D Dosimetric Analysis

## Pre-Treatment QA - PerFRACTION™

- **Data Sources**: EPID and/or Log Files (dependent on Linac and imaging type used in delivery), and/or ArcCHECK array
- **Available Analysis & Pass/Fail Criteria**:
  - Composite and Beam Point Doses, 2D Relative Dose Analysis, 3D Dosimetric Analysis
  - 2D Absolute Dose Analysis (Absolute Dose Option**)

## In-Vivo Monitoring - PerFRACTION™

- **Dose Calculation Image Set**: Planning CT, Cone Beam CT (CBCT Recalculation Option**)
- **Available Analysis & Pass/Fail Criteria**:
  - Composite and Beam Point Doses, 2D Relative Dose Analysis, 3D Dosimetric Analysis
  - 2D Absolute Dose Analysis (Transit Dosimetry Option**)
# SunCHECK™ Machine Specifications

## General Specifications (applies to all unless noted)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Browser support</strong></td>
<td>Google Chrome (recommended), IE 11</td>
</tr>
<tr>
<td><strong>Meets Reimbursement/Reporting Requirements</strong></td>
<td>Yes</td>
</tr>
</tbody>
</table>

## Daily, Monthly, Annual QA - SNC Routine™

- **Protocol support**
  - TG-142 (all 127 tests in tables 1-6)
  - TG-51
  - DIN
  - Custom templates available

## Imaging, VMAT, MLC QA - SNC Machine™

### Imaging Test Support

- Image Quality: CBCT, kV, MV
- MLC
- VMAT

### MLC/ Mechanical

- MLC: Picket Fence, Positioning, Leaf Speed, Hancock
- Winston Lutz: Radiation & Machine Isocenter, Hancock
- Starshot: Gantry, Couch, Collimator
- Light/Radiation Field Congruence

### VMAT

- Dose Rate vs. Gantry Speed
- Leaf Speed
- Arc Point Dose
- DMLC Point Dose

## Sun Nuclear Phantoms

<table>
<thead>
<tr>
<th>Phantom</th>
<th>Line Pairs (mm):</th>
<th>ROI</th>
<th>Dimensions (cm):</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV-QA</td>
<td>0.1, 0.2, 0.5, 1.0 ± 0.025</td>
<td>9 (4 spatial, 4 contrast, 1 center)</td>
<td>12.7 L x 10.2 W x 2.5 D</td>
</tr>
<tr>
<td>kV-QA</td>
<td>0.6, 1.2, 1.8, 2.4 ± 0.01</td>
<td>28 (4 spatial, 23 contrast, 1 center)</td>
<td>12.7 L x 12.7 W x 1.6 D</td>
</tr>
<tr>
<td>FS-QA</td>
<td>10 x 10, 15 x 15</td>
<td>56 - Field size (7 per field edge)</td>
<td>17.8 L x 17.8 W x 0.6 D</td>
</tr>
<tr>
<td>WL-QA</td>
<td>6.0 x 6.0 x 6.0</td>
<td>7.0</td>
<td>0.2</td>
</tr>
</tbody>
</table>

## Additional Phantom Compatibility

<table>
<thead>
<tr>
<th>Company</th>
<th>Phantom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Nuclear Corporation</td>
<td>MultiPHAN®, CT ACR 464 Phantom</td>
</tr>
<tr>
<td>Standard Imaging</td>
<td>PIPSPro Phantoms</td>
</tr>
<tr>
<td>Phantom Laboratory</td>
<td>CatPhan 503, 504, 600, 604</td>
</tr>
<tr>
<td>Leeds</td>
<td>TOR 18FG</td>
</tr>
<tr>
<td>Varian Medical Systems®</td>
<td>Las Vegas Phantom</td>
</tr>
<tr>
<td>PTW</td>
<td>EPID QC Phantom</td>
</tr>
</tbody>
</table>

Varian Medical Systems® is a registered trademark, and Varian™, Halcyon™ are trademarks, of Varian Medical Systems, Inc. Sun Nuclear Corporation is not affiliated with or sponsored by Varian Medical Systems, Inc.