550 TxE Treatment Table
Accuracy and Strength for Advanced Therapy Applications
The 550 TTxT™ Treatment Table is engineered to meet increasing demands for accuracy, stability, and precision, in order to meet the current and future clinical requirements of modern radiation oncology departments. Innovative features improve patient positioning to new standards while providing a unique lifting mechanism and exceptional mechanical strength that allow for a load capacity of 550 pounds (250 kg).

In addition, a newly designed user interface provides ergonomic controls with tactile feedback, allowing the user to control the treatment table with a choice of manual or motorized movements.

### Clinical Features and Benefits

- Controls located at the 550 TTxT table hand control, table side panel, and linear accelerator hand control provide easy one-handed access to motorized and manual table movements from any position around the table.
- Optional 550 TTxT controls from the linear accelerator control console for absolute and delta motions (standard with ONCOR™ Avant-Garde).
- Data integration with Siemens linear accelerators.
- All motions are available simultaneously, allowing for swift and accurate patient positioning.
- Backlit buttons, easy-to-read LED displays, and integrated flashlight assist staff with their daily routines and patient positioning.
- Readouts in standard or optional IEC convention.
- Programmable upward and downward motion stops help to position patient safely and minimize collisions.
- Free-float tabletop motion capability supports fast non-routine and standard clinical set-ups.
- Fully motorized table motions with smooth ramp-up speed control.
- 1050 mm vertical range of motion with 650 mm tabletop height in lowest position provides patients ease of access to the table.
Product Features

■ Maximum Patient Load
The maximum patient load is 550 pounds (250 kg) with all validated Siemens Carbon Fiber Tabletops

■ Controls
Controls for the 550 TxT are located at the table, on the linear accelerator hand control, and at the linear accelerator control console.

Table Side Panels
• The table side controls include all mechanical movements and motorized motion for vertical motions
• Panels on each side provide digital displays of absolute and relative positions, speed selection, and full motion control with tactile feedback buttons

Table Hand Controls
• Support all motorized table movements, manual tabletop free-float mode (longitudinal and lateral movements), speed selection, home and preset positions, and absolute or relative positions
• Tactile feedback buttons
• Integrated flashlight to assist with visualization of patient marks

Table controls located on linear accelerator hand control
• Automatic movements to preset positions
• Automatic movement to home position

Table controls located at linear accelerator control console (optional)
• Support all motorized movements (lateral, longitudinal, isocentric, and vertical)

■ Intermediate Vertical Stops
The table stops near isocenter to prevent a potential collision with an accessory. The user releases and then re-enables the vertical motion button to continue upward motion. This stop position can be configured at installation.

The table is capable of stopping at two predetermined heights when traveling downward. The user releases and then re-enables the vertical motion button to continue the downward motion.

The standard downward stops are around isocenter and approximately 20 cm below isocenter for Siemens linear accelerators equipped with electronic portal imaging systems. The downward stops can be configured at installation.

■ Serviceability
• Automatic diagnostic check at power up
• Compatible with Siemens universal base frame to enable field upgrades to existing Siemens linear accelerators*
• Mechanical and electrical interfaces for future Siemens validated features and implementation on system level
• Diagnostic interface for remote serviceability

* Please contact your local sales representative for compatibility and availability.
■ Digital Displays

All digital displays provide a 1 mm linear and 0.1° angular resolution.

■ Interlocks

The 550 TxT table has three safety interlocks that interface with the Siemens linear accelerator.

- Table Float Interlock prevents treatment when the motion lock switch is off; the motion lock switch disables all electric and free-float movements of the table
- Illegal Motion Interlock prevents treatment if the table moves when the motion lock is on
- Motion Stop Interlock prevents treatment when a motion stop button is pushed

■ Motion Stop Buttons

- Two motion stop buttons are located below the side panel to disable power to the table and cause a Motion Stop Interlock on the Siemens linear accelerator

■ Safety Aspects

- Electromagnetic brakes reduce mechanical play on all motions
- Automatic brake activation in the event of power failure
- Motion stop buttons located on both sides of table
- Ability to lower table in the event of power failure
- Tabletop lock is indicated with colored lights
- RAD ON interlock when table is not locked
- Automatic RAD OFF if table motion detected during radiation

■ Power Requirements

- Power for the table is supplied by the Siemens linear accelerator
# Product Specifications

## General Measurements

<table>
<thead>
<tr>
<th></th>
<th>Tabletop length (cm)</th>
<th>Tabletop width without accessory rails (cm)</th>
<th>Tabletop width with accessory rails (cm)</th>
<th>Maximum field size from the posterior with table at highest position measured at tabletop w x l (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT-D Solution</td>
<td>245</td>
<td>50.1</td>
<td>60.3</td>
<td>55 x 55</td>
</tr>
</tbody>
</table>

## Range of Motion Specifications

<table>
<thead>
<tr>
<th>Motion Possibility</th>
<th>Tabletop Longitudinal</th>
<th>Tabletop Lateral</th>
<th>Vertical (start point at 650 mm above floor level)</th>
<th>Column Rotation (Z-axis)</th>
<th>Isocentric Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of Motion</td>
<td>900 mm</td>
<td>±250 mm</td>
<td>1050 mm</td>
<td>±180°</td>
<td>±120°</td>
</tr>
<tr>
<td>Motorized Speed Control</td>
<td>10 &amp; 40 mm/sec.</td>
<td>10 &amp; 40 mm/sec.</td>
<td>10 &amp; 40 mm/sec.</td>
<td>—</td>
<td>1.0 &amp; 4.0°/sec.</td>
</tr>
<tr>
<td>Manual Control</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
</tr>
<tr>
<td>Absolute Positioning Accuracy</td>
<td>±0.5 mm</td>
<td>±0.5 mm</td>
<td>±0.5 mm</td>
<td>±0.5°</td>
<td>±0.5°</td>
</tr>
<tr>
<td>Corrective Positioning Accuracy</td>
<td>±0.2 mm</td>
<td>±0.2 mm</td>
<td>±0.2 mm</td>
<td>±0.5°</td>
<td>±0.4°</td>
</tr>
<tr>
<td>Intermediate Stops</td>
<td>—</td>
<td>—</td>
<td>Yes 3 stops</td>
<td>—</td>
<td>Yes 0° - position</td>
</tr>
<tr>
<td>Motion Brakes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
<td>Yes</td>
</tr>
<tr>
<td>Measurements according to IEC 976, Section 14</td>
<td>&lt;3 mm</td>
<td>&lt;3 mm, &lt;0.4°</td>
<td>&lt;1 mm</td>
<td>—</td>
<td>&lt; 0.5 mm</td>
</tr>
</tbody>
</table>

1. All motorized movements contain ramp up speed functionality.
2. All speeds and accuracies are for 140 kg patient weight.
3. Weights greater than 140 kg may have up to 20% deviation from listed values.
4. Corrective positioning values are for distances less than 50 mm.
- **IEC Specifications**

  **Deviation of the column rotation between 0° and 180° (per IEC 976, Section 14.3)**

  - ≤0.25° angle between isocentric and column axes

  IEC identifies this as parallelism of table rotational axes, which is the maximum angle between the axis of isocentric rotation of the table and that of the rotation of the tabletop when the table is loaded with 135 kg distributed over 2 m of the length of the table, acting through the isocenter.

  **Isocentric displacement (per IEC 976, Section 14.2)**

  - <1 mm of position error introduced by isocentric rotation of the table

  IEC identifies this as isocentric rotation of table, which is the maximum displacement of the axis of isocentric rotation of the table from the isocenter, when the table is loaded with 135 kg distributed over 2 m of the length of the table.

  **Table deflection (per IEC 976, Section 14.4.1)**

  - <5 mm

  IEC identifies this as longitudinal rigidity of the table, which is the maximum difference between the heights of the surface of the tabletop next to the isocenter when the table is retracted and loaded with 30 kg distributed over 1 m of the length of the table, and extended and loaded with 135 kg distributed over 2 m of the length of the table, acting through the isocenter.
Accessories and Options

Choice of versatile Carbon Fiber Tabletops:

- **TT-A**  Designed to meet the requirements for Adaptive Radiation Therapy (ART)
- **TT-D**  Specifically designed to meet the requirements for PRIMATOM™ Systems
- **TT-M**  A multipurpose tabletop to meet traditional therapy needs
- **TT-S**  Designed to meet the requirements for stereotactic treatments

**TT-A** designed for Adaptive Radiation Therapy (ART)

**TT-D** optimized for use on PRIMATOM

**TT-M** multipurpose Tabletop

**TT-S** designed for stereotactic treatments
### Tabletop Specifications

<table>
<thead>
<tr>
<th></th>
<th>TT-A</th>
<th>TT-D</th>
<th>TT-M</th>
<th>TT-S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum table load</strong></td>
<td>550 lbs., 250 kg</td>
<td>550 lbs., 250 kg</td>
<td>550 lbs., 250 kg</td>
<td>550 lbs., 250 kg</td>
</tr>
<tr>
<td><strong>Length with headboard</strong></td>
<td>245 cm</td>
<td>245 cm</td>
<td>255 cm</td>
<td>245 cm</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>245 cm (109 cm railing)</td>
<td>245 cm (100 cm railing)</td>
<td>193 cm (107 cm railing)</td>
<td>215 cm (109 cm railing)</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>60.3 (50.1) cm</td>
<td>60.3 (50.1) cm</td>
<td>57 (53) cm</td>
<td>60.3 (50.1) cm</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>6.7 cm</td>
<td>4 cm</td>
<td>5.4 cm</td>
<td>6.7 cm</td>
</tr>
<tr>
<td><strong>Transmission Value 6 MV</strong></td>
<td>97% with shift of $d_{max} = 6$ mm</td>
<td>Min. 97.8% gantry at 0°</td>
<td>NA (depends on insert)</td>
<td>97% with shift of $d_{max} = 6$ mm</td>
</tr>
<tr>
<td><strong>Table Deflection</strong></td>
<td>≤5 mm, = 4 mm with 135 kg load</td>
<td>≤5 mm, with 135 kg (200 x 50) area</td>
<td>≤ 5 mm, with 135 kg load</td>
<td>≤5 mm, = 4 mm with 135 kg load</td>
</tr>
<tr>
<td><strong>Patient Load specified (evenly distributed)</strong></td>
<td>250 kg (550 lbs.)</td>
<td>250 kg (550 lbs.)</td>
<td>250 kg (550 lbs.)</td>
<td>250 kg (550 lbs.)</td>
</tr>
<tr>
<td><strong>Indexing System and Lok-bar</strong></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Extensions/Accessories included</strong></td>
<td>None</td>
<td>None</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1. The number in brackets indicates the width with accessory rails.
**550 TxC Treatment Table Dimensions and Ranges**

All dimensions are in millimeters unless otherwise specified. Linear dimensions are ±10 millimeter, and angular dimensions are ±1°.
550 TdT Treatment Table Base Frame and Pit Detail Dimensions
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