Sealed Transmissive Microfocus X-Ray Source G-511 Series
X-ray source for industrial non-destructive inspection capable of high speed imaging with high resolution

Sealed Transmissive Microfocus X-Ray Source Series

- High resolution: 2μm (at 6W)
- High magnification: FOD 0.29 mm
- Wide beam angle: 168° cone

**FEATURES**

1. 110kV voltage ramp time within 1sec.
   - Quick image acquisition
2. Target maintenance free
   - No need for target rotation
   - Improving equipment operation ratio
3. Warming-up within 3 min.
   - Solution of the long waiting time at starting up X-ray equipment
   - No need for tube aging after long term storage
4. Self diagnosis of X-ray tube life time
   - Scheduled maintenance of X-ray equipment
5. CE and RoHSII compliant*
   *To be acquired in 2019

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>G-511VL-D(L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube Voltage Operational Range</td>
<td>kV</td>
<td>40 – 110</td>
</tr>
<tr>
<td>Tube Current Operational Range</td>
<td>μA</td>
<td>10 – 100</td>
</tr>
<tr>
<td>Maximum Output</td>
<td>W</td>
<td>10</td>
</tr>
<tr>
<td>Minimum Resolution (JIMA RT RC-02B)</td>
<td>μm</td>
<td>2</td>
</tr>
<tr>
<td>X-ray Window Material / thickness</td>
<td>−/mm</td>
<td>C(Diamond) / 0.29</td>
</tr>
<tr>
<td>Target Material</td>
<td>–</td>
<td>W(Tungsten)</td>
</tr>
<tr>
<td>X-ray Beam Angle</td>
<td>Deg.</td>
<td>168(Max.), 80(80%, Equidistance)</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>21(G-511ML-D), 24(G-511ML-DL)</td>
</tr>
<tr>
<td>Operation</td>
<td>–</td>
<td>Continuous, Pulse (≥1sec)</td>
</tr>
<tr>
<td>External Control</td>
<td>–</td>
<td>RS-232C</td>
</tr>
<tr>
<td>Input Voltage(DC)</td>
<td>V</td>
<td>24 (+1.2, -1.2)</td>
</tr>
<tr>
<td>Maximum Power Consumption</td>
<td>W</td>
<td>40</td>
</tr>
<tr>
<td>Operational Ambient Temperature</td>
<td>°C</td>
<td>10 – 45</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>°C</td>
<td>0 – 50</td>
</tr>
<tr>
<td>Operational and Storage Humidity</td>
<td>%</td>
<td>≤85(No Condensation)</td>
</tr>
<tr>
<td>High Voltage Power Supply</td>
<td>–</td>
<td>Built-in</td>
</tr>
</tbody>
</table>
**FOCUS CHARACTERISTICS**

- **X-RAY DOSE UNIFORMITY**

  ![X-ray dose uniformity graph](image)

- **TUBE CURRENT OPERATIONAL RANGE**

  ![Tube current operational range graph](image)

- **MICRO CHART IMAGE (JIMA RT RC-02B)**

  ![Micro chart image](image)

* The figures showed in each graph are typical values.

**IMAGE EXAMPLES**

- Bonding wire
- Bonding wire
- Multi Layer Ceramic Capacitor
- Void
**DIMENSIONAL OUTLINE** (Unit:mm)

**X-RAY FOCAL SPOT**

- 270 mm (Width)
- 170 mm (Height)
- 150 mm (Depth)
- 4 x M5, Depth 10
- 8 x M5, Depth 5

**X-RAY BEAM ANGLE**

- 168°
- 157.8° (option)

**COOLING FAN**

- φ 110

**INTERLOCK1**

**INTERLOCK2**

**RS232C**

**DC24V**

**GND**

Installation side: Top (exposure port side) and Bottom

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**CAUTION** The X-ray sources introduced in this material generate X-rays. To be used by qualified personnel only. Safe use is the responsibility of the operator.

**NOTICE:** The X-ray sources introduced in this material were developed specifically for industrial use and cannot be used for food and drinks or medical applications. Since the X-ray sources introduced in this material are subject to local laws and regulations, what you are required to use may vary from region to region. Please consult with our sales representative.

October 2018