Optical floating zone furnace

Model: FZ-T-10000-H-VIII-VPO-PC

Crystal Systems Corporation

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# Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>FZ-T-10000-H-VIII-VPO-PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamp system</td>
<td>Halogen</td>
</tr>
<tr>
<td>Number of lamp and mirror</td>
<td>4 pieces</td>
</tr>
<tr>
<td>Number of mirror</td>
<td>4 pieces</td>
</tr>
<tr>
<td>Atmospheric pressure</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>0.95 MPa</td>
</tr>
<tr>
<td>Vacuum</td>
<td>$6.7 \times 10^{-3}$ Pa ($5 \times 10^{-5}$ Torr)</td>
</tr>
<tr>
<td>Chamber (Quartz tube)</td>
<td></td>
</tr>
<tr>
<td>Normal pressure</td>
<td>$\phi$ 50 mm / 365 mm long / 2 mm thick</td>
</tr>
<tr>
<td>High pressure</td>
<td>$\phi$ 50 mm / 365 mm long / 5 mm thick</td>
</tr>
<tr>
<td>Sealing for shafts</td>
<td>O-Ring Sealing Type</td>
</tr>
<tr>
<td>Max. temperature</td>
<td>2,200°C</td>
</tr>
<tr>
<td>Normal temperature</td>
<td>1,850°C</td>
</tr>
<tr>
<td>Lamp power</td>
<td>1,200W (300W x 4 lamps)</td>
</tr>
<tr>
<td></td>
<td>4,000W (1,000W x 4 lamps)</td>
</tr>
<tr>
<td></td>
<td>6,000W (1,500W x 4 lamps)</td>
</tr>
<tr>
<td>Mirror stage/Shaft</td>
<td>Mirror stage and upper shaft transfer vertically</td>
</tr>
<tr>
<td>Max. difference of temperature around the rod surface</td>
<td>&lt; 30°C</td>
</tr>
<tr>
<td>Lamp cooling</td>
<td>Air</td>
</tr>
<tr>
<td>Mirror cooling</td>
<td>Air</td>
</tr>
<tr>
<td>Max. crystal length (mm)</td>
<td>150</td>
</tr>
<tr>
<td>Max. feed length (mm)</td>
<td>150</td>
</tr>
<tr>
<td>Growth rate slow move</td>
<td>0.01~300mm/hr</td>
</tr>
<tr>
<td>Growth rate fast move</td>
<td>6~150mm/min</td>
</tr>
<tr>
<td>Shaft rotation rate</td>
<td>5~100rpm</td>
</tr>
<tr>
<td>Monitoring</td>
<td>CCD camera and LCD</td>
</tr>
<tr>
<td>Control system</td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>LabVIEW / Windows 10 (with remote control function)</td>
</tr>
<tr>
<td>Manual</td>
<td>Hand-control-box</td>
</tr>
<tr>
<td>Atmosphere gas flow control</td>
<td></td>
</tr>
<tr>
<td>① 5L/min Ar flow meter(*1)</td>
<td></td>
</tr>
<tr>
<td>② 500cc/min Oxygen flow meter</td>
<td></td>
</tr>
<tr>
<td>③ 10L/min Air flow meter with compressor</td>
<td></td>
</tr>
<tr>
<td>Utility</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>3-phase 200V, 40A</td>
</tr>
<tr>
<td>Water</td>
<td>3~5L/min</td>
</tr>
<tr>
<td>Size (mm)</td>
<td>Main body W850×D760×H1950</td>
</tr>
<tr>
<td></td>
<td>Control box W605×D760×H1700</td>
</tr>
</tbody>
</table>

Remarks:
1. Alternative lamp power (option): 150W / 500W / 750W
2. (*1) It is possible to change other type of gas and flow amount.
3. Warranty:
   Crystal Systems Corporation warrants for one (1) year from the date of installation, except for abnormal use. Glassware such as (1) lamp (2) mirror (3) quartz tube are out of warranty.