QM Series Heater Features and Benefits

SUPERIOR CHEMICAL RESISTANCE:
- ♦ For use in most aqueous acidic plating solutions and pickling tanks. Check solution recommendation chart or with your chemical supplier for proper sheath material selection.

RUGGED CONSTRUCTION:
- ♦ Heavy wall quartz sheath with replaceable metal element and polypropylene guards (complete assembly).

OUTSTANDING PERFORMANCE:
- ♦ Watt densities up to 25 watts per square inch (4 w/cm²) ensure long service life.

CORROSION RESISTANT HEAD:
- ♦ Vapor resistant, flame retardant polypropylene terminal enclosure with 3 ft (.9m) flexible PVC liquid tight conduit.

SAFETY FEATURES:
- ♦ Grounded internal metal element.
- ♦ Thermal protector built in. Replaceable P1 protector standard for solutions up to 180°F (82°C).

CERTIFICATIONS: cULus listed (less than 4000 watts), and CE certified (less than 600 volts).

SIZES: 500 watts to 10,000 watts.

VOLTAGES: 120 to 600 volts.

OPTIONS AVAILABLE (consult factory):
- ♦ Replaceable thermal protectors:
  - P4: for solutions up to 230°F (110°C).
- ♦ Resettable thermal protectors:
  - P2: for solutions up to 180°F (82°C).
  - P6: for solutions up to 230°F (110°C).
- ♦ Special configurations and lengths.
- ♦ Longer wire and conduit lengths.
- ♦ Three phase elements.
- ♦ Fluoropolymer (PTFE) guards for chromic acid or solutions over 180°F (82°C).
- ♦ Lower watt densities for highly viscous solutions.
- ♦ Temperature and level controls sized to match the heater (sold separately).

NOTE: Not for use in hydrofluoric acid or alkaline solutions.
SINGLE QUARTZ ELEMENT ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Series</th>
<th>Wattage</th>
<th>Voltage</th>
<th>Length</th>
<th>Options</th>
<th>Type of Protector</th>
<th>Wire and Conduit Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5 = 500</td>
<td>1 = 120</td>
<td>2 = 240</td>
<td>4 = 480</td>
<td>10 = .5kW</td>
<td>36&quot; length standard (no designator) specify variations from standard Ex: -X84 = 84&quot;</td>
<td></td>
</tr>
<tr>
<td>1 = 1000</td>
<td>2 = 240</td>
<td>4 = 480</td>
<td>6 = 720</td>
<td>11 = 1kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 = 2000</td>
<td>4 = 480</td>
<td>12 = 1440</td>
<td>8 = 960</td>
<td>17 = 2kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 = 3000</td>
<td>-208= 208</td>
<td>16 = 1280</td>
<td>10 = 1000</td>
<td>23 = 3kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 = 3500</td>
<td>-380= 380</td>
<td>20 = 1600</td>
<td>12 = 1440</td>
<td>29 = 3.5kW</td>
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<td></td>
</tr>
<tr>
<td>4 = 4000</td>
<td>-415= 415</td>
<td>24 = 1920</td>
<td>15 = 1500</td>
<td>35 = 4kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 = 5000</td>
<td>-600= 600</td>
<td>30 = 2400</td>
<td>18 = 1800</td>
<td>41 = 5kW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 = 6000</td>
<td></td>
<td>36 = 3600</td>
<td>20 = 2000</td>
<td>47 = 6kW</td>
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<td></td>
</tr>
<tr>
<td>7 = 8000</td>
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<td>42 = 4200</td>
<td>22 = 2200</td>
<td>53 = 8kW</td>
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<td></td>
</tr>
<tr>
<td>8 = 10000</td>
<td></td>
<td>48 = 4800</td>
<td>24 = 2400</td>
<td>69 = 10kW</td>
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<td></td>
</tr>
</tbody>
</table>

Each single tube quartz heater consists of:
- Heating element
- Quartz tube
- Single guard

Complete QM heater assembly

Each triple tube quartz heater consists of elements, 3 quartz tubes and guard to create a complete triple tube quartz heater:
- 3 heating elements
- 3 quartz tubes
- Triple guard

Complete QM heater assembly

ORDERING EXAMPLE:
QM3223E (element) + QM3223JP2 (tube with P2 protector) + QM23G (polypropylene guard) = 3,000 watt, 240 volt, 23" element complete heater.