Why Digital
Electronic master mixers provide a faster, more accurate way to control temperature within +/- 2°F. With user-programmable temperature set points, building owners have full control over their domestic hot water systems. In addition, the Nucleus Series has features that allow for compliance with the ASHRAE 188 Standard and can assist facility managers with minimizing serious health risks, such as Legionella.

Benefits
- Self-balancing even during times of no demand
- No laptop required for setup or adjustments
- Standard serviceable check valves and outlet ball valves
- Integral daily shuttle sweep
- Total digital temperature sensors
- Sanitization mode
- Multiple point alarms
- Primary RTD temperature measurement on mixed outlet

Monitor & Communicate
- Monitor and adjust locally and remotely
- Cloud-based monitoring and logging capabilities
- Up to eight temperature inputs, three pressure inputs, and two flow channel inputs
- Six standard protocol languages:
  - BACNet IP
  - BACNet MS/TP
  - Modbus RTU
  - Modbus TCP/IP
  - Metasys N2 by JCI
  - Ethernet/IP
Options

- **RDU | Leonard Remote Display Unit**
  - Alarm delay module with yellow, red, and green LED indicators
  - Recommended maximum distance from controller to RDU is 500’

- **BPS | Backup Power Supply Option**
  - Uninterruptable power supply with up to two hours of run time

- **LC | Less Circulator**
  - Only available for Megatron configurations

- **DB | Daughter Board**
  - Display up to four additional temperature inputs, one flow channel input, and one configurable flow or pressure input channel

- **SCO | Solenoid Control Option**
  - Switch power to solenoid when in alarm mode

  Additional integral RTD temperature measurement sensors for three critical measurement points: inlet hot, inlet cold, and return water temperature

- Options to display: four additional temperature inputs, one additional pressure input, one additional flow input, one configurable channel input flow or pressure

Configurations

- **MANY MODELS AVAILABLE**

  - **Nucleus Base Valve Only**
  - **Nucleus with Inlet Fittings & Return Temperature Sensor**
  - **Nucleus Recirculation Manifolds**
  - **Nucleus Megatron 2PS-High Capacity Units**
## Flows & Capacities

### DIGITAL TEMPERATURE CONTROL & MONITORING

**Flows & Capacities**

![Flow Chart](image)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>IN</th>
<th>OUT</th>
<th>MAXIMUM FLOW CAPACITY</th>
<th>PRESSURE DROP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>10</td>
<td>15</td>
<td>20</td>
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<tr>
<td></td>
<td>GPM</td>
<td>GPM</td>
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</table>

**MAXIMUM FLOW CAPACITY**

**NOTE**: THESE AIDS ARE NOT TO SCALE.

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