IntelliStation™
The Smart Mixing & Recirculation System

For Domestic Hot Water in Commercial and Institutional Facilities

PowersControls.com

A WATTS Brand
The IntelliStation is the smart way to deliver mixed water throughout a hot water recirculation loop. The digital water mixing and recirculation solution can be integrated in a building automation system (BAS) to allow facilities managers to remotely monitor and control water temperatures.

- **High-speed actuator** provides temperature stabilization within +/- 2°F in accordance with ASSE 1017. Actuator is located outside of mixing valve where it is not affected by potential water leakage from valve. Shuts down hot water in the event of power failure or cold water failure.

- **Internal capacitor initiates valve position to full cold upon power loss.** IntelliStation is not reliant on batteries for valve activation upon power loss.

- **Temperature and pressure sensors** on hot/cold water inlet supplies, mixed water outlet, and tempered water return.

- **Integrated recirculation pump** (engineer specified) operated by the control module based on preset return temperature offset.

**OTHER FEATURES**
- Lead Free* listed to NSF 372
- Optional energy efficiency package monitors GPM and BTUs
- ASSE 1017 certified, cUPC listed, UL listed, BACnet Testing Laboratory (BTL) listed

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*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.*
Why IntelliStation?

• Digital temperature regulation within +/-2°F to ASSE 1017, even during low and zero demand periods
• At the foundation of a safe and efficient tempered water recirculation loop
• Field configurable without the need for a laptop or special software

By intelligently controlling and monitoring the water recirculation loop, the IntelliStation:

• Promotes safety by helping to maintain the safe and appropriate water temperature you select for your facility
• Supports energy conservation through more efficient water temperature management—and in turn reduces energy costs
• Integrates with building automation systems to support integrated building management
• Supports consistent delivery of hot water on demand wherever and whenever it is needed, in accordance with building codes

The IntelliStation is designed for use in commercial and institutional buildings such as:

• hospitals, nursing homes, and assisted living facilities
• college, university, and educational facilities
• multi-family residences
• office buildings
• correctional facilities and military buildings
• hotels and resorts

Smart Controller

The control ships with a 3.5-inch full-color LED touchscreen interface.

The IntelliStation allows you to select the desired hot water temperature and control and monitor your water distribution system. For even greater control, IntelliStation should be installed as part of an ASSE-compliant water distribution system, including point-of-use mixing valves at each fixture in the plumbing system.¹
IntelliStation Configuration

The IntelliStation’s touchscreen control operates a 3-way valve through a high-speed actuator to precisely maintain the selected outlet temperature. Temperature and pressure sensors are included at key points within the panel to enable an immediate response to changes in fixture demand and supply water conditions. A built-in pump (optional) provides recirculation of the tempered water loop. This reduces the wait time at point-of-use fixtures and conserves water.

A Sanitization Mode allows buildings with a thermal eradication protocol in place to control water-borne bacteria to deliver a higher water temperature for a pre-set duration to allow building maintenance staff sufficient time to open all of the fixtures.

IntelliStation can be connected to a building automation system (BAS) to provide read access to a range of temperature and pressure measurements and allow adjustment of the outlet temperature setting within a pre-programmed range. BACnet® IP, BACnet® MSTP and Modbus® protocols are all supported.

Causes of temperature change within a plumbing system

- Seasonal temperature changes in water supply
- Authorized or unauthorized adjustment of upstream master mixing valve
- System pressure fluctuations (changing demand)
- Boiler/hot water heater malfunction
- Improper valve selection (oversized) and/or hot water recirculation design

IntelliStation monitors and displays system critical data:

- Hot supply inlet temperature
- Hot supply inlet pressure
- Mixed outlet temperature
- Mixed outlet pressure
- Mixed outlet setpoint
- Return temperature and return pressure
- Mixed and return flow and energy consumption

All data is viewable via the digital display and remotely via BAS communications. In addition, the control contains “Alert” contact relays to aid in remote notifications. In case of a power failure, the valve goes to full cold. The IntelliStation can be specified with a recirculation pump to maintain the recirculation loop temperature by turning the pump on when temperature drops below a pre-specified return limit and off when loop temperature is attained.
Why Water Mixing Is Critical

Water plays an essential role in all our lives, but unmonitored and untempered, water can pose serious risks.

**Legionella**

According to the Centers for Disease Control, proper maintenance of water distribution systems is key to preventing illness from water-borne bacteria such as Legionella. Managers of commercial and institutional facilities know that selecting and controlling proper water temperature in their storage and delivery systems plays an important part in any maintenance program.

**Legionella Growth Chart**

- Ideal growth range 95-115°F (35-46°C)
- Legionellae growth range 68-122°F (20-50°C)
- Rapid Kill Range 158-176°F (70-80°C)

Below 68°F (20°C), Legionellae can survive but are dormant. Cold water in storage tanks, piping, decorative fountains, and other equipment should ideally be kept below 68°F (20°C).

- Hot water need capability of heating water to 158°F (70°C) for disinfection
- 151°F (66°C) Legionellae die within 2 minutes
- 140°F (60°C) Legionellae die within 32 minutes
- 131°F (55°C) Legionellae die within 5-6 hours
- Above 122°F (50°C) Legionellae can survive but do not multiply

**Scalding**

Uncontrolled and unmonitored water distribution systems can create high-temperature scalding hazards in bathtubs, sinks and showers. The IntelliStation makes it easy to select and set a safe water temperature for your facility’s residents and visitors.

**Thermal Shock**

The thermal shock of a rapid and uncomfortable change in shower water temperature can cause a fall or serious injury. With the IntelliStation, stable mixed water is delivered to ASSE-listed thermostatic point-of-use devices to minimize this risk.
Tempered Water Delivery Redefined

The IntelliStation provides safer, more efficient hot water delivery from the point-of-source to the point-of-use. The integrated IntelliStation system provides compliance with all relevant ASSE standards.
Combine the IntelliStation with these other quality mixing products from Powers to ensure fixture temperatures are comfortable and safe.

**Point-of-use applications**

- Individual Bath/Whirlpool (ASSE 1070)
- Individual Showers (ASSE 1016)
- Lavatory Sinks (ASSE 1070)
- Safety Shower • Eye Wash (ASSE 1071)

**Watts**
Temperature & Pressure Relief Valve

**AERCO**
Water Heater
### Ordering Information

#### Standard Capacity

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<th>Valve</th>
<th>Inlets (in)</th>
<th>Outlet (in)</th>
<th>Order Code</th>
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<tbody>
<tr>
<td>LFIS150</td>
<td>2’ (50mm)</td>
<td>2 1/2’ (63mm)</td>
<td>LFIS150DV</td>
</tr>
<tr>
<td>LFIS200</td>
<td>2 1/2’ (63mm)</td>
<td>3’ (75mm)</td>
<td>LFIS200DV</td>
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</tbody>
</table>

**Return Pipe Size**

- C
- F

**Flow/BTU Package**

- None: 0
- Flow/BTU Package: F

**Strainers**

- None: 0
- On inlets: S

**Pump**

- Less Pump: LP
- Pump Assigned by Factory: --

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**Must Provide Following Pump Information to Factory to Select the Pump:**

1. Pump Manufacturer ___________________________
2. Their Part/Model # __________________________________
3. System Head Loss _____________________________
4. Required Flow to Maintain Recirculating Temperature ________________

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#### High Capacity

<table>
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<th>Valve</th>
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<th>Order Code</th>
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<td>4’ (100mm)</td>
<td>LFIS150DV</td>
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<td>6’ (150mm)</td>
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**Return Pipe Size**

- C
- F

**Flow/BTU Package**

- None: 0
- Flow/BTU Package: F

**Strainers**

- None: 0
- On inlets: S

**Pump**

- Less Pump: LP
- Pump Assigned by Factory: --

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**Must Provide Following Pump Information to Factory to Select the Pump:**

1. Pump Manufacturer ___________________________
2. Their Part/Model # __________________________________
3. System Head Loss _____________________________
4. Required Flow to Maintain Recirculating Temperature ________________

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1. Installation and adjustment of the IntelliStation are the responsibility of the owner and installer and must be done by qualified personnel in accordance with the manufacturer's instructions, and in compliance with all governmental requirements, building and construction codes and standards. The owner and user of the IntelliStation is responsible for selecting and installing the product in an appropriate water distribution system, proper sizing, maintaining proper water quality/condition, and deciding what temperature is safe and appropriate for the water distribution users and facility.

2. The IntelliStation provides user-directed control and monitoring of water distribution systems. It is the user's responsibility to select and maintain water temperatures that are safe and appropriate for the water system users and facility. The IntelliStation's Sanitization mode is intended for use as part of a user-directed, controlled and supervised protocol that has been safely and properly designed. Always read and follow the User Guide & Instruction Manual and all product warnings and labels, and comply with all governmental and safety requirements.

3. It is recommended to install IntelliStation as part of an ASSE 1017-compliant water distribution system, including point-of-use mixings valves that are listed to ASSE 1016, ASSE 1069, ASSE 1070 or ASSE 1071.


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*Less Pump*