

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## IntelliStation® 2 Digital Water Mixing Valve

### Features

- Cutting-edge valve design with improved reliability
- Lead Free\* construction to comply with lead free\* installation requirement
- Integral check valves on hot and cold inlets to prevent cross flow
- Full-color, touch screen display
- Programmable set point range 60°F to 180°F for wide range of temperature
- Control water temperature  $\pm 2^\circ\text{F}$  in accordance with ASSE 1017
- Includes single operating sensor for a mixed outlet temperature reading
- Configurable on-site without special equipment or software
- Passcode protected for security
- Programmable alerts
- Programmable schedule for setback of temperature
- Time Stamped error message history
- High temperature Sanitization mode to address waterborne bacteria
- In case of power failure, full cold valve flow for safety
- Mixed outlet temperature adjusted/monitored at the valve or remotely by BAS (Building Automation System) or by Wi-Fi or Ethernet connection to Nexa
- Natively supports BACnet MSTP and Modbus protocols
- Wi-Fi security protocols include WPA2-PSK and WPA2-PEAP-MSCHAPv2

### Now available: Nexa

- Provides monitoring and visibility of mixing valve assets across multiple campuses/locations
- Remote temperature control for Admin levels
- Sends system alerts by text and/or email
- Configurable alerts based on levels of safety and potential liability
- Two user levels for security
- Data logging and auditing
- Advanced charting capabilities of all datapoints
- Visibility into energy usage and load flow
- Energy savings through scheduled temperature setbacks
- Mixing valve security with 5-digit user access code

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

works with nexa



IS2075VL



Valve Only

Control Only

### NOTICE

Nexa application is only available for use in Canada and the United States of America.

### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

## Options

Call customer service if you need assistance with technical details.

SKU	Description	Contents
<b>Expanded Monitoring of Hot &amp; Cold Inlets and Mixed Outlet Temperatures and Pressures</b>		
6555031	IS2 Digital Temperature and Pressure Expansion Kit	3 Sensors and cable
<b>Extend the Distance Between Control and Valve</b>		
6555011	IS2 6-foot Cable Extension Kit	Temp, Encoder, and Actuator cables
<b>Keyence Clamp on Flow Meter Kits to Monitor Mixed Outlet and Recirculation Return Flows</b>		
6555002	IS2 Flow Meter Kit, Pipe Size ½" – ¾"	1 Sensor, power adapter, and cable
6555003	IS2 Flow Meter Kit, Pipe Size 1" – 1¼"	1 Sensor, power adapter, and cable
6555004	IS2 Flow Meter kit, Pipe Size 1½" – 2"	1 Sensor, power adapter, and cable
6555005	IS2 Flow Meter kit, Pipe Size 2½" – 3"	1 Sensor, power adapter, and cable
6555006	IS2 Flow Meter kit, Pipe Size 4" – 5"	1 Sensor, power adapter, and cable
<b>Convert Standard Sweat/Press Connection to NPT</b>		
6555007	IS2 Threaded Tailpiece KIT 075VL	2 Inlets and 1 Mixed outlet NPT/Union connection
6555008	IS2 Threaded Tailpiece KIT 100VL	2 Inlets and 1 Mixed outlet NPT/Union connection
6555009	IS2 Threaded Tailpiece KIT 150VL	2 Inlets and 1 Mixed outlet NPT/Union connection
6555010	IS2 Threaded Tailpiece KIT 200VL	2 Inlets and 1 Mixed outlet NPT/Union connection

Special made to order options available by request: Stainless Steel Shuttle

# Specification

<b>Connection Type</b>	Sweat/Press (Street)
<b>Maximum Test Pressure</b>	250 psi (1793 kPa)
<b>Maximum Operating Pressure</b>	200 psi (1034 kPa)
<b>Maximum Operating Pressure Differential at Inlets</b>	20% of Average Inlet Pressures with Maximum 20 psi (172 kPa)
<b>Temperature Adjustment Range<sup>1</sup></b>	60°F – 180°F (16°C – 82°C)
<b>Maximum Hot Water Supply Temperature</b>	200°F (93°C)
<b>Minimum Hot Water Supply Temperature<sup>2</sup></b>	2°F (1°C) above set point
<b>Hot Water Inlet Temperature Range</b>	120°F – 180°F (49°C – 82°C)
<b>Cold Water Inlet Range</b>	35°F – 80°F (2°C – 27°C)
<b>Maximum Cold Water Supply Temperature</b>	2°F (1°C) below set point
<b>Minimum Flow Demand</b>	0 gpm (0.0 lpm)
<b>Minimum Total Valve Flow Required<sup>3</sup></b>	3 gpm (11.36 lpm)
<b>Outlet Temperature Accuracy per ASSE 1017</b>	±2°F
<b>Outlet Temperature Accuracy at Recommended Minimum Flow Rates By Valve Size<sup>2</sup></b>	
<b>IS2075VL @ 3 gpm</b>	±2°F
<b>IS2100VL @ 3 gpm</b>	±2°F
<b>IS2150VL @ 3 gpm</b>	±2°F
<b>IS2200VL @ 5 gpm</b>	±2°F
<b>Listing /Compliance</b>	ASSE 1017, cUPC, NSF 61 & 372
<b>Weight</b>	
<b>IS2075VL</b>	19.0 lb (8.6 kg)
<b>IS2100VL</b>	19.1 lb (8.7 kg)
<b>IS2150VL</b>	24.06 lb (10.9 kg)
<b>IS2200VL</b>	34.19 lb (15.5 kg)
<b>Ambient Temperature</b>	32°F – 122°F (0°C – 50°C)
<b>Ambient Humidity</b>	0% – 90% RH noncondensing
<b>Environment</b>	Suitable for Indoor Use Only

<sup>1</sup> Low Temperature Setpoint cannot be less than the cold water temperature. For best operation, hot water should be at least 2°F above desired set point.

<sup>2</sup> With equal pressure.

<sup>3</sup> Minimum flow (3 gpm) when Intellistation 2 is installed at or near hot water source recirculating tempered water with a properly sized continuously operating recirculating pump.

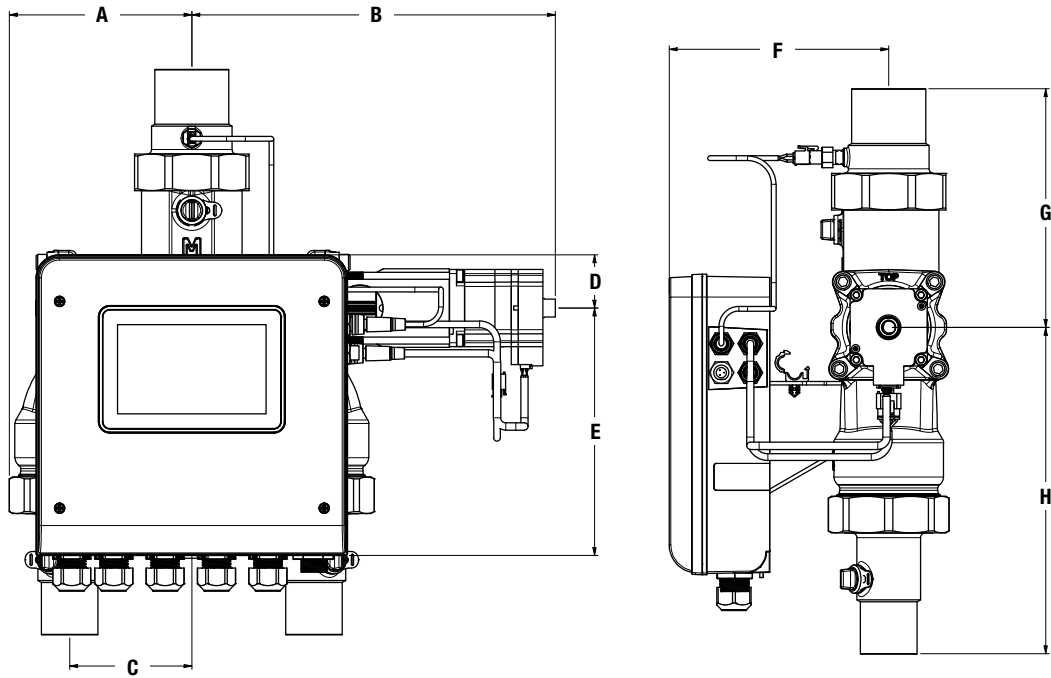
## Control Electrical Specification

<b>Input Power</b>	120/240 V (ac) ±10%, 50/60 Hz, 17 W
<b>Pump Relays (Motor Load)</b>	120/240 V (ac), 10/8 FLA, 50/48 LRA
<b>Alert Relay</b>	120/240 V (ac), 5 A, 1/6 hp
<b>Isolation Valve Relays</b>	24 V (ac/dc), 5 A, Resistive
<b>+5V Capacity</b>	25 mA maximum, Resistive, Class 2
<b>+20V Capacity</b>	20 mA maximum, Resistive, Class 2
<b>Actuator Load</b>	13 W
<b>Pump Proof Demand</b>	24 V (ac) or Short
<b>Operating Temperature</b>	32°F – 122°F (0°C – 50°C)
<b>Wi-Fi</b>	802.11 b/g/n, 2.4 GHz
<b>Listing /Compliance</b>	FCC/ISED, UL 60730-1, UL 60730-2-9, IEC 60730, BACnet Testing Laboratories (BTL), CE

## Capacity

Model	Inlet	Outlet	Valve Size	Pressure Drop (PSI)							Cv
				5	10	15	20	30	45	50	
IS2075VL	¾"	1"	¾"	34.1	54.8	65.5	76.4	92.3	114.3	125.3	17.3
IS2100VL	1"	1¼"	1"	50.5	73.4	91.6	103.8	131.1	159.8	170.6	23.2
IS2150VL	1½"	2"	1½"	77.8	112.2	135.7	156.0	200.6	245.0	251.4	35.5
IS2200VL	2"	2½"	2"	100.4	149.4	184.0	216.2	256.5	317.0	332.3	47.3
<b>Flow at Pressures (GPM) WITH CHECK</b>											

# Dimensions



Model	Inlet	Outlet	A	B	C	D	E	F	G	H
IS2075VL	3/4"	1"	4 1/2"	10 7/16"	3"	1 1/2"	7 1/16"	6 5/16"	6 1/16"	8 1/2"
IS2100VL	1"	1 1/4"	4 1/2"	10 7/16"	3"	1 1/2"	7 1/16"	6 5/16"	6 1/8"	8 15/16"
IS2150VL	1 1/2"	2"	5 1/4"	10 7/16"	3 1/2"	1 1/2"	7 1/16"	6 5/16"	6 13/16"	9 3/8"
IS2200VL	2"	2 1/2"	5 5/8"	10 7/16"	3 1/2"	1 3/16"	7 7/16"	6 5/16"	8 15/16"	10 15/16"

## Typical Specification

Lead free\* digital water temperature control and monitoring system shall feature full-color touchscreen interface which is configurable on location and does not require factory pre-programming. System shall control water temperature to  $\pm 2^{\circ}\text{F}$  in accordance with ASSE 1017 and resist "temperature creep" during periods of low/zero demand. The control shall be password protected and feature a user-adjustable outlet temperature range of  $60^{\circ}\text{F}$  to  $180^{\circ}\text{F}$  with high and low temperature alerts, and an approach temperature of  $2^{\circ}\text{F}$ .

System shall digitally control and monitor mixed outlet temperature. The control shall integrate with building automation systems (separate module not required) through BACnet and Modbus protocols and feature local and remote temperature alarms.

System shall provide monitoring and visibility of mixing valve assets across multiple locations/sublocations. System shall offer the ability to remote temperature control for admin levels. System shall be capable of sending system alerts by text and/or email and prioritizing alerts based on levels of safety and potential liability. System offers two user levels for security. The control shall be equipped with secure Wi-Fi protocols WPA2-PSK and WPA2-PEAP-MSCHAPv2.

System shall feature a user-set, high-temperature sanitization mode for thermal disinfection of bacteria and a programmable temperature set back feature to improve energy efficiency. System shall also feature high speed actuator with override feature. In the event of a power failure, system shall open full cold supply. In case of a loss of cold water, the system shall close hot water supply.

System shall be listed/approved to ASSE 1017, cUPC, NSF, UL 60730-1, UL 60730-2-9, IEC 60730, and BTL (BACnet Testing Laboratories).

System shall be a Powers IS2075VL, IS2100VL, IS2150VL, or IS2200VL.

### **⚠ WARNING**

Hot water poses a danger of burning or scalding above 110 degrees Fahrenheit. Setting the mixing valve to temperatures over 110 Fahrenheit without the protection of additional point of use mixing valves (such as Watts LFUSG-B or Powers LF480 series valves) could result in scalding at point of use fixtures such as faucets, sinks, tubs, showers, etc.

The Sanitizing function produces high temperature at all point-of-use fixtures (faucets, sinks, tubs, showers, etc.) and extreme care must be taken to mitigate against the risk of personal injuries such as burning or scalding, or other property damage. The Sanitization function must only be used for the purposes of sanitizing the system, and never during normal operations or use.

Sanitation times and temperatures should be chosen based on your company's Sanitization Protocol requirements, your plumbing systems characteristics, and sanitation validation data.

Ensure proper time is allotted for proper cooldown of water system after sanitization in order for temperatures to return to normal. Not giving enough time for this cooldown period can also result in scalding at point of use devices.

### **⚠ WARNING**

Intellistation 2 system provides user-directed control and monitoring of water distribution systems. The Sanitization mode is intended for use as part of a user-directed, controlled, and supervised protocol that has been safely and properly designed.

It is recommended to install the Intellistation 2 system as part of a ASSE compliant water distribution system, including point-of-use mixing valves. Installation and adjustment of the Intellistation 2 system are the responsibility of the owner and installer and must be done by qualified personnel in accordance with the manufacturer's instructions, and complying with all governmental requirements, building and construction codes and standards. The owner and user of the Intellistation 2 system are 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.

Always read and follow Installation, Operation, and Maintenance Manual and all product warnings and labels, and comply with all governmental and safety requirements.

### **NOTICE**

A copy of the applicable limited warranty and disclaimers is available at [www.PowersControls.com](http://www.PowersControls.com).

# POWERS™

A **WATTS** Brand

