



A WATTS Brand

# S59-5000 Series Navigator® Digital Mixing Valve

- Adjustable set point within temperature range
- Accurate temperature control to within  $\pm 3^{\circ}\text{F}$
- Easy installation and serviceability
- 4 programmable thermal disinfection options to kill Legionella
- 4 relays for alarms and recirculation controls
- Easy-to-use digital interface with data logging, alarming, and status indication
- Automatic anti-clog function
- Positive shutoff of flow in the event of cold supply line failure
- Valve Features:
  - Lead-free brass design
  - Low-lead brass, chrome-plated ball
  - EPDM hydraulic seals and PTFE seat ring
  - Factory assembled and tested
  - Check valves on inlets
  - Dirt and lime resistant
  - NPT thread connections
  - Dial thermometer gauge at the outlet
- Controller Features:
  - Daily ball rotation cycle to flush debris

## Mounting

DIN bar and wall anchors provided for mounting the controller.

## Product Compliance

### Certified for compliance with the following standards:

- ASSE 1017 – Performance requirements for temperature actuated mixing valves for hot water
- CSA B125.3 – Plumbing fittings
- ANSI/NSF/CAN 372 – Drinking water system components - lead content



Model S59-5100 shown

## Valve Specifications

### Maximum Operating Pressure

150 PSI (1030 kPa)

### Maximum Inlet Temperature

212°F (100°C)

### Adjustment Temperature Range

68–185°F (20–85°C)

### Set Point

113°F (45°C)

### Disinfection Temperature Range

104–185°F (40–85°C)

### Ambient Temperature Range

33–120°F (1–50°C)

### Hot Water Approach Temperature

2° from valve set point

## Technical Specifications

### Electric Supply

24 VAC, 50/60 Hz

### Actuator Power Consumption

6VA

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## Flow Capacities – GPM<sup>1</sup>

| Model    | Min <sup>2</sup><br>Flow | Pressure Drop – PSI |     |     |     |     |     |     |     |     |
|----------|--------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|          |                          | Cv\ΔP               | 5   | 7.5 | 10  | 15  | 20  | 30  | 45  | 60  |
| S59-5075 | 2                        | 9                   | 20  | 25  | 29  | 35  | 41  | 50  | 61  | 70  |
| S59-5100 | 3                        | 19                  | 43  | 53  | 61  | 75  | 87  | 106 | 130 | 150 |
| S59-5125 | 4                        | 24                  | 53  | 65  | 75  | 91  | 106 | 129 | 158 | 183 |
| S59-5150 | 7                        | 42                  | 95  | 116 | 134 | 164 | 189 | 232 | 284 | 328 |
| S59-5200 | 9                        | 46                  | 102 | 125 | 145 | 177 | 204 | 250 | 307 | 354 |

## Flow Capacities – L/Min<sup>1</sup>

| Model    | Min <sup>2</sup><br>Flow | Pressure Drop – Bar |     |     |     |     |     |     |      |      |
|----------|--------------------------|---------------------|-----|-----|-----|-----|-----|-----|------|------|
|          |                          | Kv\ΔP               | 0.3 | 0.5 | 0.7 | 1.0 | 1.4 | 2.1 | 3.1  | 4.1  |
| S59-5075 | 8                        | 8                   | 77  | 94  | 109 | 133 | 154 | 189 | 231  | 267  |
| S59-5100 | 12                       | 17                  | 164 | 201 | 232 | 284 | 328 | 402 | 493  | 569  |
| S59-5125 | 17                       | 20                  | 200 | 245 | 283 | 346 | 400 | 489 | 599  | 692  |
| S59-5150 | 25                       | 37                  | 358 | 439 | 506 | 620 | 716 | 877 | 1074 | 1240 |
| S59-5200 | 33                       | 39                  | 387 | 474 | 547 | 670 | 774 | 948 | 1160 | 1340 |

<sup>1</sup> Full Port

<sup>2</sup> Recirculation system only (refer to diagram on page 3). When properly installed near the hot water source with a continuously operating recirculation pump, the valve will maintain a set temperature with a 0 gpm draw from the plumbing system when the recirculation flow rate is greater than or equal to the valve size minimum flow rating.

## Models (Must select one)

| Model    | Description                                      |
|----------|--|
| S59-5075 | Digital Valve with 3/4" NPT Thread Connections   |
| S59-5100 | Digital Valve with 1" NPT Thread Connections     |
| S59-5125 | Digital Valve with 1-1/4" NPT Thread Connections |
| S59-5150 | Digital Valve with 1-1/2" NPT Thread Connections |
| S59-5200 | Digital Valve with 2" NPT Thread Connections     |

Engineer's Approval \_\_\_\_\_

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Page 2 of 4

2/5/2024

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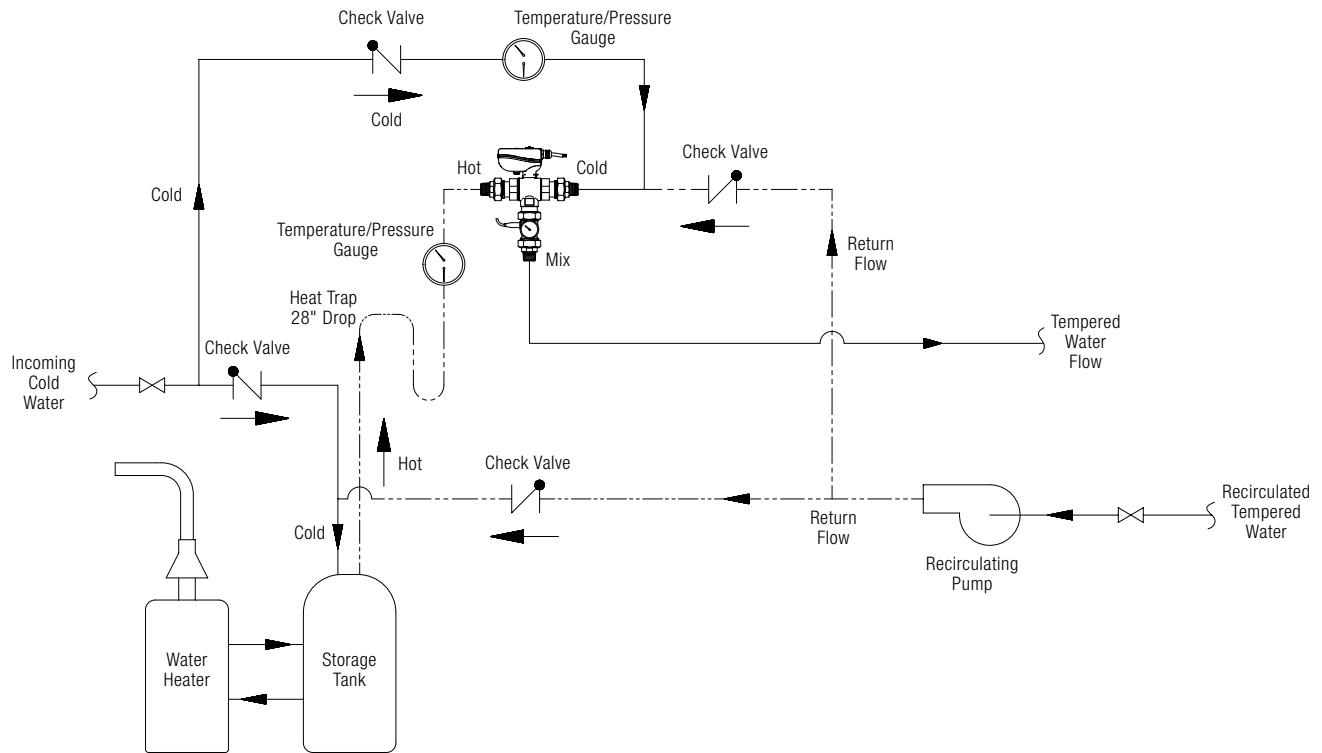
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## Plumbing Diagram



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Page 3 of 4

2/5/2024

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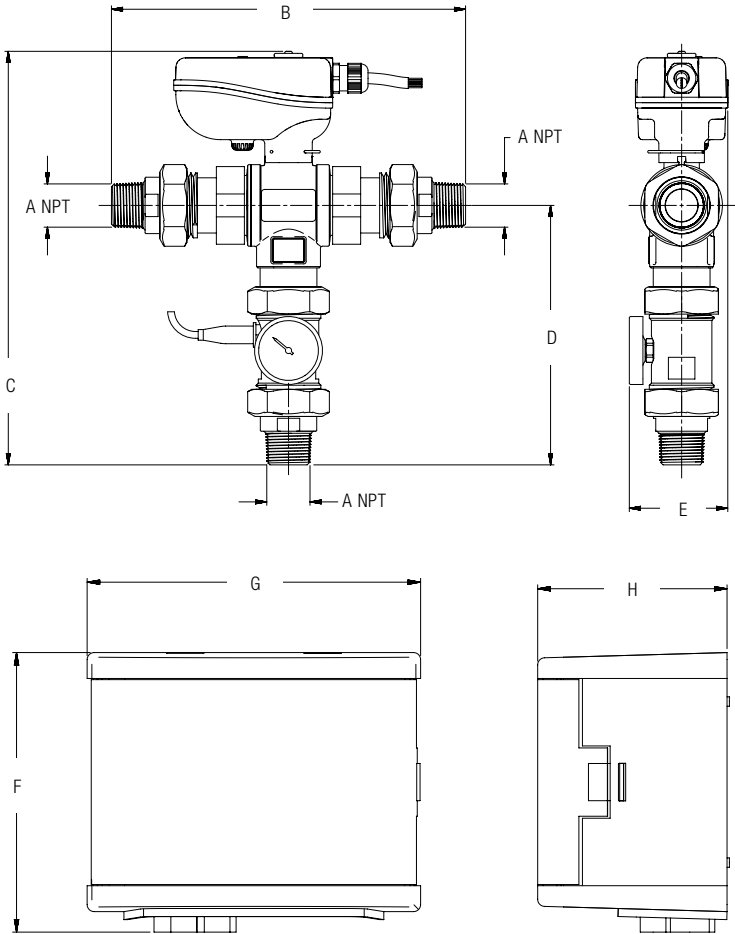
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## Mounting Dimensions

| Model    | Inlets/Outlet | Dimensions - Inches (mm) |                    |                   |                  |               |               |               | Weight <sup>1</sup><br>lb (kg) |
|----------|---------------|--------------------------|--------------------|-------------------|------------------|---------------|---------------|---------------|--------------------------------|
|          | A NPT         | B                        | C                  | D                 | E                | F             | G             | H             |                                |
| S59-5075 | 3/4           | 5-3/4"<br>(146.1)        | 9-5/8"<br>(244.5)  | 5-5/8"<br>(142.9) | 2-7/8"<br>(73)   | 6"<br>(152.4) | 7"<br>(177.8) | 4"<br>(101.6) | 7.2<br>(3.27)                  |
| S59-5100 | 1             | 10-1/4"<br>(260.4)       | 12"<br>(304.8)     | 7-1/2"<br>(190.5) | 2-7/8"<br>(73)   | 6"<br>(152.4) | 7"<br>(177.8) | 4"<br>(101.6) | 12.4<br>(5.62)                 |
| S59-5125 | 1-1/4         | 10-1/2"<br>(266.7)       | 12-1/8"<br>(308)   | 7-5/8"<br>(193.7) | 2-7/8"<br>(73)   | 6"<br>(152.4) | 7"<br>(177.8) | 4"<br>(101.6) | 12.4<br>(5.62)                 |
| S59-5150 | 1-1/2         | 14"<br>(355.6)           | 14-5/8"<br>(371.5) | 9-3/4"<br>(247.7) | 3-1/2"<br>(88.9) | 6"<br>(152.4) | 7"<br>(177.8) | 4"<br>(101.6) | 25.4<br>(11.52)                |
| S59-5200 | 2             | 14-1/8"<br>(358.8)       | 14-3/4"<br>(374.7) | 9-3/4"<br>(247.7) | 3-1/2"<br>(88.9) | 6"<br>(152.4) | 7"<br>(177.8) | 4"<br>(101.6) | 26.4<br>(11.97)                |

<sup>1</sup> Includes controller weight—2.7 lb (1.22 kg) and actuator weight—1.5 lb (0.68 kg)



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