

**APPROXIMATE DIMENSIONS**  
**A = 8'-0" B = 3'-5" C = 1'-11" D = 4"**

\*Image not to scale\*

- Digital Mixing Valve with 3" inlet ball and check valves, 3" Outlet with ball valve and integral RTD Sensor
- Additional Integral RTD Sensors for three critical measurement points; Inlet Hot Water, Inlet Cold Water, and Return Water temperature
- Additional Integral Pressure Sensors for two critical measurement points; Inlet Hot Water and Inlet Cold Water
- 3" inlets, 3" outlet (76.2mm X 76.2mm)
- 0.25 GPM\*\* (0.95 L/min) minimum flow capacity
- Maximum operating pressure: 125 PSIG (860KPA)
- Controls water temperature to  $\pm 2^\circ\text{F}$  in accordance with ASSE 1017
- Controls water temperature to  $\pm 2^\circ\text{F}$  at the NV-300-LF during times of low/no system demand
- Automatic Hot/ Cold Water shutoff upon cold/ hot water inlet supply failure
- User programmable for on-site configuration, high-temperature sanitization mode, and high/ low temperature alarm
- User adjustable settings at the controller or remotely through a Building Automation System/ Building Management System
- Six standard BMS Protocol Languages on-board communication
- Cloud based data logging and monitoring capabilities
- User programmable set point range between 65°F and 180°F
- Displays outlet temperature with options to display 4 additional temperature inputs, 1 flow channel input, & 1 configurable flow or pressure
- UL Listed 120V plug in power supply with 6' cord
  - Option for Backup Uninterruptable Power Supply in the event of primary power loss w/ approx. two hours run time
- Factory assembled and tested



**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.Ca.gov](http://www.P65Warnings.Ca.gov)

**Valve assembly is compliant with Low-Lead requirements of wetted surface area containing less than 0.25% lead by weight. All other fittings and components, the sum total of which comprise the wetted surface of this product contains less than one quarter of one percent of lead by weight.**

**\*\*NOTE:** The valve will maintain temperature with 0.25 GPM flow from the domestic hot water loop when properly installed near the hot water source with a continuously operating recirculation pump.

See Page 3 for Piping Method Detail & Flow Capacity Chart, Page 4 for Options

|                            |                  |
|----------------------------|------------------|
| <b>Engineer's Approval</b> | Job # _____      |
|                            | Arch/Eng. _____  |
|                            | Contractor _____ |

Note: The models shown represent Leonard Products which are believed to be equivalent in type and function to items specified. Leonard Valve Company is not responsible for errors or omissions due to differences in interpretations of information provided.

NOTE: Flow rates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.

**CAUTION!** All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than as indicated.

**Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.**

Valve assembly is ASSE 1017 Certified



Valve electronics are UL Certified



1360 Elmwood Avenue, Cranston, RI 02910 USA

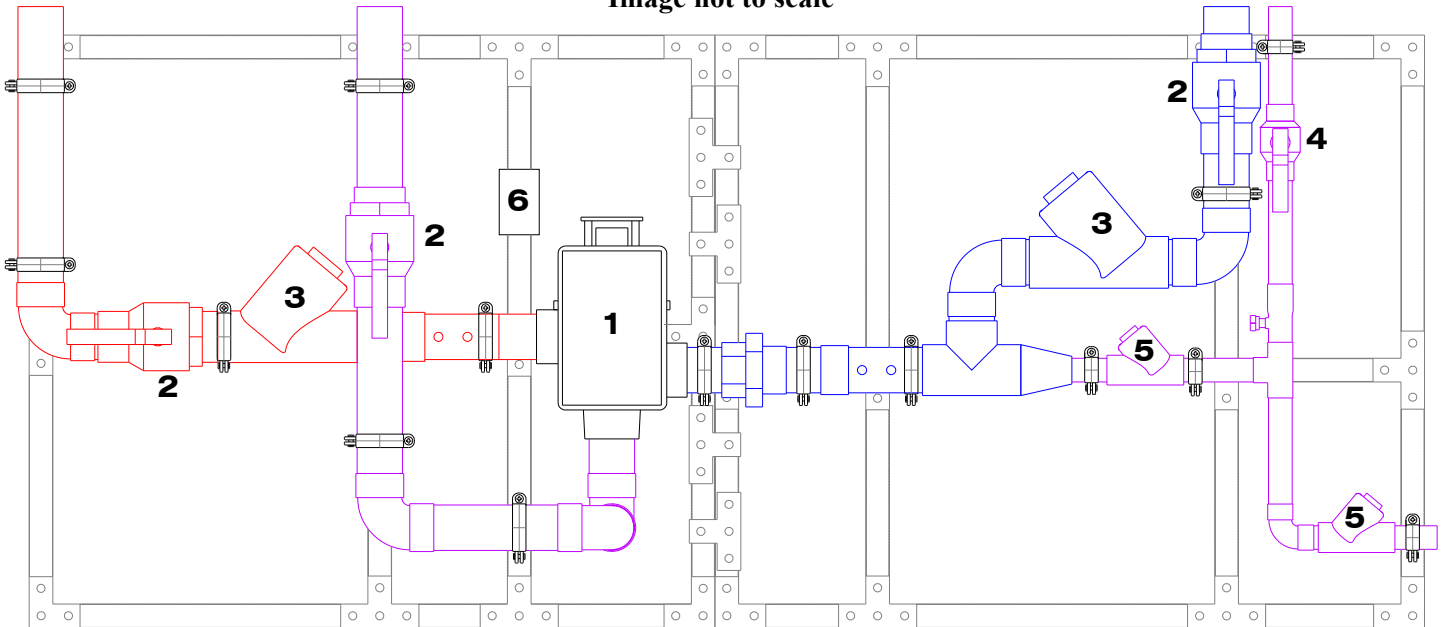
Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

Web Site: <http://www.leonardvalve.com>

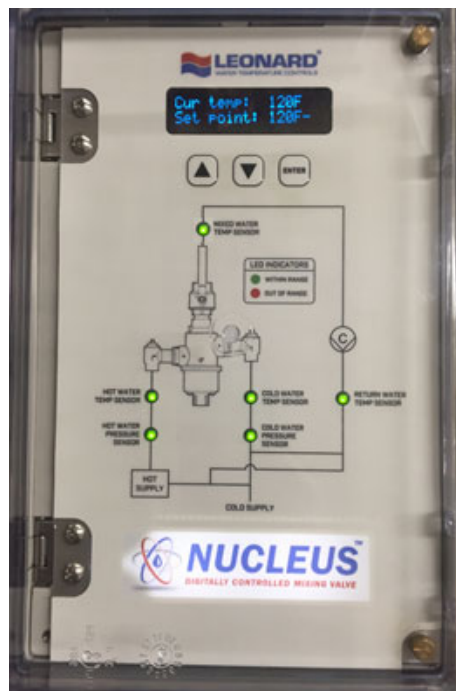
# LEONARD MODEL NV-300-LF-IF-R150 DIGITAL TEMPERATURE RECIRCULATION MANIFOLD

\*Image not to scale\*



- |                               |                                |
|-------------------------------|--------------------------------|
| 1. NUCLEUS VALVE AND CONTROLS | 4. 1-1/2" FULL PORT BALL VALVE |
| 2. 3" FULL PORT BALL VALVE    | 5. 1-1/2" CHECK VALVE          |
| 3. 3" CHECK VALVE             | 6. GFCI ELECTRICAL OUTLET      |

## NUCLEUS VALVE CONTROL BOX



1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

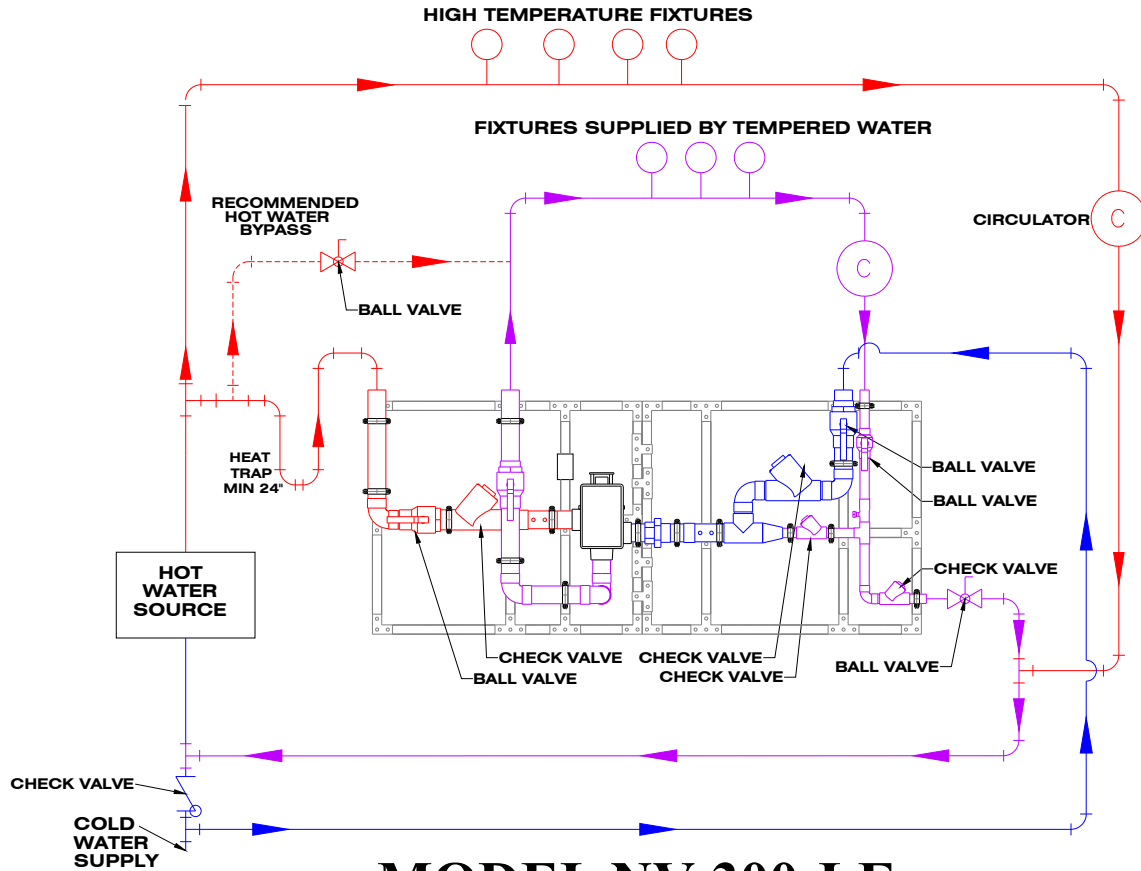
Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

Web Site: <http://www.leonardvalve.com>

# MODEL NV-300-LF-IF-R150

## 1-1/2" RETURN PIPING METHOD W

\*Image not to scale\*



### MODEL NV-300-LF

#### Flow Capacity

| MINIMUM FLOW (GPM) | PRESSURE DROP |     |     |     |     |     |     |      |      |      | PSI   |
|--------------------|---------------|-----|-----|-----|-----|-----|-----|------|------|------|-------|
|                    | 5             | 10  | 15  | 20  | 25  | 30  | 35  | 40   | 45   | 50   |       |
| (l/min)            | .3            | .7  | .97 | 1.4 | 1.7 | 2.1 | 2.4 | 2.8  | 3.1  | 3.4  | BAR   |
| 0.25**             | 97            | 135 | 163 | 191 | 213 | 235 | 262 | 288  | 296  | 303  | GPM   |
| (.95)              | 366           | 510 | 616 | 722 | 805 | 888 | 990 | 1089 | 1119 | 1145 | l/min |

NOTE: Flowrates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.



1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

Web Site: <http://www.leonardvalve.com>

# OPTIONS AND ACCESSORIES

\*ANY OPTION CHOSEN WILL ALTER PRICING – CONTACT LEONARD VALVE COMPANY FACTORY\*

- RDU** Remote Display Unit
- SCO** Solenoid Control Option
- BPS** Backup Power Supply Unit
- DB** Daughter Board
- CUPC** Certified Valve Assembly
- R200** RP2, Return piping 2”, replaces “R150”



## **RDU – Remote Display Unit**

- Activated when Nucleus relay switch is in alarm mode
- Alarm Delay Module with yellow, red, green LED indicators
- UL listed 100-240VAC power supply with 10’ cord
- Unit includes 9V NiMH rechargeable battery back up
- User selectable timer
- VELCRO mounting strips provided
- Recommended maximum distance from controller to RDU is 500’



## **SCO – Solenoid Control Option**

- For use with Nucleus relay switch
- Galvanized box with dimensions 6” Wide x 6” High x 4” Deep
- Solid state relay and terminal strip mounted and wired
- UL listed 100-240VAC power supply with 10’ cord
- For either normally open or normally closed operation
- For use with 24-240 VAC solenoids only



## **BPS – Backup Power Supply**

- Uninterruptable Power Supply with up to 2 hours run time in case of primary power loss

## **DB – Daughter Board Option**

- To display up to 4 additional temperature inputs, 1 flow channel input, and 1 configurable flow or pressure input channel.
- Choose one or more below

     **T5**

     **T6**

     **T7**

     **T8**

     **F1**

     **F2** or      **P3**

## **CUPC – Certified Valve Assembly**

- Special wafer check valves included
- For use where cUPC certification is necessary

\*ANY OPTION CHOSEN WILL ALTER PRICING – CONTACT LEONARD VALVE COMPANY FACTORY\*

Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.



1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

Web Site: <http://www.leonardvalve.com>