



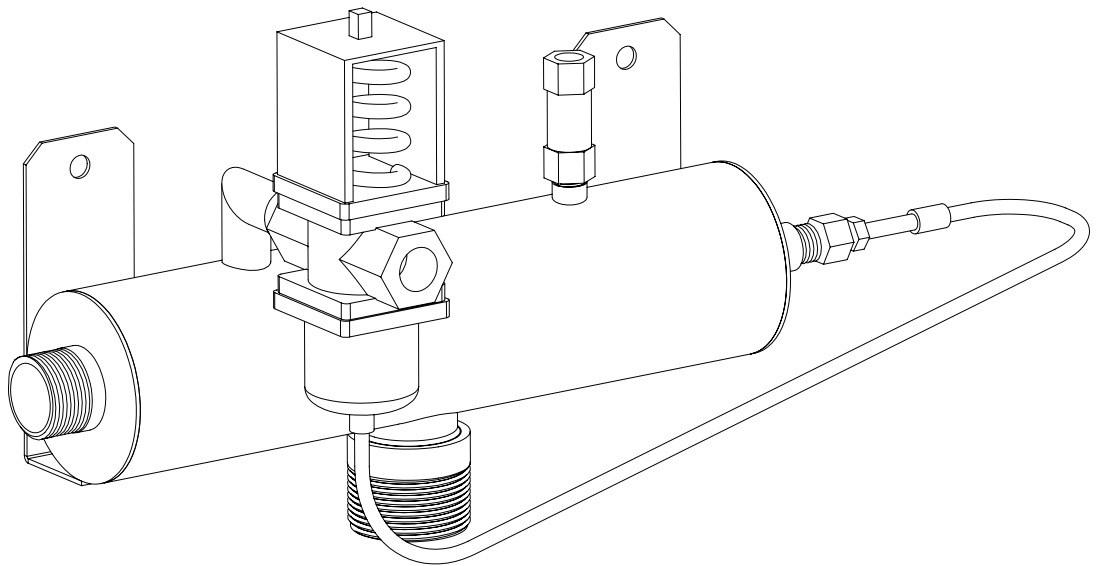
*“Read and Save These Instructions”*

## *DCT-927 Drain Tempering Kit*

### **Installation Instructions**

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### **Operation and Maintenance Manual**



*Our results are comforting*



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### **Table of Contents**

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### **To the user of PURE Humidifier Co.'s DCT-927 Drain Tempering Kit**

We at PURE Humidifier Co. thank you for choosing one of our quality products. PURE Humidifier Co. models are of simplicity to install, operate and maintain. However, they must be maintained to provide maximum operating efficiency.

### **The PURE Humidifier Co. Warranty**

PURE Humidifier Co. guarantees its products to be free from defects in material and workmanship for a period of two years from the date of shipment; provided the product is properly installed, serviced, and put into the service for which it was intended.

PURE Humidifier Co. is obligated under the terms of this warranty to the repair or replacement of the defective part(s), excluding any labor charges, or to refund the purchase price at our option. PURE Humidifier Co. assumes no obligation for incidental or consequential damages. The above provisions are in lieu of all other guarantees, obligations, liabilities or warranties, expressed or implied.

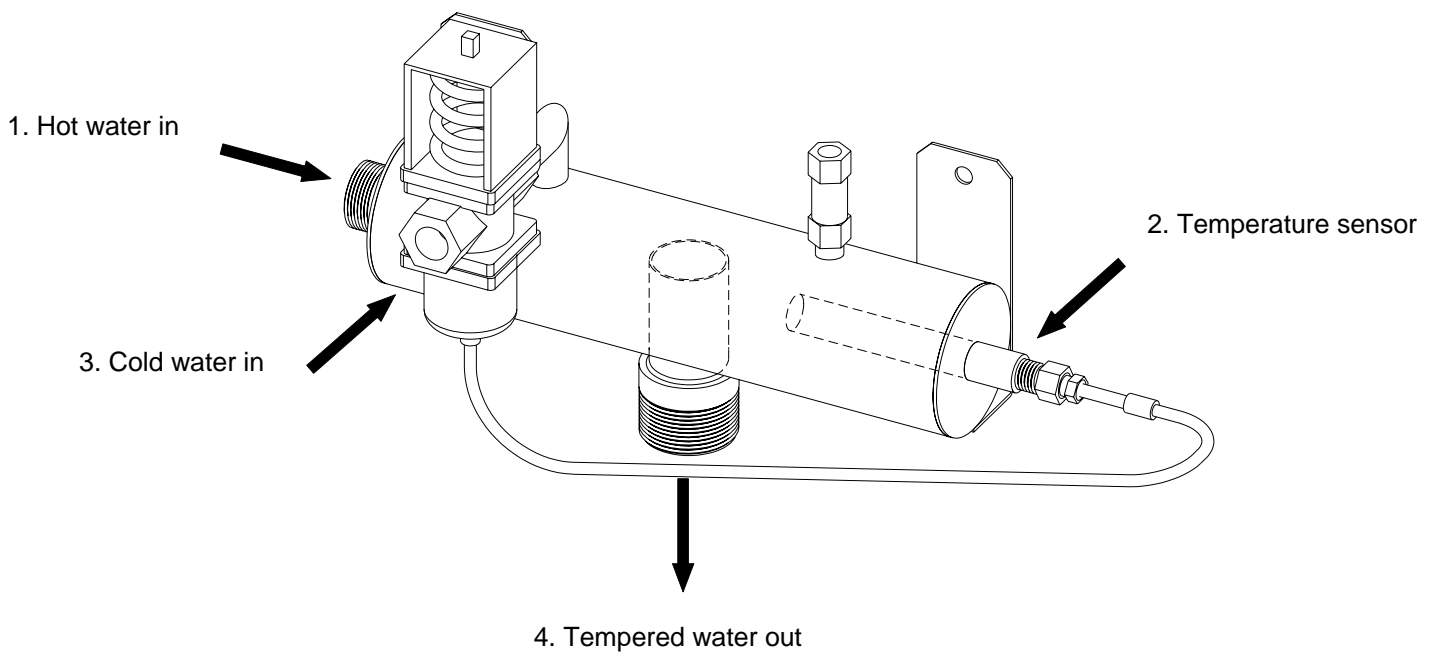
## SYSTEM DESCRIPTION

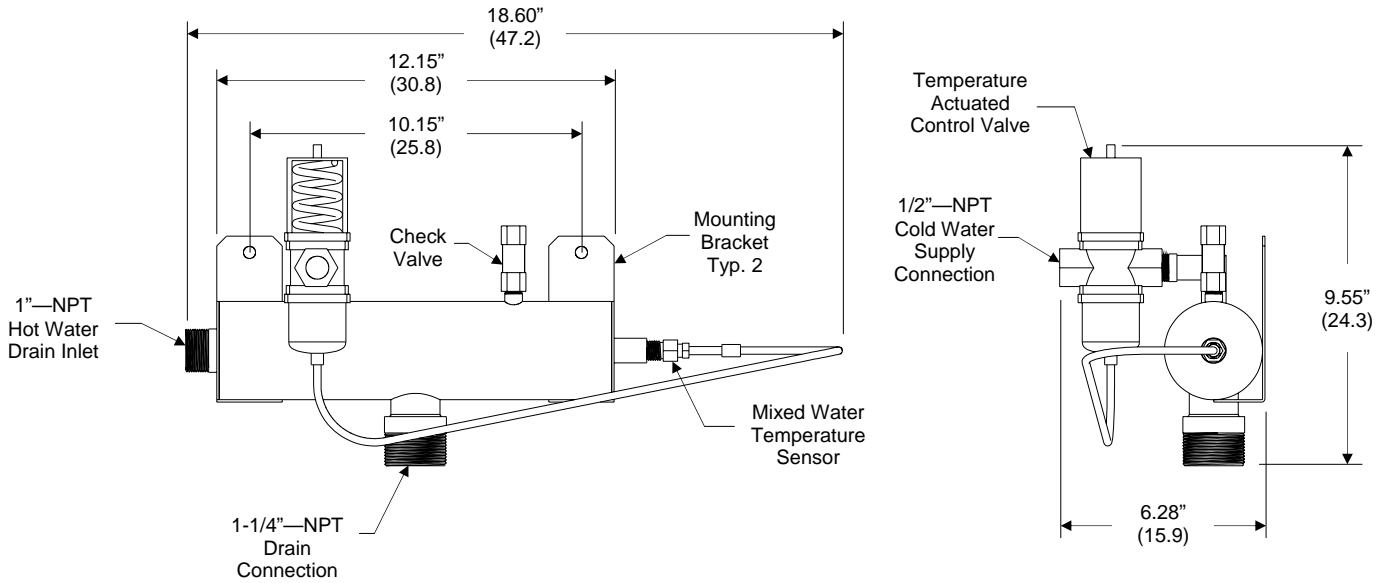
The DCT-927 drain tempering kit is designed to provide drain water temperature of less than 140°F. The DCT-927 can be used with all PURE Humidifier Co. products. NOTE: When utilized with any of PURE's humidifiers, the condensate return must be a vented gravity drain.

The system utilizes a temperature sensor to sense the water temperature and open the temperature-actuated cold water mixing valve. Since the system is temperature-actuated, no power supply is required.

## SYSTEM OPERATION

1. Hot water from the humidifier enters the drain tempering kit through the side mounted 1" NPT hot water/condensate connection.
2. The side mounted mixed water temperature sensor senses a water temperature greater than 140°F and opens the temperature actuated control valve.
3. Cold water enters through the top mounted temperature actuated control valve and tempers the hot water.





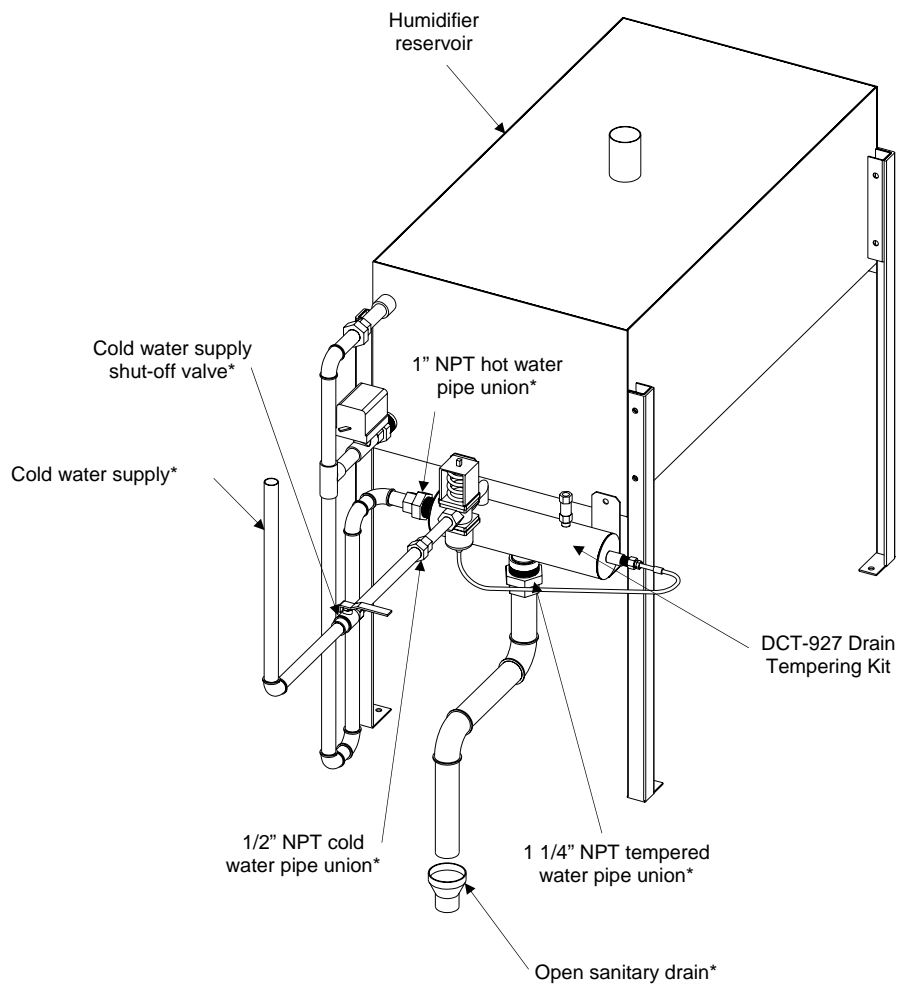
**DCT-927 Capacities**

|                     | Hot Water In     | Cold Water In    | Tempered Water Out |
|---------------------|------------------|------------------|--------------------|
| Flow Rate GPM (L/m) | 6 gpm (22.7 L/m) | 6 gpm (22.7 L/m) | 12 gpm (45.4 L/m)  |
| Temperature °F (°C) | 212°F (100°C)    | 70°F (21°C)      | 140°F (60°C)       |

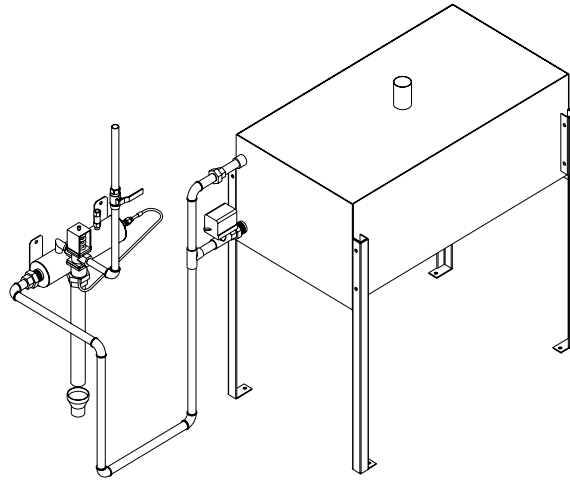
The information above is based on one humidifier feeding the drain tempering kit.  
Cold water supply pressure should be 35 psi (2.4 Bar) minimum and 95 psi (6.6 Bar) maximum.

**SPECIFICATIONS**

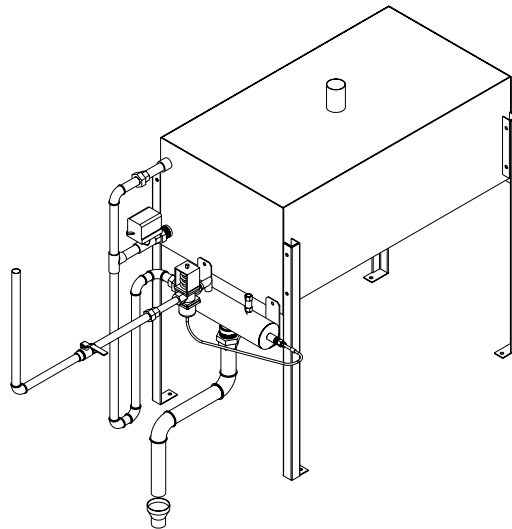
Sensor range: 115-180° F (46-82°C), factory set at 135° F (57°C),  
 Construction: Chamber: Stainless Steel  
 Temperature Sensor: Copper  
 Water Supply Valve: Bronze



\* Field supplied by others



**Remote Mounting**



**Direct Mounting**



## *"Installation Instructions"*

### **Mounting**

1. Mount the DCT-927 Drain Tempering Kit as shown on pages 3 & 4.

### **Cold Water Supply**

2. Pipe a 1/2" NPT cold water supply line to the temperature actuated control valve.
3. A minimum water pressure of 35 psi (2.4 Bar) but not more than 95 psi (6.6 Bar) is required.
4. A cold water supply pipe union before the drain tempering kit is recommended.
5. A cold water supply shut-off valve before the pipe union is also recommended.

### **Hot Water/Condensate**

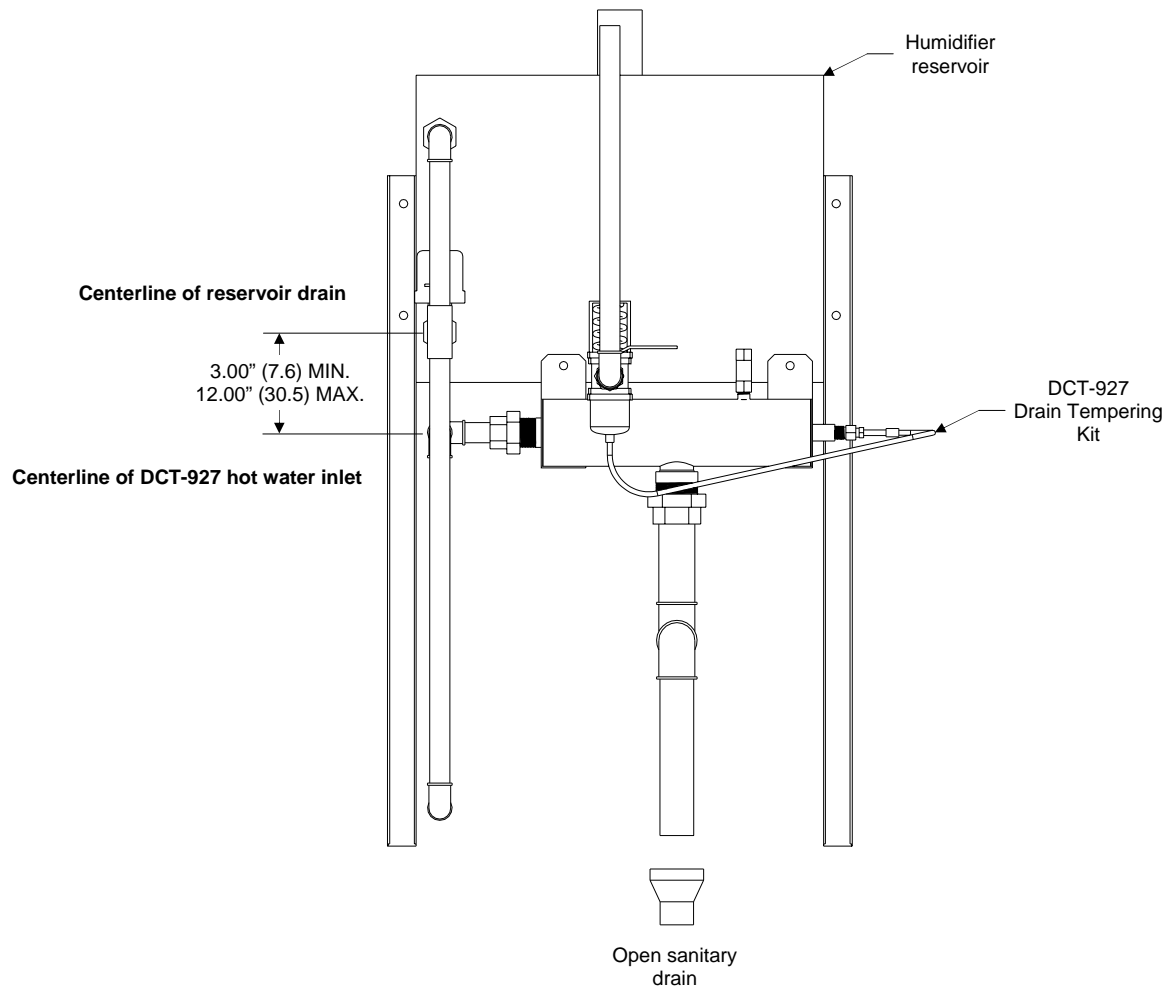
6. Pipe hot water/condensate to the 1" NPT side inlet connection.
7. Ensure that the line is pitched at least 1/8" per foot to the connection.
8. A hot water pipe union before the drain tempering kit is recommended.

### **Tempered Water Drain Connection**

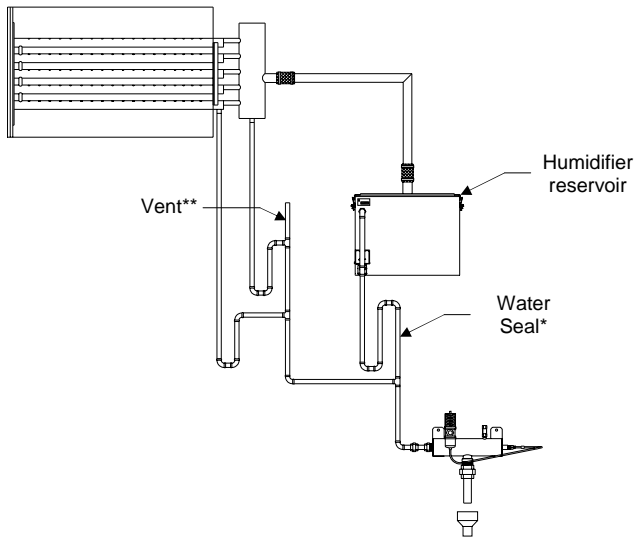
9. Pipe a 1 1/4" line from the drain tempering kit to an open floor drain with at least 1/8" pitch per foot.
10. Ensure there is at least a 1" (2.54 cm) air gap between the the drain connection and open floor drain.
11. A tempered water pipe union near the drain tempering kit is recommended.

### **NOTE:**

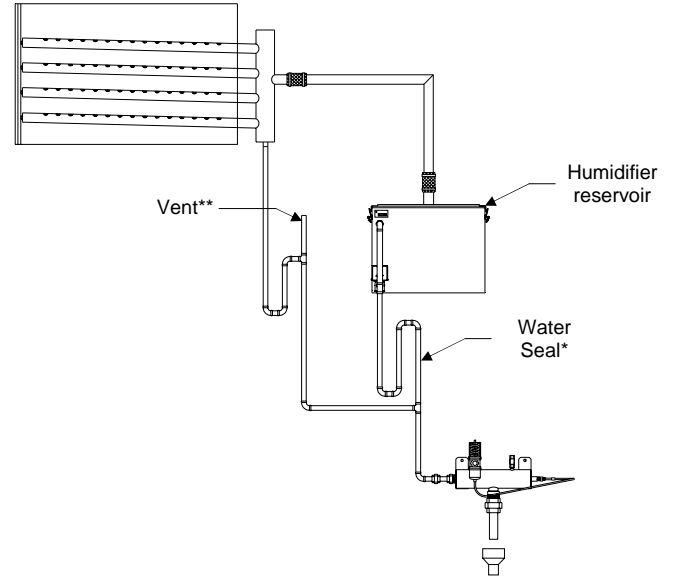
The DCT-927 hot water inlet should be at least 3" (7.6 cm) below the humidifier reservoir drain outlet but not more than 12" (30.5 cm). See page 6 for detail.



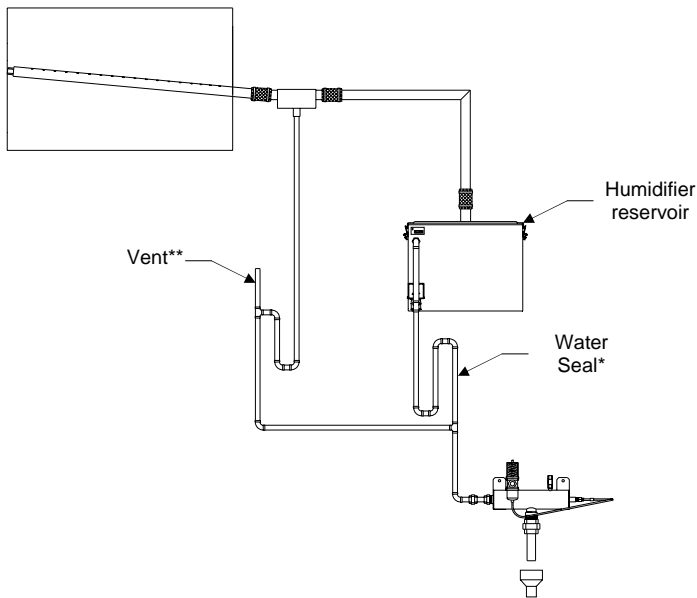




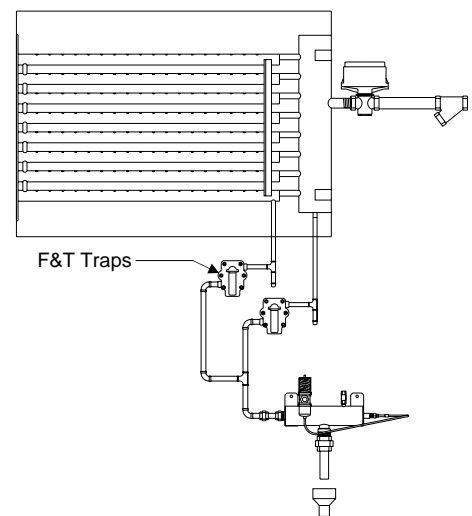
**Insty-Pac Tube Assembly Installation**



**Fast-Pac Tube Assembly Installation**



**Single Tube Drain Tee Installation**



**Live Steam Installation**

\* Reference the humidifier and tube assembly O&M's for installation, plumbing and piping details.  
 \*\* Vent must be installed for proper system operation.



*“Maintenance & Troubleshooting”*

**PURE Humidifier Co. “DCT-927” Maintenance Instructions**

The DCT-927 Drain Tempering Kit is designed to provide the best possible operation with minimum maintenance. However, the unit should be inspected and placed on a dedicated maintenance schedule to ensure continued operation. **PURE Humidifier Co. recommends that the following items be inspected and/or cleaned on a minimum basis of twice a year.** If excessive mineral build-up occurs, the maintenance schedule should be increased.

**Preventative Maintenance**

- 1. Using a screwdriver, pry up the fill valve spring and allow cold water to flush out the reservoir.

**Extended Maintenance**

- 1. Shut off cold water supply to the DCT-927 Drain Tempering Kit.
- 2. Disconnect the cold, hot, and tempered water connections.
- 3. Gently tap the drain tempering kit body with a screwdriver handle or similar tool to dislodge any mineral build-up.
- 4. Add water, shake, and drain the unit.
- 5. If the temperature sensor bulb has heavy mineral build-up use an abrasive pad to clean.
- 6. Reconnect cold, hot, and tempered water connections and open cold water supply.

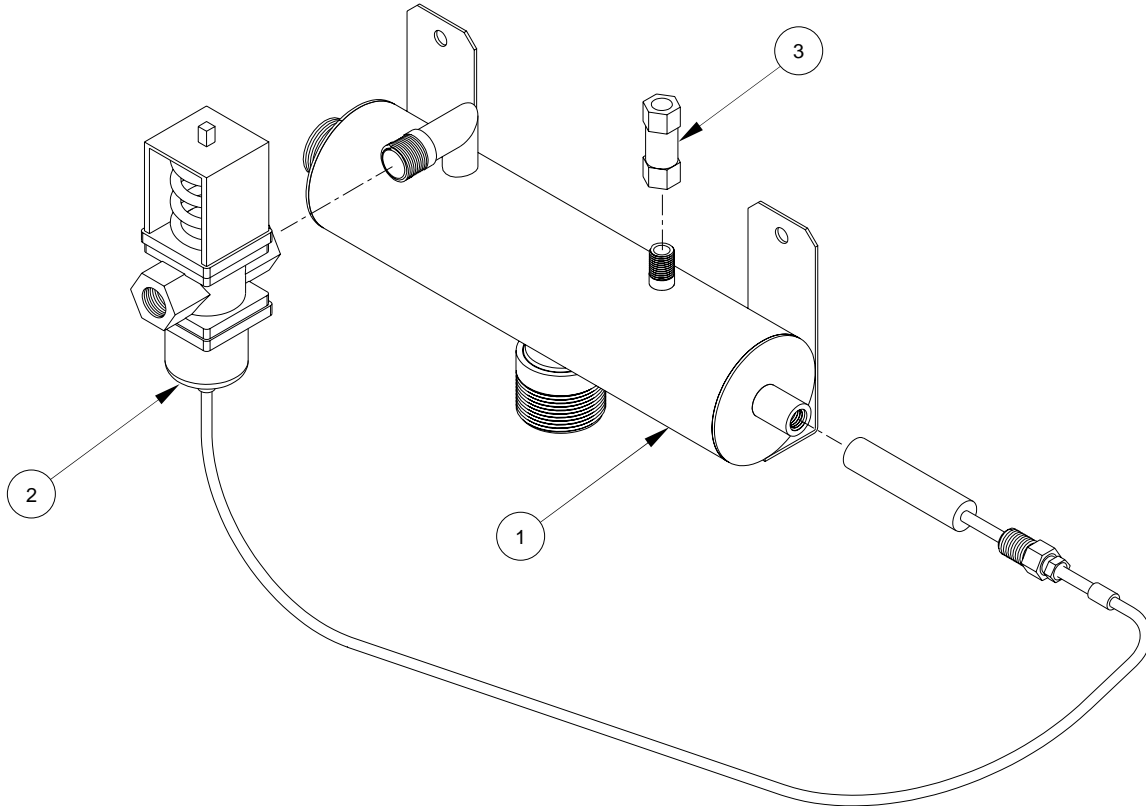
**Troubleshooting**

| <u>Problem</u>                    | <u>Possible Cause</u>                     | <u>Recommended Action</u>  |
|-----------------------------------|---|--|
| Tempered water is not under 140°F | Mineral build-up on temperature sensor    | Clean temperature sensor with an abrasive pad  |
|                                   | Temperature sensor setpoint set too high  | Adjust temperature setpoint to 135°F or lower  |
|                                   | Faulty fill valve                         | Replace valve assembly   |
|                                   | No water pressure                         | Check water supply   |
|                                   | Steam is entering the drain tempering kit | Check the water seal heights on the humidifier and tube assembly and ensure they are to the proper height (reference humidifier and tube assembly O&M's) |



**PURE**  
Humidifier

*“Parts List”*



| Item No. | Description                                 | Part No. |
|----------|---|----------|
| 1        | Drain tempering kit body                    | DCT-BDY  |
| 2        | Temperature actuated control valve assembly | 15988    |
| 3        | Check valve                                 | 15989    |



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