TECHNICAL INSTRUCTIONS

A Watts Water Technology Company

AERCO SR300 Scale Reducer
Installation & Operation Instructions

This document covers the installation and operation of the SR300 Scale Reduction System. It applies to all of the following installation options:

SR300 Scale Reducer pre-installed on unit	
SR300 Scale Reducer Retrofit (wall mounted)	**Part # 24470**
SR300 Scale Reducer Retrofit on Support Stand Part # 33210	**Part # 24466**

Latest Update: 07/29/2015

DISCLAIMER

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A Watts Water Technology Company

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(Mon–Fri, 8am-5pm EST)
1 (800) 526-0288

1. INTRODUCTION

This document provides instructions for installing and operating the optional AERCO model SR300 Scale Reducer Commercial Treatment System on Innovation and ReCon water heaters.

The AERCO Scale Reducer provides an economical and maintenance free treatment of hard water installations. When combined with AERCO's scale-resistant water heater design, it not only prevents new scale build-up but also eliminates existing scale build-up. Furthermore, the combination solution will keep the scale off of hot water piping, valves, recirculation lines and pumps, shower heads and other plumbing fixtures downstream of the heater.

The AERCO Scale Reducer uses a range of electronic frequencies to remove and eliminate lime-scale deposits. In extreme hard water installation areas, this will prolong water heater life and keep plumbing lines/fixtures clean without any maintenance requirements.

AERCO Water Heater are design engineered to be scale resistant, but in regions with hard water (>3.5 grains/gal), the Scale Reducer provides an added measure of protection against scale formation, which negatively affects product efficiency otherwise.

2. PREPARATION

2.1 Tools Required

- # 2 Phillips head and flat blade screwdrivers
- Pliers & Wire cutter/stripper
- Drill and drill bits

2.2 SR300 Contents

Units delivered with a pre-installed Scale Reducer include all of the parts below, with the possible exception of the optional floor mounted Support Stand.

If you purchased the SR300 unit as a retrofit, it is supplied with the following:

- 10 foot power cord, pre-wired to the Control Box
- Two spools of 18 Gauge signal (wrap) wires, 76 ft. and 175 ft. long
- Wire connectors
- Wire ties
- Mounting screws
- Optional – SR300 floor mounted Support Stand with mounting screws

2.3 Overview

To install the AERCO SR300 Scale Reducer if the unit is not prewired, you will tightly wrap signal wire around two sections of pipe:

- A section of the inlet piping using the 175 ft. spool.
- A section of the recirculation loop piping using the 76 ft. spool.

Both wrapped wires will then be connected to the SR300 Control Box. The Control Box is then mounted to the wall or the optional SR300 floor mounted Support Stand.

3. INSTALLING WIRING ON INNOVATION UNITS

The instructions in sections 3.1 and 3.2 *ONLY* if you are retrofitting the SR300 Scale Reducer on Innovation and ReCon units that were ***NOT*** delivered with the SR300 Scale Reducer pre-installed.

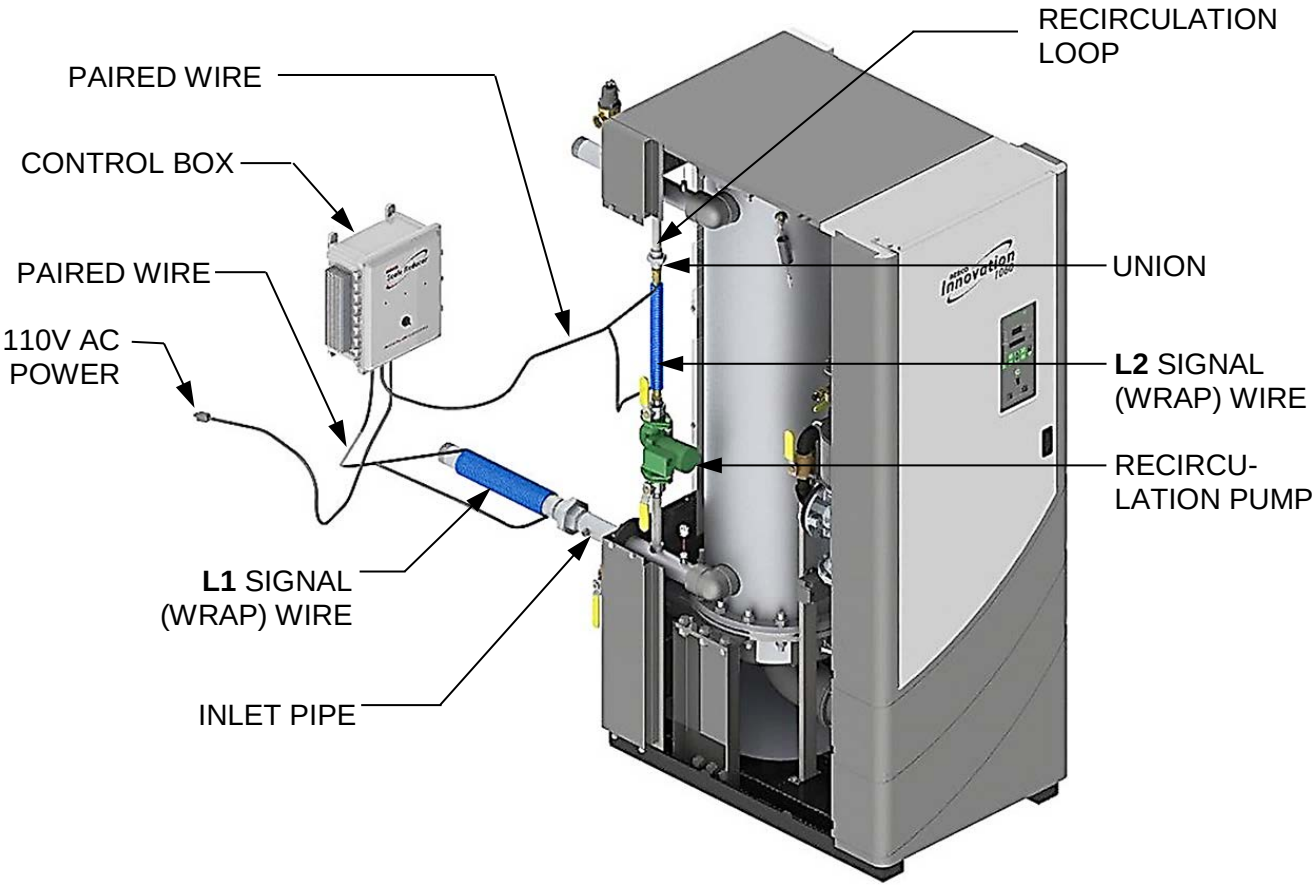


Figure 1: Innovation Water Heater – Left Side View

3.1 Wire Wrapping the Innovation Cold Water Inlet Pipe

Wire Wrapping the INNOVATION Cold Water Inlet Pipe

1. Locate the 20 inch (wrap length) section of the inlet pipe indicated by **L1** in Figure 1, and wipe it clean. It is located on the inlet pipe external to the unit.
2. Using the 175 foot wire spool, lay the wire at one end of the 20 inch section of pipe, parallel to the pipe.
3. Wrap a wire tie around the pipe and wire at the point you wish to begin wrapping, leaving the balance of the total wrap length available for wrapping in the desired direction (see Figure 2).
4. Wrap the wire tightly around the pipe with each wrap touching the next.
5. Continue to wrap the pipe until a total of **20 inches** of pipe is covered. Leave wire remaining that is approximately one-half of the total wrap length.
6. Wrap a wire tie around pipe and wire, and trim end to approximately 6” to 12”. See Figure 3.

1Wire Wrapping the INNOVATION Inlet Pipe - Continued

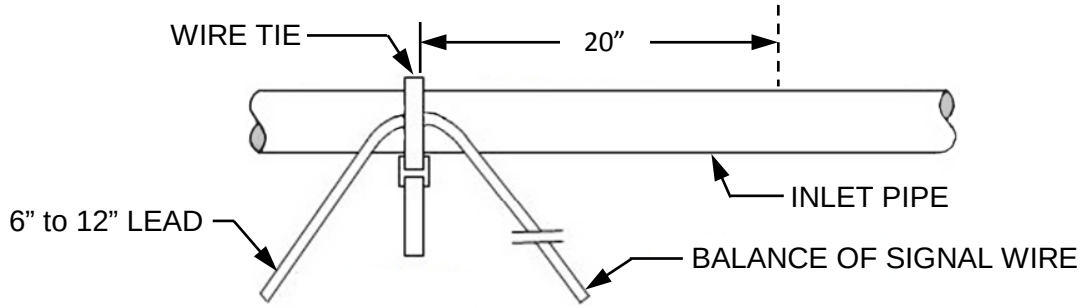


Figure 2: Wrapping the Inlet Pipe

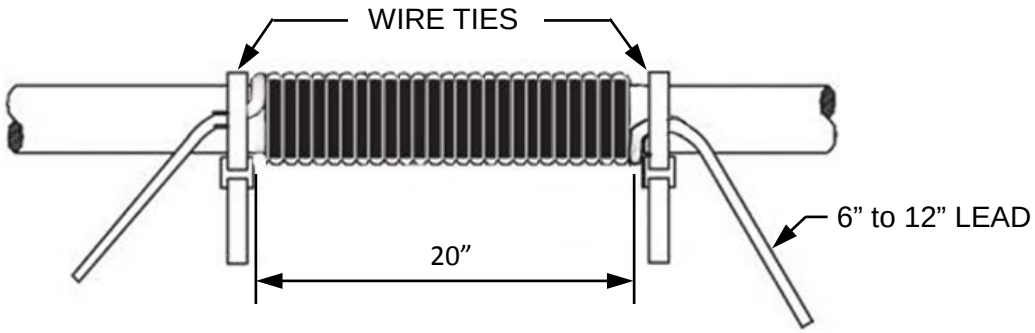


Figure 3: Innovation Inlet Pipe Wrap Configuration

3.2 Wire Wrapping the Innovation Internal Recirculation Loop Pipe

Wire Wrapping the INNOVATION Recirculation Loop Pipe

1. Remove the covers from the left side of the unit, exposing the recirculation loop (see Figure 1).
2. Locate and wipe clean the **12 inch** (wrap length) section of recirculation loop pipe that is to be wrapped. See L2 in Figure 1 (between the union and the recirculation loop pump).
3. Using the 76 foot wire spool, repeat the steps in the previous section until a **12 inch** section of recirculation pipe is tightly wrapped and affixed with wire ties.
4. Ensure wires leads are between 6” and 12” long.

4. INSTALLING WIRING ON RECON UNITS

Complete the instructions in sections 4.1 and 4.2 only if you are retrofitting the SR300 Scale Reducer on ReCon units that were ***NOT*** ordered with the SR300 Scale Reducer pre-installed.

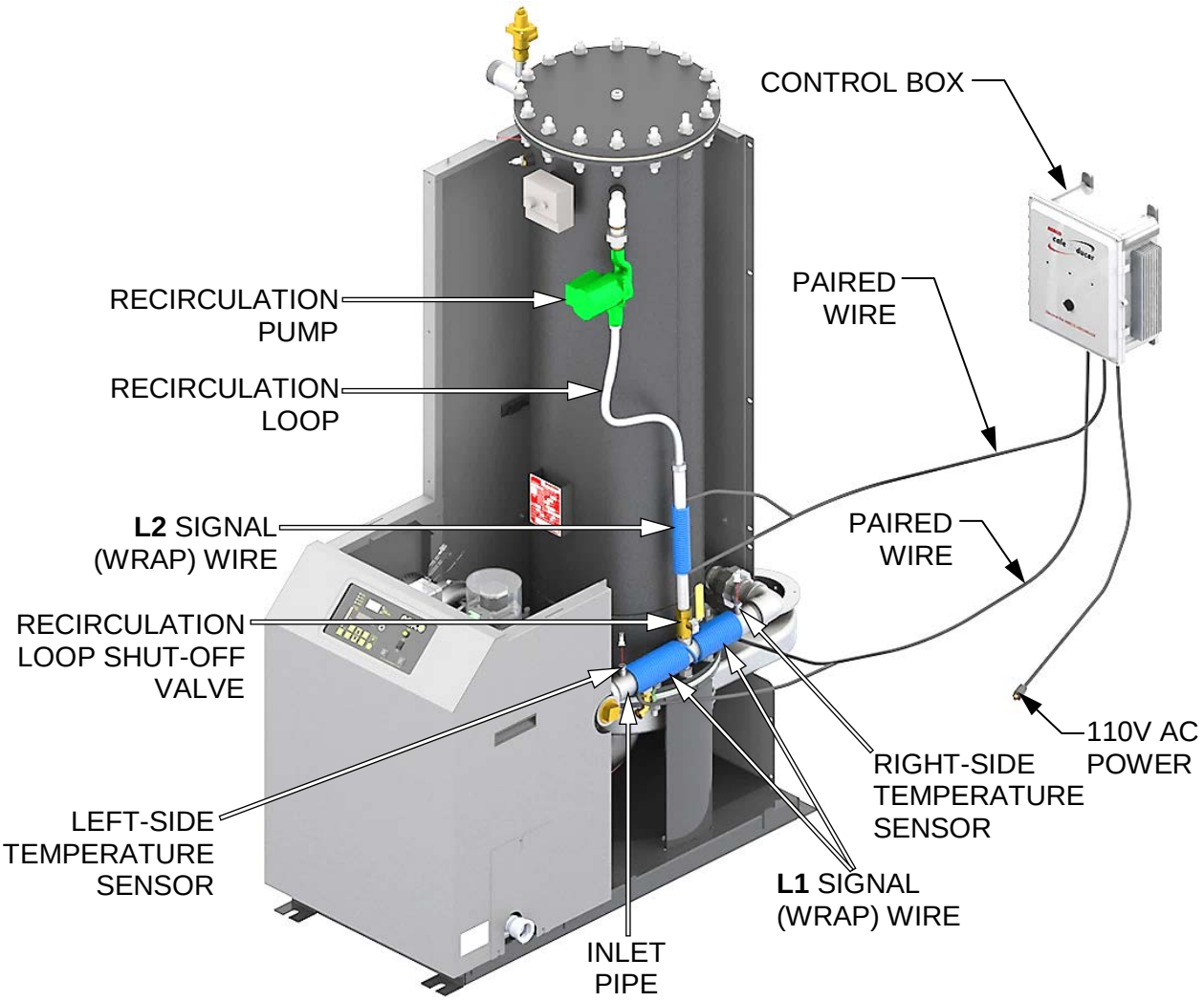
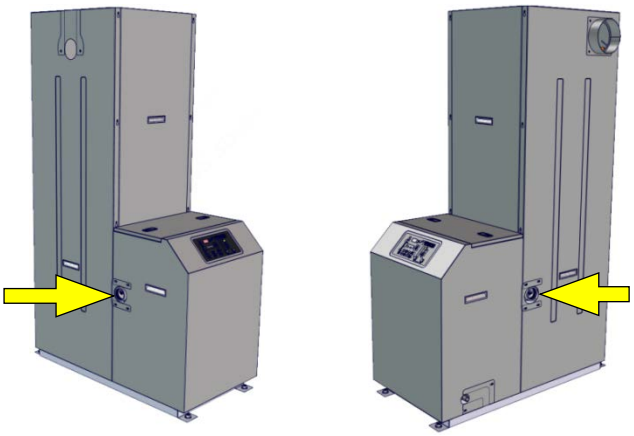


Figure 4: ReCon Water Heater – Right Side View, No Covers
(A Scale Reducer Installation for a Direct Building Recirculation Connection is Shown)

METHOD #2
If the cold water inlet pipe is connected to this left-side inlet, (and building recirculation line is NOT directly connected to the unit), the wire wrap is applied to a section of the inlet pipe external to the unit.



METHOD #1
If the building recirculation line is directly connected to the unit here (right side inlet), the wire wrap is applied to the water manifold *inside* the unit.

Figure 5: ReCon Water Heater Inlet Pipe Connection Options

4.1 Wire Wrapping the ReCon Inlet Pipe

There are two methods of wrapping the inlet pipe on the ReCon water heater as follows:

- **METHOD 1:** Wrap the common water manifold *inside* the unit if the building recirculation line **is** connected to the unit directly via the right side inlet (See Figures 4 and 5).
- **METHOD 2:** If the building recirculation line is **not** directly connected to the unit (See Figure 5), wrap the *external* cold water inlet pipe connected to the left side inlet.

4.1.1 Wire Wrapping the ReCon Internal Water Manifold (Method #1)

Wire Wrapping the ReCon Internal Water Manifold (Method #1)

1. If building recirculation piping is connected to the right side inlet, remove right side panel.
2. On manifold piping, wipe clean a 6.75" section between the *left* side temp sensor well and the internal recirculation loop coupling, and then a 5.75" section on the other side of the coupling up to the right sensor well. Refer to **L1** in Figure 4 & Figures 6-7.

NOTE

You will need to remove the wire from the spool and form into a shape that can be passed through the tight clearance between the pipe and the heat exchanger while wrapping.

3. Place the wire end at the beginning of the wrap section, and tie a wire tie around the pipe and wire at the point 6.75" to the left of the internal recirculation loop coupling, as shown in Figure 6, leaving approximately 6" to 12" of wire for connecting to the Control Box, and the balance of the total wrap length available for wrapping the section.

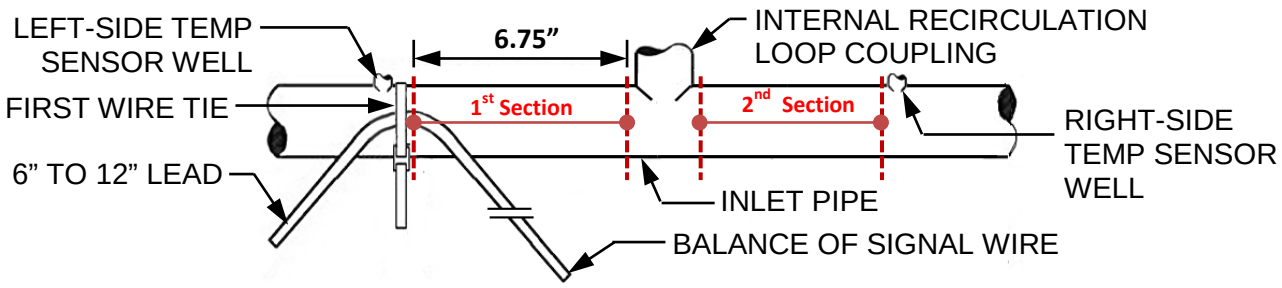


Figure 6: ReCon Inlet Pipe Wrap Configuration

4. Wrap the wire tightly over and around the pipe with each wrap touching the next.
5. Wrap the 6.75" section from the left sensor up to the internal recirculation loop coupling and then cross over to the other side of the coupling, as shown in Figure 7.

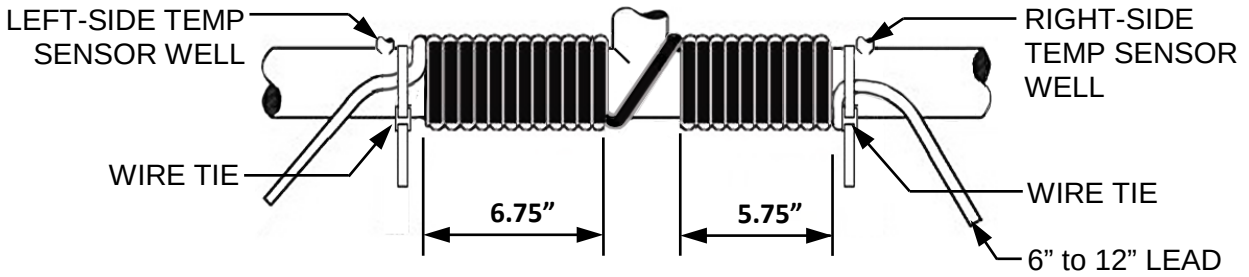


Figure 7: ReCon Inlet Pipe Wrap Configuration

6. Continue wrapping the next 5.75" section on the other side of the coupling up to the right side temperature sensor. See Figure 7.
7. Wrap a wire tie around pipe and wire, and trim leads to approx. 6" to 12". See Figure 7.

4.1.2 Wire Wrapping the ReCon Cold Water Inlet Pipe (Method #2)

Wire Wrapping the ReCon Cold Water Inlet Pipe (Method #2)

NOTE

- These instructions apply only to ReCon water heaters with NO *direct* connection to the building recirculation piping.
- The wrapping instructions for the ReCon cold water Inlet pipe, below, are virtually identical to the Innovation cold water inlet pipe wrapping, so the Innovation Figures will be referred to in these instructions.

1. Locate the **20 inch** (wrap length) section of the cold water inlet pipe entering the unit on the left side, indicated by **L1** in Figure 1, and wipe it clean.
2. Place the wire end at the beginning of the wrap section, and tie a wire tie around the pipe and wire at the point you wish to begin wrapping, as shown in Figure 2, leaving approximately 6" to 12" of wire for connecting to the Control Box, and the balance of the total wrap length available for wrapping the section.
3. Wrap the wire tightly around the pipe with each wrap touching the next.
4. Continue to wrap the pipe until a total of **20 inches** of pipe is covered.
5. Wrap a wire tie around pipe and wire, and trim end to approximately 6" to 12". See Figure 3.

4.2 Wire Wrapping the ReCon Internal Recirculation Loop Pipe

Wire Wrapping the ReCon Internal Recirculation Loop Pipe

1. Remove the covers from the right side of the unit, exposing the internal recirculation loop piping. See Figures 4.
2. Locate, and wipe clean, the **12 inch** (wrap length) section of internal recirculation loop pipe that is to be wrapped, as shown in L2 in Figure 4 (between the recirculation loop pump and recirculation loop shut-off valve).
3. Using the 76 foot wire spool, repeat the steps in the previous section until a **12 inch** section of recirculation pipe is tightly wrapped and affixed with wire ties.
4. Ensure wires leads are between 6" and 12" long.

5. MOUNTING THE CONTROL BOX

Complete the instructions below to mount the Control Box, either on the wall or on the floor using the optional Support Stand. It must be mounted close enough to the unit for the wires to reach the unit.

Mounting the Control Box

1. Choose a location for mounting the SR300 Control Box. It should be mounted in a position that allows easy visibility to the lights for periodic system checks. It MUST be close enough to the unit that the paired wires from the Control Box reach both wrapped pipes.
2. If you are using the optional Support Stand (P/N 33210), attach the stand to the floor in the immediate vicinity of the unit (see Figure 8) using the concrete anchors included with the stand. Locate it where it won't be in the way of other mechanical equipment, such as rolling hoists or fork lifts, but not so close to the unit that it will interfere with removing the unit's panels.
3. If you are mounting it to the wall or other nearby surface, drill holes into the wall.
4. Fasten the Control Box to the wall or support stand using the 4 screws provided.

Figure 8: Control Box Mounted on Optional Support Stand

6. CONNECTING THE SIGNAL WIRE TO THE CONTROL BOX

Complete the instructions below connect the Control Box to the signal wires and plug the unit into a power outlet.

Connecting the Signal Wire to the Control Box

1. Once the unit is mounted in place, route the paired wires from the unit to the wrap wire and then trim excess paired wiring.
2. Using a wire connector, connect one end of the inlet pipe signal (wrap) wire to one end of a paired wire from the Control Box (see Figure 9).

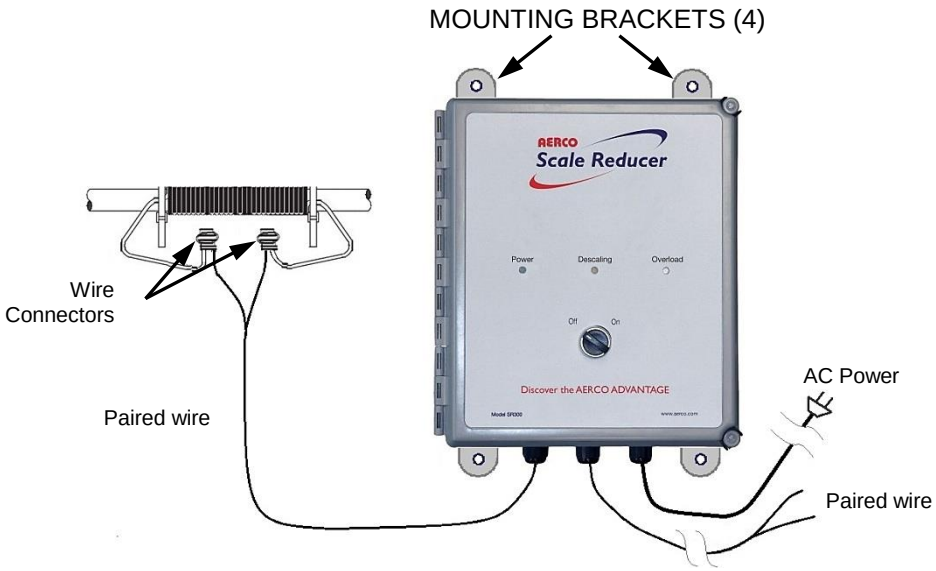


Figure 9: Connecting the Control Box to the Wire Wrap

3. Be certain that the wires are inserted in the back of the connector before squeezing closed with pliers (see Figure 10).

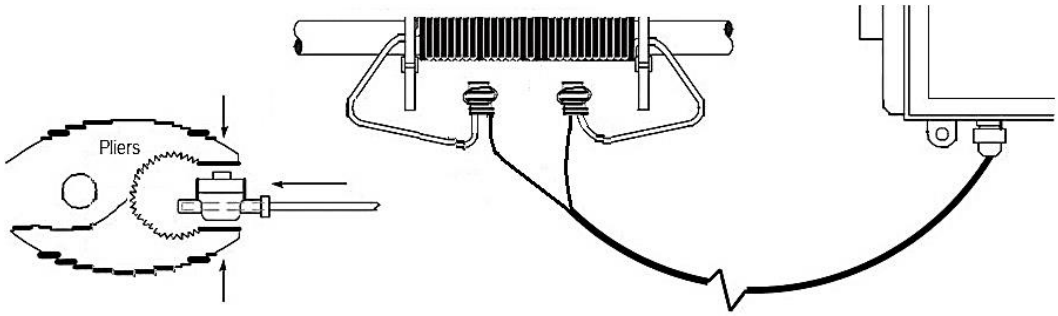


Figure 10: Connecting a Wrap Wire to the Paired Wire

4. Repeat for the other end of the signal (wrap) wire and paired wire.
5. Repeat the previous steps to connect the recirculation pipe signal (wrap) wire to the other paired wire from the Control Box.
6. Plug the control panel power cord into a 110 Volt outlet.

7. NORMAL OPERATION

Normal Operation

1. Turn on the SR300 using the On-Off switch on the front of the Control Box. See Figure 11.
2. During normal operation, the **Power** and **Descaling** lights should be ON.

Figure 11: On-Off Switch and Indicator Lights

8. TROUBLESHOOTING

Table 1: Troubleshooting Options

Symptom	Solutions
If the Power (green) light does not come ON:	Make certain the system is plugged in.
	Make certain the electrical outlet has power.
	Call AERCO Technical Services.
If the Power (green) and Overload (red) lights are ON but the Descaling (yellow) light is OFF:	Make certain the signal and control panel wires are connected properly.
	Call AERCO Technical Services.
If all three lights are ON (Power & Descaling) & Overload is flashing red:	Verify that each pipe is wrapped in accordance with the instructions above for each pipe. Excess wrapping (resistance) will cause this system fault.
	Call AERCO Technical Services.

9. MAINTENANCE

There is no maintenance on this system. As long as proper indicator lights are on, the system is working. If the indicator lights do not remain on, see section 8, Troubleshooting.

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Change Log:

Date	Description	Changed By
07/17/2014	Rev A: Initial release	Chris Blair
07/29/2015	Rev B: PIR 934-120: Added ReCon, rewritten, reformatted, retrofit option.	Curtis Harvey & Chris Blair