

## Control Water Treatment Program Guide

### **If I would not drink it I would not treat it.**

It should be commonly understood that the water being put into a furnace to protect it from corrosion should be at least as Good Quality Drinking Water. If I would not drink it, Neither would I put it into a furnace that I just paid several thousand dollars for. If excellent tap water is not available, you can buy distilled water for about \$1.00 or less a gallon, a small investment for a new furnace.

Treating your water is simply the act of balancing three measurements, PH, Conductivity and Nitrite. It is proven that each of these test are equally important. 1. PH is a scale to measure the acidity and alkalinity of a liquid. PH is important in all chemistry and our chemical works properly in a medium to high alkalinity solution. 2. Conductivity is a measurement of the ability for electrical current to flow in a water solution. A conductivity measurement is used to see that the water does not have more minerals (sometimes referred to as total dissolved solids) in it than is believed to be safe not to encourage electricals, therefore we want the conductivity to remain as low as possible. With the conductivity reading, the question, is it due to chemical added or some other mineral in the water that could be a problem. We believe that 6 milibar or (m/s/cm, mili Siemens) is the very maximum we want to allow. 3. Sodium Nitrite is one active ingredient in Control water treatment that is easily measured. A proper Sodium Nitrite test kit is our way to measure if the proper amount of our chemical has been added to the water. "IMPORTANT" If you are treating a furnace that has been previously treated with another chemical without dumping all the water and starting over is like making a Chocolate cake and half way thru the recipe you stop and start from where you are with different recipe for a chocolate cake. It may not be treated proper because the nitrite reading may be misleading.

These are examples of a perfectly and typically treated furnaces.

Results of What we test for	8-14		Sodium Nitrite	Action to Take
	PH	Conductivity		
1 Distilled Water will test as:	5.7	.01	0	
2 Tap water average test as:	6.3	.07	0	
3 Furnace Water properly treated 1 Gallon to 200 Gallons water	10.7	2.4	1200	
4 Furnace Under Treated	8.03	3.36	700	Add additional chemical, conductivity high for nitrite lever
5 Furnace Slightly Under Treated	8.68	2.52	900	Add small amount of chemical
6 Furnace Over Treated	9.29	5.22	2400	Over treated but no problem. High Conductivity from Chemical
7 Furnace Over Treated	10.36	7.02	2600	Over treated but other issues added up conductivity. Dump 1/3 and add good water

SB - should be

The test 4 thru 7 are actual test result. In the example above #3 properly treated with 1200ppm sodium nitrite it increased the conductivity from .07 to 2.4 so test #6 with 2400ppm should have increased by 4.8 from their tap water.

## *image Information Purpose*

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#### **What we are concern with?**

<b>What we test for</b>	<b>PH</b>	<b>Conductivity</b>	<b>Sodium Nitrite</b>
Distilled Water	5.7	.01	0
Tap water should test as:	6.3	.07	0
Furnace Water properly treated			
1 Gallon to 100 Gallons water	11.2	5.1	2400
1 Gallon to 200 Gallons water	10.7	2.4	1200
1 Gallon to 300 Gallons water	10.2	1.6	900
1 Gallon to 400 Gallons water	9.8	1.2	600
Minimum-Maximum	8-14	6 Maximum	900 Minimum

1. PH is a scale to measure the acidity and alkalinity of a liquid
2. Conductivity is a measurement of the ability for electrical current to flow in a water solution.
3. Sodium Nitrite is one active ingredient in Control water treatment that is easily measured

Treating your water is simply the act of balancing these three measurements. All three numbers will increase with the more chemical used. However we want the conductivity to remain as low as possible. We want the PH to be as high as our chemical will bring it but to much chemical will increase the conductivity level to a level that may allow electricals to be an issue. There is no magic conductivity level because many things effect it. We believe that 6 milibar is the very maximum we want.