



TRIANGULAR WAVE Fact Sheet

TRIANGULAR WAVE SYSTEM PROTECTS ENTIRE KESSLER'S INC. MEAT PROCESSING PLANT FROM DEPOSITS AND CORROSION IN THE WATER SYSTEM



Kessler's Inc. had a major water problem. The scale in the water coming to their plant was so bad that 1.5-inch water pipe was 80% blocked. It was clogged to the point

that there was only $\frac{1}{2}$ inch diameter of flow area. The open pipe flow was 100 gpm. The clogged pipe flow was 20 gpm.

They tried cleaning the pipe mechanically and chemically. Neither approach lasted very long. The entire pipe was replaced with a copper pipe, and a **Triangular Wave System** was installed. The unit has been installed for about 1 year. They have not cleaned the pipe since the installation.

Water is used in the manufacture of meat products, including hot dogs and smoked meats.

One unit serves the water for the entire plant. Not only is the scale reduced in the pipes, but also they are finding scale in the return tank of the cooling tower. That is old scale that has detached from the cooling tower.



Technician Inspects Triangular Wave Coil and Power Supply

In addition, they have noticed that the boiler is staying clean. Their chemical supplier said they no longer need chemicals; he hated to admit it. They disconnected three water softeners attached to the main water line after they installed the **Triangular Wave System**. The plant engineer estimated they had used a 100-pound bag of salt every $1\frac{1}{2}$ weeks for the water softener and spent \$2,000 per year for chemicals.

Spray nozzles in the ovens are used to spray the meat after it is cooked to cool it and prevent over cooking. They had to auger out the nozzle holes weekly to keep them operating properly. They no longer need to clean the nozzles.

The vacuum chamber machine has two "heads" that cool the film used to package the meat products. The heads are aluminum, and the water with all of the chemicals was pitting the small water passages in the heads. They used separate water softeners to fight the problem. Now they no longer have a corrosion problem, and they do not need the softeners.



Cooling Tower and Water Holding Tank (shown here) Old Scale Detached from the Tower

Spray Nozzles in Sausage Oven Kept Scale Free

