



NORTH AMERICA WATER TECHNOLOGY

Commercial Buildings



There are two aspects to commercial building water management: Ductwork and Cooling systems. The key is to keep piping systems clear of obstructions.

The piping system is straight drainage, and the lines will be affected by changes in the water quality and material of the pipes. Iron pipes will rust, hard water will cause scaling deposits, and there are many bacteria's and algae in the water, which will produce biofilms and affect people's health.

Cooling circulation systems circulate the water over and over, using heat exchangers to remove waste heat from the system. During the circulation process part of the water evaporates causing salt to accumulate. Even with constant refills of water. However, scale and rust can still occur in the pipes of the hydronics cooling system.

NAWT Collar can prevent and solve this problem



Commercial Building

Building Issues: rust, Bacteria, corrosion and algae

Total Circulation: 200 tons

Water source: City domestic water

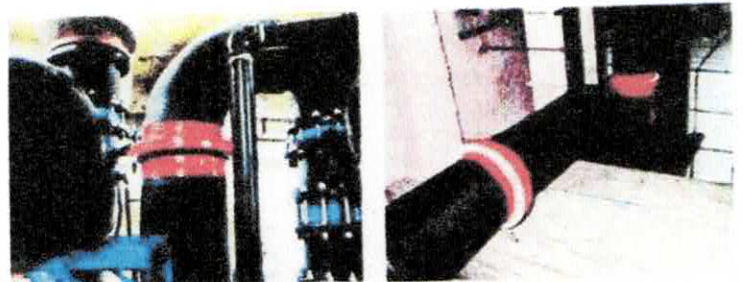
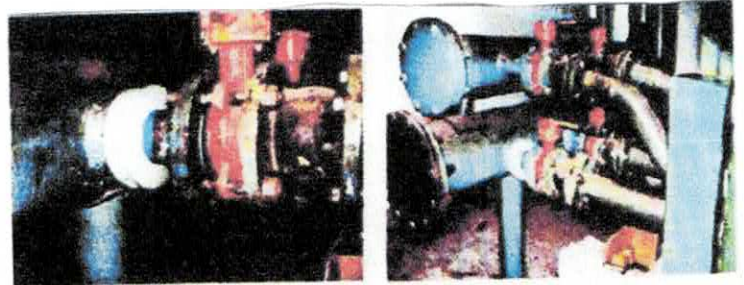
Water treatment method: Chemical method

Use chemicals to deal with rust, corrosion, bacteria and algae problems in the cooling circulating water systems. The cost of chemicals, manual maintenance and drainage fees are high, the effect is not ideal, and the heat exchanger efficiency is low.

Installation:

Installing 2- DN 150 (6") NAWT Collars in front of the water condenser of the water-cooling unit.

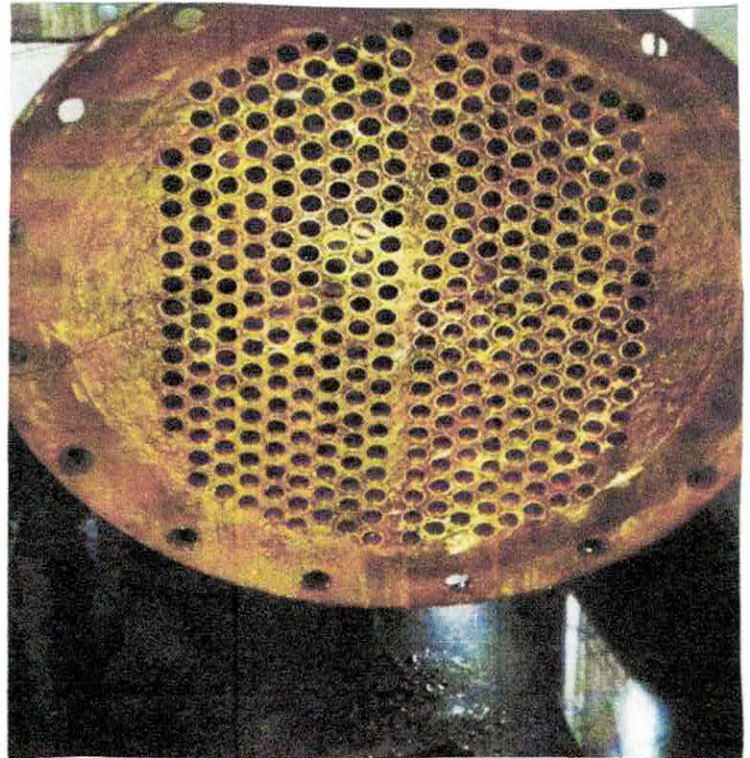
Installed 2 -DN 150 (6") NAWT Collars in the Air conditioning chilled water systems, and 1-DN100 (4") in the heating systems of the Thermal station.



Results after Installation

The installation after 6 months of no chemicals were added during this period

- 1- The inside of the condenser is clean and free of scale, rust and mud
- 2- Heat exchanger efficiency has improved
- 3- Greatly reduced water discharge and increased concentration ratio
- 4- The cooling tower is filled and Clean
- 5- Reduced the overall operating cost



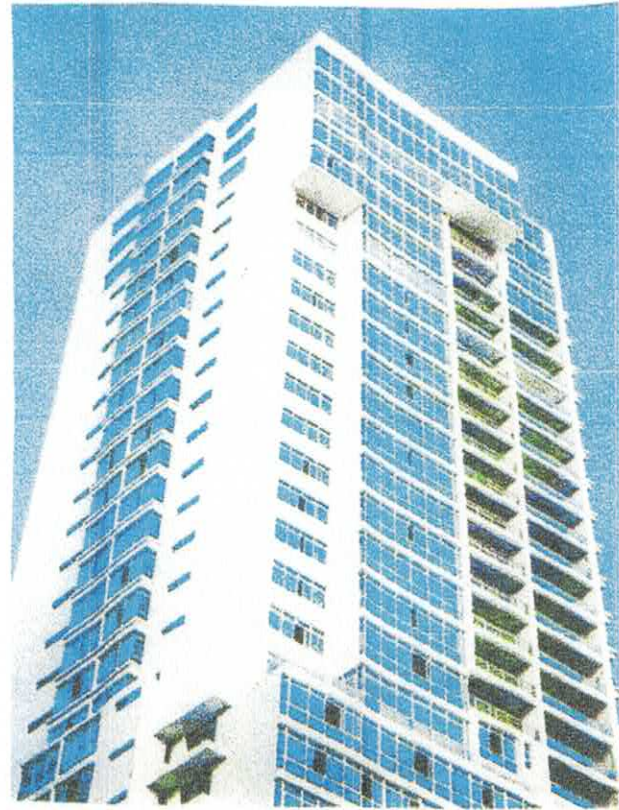
Summary:

The NAWT Collar is more effective than the original chemical method. After 4 months of the equipment operating, and no notable problems. There were noticeable particles flowing out of the water, which proved that the original scale and rust had been removed. Also improved the efficiency of the heat exchanger and saved money. Reducing water emissions and saved on the water bill.

Apartment Building

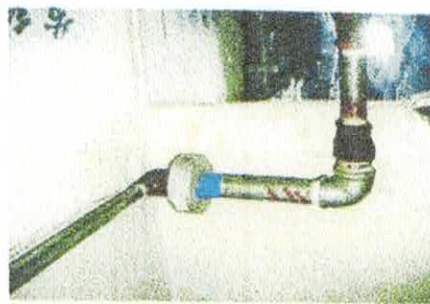
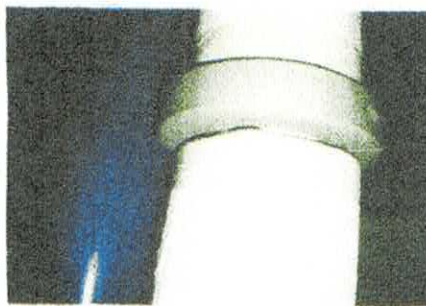
Issues:

High-end apartment building has 25 floors in total. The water supply for customers is provided by variable Frequency pumps for the higher levels. Galvanized pipes were mainly used. After eight 8years of operation the pipes are corroded. The bath and kitchen faucets have serious rusty water and some grit is entrained. Sand, reddish brown rust stains are obvious in the pipes of the boilers water piping system.



Installation

Installed 1 DN150 (4") Collar and 2 DN80 (3") Collars on the corresponding pipes in the lower floor area and higher floor area of the water supply system.

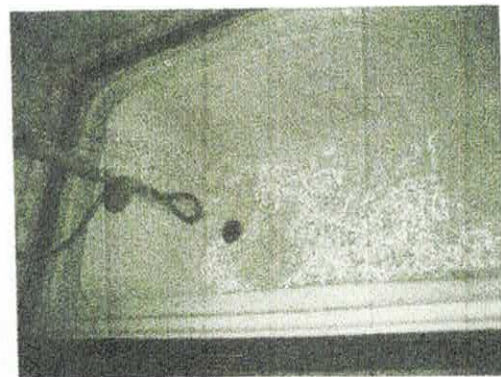
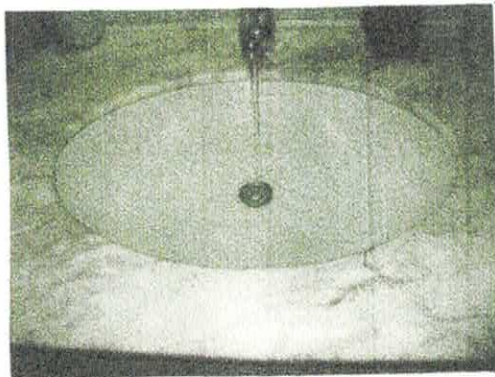




Effect of the Collar

According to the customer's requirements, we conducted an onsite inspection of the water quality in each apartment and made a comparison before and after.

Less than two months after installation there was no visible rust in the water flowing out of the tub or kitchen faucets, and the water quality was clear. The reddish brown rust stains in the boiler piping system have been remediated. No more customer complaints since the installation of the Collar.



Summary:

Water treatment equipment (Collars) was very effective in removing rust and scale. The Collars are easy to install and require no maintenance. Ideal for use in commercial buildings as an optimal solution for water treatment.