NU-CALGON

Safety-Treat

Preventative Maintenance For Cooling Towers & Evaporative Condensers

ASHRAE and the CDC recommend a complete water management or preventative maintenance program in order to keep equipment operating free of scale, corrosion and biological contamination.

1 CLEANING

Quality Products From Nu-Calgon

Source Your Water Treatment Needs from Your Local Wholesaler

2 SANITIZING

3 SCALE & CORROSION PREVENTION

4 TESTING

See Inside for Instructions

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PREVENTATIVE MAINTENANCE

STEP 1: CLEANING COOLING TOWERS & EVAPORATIVE CONDENSERS PRIOR TO TREATMENT

If the system is noticeably fouled with scale or corrosion products, it should be cleaned as a first step. Physically remove and flush gross matter such as mud, sediment, leaves, loose scale/corrosion chips and other organic matter from the sump and tower fill. Then add Nu-Calgon powdered Season Start (Imperial Scale Remover) to the system, using 10 lbs. for every 50 gallons of water. Or, if system water capacity is not known, simply use 1 lb. per ton of system capacity.

Circulate the cleaning solution and observe the color: if it is light green to light blue, it is at working strength. When it turns purple, it is neutralized, requiring another dose. The system is clean when the green to light blue color is retained for 30-40 minutes.

Next, dump the cleaning solution and flush the system with fresh water. The flushing will remove the loosened deposits and dissolved minerals.

For faster more aggressive cleaning, Nu-Calgon offers Liquid Scale Dissolver or Eco-Lyme, which are available in various package sizes.

Note: The above acid-based cleaners are required in regions where there is hard water (scale forming – most of the U.S.) or where there is scale or severe corrosion evident. In regions such as New York City where there is a soft water supply (non-scale forming), Nu-Calgon's System Cleaner (4370-08) is a viable option, especially if there is low to moderate corrosion present.

STEP 2: SANITIZING COOLING TOWERS & EVAPORATIVE CONDENSERS

Use either No. 90 Bromicide Tablets or No. 85 Algaecide to treat the system water for the prevention of bacteria and slime growths. This will sanitize the system after cleaning and provide protection going forward.

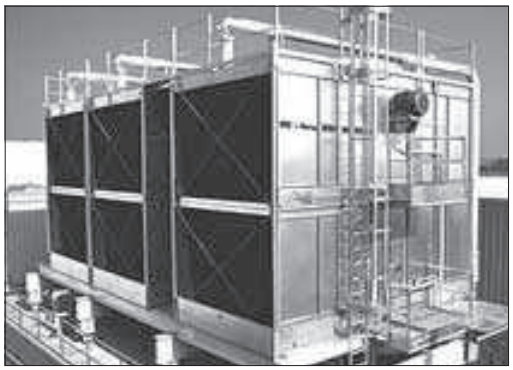
No. 90 Bromicide Tablets

- *Fouled System:* use an initial dose of 5-12 tablets (0.2 to 0.6 lbs.) per 1,000 gallons of system water. Repeat until control is achieved.
- *Subsequent (ongoing) Treatment:* use 3-8 tablets (0.1 to 0.3 lbs.) per 1,000 gallons of system water to prevent future bacteria outbreaks.

No. 85 Algaecide

- *Fouled System:* use (slugfeed) 1.9 to 4.75 fl. oz. per 1,000 gallons of system water, depending on the degree of fouling. Repeat until control is achieved.
- *Subsequent (ongoing) Treatment:* use 0.47-4.75 fl. oz. per 1,000 gallons of system water.
- No. 85 Algaecide can also be drip fed with either the No. 215 or No. 1075 Drip Feeder.

Both products are EPA-registered for use in cooling towers and evaporative condensers.



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A Regular Program of Water Treatment in Cooling Water Systems is Vital!

It is recommended by both the CDC and ASHRAE in order to prevent the growth of bacteria and slime as well as to prevent scale formation and corrosion. Proper water treatment or preventative maintenance insures system integrity and operation.

Treatment for systems up to 30 tons...

Season Treat prevents scale and corrosion, all in one, easy-to-use, self-feeding package. Its flow-through package design makes it simple to treat the water and prevent scale and associated problems. It's as simple as unwrapping the package and placing it in the sump where water flows well. Treatment lasts the entire season. Use one canister for every 10 tons of tower capacity. Ensure a simple bleed is maintained at 0.1 gpm per 10 tons.

4364-88

Treatment for systems over 30 tons...

For systems over 30 tons in in Scale-Forming Water Regions

Use of Nu-Calgon Ty-Ion® C70 and a simple bleed-off is all that is needed. Ty-Ion C70 is a complete product, formulated to inhibit scale in all waters – even those with extremely high hardness and alkalinity. It also contains a silt dispersant to keep the tower clean and corrosion inhibitors to protect copper, steel and other metals. Here is all you need to do for every 50 tons of capacity:

- *Maintain a simple bleed equal to 1/2 gpm for every 50 tons of capacity*
- *Use one gallon of C70 per month for every 50 tons of capacity*

EXAMPLE: A 40 ton tower would require a bleed of 0.4 gpm and a monthly C70 usage of 0.8 gallon.

7597-05

For systems over 30 tons in in Corrosive Water Regions

Use of Nu-Calgon Cal-Treat 233 and a simple bleed-off is all that is needed. Cal-Treat 233 is a complete product, formulated to prevent corrosion of and protect copper, steel and other metals. Here is all you need to do for every 50 tons of capacity:

- *Maintain a simple bleed equal to 1/5 gpm (~26 fl.oz.) for every 50 tons of capacity*
- *Use two gallons of Cal-Treat 233 per month for every 50 tons of capacity*

EXAMPLE: A 40 ton tower would require a bleed of 0.16 gpm and a monthly usage of 1.6 gallon. A 100 ton tower would require a bleed of 0.4 gpm and monthly usage equal to four gallons.

4149-05

No. 215 and No. 1075 Drip Feeder Instructions

1. Establish the tonnage of the system as accurately as possible.
2. Set up a bleed in gpm for every 50 tons as outlined above.
3. Determine the monthly usage of Ty-Ion C70 or Cal-Treat 233 based on the requirement per 50 tons described above.
4. Consult drip feeder charts (on next page) to see which one (#215 or #1075) will handle the monthly requirement.

4669-W3

4670-W3

(continued on page 4)

5. From the monthly requirement, go across the chart to the point where that value intersects the product's feed line. From there go down to read the head length (H) in inches at which the drip feeder must be set. Follow the simple "set up" instructions provided with each drip feeder.
6. Hang the five gallon pail of product on the tower, using the Nu-Calgon 4607-0 bracket or similar device and set up the drip feeder. Note: Nu-Calgon offers a one gallon holder (4606-0) if the No. 85 Algaecide is to be drip fed into the system.

CHART A — No. 215 DRIP FEEDER

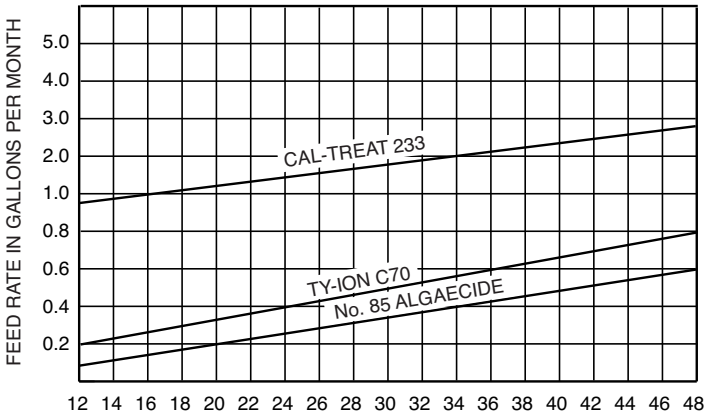
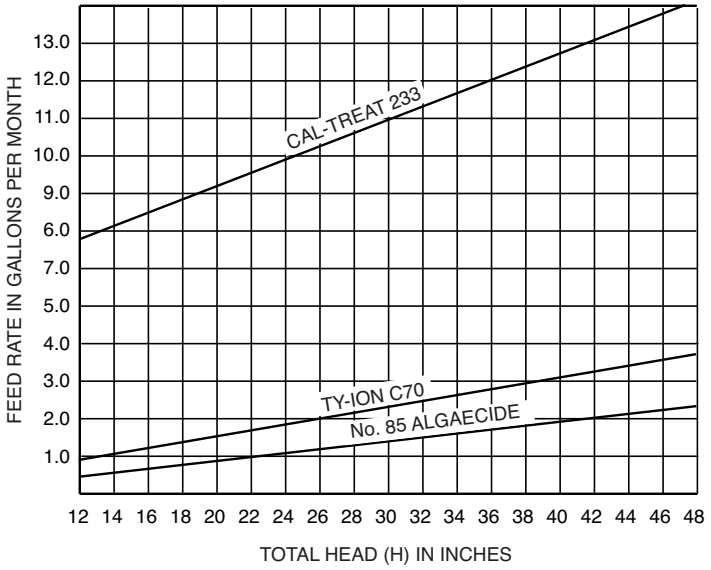


CHART B — No. 1075 DRIP FEEDER



TEST KITS AND FREE WATER ANALYSIS

4802-0

Bacteria Test Kit

This test kit contains 10 agar paddle tests that are used to monitor bacterial contamination in cooling tower and evaporative condenser water. The test can be performed in a lab or on site. Each side of the paddle is coated with TTC Agar material that supports growth of most common bacteria. Regular testing will detect and show when bacteria counts are rising.

4803-0

Bromine/Chlorine Test Kit

This test measures free and combined halogen (chlorine, bromine), and it should be used to support treatment with No. 90 Bromicide Tablets. Residual can be expressed as 0.2 ppm or 0.5 ppm of free halogens. Dropper technique is used.

4995-0

Water Sample Bottles

Use Nu-Calgon's free water analysis service at your own convenience to support your preventative maintenance programs. Water sample bottles are available at your local wholesaler location.

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