

BIG BRO™

TOWER BIOCIDIC BROMINATOR

Installation and operating Instructions

CAUTION:

The Tower Biocide Brominator is designed

For use only with approved tablets.

NEVER MIX with other types of
Sanitizers or chemicals. Explosion
Or fire may result.

Exercise extreme caution when operating or servicing your Brominator.

always shut off the pump and available valves before opening unit.

DO NOT inhale fumes from any chemical feeder or container.

Wear polyvinyl gloves and safety glasses or chemical Goggles at all times.

To prevent the buildup of gas in the Brominator, make certain
the discharge line to the tower is unrestricted and not blocked by
valves of any kind. If automating the Brominator feed,

DO NOT ADD AUTOMATED CONTROL VALVES DOWNSTREAM FROM THE UNIT.



TO OPEN THE BROMINATOR:

1. Shut off incoming water supply. Never use operating valves of any kind to isolate the Big Bro. To avoid backflow into the unit provide a check valve at the discharge port.
2. Remove the lid closure ring, remove the cover and allow the unit to drain.

CAUTION: Do not inhale the fumes from the Brominator.

TO CLOSE THE BROMINATOR:

1. Make certain the cover seal ring is in place.
Replace the cover and lid closure ring.
2. Open the bleed screw in cover and fill.
When full close bleed screw.

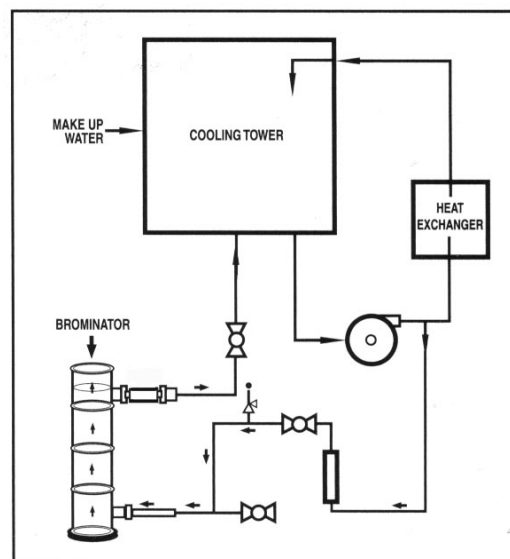
LUBRICATION:

Never use petroleum-type lubricants on the
cover seal ring.

To lubricate, use ivory bar soap or Jacks No. 327
lube only.

WINTERIZING:

Where freezing temperatures can be expected, drain all water from the Brominator. Carefully remove Undissolved tablets and rinse the Brominator thoroughly with water. Replace the cover and lid closure ring.



(OVER)

BIG BRO™

TOWER BIOCIDES BROMINATOR

TROUBLESHOOTING CHART

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
No Flow through Brominator	A. Inlet and/or outlet valve closed.	A. Open valves. B. Flush Brominator by opening outlet valve completely for 1-2 minutes, then reset for normal position.
No bromine residual in system	A. Inlet and/or outlet valve closed outlet clogged B. Algae or excessive organic material in system C. Brominator not properly filled with brominating tablets.	A. Open valves B. Flush as above C. Clean system. Follow label directions. D. Fill Brominator
Bromine residual too high	A. Oversized Brominator B. Feed cycle too long	A. Reduce flow rate B. Reduce feed time
Brominating tablets breaking up or channeling	A. Brominating tablets may not have been dropped into empty Brominator.	A. Be sure to half fill Brominator with water before adding brominating tablets.
Excessive consumption of brominating tablets	A. Algae or excessive organic material in system.	A. Clean system. Follow label directions.

BIG BRO BROMINATOR INSTALLATION DOCUMENTATION

The Big Bro brominator was designed to be used in systems running at a maximum pressure of 100PSI with a maximum temperature of 100 degrees F. When setting up a system, pump pressure is not the sole determiner of system pressure. There are several other factors that could be involved in driving pressures up past the safe limit, leading to injury, death or property damage. They are listed below.

THINGS TO REMEMBER ABOUT BIOCIDES

The Big Bro is designed to be used only with BCDMH biocide pellets. Other biocides may increase pressures inside of the unit, to excess leading to an explosion.

BCDMH pellets are shipped in bags. During handling and shipping some of the pellets get crushed and ground into powder. This powder is much more active than the pellets and, produces gas at a much higher rate.

When filling the Big Bro run the system full open for 10 to 15 minutes so that the powder has been flushed out of the system.

When filling the Big Bro with biocide for the first time first fill it up to the exit port with water and then dump the pellets in. ***Fill the pellets to a level just below the surface of the water.*** Do not pile the pellets to a higher level than the water, keeping the pellets submerged at all times. Damp pellets produce gas at a faster rate than those totally submerged in Water. .

When refilling the Big Bro brominator, fill it when the level of biocide in the unit is about halfway empty. Once again, make sure that the water is at a level just below the exit port and fill to a level just below the surface of the water and ***then, run the system full out for 10 to 15 minutes to flush out the pellet fines.***

Never isolate the Big Bro brominator by closing off valves on both the fill and exit ports at the same time. It is best to run directly from unit to the cooling tower with no valves at all in between. However, if it is necessary to put in a valve between the unit and the cooling tower it should be a “check valve” allowing the water to flow out but, not back into it.

THINGS TO REMEMBER ABOUT WATER

Never use a Big Bro brominator unless you know what the pressure or the temperature of the water is.

Water temperature can fluctuate in a system. *The higher the temperature of the water the more active the biocide becomes, producing gases at a higher rate and building pressures within the Big Bro that can exceed the maximum design pressure which could lead to an explosion.* (Another way to think of this is. Water temperature of 110 degrees F lowers the maximum pressure rating of the unit to 90 PSI. 120 degrees F lowers it to 70 PSI.) **Knowing what the temperature of the water is at all times is critical to setting up a successful system.. A system may work beautifully for months until a seasonal change in the weather causes the water temperature to rise, excellerating the performance of the biocide.**

Water hammer is caused by the rapid closing of a valve in a liquid system. Water literally travels at the speed of sound through the pipes until it slams onto something in the system and then it reverses and slams back into the valve. *This “slamming” effect has destroyed valves and is capable of breaking pipes, flow meters and even the Big Bro brominator.*

Systems are often set up using fast acting automatic opening and closing valves. They, sometimes, use a solenoid to accomplish this. **We highly recommend the use of automatic valves that open and close slowly to avoid water hammers..**

Municipal water pressure is generated by pumping water up and into an elevated water tower. This principle is also in effect when the water source for a system is elevated high above the location of the Big Bro brominator. The higher the source the higher the water pressure will be. *A water tower located on the roof of a high rise building combined with the locating of a Big Bro in the basement of the building could result in pressures exceeding the capability of it. Combining this with a fast acting valve generating a water hammer will amost certainly lead to breakage.*

As you can see, it is absolutely critical that when installing a system using the Big Bro brominator, or any other brominator for that matter, you must know exactly what the total pressure and temperature of the system is going to be working at, at all times. If you are involved with the total design of it you should be able to avoid any problems. **If the system is already set up it would be a good practice to replace the valves with slower acting types. You might want to add a pressure relief valve and a surge tank, with a pressurized bladder inside to handle water hammers.**