

Automatic Tube Cleaning System **ATCS**

Patent Pending

Keep your condenser working permanently at maximum efficiency?

Water-based cooling systems inevitably suffer from fouling of the heat exchanger surfaces, leading to a reduction in efficiency that leads to increased energy use and higher operating costs. Research shows that just a 0.6mm scale layer on condenser tubes reduces chiller heat transfer efficiency by 34% and increases energy consumption by 21%.

The Ball Tech Energy Automatic Tube Cleaning System is a unique no moving parts reliable hydro-mechanical cleaning system. The system recycles sponge balls through the condenser tubes together with water flow, and wipes the inner walls without causing any disturbance to the water pressure.

That operation keeps condenser's tubes inner surfaces completely free from fouling.

The result: operating capacity and efficiency are constantly maintained at peak levels, reducing overall energy consumption.

And there's absolutely no need for periodic shut-down of the HVAC system / industrial process for costly and time-wasting chemical cleaning.



Operating sequence

- **Sponge balls are injected into the condenser water flow when the injection valve opens for few seconds.**
- **As the balls pass through the condenser's tubes they wipe off the deposit on the inner surface.**
- **The balls are trapped as they pass out of the condenser without causing any pressure loss.**
- **When the drain valve is opened for a few seconds the balls sucked back to the injector where they are rinsed and wait there for the following cleaning cycle.**



Ball Tech Energy ATCS Benefits

- **Improved operation efficiency:** the chiller or the heat exchanger at industrial process continuously operates at optimum efficiency, leading to lower energy use and consequent cost reduction.
- **Extended chiller life cycle:** increasing return of investment because the compressor never operates beyond its design limits and because condenser's tubes corrosion is eliminated.
- **No chiller or industrial heat exchanger downtime:** automatic tube cleaning system keeps the condenser tubes permanently clean while the chiller is operating.
- **Low cleaning system operation costs:** the sponge balls used in the automatic tube cleaning system are the only consumables needing to be replaced.
- **No water treatment required:** as the automatic tube cleaning system's balls wipe out the dissolved materials and the solid particles deposits.
- **Prevent corrosion of condenser's tubes:** the automatic tube cleaning system's balls wipe out the microbiologically growth prevents concentrated corrosion cells and fouling.
- **Environment friendly:** the automatic tube cleaning system used no chemicals and no tubes acid cleaning required.

