

eNPure..... Your Source for the **HydroFLOW**® Water Conditioner A Treatment Program for Cooling Tower Applications



Protect your cooling system from the harmful effects of limescale, corrosion and bio-fouling with HydroFLOW™ and the eNPure performance guarantee to eliminate thousands of dollars in annual operating costs.

HYDROFLOW PROVIDES A UNIQUE SOLUTION TO THE COMMON PROBLEMS ASSOCIATED WITH COOLING TOWER OPERATIONS IN AN ECO-FRIENDLY, COST SAVING PACKAGE. EASILY INSTALLED, IT PROTECTS THE TOWER AGAINST LIMESCALE, CORROSION, AND BIO-FOULING, WITH MINIMAL OR NO CHEMICAL TREATMENT.

Based on over twenty years of experience, the HydroFLOW technology works with all cooling systems: open loop, closed loop, once-through, and evaporative coolers. Circulating water within the cooling system contains dissolved minerals in the form of ions, such as calcium carbonate, which become concentrated as water is evaporated. When temperature increases, pressure drops, or minerals over-concentrate, the circulating water becomes supersaturated, causing the dissolved ions to precipitate out of solution and adhere to piping and equipment surfaces in the form of scale. Over time, the accumulated scale, along with algae or bacteria biofilm, block heat exchanger tubes and channels, causing unwanted insulation, reduced heat transfer efficiency, restricted water flow, and higher energy consumption.

To inhibit scale, the cooling tower operator may employ one or several strategies:

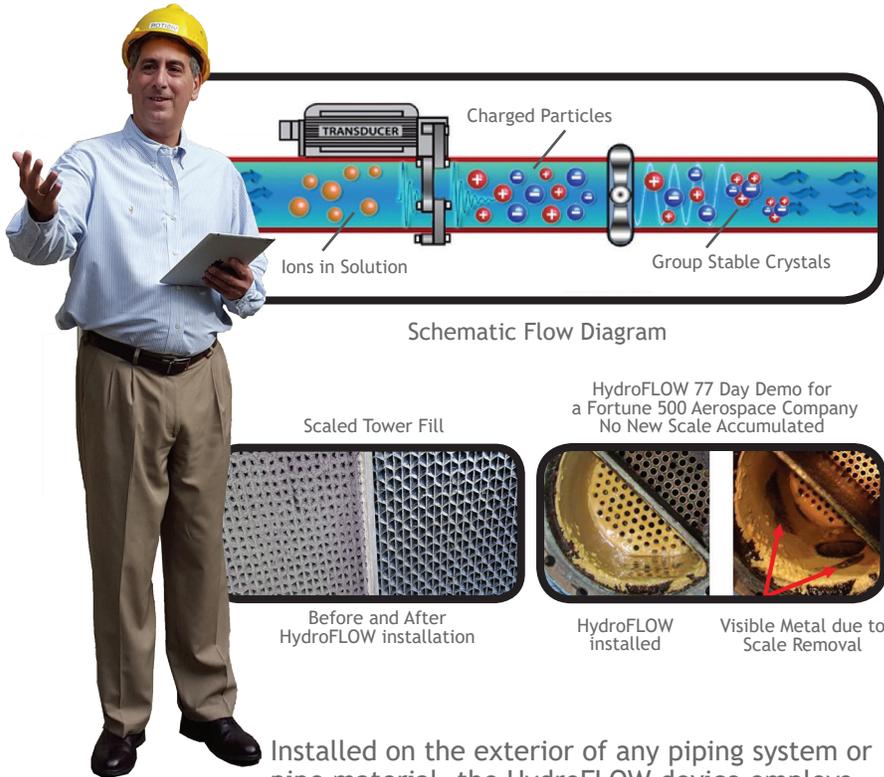
- Implement an expensive and aggressive treatment program, often with inconsistent success or at additional cost.
- Reduce cycles of concentration by increasing blowdown, resulting in greater water and chemical consumption.
- Continuous or shock dosing of biocides to control bacteria and algae, often with poor results and deleterious effects on equipment and treatment programs.
- Reduce pH with acid dosing, exposing the cooling equipment to greater corrosion potential and operators to increased safety risk.

HYDROFLOW ALLOWS THE OPERATOR TO MAXIMIZE THE EFFICIENCY OF COOLING TOWER OPERATIONS BY INHIBITING THE PRECIPITATION OF SCALE AND THE GROWTH OF BIOFILM.



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The HydroFLOW™ Water Conditioner: an easily installed, eco-friendly device that inhibits the formation of scale and bio-film, without costly treatment programs.



Schematic Flow Diagram

Scaled Tower Fill

HydroFLOW 77 Day Demo for a Fortune 500 Aerospace Company
No New Scale Accumulated

Before and After HydroFLOW installation

HydroFLOW installed

Visible Metal due to Scale Removal

Installed on the exterior of any piping system or pipe material, the HydroFLOW device employs a ferrite ring to apply an oscillating 150 kHz frequency that penetrates the pipe wall and travels both upstream and downstream from the point of installation. The water within the piping system, acts as a conduit to propagate the signal throughout the system, conditioning the water, whether it is moving or stationary. Testing has proven that the HydroFLOW signal is more efficient and effective than similar water conditioning technologies.

The HydroFLOW signal induces the dissolved minerals to cluster and precipitate as stable crystals that remain in suspension and do not adhere to piping and equipment surfaces. Likewise, the signal disrupts the growth of bacteria and algae, causing them to perish; biofilm colonies detach from pipe and equipment surfaces. Independent studies have confirmed that the HydroFLOW signal, with no or minimal use of biocides, inhibits the growth of bacteria and algae in circulating systems by up to 99.7%.

The suspended particles, either mineral or biological, are filtered or flushed out with the process blowdown.

Call Enpure Process Systems, LLC for an evaluation today. 281-886-8742



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BENEFITS

ASSET PROTECTION

Operation of the cooling tower circulating water at pH above 9.0, reduces the risk of corrosion to equipment, such as condensers, heat exchangers, and pipelines, protecting expensive equipment from premature failure and unexpected outages. Future capital expenditures are often deferred, improving return on investment and conserving capital.

ELIMINATION OF SCALE AND BIOFOULING WITHOUT CHEMICALS

The oscillating 150 kHz signal induces dissolved minerals to cluster and precipitate in solution, instead of on to equipment surfaces.

REDUCED WATER CONSUMPTION

The HydroFLOW technology controls scale allowing higher cycles of concentration for cooling towers and boilers. Higher cycles results in lower blowdown and less make-up, conserving water and dollars.

INCREASED ENERGY EFFICIENCY

Eliminates insulating scale and bio-fouling adhering to heat transfer surfaces. Energy savings ranging from 5% - 10% are achievable.

IMPROVED CORROSION PROTECTION

Operation of circulating water at higher pH promotes magnetite formation on carbon steel surfaces and protects against pitting/crevice corrosion.

REMINERALIZATION / SOFTENING OF EXISTING SCALE

Heavily scaled systems are more easily cleaned after the installation of HydroFLOW, resulting in reduced maintenance costs for de-scaling pipeline heat exchanger tubes, and tower surfaces. HydroFLOW technology remineralizes and softens existing scale, causing it to detach and discharge with the process blowdown. HydroFLOW eliminates the need to shut down the cooling system or utilize aggressive acids and abrasive cleaners to remove scale.

ELIMINATION OF ACID DOSING FOR PH ADJUSTMENT

HydroFLOW operates without the need for acid dosing to adjust pH for scale control. Your site and building will be safer with the elimination of operator exposure to hazardous, concentrated sulfuric or hydrochloric acids.