



# Solving the Hard Water Scaling Problem



During the product development phase, our design team addressed the possibility of scaling on air conditioner condenser fins and coils. We took this problem seriously, realizing that we could not continue unless we eliminated the chance of scale build up harming the efficiency of the condensers. Scaling occurs when the calcium molecules in water (calcium carbonate) start to bond with each other & other surfaces continuing to grow if not treated. This can happen because calcium carbonate is designed perfectly to bond with just about any surface.



**To combat this problem**, our design team enlisted the help of some of the nation's foremost experts in water treatment technology to develop a water treatment filter using a proven scale elimination additive. This bio-friendly additive (polyacrylate) combines with the scale forming molecules of the calcium & other minerals in hard water and distorts their geometry, keeping them from attaching to one another thus preventing the formation of scale. This process is so effective that it is used around the world to prevent scale from interfering with the efficiency of even the most sensitive water systems such as: cooling towers, boilers, closed heating and cooling systems, large reverse osmosis systems, air scrubber systems & many other industrial water systems



**The challenge was to create a cost effective way to deliver this additive to work in conjunction with the low volume of water used in our AC pre-coolers.** This was accomplished by combining a patented process developed by Smart Release Technologies of Dober Industries (one of the largest water treatment chemical companies in the world) and a new low volume delivery system developed by Greenway. This proprietary inline system allows us to deliver the exact amount of polyacrylate into the water flow of the Cool N Save system to prevent scale build up, with a need to only change the cartridge approximately once every 3 months at a cost of less then \$100 per year.\*



It was only after we solved the scaling problem that we went ahead with the rest of the innovation that makes the Cool N Save Commercial such a breakthrough in cooling cost & energy use savings that we are able to offer our 100% Money Back Guarantee (see attached).

\*Actual costs & change cycle may vary depending on use & system

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## OUR WATER EXPERTS

- **Paul R. Puckorius**, President and CEO of Puckorius & Associates, Inc., has over 50 years experience in cooling water, boiler water and re-use water technology, specializing in corrosion, scale and microbiological problem solving, treatment selection and system start-ups. He has practical experience with industrial, refinery, utility power station systems, and HVAC systems. Paul assists plants with system audits, cost reductions, vendor specifications, re-use considerations, zero blow down via softening, hazardous chemical elimination, development of conservation programs and the optimum utilization of water and chemicals. Paul is past president of the Cooling Technology Institute. [www.puckorius.com](http://www.puckorius.com).
- **Steve Mosher**, Business Development Manager Smart Release Technology, Dober Chemical. Bachelor of Science in Architectural Engineering, Kansas Sate University, and EIT Certified. Specializing in Mechanical and Electrical Building Design, Steve has worked in the chemical industry for 11 years, specifically relating to water processing and treatment of cooling and steam systems.

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