

Watch Out for Wondrous Water Treatment Witchcraft

It seems to be that time again! Time to caution unwary plant engineers and purchasing agents against buying water treating or water conditioning devices whose operation cannot be explained by understandable scientific principles. They are like the mythical 200 mile per gallon carburetor—they simply don't work! Quite aside from their being a complete waste of money, their installation delays the introduction of sound scale and corrosion preventive treatments which in turn leads to more costly maintenance later when their inadequacy becomes apparent.

Many of us thought that these questionable devices had been laid to rest in the fifties, but old devices, long discredited, have reappeared under new names. One of my advisors has a nine inch thick file on almost a dozen devices being promoted today! Hence, this renewed word of warning.

You should become wary if the promotional literature for a device claims that it operates by a mysterious force, or even a magnetic force, that changes the characteristics of a water stream (for example, its ionic or molecular structure) so that scale forming solids remain in suspension, and/or corrosion is prevented. Watch also for devices that operate by miniscule electric currents (e.g., a 1.5 volt penlight battery). Become doubly cautious if: (1) the device is simple to install and requires no maintenance or supervision, and (2) if there are no limitations on the volume of water that can be treated.

Usually the promotional literature will include what at first glance may appear to be a scientific explanation of the principles of operation. It will probably use many familiar and well understood terms such as ions, ionization, crystallization, colloids, electrons, magnetic fields, radiation, ultrasonic vibration, polarization, etc., but they will be woven into an "explanation" that you can't quite understand. The principles of scale formation and corrosion are well established and can be explained in familiar terms that can be understood by anyone with an elementary knowledge of chemistry and physics.

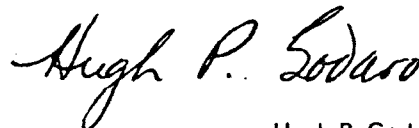
The pseudo-scientific gobbledegook will probably be accompanied by a number of testimonial letters. A careful reading of them often shows that the claims of good results are pretty vague generalizations, and the length of time over which they were obtained may not be given. This is significant because damaging scale formation and/or corrosion may take some time to reveal itself, and in the meantime all is well.

The old adage is still true: "You can't get something for nothing!" And Barnum is still right: "There's a sucker born every minute." Don't you be one when it comes to water treatment.

After reading the claims for a device, if you're still in doubt, it may be well worth your while to read some of the following references:

References

1. R. Eliassen and H. H. Uhlig. So-Called Electrical and Catalytic Treatment of Water for Boilers, JAWWA, Vol. 44, pp. 576-582 (1952).
2. B. Q. Welder and E. P. Partridge. Practical Performance of Water Conditioning Gadgets, Ind. Eng. Chem., Vol. 46, pp. 954-960 (1954).
3. R. Eliassen and R. T. Skrinde. Experimental Evaluation of Water Conditioning Performance, JAWWA, Vol. 49, pp. 1179-1190 (1957).
4. A. M. Henricks. Water Conditioning Gadgets: Fact or Fancy. Paper presented at South Central Regional Meeting of NACE in Oklahoma City, October 1-4, 1957.
5. R. Eliassen, R. T. Skrinde, and W. B. Davis. Experimental Performance of Miracle Water Conditioners, JAWWA, Vol. 50, pp. 1371-1384 (1958).
6. Anon. Federal Trade Commission Decision on Evis Water Conditioner Claims, JAWWA, Vol. 51, pp. 708-709 (1959).
7. Anon. (editorial). Why Be A Gadget Sucker? Corrosion, Vol. 16, No. 7, p. 7 (1960).



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