

The Merus® effect in fresh water generators (evaporators)

The 2 basic principles of the Merus ring with regard to scaling are that:

- (1) solids remain solved in the water up to higher concentrations, and
- (2) the scaling that occurs has a softer consistency.

So for a fresh water generator (evaporator) that means:

- Scaling will occur not at all, less or only after a longer operation period than usual.
- The best case is a new evaporator, where no old scaling can come loose and cause dysfunction.

However, please note:

What we can say for fresh water generators as a general rule, is that with Merus you can run the devices with less (or no) chemicals with the same outcome or with the same amount of chemicals with a better outcome. Of course also any dosage in-between is possible.

Some general recommendations:

- (1) If there are problems occurring or for used or heavily scaled devices at the time of installation, go back to operating with Merus ring and chemicals for the time being.
- (2) After some time, when the first improvements have been noted (e.g. longer maintenance cycles, steadier water production or easier cleaning work) you can decide to start a procedure for the reduction of the chemicals:
no total shut-off, but reduce by 25% and then cross checking the results, reduce another 25% plus checking of results, and so on. Until you reach a point where the system is still stable and you know the exact dosage needed.

This procedure puts you on the safe side also with new fresh water generators.

Background reason for a reduction of chemicals step-by-step:

- There can be quite some amount of scaling coming loose in older systems due to the higher solubility in Merus-treated water (mainly in the beginning).
- Another fact is, that there are some applications where chemical dosage can be shut-off totally, but other applications still need some amount of dosage.
- Also some amount of service will always be necessary; however the service intervals can be extended substantially with the Merus technology.

In short words, the choice is still up to the user: **dosage amount of chemicals (if any) vs. amount of service that needs to be done**

Another point of interest is the **various spots in a fresh water generator where scaling can occur**:

The Merus ring normally is installed on the seawater line to the fresh water generator. This causes a protection not only for the preheating/cooling water but also for the feed water for evaporation. (By the way, this is also one reason for the reduction of the chemicals step-by step: there are many points before the evaporation/condensation where existing scaling can come loose when starting with the Merus treatment. This scaling travels downstream and in some cases can accumulate at the feed-water inlet for evaporation/condensation.)

The **main scaling Merus is fighting**, is lime-scale and salt deposits. Normally there is also some reduction of accumulated dirt from seawater due to the smoother surfaces in a Merus treated device. How much that is, has to be experienced over time.

We'll be happy to assist you with any upcoming question, so please do not hesitate to contact us at all times.