

ASR Automatic sensor cleaning



Principle

The cleaning is carried out electrochemically by electrolysis of water:
 $H_2O \rightarrow O_2$ and H_2

The electrochemical cleaning acts threefold: the generated gases hydrogen and oxygen blast away even persistent coatings. Additionally oxygen oxidises organic compounds, and hydrogen reduces rust and manganese oxide and likewise destroys organic coatings.

The produced gas volumes are small and unused gas molecules recombine automatically to the water they stem from.

operation mode

The cleaning is activated in the menu of the measuring and control instrument. The starting time of cleaning can be defined by the user. The cleaning cycle lasts approx. 20 seconds. The measuring value is locked for five minutes, in the display, in the output signal, and also for the controller, in to give the electrode time to polarize.

The cleaning can be set 0/1/2 time per day. ASR aims at keeping the sensor clean from the beginning. It was not meant to clean already coated sensors, since with those sensors the signals will be higher after cleaning making a recalibration necessary.

Available for measurement of

Chlorine, Chlorine Dioxide, Ozone and Hydrogen Peroxide

Advantages

Low maintenance

- √ no manual cleaning
- √ no refill of chemical or physical agents
- √ strongly reduced calibration demand

Effective against persistent coatings like

- √ fat
- √ lime
- √ rust
- √ manganese oxide



ASR

Frequently asked question

Can I use ASR on coated sensors?

Yes. You can use ASR for already coated sensors. You might need more than one cleaning cycle. After cleaning you will probably need to recalibrate, because by removing the coating the slope of the sensor can raise. ASR should be used from the start, keep the electrodes clean, the slope of the sensor is maintained and there is no need to recalibrate.

How many times is a cleaning necessary?

A cleaning once a day is usually adequate. We recommend to raise the number of cleanings, if the measured values decrease visible within a few days.

Do I need to recalibrate daily after cleaning?

No. The cleaning is supposed to maintain the original slope of the sensor, not to change it. If the cleaning runs from the start, the slope should change so little over the time that a recalibration is not necessary. Only calibrate if the electrode was not clean before cleaning and the value is still much higher immediately before the next cleaning.

Generally never calibrate directly after cleaning, so that the calibration does not correspond with the abated polarization phase. That's the reason why we lock the calibration menu for five minutes. During this time the status message „cleaning in progress“ is shown in the display.

I cannot use the calibration menu - why?

The measured value is locked for five minutes in the display, in the output signal and also for the controller, in order to give the electrode time to polarize. During this time the status message „cleaning in progress“ is shown in the display, and the calibration menu is locked.

Can I use ASR under all circumstances?

The automatic sensor cleaning should not be used in sea water or other saline media and also not in ultra pure water or other deionized media.

Is ASR also suitable for sea water?

In sea water, brine or other saline media the ASR should not be used. At high salt concentrations chlorine is build produced oxygen during the cleaning. And this does not only interfere with the measurement but also corrodes the gold electrodes.

Can I upgrade my measuring and control instrument with ASR?

If you use a K 100 or dialog W, you can send this in, and we can upgrade it for you - but only for chlorine, chlorine dioxide, ozone and hydrogen peroxide.

Is ASR available for pH sensors?

No, sorry. The glass membrane cannot be cleaned electrochemically. However, ASR is now available for conductivity sensors. Interested? Give us a call. +49 2150 7066 41

