



## Supply safe water

High-precision analysis of nitrite, iron and aluminum with Liquiline System CA80

The colorimetric analyzers guarantee highly accurate limit monitoring in drinking water, mineral water or process water.

- Reliable, regulation-compliant measurements by using standardized methods
- Costing savings through low reagent consumption and virtually tool-free maintenance
- Advanced diagnostics and process documentation with remote access for the analyzer
- Fast commissioning thanks to Memosens technology and intuitive Liquiline operating concept
- Easy upgrade to a complete measuring station connecting Memosens sensors
- Suitable version for every kind of application - self-priming for particle-free water or with sample preparation system



## Limit values under control



### Good and safe water guaranteed

Nitrite, iron and aluminum are important chemical indicators of the water quality:

- Nitrite forms when denitrifying bacteria reduce nitrate to nitrite. This reduction can either take place in the ground or in foodstuffs. Nitrite is toxic and promotes the formation of carcinogenic nitrosamines.
- Aluminum is naturally present in low levels in groundwater. If it, however, occurs in higher concentrations, it is harmful to human health.
- Iron only rarely occurs in concentrations that are harmful to human health but even very low concentrations of iron suffice to impair the water taste and color. Higher iron contents can also lead to build-up of deposits and settling of microorganisms in pipes.

That's why authorities stipulate strict limits for these parameters.

Liquiline System nitrite, iron and aluminum analyzers provide high-precision monitoring you can rely on to supply healthy water and prove compliance with the strict limits for drinking water, bottled water and process water. Thanks to their standardized measuring methods, the analyzers ensure consistent comparability to lab measurements :

- Nitrite: colorimetric naphthylamine method following ISO 6777 and DIN EN 26777
- Iron: standardized ferrozine method
- Aluminum: colorimetric pyrocatechol violet method according to DIN ISO 10566
- The analyzers feature detailed logbooks to provide continuous documentation of the measured values to the authorities.

### Optimum monitoring of denitrification

During denitrification, dissolved nitrate is reduced to molecular nitrogen through a series of intermediate products.

Liquiline System CA80NO enables precise online monitoring of this denitrification process and thus allows:

- Fast reaction and troubleshooting of possible process disturbances
- Reliable control of carbon dioxide dosing
- Higher safety of the denitrification process.

### Saving energy in iron removal

Iron removal is achieved by oxidizing iron to form iron oxide hydrate which is then removed by filtration or sedimentation. Here, Liquiline System CA80FE allows:

- Optimal control of the air blowers
- Energy saving during the oxidation process
- Fast troubleshooting in case of process disturbances.

### Aluminum dosing: as much as necessary, as little as possible

- In water treatment processes, aluminum is used to reduce turbidity and bacteria content of the water.

Liquiline System CA80AL supports you in optimizing the aluminum dosage while safely complying with the limit values.

- In wastewater treatment processes, aluminum is often used for phosphate elimination. Here, precise monitoring also supports optimized dosing, saves precipitant costs and reduces sludge volume.

## Decrease operating costs, simplify maintenance

### Uniform, intuitive operation of analyzers and transmitters

- Operation of Liquiline System is familiar because it is identical to the concept of other online analysis parameters, such as pH or chlorine. Operating errors are virtually eliminated.
- Connect up to four Memosens sensors, e.g. for turbidity, to your analyzer and thus reduce the investment costs for your plant.
- Integrate the analyzers seamlessly into your process control systems via Modbus, PROFIBUS DP, EtherNet/IP and web server communication.

### Liquiline System makes life easier for operators

- The integrated web server allows remote access to the analyzer. This enables you to analyze possible process disturbances and decide on required measures quickly.
- The analyzer's automatic cleaning and calibration functions ensure that it works accurately and reliably over a long period without manual intervention.
- Simple maintenance: The modular design simplifies fast replacement of individual components.

### Operating costs of a colorimetric analyzer rise and fall with the reagent consumption

- Liquiline System CA80 uses dispensers that enable ultra-precise reagent dosing, thereby reducing reagent consumption.
- The lifetime of the nitrite standard is increased by the analyzer's energy-efficient cooling.



"Since its commissioning 6 months ago, availability of the analyzer has been 100 %. No spare parts such as hoses, adapters or dispensers had to be exchanged and the self-diagnostic functions have continuously monitored the performance of the measuring point. Liquiline System CA80NO has also convinced by excellent reproducibility of the measured values and the low cleaning effort despite a high biomass content of the water."

Irmgard Markert, Head of water technology and laboratory, Aschaffener Versorgungs GmbH (AVG)

## Sample preparation right to the point



Liquiline System CAT820



Liquiline System CAT810

**The self-priming version of Liquiline System CA80 is the best choice for highly precise nitrite, iron or aluminum measurement in particle-free water. In all applications that may involve samples with particles, Liquiline System CAT820 and CAT810 offer perfectly adapted sample preparation.**

- Liquiline System CAT820 is the flexible solution for particle-free sample preparation. It can be equipped with various filter holders and an optional compressed air cleaning to fit a variety of sampling situations.

- Liquiline System CAT810 prepares samples in bypass pipes. Thanks to its low dead volume, it reflects process changes promptly and shortens the response time of your downstream measuring devices. The system is equipped with a self-cleaning cross-flow filter and backflush to reduce blocking.

All sample preparations are fully controlled by the Liquiline System CA80 analyzer to guarantee perfect synchronization of the measuring point. The filters of Liquiline System CAT820 can be combined with the Flexdip CYH112 holder to adapt them to any installation situation.



Ceramic filter with float

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