The Gatekeeper - XRF on line analysis of aqueous solutions

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The Gatekeeper

This practical XRF online analyzer provides fast and reliable real-time online detection of unwanted elements in fluids and aqueous solutions. Should any unwanted elements be detected, a warning signal is released within 30 seconds. Ten seconds are needed for the first measurement, after which another measurement can be initiated in case of a first "positive" result. Thus, in 20 seconds a verified result can be published.

The time required for each measurement depends on the number of elements to be traced, the measuring time (approx. 10 to 20 seconds) for each element and the interval at which a sample should be measured. This very brief measuring time includes both sampling, measurement and data processing.

The most important features of this instrument are:

- A representative sample: no problems are caused by laminar flow of the liquid, thanks to a special construction of the flow cell in which the measurement is done.
- Software dedicated to obtain the shortest measuring time possible that nonetheless provides reliable results.
- A self-cleaning fully x-ray transparent window, thanks to the special construction of the flow cell.

The principles

Gatekeeper software includes settings that allow for user specified criteria: which are the "unwanted" elements to be detected and when the alarm should be triggered, determined solely by the user specified criteria. Once these unwanted elements have been identified in the settings, the user then also specifies the string of elements that are to be measured during one measuring cycle. Subsequently the user also can specify at which intervals the measuring cycle should be repeated and how often a flow stream is to be screened for elements specified in the settings.