

Using on-line XRF analysis
opens up new process
control dimensions!



Springer New Technologies, in
cooperation with J&C Bachmann, is
making
**XRF techniques available for
continuous, on-line industrial use.**

ABOUT US



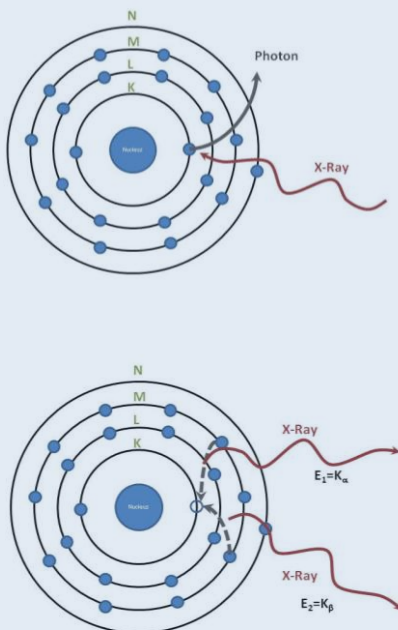
COMPANY PROFILE

Springer New Technologies, in cooperation with J&C Bachmann, both affiliated to Quality Control International, located in the Black Forest region in Germany, have more than 25 years of experience in the field of on-line process measurement techniques.

They have developed an on-line XRF analyser for determining the elemental make-up of bulk products, slurries or liquids as well as for determining the depth-profile of a borehole. These innovative, on-line products enable a wide range of customers in industry and research to make technological advances in terms quality control and to accelerate their progress.

The on-line X-ray fluorescence analysis method is employed directly and continuously on the process product without specific prior sample preparation. Compared to sporadic sampling, the direct, online method has the advantage that it measures independently of probable faulty sampling techniques, and the on-line equipment analyses a large amount of product so as to ensure a representative process signal in real time. Thus, there are many reasons to incorporate the online X-ray fluorescence analysis technique into the process control environment. Processes with solids or liquids that require a continuous quantitative element analysis, or element concentration measurement, benefit from the process-oriented XRF measurement signal.

HOW IT WORKS



ON-LINE XRF MEASURING PRINCIPLE

The principle of X-Ray Fluorescence (XRF) is the use of photons to fluoresce atoms of the element of interest and then to measure the subsequent element characteristic X-rays with a radiation detector, thus achieving an indication of the amount of the element present in the sample.

Photons from the fluorescing source remove an inner shell electron from a specific atom, leaving the atom in an excited state. De-excitation can occur via the emission of one of a series of X-rays whose energy is specific to the element. The characteristic X-rays are recorded by a radiation detector and the intensity of the characteristic X-rays is proportional to the amount of the element present in the bulk product or liquid. Appropriate calibration of the system against samples, or through fundamental principles, allows the number of emitted specific X-rays to be quantified as a measure of a specific element in the bulk product or liquid.

The analyser output is available as a process measurement signal in terms of a sliding average of the continuously evaluated detector spectra.

**FOR MORE
INFORMATION CONTACT**



**Marketing
Service**

SNT

SPRINGER NEW TECHNOLOGIES GmbH

for process control

Kernerstr. 282/1
75323 Bad Wildbad
GERMANY

Tel : +49 (0)7081 380 613
E-Mail: info@springernewtech.com
www.springernewtech.com

Hauke Springer
Sales, Director
Tel : +49(0)7081 380 613
Cell: +49 (0)151 121 55178
hauke@springernewtech.com



J&C BACHMANN GmbH

engineering consultants for measurement and process
automation

Silcherstr. 41
75323 Bad Wildbad
GERMANY

Tel: +49 (0)7081 923 902
E-Mail: applications@jcbachmann.de
www.jcbachmann.de

Dr. Claus Bachmann
Development Manager
Tel: +49 (0)7081 923 902
Cell: +49 (0)160 7030539
cba@jcbachmann.de



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