

Continuous analysis with a high level of precision increases profitability

Fiercer competition and rising energy and raw material prices – the challenges facing the paper and pulp industry are substantial. In this context it is therefore increasingly important to reduce production costs, improve product quality and meet ever more stringent environmental requirements. Not least, the production of green electricity has taken on more and more significance.

DECREASE ENERGY REQUIREMENTS AND INCREASE QUALITY

By continuously analysing the dry substance in black liquor, and subsequently gaining an overview of the variations, allowing for a reduction in the margins of error for safety, the effect is twofold. Efficiency in the recovery boiler can improve massively while the energy required for the evaporation process can be drastically reduced.

Of at least equal importance is the continuous analysis of the pulp's quality and properties, as this is crucial for a stable, economical process and the quality of the final product. Even the smallest improvement can result in substantial savings.

ROOM FOR IMPROVEMENT

Nonetheless, at many paper mills, neither the recovery process nor the pulp flows are optimised. In certain cases, aspects of production are run according to experience and feeling instead of quantifiable information. And the analysis methods used have a number of disadvantages, such as a lack of continuity, simplicity and accuracy. To put it bluntly: There is room for improvement!

SIMPLER AND SMARTER

Shouldn't it be possible to carry out precise fluid analyses in a smarter, more secure way, where installation is undertaken with no disruption to production, where measurements are provided in real-time and with next to no maintenance?

EXACT FLUID ANALYSES USING SOUND

We developed the Acospector Acoustic Chemometer, an instrument the uses of which include the analysis of the dry substance in black liquor solids and the measurement of pulp consistency using sound.

ACOSENSE AB

Acosense is a progressive high tech company that produces and sells the Acospector® Acoustic Chemometer, an innovation with its roots in ABB which, via Chalmers School of Entrepreneurship, created Acosense in order to make its innovation available to the industry. The company was founded in 2009 and its solution is now used within numerous industries and for a multitude of applications. Acosense's vision is to provide the process industry with the tools to make the right decision at the right time, and in doing so to minimise costs, improve product quality and reduce environmental impact.



Power and productivity
for a better world™

**CHALMERS
VENTURES**
what if



The background of the entire image is a high-contrast, black and white photograph of industrial machinery, specifically large pipes and structural elements. A large, semi-transparent green circle is centered over the image, serving as a backdrop for the main text.

A smarter,
more secure way
to analyse fluids.

ACOSPECTOR®
ACOUSTIC CHEMOMETER

The background is a high-contrast, blue-toned photograph of an industrial facility, likely a paper mill. It features a complex network of pipes, metal walkways, and structural beams. A large, semi-transparent green circle is positioned in the center-left of the frame, serving as a backdrop for the text.

*“Better control and
palpable savings”*

*Maria Boman,
Senior Development Specialist,
SCA Östrand.*

ADVANTAGES OF ACOSPECTOR

In contrast to many other analysis methods in use today, Acospector has some unmistakeable advantages.

High precision, +/- 0.5 % ts



No maintenance



Cost effective



Continuous measurements in real-time



Non-invasive installation with no break in operation

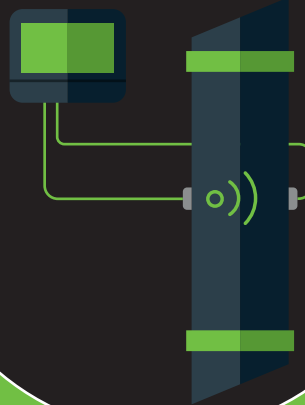


Local and online function monitoring

PRECISE FLUID ANALYSES USING SOUND

Acospector Acoustic

Acospector is installed on the outside of the pipe through which the fluid flows – entirely non-invasive and with no break in operation.



Acospector sends and receives acoustic signals which are then analysed in a server environment.

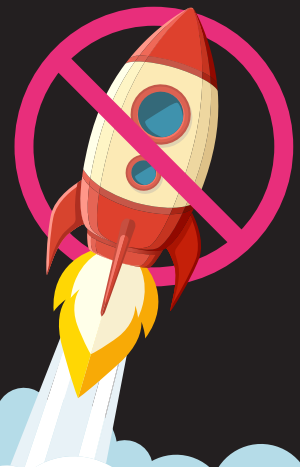


MORE SECURE WORKING ENVIRONMENT

With Acospector, personnel are not required to come into contact with the black liquor or any other fluids to carry out their analyses. Absolutely no physical contact with the unit is needed. This is both smarter and safer.

IT'S NOT ROCKET SCIENCE

Analyses using sound waves may seem advanced. But this is not rocket science, it is a simple, proven technology with a high degree of accessibility. Quite simply, fluids sound different when they pass through a pipe, depending on the dry weight or concentration. And it is these fluctuations in sound that Acospector can measure and analyse.





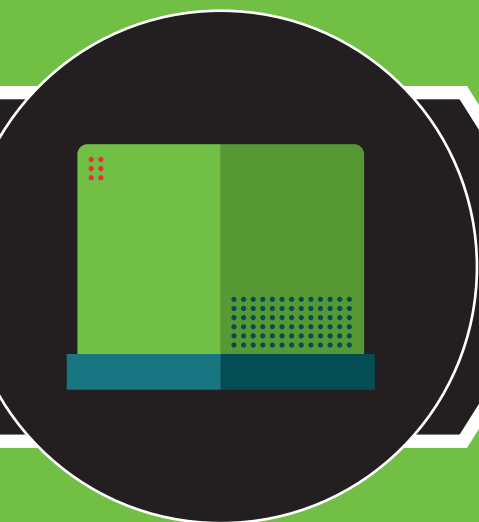
"THERE IS A DISTINCT DIFFERENCE BETWEEN RECEIVING A CONTINUOUS SIGNAL AND RELYING ONLY ON LAB TESTS."

Maria Boman,
Senior Development Specialist, SCA Östrand.

"WE WANT TO HAVE STABLE ONLINE MEASUREMENTS IN A NUMBER OF POSITIONS SO THAT WE CAN RUN THE FACILITY MORE EFFICIENTLY AND SAFELY."

Thomas Särnholm,
Produktionsingenjör Billerud Korsnäs, Frövi.

Chemometer is probably the simplest way to increase profitability in recovery process and pulp.

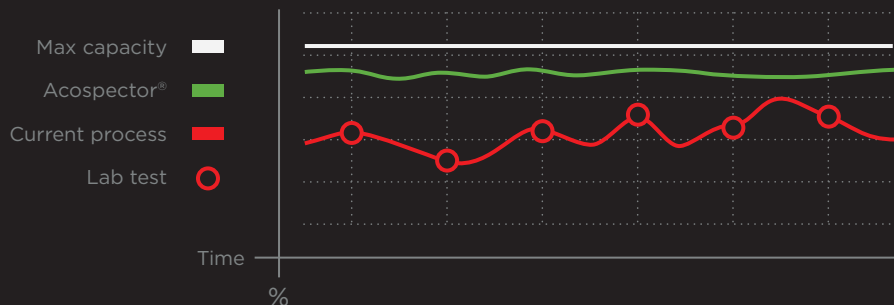


The information is transmitted to an existing control system, where the operator can see precise, real-time measurements of the dry substance in black liquor and/or the pulp quality.



GAIN AN OVERVIEW OF THE VARIATIONS AND REDUCE THE MARGINS OF SAFETY

With improved monitoring, the process can run at a level closer to its optimum.



ONE INSTRUMENT, MULTIPLE PROPERTIES

Acospector can analyse many different properties simultaneously, such as dry substance, viscosity and particle size. These analyses are made using separate different software packages in the same measurement unit and with the same hardware, meaning that just one instrument can be installed instead of three.

