

CVG Bauxilum Improves Process Control and Reduces Maintenance Costs with Rosemount High Signal and Universal Transmitter Technology

RESULTS

- Reduced installation and maintenance costs
- Improved measurement accuracy and stability
- Improved process control

APPLICATION

Raw Bauxite in Caustic Soda Solution Slurry, approximately 50-60% content of sand and quartz

CUSTOMER

CVG Bauxilum is a major alumina production company located in Venezuela with an established capacity of two million metric tons per year.

CHALLENGE

CVG Bauxilum extracts bauxite mineral from Los Pijiguaos mines and processes it to produce high grade alumina. The raw bauxite in caustic soda solution from Los Pijiguaos has a 50-60% content of sand and quartz. The bauxite solution enters the plant at three locations and is measured using magnetic flowmeters. The bauxite flow combined with high sand and quartz content results in a noisy flow signal. The magnetic flowmeters that were installed at the plant entrance showed numerous spikes in the flow signal. This resulted in an unstable and inaccurate measurement that made it difficult to control the pumps at the entrance to the plant. In order to maintain an efficient control loop, CVG Bauxilum did not want to add damping to the flow signal.

CVG Bauxilum was also looking to reduce the maintenance and installation costs associated with their magnetic flowmeters. Due to the abrasive nature of the process, the magnetic flowmeters that were originally installed required changing of the liner and electrodes on a yearly basis. In addition, repeated failure of an electronics board has required significant maintenance intervention. Finally, the other manufacturer's transmitter was more difficult to set up and required special cable, increasing installation costs.



“The Rosemount meter was installed in March of 2006 and has been working properly for two years without intervention.”

Rodolfo Navarro
Instrumentation Superintendent



CVG Bauxilum plant entrance with Rosemount High Signal Flowmeter system installed

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Process Management

SOLUTION

CVG Bauxilum chose to replace one of the three measurement points with a Rosemount High Signal Magnetic Flowmeter (8712H) and monitor its performance against the other two. CVG Bauxilum selected the Rosemount High Signal Magnetic Flowmeter because it generates a magnetic field strength 10 times that of a standard DC magnetic flowmeter. The Rosemount Magnetic Flowmeter has outperformed the existing meters by providing a more stable and accurate flow signal without additional damping. The more stable signal provided increased process efficiency through improved control of the pumps at the plant entrance.

In addition to providing improved process control, the Rosemount Magnetic Flowmeter proved more reliable in abrasive applications. The meter was installed in March of 2006 and has been working properly for two years without intervention. As a result of the improved reliability and performance, CVG Bauxilum has replaced the remaining two flowmeters at the plant entrance with Rosemount High Signal Magnetic Flowmeters.

After the installation of the Rosemount High Signal magnetic flowmeters, the value of the Rosemount 8712 Transmitter was clear. The Rosemount 8712 Transmitter took less time to configure than their existing installation and did not require any special cable to operate, which reduced installation costs. Also, Rosemount Magnetic Sensor Transmitters are Universal transmitters, which can be used with other manufacturer's sensors. By using Rosemount Universal technology, CVG Bauxilum has been able to replace the troublesome transmitters plagued with electronics board failures while leaving the existing sensors in place, thus reducing maintenance costs.

RESOURCES

Rosemount 8732E Marketing

<http://www.emersonprocess.com/rosemount/products/flow/m8732e.html>

Rosemount 8712 Marketing

<http://www.emersonprocess.com/rosemount/products/flow/m8712.html>

CVG Bauxilum reduced maintenance costs by replacing their failure prone transmitters with Rosemount Universal transmitters, while leaving their existing sensors in place.



The Rosemount 8712 Transmitter with an easy-to-use LOI

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Emerson Process Management

Rosemount Division
8200 Market Boulevard
Chanhassen, MN 55317 USA
T (U.S.) 1-800-999-9307
T (International) (952) 906-8888
F (952) 949-7001
www.rosemount.com

Emerson Process Management Flow

Neonstraat 1
6718 WX Ede
The Netherlands
T + 31 (0) 318 495555
F + 31 (0) 318 495556

Emerson Process Management

Emerson Process Management Asia Pacific
Private Limited
1 Pandan Crescent
Singapore 128461
T (65) 6777 8211
F (65) 6777 0947
Enquiries@AP.EmersonProcess.com

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For more information:
www.rosemount.com


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