

Cotton Seed Processing Company Saves Over \$60,000 Operational Savings with Rosemount™ 3051SMV

RESULTS

- Reduced Hydrochloric Acid consumption by 45 percent
- Achieved over \$60,000 in annual plant operational savings
- Increased operational efficiency through process automation



APPLICATION

Anhydrous Hydrochloric Acid (HCl) gas flow measurement

CUSTOMER

Cotton seed processing plant

CHALLENGE

Cotton seed can be a particularly difficult feedstock to work with before a usable end product is produced. For one such facility in the United States, the cotton seed being processed had a particularly high amount of lint that had to be removed. To do this, Hydrochloric Acid (HCl) was used to crystallize the lint on the shells of the seed. The seeds were then sent to a tumbling drum that removes the hardened lint. The smoothed seeds were bagged in 50 lb (23 kg) sacks and placed on pallets for shipment.

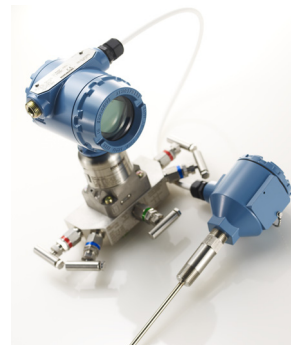
The main concern of the plant manager was finding a way to reduce the operational costs of the lint removal process. Given that Hydrochloric Acid cost \$0.85/lb (0.45 kg), plant managers were given the challenge of reducing their HCl use from 9 lb per ton (4.5 kg per metric ton) of seed to 5 lb per ton of seed (2.5 kg per metric ton).

The processing plant was able to maintain their cotton seed output of 18,000 tons per year while reducing HCl usage by 45 percent, resulting in over \$60,000 in annual savings.

SOLUTION

Emerson™ worked with the plant engineers to assess the application and recommended the Rosemount MultiVariable™ Technology. The Rosemount MultiVariable Transmitter measures differential pressure, static pressure, temperature, and dynamically calculates mass flow in real-time. This allowed the cotton seed facility to accurately measure HCl usage with a single device.

The Rosemount MultiVariable Transmitter was able to accurately compensate for pressure and temperature changes of the HCl gas to achieve reliable and repeatable mass flow measurement. As a result, HCl consumption was reduced by 4 lb/ton (2 kg per metric ton), helping the plant managers realize cost-savings goals. With an annual production rate of over 18,000 tons (16,300 metric tons), this amounted to \$61,200 in savings. Because of the significant savings, the cotton seed producer has converted their other three facilities to include the use of the Rosemount MultiVariable Transmitter to automate and reduce their HCl use.



RESOURCES

Emerson Chemical Industry

[Emerson.com/Industry/Chemical](https://www.emerson.com/Industry/Chemical)

Rosemount 3051S MultiVariable Transmitter

[Emerson.com/Rosemount/Rosemount-3051S-Multivariable](https://www.emerson.com/Rosemount/Rosemount-3051S-Multivariable)

Emerson Terms and Conditions of Sale are available upon request.
The Emerson logo is a trademark and service mark of Emerson Electric Co.
Rosemount and Rosemount logotype are trademarks of Emerson.
All other marks are the property of their respective owners.
© 2018 Emerson. All rights reserved.

[LinkedIn.com/company/Emerson-Automation-Solutions](https://www.linkedin.com/company/Emerson-Automation-Solutions)
[Twitter.com/Rosemount_News](https://twitter.com/Rosemount_News)
[Facebook.com/Rosemount](https://www.facebook.com/Rosemount)
[Youtube.com/user/RosemountMeasurement](https://www.youtube.com/user/RosemountMeasurement)
[Google.com/+RosemountMeasurement](https://www.google.com/+RosemountMeasurement)

Global Headquarters

Emerson Automation Solutions

6021 Innovation Blvd.

Shakopee, MN 55379, USA

+1 800 999 9307 or +1 952 906 8888

+1 952 949 7001

RFQ.RMD-RCC@Emerson.com

Europe Region

Emerson Automation Solutions Europe GmbH

Neuhofstrasse 19a P.O. Box 1046

CH 6340 Baar, Switzerland

+41 (0) 41 768 6111

+41 (0) 41 768 6300

RFQ.RMD-RCC@Emerson.com

Middle East and Africa Region

Emerson Automation Solutions

Emerson FZE P.O. Box 17033,

Jebel Ali Free Zone - South 2

Dubai, United Arab Emirates

+971 4 8118100

+971 4 8865465

RFQ.RMTMEA@Emerson.com

Asia Pacific Region

Emerson Automation Solutions

1 Pandan Crescent

Singapore 128461

+65 6777 8211

+65 6777 0947

Enquiries@AP.Emerson.com

00830-0100-4803, Rev BA