

Manufacturing plant benefits from more efficient boiler drum level control

Situation

A company in the Midwestern United States produces industrial phosphates, plastics, and resins used in the automotive and commercial/residential construction industries. One of their processing plants was in need of more effective boiler drum level controls.

Challenge

Boiler drum level has become more important as boiler operating pressures have increased over the years. The cost of building and installing large steam drums forced the reduction of the drum size for a given steam production capacity. The consequence of the smaller drum size has led to a reduction in process time constants, or the speed with which important process variables can change.

Smaller time constants mean upsets must be addressed more quickly, and this has led to the development of increasingly sophisticated control strategies. The previous cycle time for re-calibrating the differential pressure transmitter used for the boiler drum level was taking too long to be cost-effective.

Solution

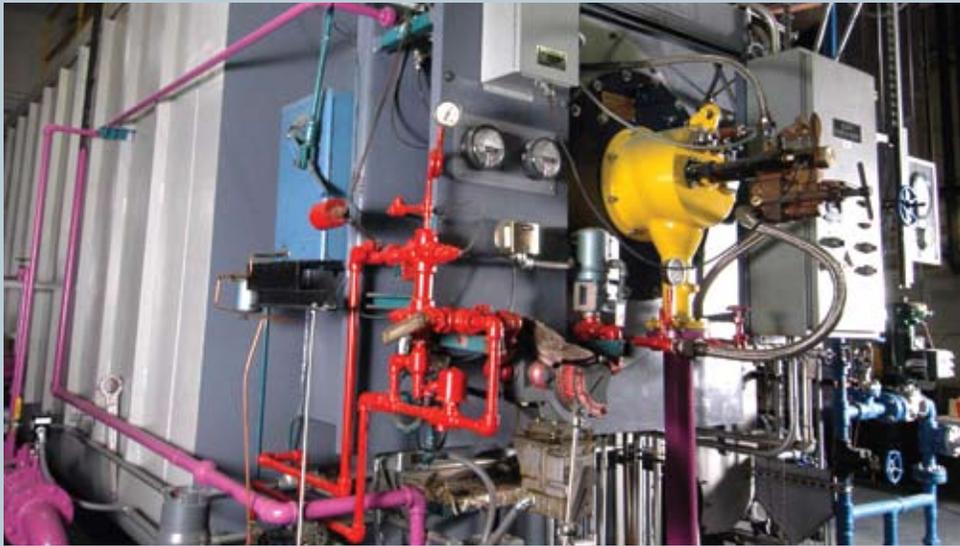
The Siemens SITRANS P DSIII dP pressure transmitter was a good fit for this application. The easy-to-use magnetic pushbuttons on the top of the transmitter were ideal for the quick re-calibration needed for changing process variables on two of the company's boilers. After a simple demonstration, the customer's engineers agreed to try the Siemens pressure transmitters. Cycle time for re-calibration was reduced from several hours (remove, bench calibrate, replace) to mere minutes by taking advantage of the pushbuttons on the DSIII transmitters.

The customer has been so pleased with the Siemens pressure transmitters and the service from the local representative, that they have, subsequently, also ordered Siemens PDM software and SIPART PS2 valve positioners. This is in spite of the fact that the plant had a buying agreement with a Siemens competitor.

Process Instrumentation

Answers for industry.

SIEMENS



Benefits

Cost savings

The time to change the transmitter configuration was greatly reduced.

Improved process reliability

The level being reported to the PLC corresponded to the true boiler level. The control room has confidence in the instrument.

Improved accuracy

By using a 100" H₂O transmitter, they were able to achieve much tighter control than the previous competitive unit.

Customer service provided

Training was provided by the local Siemens representative.

User-friendly

Leave the screwdriver and other implements in the toolbox when setting

zero points, ranges, damping, etc. Blind adjustment with three magnetic pushbuttons and the large programmable display yield the same level of accuracy.

High quality and long life

The SITRANS P transmitter has a MTBF of over 300 years. After installation you will be able to confirm the device's reliability and the savings in time and costs it affords.

Rugged design

Does your application involve extreme chemical and mechanical stress? The SITRANS P transmitter can take it in stride. The same goes for electromagnetic interference, the SITRANS P unit is protected, thanks to an EMC rating of 10 kHz to 1 GHz.

Convenient and versatile

Versatility to fit any application has been a long-time standard for the SITRANS P

pressure transmitters. Configuration of the SITRANS P units can be accomplished by using the three magnetic pushbuttons by HART communicator or using a computer with PDM. The modularity of the SITRANS P instrument is also beneficial. Since sensor-specific data is stored in the measuring cell, the potted electronics module can be replaced without a problem. In the event of a problem, the 100:1 turndown allows a single transmitter to serve as backup to many different ranges, thus reducing the quantity and cost of spares.

Communications

In addition to local configuration using the magnetic pushbuttons, you can configure the SITRANS P transmitter remotely via HART or PROFIBUS. You can even capture critical pressure and temperature excursions using so-called "Min/Max Pointers," which are part of the extensive diagnostics that are included in the SITRANS P DSIII pressure transmitter.

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