

Press release

Utilize process gases instead of flaring them

Karlsruhe, 5/29/2015:

Today, even though they have less energy content than natural gas, process gases produced in many process-related operations and especially in the steel industry are being collected in gasometers and used as combustion gas in place of natural gas in thermal processes. However, the fluctuating composition of the process gas, especially the CO content and the related fluctuating energy content, calls for special measures.

The energy content of the gas composition is stabilized by controlled addition of natural gas. One measuring system that is specially configured for this task is the CWD2005 direct calorimeter from UNION Instruments with additional integrated gas analysis and measured value processing. The system determines the Wobbe index and gas density values as well as the concentrations of CH₄ and C₂+. The heating value and air requirement are also calculated from this. Altogether the information from the calorimetry and gas analysis is a basis for sufficiently accurate control of the gas addition.

It is important that the measuring device reacts fast enough to ensure the control process, which requires special measures due to the size of the plant and the mixing of gases in the pipe system. UNION Instruments has developed a computational model based on delay elements that can be adapted to different plant dimensions by assigning parameters.

About UNION Instruments

Founded in 1919 UNION Instruments GmbH is a specialized provider of measurement instruments for calorimetry and gas composition. Its users and customers include the chemical industry, iron and steel industry, energy and water suppliers, glass and ceramic manufacturers, as well as biogas producers. The company has its headquarters in Karlsruhe and a subsidiary in Lübeck. With 20 international distributors, UNION Instruments operates worldwide (for example, in USA, China, Russia, Brazil, Belgium, India, and Southeast Asia.). Its core businesses include development and manufacturing as well as maintenance, service, and support.

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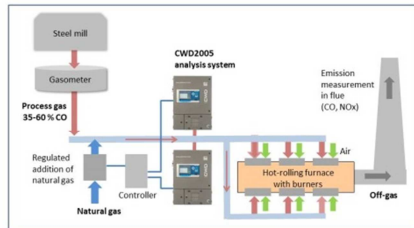
Text file: UNION-Instruments_PM2015-02_Warmwalzwerk_en

Image files: UNION-Instruments_Warmwalzwerk_1_Aufmacher
UNION-Instruments_Warmwalzwerk_2_Schema_EN
UNION-Instruments_Warmwalzwerk_3_CWD

(Image 1: Fotolia, Images 2 and 3: UNION Instruments)



UNION-Instruments_Warmwalzwerk_1_Aufmacher



UNION-Instruments_Warmwalzwerk_2_Schema_EN

A redundant analysis system consisting of CWD 2005 calorimeters with fully-integrated gas analysis for CO, CH₄, C₂+ ensures efficient, environmentally sound combustion of process gases in hot-rolling furnaces.



UNION-Instruments_Warmwalzwerk_3_CWD

The CWD 2005 series calorimeters from UNION Instruments determine the heating value and the Wobbe index of various gas types, such as natural gas, biogas, biomethane, and process gas.