Testo
Application example

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Flue gas analysis in a glass-melting furnace: Highly precise with the emission measuring instruments testo 340 and testo 350.

More efficiency and security in the glass industry

There would be no glass industry without melting furnaces and burners. For the efficient operation of the plants and the adherence to legally prescribed emission values, the exhaust gas values must be continuously measured and optimized at the the furnace, boiler and burner.

The most modern emission measuring instruments such as the testo 340 and the testo 350 ensure safe and reliable flue gas analysis in a melting furnace – even at the highest temperatures inside the furnace. This allows you to achieve a resource-saving operation of your plant and guarantees a clear qualitative and competitive advantage.

The challenge

In the glass industry, various different types of furnace as well as continually operated melting pans are used for melting the glass. The melting process leads to chemical reactions of the components melted from the glass raw materials (mixture). The gases O_2, CO_2, SO_2, H_2O, NO and NO_2 are formed. They are displaced in the refining process in order to prevent the formation of defects on the glass's surface. The ideal loss value of 15 % should not be exceeded here, as this can hinder the clarification of the glass melt.

In order to increase the efficiency of the plant and adhere to the legally prescribed emission limit values for protecting the environment, the gases formed in melting must be measured. The measurements are carried out continuously using stationary instruments and supported and monitored with the help of portable flue gas analyzers. Portable measuring instruments conduct more accurate measurements than stationary instruments.

The most modern measurement instruments from Testo allow for a low-emission and resource-saving production process.

The solution

In continuously operated glass melting pans with a volume of up to 300 tonnes and an operating duration of up to 5 years, the system is fed with oxygen by heating with natural gas burners. This type of furnace requires highly precise measurement of the operating performance of the burner and of the gases which are released during the melting process. You achieve optimum measurement results with a combination of the portable measuring instruments testo 340 and testo 350.

The testo 340 has proven its worth especially in applications under high pressure, in work on gas pipes and for the measurement of even the highest gas concentrations.

The testo 350 is the first choice instrument for the precise analysis of the gases formed in the melting process. With a special ceramic probe for temperatures of up to 1,800 °C as well as O_2, CO, SO_2, NO and NO_2 sensors, the testo 350 carries out the required measurements reliably, even inside the furnace. The fact that a heat shock can occur due to the large temperature difference between the interior and the exterior of the pan should be taken into account. The highly sensitive ceramic probe must also be regularly removed.

You can document your measurements immediately with the IR or Bluetooth printer, and use the EasyEmission software for easy archiving and reporting.

All advantages at a glance

testo 350

- Extendible by up to 6 sensors
- Guided operation with helpful pre-settings for additional instruments – for even easier measurements
- Dirt and impact resistant for use in rough surroundings

testo 340

- Extendible by up to 4 sensors
- Automatic dilution – protects the sensors
- Probe option – suitable for every application

More information

Get more information on the testo 350 testo 340 as well as answers to your questions on emission measurement from our experts at www.testo.com.

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