

IMPAC IS 50-LO/GL: Stability and Reliability in Regenerator Monitoring

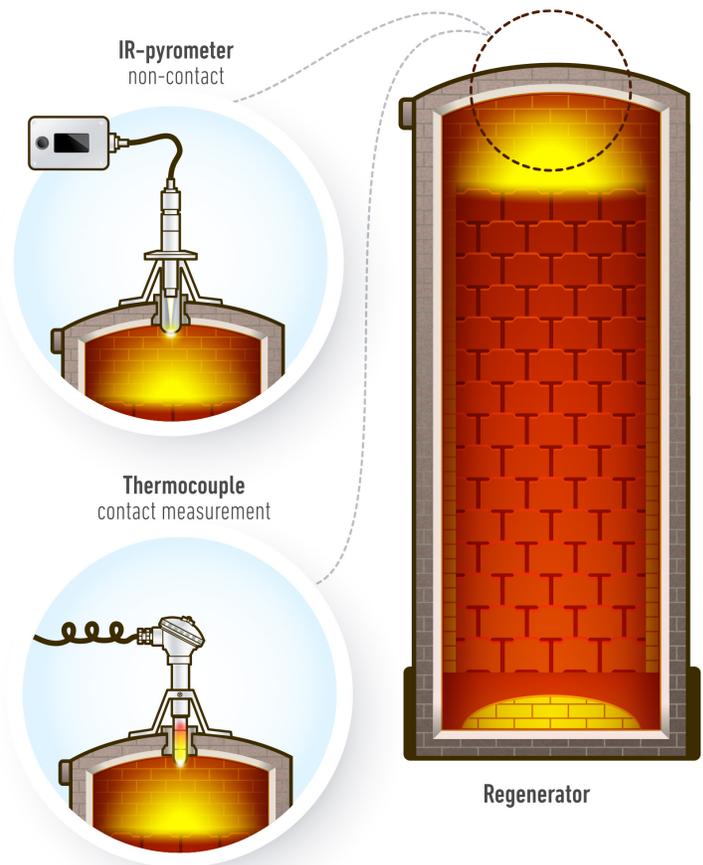
INDUSTRY	SOLUTION	APPLICATION
Glass	IMPAC IS 50-LO/GL	Regenerator Monitoring

CHALLENGE

Glass manufacturing is a very energy-intensive process requiring temperatures up to 1700°C. Regenerators play an important role in this process by allowing preheating of the combustion air. They enable higher operation temperatures and more efficient melting in the glass melt tank. When a regenerator is not being fired, the refractory brickwork checkers in the regenerator absorb and recover heat from waste gases from the melting tank.

Correct temperature measurement of the checker brickworks allows accurate switching of the regenerators, hence efficient and stable operation of the melting tank.

Traditionally, these temperature measurements have been performed with thermocouples. Thermocouples deteriorate over time and have known reliability issues. Infrared pyrometers offer a significant improvement in long-term stability and reliability over traditional thermocouples by measuring temperature without contact, outside high-temperature zones.



SOLUTION

Advanced Energy's IMPAC IS 50-LO/GL pyrometer for high-temperature monitoring of graphite and ceramics components is an ideal solution for the glass industry. Its rugged, industrial design incorporates field-proven components and is easy to retrofit into existing thermocouple wells, such as on the crown refractory. The optical head can also be mounted to directly monitor the checker brickwork if a viewport is provided. The system can help optimize furnace operation by monitoring or controlling regenerator switching temperatures and monitoring the health of the refractory crown. This enables the user to maximize production efficiency.

Features include:

- Wide temperature range options (600 to 3000°C) with highly accurate silicon detector
- High-temperature (< 250°C) optical head with flexible armored fiber optics cable to facilitate mounting in difficult locations

- Full analog and digital output to interface with the facility's control system
- Local parameterization interface and local graphical display; InfraWin software also provided for digital monitoring and configuration
- Laser targeting and test signals for ease of installation



BENEFITS

The benefits of the IMPAC IS 50-LO/GL for glass manufacturers include direct, accurate measurement of refractory brickwork temperatures for improved control of switching processes. It also allows for retrofit into existing thermocouple wells and improved monitoring of critical crown refractory.

The regenerator crown refractory is a very expensive component and is often subjected to the highest temperatures. Therefore, it is important to protect this critical asset. The increased lifetime and minimal installation and maintenance requirements of AE's IMPAC IS 50-LO/GL makes it an optimal solution in glass applications.



For international contact information, visit advancedenergy.com.

powersales@aei.com
productsupport.ep@aei.com
+1 888 412 7832

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