



Perma Pure makes analysis of low level SOx and NOx possible for major North American oil refinery

Results

- Accurate analysis of low level SOx and NOx
- Eliminate heated sample lines

Application

This particular refinery was using a regenerative thermal oxidizer stack source with very low SO₂ emissions, within the single digit ppm range, which was extremely challenging to measure and continued to be unsuccessful in passing system calibration and certification tests. Results were always close to zero because of loss of SO₂ within the system.

A Perma Pure Nafion®- based dryer system was installed just after the probe box. The proximity of the conditioning system to the source ensured that there was minimal condensation of SO₂ while removing moisture from the sample and the system was successfully tested and certified. Calibration time was reduced from over ten minutes to under a minute.



“We have never replaced sample lines”
- I&C Technician

Since then, a similar wall mounted unit has also been installed on the Catalytic Cracker enabling analysis of gas streams with very low levels of NO_x (under 3ppm) as well as a probe mounted unit to measure low level SO_x (Under 10ppm) has been installed on the sulfur stack.

The wall mount unit has ensured that with periodical cleaning, sample lines have never needed to be replaced while the probe mount unit eliminates the cost and maintenance involved in operating heated sample lines.

The systems have been installed and been running successfully for more than 15 years.