

Flue gas analyzer

The flue gas analyzer is nowadays an electronic instrument that automatically calculates a list of factors from a number of measured parameters. The early flue gas analyzer used chemical tests to roughly measure the concentrations of polluting gases in the effluent from a boiler or burner exhaust. The modern instrument measures the air inlet and stack temperatures together with a number of gas concentrations to give a list of efficiency and toxic gas readings. The flue gas analyzer has become truly universal in that it can now measure a number of other factors such as flow velocity and relative humidity. Whilst humidity may be seen as separate from flue gas analysis, but the connection is to be seen in the people who carry out both measurements. Heating and cooling systems are generally serviced by the same people, who appreciate the chance to use one instrument to cover all the different jobs.

The main use for the flue gas analyzer is, however, measurement of the emissions from burner systems. Oxygen and the temperatures are measured, together with carbon monoxide and any other relevant toxic gases. From the temperatures and oxygen level the combustion efficiency and excess air are calculated. These give a good indication of the state of the burner system and can be viewed in real-time on the display of the flue gas analyzer as changes are made to the air/fuel ratio or other factors.