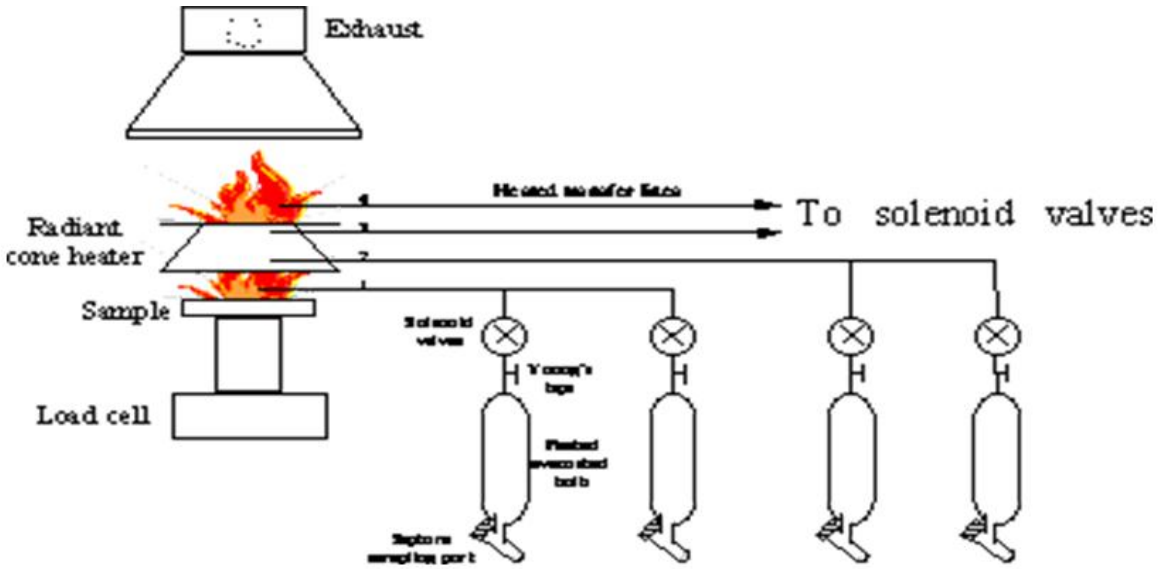
MODIFIED CONE CALORIMETER FOR FIRE RESEARCH STUDIES

Our current studies show the chemistry of the flame continues above the sample, and possibly into the exhaust duct. In order to learn more form the cone calorimeter as a fire model to study of the chemistry of fires, grab samples may be obtained from the reactive regions of the flame. This is done by simultaneously removing 'grab samples' for chemical analysis at 4 different points in the flame. The system established is shown below. Condensable and gaseous components can then be analysed by Gas Chromatography-Mass Spectrometry (GC-MS). Condensable compounds are accessed by dissolution in a suitable solvent prior to GC-MS analysis.

This system is used to obtain 'grab samples' from various regions of the cone flame.



D Price, Y Liu, G J Milnes, R Hull, B K Kandola, A R Horrocks, An investigation into the mechanism of flame retardancy and smoke suppression by melamine in flexible polyurethane foam, Fire and Materials 26, 201-206, (2002).