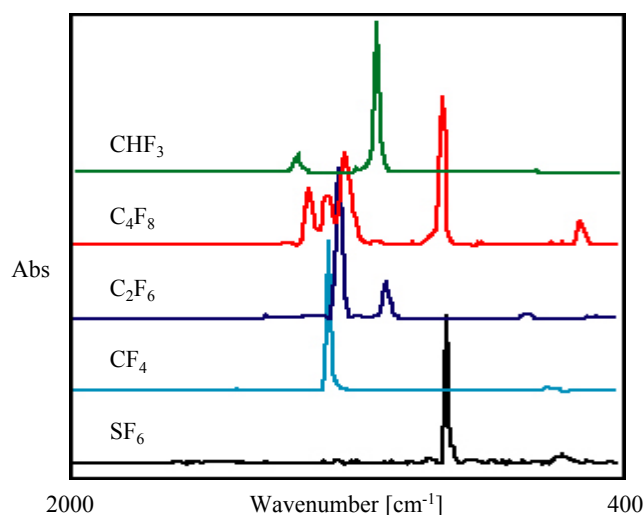


## Industrial Gas Analysis System - PFC Gas Analysis -

The PFC gases (Perfluorocarbon) such as  $\text{CF}_3$ ,  $\text{C}_2\text{F}_6$ ,  $\text{C}_4\text{F}_8$  and  $\text{CHF}_3$  are used as cleaning agents for dry-etching and CVD equipment, a critical process of semiconductor manufacturing. PFC gases are recognized as global warming, or, 'greenhouse' gases and there is an urgent need to control the further emission of these gases, among others. FT-IR (Fourier Transform infrared) spectroscopy is recognized as a powerful tool for the analysis of various gases, including PFCs. The VIR series FT/IR system developed by JASCO may be small (Footprint: A4 size, Weight: 18 kgs.) but has proven sensitivity for on-line or other monitoring applications, with high ratings by various industrial users. Utilizing a multi-pass, long-path gas cell to provide maximum throughput and excellent sensitivity, the VIR series can be configured for either flow through or static operation to monitor semiconductor PFC gases. The various multivariate analysis methods (CLS, PCR, PLS and ellipson) can all be implemented by the VIR series control software for the simultaneous analysis of multi-component samples.

Detection limit of each gas (20 m gas cell)	
$\text{CF}_4$	0.1 ppm
$\text{C}_2\text{F}_6$	0.1 ppm
$\text{SF}_6$	0.1 ppm
HF	0.1 ppm
CO	0.2 ppm
NO	0.2 ppm



IR spectra of PFC gases

### PFC gas analysis system

