

Industrial Gas Analysis System - PFC Gas Analysis

Introduction

PFC (Perfluorocarbon) gases such as CF_3 , C_2F_6 , C_4F_8 and CHF_3 are used as cleaning agents for dry-edging and CVD equipment, a critical process in the manufacturing of semiconductors. PFC gases are recognized as global warming, or, 'greenhouse' gases and there is an urgent need to control further emission of these gases. FTIR spectroscopy is useful for the analysis of PFCs. The VIR series of FTIR spectrometers is compact (Footprint: A4 size, Weight: 18 kgs.), with proven performance suitable for on-line industrial monitoring applications. A multi-pass, long-path gas cell provides maximum throughput with excellent sensitivity, the VIR series can be configured for either flow through or static measurement of semiconductor PFC gases. Multivariate analysis methods (CLS, PCR, PLS and ellipson) can all be used for the simultaneous quantitation of multi-component samples.



VIR-9500
with Gas Cell

Keywords

GAS-8M-VIR Gas Cell

Experimental

Detection Limit of Each Gas (20 m gas cell)	
CF ₄	0.1 ppm
C ₂ F ₆	0.1 ppm
SF ₆	0.1 ppm
HF	0.1 ppm
CO	0.2 ppm
NO	0.2 ppm

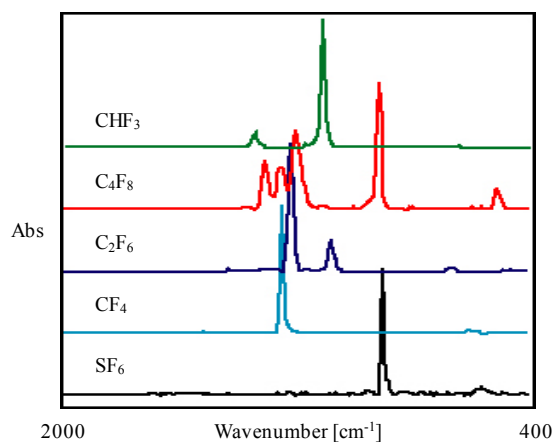


Figure 1. IR spectra of PFC gases



Figure 2. PFC Gas Analysis System