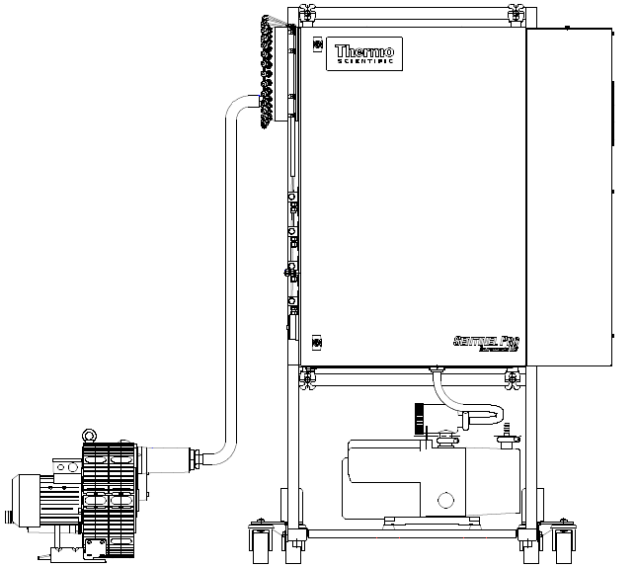
THERMO SCIENTIFIC SENTINEL PRO ENVIRONMENTAL MONITORING MASS SPECTROMETER SPECIFICATIONS



Measurement	Specific VOCs in Ambient Air, Multi-Point and Multi-Component in the ppm range
Area Classification	General Purpose, or ATEX Zone 1, Certification Code Ex II 2 G Ex px IIC T3 Gb CE0359, Certificate Reference ITS11ATEX17331X or Class 1 Div 2 (Z-purged), non-certified or Class 1 Div 1 (X-purged), non-certified
Dimensions	0.97m Width x 0.82m Depth x 1.79m Height, 240 kg
Power	115 VAC (± 5VAC) 60 Hz or 115 VAC (± 5VAC) 50 Hz or 230 VAC (± 10VAC) 50 Hz Consumption 2.0~2.5 kVA Sample pump requires separate 3-phase supply
Environmental Conditions	Ideally 20~25°C. Allowable Range between 12°C and 40°C
Number of Sample Points	Up to 31 or 63
Analysis Time Per Sample Point	10~20 seconds typical (typical, application dependent)
Directly supported Communication Protocols	Modbus (serial RS232, RS422 or RS485)), OPC
Ion Source	Enclosed Electron Impact with Dual Filaments, temperature controlled (settable over range 100-200 degrees C, to ± 0.1 degrees C)
Analyzer Type	Scanning Laminated Electromagnet, 6 cm radius, 80 degrees deflection

Mass Range	Adjustable, default is 1-150 amu at 1000 eV ion acceleration voltage, (at 500 eV ion acceleration voltage, mass range is 1-300 amu)
Resolution	Switchable between two collector resolving slits having resolving powers of 140 (0.36 mm) and 85 (0.69 mm)
Mass scale stability	Measured at mass 28 < 0.013 amu over 24 hours
Detector	Faraday/twin MCP-SEM dual detector
Inlet Type	Membrane leak
Sample Flow	Digitally measured and recorded for each stream
Vacuum System	Turbomolecular Pump and Rotary Pump
Precision	At 10 ppm concentration, readings vary by less than +/- 0.5 ppm over 24 hours and less than +/- 1 ppm over 1 month (typical, application dependent)
Linearity	<5% relative over decade change in concentration (typical, application dependent)
Dynamic range	10 ppb – 100 ppm or 100 ppb – 1000 ppm (typical, application dependent)
Example Measured Compounds	• Acetone • Acetonitrile • Acrylonitrile • Benzene • Butadiene • Carbon tetrachloride • Chloroform • Chlorobenzene • Cyclohexane • Dichloromethane • Dimethylacetamide (DMAC) • Epichlorohydrin • Ethyl benzene • Ethylene • Ethylene Oxide • Freons • Hydrogen Cyanide • Methyl bromide • Methyl ethyl ketone • Methyl iodide • Methyl isobutyl ketone • Methyl methacrylate • Methyl tertiary-butyl ether (MTBE) • Propylene oxide • Propan-2-ol • Perchloroethylene • Styrene • Tetrahydrofuran • Tetrachloroethylene • Toluene • Trichloroethylene • Vinyl acetate • Vinyl bromide • Vinyl chloride • Xylene