

# Process Sense™ Endpoint Detector

## Non-Dispersive Infrared Chamber Clean Endpoint



The Process Sense™ endpoint detector is a small, low-cost SiF<sub>4</sub> sensor specifically designed for Remote Plasma Chamber Clean Endpoint detection for silicon-based CVD deposition chambers. Process Sense is based on infrared absorption, the only technique applicable to all plasma cleaning processes (in-situ and remote).

The Process Sense detector gets mounted onto a bypass on the rough line, ensuring no effect on deposition hardware. The signal level reported by the Process Sense detector, which is proportional to SiF<sub>4</sub> concentration, can be used to determine the completion of the chamber clean process.



### Product Features

- Sensitivity to SiF<sub>4</sub> down to 1 ppm
- Simple analog output for reported concentration signal

#### Applications

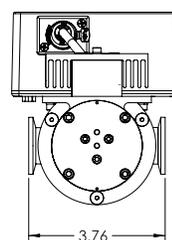
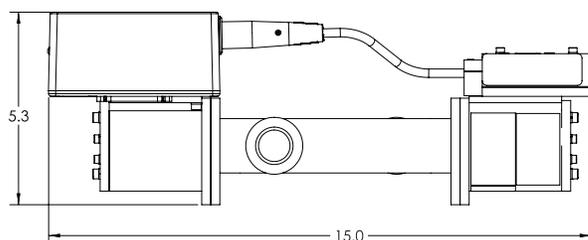
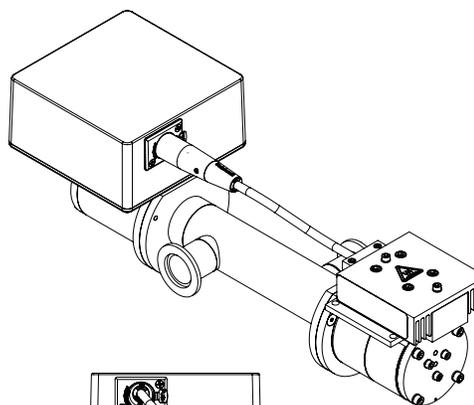
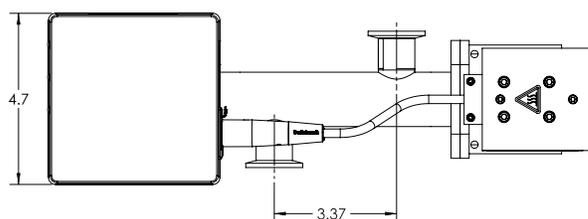
- Silicon Oxides (USG, FSG, PSG, BSG, BPSG)
- Silicon Nitrides
- Polysilicon
- Silane or TEOS processes

#### Key Benefits

- Reduced chamber clean times with accurate measurement of SiF<sub>4</sub> concentration
- Accurate determination of chamber clean endpoint reduces chamber wall over etching
- Increase CVD wafer throughput by shortening chamber clean cycle

## Specifications

<b>Measurement Ranges</b>	<b>SiF<sub>4</sub></b>	1 – 200 ppm (at 760 Torr)
	<b>Detection Limit</b>	1 ppm SiF <sub>4</sub> (at 760 Torr)
	<b>Response Time</b>	1 second report rate
	<b>Calibration Accuracy</b>	±10%
<b>Electrical</b>	<b>Connector</b>	DB25 (DB15 adapter available)
	<b>Input Power</b>	24 VDC (2 amp)
<b>Size</b>	<b>Dimensions</b>	38 x 12 x 13 cm (15 x 4.5 x 5 in)
	<b>Weight</b>	2.5 kg (5.5 lbs)
<b>Output</b>	<b>Analog 1 (AO1)</b>	0 – 10 V (1x SiF <sub>4</sub> concentration)
	<b>Analog 2 (AO2)</b>	0 – 10 V (20x SiF <sub>4</sub> concentration)
	<b>Digital Out</b>	Fault signals
<b>Sample Conditions</b>	<b>Pressure</b>	1 – 760 Torr
	<b>Temperature</b>	25 – 60°C
	<b>Hardware Fittings</b>	NW25, NW40, NW50 (others available upon request)
<b>Compliance</b>		CE



*Dimensional Drawing*  
 Note: Unless otherwise specified,  
 dimensions are nominal values in  
 inches.

Please contact your local MKS office for price and availability information.