

# 5360/5360A XSD™

HALOGEN SPECIFIC GC DETECTOR

**The 5360 and 5360A Halogen Specific Detectors (XSD™) were developed for the selective detection of halogen-containing compounds eluting from a GC capillary column in the subpicogram to microgram range. The XSD installs in the standard detector port of most GC brands and models.**

**The 5360A XSD heated base assembly provides improved baseline stability and easy column installation. The enhanced venting option attains a venting efficiency of nearly 100%, even in the case of a chlorinated solvent injection.**

**Unlike other halogen selective detectors, the XSD contains no radioactive source and does not use organic solvents. XSDs do not require catalyst tubes, solvents, resin cartridges, pumps, or transfer lines. Wipe testing and complicated record keeping are eliminated.**



## Operating Principle

The reactor is operated in an oxidative mode, pyrolyzing the effluent from a GC column. This oxidative pyrolysis efficiently converts compounds containing halogens to their oxidation products and free halogen atoms.

The cathodic surface is activated by neutralization of alkali ions emitted from the anodic surface. The adsorption and reaction of free chlorine atoms with this alkali-sensitized cathodic surface yields an increased thermionic emission comprised of free electrons and halogen ions.

The total cathodic current is measured by the 5360/5360A electrometer and converted to a 0-1 V or 0-10V output signal, which can be readily coupled to a chromatographic data handling system.

## XSD™ Capabilities

- High halogen selectivity vs. hydrocarbon simplifies analyses and minimizes or eliminates the need for sample preparation
- High detector sensitivity permits very low-level selective analysis of halogen-containing (Cl, Br, F) compounds
- Unique jet design minimizes peak tailing due to unswept dead volumes
- Requires only air to operate
- Designed to operate on most GC brands and models
- No routine maintenance required
- Enhanced venting option diverts solvent before entry into reactor

## Principal Applications

- Halogenated compounds
- Volatile Organic Compounds
- Pesticides
- PCBs
- QA/QC testing
- Field GC detector
- Process control/testing
- Residual solvents

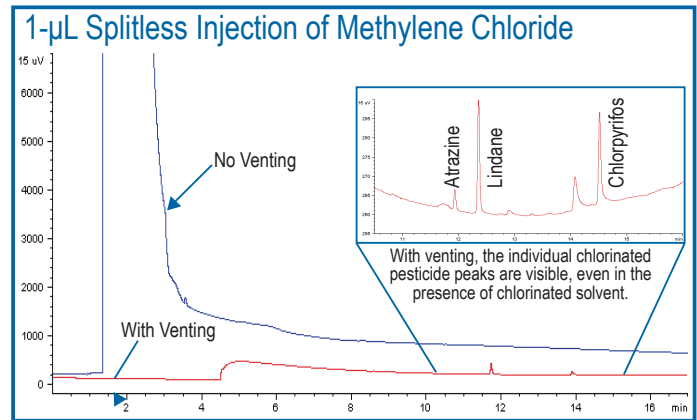
## Specifications

<b>Dynamic Range</b>	>10 <sup>5</sup>
<b>Linear Range</b>	>10 <sup>4</sup>
<b>Detectivity</b>	<1 pg Cl/second
<b>Selectivity</b>	Cl:HC > 10 <sup>4</sup>
<b>Reactor Operating Temperature</b>	900-1100 °C in 100 °C increments
<b>Flow Rate</b>	20-30 mL/min air
<b>Communications Signal Output</b>	0-1 V or 1-10V
<b>Gas Requirements</b>	Air 20-30 mL/min (ultrahigh purity)
<b>Power Requirements</b>	90-260 (±10%) V <sub>AC</sub> , 47-63 Hz, 200W
<b>Controller Dimensions</b>	21.2 cm H x 12.8 cm W x 30.8 cm D (8.25" H x 5.0" W x 12.0"D)
<b>Weight</b>	3 kg (5.5 lb)
Controller	3.8 kg (8.4 lbs)
Detector	0.36 kg (0.8 lbs)
<b>Options</b>	Venting Option

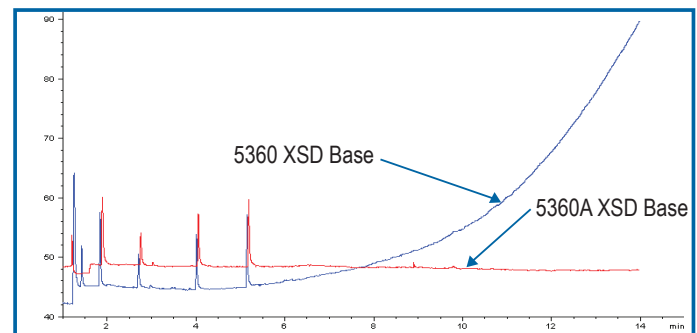
### Note

Performance is affected by several factors, including GC, column, gas flow rate, gas supply, compound class, and reactor temperature.

## Venting Capability Demonstrated by Complete Venting of a 1-µL Splitless Injection of Methylene Chloride (Pesticide Analysis)



## OI Analytical VOC Test Standard Diluted 1:100 in Acetone



### Detector

5360A XSD compared to 5360 XSD

### Reactor

1000 °C

### Column

Rtx® - 5 30 m x 0.32 mm I.D.  
x .25 mm film thickness

### Gases

2 mL/min Carrier;  
20 mL/min Air

### Oven

50 °C for 1 min,  
to 50-250 °C at 20 °C/min,  
hold at 250 °C for 5 min

### Sample

1 mL split 10:1



151 Graham Road  
PO Box 9010  
College Station, Texas  
77842-9010

(979) 690-1711  
(800) 653-1711 USA/Canada  
FAX (979) 690-0440

www.oico.com  
E-mail: OI-Mail@Xyleminc.com

Publication 06970813

XSD is a trademark of OI Analytical.  
Rtx is registered trademark of Restek Corporation.

