

Model 5360/5360A XSD™



Halogen Specific Detector

- High sensitivity with selective detection of halogenated compounds.
- Stable and easy to change sensor probe assembly and reactor.
- Requires only air to operate.
- Proven reactor design.
- Unique jet design minimizes peak tailing due to unswept dead volumes.
- Model 5360A XSD's improved heated base design for Agilent 6890 GCs.
- 5300 Detector Controller is compatible with the Model 5320 ELCD.
- Designed for many GC models.
- Enhanced venting option.

The Model 5360 and Model 5360A Halogen Specific Detectors (XSD™) have been specifically developed for the selective detection of halogen-containing compounds in gas chromatography. The new Model 5360A XSD for the Agilent 6890 GC uses a redesigned heated base assembly that provides improved baseline stability and easier column installation. When used with the newly redesigned venting option, the new base increases the venting efficiency to 100%. This improved capability permits complete venting of even a chlorinated solvent injection.

The Model 5360 and Model 5360A XSDs do not require catalyst tubes, solvents, resin cartridges, pumps, or transfer lines. No radioactive source eliminates the need for wipe testing, special handling, and complicated record keeping. The XSD design minimizes complexity, simplifies

and reduces maintenance requirements, and reduces overall cost. The platinum heating coils in the XSD reactor provide reliable performance and extended reactor lifetime.

Principle of Operation: The reactor is operated in an oxidative mode, which pyrolyzes the effluent from a GC column. This oxidative pyrolysis efficiently converts compounds containing halogen 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 Model 5360/5360A electrometer and converted to a 0–1 V or 0–10 V output signal, which can be readily coupled to a chromatographic data handling system.

Principal Applications:

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

Product Specifications

General Specifications

5300 Detector Controller

Dimensions

- 8.25" H x 5.0" W x 12.0" D
- 21.2 cm H x 12.8 cm W x 30.8 cm D

Weight

- Controller: 8.4 lbs (3.8 kg)
- Detector: 0.8 lbs (0.36 kg)

Performance Specifications

Dynamic Range

- $>10^5$
- Linear range $>10^4$

Sensitivity

- 1 pg Cl/second

Selectivity

- Cl:HC $>10^4$

Reactor Operating Temperature

- 900°–1100°C in 100°C increments

Reactor Temperature Range

- 800°–1100°C in 100°C increments

Flow Rate

- 20–30 mL/min air

Communications

Signal Output

- 0–1 V or 0–10 V

Requirements

Gas Requirements

- Air 20–30 mL/min (ultrahigh purity)

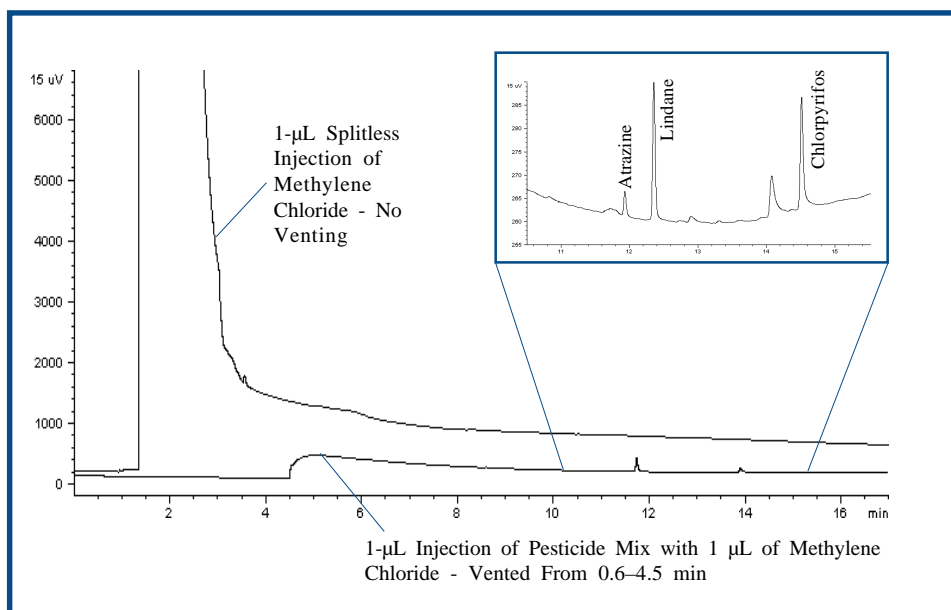
Power Requirements

- 90–260 ($\pm 10\%$) VAC/47–63 Hz, 200 W

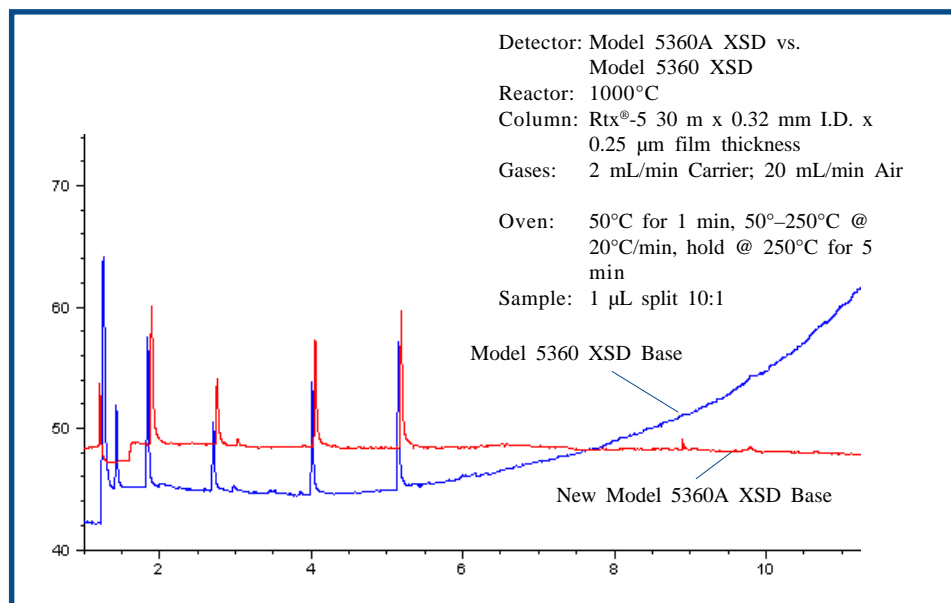
Options

- 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



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Printed in the U.S.A.
Publication 06970101

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