

Model 150 SCE

Vinyl Chloride Monomer Purity Analysis System

All New Design

The levels of trace impurities in polymer grade VCM are extremely important in the manufacture and application of PVC. The analysis of trace level impurities in such a high purity single component matrix always presents special challenges to the analyst. Many of the methods currently in use by the VCM manufacturers are based upon outdated packed column technologies which have remained unchanged over many years

The new Model 150 VCM purity analyzer is a state of the art, multidimensional GC, PLOT capillary based analytical system now available from Microanalytics.

The new Model 150SCE, based upon our original VCM design used worldwide for over a decade, ushers in a new level of sophistication for the automated analysis of VCM.

- Meets and exceeds current ASTM Standard D-5507-94 methodology.
- Full EPC (electronic pressure control) of column and midpoint pressures and detector gases..
- Complete integrated design into the industry standard Agilent Model 6890 gas chromatograph
- Automated vaporizing injector is integrated into the standard 6890 valve oven. No external valve oven or vaporizer assemblies.
- All metal Siltite™ nuts and ferrules insures years of leak-free service and inertness.
- Ease of Installation. System is shipped ready to run, with columns installed and methods for calibration gases and samples. Requires only power and gas connections.
- All residual VCM is ducted to a single vent point for connection to a gas scrubber or vent hood. Help reduce VCM production costs through energy conservation and reduction in product rerun/downgrade.
- Improve reliability and precision of purity data.
- Improves peak resolution; especially at sub-ppm levels.
- Eliminates analyst introduced data variability.

Features and Benefits

Features	Enables complete purity analysis with a single GC run
Benefit	Faster, more precise and reliable data
Feature	Single GC, Dual FID, PLOT column based technology
Benefit	Greater durability and better resolution through higher column efficiencies
Feature	Unique automated sample introduction method for precise liquid-vapor conversion
Benefit	Eliminates analyst introduced data variability
Feature	Multidimensional GC based separation
Benefit	Automated heartcutting and cryogenic trapping resolves all impurities in a single run

PARTIAL LIST OF VCM 150 USERS

Dow Chemical—Texas Operations
 PEMEX Petroquimica
 Formosa Plastics
 Georgia Gulf Chemical
 PHH Monomers

Geismar, LA
 Mexico
 Baton Rouge, LA
 Lake Charles, LA
 Westlake, LA



Microanalytics™

Gas Chromatography Systems and Services

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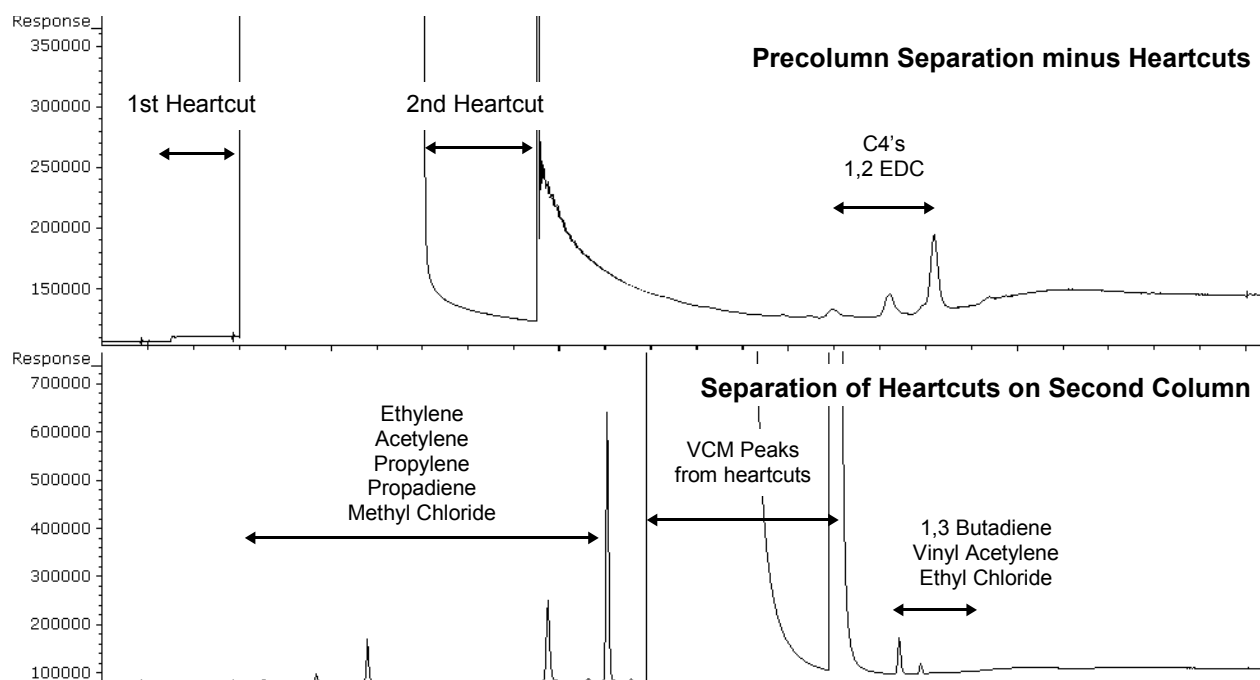
Standard Configurations

M150SCE-001 Model 150, Multidimensional GC VCM Purity Analyzer

Standard Configurations Include:

- Agilent Technologies Model 6890 Gas Chromatograph
- Fully integrated block-bleed automated vaporizing injector for HP liquid VCM stream.
- Two (2) G1562A Flame ionization detectors (FID) with EPC
- G1570A Auxiliary EPC controller for precolumn and midpoint pressure
- Heartcut valve with inert gas sweep
- Liquid CO₂ cryofocusing system
- Application specific PLOT column set with particle traps
- Start/stop and analog signal cables for external integrator support (if necessary)

Sample Chromatograms



Repeatability Data

Compound Name	Retention Time Drift			Quantitative - Short Term			Quantitative - Long Term		
	6 sequential runs - 24 hours			6 sequential runs - 24 hours			10 sequential runs - 9 days		
	Mean Ret. Time	SD	%RSD	Mean PPM	SD	%RSD	Mean PPM	SD	%RSD
Methyl Chloride	11.02	0.02	0.20%	29.50	0.12	0.40%	34.48	0.60	1.70%
1,3-Butadiene	17.48	0.01	0.10%	2.75	0.02	0.70%	3.27	0.06	1.80%
Vinyl Acetylene	17.86	0.01	0.10%	5.23	0.03	0.60%	10.09	0.14	1.39%
Ethyl Chloride	18.14	0.01	0.10%	17.44	0.09	0.50%	19.23	0.29	1.51%

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