

# Introducing GC and GC/MS Instrumentation with specifications that meet or exceed the industry leaders, at considerable savings!

Chromatographic Specialties is excited to introduce a superior line of GC and GC/MS instrumentation to the Canadian scientific community. YOUNG IN Chromass Co., Ltd. (YL Instruments, manufactured in South Korea) has evolved their line of GC and GC/MS instrumentation for more than 30 years by dedicating research and development to chromatographic technologies.



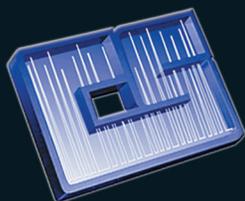
YL's goal is to provide scientists with feature-rich, reliable analytical instrumentation at reasonable prices. Their accumulated experience in gas chromatography combined with Chromatographic Specialties' devotion for customer satisfaction creates a one stop solution for your chromatographic applications.

## YL6500 Gas Chromatograph



*Contact our Instrumentation Team, they can provide the optimal configuration for your application...*

*You'll be pleasantly surprised at the price of our systems!*



# CHROMATOGRAPHIC SPECIALTIES INC.

**The YL6500 GC** provides reliable and accurate data by using precise temperature and flow control. Each module either meets or exceeds the specifications of systems offered by the market leaders, but at a lower price.

The 5th generation YL6500 GC system features:

- Up to 3 inlets and 3 detectors (plus an MS) can be installed on a single GC frame
- Inlet options include: capillary (split/splitless), packed or on-column
- Detector options include: FID, TCD,  $\mu$ TCD, ECD, NPD, FPD, PDD and PFPD
- Improved gas pressure and flow rate precision for more consistent and reliable results
- The column flow controller can be set to constant pressure or constant flow
- Automatic stop when an oven door is opened during operation



Large touch-screen display shows all settings at a glance

## YL6500 GC Specifications

Column Oven			
<b>YL6500 GC Oven System Module</b>	<ul style="list-style-type: none"> <li>- Usable volume: 14 L</li> <li>- Temperature operating range: 4°C above ambient to 450°C or more</li> <li>- Cooling down option: -80°C ~ 450°C (with LN<sub>2</sub> cryogenic cooling) -40°C ~ 450 °C (with LCO<sub>2</sub> cryogenic cooling)</li> <li>- Temperature set-point: 0.1°C</li> <li>- Temperature programming: 25 ramps/26 plateaus</li> <li>- Maximum heating rate: 120°C/min.</li> <li>- Maximum run time: 9,999 min.</li> <li>- Temperature program method: Maximum up to 20</li> <li>- Temperature stability: ±0.01°C (Isothermal), ±0.1°C (Gradient)</li> </ul>		
Inlet			
<b>Packed Inlet</b>	<ul style="list-style-type: none"> <li>- Maximum temperature: 450°C</li> <li>- Total flow setting range: 0.1 ~ 100 mL/min.</li> </ul>		<ul style="list-style-type: none"> <li>- Pressure setting range: 0.001 ~ 100 psi</li> <li>- Pressure stability &lt; ±0.005 psi</li> <li>- Temperature stability &lt; ±0.1°C</li> <li>- Flow stability &lt; ±0.05 mL/min.</li> <li>- Temperature setpoint: 0.1°C</li> </ul>
<b>Capillary Inlet (Split/Splitless Inlet)</b>	<ul style="list-style-type: none"> <li>- Maximum temperature: 450°C</li> <li>- Total flow setting range: 0.1 ~ 400 mL/min. N<sub>2</sub> 0.1 ~ 1000 mL/min. He</li> <li>- Splitless time setpoint: 0.01 min.</li> </ul>		
<b>On-Column Inlet</b>	<ul style="list-style-type: none"> <li>- Maximum temperature: 450°C</li> <li>- Temperature programming up to 5 steps</li> </ul>		
Detector (Data Acquisition Range: 200 Hz)			
	Maximum Temp.	MDL	Others
<b>Flame Ionization Detector</b>	450°C	1.5 pg carbon/sec.	Linearity: 10 <sup>7</sup>
<b>Thermal Conductivity Detector</b>	400°C	2.5 ng/mL (Standard) 400 pg/mL ( $\mu$ TCD)	<ul style="list-style-type: none"> <li>- Flow through cell: 4 Rhenium-Tungsten filaments</li> <li>- Filament protection</li> </ul>
<b>Electron Capture Detector</b>	400°C	10 fg/sec.	Linearity: > 10 <sup>4</sup>
<b>Nitrogen Phosphorous Detector</b>	400°C	< 0.2 pg N/sec. (Azobenzene) < 0.2 pg P/sec. (Parathion methyl)	Linearity for N: > 10 <sup>4</sup> Linearity for P: > 10 <sup>4</sup>
<b>Flame Photometric Detector</b>	300°C	< 1.0 pg S/sec. < 0.2 pg P/sec.	Linearity for S: Calibration curve is compulsory Linearity for P: > 10 <sup>5</sup>
<b>Pulsed Discharge Detector</b>	400°C	(PDHID): - Organic compound: low ppb - Permanent gas: low ppm (PDECD): 10 <sup>-15</sup>	(PDHID): Linearity 10 <sup>5</sup> (PDECD): Linearity 10 <sup>5</sup>

For a comparison of the features and specifications of the YL6500 GC against Agilent, Shimadzu, Perkin Elmer, Thermo and Scion's offerings - please visit <https://www.chromspec.com/yl6500-comparison>

**1-800-267-8103 • [www.chromspec.com](http://www.chromspec.com) • [instrum@chromspec.com](mailto:instrum@chromspec.com)**

# The YL6900 Quadrupole Mass Spectrometer

## *Stable, Powerful, Reliable*

The YL6900 MS is a powerful mass spectrometer developed by dedicated technologists with over 30 years of experience in gas chromatography and mass spectrometry.

This innovative MS provides high scanning speeds with a wide mass range and low detection limits. Its operational simplicity, powerful tuning protocols and high productivity with automation allows users to spend less time from sample injection to results.



## YL6900 MS Specifications

<b>Ion Source</b>	EI, CI (Option)
<b>Mass Range</b>	1 – 1,200 amu
<b>Resolution</b>	0.7 amu
<b>Electron Energy</b>	0 - 240 eV
<b>Max Scan Rate</b>	20,000 amu/s
<b>Mode</b>	SIM Mode, Scan Mode Scan /SIM Simultaneous
<b>Mass Stability</b>	±0.1 amu/48 h
<b>Ion Source Temperature</b>	up to 350 °C
<b>Transfer Line Temperature</b>	up to 400 °C
<b>Turbo Pump</b>	240 L/sec, 300 L/sec (Option)
<b>Sample Inlet</b>	GC, Direct Inlet Probe (Option)
<b>Signal to Noise Ratio</b>	1,500 : 1 and more (240 L/sec.), EI Mode(1 µL of 1 pg/µL OFN for m/z 272 when scanning 50-300 amu)
<b>Instrument Detection Limit (IDL)</b>	<10 fg (240 L/sec.) (Eight Sequential Splitless Injections, 100 fg OFN, m/z 272)
<b>Library</b>	Wiley: 775,500 Spectra NIST: 306,622 Spectra
<b>Power Supply</b>	220V±10 %
<b>Dimensions</b>	350 x 650 x 500 mm ( W x D x H )
<b>Software</b>	YL-Clarity for GC/MS

Combined with the YL6500 GC, this MS unit can interface with most GC sample introduction systems for almost any application. Options for liquid, headspace, SPME, purge and trap, thermal desorption, and pyrolysis sample introduction systems are available.

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Dedicated “turn-key” analyzer options include:

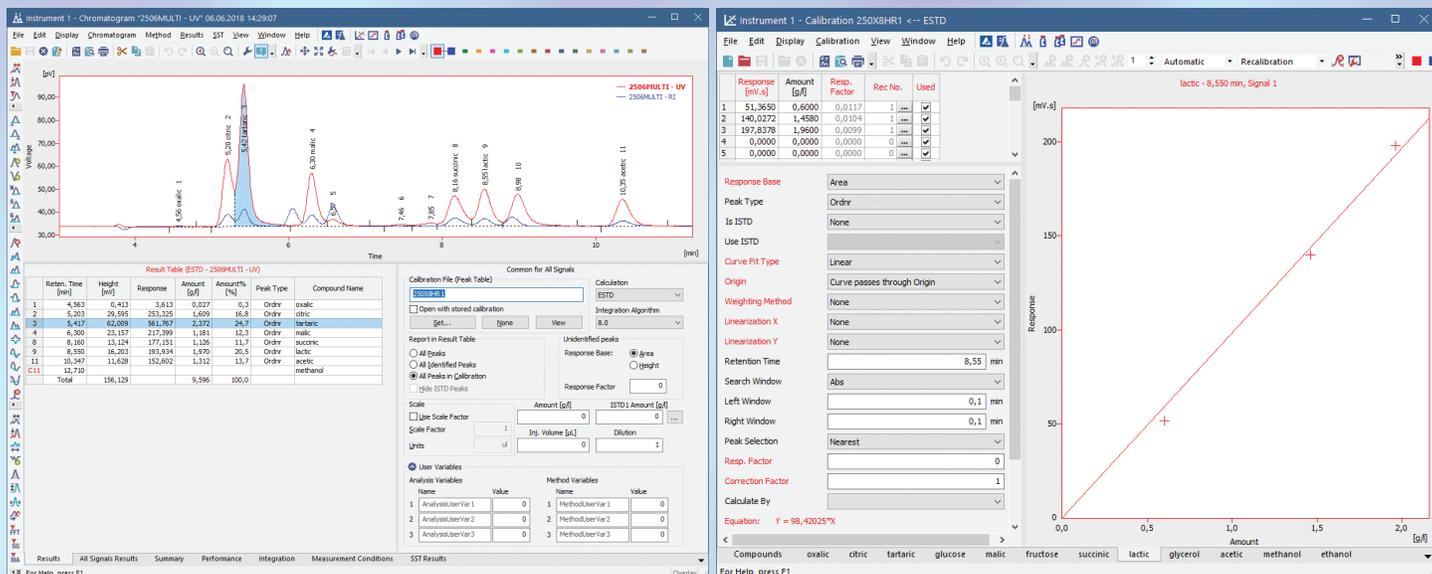
- Cannabinoids, terpenes and residual solvents
- Residual pesticide screening
- VOC analyses in water, soil and air matrices
- Custom “turn-key” solutions on request

***1-800-267-8103 • www.chromspec.com • instrum@chromspec.com***

# YL-Clarity Software

YL-Clarity is a flexible, powerful and intuitive Chromatography Data Station providing easy control of the YL6500 GC and YL6900 Mass Spectrometer. **Options for control and acquisition from other manufacturers GCs, HPLCs, autosamplers and accessories are available.**

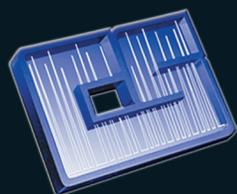
- 21 CFR Part 11 Compliant with manager configured user accounts, audit trails and digital signatures
- Data Acquisition for up to four independent chromatographs and up to twelve channels
- Allows overlay of a virtually unlimited number of chromatograms including subtraction/addition
- Full management of integration, calibration, post-run functions and custom user calculations
- Fully compatible with Wiley and NIST MS libraries to automatically identify compounds
- Allows the YL6900 MS to run scan mode and SIM mode simultaneously in a single chromatographic analysis



## Autosampler Options For Your YL GC

Chromatographic Specialties Inc. offers a wide variety of autosampler options for Gas Chromatography:

- Universal mounting options for all GC brands
- Full featured Liquid autosamplers with 121/209 vial capacities
- 42 position Headspace autosamplers with heating/shaking
- 42 Position SPME autosamplers with heating/shaking
- All in one option for Liquid, Headspace and SPME on one system
- 72 position Purge and Trap autosampler for water and/or soil
- 72 position Thermal Desorption autosamplers
- 48 position Pyrolysis autosampler
- Universal connection to all GC brands



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