

PEGASUS[®] GC-HRT⁺

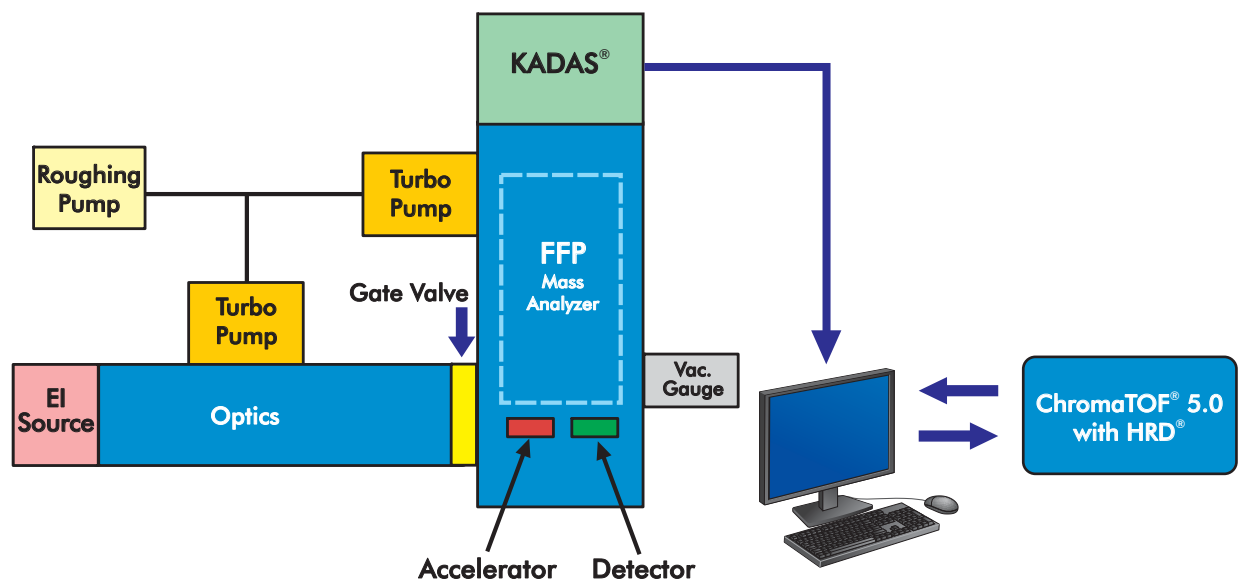
Specification Sheet



Ion Sources	<ul style="list-style-type: none"> • Standard HR-EI (Electron Ionization) • Optional HR-CI (Chemical Ionization)
Detection Limit HR Mode	<ul style="list-style-type: none"> • 100 fg OFN for HR-EI installation • 1 pg of Benzophenone for HR-CI installation
Spectral Acquisition Rate	1 to 200 spectra/second in full mass range, resolving power independent from spectral acquisition rate
Spectral Dynamic Range	10 ⁵
Ion Detection Mode	Positive
Linear Dynamic Range	≥ 4 orders
Mass Accuracy	<ul style="list-style-type: none"> • UHR Mode: <1 ppm RMS over 30 minutes (m/z 219) • HR Mode: <1 ppm RMS over 30 minutes (m/z 219) • Typical application use ~1 ppm over chromatographic run, often better
Instrument Control Software	ChromaTOF [®] brand software with integrated instrument control, acquisition, processing, and reporting software operating under 64-bit Windows [®] 7 or Windows 10
Supported GC System	Full control of Agilent 7890; others by contact closure
Automation Devices	<ul style="list-style-type: none"> • Agilent 7683B/7693A/7650 Auto injectors and 100-/150-Sample Trays • LECO L-PAL3 Liquid/HS/SPME Automatic Tool Exchange Autosampler • Other autosamplers can be used via contact closure and 3rd party software control
Detection System	<ul style="list-style-type: none"> • Long life MCP detector • 1.5 GHz, 11 bit Analog to Digital Conversion • Detection of single ion events • Patented KADAS[®] statistical data acquisition system dramatically reduces data file size, electrical and chemical noise, and ensures mass accuracy
Mass Analyzer	<ul style="list-style-type: none"> • Patented Folded Flight Path[®] (FFP[®]) TOF Mass Analyzer • 20 m and 40 m flight paths (HR and UHR) TOF Mass Analyzer • Innovative time-of-flight mass analyzer keeps ion packets focused better than standard approaches, therefore the system is not susceptible to beam spread • Dual Orthogonal Acceleration Optics, focuses more ions into TOF region
Mass Resolution	<ul style="list-style-type: none"> • Ultra-High Resolution (UHR) Mode: 50,000 at m/z 219 • High Resolution (HR) Mode: 25,000 at m/z 219
m/z Range	<ul style="list-style-type: none"> • UHR Mode: Mass dependent range (Ratio more than 3:1 e.g., m/z 100 to 300) • HR Mode: 10 to 1,500
Supported Carrier Gases	Hydrogen and Helium (Specification with Helium only)
Turbo Pumps	Two Leybold TURBOVAC

Instrument Setup	Automatically tunes Source and FFP analyzer, Gain Optimization, Models Profile to Stick conversion, Mass Calibration, and generates tune report
Deconvolution and Library tools	<ul style="list-style-type: none"> • High Resolution Deconvolution® (HRD®) with Statistical Peak Finding Algorithm • Identify known/unknowns with NIST and accurate fragment formula calculations • Create and use Accurate Mass Spectral Libraries • LECO's Accurate Mass Spectral Library (option)
Chemical Software Tools	<ul style="list-style-type: none"> • User-scalable mass defect plots (e.g., Kendrick and Halogen scales) • Search for unknown with ChemSpider • Identify differences between samples with Reference feature
Dimensions	
Instrument:	51.2 in H x 49.2 in W x 32.7 in D (130 x 125 x 83 cm)
Roughing Pump (1):	10.7 in H x 20.3 in W x 6.5 in D (27.1 x 51.5 x 16.4 cm)
GC Table:	30 in H x 30.2 in W x 27.5 in D (76.2 x 76.8 x 70 cm)
Optional Workstation:	30 in H x 45 in W x 47.5 in D (76.2 x 114.3 x 120.7 cm)
Optional Quiet Boxes (1):	22 in H x 19 in W x 27.5 in D (66.5 x 76.2 x 50.8 cm)
Weight (Approx.)	
Instrument:	950 lb (431 kg)
Roughing Pumps:	55 lb (25 kg)

For further information, please refer to the Pre-Installation Guide (Form No. 203-505-464).



Pegasus GC-HRT⁺ Schematic

Patents include: PRC Invention Patent ZL200480023268.1;
DE Pat Nos. 602004026608.6-08, 112012001185;
JP Pat. Nos. 4763601, 5340733;
US Pat Nos. 7,385,187, 7,772,547, 7,501,621, 8,017,907, 7,825,373, 8,063,360, 7,884,319,
8,853,623, 9,082,597

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Folded Flight Path, and FFP are registered trademarks of LECO Corporation.
Windows is a registered trademark of Microsoft Corporation.

Specifications and part numbers may change.
Consult LECO for latest information.

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