

Waters 3100 Mass Detector

The Waters® 3100 Mass Detector is a single quadrupole mass detector enabled by easy to use IntelliStart™ Technology and provides a simple route to more selectivity, sensitivity, and throughput with faster scan speeds. It provides unique benefits for purification work (MassLynx™) by decreasing the number of fractions to be handled in the post purification phase as well as provide on-line mass confirmation. Its industry-leading ZSpray™ dual orthogonal sampling ionization source design provides highly sensitive and reliable sample analysis for complex matrices as well as mobile phases containing non-volatile buffers. Also included as standard is ESCi® multi mode ionization source for APCI (+/-) and ESI (+/-) in the same run. Both full system control and acquisition are available with either MassLynx or Empower™ 2 Software*.

Operating Specifications

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| Flow Rates | 5 – 1,000 µl/min (ESI) 200 – 2,000 µl/min (APCI) |
| Mass Range | 2 – 2,000 Da (amu) |
| Scan Rate | Up to 10,000 amu/sec in continuum or centroid modes |
| Dynolite Photomultiplier Detector | 8 kV conversion dynode dependent on ion polarity and +9 kV for both modes with the phosphor |
| Vacuum System | Split flow turbomolecular pump (air cooled) 280 L / sec @High vacuum connection 205 L / sec @Interstage Leybold Sogevac SV40 BI Roughing Pump |
| Integrated IntelliStart Fluidics | Fluidics automation of tuning, calibration, and system QC with IntelliStart control and diagnostics. Two vial positions are provided to contain calibrants and samples for tuning which are automatically metered into the mass detector when needed |

Software Systems

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| Waters Software | MassLynx 4.1 or Empower 2* |
| Autopurification Software Capabilities | Solvent monitoring system for solvent and waste reservoirs Automatic collection time delay calculation Early run termination Total flow and gradient calculator Direct inject Manual/automated (IntelliStart) instrument optimization, monitoring, tuning, and calibration Full scan/single ion recording (SIR) data acquisition Simultaneously, monitoring ESI (+/-) and APCI (+/-) with ESCi Chromatogram/spectrum processing 3-D data mapping Comprehensive quantitation with QuanLynx™ Control of Waters 2545, 2525, SRO, CRO and 2767 |

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|-------------------|---|
| Security Software | <p>Password protected for multilevel users</p> <p>Logging of LC/MS acquisition parameters</p> <p>Logging/time stamping of methods modifications and data manipulations</p> <p>Secure audit trail</p> <p>QuanLynx Application Manager Within MassLynx supports 21 CFR 11</p> |
| Software Options | <p>MassLynx 4.1 Application Managers: Chromalynx™, FractionLynx™, MarkerLynx™, Metabolynx™, OpenLynx™, ProfileLynx™, TargetLynx™, MaxEnt™, Transform™</p> <p>Empower 2 Options: System Suitability, Chemical Structures, Gel Permeation Chromatography for Polymer Analysis</p> |

Performance Specifications

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|--------------------------------|--|
| Electrospray Positive Ion Mode | 1 pg (5 µl injection of 0.2 pg/µl) reserpine at 300 µl/min flow rate yields a response >50:1 S/N – RMS** |
| APCI Positive Ion Mode | 1 pg (5µl injection of 0.2 pg/µl) reserpine at 300 µl/min flow rate yields a response >50:1 S/N – RMS** |
| Optional Sources | Dedicated APCI IonSabre™ and APPI |

Physical / Environmental Specifications

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|------------------------|---|
| Dimensions | <p>Width: 13.6 in. (34.5 cm)</p> <p>Height: 20.3 in. (51.5 cm)</p> <p>Depth: 23.2 in. (59.0 cm)</p> |
| Weight | 110 pounds (49.9 kg) |
| Operating Temperatures | 15 to 28 °C (59 to 82 °F) |
| Operating Humidity | < 70% |
| Regulatory Approvals | IVD, NRTL, and CE |

Electrical Specifications / Needs

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|---------------------------|---|
| Power Requirements | 230 V 50 - 60 Hz – two lines |
| Power Consumption | 3 kW maximum (not including LC equipment) |
| Current CPU Configuration | IBM ThinkCentre M52, 1024 MB RAM, 160 GB HDD, DVD-RAM multiburner, mouse, Windows XP, with a 20" Flat Panel Monitor |

Ordering Information

Part Number

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|---------------------------|---------------------------------|
| Waters 3100 Mass Detector | 176031000 |
| Masslynx Workstation | 176001109 |
| 20" Flat Screen Monitor | 668000273 |
| Leybold Roughing Pump | 186003887 |
| US,UK, and EU Cords | 205000414, 205000415, 205000416 |
| Kit Options | |
| Dedicated APCI IonSabre | 176000477 |

* Available June 2007

**A more routine startup mixture will be run on initial system operation to confirm system performance.

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The logo for Waters Corporation, featuring the word "Waters" in a blue, sans-serif font.