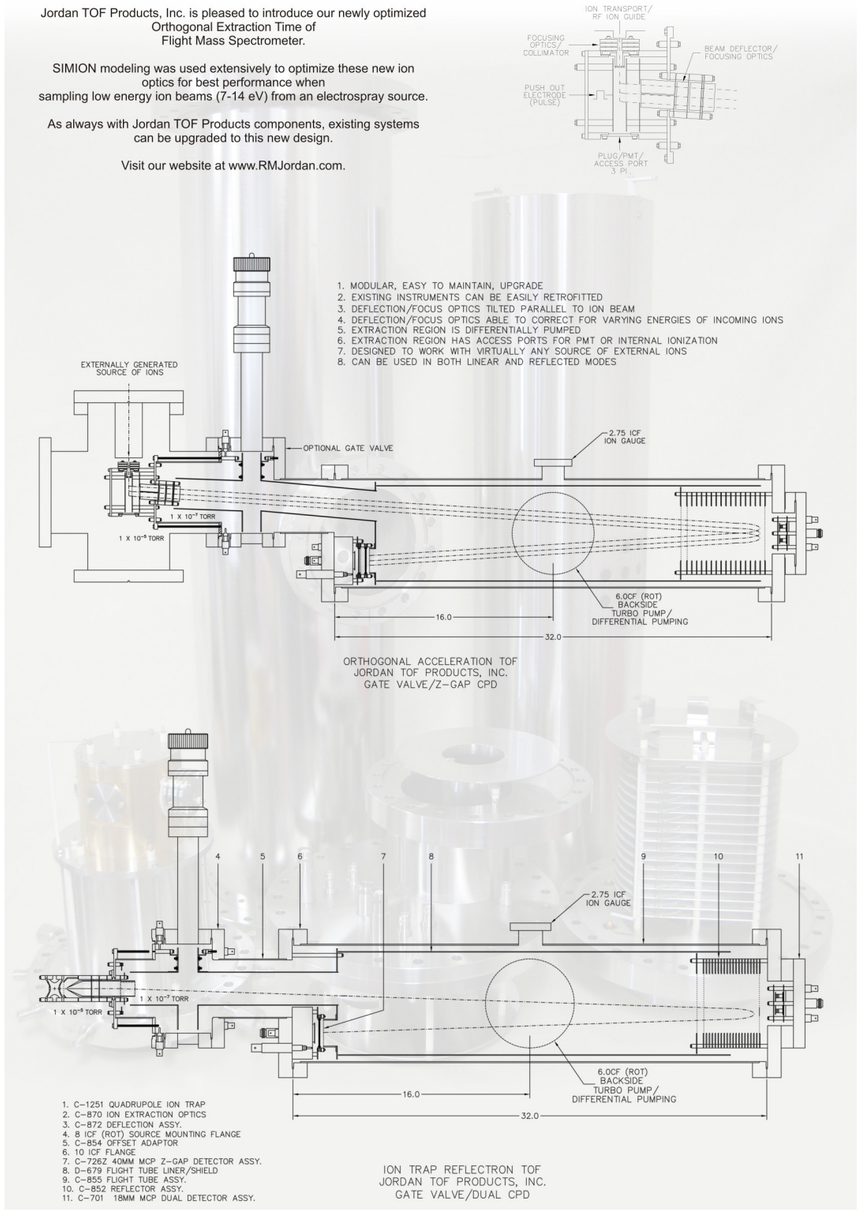
JORDAN
TOF PRODUCTS, INC.

Jordan TOF Products, Inc. is pleased to introduce our newly optimized Orthogonal Extraction Time of Flight Mass Spectrometer.

SIMION modeling was used extensively to optimize these new ion optics for best performance when sampling low energy ion beams (7-14 eV) from an electrospray source.

As always with Jordan TOF Products components, existing systems can be upgraded to this new design.

Visit our website at www.RMJordan.com.



Ardara Technologies — Product Line Summary PS_101N

Ardara Technologies L.P. was founded in 2004 with a focus on developing interesting mass spectrometer component technologies, which can be mixed and matched to create custom, crazy, mass spectrometer systems.

The most recent additions to our product line include:

- High-Flux Nano-Electrospray Ion Source, Ion Funnels, and Fused Silica Capillary Electrospray Tips, which are based on patents we are licensing from Pacific Northwest National Laboratories (PNNL), which promise more than an order of magnitude increase in absolute ion current to the mass spectrometer compared with conventional Nano-Electrospray ion sources.
- Integral microcontroller-driven digital control inside our power supplies, starting with our new Optics Power Supply with ten +/-400 Volt outputs, utilizing computer control via RS-232 or USB connection to the host Windows PC.

OUR PRODUCTS

- Turnkey systems built from combinations of our various components:
  - Electrospray Q-TOF systems.
  - Flange Mounted Mass Filters.
  - In-line mass analysis and detection for Cluster deposition and spectroscopy experiments.
  - Gas analyzers.
- Tempus Data Acquisition System
  - TOF Data acquisition and control.
  - Quadrupole data acquisition and control.
  - Quadrupole gas analyzer data acquisition and control.
  - Q-TOF data acquisition and control.
  - Integration and control from third-party software.
- Electrospray Source Controller with voltage outputs to make and transfer ions from source to high vacuum.
- Filament Power Supply.
- Optics Power Supplies with eight or ten independent +/-400 V outputs.
- Pulsed Optics Power Supply with three independent ‘fast’ (sub microsecond rise time) +/-200 V outputs.
- Quadrupole Power Supply with operating Frequencies from <100 kHz to >4 MHz and system mass ranges from 0 to 5 amu for ultra-sensitive analysis of hydrogen and helium, to beyond 100,000 amu for cluster analysis.
- Detector Power Supply with multiplier and dynode control.
- Fast Analog Preamplifiers for quadrupole and TOF ion detection.
- RF Power Supplies, with High-Q Heads
  - Single and dual configurations with operating frequencies from <100 kHz to >4 MHz.
  - Capacitive loads from tens of picofarads (RF-only ion guides), to thousands of picofarads (ion funnels).
  - RF Voltage to 5000 Vpp.
  - Controller has optional four independent +/-400 V optics power supplies to drive pole bias offset.
- Vacuum Controllers with integral safety interlock of gate valves.
- High-Flux Nano-Electrospray ion source based on PNNL’s SPIN source patents.
- Ion Funnels based on PNNL’s patents.
- Fused Silica Capillary Electrospray tips.
- 4-stage differentially-pumped vacuum system allowing efficient ion transport from atmospheric pressure ion sources to analyzers in high vacuum with integrated RF-only ion guides and ion funnels.
- Jumbo axial, in-line, and cross-molecular beam ionizers with 22 mm ion region basket diameter.
- Quadrupole deflector energy filters in three sizes, 1.6 inch square, 2.5 inch square, and 6 inch square profiles.
- Einzel lenses, including split lenses for TOF focusing.
- RF-only ion guides with vented or conductance-limited housings.
  - Quadrupoles.
  - Hexapoles.
  - Octopoles.
  - Rectilinear Quadrupoles.
  - Linear Ion Traps
- Quadrupole mass filters with mass ranges as low as m/z 1 and as high as m/z 100,000 amu, with 1, 2, 4, 6, 9, 12, and 20 mm rod diameters and optional pre-filters and post-filters.
- TOF mass analyzers complete with control electronics and data acquisition system (Vacuum hardware from Jordan TOF Products).
  - Reflectron or Linear TOF modes.
  - Orthogonal extraction of externally generated ions transported through RF-only ion guides.
  - 3D quadrupole ion trap for accumulation and extraction of externally generated ions.
- Flanges and Detectors
  - Conflat mounting flange for mounting electron multiplier within a housing, with flexible design for electrical feedthroughs.
  - Conflat flange configurations with radial feed-through’s, allowing in-situ suspension of a quadrupole, detector, or other ion optics within an optics train, with integral conductance limiting partition.

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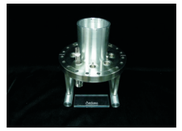
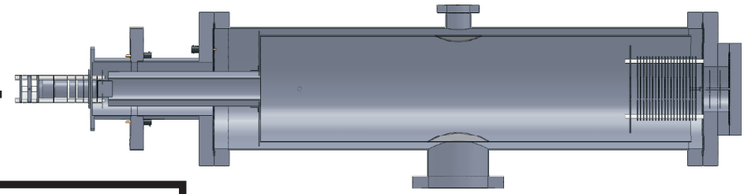
Custom System Configurations



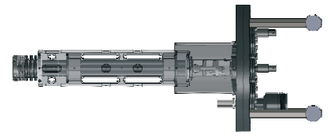
Electrospray Ionizer

Custom Atmospheric Sampling Ion Source

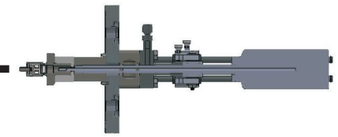
Four-Stage Vacuum Chamber



3-D Ion Trap
Reflectron TOF-MS



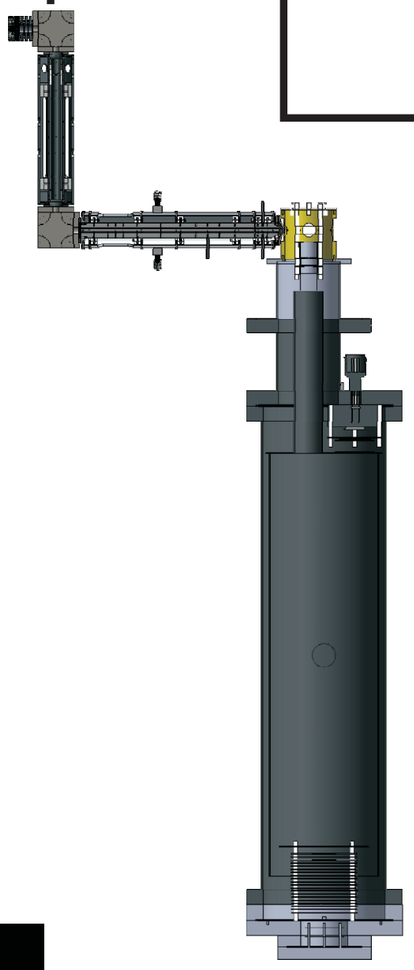
Flange-Mounted Mass Filter
with Axial Molecular Beam Ionizer,
9 mm Quadrupole
and Detector in housing



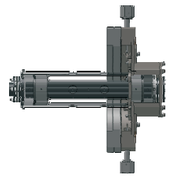
Flange-Mounted
EI/CI Ion Source
with Solids Probe

Orthogonal Extraction
Reflectron TOF-MS

Flange-Mounted Mass Filter
with Jumbo Cross-Beam Ionizer,
20 mm quadrupole
and Detector in housing



Q-TOF with 9 mm Quadrupole,
Rectilinear Collison Cell / Ion Trap,
with Orthogonal Extraction Reflectron TOF



9 mm Quadrupole and Einzel Lens
suspended by a Radial Flange