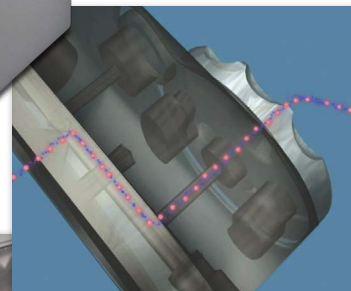


# Thermo Scientific MSQ Plus Mass Detector

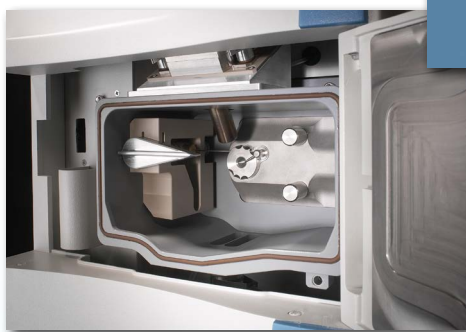
Extend your detection capability

The Thermo Scientific™ MSQ Plus™ Single Quadrupole Mass Detector features a compact design with an innovative, self-cleaning ionization source for trouble-free operation. It is an extremely reliable and robust mass detector for routine and automated operation. The MSQ Plus detector is compatible with existing chromatography methods, especially those that include salts, ion-pairing agents, and dirty matrices.

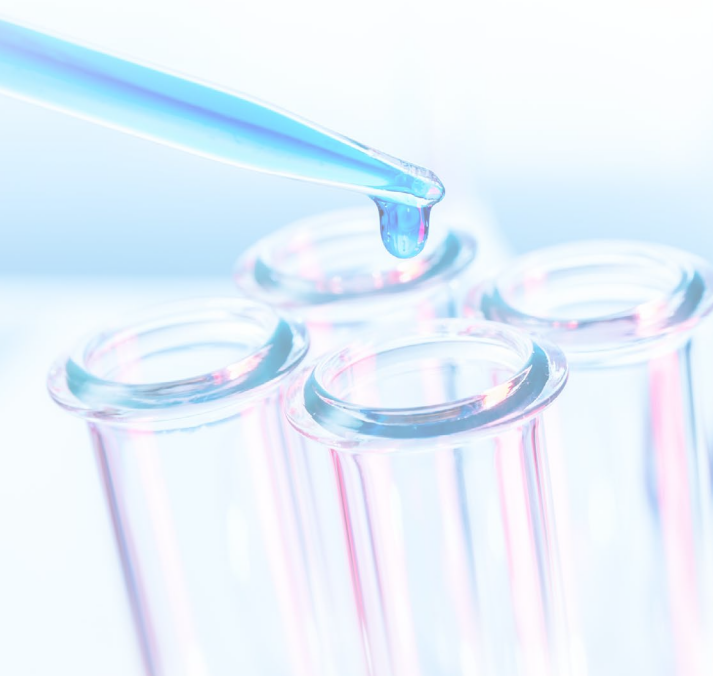
- Triple orthogonal 60° M-Path technology minimizes noise for optimum sensitivity
- Electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI) capabilities
- Fast, tool-free source maintenance leaves more time for running samples
- Titanium entrance cone is more durable and chemically resistant
- Positive and negative ion modes allow for analyses of cations and anions—even in the same run
- Collision-induced dissociation (CID) provides additional structural information from each sample
- Patented cone wash with self-contained solvent delivery maximizes instrument uptime, even with methods containing non-volatile buffers



The innovative M-Path design increases system sensitivity.



The MSQ Plus detector features tool-free source maintenance.



## Simple Operation

The MSQ Plus Mass Detector features built-in calibration and infusion, requiring very little setup or tuning to achieve optimal performance.

## FastLoc Probes

Changeover between APCI and ESI modes has never been easier than with the fast, self-locking probe design.

- Automatic connection of pneumatic and electrical supply lines
- Total changeover time (beam to beam) of less than one minute
- Both probes are compatible with conventional and capillary flow rate ranges for optimum application flexibility



FastLoc probes for simple and rapid mode changes.

## Scan Functions

- Rapid full scan screening of compounds for analyte confirmation
- Selected ion monitoring (SIM) for target compound analysis and optimized trace level quantitation
- Data acquisition in centroid, profile and MCA (averaging) modes
- Simultaneous full scan and SIM functionalities within the same run

## Quadrupole Analyzer

- Precision-engineered quadrupole analyzer has in situ thermal compensation for improved mass stability
- Quadrupole mass pre-filter maximizes resolution and eliminates main filter cleaning
- Main quadrupole filter gives unit mass resolution over entire mass range
- Solid-state RF generator provides high stability and minimal drift

## System Autotune

The MSQ Plus detector incorporates a self-contained reference inlet system for tuning and calibration controlled by easy-to-use, automated software. At the click of a mouse, the full system autotune invokes algorithms for:

- Optimization of signal
- Resolution tuning
- Standard mass scale calibration from the reference inlet system
- Detector voltage setup for gain normalization

## FastLoc Probes

FastLoc Probes eliminate complex gas and high voltage connections, enabling easy switching of ionization modes

## RF/DC Prefilter

The square quadrupole RF/DC prefilter increases ion transmission efficiency and protects the analyzing quadrupole

## Chromeleon CDS Software

The MSQ Plus detector is fully integrated with Thermo Scientific™ Dionex™ Chromeleon™ Chromatography Data System (CDS) software versions 6.8 and 7.2.

- Full instrument control of Thermo Scientific LC and IC systems
- Intuitive display of mass spectral data along with UV and other complementary detectors such as the Thermo Scientific™ Dionex™ Corona™ Charged Aerosol Detector
- Complete data system security and documentation, including audit trails and electronic signatures

## M-Path Source Design

Patented M-Path sampling system enables extreme sensitivity from real samples

## Cone Wash

Patented cone wash accommodates dirty samples and salt buffers

## Autocalibration System

Automatic mass scale calibration and tuning increases confidence and simplifies use



## Ion Bright Detector

Patented Ion Bright™ Detector generates the greatest signal with the least noise



**CHROMELEON 7.2**  
Simply Intelligent

## Product Specifications

Specification	Value
Dimensions (h × w × d)	21 × 12 × 28 in. (530 × 300 × 710 mm)
Weight	132 lbs (60 kg)
Ionization Modes	Electrospray ionization (ESI), atmospheric pressure chemical ionization (APCI)
Mass Range	17–2000 <i>m/z</i> with unit mass resolution
Sensitivity	Specifications are performed using loop injections at a flow of 1 mL/min in SIM mode. Noise is defined as RMS after appropriate smoothing.
Positive Ion ESI	50 pg injection of erythromycin: 1000:1 S/N
Negative Ion ESI	20 pg injection of <i>p</i> -nitrophenol: 500:1 S/N
Positive Ion APCI	50 pg injection of erythromycin: 200:1 S/N
Negative Ion APCI	20 pg injection of <i>p</i> -nitrophenol: 50:1 S/N
Minimum Bench Space	28 × 52 in. (720 × 1310 mm) for the MSQ Plus and PC <i>Note: The instrument bench must be capable of supporting the weight of the MSQ Plus MS and PC plus allowances for any options.</i>
Power Requirements	230 V AC one switched power outlet (Rotary Pump and MSQ Plus)
Power	120/230 V AC 50/60 Hz
Gas Requirements	12 L/min at 75 psi (5 bar) high purity (>99%) nitrogen
Relative Humidity	20–80% non-condensing

## Ordering Information

Description	Part Number
MSQ Plus with Computer Workstation	MSQ-PLUS-40000
Chromeleon 6.8 CDS MS Control	060726
Chromeleon 7 CDS MS Control	7200.0042
Preventative/Annual Maintenance Kit	60111-62014
Thermo Scientific Dionex AXP-MS Auxiliary Pump	060684
MSQ18LA Nitrogen Generator (230 V AC)	068126

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