Modular Ion Chromatograph - Multifunctional IC System - Quaternary Pump 0.001-12 mL/min - 40 MPa

Model **MSIC-W6600SWISS** | Brand **Master Science**





The Master Science Modular Ion Chromatograph is a high-end, multifunctional IC series in which the pump, eluent generator, detector and post-column derivatisation unit are separate modules. Laboratories choose the combination that fits their methods and add to it later.

KEY HIGHLIGHTS

- One platform, many analytes
- Anions and cations together
- Stable low-level results
- Longer suppressor life
- Upgrade path

AT A GLANCE

0.001 to 12.000 mL/min FLOW RATE	**0 to 40 MPa** PUMP PRESSURE
0 to 14 ELUENT PH RANGE	**≤0.1% / ≤0.1%** FLOW SETTING ERROR / STABILITY

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

Scan to view online

Overview

With conductivity, electrochemical and UV detectors it covers routine anions and cations as well as cyanide, iodide, sugars, small organic acids, hexavalent chromium and transition metals. Upgrades include post-column derivatisation, online concentration and online matrix elimination.

Overview

- Servo DC motor for low noise and vibration
- Built-in quaternary proportioning valve
- Electronic pulsation suppression
- High and low pressure protection

Key Benefits

One platform, many analytes
the Master Science Modular Ion Chromatograph accepts three detector types.

Anions and cations together
single-needle injection for simultaneous analysis.

Stable low-level results
conductivity noise at or below 0.0003 µS/cm.

Longer suppressor life
current follows eluent concentration during gradients.

Upgrade path
modules added as methods expand.

A compact alternative is the Master Science integrated ion chromatograph.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSIC-W6600SWISS
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Pump	Dual-plunger, all-PEEK head, isocratic or quaternary gradient
Flow Rate	0.001 to 12.000 mL/min
Pump Pressure	0 to 40 MPa
Flow Setting Error / Stability	≤0.1% / ≤0.1%
Pressure Pulsation	<0.25%
Eluent pH Range	**0 to 14**
Conductivity Range	**0 to 45000 µS/cm**
Conductivity Cell Volume	≤0.4 µL
Minimum Detection (conductivity)	Cl^- ≤0.0001 µg/mL; Li^+ ≤0.00005 µg/mL; NO_3^- ≤0.001 µg/mL; Na^+ ≤0.001 µg/mL; Ca^{2+} ≤0.005 µg/mL
Cell Temperature Control	Detector zone +5 °C to 65 °C; stability 0.05 °C/h
Amperometric Noise	Integral <30 pC; DC <5 pA
Minimum Detection (amperometric)	I^- 0.001 µg/mL; fructose 0.01 µg/mL; CN^- 0.0005 µg/mL
Suppressor	Electrolytically regenerated membrane; 0 to 500 mA; 170 µeq/min; dead volume 50 µL
Column Oven	Air bath, room temperature +5 °C to 70 °C; stability ≤0.1 °C; 150 and 250 mm columns
Eluent Generator	KOH or MSA, 0.1 to 100.0 mM; flow 0.001 to 3.000 mL/min; max 21 MPa
Eluent Gradient Accuracy / Precision	**1.5% / 0.2%**
Temperature Zones	Five-zone control

OPTICAL PERFORMANCE

Conductivity Baseline Noise	≤0.0003 µS/cm
Conductivity Baseline Drift	≤0.001 µS/cm per 30 min

DISPLAY & DATA

Amperometric Output	Integral mode 50 pC to 200 µC; DC mode 1 pA to 74 µA
Hard-to-trace data changes	audit trail and permission levels.

COMMON PROBLEMS AND HOW THIS SYSTEM HELPS

Common Problems and How This System Helps	How the Master Science Modular Ion Chromatograph extends laboratory capability:
Separate instruments for different ion classes	one modular system with interchangeable detectors.
Trace ions below detection limits	online concentration and low-noise detection.
Matrix interference	online matrix elimination.

Applications

The Master Science Modular Ion Chromatograph is used for

Routine anion and cation analysis Cyanide and iodide determination Sugars and small organic acids Hexavalent chromium and transition metals

Reagent-Free Operation

- Water-only eluent generator
- Hydroxide, carbonate and methanesulfonate generator types
- Gradient elution possible with an isocratic pump

Detection

- Plug-in conductivity and electrochemical detectors
- DC, pulsed and integrated pulsed amperometric modes
- Variable-wavelength UV with post-column derivatisation for transition metals and hexavalent chromium
- Coupling to other detection techniques

Software

- Graphical integrated control with real-time parameters
- Multi-channel thumbnails of pressure, temperature and chromatograms
- Audit trail covering acquisition, processing and reporting
- More than three levels of user permission

Optional Accessories

- 48-position autosampler, full-loop injection, 10 to 4000 µL, repeatability <0.5% RSD
- 120-position autosampler with 4 to 30 °C temperature control, repeatability <0.3% RSD, cross-contamination <0.01%
- Electrochemical and UV detectors
- Post-column derivatisation device