Gas Chromatograph - GC Analyzer - 450°C Column Oven - 120°C/min Heating Rate

Model **MSGC-900ASWISS** | Brand **Master Science**











The Master Science Gas Chromatograph is a laboratory GC built for the routine separation and measurement of volatile and semi-volatile compounds. A redesigned injection system improves the accuracy and repeatability of each injection, while an upgraded electronics platform speeds up data handling and keeps the instrument stable during long working days.

KEY HIGHLIGHTS

- Repeatable injections
- Faster turnaround between runs
- One mainframe, many methods
- Easy daily operation

AT A GLANCE

8 independent temperature zones
TEMPERATURE CONTROL

Ambient +5 °C to 450 °C
COLUMN OVEN RANGE

20 or more ramp steps
TEMPERATURE PROGRAM

≥ 10^7
FID LINEAR RANGE

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

support@themsci.com
www.themsci.com

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Overview

Up to three inlets and four detectors can be fitted to the same mainframe, so one instrument can be configured for natural gas, refinery gas, LPG, solvent residue and general quality control methods.

The main specifications of the Master Science Gas Chromatograph are summarised below for quick comparison with your method requirements.

Laboratories that run both GC and LC methods can pair this unit with the Master Science HPLC liquid chromatography system to cover volatile and non-volatile analytes.

The Master Science Gas Chromatograph is suited to petrochemical, environmental and quality control work, including:

Typical GC issues in busy laboratories and how the Master Science Gas Chromatograph deals with them:

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSGC-900ASWISS
SKU	MSGC-900ASWISS
Pressure / Flow Control	Mechanical control
Inlets Supported	Up to 3
Temperature Control	8 independent temperature zones
Column Oven Range	**Ambient +5 °C to 450 °C**
Oven Setting Resolution	0.01 °C
Maximum Heating Rate	120 °C/min
Cool-down Time	450 °C to 50 °C in less than 5 minutes
Temperature Program	20 or more ramp steps
Oven Temperature Stability	Variation below 0.01 °C per ±1 °C ambient change
Oven Protection	Automatic over-temperature protection
Inlet Options	Split/splitless capillary, septum-purged packed column, cold on-column, PTV, valve, headspace and thermal desorption injection
Inlet Maximum Temperature	450 °C
Inlet Extras	Independent split-line cold trap and septum purge trap
FID Maximum Temperature	450 °C
FID Detection Limit	≤ 4.3 pg C/s (n-hexadecane)
FID Linear Range	**≥ 10^7**
FID Ignition	Automatic
TCD Sensitivity	≥ 8000 mV·mL/mg
TCD Linear Range	**≥ 10^5**
TCD Protection	Carrier gas flow-loss protection

OPTICAL PERFORMANCE

Detectors Supported	Up to 4
FID Baseline Noise	≤ 2×10^{-14} A
FID Baseline Drift (30 min)	≤ 2×10^{-13} A
TCD Baseline Noise	≤ 0.05 mV
TCD Baseline Drift (30 min)	≤ 0.2 mV
Separate instruments for each detector type	up to four detectors run on one mainframe.
Unstable baselines over long sequences	low FID and TCD noise and drift support reliable integration.

DISPLAY & DATA

Display	7-inch capacitive touchscreen
Complex software for new staff	the touchscreen interface keeps routine tasks simple.

COMMON LABORATORY PROBLEMS AND HOW THIS GC HELPS

Poor peak area repeatability	the optimised inlet design improves injection consistency.
Long waits between runs	fast oven heating and cooling reduce cycle time.

Key Benefits

Repeatable injections
the reworked inlet design keeps sample transfer consistent from run to run, which shows up as tighter peak area repeatability.

Faster turnaround between runs
a 120 °C/min ramp and cool-down from 450 °C to 50 °C in under five minutes shorten each analytical cycle.

One mainframe, many methods
the Master Science Gas Chromatograph accepts three inlets and four detectors, so FID and TCD work can share a single instrument.

Easy daily operation
method parameters and instrument status are set and checked directly on the 7-inch touchscreen.

Long service life
the upgraded circuit system and sturdy construction are designed for continuous operation in demanding labs.

Applications

Sulfur compound analysis in natural gas

Liquefied petroleum gas (LPG) composition

Fast refinery gas analysis

Refinery flue gas analysis

Residual solvent and purity testing in pharmaceutical and chemical QC

Touchscreen Control

- 7-inch high-definition capacitive touchscreen
- Clear menu layout that new users learn quickly
- Parameter entry and live status monitoring on the instrument itself

Injection System

- Redesigned inlet built from durable materials
- Manual and automatic injection supported
- Compatible with split/splitless, packed column, valve, headspace and thermal desorption inlets
- Quick-disconnect fittings for faster inlet changes

Oven and Detectors

- Eight independent heated zones
- Programmable ramps with 20 or more steps
- FID with auto-ignition and TCD with flow-loss protection

Optional Accessories

- ALS-24 automatic liquid sampler
- AHS-16 headspace autosampler
- HGZ-300 hydrogen generator
- GA-2009 compressed air generator