

5973 SERIES MASS SELECTIVE DETECTOR (MSD)

The HP 5973 Mass Selective Detector (MSD) is a stand-alone capillary GC detector.

The HP 5973 series (5973N and 5973 inert versions) MSD is designed for use with the HP 6890 Series Gas Chromatograph. The MSD features:

- Either a 90 L/sec vapor-diffusion or a 250 L/sec turbomolecular high vacuum pump.
- Rotary vane foreline pump
- Independently heated electron-ionization ion source
- Independently heated hyperbolic quadrupole mass filter
- High-energy dynode (HED) electron multiplier detector
- Independently heated GC/MSD interface
- Power supplies and instrument control electronics.

Operator control of the MSD is through the data system. The data system features Hewlett-Packard MSD ChemStation software. It includes programs to calibrate (tune) the MSD, acquire data, and analyze data.

Data acquisition programs allow the monitoring of the total ion chromatogram (TIC), automatically storing the mass spectra of GC peaks as they elute. This is the scan mode. Alternatively, it can monitor the concentrations of particular ions. This is selected ion monitoring mode (SIM).

Data analysis programs allow the integration of chromatograms (TIC or SIM), view and manipulate mass spectra data, compare spectra to databases of reference spectra in a library search, quantitate data, and generate reports.



The HP 5973 Mass Selective Detector

Specifications

Product dimensions

Product (5973 Series MSD)	Dimensions, cm (in)			Weight, kg (lb)
	Height	Width	Depth	
5973N				
G2577A Diffusion pump EI MSD	40.6 (16)	29.8 (11.75)	54 (21.25)	36 (80)
5973 inert				
G2578A Standard turbo EI MSD	40.6 (16)	29.8 (11.75)	54 (21.25)	39 (85)
G2579A Performance turbo EI MSD	40.6 (16)	29.8 (11.75)	54 (21.25)	44 (95)
G2589A EI / PCI / NCI / MSD	40.6 (16)	30.3 (12.01)	54 (21.25)	46 (100)

Specifications

Power Requirements

Product	Line voltage	Max. continuous power consumption	Supply circuit rating	Outlets required
5973 Series MSD	120 VAC +5/-10%, 50/60 Hz \pm 5%	900 VA (400 VA for foreline pump only)	15A	1
	200-240 VAC +5/-10%, 50/60 Hz \pm 5%	900VA	15A	1
6890 Series GC & ALS	120 VAC +5/-10%, 50/60 Hz \pm 5%	1000 VA ²	20A	1 or 2
	200-240 VAC +5/-10%, 50/60 Hz \pm 5%	1000VA	15A	1 or 2
Gauge controller	100 – 240 VAC			1
ChemStation PC	100-120 or 220-240 VAC +5/-10%, 50/60 Hz \pm 5%	1000 VA ²	15A	3 to 5

Air Conditioning Requirements

Temperature and Humidity		
<ul style="list-style-type: none"> • Operation requires constant temperature (variations < 2 °C/hr) • Operation and storage require a non-condensing, non-corrosive atmosphere 		
Temperature and humidity limits		
	Temperature	Humidity (relative)
Operation	15 °C to 35 °C (59 °F to 95 °F)	40% to 80%
Storage	-20 °C to 70 °C (-4 °F to 158 °F)	0% to 95%
Airborne dust		
<ul style="list-style-type: none"> • Max. airborne particle density: 55 $\mu\text{g}/\text{m}^3$ 		

Power Rating

The MSD is rated for 900 Watts (3000 BTU/hr)