Data Sheet

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Agilent 990 Micro GC J&W CP-Volamine Channels

Introduction

The Agilent 990 Micro GC system has been designed to accommodate up to four analytical channels. Each channel holds its own MEMS-based inlet, isothermal column, and micro TCD detector.

These channels are available in > 15 different column chemistries and > 60 unique configurations. Agilent offers different lengths in straight or backflush (BF) configurations. Backflush allows heavier compounds to be backflushed, leaving a clean column and enabling faster analysis. Backflush to detector (BF2D) backflushes to the detector instead of the vent, using pretuned restrictions. This results in a composite peak for the backflushed compounds, typically C6+.

Agilent J&W CP-Volamine channels are based on a nonpolar stationary phase and use Multi-Purpose Deactivation (MPD) technology to produce symmetrical peaks. J&W CP-Volamine is particularly stable for analyzing volatile amines, even when the sample contains substantial amounts of water. Typical examples for the applicability of CP-Volamine channels in the Agilent 990 Micro GC system are the analysis of ammonia, formaldehyde, and dimethyl ether.

Table 1. Available CP-Volamine channels for the Agilent 990 Micro GC.

Part Number	Description	Length (m)	Precolumn (m)	BF
G3588-63793	MGC CHA Volamine, 15 m, HI, Str, FactI	15	–	No

Product features

Configuration
- J&W CP-Volamine phase

Control
- Independent control of the channel
- Pneumatics, including proportional column pressure programming
- Independent column, injector, and detector settings

Injector
- Micromachined injector with no moving parts
- Injection volume of 1 to 10 µL, software-selectable injection time
- Heated injector, up to 110 °C, including heated sample transfer line

Column[1]
- Temperature range: up to 180 °C, isothermal
- Resolution: see Table 2

Detector
- Micromachined thermal conductivity detector (TCD)
- Dual-channel TCD (sample/reference flow)
- Internal volume: 200 nL per channel
- Four filaments

Detection limit, TCD[1,4]
- See Table 2

Operating range, TCD
- Linear dynamic range[2]: 10^5

Repeatability[1]
- See Table 2

Carrier gas[3]
- He, H_2, N_2, or Ar, 550 ± 10 kPa (80 ± 1.5 psi) input

Sampling
- Sample inlet: 1.6 mm (1/16 in) stainless steel (SST) Valco fitting, with replaceable 5 µm SST filter
- Sample conditions: noncondensing gas of 0 to 110 °C
- Maximum sample inlet pressure: 100 kPa (14.5 psi)

Environmental conditions
- Ambient operating temperature: 0 to 50 °C
- Ambient operating humidity: 5 to 95% RH (noncondensing)
- Storage extremes: –40 to 70 °C
- Altitude: up to 2,000 m above sea level

[1] Specifications are determined under specific test conditions for this channel and are valid for new channels only. Results may vary with different conditions used and may degrade with use.

[2] For full range calibrations (low ppm to 100%), multilevel calibration is strongly advised.

[3] Hydrogen carrier is not permitted on the Agilent 990 Mobile Micro GC system.

[4] All specifications are determined with He carrier.

Table 2. Specifications for all available J&W CP-Volamine channels for the Agilent 990 Micro GC.[1,4]

Part Number	Description	Length (m)	Precolumn (m)	BF	Resolution (iC4/nC4 at 0.15/0.2%)	Detection Limit (As n-C5)	Repeatability (Peak Area (at 0.15/0.2%))
G3588-63793	MGC CHA Volamine, 15 m, HI, Str, FactI	15	–	No	2.0	0.8 ppm	< 1.0% RSD

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This information is subject to change without notice.

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