Data Sheet

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Agilent 990 Micro GC J&W CP-PoraPLOT Q 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) configuration. 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-PoraPLOT Q channels for the 990 Micro GC are ideal for hydrocarbon separations C1 to C6, halocarbons/freons, anesthesia gases, sulfur gases H_2S/COS, CO_2, and volatile solvents. They are widely used in natural gas and biogas analysis, reaction monitoring, and catalyst research for their ability to provide full separation of propane/propylene. CP-PoraPLOT Q will not separate ethylene/acetylene.

Table 1. Available J&W CP-PoraPLOT Q channels for the Agilent 990 Micro GC system.

Part Number	Description	Length (m)	Precolumn (m)	BF
G3588-63725	MGC PPQ, 4 m, HI, Str, FactI	4	–	No
G3588-63726	MGC PPQ, 10 m, HI, Str, FactI	10	–	No
G3588-63926	MGC PPQ, 10 m, HI, BF 1 m, FactI	10	1	Yes
G3588-63946	MGC PPQ, 10 m, HI, BF 10 m, FactI	10	10	Yes

Product features

Configuration

- J&W CP-PoraPLOT Q phase
- J&W CP-PoraBOND Q backflush column (optional)

Control

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

Injector

- Micromachined injector with no moving parts
- Injection volume: 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 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.

[4] Detection limits are determined with He carrier.

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

Part Number	Description	Length (m)	Precolumn (m)	Backflush	Resolution (iC4/nC4 at 0.2%)	Detection Limit (As n-C5)	Repeatability (Peak Area at 0.2%)
G3588-63725	MGC PPQ, 4 m, HI, Str, FactI	4	–	No	2.0	2 ppm	< 1% RSD
G3588-63726	MGC PPQ, 10 m, HI, Str, FactI	10	–	No	3.0	2 ppm	< 1% RSD
G3588-63926	MGC PPQ, 10 m, HI, BF 1 m, FactI	10	1	Yes	2.4	2 ppm	< 1% RSD
G3588-63946	MGC PPQ, 10 m, HI, BF 10 m, FactI	10	10	Yes	1.5*	2 ppm	< 1% RSD

* Resolution measured as methane/CO_2 (100%/1.5%)

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