



Agilent Sulfur Chemiluminescence Detector and Nitrogen Chemiluminescence Detector

Specification Guide

355 SCD

Sensitivity*	Typical <0.5 pg/second (signal to noise 3.3:1)
Typical Selectivity	g S/g C>2x10 ⁷
Linearity	>10 ⁴
Precision and Stability**	– <2% RSD 2 hours – <5% RSD 72 hours
Ozone Flow Through the Post Ozone Restrictor	20-30 ml/min at 3-6 psig
Typical Reaction Cell Pressure	– 4 - 8 Torr RV5 oil-sealed pump – 6 - 12 Torr dry piston pump
Typical Burner Pressure	250 - 400 Torr operating
Typical Burner Temperature	800 °C
Typical Air Flow Rate	– 65 SCCM recommended – 3 - 10 SCCM recommended with FID adapter
Typical Hydrogen Flow Rate	40 SCCM recommended
Signal Output Ranges	0-1V, 0-10V
Typical Time to Reach 800 °C from Room Temperature	10 min typical (115 VAC, 60 Hz)
Typical Safety Shroud Outside Temperature	<65 °C at 800 °C burner temperature typical
Recorder Output	0-1 V or 0-10 V

* Burner temperature 800 °C, 80 SCCM air, and 60 SCCM hydrogen, test compound dimethyl sulfide in toluene.

** Based on thiophene in benzene at 1 ppm mass sulfur, 1 µL injection split 1:10, 30 m, 0.32 mm ID, 1 µm thick CP wax (n=10 for 2.5 hours; n=42 for 72 hours)



255 NCD

Sensitivity	<3 pg N/second (signal to noise 3:1) in both N and nitrosamine modes
Typical Selectivity	g N/g C>2 to 10 ⁷ in N mode (selectivity in nitrosamine mode in matrix-dependent)
Linearity	>10 ⁴
Repeatability*	– <1.5% RSD 8 hours (~ the same in N and nitrosamine) – <2% RSD 18 hours (~3% RSD in nitrosamine mode over 21 hours)
Gas Flow Through Ozone Generator	20 - 30 mL/min at 3-6 psig (inlet pressure)
Typical Reaction Cell pressure	– 4 - 8 Torr RV5 oil-sealed pump – 6 - 12 Torr dry piston pump
Typical Burner Pressure	130 - 150 Torr operating
Typical Burner Temperature	900 °C
Typical Hydrogen Flow Rate	6 - 10 SCCM
Typical Oxygen Flow Rate	8 - 15 SCCM
Signal Output Ranges	0-1 V, 0-10 V

* Burner temperature 950 °C, 11 SCCM oxygen, and 6 SCCM hydrogen; 25 PPM N as nitrobenzene in toluene; 0.2 µL injection on column (HP 19095-121Z), n=7 for 3 hours; n=13 for 18 hours and n=10 n-dipropylnitrosamine in toluene at 4 µg/ml, 0.2 µL injection on column (HP 19095-121Z).

Physical Specifications

Power Requirements

355 SCD Detector	– 115 VAC, 50/60 Hz, 550 W – 100 VAC, 50/60 Hz, 550 W – 220 - 240 VAC, 50/60 Hz, 550 W
255 NCD Detector	– 115 VAC, 50/60 Hz, 550 W – 100 VAC, 50/60 Hz, 550 W – 220 - 240 VAC, 50/60 Hz, 550W
Dual Plasma Controller	–100 - 120 VAC, 50/60 Hz, 200 W – 220 - 240 VAC, 50/60 Hz, 200 W
Vacuum Pump	220 - 240 VAC, 50/60 Hz, 200 W

Dimensions and Weight

Detector	– Height: 16.0 in (40.6 cm) – Width: 9.2 in (23.4 cm) – Depth: 21.8 in (55.3 cm) – 355 SCD Weight: 34.0 lbs (15.0 kg) – 255 NCD Weight: 37.5 lbs (17.0 kg)
Dual Plasma Controller	– Height: 5.0 in (12.7 cm) – Width: 9.5 in (24.1 cm) – Depth: 12.5 in (31.8 cm) – Weight: 9.9 lbs (4.5 kg)
Dual Plasma Burner	– Height: 12.3 in (31.2 cm) – Diameter: 4.0 in (10.2 cm) – Weight: 1.9 lbs (0.9 kg)

(continued on Page 3)

Physical Specifications (continued)

Oil Sealed Vacuum Pump	– Height: 10.3 in (26.1 cm) – Width: 6.0 in (15.2 cm) – Depth: 16.9 in (43.0 cm) – Weight: 47.3 lbs (21.5 kg)
Oil Free Dry Piston Pump	– Height: 12.0 in (30.0 cm) – Width: 9.0 in (22.9 cm) – Depth: 14.0 in (35.6 cm) – Weight: 29.9 lbs (13.6 kg)
Installation Category	II
Pollution Degree	2
Ambient Temperature	50 - 104 °F (10 - 40 °C)
Relative Humidity	– 80% @ 87.5 °F (31 °C) – 50% @ 104 °F (40 °C)
Normal Operating Environment	Intended for indoor use only
Maximum Altitude	2,000 m (6,562 ft)

Information, descriptions and specifications in this publication are subject to change without notice.

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