

2545 QUATERNARY GRADIENT MODULE

The Waters® 2545 Quaternary Gradient Module (QGM) is a low-pressure mixing quaternary gradient pump (for flow-rates up to 150 mL/min) that serves as a solvent delivery device for purification systems.

OPERATING SPECIFICATIONS

Number of solvents	Up to four: A, B, C, D
Solvent conditioning	Sparging: one channel per solvent
Flow-rate range	0.50 to 150.00 mL/min, in 0.01 mL/min increments
Compressibility compensation	Automatic and continuous
Delay volume	< 6.5 mL
Plunger seal wash	Integral, active, programmable
Gradient profiles	11 gradient curves, including linear, step [2], concave [4], and convex [4]
Priming	Self prime from solvent container on floor with dry lines
Maximum operating pressure	6000 psi up to 100 mL/min; Roll off to 5000 psi at 150 mL/min
Composition accuracy	± 3% absolute (full scale) from 5% to 95%; and from 1 to 150 mL/min (methanol or water step gradients) at 600 psi
Composition precision	Retention time variation < 0.15 min SD, (uracil/caffeine; 1, 5, 20, 50, 150 mL/min; 70:30 water/methanol dial-a-mix)
Primary wetted materials	316 stainless steel, UHMWPE blend, sapphire, ruby, Tefzel (ETFE), Teflon (FEP, PTFE, PFA), Valcon H, Nitronic 60, and PEEK
Flow accuracy	± 1.0% of required flow (methanol or water at 600 psi)
Leak test	Fully automatic diagnostic

INSTRUMENT CONTROL AND COMMUNICATION

Number of contact closure outputs	4
Stop flow input	TTL signal or contact closure
Start gradient input	TTL signal or contact closure
Auxiliary input two	TTL signal or contact closure (one dedicated to leak detector)
Chart outputs	Two 0 to 2 volts per scale
Ethernet	RJ45 connector

[INSTRUMENT SPECIFICATIONS]

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Width: 28.0 cm (11.0 in.) Height: 43.2 cm (17.0 in.) Depth (no drip tray): 66.0 cm (26.0 in.)
Weight	39.5 kg (87.0 lbs.)
Operating temperature	4.0 to 40.0 °C (39.2 to 104.0 °F)
Operating humidity	10% to 90%, non-condensing
Acoustic noise	< 60 dBA

ELECTRICAL SPECIFICATIONS

Power requirements	6.5 A
Line voltage	100 to 240 Vac \pm 10%
Frequency	50/60 Hz
Fuse	10 A, 5 x 20 mm, slow-blow, IEC type
Power consumption	650 W

ORDERING INFORMATION

2545 Quaternary Gradient Module
Prep Chromatography Rack (Optional)
FlexInject (Optional)

PART NUMBER

176001736
205000619
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Waters Corporation
34 Maple Street
Milford, MA 01757 U.S.A.
T: 1 508 478 2000
F: 1 508 872 1990
www.waters.com

