e2695 Separations Module

The Waters™ e2695 Separations Module, with its integrated solvent and sample management capabilities, provides the flexibility and ruggedness needed to accommodate an enormous range of HPLC separation challenges.

SOLVENT MANAGEMENT

Number of solvents	One to four
Solvent conditioning	Vacuum degas, two operating modes, four chambers, <500 µL internal volume per chamber
Flow rate range	0.01 to 10.000 mL/min (0.050 to 5.000 mL/min typical) in 0.001 mL/min increments
Compressibility compensation	Automatic and continuous
Dwell volume (total system)	≤1.145 mL
Plunger seal wash	Integral, active, programmable
Gradient profiles	11 gradient curves (including linear, step [2], concave [4], and convex [4])
Dry prime/wet prime	Automatic front panel control, SystemPREP function for automatic solvent(s) purge
Flow ramping	Time (0.01 to 30.00 min in 0.01 min increments) to reach maximum flow rate
Maximum operating pressure	5000 psi (345 bar [0.010 to 3.000 mL/min]) programmable upper and lower limits
Composition range	0.0% to 100.0%, in 0.1% increments
Composition accuracy	±0.5% absolute, independent of backpressure (proportioning valve pair test, [degassed methanol:methanol/propylparaben, 2.0 mL/min, 254 nm])
Composition precision	≤0.15% RSD or ≤0.02 min SD, whichever is greater, based on retention time (60:40 degassedmethanol/water dial-a-mix, 1.00 mL/min, six replicates, phenone mix, 254 nm)
Flow precision	≤0.075% RSD or ≤0.02 min SD, six replicates, based on retention time or volumetric measures (0.200 to 5.000 mL/min), isocratic premix
Flow accuracy	±1% or 10 µL/min, whichever is greater, 0.200 to 5.000 mL/min, (degassed methanol at 600 psi backpressure)

SAMPLE MANAGEMENT

Number of sample vials	120 vials, configured in five carousels of 24 vials each
Number of sample injections	1 to 99 injections per sample vial
Sample delivery precision	Typically <0.5% RSD, 5 to 80 µL (using standard 250 µL syringe), 60:40 degassed methanol/water dial-a-mix, 1 mL/min, six replicates, phenone mix, 254 nm); Typically <0.3% RSD, 5 to 60 µL (using 100 µL optional syringe), 70:30 degassed methanol/water dial-a-mix,* 1 mL/min, six replicates, caffeine, 273 nm
Sample carryover	Sample carryover ≤0.0025% for caffeine, under specified conditions Injection needle wash Integral, active, programmable
Injection accuracy	±1 µL (±2%) (50 µL, N=6), sample: 100% degassed water, analytical solvent: 100% degassed methanol
Standard sample vial	2 mL
Advanced operations	Priority samples, auto additions, auto standards
Injection volume range	0.1 to 100.0 µL, standard; 0.1 to 2000.0 µL, with optional sample loop
Injector linearity	>0.999 coefficient of deviation (1.000 to 100.000 µL)
Minimum sample required	10 µL, using low volume inserts
Sample temperature control (optional)	Ambient -25 °C or 4 °C (whichever is greater) to 40 °C in 1 °C increments ±3 °C temperature accuracy 60-min time limit from lab ambient to heating set-point 90-min time limit from lab ambient to cooling set-point
Column heater (optional)	20 to 65 °C, in 1 °C increments (5 °C above ambient)
Column heater/cooler (optional)	Ambient minus 15 or 4 °C (whichever is greatest) up to 65 °C, in 1 °C increments

** Solvents are mixed using the solvent manager's programmable proportioning of up to 4 solvents (not premixed solvents).*

INSTRUMENT CONTROL

Communications	IEEE-488, RS-232, Ethernet
External control	Empower™ or MassLynx™ Software
Event inputs	Three, TTL or switch closure
Programmable event outputs	Six, contact closure

ELECTRICAL SPECIFICATIONS

Power requirements	950 VA (maximum)
Voltage range	100 to 240 VAC
Frequency	50 to 60 Hz

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Height: 57.1 cm (22.5 inches) Depth: 57.1 cm (22.5 inches) 64.8 cm (25.5 inches) with optional sample heater/cooler Width: 45.7 cm (18.0 inches) 58.4 cm (23.0 inches) with optional column heater
Weight	45.5 kg (100.0 pounds) 59.1 kg (130.0 pounds) with optional sample heater/cooler and column heater
Primary wetted materials	316 stainless steel, ruby, sapphire, MP35N, PEEK, PPS, UHMWPE, Tefzel (ETFE), Teflon (FEP and PTFE), Teflon AF, Fluoroloy G, Fluoroloy-08R
Acoustic noise	≤65 dB(A)
Operating temperature range	4 to 40 °C
Operating humidity range	20% to 80%, non-condensing

ORDERING INFORMATION

e2695 Temperature Control

Separations Module*	Samples	Column(s)	Part Number
e2695 XC	Heating/Cooling	Heating/Cooling	176269502
e2695 XE	Heating/Cooling	Heating	176269503
e2695	Heating/Cooling		186269506
e2695		Heating	176269501
e2695			186269505

** Standard features include vacuum solvent degassing and active piston seal wash.*

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