Waters
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2465 PULSED ELECTROCHEMICAL DETECTOR SPECIFICATIONS

The Waters® 2465 Pulsed Electrochemical Detector combines reliability, simplicity and performance for research and development applications. The 2465 electrochemical flow cell has been developed for ultra-trace analysis in analytical, microbore and capillary scale LC instruments. The versatile 2465 detector allows DC, pulse and scan modes of operation for analyzing a wide range of compounds. The 2465 is ideal for use with Waters Alliance® Systems with Empower™ Software.

OPERATING SPECIFICATIONS

Operating modes	Direct Current (DC) Pulsed Amperometric Detection (PAD) Scan (Available and supported under Empower Software control)
Potential range	± 2000 mV in 10 mV steps (DC, PAD, Scan)
Analog signal output	±1 Volt or ±10 Volt selectable
Output resolution	Analog 20 bit DAC, 24 bit RS232 digital communication to Empower Software personal workgroup or client computer
Analog signal offset	±50% of analog signal output, in 10% steps
Autozero	Maximum autozero determined by analog signal potential range, triggered by key pad, event in signal or Empower Software control
Integrated flow cell and column oven	7 °C above ambient to 45 °C, 0.1 °C resolution
DC mode	
Current range	10 nA to 200 µA, 1, 2, 5 sequence steps
Filter time constants	0.1 to 5.0 s in 1, 2, 5 sequence steps
Noise	< 2 pA (dummy load 0.47 µF, 300 MΩ,+800 mV, time constant 1.00 s)
Drift	< 8 pA/hour (dummy load 0.47 µF, 300 MΩ, +800 mV, time constant 1.00 s) at temperature equal 30 °C
PAD mode	
Range	10 nA to 200 µA, 1, 2, 5 sequence steps
Times	t1: 100 to 2000 ms t2: 100 to 2000 ms t3 : 0 (off) to 2000 ms in 10 ms steps Sample times (ts) = 20, 40, 60, 80, 100 ms
Scan mode	
Scan range	10 nA to 200 µA in 1, 2, 5 steps
Scan times	1 to 50 mV/s in 1, 2, 5 steps
Scan cycles	Half, full, continuous
Method programmability	DC mode: nine stored methods total, five stored methods PAD mode: four stored methods standalone or full Empower Software control

[INSTRUMENT SPECIFICATIONS]

Parameters controlled by time in standalone mode	Autozero, potential, current range, filter time constants, output offset, flow cell on/off, two output contact closures and two relay switches
Timed event programming	DC and PAD

FLOW CELL

Design	Confined wall-jet
Standard flow cell	0.080 µL minimum volume, flow rates from 25.000 µL/min – 2000.000 µL/min
Capillary flow cell	0.011 µL minimum volume, flow rates from 1.000 µL/min – 25.000 µL/min

WORKING ELECTRODE

Diameters	2.00 and 3.00 mm standard flow cell, 0.75 mm capillary flow cell
Reference electrodes	Salt-bridge Ag/AgCl, in-situ Ag/AgCl (ISAAC), Hy-REF
Auxiliary electrode	Stainless steel
Spacer thickness	25, 50, and 120 µm
Flow cell dimensions	40 mm diameter, 40 mm length without connectors
Flow cell pressure rating	40 psi
Wetted materials	PCTFE, FEP, 316 SS, Viton, Silver, Silver chloride and WE
Working electrodes materials	Glassy Carbon, Gold, Platinum, Silver (Copper optional)

PHYSICAL SPECIFICATIONS

Dimensions	Width:	22.0 cm (8.7 in.)
	Height:	44.0 cm (17.2 in.)
	Depth:	44.0 cm (17.3 in.)
Weight	14.0 kg (30.9 lb.)	
Power	110/120 VAC 220/240 VAC	

ORDERING INFORMATION	PART NUMBER
2465 Pulsed Electrochemical	186002465
Flow cell 2 mm Glassy Carbon WE, ISAAC Reference	205004215
Flow cell 3 mm Gold WE, Hy-Ref Reference	205004325

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