

Product Specification:

QPatch II - Automated Patch Clamp Systems

Performance/features	QPatch II
Channels	16 or 48
Number of pipettes	4 or 8
Automatic cell preparation	√
Hardware modules (optional – can be retrofitted)	Temperature control; heating / cooling at recording site
Unattended operation	Up to 4 hours
Stimulation mode	Voltage-gated Ligand-gated Current clamp (optional)
V_{xx} adaptive protocol - Online estimation of individual activation and inactivation characteristics, used for stimulation and/or holding potential	√
Recording configuration	Whole cell / Perforated patch
Cell types applicable	Cell lines Stem cells Primary cells iPSC
QPlate compatibility	Single hole Multi-hole
Maintenance of electrodes	None
Electrode stability	Drift in voltage offset ($V_{off} \sim 0.005$ mV/min)
Giga-Ohm seals	True gigaseal in physiological IC/EC solutions
Use of seal enhancing agents	Optional
Test compound – volume applied	Minimum 2 μ l. Recommended 5 μ l.
Compound plate formats	MTP-96 (SBS standard)
Fast series resistance compensation <400 μ s	Optional
Series resistance compensation >400 μ s	√
Analyzer software	√

Amplifiers	
Number of amplifiers	16 or 48 parallel
Clamp	Voltage, current and pressure
Bandwidth	20 kHz
RMS noise	< 14 pA @ BW=20 kHz < 4 pA @ BW= 5 kHz <1,6 pA @ BW= 1 kHz
Sampling rate	500 kHz, digitally down sampled to 50 kHz, 16 bit
Current range	±25 nA ±50 nA ±100 nA
Voltage range	
Minimum/maximum voltage in clamp voltage mode	±1000 mV
Minimum/maximum measured voltage in current clamp mode	+/- 750mV
Resolution	16 bit
Compensations	
C-total, C-fast, C-slow, R-series	Digital compensation current, 16 bit out
QVac (Vacuum pump)	
Main supply	AC 100-240 V, 50-60 Hz / 1.1 A

Dimensions	QPatch II 16	QPatch II 48
Width	104 cm	
Depth	78 cm - 121 cm (open)	
Height	174 cm - 199 cm (open)	
Weight	400 kg (882 lbs)	
Requirements		
Power supply	100-240 Vac, 50-60 Hz, Max 6A	
Pressure	4 - 8 bar (1 m ³ / hour)	
Vacuum	0.7 - 0.9 bar (1 m ³ / hour)	



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