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Agilent Seahorse XF Flex Analyzer

Agilent Seahorse XF Flex Analyzer

Agilent Seahorse XF Controller

Instrument performance specification sheet

Agilent Seahorse XF Flex analyzer simultaneously measures the oxygen consumption rate (OCR) and proton effluxrate rate (PER) or extracellular acidification rate (ECAR) of culture cells and three-dimensional (3D) models, such as tissue and organoids, in a 24-well plate format. OCR and ECAR rates are key indicators of mitochondrial health and glycolysis as well as ATP production. Together, these measurements provide a systems-level view of cellular metabolic function in cultured cells and ex vivo samples.

Technical details

Performance Specifications***	
Signal Range with Verified Performance*	OCR: 30 to 1050 pmol/min PER: 100 to 2500 pmol/min
Low Limit of Detection (LLOD) with 95% Confidence	OCR: 30 pmol/min PER: 100 pmol/min
Intraplate Variation (Standard Deviation) at Low Rates**	OCR: ≤ 30 pmol/min PER: ≤ 100 pmol/min
Intraplate Variation (Coefficient of Variation) at Mid to High Rates**	OCR: ≤ 15% PER: ≤ 15%
Recommended Time to Acquire One Data Point	8 minutes
Sample Temperature	16 to 42 °C (8 to 20 °C above ambient)
Temperature Uniformity	± 0.5 °C
Temperature Accuracy	± 0.7 °C
Injection Ports	4 per well; 50 to 100 µL each
Assay Running Volume	500 – 1000 µL/well
Sample Requirements	8,000 – 500,000 cells/well Also support tissue, organoids, and other 3D assay models

 * For signals above the range, the system may also provide linear measurements. However, performance was not verified. For signals below the LLOD, confidence interval is lower than 95%. This means that signals below the LLOD may be more variable.

** Low rates refer to signal range of 30 – 150 and 100 – 500 pmol/min for OCR and PER, respectively. Mid to high rates refer to signal range of 151 – 1,050 and 501 – 2,500 pmol/min for OCR and PER, respectively. Specifications are set for cultured 2D cells using the Agilent Seahorse XF V7 cell culture microplates.

*** Extracellular acidification rate (ECAR) specification is not provided here since proton efflux rate (PER) is a recommended measurement for assessing glycolysis. However, ECAR dynamic range for XF Flex analyzer was tested from 6 to 130 mpH/min using V7 plate and XF DMEM assay medium, pH 7.4.

Agilent Seahorse XF external barcode reader (this part is only included in the Seahorse XF Flex analyzer with the normalization option).

General Instrument Specifications	
Dimensions	38.74 cm W × 58.42 cm H × 45.72 cm D (15.25" W × 23" H × 16" D)
Weight	21.8 kg (48 lb)
Power Requirements	100 to 240 VAC; 9 A; 50/60 Hz
Analyzer Applications	Interrogating cellular energy metabolism, phenotyping, mitochondrial health, in cultured cells and three-dimentional models such as tissue and organoids
Assay Format	24 wells
Operating Environment	Temperature: 4 to 30 °C Humidity: 20 to 80% Ambient O_2: 3 to 21%
Controller Computer	Dimensions: 53.34 cm W × 46 cm H × 30.48 cm D (21" W × 18" H × 12" D) Weight: 9.5 kg (21 lb) Operation system: Microsoft Windows 11 enterprise Memory: 16 GB Hard drive: 2 TB Screen display: Touch screen Communication: TCP/IP; USB; wireless
Software	Agilent Seahorse XF Flex controller, Agilent Seahorse XF Wave Pro (downloadable to a Windows computer) and Agilent Seahorse Analytics (web-based)

Agilent Technologies

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UK CA
R-R-ATi-XFS7851
ISM 1-A
CAN ICES-001 (A)/NMB-001(A)

Model	XF Flex
Product #	S7851A
Power	100-240V~/300W
Frequency	50/60Hz
Mfg. Date	MM/YR
Serial #	US0046xxxx

Label: S7851-87002 Rev A

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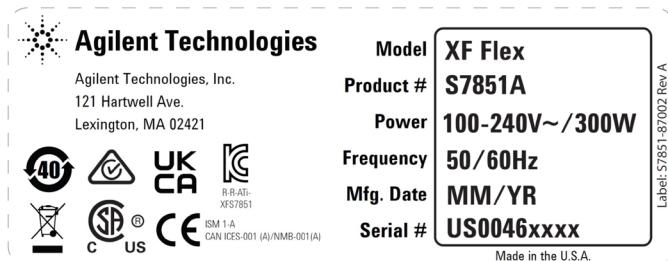
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