CFX Opus 96
Real-Time PCR System

Integrated Workflow for the Modern Lab

The CFX Opus 96 Real-Time PCR System puts you on the road to an efficient workflow. Quickly set up runs and easily monitor run progress and analyze data using the comprehensive data management and analysis tools of CFX Maestro Software.

From your BR.io account, set up a run and access your results any time and anywhere you have internet access.

Benefits

Flexible connectivity and data management options for access and transfer of runs and experiment protocols:

- Operate in stand-alone mode through flexible connectivity options of wireless network (WiFi), Ethernet, and USB
- Access BR.io cloud platform for experiment setup and data management at any convenient location with internet access
- Enjoy continued support for and control of up to 4 CFX instruments with CFX Maestro Software for Windows 10 (64-bit) and higher, and Security Edition
- Email your completed run
- Save protocols and completed runs in a network folder

Intuitive touch-screen user interface for both experienced and new real-time PCR users:

- Create new real-time PCR protocols or easily modify existing protocols
- Set up unique user names, with optional passwords, to easily organize and find your protocols and experiments

Specifications

System

Licensed for real-time PCR	Yes
Sample capacity	96 wells
Sample size	1–50 µl (10–50 µl recommended)
Dimensions (W x D x H)	33 x 56 x 36 cm (13 x 22 x 14 in.)
Weight	22 kg (48 lb)
Touch-screen user interface	Adjustable, with angle of rotation 12–55°
Communications	USB 2.0 or above, Ethernet, WiFi
Electrical approvals	IEC, CE
Operating system	Windows 10 IoT

Optical Detection System

Excitation	6 filtered LEDs
Detection	6 filtered photodiodes
Range of excitation/ emission wavelengths	450–730 nm
Scan time	
All channels	12 sec
Single channel	3 sec
Dynamic range	10 orders of magnitude
Sensitivity	Detects 1 copy of target sequence in human genomic DNA
Multiplex analysis	Up to 5 targets per well

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Specifications

96-Well Reaction Block

Sample block type	Fixed 96-well sample block
Heating and cooling method	Peltier
Lid heating	30–110ºC
Temperature range	4–100ºC
Maximum ramp rate	5ºC/sec
Average ramp rate	3.3ºC/sec
Thermal accuracy	±0.2ºC
Thermal uniformity	±0.3ºC (max–min ≤ 0.6ºC), measured 10 sec after the block reaches the target temperature
Gradient	
Operational range	30–100ºC
Programmable span	1–24ºC

CFX Maestro Data Management and Analysis Software

Operating system	Windows 10 (64-bit), macOS (10.14, for analysis only)
Memory	Minimum of 1 GB
Data analysis modes	PCR quantification with standard curve
	Melt curve analysis
	Gene expression analysis by relative quantity (ΔCq) or normalized expression (ΔΔCq)
	Multiple-file gene expression analysis for comparison of an unlimited number of Cq values
	Allelic discrimination
	End-point analysis
	Data analysis options include bar charts, box and whisker plots, dot plots, clustergrams, scatter plots, and volcano plots
	Statistics include t-test and analysis of variance (ANOVA)
Data export	Save, copy, and print all graphs and spreadsheets from right-click menu
	Export specified data in multiple formats
	Copy and paste into a Microsoft Excel, Word, or PowerPoint file
	Print directly or save as PDFs customizable reports containing run settings, data graphs, and spreadsheets
	Export to RDML
Image export	Export images at any pixel size and at a resolution up to 600 dpi
	Save images as .bmp, .jpg, or .png files

Ordering Information

All software for Windows unless otherwise noted.

Catalog #	Description
12011319	**CFX Opus 96 Real-Time PCR System**, includes power cord, USB cable, and Ethernet cable; does not include CFX Maestro Software or WiFi adaptor
12013758	**CFX Maestro Software**
12004128	**CFX Maestro Software for Mac**
12012832	**CFX Maestro Software, Security Edition**, 1 license
12013028	**CFX Maestro Software, Security Edition**, 5 licenses

Catalog #	Description
12012833	**CFX Maestro Software, Russian Edition**, 1 license
12012834	**CFX Maestro Software, Chinese Edition**, 1 license
1845025	**Precision Melt Analysis Software**, includes 2 user licenses, installation CD, 2 HASP HL keys, melt calibration kit
1845098	**CFX Qualification Plate**, 96-well
1814000	**PX1 PCR Plate Sealer**, includes heat sealing instrument
1814030	**PCR Plate Heat Seal**, pkg of 100, optically clear seals for use with the PX1 PCR Plate Sealer
MSB1001	**Microseal 'B' PCR Plate Sealing Film**, pkg of 100, optically clear seals for PCR plates
HSP9655	**Hard-Shell 96-Well PCR Plates**, pkg of 50, low profile, thin wall, skirted, white shell/white wells
HSP9955	**Hard-Shell 96-Well PCR Plates**, pkg of 50, low profile, thin wall, skirted, white shell/white wells, barcoded
1708840	**iScript Reverse Transcription Supermix for RT-qPCR**, 25 x 20 µl reactions
1725037	**iScript Advanced cDNA Synthesis Kit for RT-qPCR**, 25 x 20 µl reactions
1725270	**SsoAdvanced Universal SYBR® Green Supermix**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
1725280	**SsoAdvanced Universal Probes Supermix**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
1725120	**iTaq Universal SYBR® Green Supermix**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
1725130	**iTaq Universal Probes Supermix**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
1725200	**SsoFast EvaGreen® Supermix**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
1725210	**SsoFast EvaGreen® Supermix with Low ROX**, 2 ml (2 x 1 ml), 200 x 20 µl reactions
12010176	**Reliance One-Step Multiplex RT-qPCR Supermix**, 1 ml (1 x 1 ml), 200 x 20 µl reactions
1725150	**iTaq Universal SYBR® Green One-Step Kit**, 100 x 20 µl reactions
1725140	**iTaq Universal Probes One-Step Kit**, 100 x 20 µl reactions
1725848	**iQ Multiplex Powermix**, 50 x 50 µl reactions
1725095	**SingleShot SYBR® Green One-Step Kit for Cell Lysis and RT-qPCR**, 100 x 50 µl reactions
1725160	**SsoAdvanced PreAmp Supermix**, 1.25 ml (1 x 1.25 ml), 50 x 50 µl reactions
17005726	**SEQuoia Complete Stranded RNA Library Prep Kit**, 24 reactions
17005710	**SEQuoia Complete Stranded RNA Library Prep Kit**, 96 reactions
12011928	**SEQuoia Dual Indexed Primers Set**, 12 vials of unique dual indexes, 96 reactions
12011930	**SEQuoia Dual Indexed Primers Plate**

Search **CFX qPCR Systems** in the Apple App Store and Android Play Store for an augmented reality tour. Contact your local sales representative for an in-person demonstration.

Visit **bio-rad.com/CFXOpus** for more information.

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