



## CFX Opus 96 Dx Real-Time PCR System

### Robust Performance Ensures Reliable Patient Results



The CFX Opus 96 Dx Real-Time PCR System provides a robust and reliable open platform for development and performance of in vitro diagnostic assays. With enhanced thermal performance, this system ensures consistent data from well to well. When used with CFX Maestro Dx SE Software for security and traceability, the integrity of patient results is ensured. Quickly set up runs and easily monitor run progress and analyze data using the comprehensive data management and analysis tools of CFX Maestro Dx SE Software.

#### Benefits

- Assist with U.S. FDA 21 CFR Part 11 regulations using CFX Maestro Dx SE Software security, audit, and electronic signature capabilities
  - View, sign, save, and print an audit report with CFX Maestro Dx SE Software
  - Control access to protocols and run files on the instrument with User Management through use of user name and password
  - Utilize thermal gradient function to assist with assay optimization during development
  - Control up to 4 CFX Opus Dx Systems with CFX Maestro Dx SE Software for Windows 10 (64-bit)
  - Email your completed run
  - Save protocols and completed runs in a network folder
- The system's intuitive touch-screen user interface supports 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<br>(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                |
| Electrical approvals        | IEC, CE                                   |
| Operating system            | Windows 10 IoT                            |

### Optical Detection System

|  |   |
|--|---|
| Excitation                                   | 6 filtered LEDs   |
| Detection                                    | 6 filtered photodiodes                                    |
| Range of excitation/<br>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<br>in human genomic DNA |
| Multiplex analysis                           | Up to 5 targets per well                                  |

### 96-Well Reaction Block

|                            |   |
|----------------------------|---|
| Sample block type          | Fixed 96-well sample block  |
| Heating and cooling method | Peltier   |
| Lid heating                | 30–110°C  |
| Temperature range          | 4–100°C   |
| Maximum ramp rate          | 5°C/sec   |
| Average ramp rate          | 3.3°C/sec   |
| Thermal accuracy           | ±0.2°C  |
| Thermal uniformity         | ±0.3°C, measured 10 sec after the block<br>reaches the target temperature |

### Gradient

|                   |          |
|-------------------|----------|
| Operational range | 30–100°C |
| Programmable span | 1–24°C   |

### CFX Maestro Dx SE Data Management and Analysis Software

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

## Ordering Information

| Catalog # | Description   |
|-----------|---|
| 12014330* | <b>CFX Opus 96 Dx Real-Time PCR System</b> , for use in countries<br>other than China                                   |
| 12014334* | <b>CFX Opus 96 Dx Real-Time PCR System</b> , for use in China   |
| 12014349  | <b>CFX Maestro Dx SE Software</b> , English version   |
| 12014350  | <b>CFX Maestro Dx SE Software</b> , Chinese version   |
| 12014351  | <b>CFX Maestro Dx SE Software</b> , Russian version   |
| 1845098   | <b>CFX Qualification Plate</b> , 96-well  |
| 1814000   | <b>PX1 PCR Plate Sealer</b> , includes heat sealing instrument  |
| 1814030   | <b>PCR Plate Heat Seal</b> , pkg of 100, optically clear seals for use with<br>the PX1 PCR Plate Sealer                 |
| MSB1001   | <b>Microseal 'B' PCR Plate Sealing Film</b> , pkg of 100, optically clear<br>seals for PCR plates                       |
| HSP9655   | <b>Hard-Shell 96-Well PCR Plates</b> , pkg of 50, low profile, thin wall,<br>skirted, white shell/white wells           |
| HSP9955   | <b>Hard-Shell 96-Well PCR Plates</b> , pkg of 50, low profile, thin wall,<br>skirted, white shell/white wells, barcoded |

\* The CFX Opus 96 Dx System ships with power cord, USB cable, Ethernet cable,  
and CFX Maestro Dx SE Software, English version.

Visit [bio-rad.com/CFXOpusDx](http://bio-rad.com/CFXOpusDx) for more information.

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and 6,528,302.

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