# specifications

# CFX96™ Real-Time PCR Detection System

## **Designed for the Way You Work**

The CFX96 system will meet all your real-time PCR needs, whether you are running your first experiment or analyzing multiple gene expression files at one time. Solid-state optical components provide sensitive detection for precise quantitation and target discrimination. Five-target multiplexing enables powerful simultaneous analyses, or tailor the run to detect SYBR® Green in the single-color fast scan mode. CFX Manager $^{\text{TM}}$  software is customizable for all levels of users and different experiment needs. A startup wizard and intuitive experiment setup make it easy to get started with real-time PCR. Data analysis modules include gene expression by normalized expression ( $\Delta\Delta C_{\text{T}}$ ) using multiple reference genes and individual reaction efficiencies in the calculations.



#### **Specifications**

C1000™ Th	hermal Cycler	With 96-Well	Fast Reaction	Module
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Maximum ramp rate 5°C/sec Temperature range 0-100°C Gradient Average ramp rate 3.3°C/sec Temperature accuracy ±0.2°C of programmed target at 90°C Operational range 30-100°C Heating and cooling method Peltier Temperature uniformity ±0.4°C well-to-well within 10 sec Programmable span 1-24°C of arrival at 90°C Heats up to 105°C

**Optical Detection** 

Excitation 6 filtered LEDs Sensitivity Detects 1 copy of target sequence in human genomic DNA
Detection 6 filtered photodiodes Dynamic range 10 orders of magnitude

Range of excitation/emission 450–730 nm Scan time

wavelengths All channels 12 sec Single channel fast scan 3 sec

Software

Operating systems Windows XP, Windows Vista
Multiplex analysis Up to 5 targets per well

Data analysis modes PCR quantitation with standard curve

Melt-curve analysis

Gene expression analysis by relative quantity  $(\Delta C_{\uparrow})$  or normalized expression  $(\Delta \Delta C_{\uparrow})$  with multiple reference genes and individual

reaction efficiencies

Multiple file gene expression analysis

Allelic discrimination End-point analysis Data export

Save, copy, and print all graphs and spreadsheets from right-click menu Export results to Microsoft Excel Copy and paste into Microsoft Excel,

Word, or PowerPoint files

Customizable reports containing run settings, data graphs, and spreadsheets can be directly printed or saved as a PDF

System

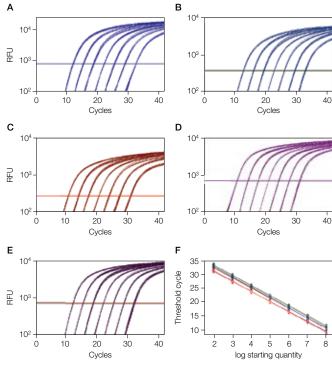
PCR license Yes Electrical approvals IEC, CE

Sample capacity 96 wells Dimensions (W x D x H)  $33 \times 46 \times 36$  cm (13 x 18 x 14")

Sample size 1–50 µl (10–25 µl recommended) Weight 21.4 kg (47 lb)

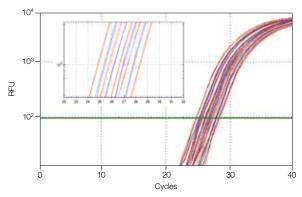
Communication USB 2.0



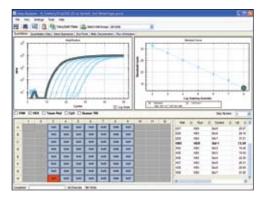


Α

Linearity of five-target multiplex detection. A-E, fluorescence data from a series of 10-fold dilutions of plasmid DNA (108-102 copies) amplified using reporter dyes to monitor five targets: ■, FAM/actin; ■, HEX/GAPDH; ■, Texas Red/ cyclophilin; ■, Cy5/tubulin; ■, Quasar 705/IL-1β; F, standard curves generated from data in A-E, reaction efficiencies range from 97 to 103%. RFU, relative fluorescence units.



Exceptional reproducibility can be achieved with SsoFast™ EvaGreen® supermix. Efficient discrimination and reliable quantification can be obtained from 1.33-fold serial dilutions of input template. The CBP gene was amplified from varying amounts of human genomic DNA (5 ng to 500 pg). From left to right: (**I**) 5 ng, 2.83 ng, 1.60 ng, 903 pg, and 511 pg; (**I**) 3.76 ng, 2.13 ng, 1.20 ng, and 679 pg. CBP efficiency = 96.5%, r = 0.996. Insert is a magnified view showing robust discrimination and reproducible amplification. RFU, relative fluorescence units



CFX Manager software data analysis module.

### **Ordering Information**

Catalog #

184-5096

	license for qbase plus software, communication cable, reagent and			
	consumable samples, instructions			
185-5096	CFX96 Real-Time PCR Detection System, includes C1000 thermal			
	cycler chassis, CFX96 optical reaction module, CFX Manager			
	software, license for qbasePLUS software, communication cable,			
	power cord, reagent and consumable samples, instructions			
185-1096	C1000 Thermal Cycler With 96-Well Fast Reaction Module, includes			
	thermal cycler chassis, 96-well fast reaction module, USB flash drive,			
	power cord, reagent and consumable samples, instructions			
184-5001	CFX Manager Software, Security Edition, includes 1 user license,			
	installation CD, HASP HL key, instructions			
184-5025	Precision Melt Analysis™ Software, includes 2 user licenses,			
	installation CD, 2 HASP HL keys, calibration kit, instructions			
184-5008	CFX Manager Software, Chinese Edition, includes 3 user licenses,			
	installation CD, 3 HASP HL keys, instructions			
184-5028	CFX Manager Software, Russian Edition, includes 3 user licenses,			
	installation CD, 3 HASP HL keys, instructions			
170-8862	iQ™ Supermix, 500 x 50 µl reactions			
170-8882	iQ™ SYBR® Green Supermix, 500 x 50 μl reactions			
172-5849	iQ Multiplex Powermix, 200 x 50 μl reactions			
170-8890	iScript™ cDNA Synthesis Kit, 25 x 20 µl reactions			
170-8891	iScript cDNA Synthesis Kit, 100 x 20 μl reactions			
172-5200	SsoFast EvaGreen Supermix, 200 x 20 µl reactions, 2x mix contains			
	dNTPs, Sso7d fusion polymerase, MgCl <sub>2</sub> , EvaGreen dye, stabilizers			
MLL-9601	Multiplate™ Low-Profile 96-Well Unskirted PCR Plates, natural, 25			
MSB-1001	Microseal® 'B' Adhesive Seals, 100			

CFX96 Optical Reaction Module, includes CFX Manager software,

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Bio-Rad's real-time thermal cyclers are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Nos. 6,767,512 and 7,074,367.

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