

BioLogic DuoFlow™ Chromatography Systems

BioLogic DuoFlow Systems

Selection Guide

Selection, Ordering, and Specifications

● Standard ○ Upgrade

	F10 Workstation	F40 Workstation	BioFrac™ Fraction Collector	BioLogic QuadTec UV/Vis Detector	214 nm Capability	BioLogic Maximizer Valve System	pH Monitor	Single Wavelength UV Detector	Conductivity Monitor
BioLogic DuoFlow 10 basic system 10 ml/min flow rate to 3,500 psi 254/280 nm detection	●	○	○	○	○	○	○	●	●
BioLogic DuoFlow 40 system 10 ml/min flow rate to 3,500 psi 254/280 nm detection	○	●	○	○	○	○	○	●	●
BioLogic DuoFlow QuadTec™ 10 basic system 10 ml/min flow rate to 3,500 psi UV/Vis detection — 4 simultaneous wavelengths	●	○	○	●	●	○	○	○	●
BioLogic DuoFlow QuadTec 40 system 10 ml/min flow rate to 3,500 psi UV/Vis detection — 4 simultaneous wavelengths	○	●	○	●	●	○	○	○	●
BioLogic DuoFlow Maximizer™ 20 system 20 ml/min flow rate to 3,500 psi 254/280 nm detection Buffer blending Fraction collection	●	○	●	○	○	●	●	●	●
BioLogic DuoFlow Maximizer 80 system 80 ml/min flow rate to 1,000 psi 254/280 nm detection Buffer blending Fraction collection pH monitoring	○	●	●	○	○	●	●	●	●
BioLogic DuoFlow Pathfinder® 20 system 20 ml/min flow rate to 3,500 psi UV/Vis detection — 4 simultaneous wavelengths Buffer blending Fraction collection pH monitoring	●	○	●	●	●	●	●	○	●
BioLogic DuoFlow Pathfinder 80 system 80 ml/min flow rate to 1,000 psi UV/Vis detection — 4 simultaneous wavelengths Buffer blending Fraction collection pH monitoring	○	●	●	●	●	●	●	○	●



Ordering Information

BioLogic DuoFlow Systems

Catalog #	Description
BioLogic DuoFlow Systems	
Includes Dell controller and monitor, USB Bitbus communicator, F10 workstation, MX-1 mixer, 3-tray rack, AVR7-3 sample inject valve, fittings kit, UV detector with 5 mm flow cell and 254/280 nm filters, conductivity monitor, starter kit, UNO® Q1 column, instructions	
760-0037	BioLogic DuoFlow 10 System , 100/120 V
760-0036	BioLogic DuoFlow 10 System , 100/120 V, for Japan and Korea only
760-0038	BioLogic DuoFlow 10 System , 220/240 V
760-4037	BioLogic DuoFlow 40 System , 100/120 V, same as 760-0037 with F40 workstation replacing F10 workstation
760-4036	BioLogic DuoFlow 40 System , 100/120 V, for Japan and Korea only
760-4038	BioLogic DuoFlow 40 System , 220/240 V
BioLogic DuoFlow Systems With BioFrac Fraction Collector	
Includes BioLogic DuoFlow basic system (catalog #760-0037) plus BioFrac fraction collector, diverter valve, two F1 racks	
760-0047	BioLogic DuoFlow 10 System With BioFrac Fraction Collector , 100/120 V
760-0046	BioLogic DuoFlow 10 System With BioFrac Fraction Collector , 100/120 V, for Japan and Korea only
760-0048	BioLogic DuoFlow 10 System With BioFrac Fraction Collector , 220/240 V
760-4047	BioLogic DuoFlow 40 System With BioFrac Fraction Collector , 100/120 V, same as 760-0047 with F40 workstation replacing F10 workstation
760-4046	BioLogic DuoFlow 40 System With BioFrac Fraction Collector , 100/120 V, for Japan and Korea only
760-4048	BioLogic DuoFlow 40 System With BioFrac Fraction Collector , 220/240 V
BioLogic DuoFlow QuadTec Systems	
Includes Dell controller and monitor, USB Bitbus communicator, F10 workstation, MX-1 mixer, 3-tray rack, AVR7-3 sample inject valve, fittings kit, BioLogic QuadTec UV/Vis detector with 3 mm PEEK flow cell, instrument control module (ICM), system cables 25 and 26 (RS-232 and ICM power), conductivity monitor, starter kit, UNO Q1 column, instructions	
760-1137	BioLogic DuoFlow QuadTec 10 System , 100/120 V
760-1136	BioLogic DuoFlow QuadTec 10 System , 100/120 V, for Japan and Korea only
760-1138	BioLogic DuoFlow QuadTec 10 System , 220/240 V
760-4137	BioLogic DuoFlow QuadTec 40 System , 100/120 V, same as 760-1137 with F40 workstation replacing F10 workstation
760-4136	BioLogic DuoFlow QuadTec 40 System , 100/120 V, for Japan and Korea only
760-4138	BioLogic DuoFlow QuadTec 40 System , 220/240 V

Catalog #	Description
BioLogic DuoFlow QuadTec Systems With BioFrac Fraction Collector	
Includes BioLogic DuoFlow QuadTec system (catalog #760-1137) plus BioFrac fraction collector, diverter valve, two F1 racks	
760-1147	BioLogic DuoFlow QuadTec 10 System With BioFrac Fraction Collector , 100/120 V
760-1146	BioLogic DuoFlow QuadTec 10 System With BioFrac Fraction Collector , 100/120 V, for Japan and Korea only
760-1148	BioLogic DuoFlow QuadTec 10 System With BioFrac Fraction Collector , 220/240 V
760-4147	BioLogic DuoFlow QuadTec 40 System With BioFrac Fraction Collector , 100/120 V, same as 760-1147 with F40 workstation replacing F10 workstation
760-4146	BioLogic DuoFlow QuadTec 40 System With BioFrac Fraction Collector , 100/120 V, for Japan and Korea only
760-4148	BioLogic DuoFlow QuadTec 40 System With BioFrac Fraction Collector , 220/240 V
BioLogic DuoFlow Maximizer Systems	
Includes BioLogic Maximizer base unit, BioLogic Maximizer mixer, pH monitor, Dell controller and monitor, USB Bitbus communicator, F10 workstation, MX-1 mixer, 3-tray rack, AVR7-3 sample inject valve, fittings kit, UV detector with 5 mm flow cell and 254/280 nm filters, conductivity monitor, starter kit, UNO Q1 column, BioFrac fraction collector, diverter valve, two F1 racks, instructions	
760-2237	BioLogic DuoFlow Maximizer 20 System , 100/120 V
760-2236	BioLogic DuoFlow Maximizer 20 System , 100/120 V, for Japan and Korea only
760-2238	BioLogic DuoFlow Maximizer 20 System , 220/240 V
760-2247	BioLogic DuoFlow Maximizer 80 System , 100/120 V, same as 760-2237 with F40 workstation replacing F10 workstation
760-2246	BioLogic DuoFlow Maximizer 80 System , 100/120 V, for Japan and Korea only
760-2248	BioLogic DuoFlow Maximizer 80 System , 220/240 V
BioLogic DuoFlow Pathfinder Systems	
Includes BioLogic Maximizer base unit, BioLogic Maximizer mixer, pH monitor, Dell controller and monitor, USB Bitbus communicator, F10 workstation, MX-1 mixer, 3-tray rack, AVR7-3 sample inject valve, fittings kit, BioLogic QuadTec UV/Vis detector with 3 mm PEEK flow cell, system cable 25 (RS-232), conductivity monitor, starter kit, UNO Q1 column, BioFrac fraction collector, diverter valve, two F1 racks, instructions	
760-2257	BioLogic DuoFlow Pathfinder 20 System , 100/120 V
760-2256	BioLogic DuoFlow Pathfinder 20 System , 100/120 V, for Japan and Korea only
760-2258	BioLogic DuoFlow Pathfinder 20 System , 220/240 V
760-2267	BioLogic DuoFlow Pathfinder 80 System , 100/120 V, same as 760-2257 with F40 workstation replacing F10 workstation
760-2266	BioLogic DuoFlow Pathfinder 80 System , 100/120 V, for Japan and Korea only
760-2268	BioLogic DuoFlow Pathfinder 80 System , 220/240 V

Upgrades and Accessories

Catalog #	Description	Catalog #	Description
Flow Rate Expansion Kits		Fraction Collection	
760-0110	F10 Pump Kit , converts F40 workstation to F10 to enable flow rates as low as 0.01 ml/min; includes 2 fully assembled pumpheads, 4 piston assemblies, F10 tubing kit, tools, instructions	741-0017	BioFrac Ice Bath/Microplate Rack , holds 120 tubes, 12–13 mm diameter; with the following capabilities: up to 4 SBS-format microplates in 96-, 48-, 24-, or 12-well configurations; Titertube® micro test tube collection, 8 x 12, 96-tube configuration
760-0180	F40 Pump Kit , expands pumping capabilities to 40 ml/min; includes 2 fully assembled pumpheads, 4 piston assemblies, mixer barrel extender, 2 mm UV flow cell, F40 tubing kit, tools, instructions	741-0018	BioFrac Prep-20 Preparative Rack
760-2200	BioLogic Maximizer Kit* , 100/120 V, for U.S., Japan, Korea; includes BioLogic Maximizer base unit, pH monitor, BioLogic Maximizer mixer, starter kit, tubing kit, system cable 30, power cord	741-0002	BioFrac Fraction Collector , input voltage 100–240 V, includes power cord, rack set F1 (2 x flatpack, 13 mm), BioFrac diverter valve, fittings kit, instructions
760-2204	BioLogic Maximizer Kit* , 220/240 V, includes BioLogic Maximizer base unit, pH monitor, BioLogic Maximizer mixer, starter kit, tubing kit, system cable 30	BioLogic DuoFlow Valves	
Buffer Blending		760-0406	AVR7-3 Automated Sample Inject Valve , 7-port, 3-position high-pressure valve, 3,500 psi (233 bar) limit
760-2200	BioLogic Maximizer Kit* , 100/120 V, for U.S., Japan, Korea; includes BioLogic Maximizer base unit, pH monitor, BioLogic Maximizer mixer, starter kit, tubing kit, system cable 30, power cord	760-0408	AVR9-8 StreamSelect Valve , 9-port 8-position high pressure valve, 3,500 psi (233 bar) limit
760-2204	BioLogic Maximizer Kit* , 220/240 V, includes BioLogic Maximizer base unit, pH monitor, BioLogic Maximizer mixer, starter kit, tubing kit, system cable 30	750-0415	SV5-4 Select Valve , 5-port, 4-position solenoid valve, 30 psi (2 bar) limit
Software		760-0410	SVT3-2 Diverter Valve , 3-port, 2-position solenoid valve, 30 psi (2 bar) limit
760-2050	BioLogic DuoFlow Software Version 5.2	750-0490	Small-Volume Sample Loop Kit , includes 100, 250, and 500 µl PEEK loops
750-0111	EZLogic™ Integration Software Package	750-0491	Large-Volume Sample Loop Kit , includes 1, 2, and 5 ml PEEK loops
UV, Conductivity, and pH Detection		Sample Loading Options**	
760-1300	BioLogic QuadTec Detector Kit , includes BioLogic QuadTec detector with 3 mm PEEK flow cell, instrument control module (ICM), system cables 25, 26, and 17 (BioLogic QuadTec RS-232, ICM power, and bus communication), U.S. power cord, 40 psi backpressure regulator, instructions	750-0451	DynaLoop™ 25 kit , includes 25 ml DynaLoop sliding piston loop, DynaLoop parts kit, instructions
750-0214	214 nm Conversion Kit , for detectors with serial #362BRXXXX, includes zinc lamp, housing, and 214 nm filter for peptide detection	750-0452	DynaLoop 90 kit , includes 90 ml DynaLoop sliding piston loop, DynaLoop parts kit, instructions
750-0502	Signal Import Module (SIM) , includes 4' communication cable (system cable 17)	731-9001	Econo™ Gradient Pump , 100/120 V, includes tubing and fittings kits
760-2040	BioLogic DuoFlow pH Monitor , includes SIM module, pH electrode, flow cell, and tubing	731-9002	Econo Gradient Pump , 220/240 V
760-2034	Universal AC/DC Inline Adaptor for USB Bitbus Device , required when connecting pH monitor or other external detector through SIM module on BioLogic DuoFlow systems	731-8140	Model EP-1 Econo Pump , 100/120 V
		731-8142	Model EP-1 Econo Pump , 220/240 V

* Maximizer upgrades require BioLogic DuoFlow version 5.1 (or greater) software. The DuoFlow workstation may require a firmware upgrade; please contact your local Bio-Rad representative for more information.

** See the brochure on valves for additional sample loading options.

Refer to individual product brochures or the Bio-Rad catalog for more detailed upgrade, accessory, and spare parts information.

For more information, contact your local Bio-Rad representative at 1-800-4BIORAD (1-800-424-6723) or visit us on the Web at www.bio-rad.com.

Specifications

Dell Controller with Monitor

Typical computer and monitor configuration. Actual specifications may vary.

- Base Unit: Optiplex 760 Desktop
- Processor: Core 2 Quad, 9400/2.66 GHz
- Memory: 2.0 GB, Non-ECC, 800 MHz DDR2 1 x 2 GB, Optiplex
- Videocard: 256 MB ATI Radeon HD 3470 Graphics with dual display port LP, Optiplex
- OS: Windows XP PRO SP3, 16x DVD+/- RW SATA
- Dell USB mouse and keyboard
- Dell UltraSharp 17" flat panel monitor

Workstation

	F10 Workstation	F40 Workstation
Flow rate	0.01–10 ml/min in 0.01 ml increments to 3,500 psi (233 bar, 23 MPa)	0.5–40 ml/min in 0.01 ml increments to 1,000 psi (66 bar, 6.6 MPa)
Flow rate with Maximizer	0.02–20 ml/min in 0.02 ml increments to 3,500 psi (233 bar, 23 MPa)	1.0–80 ml/min in 0.02 ml increments to 1,000 psi (66 bar, 6.6 MPa)
Flow accuracy	0.01–10 ml/min = 2%	0.5–40 ml/min = 2%
Flow reproducibility	0.01 RSD*	0.01 RSD

* Relative standard deviation

- Dual-piston, positive displacement solvent delivery pumps with interchangeable pumpheads made of biocompatible PEEK
- Compositional accuracy: $\pm 1\%$
- High-pressure dynamic mixing: MX-1 mixer volume without extenders is 263 μl , mixer volume is expandable to 750 μl and 2 ml with added extender barrels; Maximizer mixer volume without extenders is 750 μl , volume is expandable to 5 ml and 12 ml with added extender barrels
- Built-in pressure transducer, volume 46 μl
- Sound level <70 dB

UV, Conductivity, and pH Detection

- Mercury lamp for fixed wavelengths 254/280 nm, auto zero, 0.0001–2 AUF detection range
- 5 mm (16 μl) path length analytical flow cell
- 2 mm (30 μl) path length preparative cuvette flow cell, optional, included with F40 pump kit
- Linearity: 2% up to 2 AU at 254 nm
- 214 nm detection kit with zinc lamp, optional upgrade
- Wavelength filters include 365, 405, 436, 546 nm, options to mercury lamp UV detector
- Conductivity monitor: range = 0–500 mS/cm, accuracy = $\pm 2\%$ full scale
- pH monitor option includes flow cell, electrode, and signal import module (SIM)
- SIM supports other detectors, e.g., refractive index, fluorescence

General

- System fittings: 1/4–28 fingertight nuts and ferrules
- Tubing: PEEK, Tefzel, and PTFE
- Wetted materials 100% biocompatible
- Workstation dimensions: ~ 35 x 41 x 18 cm (W x D x H), 3-tray rack increases height to 76 cm
- Coldroom compatible
- Solvent compatibility: 1 M NaOH, HCl, and organic acids; 0.1 M H_2SO_4 ; 7 M urea, guanidine HCl; 100% MeOH, isopropyl alcohol, acetonitrile; 0.1% TFA; 1% detergent (including SDS, Triton X-100)

Safety Standards

- EN 61010-1 certification
- CE

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