

## MultiFlo™ FX Multi-Mode Dispenser

MultiFlo™ FX Multi-Mode Dispenser is a versatile tool for liquid handling workflows. MultiFlo FX automates fast dispensing and washing, gentle media exchange for non- or loosely-adherent cell based assays, and dispensing into individual wells. Its unique Parallel Dispense™ design allows up to four independent reagents to be dispensed in parallel without cross-contamination.

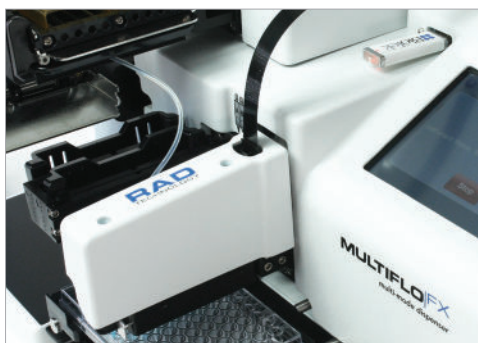
MultiFlo FX can incorporate one or two peristaltic dispense pumps, two syringe dispense pumps, plus an available microplate wash module. The unique RAD™ (Random Access

Dispense) module can automatically dispense varying volumes into discrete wells of a 96- or 384-well plate for normalization protocols. The new patent-pending AMX™ (Automated Media Exchange) module gently automates critical steps in spheroid and non-adherent cell based assays – all one on compact platform.

MultiFlo FX, when integrated to the BioSpa 8 Automated Incubator with a BioTek imager or multi-mode reader provides complete walkaway workflow automation for many biochemical and cellular assays.



Wash 6- to 384-well plates with the wash module.



Dispense to custom-mapped wells with RAD.



AMX module enables gentle media exchange for 3D cell cultures.



## Features:

- Multi-mode dispensing replaces up to four dispensers and a washer
- AMX™ Automated Media Exchange module protects 3D cell structures (e.g. spheroids, tumoroids), and suspension cells
- RAD™ Random Access Dispense enables mapped dispensing to individual wells for normalization applications
- Wash module for 6- to 384-well plates combines dispensing and washing automated on one platform
- Parallel Dispense technology: peristaltic or syringe dispensing of up to four reagents with no cross-contamination
- Cell-friendly angled dispense and wash tubes, adjustable flow rates using lidded plates
- BioSpa™ 8 Automated Incubator compatible for live and fixed cell assay automation
- Compatible with Agilent BenchCel™ Microplate Handler to automate many workflows

## Typical Applications:

- Primary/secondary screening assays
- Compound storage
- Genomics and proteomics research
- ELISA
- Cell-based washing, fixing and staining
- Volume or concentration normalization

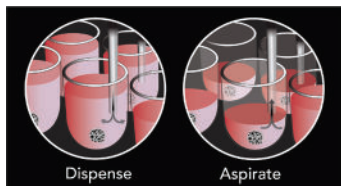
## Configurations:

- MFXP1: MultiFlo FX with 1 module arm, 1 peristaltic dispense pump  
MFXP2: MultiFlo FX with 2 module arms, 1 peristaltic dispense pump  
MFXP2R: MultiFlo FX with 2 module arms and RAD module

See website or price list for complete listing.

## Optional Modules:

- Wash module
- AMX module
- RAD module
- Dual syringe pump module
- Secondary peri-pump module



AMX enables gentle media exchange for 3D cell structures.

## Optional Accessories:

- BioStack 4 Microplate Stacker
- BioSpa™ 8 Automated Incubator
- Liquid Handling Control™ Software
- Product Qualification Package
- Agilent BenchCel™ Microplate Handler



MultiFlo™ FX integrates with BioStack™ Microplate Stacker for automated processing of up to 50 plates.

## Technical Details:

### General

Microplate types:	Dispense, wash, RAD: 6- to 384-well, AMX: 96- and 384-well (manifold dependent)
User Interface:	Color touchscreen. Create, edit or run multiple protocols onboard.
Software:	LHC2 Software LHC2 Secure for 21 CFR Part 11 compliance (option) SiLA Compliant driver (option)
Shaking and soaking:	Programmable up to 60 minutes
Automation:	BioStack and 3rd party automation compatible BioSpa 8 Automated Incubator compatible

### Dispensing: Peristaltic Pump (Multi-Channel)

Fluid delivery:	1 or 2 peristaltic pumps
Dispense speed:	96 wells, 5 µL cassette, 10 µL/ well: 3 seconds 384 wells, 1 µL cassette, 1 µL/ well: 6 seconds 1536 wells, 1 µL cassette, 1 µL/ well: 21 seconds
Dispense volume range:	500 nL - 3,000 µL/well, selectable in 1 µL increments
Flow rates:	User programmable rates from high to low
Dispense performance:	<u>1 µL cassette:</u> recommended range: 1 - 50 µL Accuracy: +5% at 1 µL, Precision: <5% CV at 1 µL <u>5 µL cassette:</u> recommended range: 5 - 2,500 µL Accuracy: +2.0% at 5 µL, Precision: <2.5% CV at 5 µL <u>10 µL cassette:</u> recommended range: 10 - 3,000 µL Accuracy: +2.0% at 10 µL, Precision: <2.0% CV at 10 µL

### Dispensing: Syringe Pump (Multi-Channel)

Dispense speed:	20 µL /well, 1 x16 tubes, 96/384: 5 s/14 s 3 µL /well, 1536 wells, 2 x 32 tubes: 7 seconds
Volume range:	3 - 3,000 µL/well selectable in 1 µL increments
Dispense accuracy:	±1 µL at 5 µL and 20 µL; ±1 % at 100 µL
Dispense precision:	<2.5% CV at 20 µL; <1% CV at 100 µL

### Washing

Wash volume range:	20 - 30,000 µL/well
Wash cycles:	1-10
Wash speed:	96 wells, 8-tube manifold, 3 cycles, 300 µL/well: <130 seconds
Dispense accuracy:	±3%
Dispense precision:	96-/384-well plates, 300 µL/well: <3% CV 6-well plates, 5560 µL/well: <5% CV
Residual volume:	96-well plate, 300 µL/well: <2 µL/well
Flow rates:	140 - 422 µL/well
Supply/waste bottles:	2 L, waste bottle level detection

### Media Exchange: AMX (Automated Media Exchange Module)

Manifold types:	Two 8-channel autoclavable manifolds
Cassettes:	Autoclavable cassettes with 5 µL tubing
Performance:	Precision: ≤5% CV, Accuracy: ≤5%
Aspiration uniformity:	≤5%

### Dispensing: RAD (Random Access Module)

Other labware:	96-well cluster tubes (minitubes) up to 50 mm height (requires custom carrier)
Manifold types:	RAD single, with plastic or steel tip with 1, 5 or 10 µL tubing, 7° angle RAD 8-to-1 plastic tip, with 5 µL tubing, angled bulk dispense chute
Volume range:	500 nL - 30,000 µL
Minimum prime volume:	1 µL cass, 18": 90 µL ; 1 µL cass, 30": 150 µL 5 µL cass, 18": 320 µL; 1 µL cass, 30": 530 µL 10 µL cass, 18": 555 µL; 10 µL cass, 30": 920 µL
Dispense speed (high flow rate):	1 µL cass, 1 µL/well: 19s (96 wells) 55s (384 wells) 5 µL cass, 5 µL/well: 19s (96 wells), 58s (384 wells) 10 µL cass, 10 µL/well: 21s (96 wells), 66s (384 wells)

### Physical Characteristics

Dimensions:	Base instrument: 17.19"W x 11.75" D x 8" H (43.51 x 29.21 x 20.32 cm)
Weight:	Base instrument: 19.5 lbs (8.8 Kg)
Power:	100 - 240 Volts AC. 50/60 Hz, 90 W max consumption
Connectivity:	Two USB ports: Protocol storage/transfer and for optional external mouse or keyboard

### Regulatory

CE and TUV marked. RoHS compliant. IVD configurations are available.

Technical details are subject to change.



**BioTek**  
BioTek Instruments, Inc.  
Highland Park, P.O. Box 998  
Winooski, Vermont 05404-0998, USA  
Phone: 802-655-4040 • Toll-Free: 888-451-5171  
Outside the USA: 802-655-4740  
www.biotek.com