ELx405 Microplate Washer
Liquid Handling - Microplate Washers

Overview:

Over the last 20 years, Bio-Tek has become the leader in microplate washing. This proven expertise in the design and manufacture of the highest quality microplate washers has evolved into the ELx405[TM] Series of microplate washers. Precise, fast and easy to use -- the ELx405 Series includes four models, each with its own innovative features. The NEW ELx405 HT is designed specifically to rapidly wash 384-well microplates and includes Bio-Tek's patented Dual-Action manifold to ensure optimal performance and easy maintenance. The ELx405 Select is the market leader in 96-/384-well washing. The Select also has our patented Dual-Action[TM] manifold, providing independent control of both dispense and aspirate manifolds for precise overfill washing and overflow protection in both 96- and 384-well microplates. This unique design washes both 96- and 384-well plates without the need for any hardware changes. With its slanted dispense tubes, full control of dispense and aspiration rates and unique x, y, z positioning, the ELx405 Select is ideal for cell-based applications.

For those applications that use only 96-well microplates, the ELx405 Auto Plate Washer is an ideal choice for performance and value! The ELx405 Auto Washer is the most precise and reliable washer available. Many unique features lower background absorbance values and increase the signal-to-noise ratio of typical ELISA assays. The ELx405 Magna is specifically designed for those applications using magnetic bead technology. A second carrier positions the magnet plate close to the microplate bottom, securing magnetic beads during the critical aspiration cycles. All ELx405 Series washers come standard with Bio-Tek's unique AutoPrime[TM] and AutoRinse[TM] functions for reliable performance, and can be interfaced into standard robotic systems with Bio-Tek's easy-to-use ActiveX® component.

The ELx405 Series is the market leader in demanding High Throughput Screening environments.

Features:
Hardware:

- Patented Dual-Action[TM] manifold on the ELx405 Select and ELx405 HT provides independent control of the aspirate and dispense manifolds for precise overfill washing and overflow protection
- Internal positive displacement pump eliminates the use of troublesome pressure delivery systems and allows the use of any size dispense reservoir
- Built-in priming trough allows automatic manifold priming and rinsing during both operation and maintenance modes and eliminates the need for 'blank' plates when used in automated robotic systems
- Fully variable dispense volumes, flow, and aspiration rates provide 'total control' of the washing cycles from a gentle cell-washing application to vigorous wash for high-binding assays
- Built-in fluid flow, fluid detection, and vacuum sensing provide complete protection for unattended operation
- Optional external valve module connects four reagent bottles with automatic switching between reagents

Software:

- 75 programs
- Link up to 10 programs (if valve module is attached, links multiple buffers automatically)
- Pre/AutoPrime
- 10 cycles/wash
- Crosswise aspiration well
- Fully programmable:
  - dispense height
  - aspiration height
  - aspiration delay
  - soak
  - shake
  - aspiration rate
  - horizontal aspirate and dispense position
- External programming/downloading available through RS-232 port

Patented Dual-Action[TM] manifold design for 96- and 384-well plates.

Models:

ELx405 HT
High-speed 384-Well Microplate Washer

ELx405 HT V
High-speed 384-Well Microplate Washer with Valve Module System

ELx405MR
ELx405 Magna: 96-well washing and magnetic bead processing

ELx405MVR
ELx405 Magna: 96-well washing and magnetic bead processing with valve module

ELx405R
Auto Plate Washer: 96-well washing

ELx405U
ELx405 Select: 96- and 384-well washing

ELx405UCW
ELx405 Select optimized for sensitive cell washing

ELx405UV
ELx405 Select with valve module for connection of up to 4 buffer solutions

ELx405VR
ELx405 Auto Plate Washer: 96-well washing with valve module

Accessories Included:

- Aerosol cover
- Operator's manual

Optional Accessories:

- Complete dispense/waste system, includes tubing, p/n 7100547 (110v); p/n 7100548 (230v)
- Valve module and assembly, includes tubing (must be installed at factory), p/n 7100540
- Dispense system complete assembly, p/n 7100541
- Vacuum system complete assembly, p/n 7100529 (115v); p/n 7100546 (230v)
- Vacuum set with level sense assembly (same as above, but without pump), p/n 7100543
- Vacuum pump, p/n 7100530 (115v); p/n 7100545 (230v)
- 10-liter waste collection carboy, p/n 7100557
- 20-liter waste collection carboy, p/n 7100556

See price list for full list of accessories.

Specifications:

Microplate types	All standard flat-, round-, or V-bottom plates/strips in 96-well array 384- or 96-well plates (Select) 96-well plate (Magna) 384-well plate (HT)
Processing speed	<20 seconds (1 cycle, 400 µl/well, 384 wells) <30 seconds (3 cycles, 300 µl/well, 96 wells) <80 seconds (3 cycles, 100 µl/well, 384 wells)
Wash cycles	1-10
Volume range	50 to 3000 µl/well 25 to 3000 µl/well (HT)

Fluid delivery	Internal positive displacement pump
Buffer selection	Valve module option - up to 4 buffers
Dispense precision	<2% CV typical
Residual volume	<1.5 µl/well typical
Soak Time	1 to 600 seconds
Shaking	User-programmable speeds and timing
Manifold	96-channel aspiration/dispense (Auto/Magna) 96-channel patented Dual-Action, with separate dispense/aspiration (Select) 192-channel patented Dual-Action, with separate dispense/aspiration (HT)
Sterilization	Chemical
Supply bottle volume	3.7 liter
Onboard software	75 programs Program linking Overflow wash/overfill protection 5 maintenance programs
PC software	ActiveX component (optional)
Power	100 to 240 V_{AC}, 50/60 Hz
Dimensions	17" D x 14" W x 9" H (43.2 x 35.6 x 22.9 cm)
Weight	28 lbs (12.5 kg)
Regulatory	CE Mark, ETL Mark for UL3101-1 CAN/CSA C22.2 No. 1010.1 Conforms to IEC 1010-1
Automation	Compatible with Bio-Stack and Fastrack microplate stacking devices.