

# HydroFlex™

FLEXIBLE AND RELIABLE MICROPLATE STRIP WASHING AND  
VACUUM FILTRATION IN A COMPACT, MODULAR PLATFORM

- ✓ 21 CFR Part 11\*
- ✓ 98/79/EC IVD-D\*



# 3-in-1 microplate

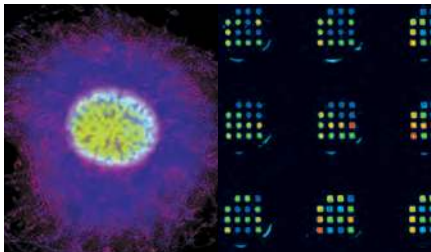
# strip washing for 96-well plates.

The HydroFlex plate washer is a truly flexible platform that provides excellent automated strip washing and vacuum filtration performance for 96-well microplate formats. It is ideal for a wide range of cell-, enzyme- and DNA-based applications in academia, biotech, pharma and clinical diagnostics.



#### ELISA WASHING

The HydroFlex offers both cell and ELISA washing, without the need for dedicated wash heads. It provides consistent, high-quality washing with very low residual volumes of less than 2 µl per well, and features multiple aspiration points for flat-bottom well geometries. The overflow function offers excellent single-step washing efficiency, avoiding the need for tedious repositioning of the wash head for sequential aspiration and dispense steps.



#### CELL AND PROTEIN ARRAY WASHING

Individual software control of critical wash parameters – such as aspiration and dispense speeds, and wash head positions – allows the washer to be fine-tuned to suit your cell type or protein array, providing optimal results. In addition, a very gentle, drop-wise dispense mode and move function ensure minimal cell detachment, even with weakly adherent cell types.



#### MAGNETIC BEAD WASHING

The optional smart-2 MBS plate carrier allows the HydroFlex to be used for washing of Luminex-type magnetic beads in a 96-well plate format. Its patented design, using two magnets per well, efficiently settles the beads at the side of the well to protect them during aspiration, optimizing bead recovery and assay sensitivity.



#### VACUUM FILTRATION

The HydroFlex is available with both low- and high-level vacuum filtration options, which are ideally suited to applications such as non-magnetic Luminex bead separation and PCR clean-up, respectively. Vacuum filtration is simple to automate with the HydroFlex, with fully programmable filtration steps and wash buffer dispensing, as well as automated control of the vacuum level and filtration time for quick release of the plate after filtration. DNA purification by vacuum filtration effectively removes unwanted residues or reaction by-products, and the purified DNA can be easily resuspended from the filtration membrane plates.

# Compact. Reliable.

# Easy to use.

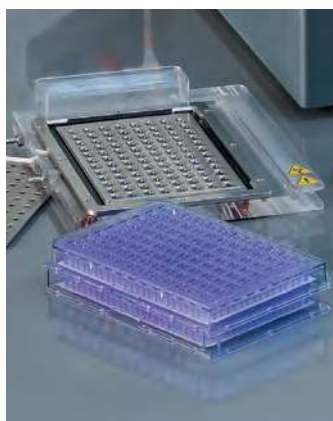
## Modular and upgradeable to suit your application needs

The HydroFlex strip washer is capable of processing most 96-well plate formats – including strip plates, half-area plates and full plates with a variety of well geometries – helping to reduce reagent consumption. This flexibility allows you to configure your instrument set-up according to your current application, with the option to upgrade your system with additional modules if your needs change.

### HYDROFLEX OPTIONS INCLUDE:



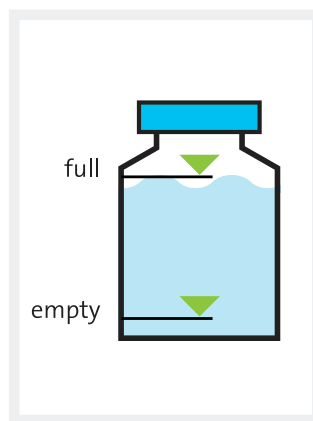
Eight- or 16-way manifold for ELISAs and cell-based assays, allowing simultaneous washing of eight or 16 wells



Automated vacuum filtration system for non-magnetic bead separation and DNA purification



Patented plate carrier using two magnets per well for washing of magnetic bead-based assays



Liquid level detection (LLD) system to monitor bottle fill levels

## A good fit for your laboratory

### RELIABLE

The HydroFlex is designed to provide excellent long-term performance while minimizing maintenance and service costs. Using an advanced pump system, the HydroFlex offers a mean time to first failure (MTFF) of more than 40,000 plates, typically corresponding to several years of hassle-free operation.

### \*REGULATORY COMPLIANT

The HydroFlex washer has been designed to meet the IVD-directive 98/79/EC for Europe when configured for ELISA washing. In combination with HydroControl™ software, it also provides FDA 21 CFR Part 11 functionality, including electronic records, signatures and audit trails. The HydroFlex is designed to meet the European directive 2011/65/EU RoHS for the Reduction of Hazardous Substances.

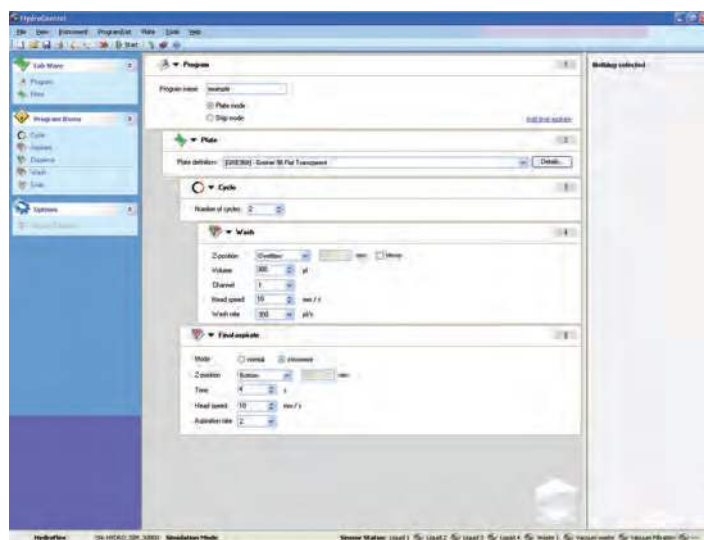
# Ready for automation.



## Intuitive controls

The HydroFlex washer can be fully programmed and operated as a standalone instrument using the built-in keypad, and features a selection of predefined cleaning protocols for easy maintenance.

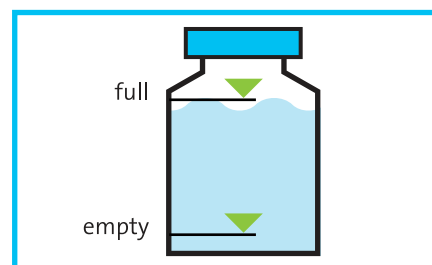
Every HydroFlex system is also supplied with Tecan's intuitive HydroControl software, providing example wash programs and a predefined plate library, as well as a simulation mode for offline operation. HydroControl can be pre-programmed for specific assay kits, allowing assay manufacturers to provide kit-specific wash programs and plate parameters that can be quickly transferred onto the HydroFlex washer via a USB interface using the download function. It fulfills all common user administration requirements for electronic records and signatures, and has been designed to provide FDA 21 CFR Part 11 functionality.



## State-of-the-art features

### ADVANCED PROCESS CONTROL

The instrument's liquid level detection system monitors fill levels in wash buffer and waste bottles to avoid spillages and unnecessary downtime, and all wash bottles contain sieves to prevent particles from entering the wash head. The system also features a range of built-in sensors, including a bubble sensor to ensure correct buffer flow, and online dispense pump diagnostics to guarantee reliable washing performance check.



### AUTOMATION FOR HIGHER THROUGHPUT

For complete automation of laboratory workflows, the HydroFlex washer can be easily integrated into Fluent®, Freedom EVO® or Freedom EVOlyzer® workstations, as well as other automated ELISA platforms, helping users to meet higher throughput requirements.





The multifunctional HydroFlex washer offers far greater flexibility than a standard plate washer, and features user-interchangeable plate carriers for easy switching between washing and filtration applications to allow:

- **ELISA washing** - for improved consistency and reliability
- **Gentle washing** - of cell-based assays with adherent or weakly adherent cells
- **Microplate array washing** - for protein and antibody arrays
- **Vacuum filtration to waste** - for PCR clean-up after DNA amplification, etc.
- **Magnetic bead washing** - with the smart-2 MBS carrier

#### ADD SOME COLOR TO YOUR LAB

In addition to the standard version in white, the HydroFlex is available in a range of special edition colors:

- Metallic orange
- Metallic red
- Metallic blue
- Metallic silver
- Lime green

#### Features and benefits

Compact and modular design, suitable for a range of applications and laboratories

Ready for automated washing of ELISAs, cells and protein arrays

Automated system for vacuum filtration to waste

Magnetic plate carrier for magnetic bead washing

Advanced online process controls for safety and reliability

Bubble sensor unit that ensures reliable buffer dispensing

Multipoint aspiration for flat-bottom plates to achieve minimal residual volumes

Individual software control of speed settings and wash head positions


Suitable for integration with Fluent, Freedom EVO and Freedom EVOlyzer workstations

Excellent reliability and low service costs

✓ 21 CFR Part 11\*

✓ 98/79/EC IVD-D\*

## Typical performance values\*\*

<b>Parameters</b>	<b>Characteristics</b>
<b>General</b>	
Display unit	Liquid crystal display with two rows of 16 digits
Keyboard	Four-key membrane keyboard
Number of dispensing channels	1, 2 or 4 channels
Manifold types	8- or 16-way for parallel processing of 8 or 16 wells
<b>Variable</b>	
Volume of solution dispensed	50-3,000 µl in 50 µl steps (washing) 50-400 µl in 50 µl steps (dispensing)
Dispensing accuracy	≤1.2 % typical** (300 µl dispense volume, dispense rate: 3, 8-way manifold)
Dispensing uniformity CV	≤2.5 % over the plate typical** (300 µl dispense volume, dispense rate: 3, 8-way manifold)
Residual volume	Crosswise aspiration: ≤1.8 µl per well (96-well, flat-bottom Greiner® plate) (asp. rate: 3; asp. time: 4 sec; head speed: 10 mm/sec; 8-way manifold)
Vacuum range	High-level vacuum filtration: -150 to -850 mBar absolute pressure Low-level vacuum filtration: -50 to -150 mBar absolute pressure
Interface	USB
Shaking	Linear shaking; high, medium and low settings
<b>Power</b>	
Supply	Auto sensing for the settings 100-120 V or 220-240 V, 50/60 Hz
Consumption	65 VA
<b>Physical</b>	
External dimensions of plate washer	Width: 27.5 cm, depth: 36.6 cm, height: 18.5 cm
Weight	6.6 kg
Color	

The instruments adhere to applicable safety standards to date.

\*\* Specifications are subject to change. Typical performance values represent the average observed factory-tested values.  
For product specifications refer to operators manual.

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