

# HIGH-THROUGHPUT MICROPLATE WASHING & DISPENSING

The Zoom HT Microplate Washer & Dispenser



**BERTHOLD**

# THE FASTEST MICROPLATE WASHER ON THE MARKET

## Maximum speed and reliability

The Zoom HT Microplate Washer is a modular system that offers unmatched speed in washing microplates in 96- and 384-well formats. The compact system enables automated high-throughput plate loading by means of a built-in stacker. Complemented with the optional 2-channel Dispense Module, the Zoom Washer becomes a highly efficient plate coating system.

Designed for high throughput applications, this multifunctional system helps you increase productivity and efficiency.



# MASTER YOUR HIGH-THROUGHPUT MICROPLATE WASHING CHALLENGES

The Zoom HT Microplate Washer has an excellent reputation as a high-throughput microplate washer for a wide range of applications. The system combines several product features that enable high throughput while delivering excellent wash results.

## ■ Designed for speed

The single-rail plate transfer design enables highly efficient transfer of the plate from the stack to the wash position and from there to the out-stack *position*. Typical throughput is 150 washed plates per hour or up to 1,050 plates per day.

## ■ Designed for continuous processing of large plate batches

The self-emptying liquid discharge system, combined with a built-in stacker, ensures uninterrupted processing of large batches of plates.

## ■ Designed for automation

The integrated microplate stacker enables continuous processing of up to 30 plates.

## ■ Designed for low residual volumes

The Zoom HT is designed to achieve low residual volumes due to the 3D-positioning of aspirate needles and the unique, reliable vacuum system used. The new circular aspiration function enables low residual volumes of  $<1 \mu\text{L}/\text{well}$ .

## Zoom HT benefits at a glance

- **The fastest Microplate Washer:** the Zoom HT takes only 14.5 seconds for a triple wash of a 96-well microplate.
- **Supports 96- and 384-well plates:** a single wash head for both plate formats eliminates the need to change wash heads.
- **Clean data:** low residual volumes of  $<1 \mu\text{L}/\text{well}$  allow for low background.
- **High throughput:** self-emptying liquid discharge system combined with a built-in stacker enable automation of large plate batches.
- **Handle problematic reagents with confidence:** continuous addition of antifoam reagent to the liquid waste trap, and the ability to optimize dispense position and speed make the Zoom HT ideal for handling problematic reagents.

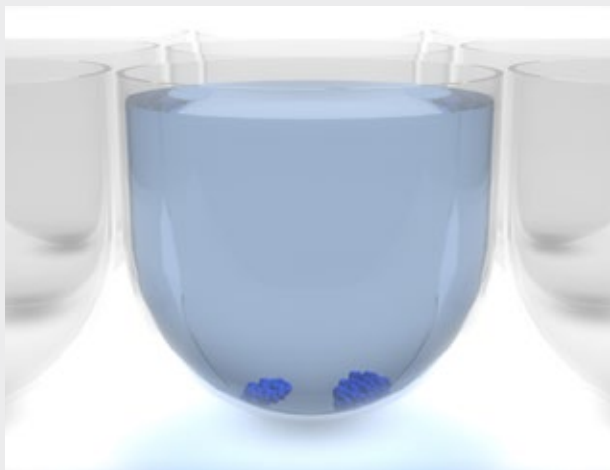


# APPLICATIONS



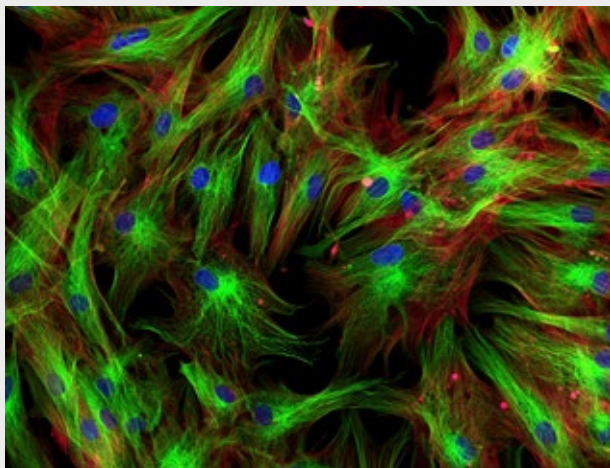
## ELISA

The Zoom HT dramatically reduces the number of wash cycles required. Residual volumes of  $<1 \mu\text{L}/\text{well}$ , help you increase your assay reproducibility.



## Plate Coating

Equipped with the optional dispenser, the Zoom HT enables walk-away plate coating and manufacturing workflows, resulting in ready-to-use plates.



## Cell-based assays

When performing cell-based assays, the Zoom HT effectively reduces background and allows for less variation, improving data quality and Z'-factors.

# The ZOOM HT PLATE COATING SYSTEM

## High-throughput ELISA plate coating and manufacturing processes

With the addition of the optional dispense module, the Zoom Washer becomes an efficient washer-dispenser combination system.

Berthold uses a proprietary syringe based liquid delivery system for reagent dispensing. The dispenser ensures timely and accurate one or two-channel reagent dispensing with minimal dead volume (helps saving precious reagents).

Typical throughput\*:

Coating protocol	Typical throughput
Coat + stack	330 plates/h, 2.310 plates/day
Aspirate + 3x Wash + Stack	190 plates/h, 1.330 plates/day
Aspirate + Block + Stack	330 plates/h, 2.310 plates/day
Final Aspirate+Stack	360 plates/h, 2.520 plates/day

\* 96 well plate, based on 7 h shift



The dispense module feeds one 8-way manifold for 96 well or two 8-way manifolds for 384 well microplates.





# FIND OUT HOW THE ZOOM CAN HELP YOU OPTIMISE YOUR WORKFLOW



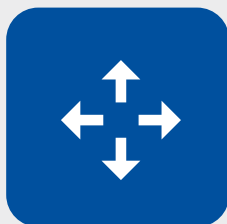
## Speed & Throughput

Achieve 190 washed plates/h or coat and stack up to 330 plates/h.



## Ready for continuous processing

Built-in stacker for automated handling of up to 30 plates. Self-emptying liquid discharge system eliminates the need to empty waste bottles.



## Adapts to your workflow needs

Ready for 96- and 384-well plates. Wash head supports up to 4 wash solutions and dispenser 2 different reagents.



## Highly efficient washing & dispensing

Best-in class residual volume for lowest background levels. Minimal dead volume helps saving precious reagents.



## Easy setup & shutdown

Built-in daily setup and shutdown routines prevent needle clogging and subsequent failure during washing.

# ORDERING INFORMATION

<b>Product</b>	
LB 920N Zoom HT Microplate Washer with four channel buffer selection	74226-10
<b>Accessories</b>	
384-well extension option for LB 9205N Dispense Module	68143
LB 9201N Pump/Trap Discharge System 230 VAC	75532-10
LB 9201N Pump/Trap Discharge System 115 VAC	75532-20
LB 9205N Dispense Module 96 well	73415-10
30-Plate Magazine	75197



## Pump/Trap Discharge System

The powerful self-emptying discharge module empties the microplate in high speed, leaving nearly no residual volume in the wells.

## HOW TO REACH US

Go to [www.berthold.com/contact-bio/](http://www.berthold.com/contact-bio/) to find your local support or technical support team or write us an e-mail to [bio@berthold.com](mailto:bio@berthold.com).

For product FAQs, technical information, tips & tricks, go to [www.berthold.com/knowledge-bio/](http://www.berthold.com/knowledge-bio/).

# TECHNICAL SPECIFICATIONS

## Zoom HT Washer

General	
Microplate Types	96-well plates and strips, 384-well; Dimensions according to ANSI SLAS
Wash head	96-channel wash head for fastest processing of 96- and 384-well microplates
Integrated Stacker	One-rail design connecting wash, dispense, and storage positions in short distance on one level
Power supply	Input: 100-240 VAC $\pm$ 10%, 50/60 Hz Output: 24 VDC / 3.75 A
Operating temperature	15° to 35°C
Liquid path materials	Stainless steel, Teflon®, PVC, Norprene, Silicone, Polysulfone
Dimensions (W x D x H)	58.9 x 42 x 64.5 cm
Weight	26.3 kg
Washing	
Wash volume	5-300 $\mu$ L*
Wash modes	Regular and Superwash
Wash cycles per program	1-99
Number of programs	1-50
Program Protection	Administrator mode to prevent unauthorized changes
Wash Fluid Selection	4 inlets
Shaking	Up to 80 s, amplitude 1 mm, frequency 12 Hz
Performance	
Dispense accuracy	$\pm$ 2% typical @ 200 $\mu$ L
Dispense precision	$\leq$ 2,5% CV @ 200 $\mu$ L
Residual volume	< 1 $\mu$ L/well
Plate processing speed	96-well plate, 3 cycles 300 $\mu$ L incl. stack: 17 s

\*volume limits apply depending on plate type and wash mode (Regular and Superwash)

## Dispense Module

Dispensing	
Dispense manifolds	8-way and 16-way manifolds available
Dispense manifold ports	2 in direct proximity to wash head for immediate dispensing after aspiration
Syringe size	2 x 10 mL, separate channels
Dispensing technology	Positive displacement
Dispense speeds	1-3
Number of reagents	Up to 2
Dispense volume	5-300 $\mu$ L
Performance	
Dispense accuracy	$\leq$ 1% @ 100 $\mu$ L
Dispense precision	CV $\leq$ 1% @ 200 $\mu$ L
General	
Power supply	Input: 100-240 VAC $\pm$ 10%, 50/60 Hz Output: 24 VDC / 3.75 A
Operating temperature	20° to 35°C
Liquid path materials	Glass, Teflon®, Kel-F
Dimensions (W x D x H)	16.8 x 40.5 x 22.6 cm
Weight	8.5 kg

## TRANSFORMING SCIENCE INTO SOLUTIONS



Berthold Technologies is a global technology leader in life sciences. Our extensive range of analytical system solutions made in Germany has been trusted by scientists since 1949. These range from small standalone readers, such as microvolume spectrophotometer and luminometers to various dedicated and multimode readers, microplate washers, microplate workstations, ELISA automation products to high-end imaging systems, and HPLC radio detectors. It is our mission to create a healthier world, a safer environment and more efficient manufacturing processes.

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