

Dispense. Discover. With Every Pulse.

PULSEspencer R

Liquid Handling



analytikjena
An Endress+Hauser Company

Meet the PULSEspencer R

Empower your lab with a system that combines space-saving design, modular flexibility, and unmatched versatility. With Analytik Jena's proven expertise in liquid handling, the PULSEspencer R ensures precision and confidence in every assay.

Designed for precision reagent dispensing, the PULSEspencer R streamlines complex workflows and supports assay miniaturization with ease. Covering volumes from picoliters to microliters, it offers unmatched flexibility for a wide range of applications. Whether you are preparing dilution series, optimizing conditions, or handling critical reagents, this system delivers accuracy and reproducibility in every step, saving time and resources in your lab. Its intuitive software guides you effortlessly through setup and operation, ensuring confidence, and efficiency from start to finish.

Your lab benefits

- Assay miniaturization
- Consistent, high-quality data
- Low volume consumption
- Reduced contamination risk and variability
- Save lab space and increase throughput
- Minimal training and easy implementation

Dispensable Fluids

The PULSEspencers R is designed for precise dispensing of **DMSO solvents and aqueous fluids**, with or without small molecule compounds or biomolecules.



Workflow Simplification and Assay Miniaturization

The device simplifies assay preparation by eliminating the need for manual pipetting steps, dilution series, and normalization.



Precise Ultra-Low Volume Non-Contact Dispensing

The PULSEspencer R can dispense extremely small volumes (from 8 pL) directly into assay plates without contact.



User-Friendly Software Wizards

The software provides an intuitive, step-by-step wizard for guided assay creation.



Smart Assay Optimization Tools

The software automatically optimizes plate layouts, e.g. through randomization and concentration distribution.



Compact Design and Modular Combination

The PULSEspencer R has a space-saving design and can be flexibly combined with other devices for several workflows.



Redefine Your Assays

Miniaturization meets precision – simplify workflows, save time, and achieve reliable results with every pulse.



Workflow Simplification and Assay Miniaturization

The device simplifies assay preparation by eliminating the need for manual pipetting steps, dilution series, and normalization.

Simplify complex workflows and reduce assay volumes without compromising accuracy. By eliminating manual pipetting, dilution series, and normalization steps, the PULSEspencer R streamlines assay preparation and enables

true miniaturization. This means faster setup, lower reagent consumption, and consistent, reproducible results – all in a compact, high-tech solution.



Precise Ultra-Low Volume Non-Contact Dispensing

The PULSEspencer R can dispense extremely small volumes (from 8 pL) directly into assay plates without contact.

Feature	Specifications of the PULSEspencer R
Dispensing Technology	Non-contact by applying thermally generated pressure pulses
Volume Range	8 pL – 200 µL* (approx. 7.4 orders of magnitude)
Precision	< 8%**
Dispensing Speed	10 nL across 96-well format in 20 sec

* depending on type of fluid and dispensehead cassette

** for volumes >100 pL



Your advantages

- Streamlined processes
- Reduced reagent use
- Faster setup
- Consistent results

Achieve unmatched precision with ultra-low volume dispensing starting at just 8 picoliters – completely contact-free. The PULSEspencer R delivers accurate droplets directly into assay plates, minimizing contamination risk and ensuring reliable performance for even the most demanding applications. Precision redefined for modern laboratories.



Your advantages

- Reliable precision
- Contact-free
- Reduced contamination risk
- Versatile applications



Cassette type	RR8	RR4	RR8s	RR4s
Description	8 dispenseheads	4 dispenseheads	8 dispenseheads	4 dispenseheads
Dispensing volume range	8 pL - 20 µL	1nL - 200 µL	11 pL - 20 µL	1nL - 200 µL
Compatibility	Aqueous solutions, protein		DMSO, >10 different PCR Master Mixes, aqueous solutions requiring surfactant	
Key capabilities	Titration low volume	Normalization	Titration low volume	Normalization

Ideal for Applications in:

- Drug Discovery and High-Throughput Screening
- Biochemical Assays and Enzyme Studies
- Synthetic Biology and CRISPR Workflows
- Genomics and Proteomics
- Cell-Based Assays
- Multiplex Assays

Intelligent Tools for Confident Assay Optimization

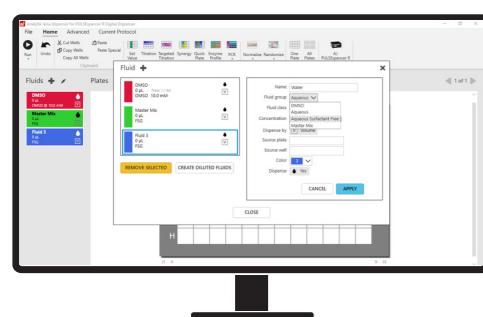
The Analytik Jena dispenser software wizards and optimization tools simplify complex workflows, guide every step, and ensure reproducible results – enabling faster, more reliable assay development.



User-Friendly Software Wizards

The software provides an intuitive, step-by-step wizard for guided assay creation.

Start confidently with user-friendly software wizards that walk you through assay creation step by step. Whether setting up PCR- or titration assays, or synergistic studies, the system reduces complexity and minimizes errors, making even advanced workflows accessible to all users. Beyond guided workflows, the software actively optimizes plate layouts for maximum efficiency. It supports randomization of sample positions, auto-setup of dilution series based on minimum and maximum volumes or concentrations, and intelligent distribution of concentrations across wells. These tools minimize trial-and-error, improve reproducibility, and accelerate assay development, giving users confidence in every result. A special simulation mode enables safe, test-based protocol setup prior to execution, reducing risks and saving reagents.



Analytik Jena dispenser software

Your advantages

- Effortless experiment set-up
- Intuitive protocol guidance
- Auto generated summary reports for immediate insights
- Efficiency boost



Smart Assay Optimization Tools

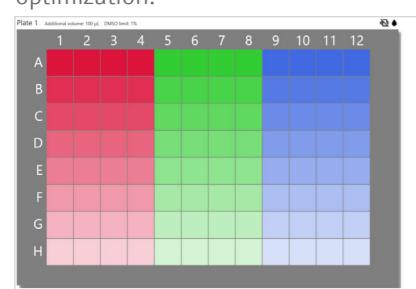
The software automatically optimizes plate layouts, e.g. through randomization and normalization.

Intelligent Wizards Helping You Work Smarter and Error-Free



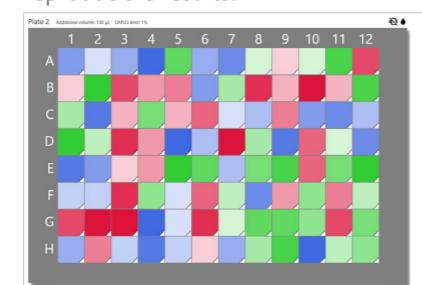
Titration

Create precise dilution series for accurate dose-response and optimization.



Randomization

Eliminate bias with smart sample randomization for reliable, reproducible results.



Synergy

Design powerful combination layouts to uncover synergistic or antagonistic effects.



Compact and Modular – Expertly Engineered for Every Application

The PULSEspencer R combines a space-saving, modular design with unmatched application versatility. With decades of liquid handling expertise from Analytik Jena, it delivers precision and flexibility in any lab environment.



Compact Design and Modular Combination

The PULSEspencer R has a space-saving design and can be flexibly combined with other devices for several workflows.

The PULSEspencer R delivers high performance in a minimal footprint, freeing up valuable bench space without compromise. Its modular architecture scales effortlessly with evolving workflows, ensuring future-proof flexibility for applications ranging from drug discovery to genomics. Backed by Analytik Jena's proven liquid handling expertise, it combines reliability, versatility, and space efficiency in one expertly engineered solution.

Feature	PULSEspencer R
Dimensions (L x W x H)	470 mm x 380 mm x 230 mm
Weight	16.1 kg (35.4 lb)
Compatible labware	12- to 1536-well plates (6-47 mm height)*, glass slides and custom labware

* plate limits due to evaporation: DMSO dispensing max. 32 plates, aqueous dispensing max. 8 plates or 1,536 wells (means: 1x 1536-well plate or 4x 384-well plate or 8x 96-well plate)

Your advantages

- Space-saving footprint
- Modular scalability
- Broad application range
- Trusted expertise

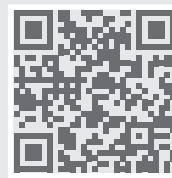


Order Information

Order number	Product	Compatible fluids	Packing unit(s)
875-300010	PULSEspencer R		
875-300725	PULSEspencer R Cassettes RR8	Compatible with surfactant-free aqueous solutions and protein	20
875-300720	PULSEspencer R Cassettes RR8s	Compatible with DMSO, >10 different PCR Master Mixes, aqueous solutions requiring surfactant	20
875-300745	PULSEspencer R Cassettes RR4	Compatible with surfactant-free aqueous solutions and protein	20
875-300740	PULSEspencer R Cassettes RR4s	Compatible with DMSO, >10 different PCR Master Mixes, aqueous solutions requiring surfactant	20



Ready to simplify your workflow?
Scan for product info and demo booking!
www.analytik-jena.com/pulsespencer



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Subjects to changes in design and scope of delivery as well as further technical development.