PULSEspencer RC
Technical Data

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Version: 1.0
Language en O 05/26
Author: CPa, KHa, FHu

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General

The PULSEspencer RC is engineered for highly precise, non-contact dispensing of reagents and cell suspensions across a broad volume range, from picoliters to microliters. It enables contamination-free liquid transfers and supports even sensitive biological samples such as mammalian cells with exceptional consistency and viability.
Designed for life science researchers, the PULSEspencer RC streamlines complex liquid handling tasks including assay development, compound screening, and qPCR setup. Its ability to dispense cell suspensions expands its applicability into cell-based assays, 3D culture workflows, and miniaturized screening formats.
With fast dispensing speeds, high accuracy, and compatibility with multiple labware formats, the PULSEspencer RC accelerates high-throughput workflows while reducing hands-on time and reagent consumption. Its intuitive software interface and robust hardware make it an ideal platform for laboratories seeking reliable, flexible, and miniaturized assay execution.

PULSEspencer RC (875-150010)

Weight	4.8 kg (10.58 lb)
Dimensions (W x D x H)	385 mm x 280 mm x 190 mm
Recommended footprint (incl. laptop)	765 mm x 280 mm x 190 mm
Dispensing technology	Non-contact by applying thermally generated droplets
Volume range	8 pL – 200 µL* (approx. 7.4 orders of magnitude)
Precision	< 8%**
Dispensing speed	Cells: < 5 min across 96 well plate; < 10 min across 384 well plate Liquids: 10 nL across 96 well format in 20 sec, < 3 min across 384 well plate
Compatible	9 – 25 µm cell sizes (Adherent cells; suspension cells; disaggregated cell constructs; disaggregated organoids; primary cells) DMSO, aqueous solutions, protein solutions, PCR master mixes
Occupancy (cells)	90% or greater
Viability	90% or greater
Reporting accuracy	90%
Compatible labware	12 to 1536 well plates (4-47 mm height)***, glass slides and custom labware

* depending on type of fluid and dispensehead cassette
** for volumes >100 pL
*** plate limits due to evaporation: DMSO dispensing max. 32 plates, aqueous dispensing max. 8 plates or 1536 wells, Acetonitrile dispensing max. 100 wells across no more than 4 plates, cell fluid dispensing max. 1536 wells or 8 plates

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Physical data

Interface	USB port
Fuses	NA – No external fuses for replacement
Line voltage	100 – 240 V AC
Line frequency	50/ 60 Hz
Power consumption	Max. 90 watts
Noise emission	< 75 db (A)
Operation conditions	▪ Indoor use only ▪ Permissible ambient temperature +20 °C to +30 °C ▪ Permissible relative humidity 30% to 80%, non-condensing ▪ Maximum altitude 3000 mNN ▪ Pollution degree 2

Analytik Jena dispenser software

Specifications	Description
Operating system	▪ Windows 11 ▪ Windows 10
Display resolution	Minimum screen resolution of 1280 x 720 pixels
Memory requirements	256 GB drive (minimum) recommended
Memory (RAM)	8 GB RAM recommended
Interfaces	USB
Software language	English

Consumables

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Dispensing cassettes for PULSEspencer RC					
Product name	CC	CRL	CRH	CRLs	CRHs
Usage type	Single-use	Single-use	Single-use	Single-use	Single-use
Description	1 dispensehead of 20 µL total volume	1 dispensehead of 20 µL total volume	1 dispensehead of 200 µL total volume	1 dispensehead of 20 µL total volume	1 dispensehead of 200 µL total volume
Qualified fluid classes	Cell suspension	Aqueous solutions, protein		DMSO, Acetonitrile, master mix, aqueous solutions requiring surfactant, protein	DMSO, master mix, aqueous solutions requiring surfactant, protein
Order number	875-150760	875-150725	875-150745	875-150720	875-150740
Packaging unit(s)	20	30	30	30	30
Warranty	17 months	1 year	1 year	1 year	1 year
Shelf life	17 months	-	-	-	-
Dead volume	2.5 µL	2.5 µL	2.5 µL	0.5 µL	0.5 µL
Dispense volume/ fill volume	-	all wells > 1 nL 4– 20 µL one well < 1 nL 4– 10 µL	all wells > 1 nL 50 – 200 µL	all wells > 1 nL 2– 20 µL one well < 1 nL 2 – 10 µL	all wells > 1 nL 50 – 200 µL
CV	-	< 8%	< 8%	< 8%	< 8%
Dispensing volume range	480 pL – 20 µL	8 pL – 20 µL	1 nL – 200 µL	11 pL – 20 µL	1 nL – 200 µL

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