INTEGRA

DOSE IT   Smart and compact liquid handling

DOSE IT

Easy dispensing

The peristaltic pump DOSE IT makes dispensing of culture media, buffers and other solutions easy and efficient. Forget about complicated programming. Choose a mode, a preprogrammed protocol or simply combine the 7 different step types, edit their parameters to your needs and store it as a customized protocol in one of the 20 available program slots.

Liquid handling applications

In addition to the dispensing and pump mode, the DOSE IT provides the ability to create customized liquid handling protocols. Easy to follow instructions on the display allow users to set up individual protocols, consisting of consecutive application steps. In the "CUSTOMIZE" mode users can create customized liquid handling protocols of up to 20 consecutive steps. A wide range of parameters, such as volume, flow rate and repetitions, can be assigned to each step (see table at the right). In addition, the flow rate can be set to ramp up or down to the target speed, thus avoiding foaming, splashing or unwanted turbulences during dispensing.

	Parameters									
Step types	Volume	Repetitions	Flow rate	Pause	Start flow	End flow	Direction	Time	Number of cycles	Goto
Dispense	■	■	■	■						
Aspirate	■	■	■	■						
Pump			■				■	■		
Wait								■		
Cycles									■	■
Dispense ramp	■	■		■	■	■				
Aspirate ramp	■	■		■	■	■				

Step types and parameters within the CUSTOMIZE mode. Each step is designed to perform a liquid handling task where parameters such as volume and flow rate are settable.

Examples of customized protocols

### Coating or washing of Petri dishes

Coating Petri dishes is a common task in tissue culturing laboratories. Using the CUSTOMIZE mode allows defining an efficient protocol for coating or washing a defined number of Petri dishes. Coating/washing solution can be added and removed in series, making the application fast and reliable.

Serial dilutions

Serial dilutions are extensively used for example in microbiological testing as part of the sample preparation for the total viable cell count in food. By programming an air gap before taking up the sample into the prefilled tubing system, the CUSTOMIZE mode allows you to efficiently carry out serial dilutions.
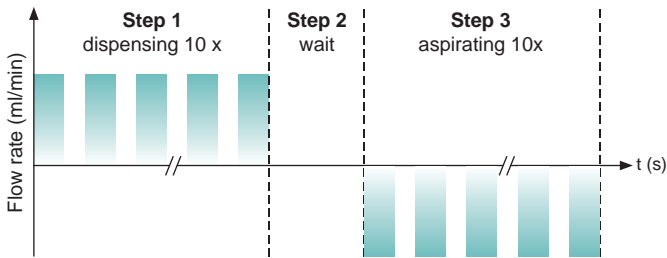
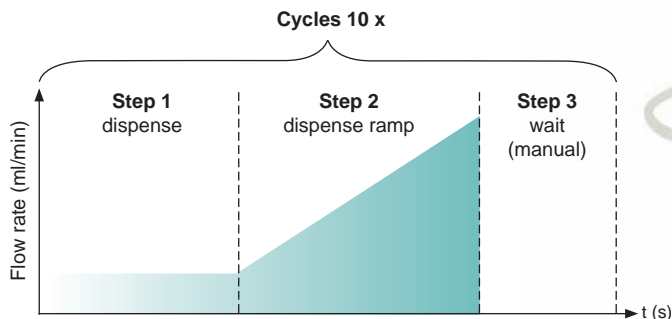*Graph showing a customized mode for coating/washing 10 Petri dishes.*
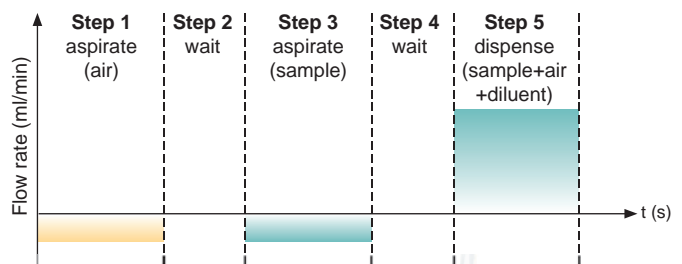
Graph showing a customized mode for carrying out serial dilutions.
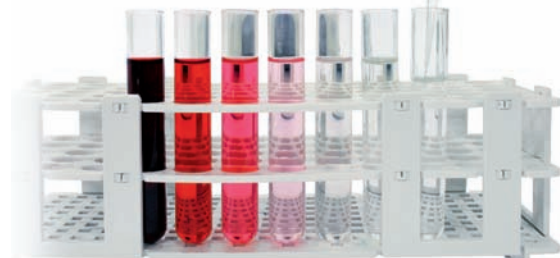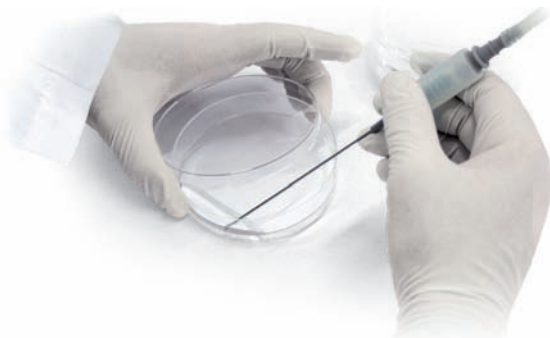
Filling of density gradient tubes

Density gradient centrifugation is frequently used to separate different cell types or cell organelles, ribosomes or DNA from crude cellular extracts. The CUSTOMIZE mode permits gentle and fast building of density step gradients. To avoid stirring up the different layers, dispensing starts gently at a low flow rate and then ramps up to the target speed. This allows filling density gradient tubes gentle and faster than if carried out manually.

Graph showing a customized mode for filling 10 density gradient tubes.

Pipette-tubing connector

A functional and versatile connector allows the connection of different serological pipettes, Pasteur pipettes or tips to silicone tubing of 2 – 6 mm inner diameter. The autoclavable connector enables the quick exchange of tips or pipettes regardless of the inner tubing diameter.

Compact and portable

With its very small footprint and light weight, the DOSE IT fits everywhere in the lab and can be moved easily – no need to waste valuable bench space or to have a pump in every lab. The smooth and rounded surface makes it easy to clean. The position of the pumphead and of the display and keypad is optimal for ergonomic working.

Wide range of volumes: typical volume and flow values for different tubing sizes.

Tubing inner diameter (ID)	1 mm	2 mm	3 mm	4 mm	6 mm	8 mm
Dose volume with CV* ≤ 1%	> 0.5 ml	> 1 ml	> 3 ml	> 7 ml	> 15 ml	> 40 ml
Flow rate range (ml/min)	0.6 - 52	2.1 - 203	4.8 - 475	8.4 - 837	16 - 1'634	25 - 2'488

* Coefficient of variation (CV), a measure for the reproducibility of dosing.

Technical Data

Dose volume	0.1 ml – 9'999 ml
Flow rate	0.6 ml/min – 5 L/min
Tubing inner diameter	1 – 8 mm
Tubing wall thickness	1.5 mm
Dimensions (H x W x D)	203 x 210 x 191 mm
Weight	3.5 kg
Interface	2x RS232
Input voltage	100 – 240 VAC 50/60 Hz

Ordering information

Instrument		Part No.
DOSE IT P910	Peristaltic pump complete with: ■ 1 Silicone tubing, inner diameter 4 mm, length 2.5 m ■ 2 Aspiration / dispensing tubes, length 10 cm, stainless steel, one end dented ■ 1 Aspiration / dispensing tube, length 35 cm, stainless steel, one end dented ■ 1 Tube collar ■ 1 Pipette-tubing connector ■ Mains adapter	171 000

Accessories		Part No.
Foot switch	for hands-free operation, with connecting cable	143 200
Benchtop switch	for hands-free operation, with connecting cable	171 081
Retort rod with filling arm	retort rod diameter 10 mm	171 091
Extension pumphead	for double pumphead assembly	171 090
Silicone tubing set	for double pumphead, inner diameter 8 mm, length 3.0 m	171 088
Pipette-tubing connector	for connecting pipettes to 2 - 6 mm inner diameter silicone tubing, autoclavable, 5-pack	171 077

Consumables		ID (mm)*	Part No.
Silicone tubing	length 2.5 m, autoclavable	1	171 021
		2	171 022
		3	171 023
		4	171 024
		6	171 026
		8	171 028
	length 25 m (bulk roll), autoclavable	1	171 031
		2	171 032
		3	171 033
		4	171 034
		6	171 036
		8	171 038
Aspiration / dispensing tube	length 10 cm, stainless steel, one end dented	1	171 051
		2	171 052
		3	171 053
		4	171 054
		6	171 056
		8	171 058
	length 35 cm, stainless steel, one end dented	4	171 064
		6	171 066
		8	171 068
Tube collar	Used as a weight for the aspiration tube or as a	1 – 3	171 071
	clamp spacer for the dispensing tube	4 – 6	171 074

* ID… inner diameter

See product pictures on www.integra-biosciences.com

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