easy**Spiral** Dilute®

The world's first automatic diluter & plater

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BIOMEDICA

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A revolution in serial dilutions!

interscience

interscience

Our quality for your lab

- Designer and manufacturer for microbiology
- R&D leadership for innovative and reliable products
- Worldwide distribution network in more than 90 countries
- Made in France

interscience
R&D center and manufacturing plant
Mourjou FRANCE

Spiral® method: 35 years experience

The Spiral® method was designed in 1973 to automate the routine work of bacterial enumeration by Dr. Ed Campbell, researcher at the FDA (Food & Drug Administration). With François Jalenques, friend and founder of interscience, they patented an updated method in 1992.

Since then Spiral® automatic platers have been a reference for applications in food microbiology, medical bacteriology, research on food preservatives or cosmetological factors in compliance with the NF V08-050, NF V08-034, ISO 7218, ISO 4833-2, ISO 15189, FDA BAM and AOAC 977.27 standards.

Today interscience is proud to launch the 4th generation of Spiral® platers with easy**Spiral** Dilute®: the world's first automatic diluter & plater.

F. Jalenques & Dr. Ed Campbell

1979
Spiral® DS
First Spiral® plater

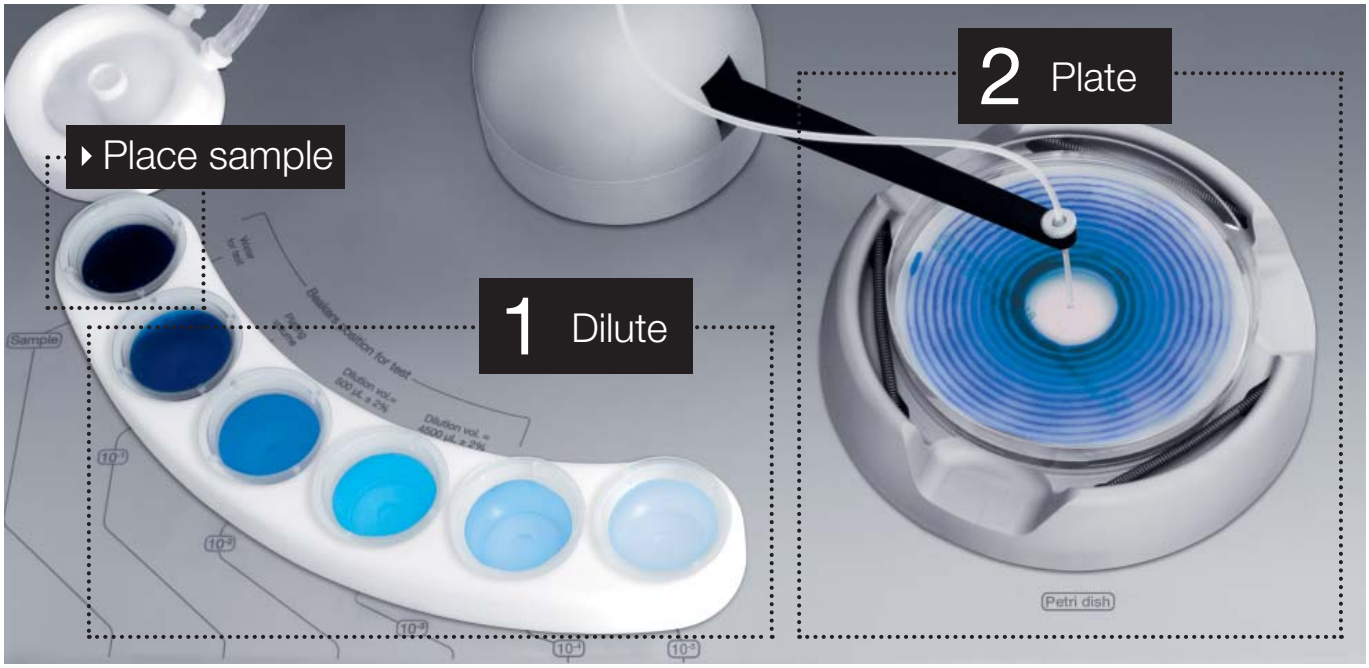
1996
Spiral® DS+
Automatic Spiral® plater

2010
easy**Spiral®**
World's fastest Spiral® plater
PATENTED

2012
easy**Spiral** Dilute®
World's first automatic diluter & plater
PATENTED

interscience is proud to introduce easy**Spiral** Dilute®, a **2-in-1 automatic diluter and plater**, which allows you to do **5 x 1/10th serial dilutions**. It will then automatically plate on 1 single Petri dish, with a countable range from **30 to 1 x 10^{12} countable CFU/mL**.

No more manual dilutions and plating is automatic!



- Place your sample in the beaker

1. The easy**Spiral** Dilute® will automatically dilute the sample up to 5 times
2. The easy**Spiral** Dilute® will automatically plate the sample on a Petri dish up to 1 x 10^{12} countable CFU/mL

Why use an automatic diluter & plater?

easy**Spiral** Dilute® allows you to **save 50% on consumables and 50% on your time**.

Comparison between manual and automatic method below.

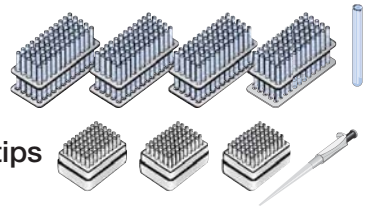
Example of 50 samples: Dilution: 10^{-7}
Plating: 10^{-5}, 10^{-6} and 10^{-7}

Manual method

CONSUMABLES

Dilution

- 400 tubes
- 350 pipet tips



Plating

- 450 Petri dishes

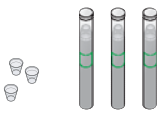
TIME **10h10**

Automatic method

CONSUMABLES

Dilution

- 350 beakers



Plating

- 150 Petri dishes

TIME **5h50**

Key features

Compact

40 cm wide, can be used inside and outside a laminar flow
Stainless steel housing

High precision

Glass syringe typical accuracy of 0.5 %
No more pipet calibration

High speed automation

Fast rotating arm
1 disinfection, 5 dilutions and 1 plating in 134 s
PATENTED

Automatic disinfection

Overflow technology cleaning system
No cross contamination
PATENTED

One-touch plating

Choose from 4 plating modes
Plate on 55, 90 and 150 mm Petri dishes

Easy serial dilutions

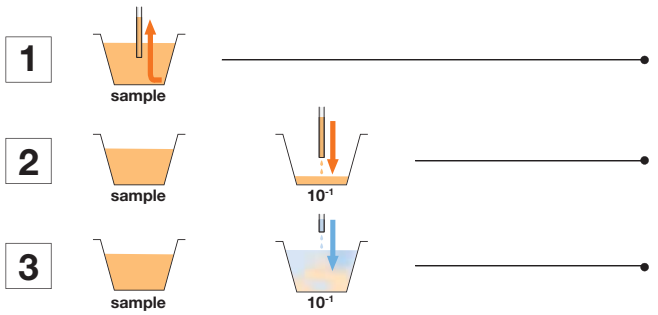
Choose your dilution factor
Do 10^{-5} dilution or more automatically
No more 9 mL tube preparation
PATENTED

Cleaning autonomy

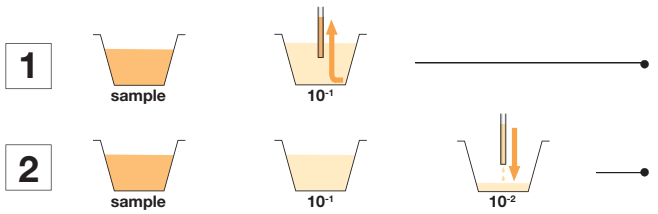
2 fully autoclavable bottles
(disinfectant & diluent) and connectors

How does it work?

1. Dilution cycle



The above dilution cycle is repeated for the next serial dilution.

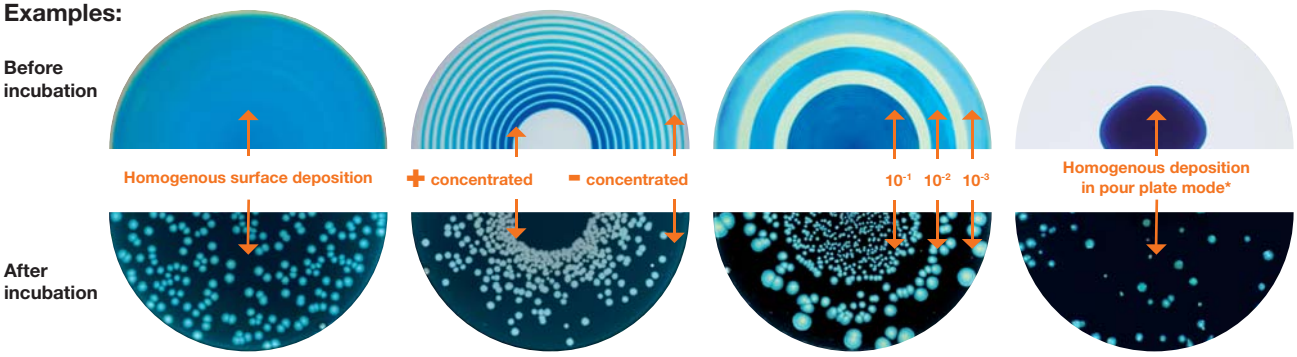


Dilution cycle can be repeated as many times as you wish.

2. Plating cycle

Constant mode	**Exponential mode**	**Circle mode**	**Pour mode**
Homogenous surface deposition	Decreasing surface concentration	3 or 6 surface dilutions on 1 Petri dish	Homogenous deposition* in pour plate mode
50 µL, 100 µL, 200 µL and USB programmable	**50 µL, 100 µL, 200 µL and USB programmable**	**10 µL inner circle, 16 µL middle circle and 25 µL outer circle**	**50 µL, 100 µL, 200 µL and USB programmable**

Examples:



Easy colony counting: No colonies on the edge of the Petri dish	**Counting on Petri dish from 30 to $1x10^{12}$ CFU/mL**	**Savings on Petri dishes**	**Easy colony counting for invasive colonies. Pharmacopoeia compliant**

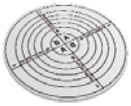
* In pour mode, easySpiral Dilute® deposits one sample drop at the bottom of an empty Petri dish. Then, the user adds the molten agar on top and homogenizes it with the sample.

How to count?

Manual colony counting

Scan® 100

with Spiral® counting grid

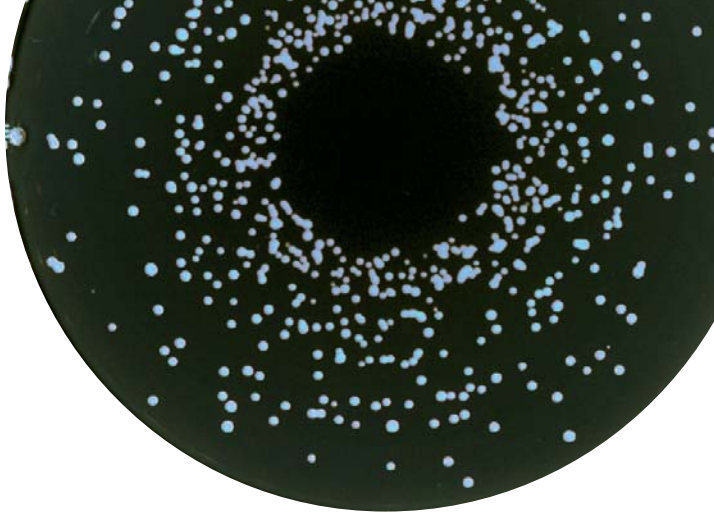


or

Automatic colony counting

Scan® 300
Scan® 500
Scan® 1200
Scan® 4000

Questions



What is special about the easy**Spiral** Dilute®?

easy**Spiral** Dilute® **is the only 2-in-1 equipment on the market making automatic serial dilutions and standardized plating.**

The accuracy of easy**Spiral** Dilute® is high: 0.5%. How can I check it?

It is easy and automatic.

Test of the deposited volume during plating:
Press on the plating volume test button. This function will fill a previously weighed beaker with 500 µL. Weigh the distributed volume to check the results.

Test of the volume of the dilutions:
Press on the dilution volumes test button. This function will fill 2 previously weighed beakers: one with 0.5 mL and the 2nd one with 4.5 mL. Weigh the distributed volumes to check the results.

I usually dilute 1 mL to 1/10 and the easy**Spiral** Dilute® uses 0.5 mL to 1/10. Is easy**Spiral** Dilute® as precise with a volume divided by 2?

Usually the average accuracy for the 9 mL tubes filling and 1 mL pipetting is 2% with the need to calibrate and regularly check the pipets you are using.

easy**Spiral** Dilute® has an average accuracy of 0.5% on 0.5 mL and 4.5 mL volumes because it works with a high precision Hamilton™ glass syringe in a liquid displacement circuit.

With volumes divided by 2, precision and repeatability are then much higher!

Which diluents can I use?

easy**Spiral** Dilute® **works with saline solutions (e.g.: Ringer's solution, physiological saline).**

Avoid using diluents with nutrients as they may cause contaminations. Bacteria only remain a few seconds in the beakers before being deposited on the Petri dish so using a saline diluent has no effect on the final enumeration.

It is however possible to use nutrient solutions as diluent in the semi-automatic "My Diluent" mode. In that case, fill in the beakers with 4.5 mL diluent before processing.

I need to make a 10^{-7} dilution. How can I do it?

The easy Spiral** Dilute® can do as many dilutions as you wish.**

Do a 10^{-5} dilution, take the last beaker and place it as the mother sample and then proceed with a new automatic dilution sequence.

Accessories & technical specifications

Housing protection

Transparent housing for working outside laminar flow.

Ref. 413 001

data**Link**™

Traceability system

Ref. 410 100

DB50 Beakers

1 000 sterile beakers for Spiral® platers (5 mL)

Ref. 415 100

Barcode reader

Barcode reader for traceability

Ref. 522 000

easySpiral Dilute® is delivered with 1 000 DB50 beakers, 1 blue dye for tests, 1 EnzyClear® liquid detergent, 1 syringe, 2 filters, 1 stylus, 4 connection kit for GL 45 bottle, 1 double connection kit for GL 45 bottle, Petri dish rings: 55, 90 & 150 mm,Spiral® counting grids: 90 & 150 mm, circle counting grids: 90 & 150 mm, power cord, user's manual, monitoring CD-ROM software, USB cable.

	easy**Spiral** Dilute®
Reference	**414 000**
Petri dish diameter	55 mm, 90 mm and 150 mm
Syringe capacity	1 000 µL
Programmable dispensed volume (via USB)	from 10 µL to 1 000 µL
Preset dispensed volume	50 µL, 100 µL and 200 µL
Counting range	from 30 to $1x10^{12}$ CFU/mL
Plating modes	55 mm: constant, pour plate 90 mm: exponential (10^{-5}), constant, circle (3 dilutions), pour plate 150 mm: exponential (10^{-7}), constant, circle (6 dilutions), pour plate
Number of dilutions at $1/10^{th}$ for 1 cycle	5
1 disinfection + 5 dilutions + 1 plating of 1 dilution	134 s
1 disinfection + 5 dilutions + 1 plating of each dilution	234 s
Disinfectant autonomy	1000 (with 2 L bottles)
Diluent autonomy	63 cycles (with 2 L bottles)
Circle mode (patented)	3 dilutions on a 90 mm Petri dish 6 dilutions on a 150 mm Petri dish
Stylus disinfection system (patented)	inside and outside by Overflow technology
Pressure in the stylus	jusqu'à 8 bars
Successive plating capacity with the same sample	up to 20 Petri dishes (50 µL)
Traceability	excel™, datamatrix labels
Disinfection process	✔
Filling time and volume programmable via USB	✔
My Diluent key	✔
Sample mixing before dilution/plating	✔
Controlled by microprocessor	✔
Dimensions (w x d x h)	40 x 41.5 x 29 cm
Weight	16.4 kg
Power supply	100-240 V~ / 50 Hz to 60 Hz
Power	65 W
1 year guarantee (after registration)	✔
All stainless steel	✔
Made in France	✔

NF V08-050 · NF V08-034 · ISO 7218 · ISO 4833-2 · ISO 15189 · FDA BAM Bacteriological Analytical Manual · AOAC 977.27 · ISO 9001 2008 · WEEE 2002/96/EC · RoHS 2002/95/EC · MADE IN FRANCE · CE

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