

# easySpiral<sup>®</sup>

Automatic diluter & platers



3 dilutions on only 1 Petri dish!

interscience



**1979**

**Spiral® DS**



**1996**

**Spiral® DS+**



**2010**

**easySpiral®  
easySpiral Pro®**



**2012**

**easySpiral Dilute®**



**2020**

**easySpiral Pro® Milk**

## 45 years of **Spiral®** method experience

- 1973** The Spiral® method is invented by Dr. Ed Campbell, researcher at the FDA (Food and Drug Administration) in Cincinnati, USA.
- 1992** Dr Ed. Campbell and his friend François Jalenques, founder of **interscience**, patent together an updated version of the Spiral® method in France.
- 2010** **interscience** introduces the **easySpiral®** and **easySpiral Pro®** with a brand-new architecture: they are faster, simpler and cheaper than the competition.
- 2012** Launching of **easySpiral Dilute®** is the 1<sup>st</sup> automatic diluter and plater: quickly becomes our best-selling Spiral® plater **interscience**.
- 2019** The introduction of the **easySpiral Pro® Milk** expands the widest range on the market.

Since 45 years, **interscience's** automatic Spiral® platers have been a reference for food, medical, public institutes research, cosmetics, pharma and probiotics labs throughout the world. ISO 7218, ISO 4833-2, FDA-BAM and AOAC 977.27 standards recommends the use of Spiral® platers for bacterial analysis.

# What is Spiral<sup>®</sup> method?

With easySpiral<sup>®</sup> automatic platers, increase your lab capacity with a **counting range from 100 to 1x10<sup>7</sup> CFU/mL on 1 single Petri dish** without prior dilution.

### Manual plating method

This method requires repetitive actions: at least 4 dilutions and 4 successive platings are necessary to obtain one good and readable Petri dish.

dilution 1/10<sup>th</sup>    dilution 1/10<sup>th</sup>    dilution 1/10<sup>th</sup>    dilution 1/10<sup>th</sup>  
 1/10    1/100    1/1000    1/10000

✗ ✗ OK ✗  
CFU > 300: not readable    CFU < 10: not readable

### Automatic Spiral<sup>®</sup> method

With this method, make your analyses on **1 single Petri dish!**

- From **100 to 1x10<sup>7</sup> CFU/mL** on 1 single Petri dish
- Up to **75% less consumables**
- Full plating cycle in **25 seconds!**

## How to count?

The sample is deposited on the surface of a rotating Petri dish by a precise measuring microsyringe, according to a **logarithmically decreasing Archimedes spiral** from the center of the dish to its periphery. The volume is calibrated and known at every point of the Petri dish. Bacterial concentration is determined by dividing the number of colonies found by the volume dispensed in the same sector of the dish, either manually, or by using an automatic colony counter.

### Manual colony counting

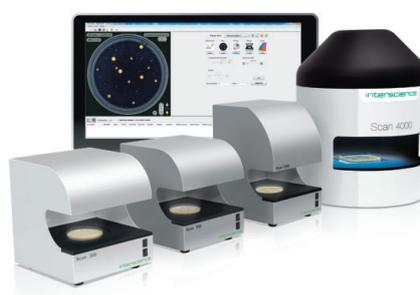
Scan<sup>®</sup> 100 with Spiral<sup>®</sup> counting grid

### Automatic colony counting

Scan<sup>®</sup> 300 | 500 | 1200 | 4000

### Real-time incubation and colony counting

ScanStation<sup>®</sup> 100 | 200 | 300



# Key features

## Compact

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

Stainless steel housing

## Automatic disinfection

Overflow technology cleaning system

No cross contamination

**PATENTED**

## Easy serial dilutions\*

Choose your dilution factor

Do 10<sup>-5</sup> dilution or more automatically

No more 9 mL tube preparation

**PATENTED**

## One-touch plating

Intuitive control panel

Choose from 4 plating modes\*

Plate on Ø 55, 90 and 150 mm\*

Petri dishes

## USB programmable volume & traceability\*

Easy PC connectivity via USB

From 10 to 1000 microliters programmable volumes

3 preset plating modes

Monitoring software with traceability

COMPLIANT WITH



\* Depending on model (see technical specifications p11)



## Direct sampling from a tube on easySpiral Pro® Milk\*

Ideal for raw materials and the milk payment

Direct intake from the holder/pill container



## High precision

Glass syringe typical accuracy of 0.5%  
No more pipet calibration

## Cleaning autonomy

2 fully autoclavable bottles  
and CPC connectors  
Alarm when bottle is empty

## High speed automation

Fast rotating arm  
Plating cycle: 25 s  
1 disinfection, 5 dilutions  
and 1 plating in 134 s\*

**PATENTED**



easySpiral®

easySpiral Pro®

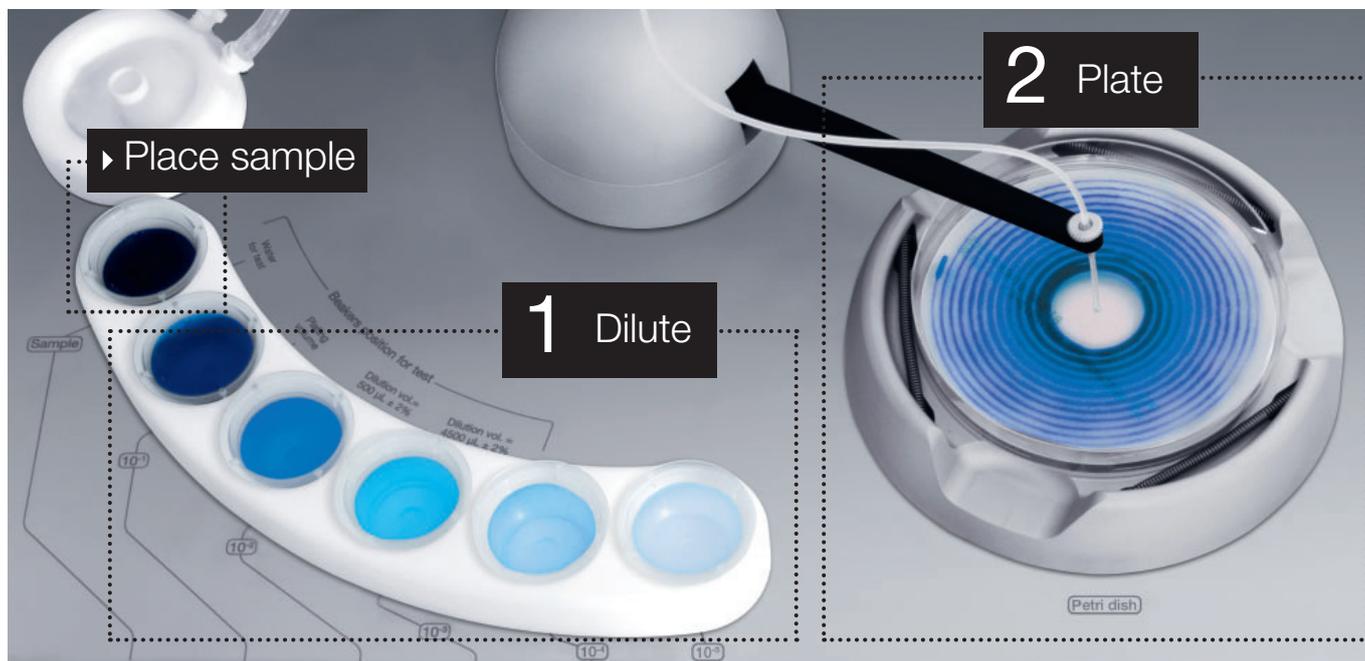
easySpiral Pro® Milk

easySpiral Dilute®

Full plating cycle in 25 s	✓	✓	✓	✓
Controlled by microprocessor	✓	✓	✓	✓
Overflow stylus disinfection system (patented)	✓	✓	✓	✓
Programmable dispensed volume via USB	-	✓	✓	✓
Traceability	-	✓	✓	✓
Compatible with dataLink™	-	✓	✓	✓
Sampling from a tube	-	-	✓	-
Dilution mode (patented)	-	-	-	✓
Counting range up to 1x10 <sup>12</sup> CFU/mL	-	-	-	✓
Sample mixing before dilution/plating	-	-	-	✓

# easySpiral Dilute®

World 1<sup>st</sup> and only automatic diluter & plater



easySpiral Dilute® is a **2-in-1 automatic diluter and plater**, which allows you to do **5 x 1/10<sup>th</sup> serial dilutions**. It will then automatically plate on 1 single Petri dish, with a countable range from **30 to 1 x 10<sup>12</sup> countable CFU/mL**.

**No more manual dilutions and plating is automatic!**

▶ Place your sample in the beaker

**1** The easySpiral Dilute® will automatically dilute the sample up to 5 times

**2** The easySpiral Dilute® will automatically plate the sample on a Petri dish from 30 to 1x10<sup>12</sup> countable CFU/mL

## Questions

### Which diluents can I use?

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

Avoid connecting diluents with nutrients to the easySpiral Dilute® 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<sup>-7</sup> dilution. How can I do it?

The easySpiral Dilute® can do as many dilutions as you wish.

Proceed with a 10<sup>-5</sup> dilution, take the last beaker and place it as the mother sample and then proceed with a new automatic dilution sequence...

### The accuracy of the volumes plated, intaken or distributed by the easySpiral Dilute® is high: 2% error. 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.

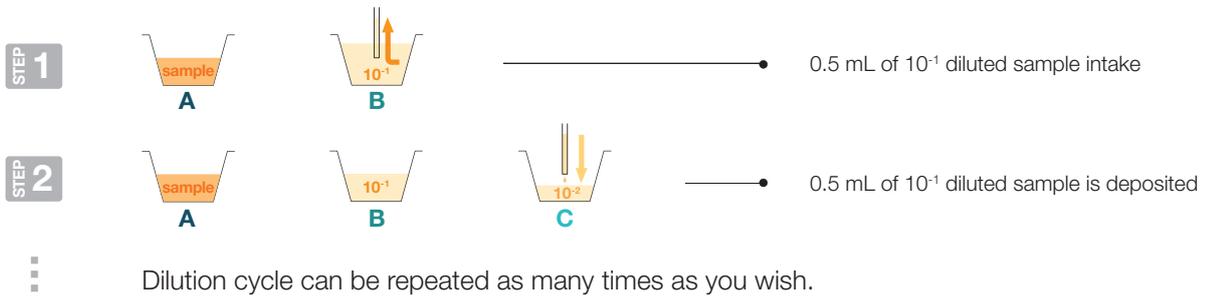
#### Test of the volume of the dilutions:

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.

# How does it work?



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



# Why use an automatic diluter & plater?

easySpiral Dilute<sup>®</sup> 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

# Plating modes

## Exponential mode

Decreasing surface concentration

50  $\mu$ L, 100  $\mu$ L, 200  $\mu$ L and USB programmable

Counting on Petri dish from 30 to  $1 \times 10^{12}$  CFU/mL

## Constant<sup>(1)</sup> mode

Homogeneous surface deposition

50  $\mu$ L, 100  $\mu$ L, 200  $\mu$ L and USB programmable

Easy colony counting:  
No colonies on the edge of the Petri dish

## Circle mode

3 or 6 dilutions on 1 Petri dish

10  $\mu$ L inner circle, 16  $\mu$ L middle circle and 25  $\mu$ L outer circle

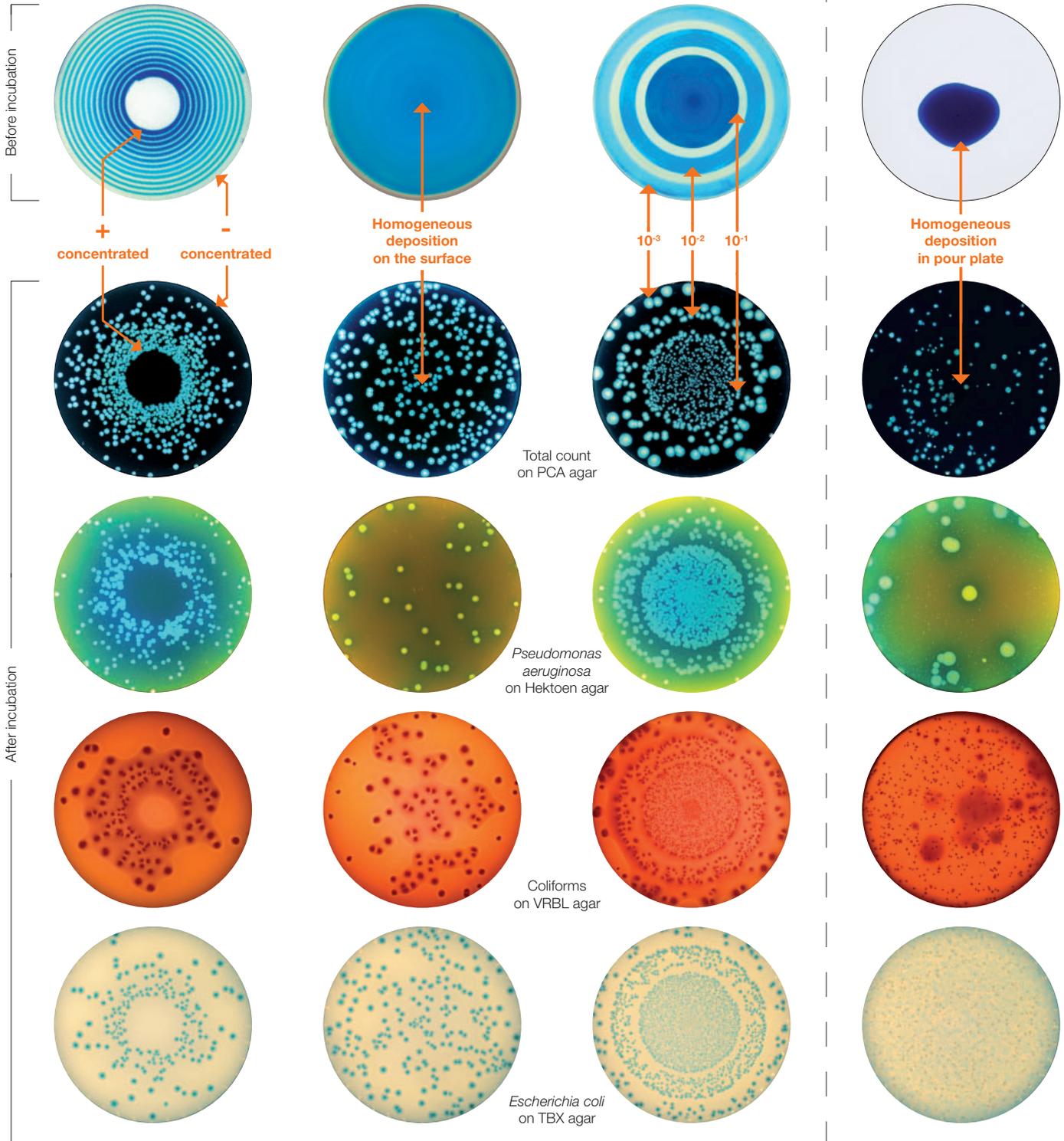
Savings on Petri dishes

## Pour<sup>(1)</sup> mode

Homogeneous deposition in a plate without agar<sup>(2)</sup>

50  $\mu$ L, 100  $\mu$ L, 200  $\mu$ L and USB programmable

Easy colony counting for invasive colonies.  
Pharmacopoeia compliant



<sup>(1)</sup> Depending on model (see technical specifications p11) <sup>(2)</sup> In pour mode, easySpiral Dilute<sup>®</sup> 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.

# Choose your automatic plater



## easySpiral®

**Counting range from:  
300 to 1.3x10<sup>5</sup> CFU/mL**

## easySpiral Pro® & easySpiral Pro® Milk

**Counting range from:  
100 to 1x10<sup>7</sup> CFU/mL**

## easySpiral Dilute®

**Counting range from:  
30 to 1x10<sup>12</sup> CFU/mL**

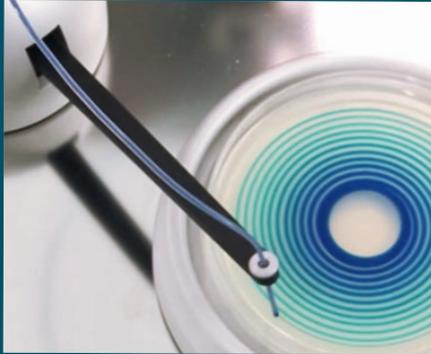
Top features	Overflow stylus disinfection system (patented)	✓	✓	✓
	Traceability	-	✓	✓
	Dilution mode (patented)	-	-	✓

Plating modes	Exponential plating mode	✓	✓	✓
	Circle plating mode (patented)	✓	✓	✓
	Constant plating mode	-	✓	✓
	Pour plating mode	-	-	✓

Petri dish size	90 mm Petri dishes	✓	✓	✓
	150 mm Petri dishes	-	✓	✓
	55 mm Petri dishes	-	-	✓

# easySpiral<sup>®</sup> technology

Delivering the fastest cycle time ever, easySpiral<sup>®</sup> has an **impressive rotating arm architecture**, **patented disinfection system avoiding risks of cross-contamination** and **full traceability** of the operations with a **counting range from 30 to 1x10<sup>12</sup> CFU/mL on 1 Petri dish**.



**PATENTED**

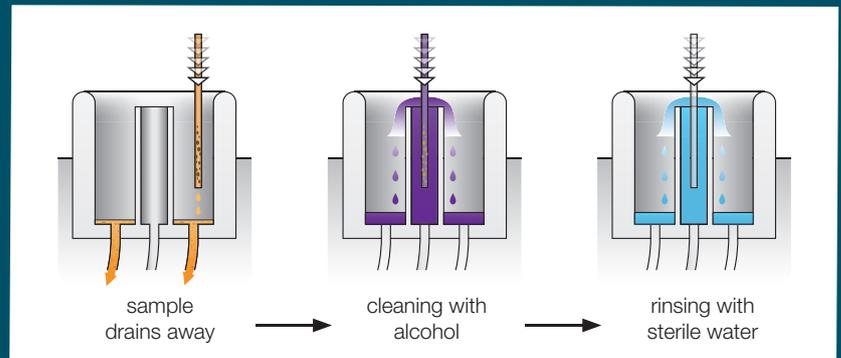
## Only 25 seconds for a plating cycle!

- 25 seconds for a plating cycle (disinfection, sample-taking and plating)
- Rotating arm with high speed movement
- Patented electronic robot system
- 10 Petri dishes plated in less than 2 mn (with the same sample)

## Overflow technology<sup>(2)</sup>

- No cross-contamination
- Unique patented disinfection system by overflow
- 600 cleanings without changing bottles (2L)

**PATENTED**



## Accessible fluidics

- Change the stylus in 30 seconds
- Visible and accessible connections in the event of a leak
- Removable bathtub

## Traceability with dataLink<sup>™</sup>

- All the sample data are set on the Datamatrix label (volume, dilution, plating mode, lighting settings...).



<sup>(1)</sup> Depending on model (see technical specifications p11) <sup>(2)</sup> Scientific study available upon request

# Technical specifications

	easySpiral®	easySpiral Pro®	easySpiral Pro® Milk	easySpiral Dilute®
<b>Reference</b>	<b>412 000</b>	<b>413 000</b>	<b>413 090</b>	<b>414 000</b>
Number of dilutions at 1/10th for 1 cycle	-	-	-	5
Syringe capacity	1 000 µL			
Autonomy in disinfection (in normal mode)	1000 (with 2 L bottles)			
Autonomy in distilled water (in normal mode)	600 cycles (2L bottles)			-
Autonomy in diluents	-	-	-	63 cycles (2 L bottle)
Approved diluents	-	-	-	Saline water Ringer solution
Pressure in the stylus	up to 8 bars			
Traceability	-	Excel™, LIMS, dataLink™		
Exponential mode (Spiral® mode): Petri dishes diameters (Ø) available	90 mm	90 mm and 150 mm		90 mm and 150 mm
Circle mode: Petri dishes diameters (Ø) available	90 mm	90 mm and 150 mm		3 dilutions on 90 mm and 6 dilutions on 150 mm
Constant mode: Petri dishes diameters (Ø) available	-	90 mm and 150 mm		55 mm, 90 mm and 150 mm
Pour plate mode: Petri dishes diameters (Ø) available	-	-	-	55 mm, 90 mm and 150 mm
Counting range	300 to 1.3x10 <sup>5</sup> UFC/mL	100 to 1x10 <sup>7</sup> UFC/mL		30 to 1x10 <sup>12</sup> UFC/mL
Programmable dispensed volume via USB	-	from 10 µL to 1 000 µL		
Preset dispensed volume	50 µL and 100 µL	50 µL, 100 µL and 200 µL		
Successive plating capacity with the same sample	up to 20 Petri dishes (50 µL)			
Sample intake + 1 disinfection + 1 plating	25 s			
1 disinfection + 5 dilutions + 1 plating of 1 dilution	-	-	-	134 s
1 disinfection + 5 dilutions + 1 plating of each dilution	-	-	-	234 s
Controlled by microprocessor	✓	✓	✓	✓
All stainless steel	✓	✓	✓	✓
1 year warranty	✓	✓	✓	✓
Disinfection process	✓	✓	✓	✓
Filling time and volume programmable via USB	-	✓	✓	✓
Sampling from beakers (DB50)	✓	✓	-	✓
Sampling from tubes (Dim: 80 x 35 mm)	-	-	✓	-
My Diluent key	-	-	-	✓
Sample mixing before dilution/plating	-	-	-	✓
Dimensions (w x d x h)	40 x 41.5 x 29 cm			
Weight	16.4 kg			
Voltage - frequencies	100-240V~ 50-60 Hz			
Power	45 W			

easySpiral®, easySpiral Pro®, easySpiral Pro® Milk, easySpiral Dilute® are delivered with 1 turntable ring for Ø 90 mm Petri dishes (by default on the unit), 1 blue dye for testing, 1 syringe with silicone tubing, 1 plating ring for Ø 55 mm Petri dishes<sup>(1)</sup>, 1 plating ring for Ø 150 mm Petri dishes<sup>(1)</sup>, 1 Spiral® counting grid for Ø 90 mm Petri dishes, 1 circle mode counting grid for Ø 90 mm Petri dishes<sup>(1)</sup>, 1 container stand for testing<sup>(1)</sup>, 1 set of 2 filters, 1 software<sup>(1)</sup>, 1 USB cable A/B<sup>(1)</sup>, 1 Spiral® counting grid for Ø 150 mm Petri dishes<sup>(1)</sup>, 1 circle mode counting grid for Ø 150 mm Petri dishes<sup>(1)</sup>, 1000 DB50 beakers<sup>(1)</sup>, 1 EnzyClear® liquid detergent, 4 connection kits for GL45 bottle, 1 double kit for GL45 bottles, 1 stylus, 1 power cable, 1 user's manual, 1 EnzyClear® quick user guide.

Certified production



Product made for INTERSCIENCE by Interlab, an ISO 9001 certified company.

## Accessories



**Housing protection<sup>(2)</sup>**  
Transparent housing for working outside laminar flow.

**Ref 413 001**



**dataLink™**  
Traceability system

**Ref 410 100**



**Beakers (DB50)**  
1 000 beakers for Spiral® platers (5 mL)

**Ref 415 100**



**Barcode reader**  
Bar-code reader (1D)

**Ref 522 000**

<sup>(1)</sup> Depending on model (see technical file) <sup>(2)</sup> Not available on easySpiral Pro® Milk

# Plate & Count system<sup>®</sup>

The winning team  
from sample to result



The **Plate & Count system<sup>®</sup>** with **automatic diluting, plating and colony counting** are now the perfect solution when it comes to meeting efficiency and traceability requirements for microbiological analyses.

- **75% time-saving and consumables savings**
- **Secured and traceable bacterial results**
- **Top-of-the-line technology made in France**

For more info on Plate & Count system, please refer to the brochure.

Your local distributor

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