

# DiluFlow<sup>®</sup>

Gravimetric dilutors for solid samples



The best solution for your dilutions!

interscience



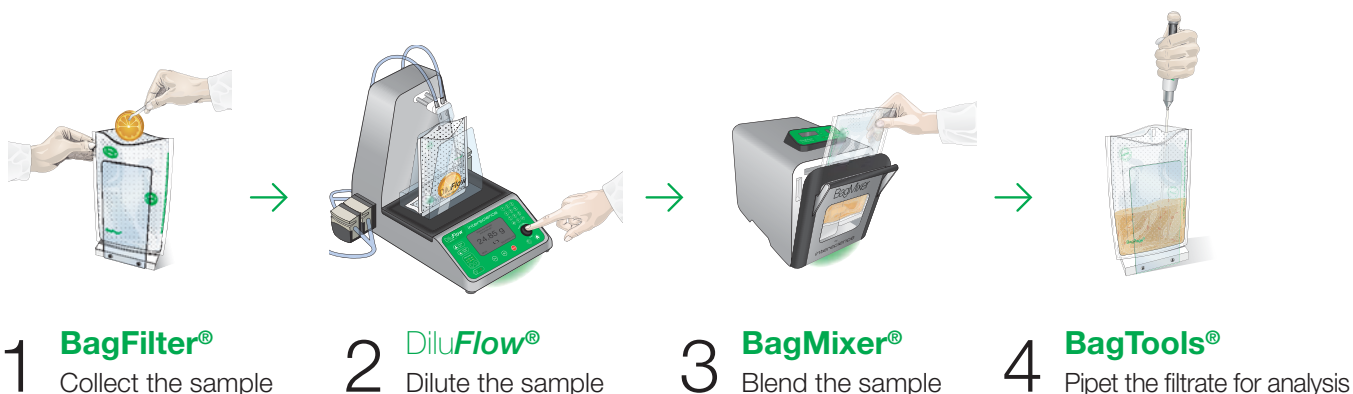
## Our quality for your lab

- Full range of products for microbiological analyses
- Leadership for innovative products
- Worldwide distribution network
- Designed and Made in France




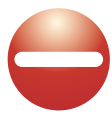

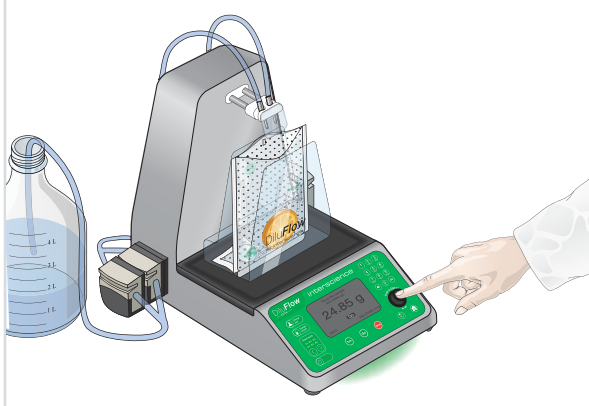
# BagSytem<sup>®</sup>

for the best sample preparation



## Why use a gravimetric dilutor?

DiluFlow<sup>®</sup> gravimetric dilutors enable the automatic dilution of the sample with perfect reliability. See the following advantages:

<p><b>MANUAL DILUTION</b></p>  <p><b>Step 1</b> Weigh the sample</p> <p><b>Step 2</b> Add manually the diluent</p>	 	<p><b>AUTOMATED DILUTION with DiluFlow<sup>®</sup></b></p>  <p>Place the sample and start the dilution <b>The appropriate quantity of diluent is added in a matter of seconds.</b></p>
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**Time-consuming** ■

**Inaccurate:** ■  
Direct impact  
on final result

**Not reproducible** ■

**Not secure:** ■  
The bag is not maintained

**Not automatically traceable** ■

■ **Quick:** 8 seconds\* for 225 mL

■ **Accurate:** < 1 % of sample weighing  
As little as < 1 % of dispensing  
(in standard or accurate mode)

■ **Reproducible**

■ **Secured:** The bag is maintained  
with BagOpen<sup>®</sup> bag opener

■ **Traceable:** with LIMS, printer or Excel<sup>™</sup>

\* Dilution time for a 25 g sample diluted at 1/10 on a DiluFlow<sup>®</sup> Elite with booster kit in fast mode

# Easy-to-use and efficient, 3 models for optimal dilutions



DiluFlow®

DiluFlow® Pro

DiluFlow® Elite

Ultra low profile	✓	✓	✓
DripTray	✓	✓	✓
Robotic arm	-	✓	✓
Jumbo kit option	-	✓	✓ <sup>(3)</sup>
Programmable	-	-	✓
Full traceability	-	-	✓
Up to 6 pumps	-	-	✓
Multi-Dispensing	-	-	✓

## Superior quality

Watson Marlow™ pumps

## Traceability

Printer, USB stick<sup>(1)</sup>, Excel™, Open Office™, CSV, LIMS<sup>(1)</sup>



## Up to 6 diluents

With 4 extra connectable pumps<sup>(1)</sup>



IN COMPLIANCE WITH



## 304 L stainless steel casing

For easy cleaning and long-lasting

## GeckoGrip

No more adhesive gums!  
Ultra adhesive, hygienic and long lasting

**PATENTED**

## Robotic arm<sup>(2)</sup>

Easy sample dropping  
Avoids contamination  
Saves time

## Ultra low profile

Perfect for a laminar flow  
Ergonomic: For no  
musculoskeletal disorders



Only 30 cm!

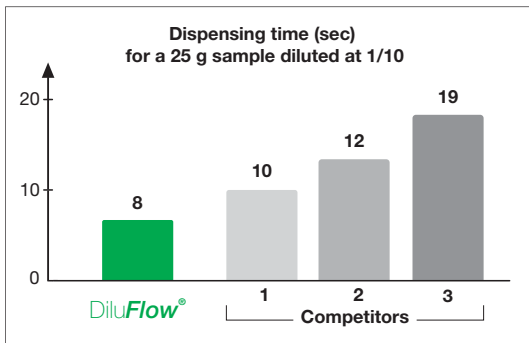
## High accuracy weighing scale

Weighing accuracy up to 99 %

## Removable DripTray

Easy to keep your DiluFlow<sup>®</sup> clean  
**PATENTED**

# Unique features



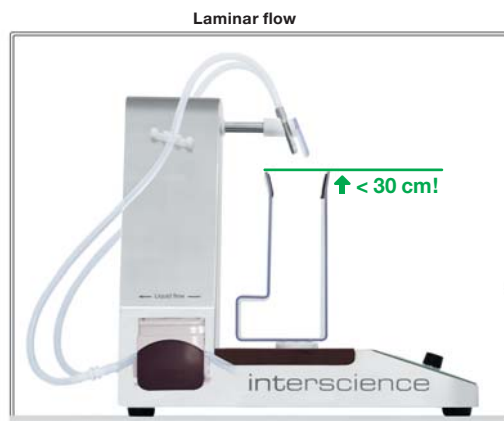
## World's fastest dilutor:

With a booster kit, the DiluFlow® are the fastest dilutors on the market. Only 8 s<sup>(3)</sup> to dispense 225 mL!

## Robotic arm<sup>(2)</sup>

We added a robotic arm so you can drop the sample safely and easily while saving time.

The movement is simple and swift, and in case you had any doubts about its reliability, we tested it for more than 1 million cycles.



## Ultra low profile

The DiluFlow® have the lowest bag opening on the market, less than 30 cm!

This allows a better comfort and ergonomics, especially when you use the DiluFlow in a biosafety cabinet.

## GeckoGrip system

Inspired by a gecko's paw, this new GeckoGrip material will hold the bag without pressing hard. GeckoGrip sticking properties apply in dry and wet surfaces.

GeckoGrip long lasting material can be washed with soap and alcohol.

**PATENTED**





## LightCode

An intuitive indicator of the status of the DiluFlow®. The degree of accuracy of the finished dilution is displayed: green > 98 %, orange > 95 % or red < 95 %. It will also turn blue if the balance is not stable, thus telling you to wait for stabilisation.



**Green:**  
Accuracy > 98 %



**Orange:**  
Accuracy > 95 %



**Red:**  
Accuracy < 95 %



**Blue:**  
Balance not stabilized

## DripTray

In case culture media is spilt on the unit, the new patented DripTray can be removed to be rinsed, avoiding a tedious cleaning of the unit.

**PATENTED**



## Multi-Dispensing<sup>(1)</sup>

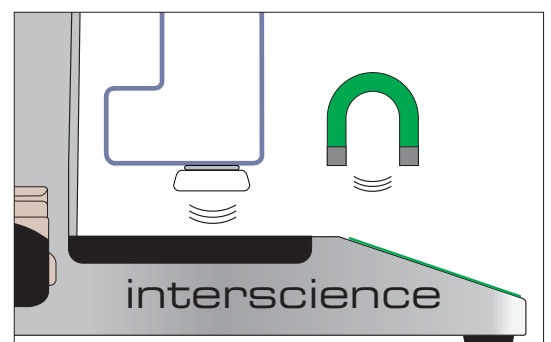
This unique patented mode allows you to serially dispense in small containers such as 9 mL tubes, without having to weigh each tube, by doing just one calibration on the balance.

**PATENTED**

## Magnetic BagOpen®

The 2 points magnetic attachment of the BagOpen® guarantee a stable platform for better measuring accuracy, and provide a natural protection of the weight sensor when removing the bag.

**PATENTED SHAPE**



# Multiple ways to use a DiluFlow®

“ Just scan the barcode,  
the DiluFlow® selects  
the right program ”



I am using INTERSCIENCE's DiluFlow® **Elite** dilutor and I am happy with it.

It enables us to process a good quantity of samples, more than 300 every morning, which leaves us enough time for the analyses in the afternoon. We have 3 dilution areas, each one with 2 lab blenders so we can work continuously.

The DiluFlow® **Elite**, with its Booster option, dilutes samples in only 8 seconds.

All our devices are connected bidirectionally for traceability, so that the operator just scans a bar-code and the dilutor automatically chooses the right program, the right pump...

It is truly time-saving and it avoids common human errors.

Philippe, laboratory manager

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“ The lab operators liked  
the low profile of the DiluFlow® platform ”



New standards make it necessary to work under a laminar flow for the dilution work, and this can create operational problems.

Our lab operators liked the ultra-low profile of the DiluFlow® platform because they do not need to bend themselves anymore to insert the sample in the bag.

We got rid of musculoskeletal disorders among the lab workers and everybody is very satisfied.

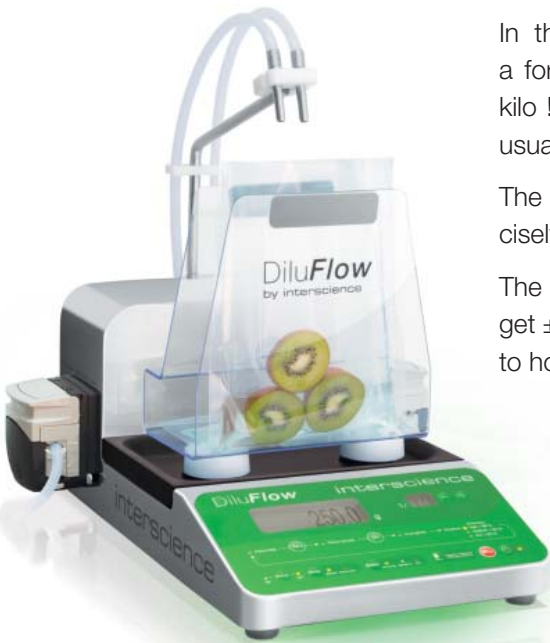
Moreover, some of our clients dealing with milk powders ask us for bigger and bigger samples in order to get more sensitivity in the pathogens detection, up to 100 g; and as much as 300 g in the case of sample pooling.

My DiluFlow® can handle up to 5 000 g load if you add the Jumbo kit option, to dilute in large bags. It is useful because you do not need to buy an extra machine for large samples.

Brigitte, in charge of laboratory operations



## “ The DiluFlow® Elite, in the 1 kg version, has an accuracy of 0.01 g ”



In the cosmetics industry, the raw materials cost a fortune, sometimes more than 10 000 euros per kilo ! That is why we only work with small amounts, usually 1 g.

The difficult part is to manipulate and measure precisely these small samples.

The DiluFlow® **Elite**, in 1 kg version, has an accuracy of 0.01 g, which enables us to get  $\pm 2\%$  weighing accuracy. Moreover we use tube holders, which are efficient pliers to hold our tubes, to directly place the tube under the liquid flow every time.



Dylan, laboratory manager

## “ Accurate, user-friendly and reliable ”



We analyze between 10 and 20 samples per day in our lab. Since last year, we use 225 mL ready-to-use diluent and therefore, we have to pay extra attention to the weight of our sample.

We looked at all dilutors on the market and most of them looked far too complex to use or too sophisticated. We just needed a 1/10<sup>th</sup> dilution with good accuracy.

We are now using a DiluFlow® which matches our requirements completely. The keyboard is really easy-to-use; only 2 keys to press for a dilution. In case there is an error or if the bag un-hooks itself, we just rinse the drip-tray. In a few words, I would say that DiluFlow® is accurate, user-friendly and reliable!

Dominique, quality control engineer

## “ 3-in-1 equipment ”

What I really like about my DiluFlow® **Elite** is the Multi-Dispensing function. I use it to fill 9 mL dilution tubes.

Before that, I was using a peristaltic pump, but each time, I had to calibrate the pump with a weighing platform to get  $\pm 2\%$  accuracy.

With the DiluFlow® **Elite**, you just put the first tube on the platform and the calibration is automatic. You can then directly distribute the doses in the tubes with the HandyGun, without having to weigh each tube.

It is as if I had 3-in-1 equipment: a peristaltic pump, a weighing platform and a dilutor! Thanks to this function, I save time preparing my media, 9 mL in tubes, 90 or 225 mL in bottles, 18 mL in Petri dishes, etc.

Hervé, user of DiluFlow® Elite



# How to order



Single pump (3 kg) **Ref 501 103**  
 Double pump (3 kg) **Ref 501 203**
















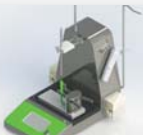








**DiluFlow® Pro**  
 Single pump (5 kg) **Ref 502 105**  
 Double pump (5 kg) **Ref 502 205**



**DiluFlow® Elite**  
 Single pump (1 kg) **Ref 503 101**  
 Double pump (1 kg) **Ref 503 201**  
 Single pump (5 kg) **Ref 503 105**  
 Double pump (5 kg) **Ref 503 205**

**DiluFlow®** is delivered with 1 dispensing arm, 1 DripTray 400, 1 or 2 pumps, 1 dispensing assembly (GL45 - Ø 6,4 mm) per pump, USB cable, monitoring software, power cord, 1 BagOpen® 400 for dilutors, user's manual, quick user guide, 10 GeckoGrip, free sample bags.  
**DiluFlow® Pro** is delivered with 1 or 2 pumps, 1 DripTray 400, 1 protection for tubing nozzle, 1 dispensing assembly (GL45 - Ø 6,4 mm) per pump, USB cable, monitoring software, power cord, 1 BagOpen® 400 for dilutors, user's manual, quick user guide, 10 GeckoGrip, free sample bags.  
**DiluFlow® Elite** is delivered with 1 or 2 pumps, 1 DripTray 400, 1 protection for tubing nozzle, 1 dispensing assembly (GL45 - Ø 6,4 mm (Elite 1 kg: Ø 3,2 mm)) per pump, USB stick, power cord, 1 BagOpen® 400 for dilutors, user's manual, quick user guide, 10 GeckoGrip, free sample bags.

## Accessories

 <p><b>Printer</b>                      Prints all data                      Paper 521 110                      Labels 521 012                      Film 410 130  <b>Ref 410 150</b></p>	 <p><b>Foot pedal</b>                      For hands-free dispensing. Connection with a 3.5 mm Jack.  <b>Ref 507 008</b></p>	 <p><b>Bar-code reader (1)</b>                      For total traceability of the samples.  <b>Ref 522 000</b></p>	 <p><b>Handy gun (1)</b>                      For high precision work and comfortable tube handling.  <b>Ref 561 001</b></p>	 <p><b>Booster kit</b>                      Accelerate the dispensing speed up to 225 mL/8 s.  <b>Ref 511 000</b></p>	 <p><b>Pump module (1)</b>                      External module with single pump + silicone tubings for pump head (inner Ø 6.4 mm).  <b>Ref 505 007</b></p>
 <p><b>Jumbo kit (2)</b>                      BagOpen® 3500 + 3500 mL DripTray  <b>Ref 505 006</b></p>	 <p><b>5L bottle (GL45)</b>                      5 L autoclavable bottle  <b>Ref 513 001</b></p>	 <p><b>Independent stand for broth bags</b>                      To easily store diluent bags.  <b>Ref 513 015</b></p>	 <p><b>Integrable stand for broth bags</b>                      Integrated to the unit, to hold one broth bag.  <b>Ref 505 010</b></p>	 <p><b>Trocar</b>                      316 L stainless steel trocar for broth bags.  <b>Ref 513 020</b></p>	 <p><b>6 nozzles holder (1)</b>                      Can hold up to 6 nozzles  <b>Ref 505 008</b></p>
 <p><b>Adjustable distribution system (3)</b>                      Ideal to fill various containers  <b>Ref 505 004</b></p>	 <p><b>Adjustable distribution system (4)</b>                      Ideal to fill various containers  <b>Ref 505 005</b></p>	 <p><b>Weighing platform</b>                      To weigh and support a container  <b>Ref 505 002</b></p>	 <p><b>Tongs platform</b>                      To hold a tube (Ø 10 to 60 mm)  <b>Ref 505 003</b></p>	 <p><b>GeckoGrip</b>                      Set of 10 adhesives for BagOpen®  <b>Ref 505 009</b></p>	 <p><b>PTFE filters 0.2 µm (Ø 25 mm)</b>                      Set of 5 autoclavable filters for GL45 bottles  <b>Ref 513 023</b></p>
 <p><b>Nozzle</b>                      Set of 5 stainless steel nozzles for tubings (inner Ø 4.8 to 8 mm)  <b>Ref 513 024</b></p>	 <p><b>Nozzle</b>                      Set of 5 stainless steel nozzles for tubings (inner Ø 1.6 to 3.2 mm)  <b>Ref 513 040</b></p>	 <p><b>Tube weight (Ø 6 mm)</b>                      Set of 5 tube weights  <b>Ref 513 039</b></p>	 <p><b>Certified standard weight (500 g)</b>                      500 g COFRAC calibrated weight, type F1  <b>Ref 513 005</b></p>		

(1) Only on DiluFlow® Elite (2) Only on DiluFlow® Pro and DiluFlow® Elite 5 kg (3) Only on DiluFlow® (4) Only on DiluFlow® Pro and DiluFlow® Elite

# Tubings

<b>Distribution set for single pump</b>		<b>Sales unit</b>
Ref 513 045	Dispensing assembly inner Ø 3.2 mm .....	1
Ref 513 043	Dispensing assembly inner Ø 6.4 mm .....	1

<b>Distribution set for booster kit</b>		<b>Sales unit</b>
Ref 513 008	Booster kit dispensing assembly inner Ø 3.2 mm .....	1
Ref 513 041	Booster kit dispensing assembly inner Ø 6.4 mm .....	1

<b>Silicone tubings for single pump</b>		<b>Sales unit</b>
Ref 561 202	Silicone tubings inner Ø 3.2 mm .....	5
Ref 513 044	Silicone tubings inner Ø 6.4 mm .....	5

<b>Silicone tubings for pump head</b>		<b>Sales unit</b>
Ref 561 302	Silicone tubings for pump inner Ø 3.2 mm .....	6
Ref 561 304	Silicone tubings for pump inner Ø 6.4 mm .....	6

<b>Silicone tubings for booster kit</b>		<b>Sales unit</b>
Ref 513 009	Silicone tubings for booster kit inner Ø 3.2 mm .....	5
Ref 513 042	Silicone tubings for booster kit inner Ø 6.4 mm .....	5

# Complementary products

**BagMixer®**  
Lab blenders

**Models (mL):**  
100/400/3500

**BagFilter®**  
Sterile bag  
with lateral filter

**Models (mL):**  
400/3500

**BagPage®**  
Sterile bag  
with full-page filter

**Models (mL):**  
100/400/3500

**BagLight®**  
Sterile plain bag

**Models (mL):**  
100/400/3500

**BagOpen®**  
Bag opener/holder

**Models (mL):**  
80/100 - 400 - 3500

**BagRack®**  
Storage rack

**Models (mL):**  
80/100 - 400  
3500 (2 or 4 compartments)

**BagClip®**  
Closing clips

**Models (mL):**  
80/100 - 400 - 3500

**BagPipet® & BagTips®**  
Fixed volume pipet  
& sterile tips

**BagTips® Models:**  
**Regular** (19 cm)  
**Jumbo** (24 cm)

**BagSeal®**  
Thermal sealing unit

**For bags**  
up to 400 mL

**PetriPile®**  
Petri dish storage rack

**Models (ø):**  
55 - 65 - 90 - 150 mm

# Technical specifications

Reference	DiluFlow® 3 kg		DiluFlow® Pro 5 kg		DiluFlow® Elite 5 kg		DiluFlow® Elite 1 kg	
	Single pump	Double pump	Single pump	Double pump	Single pump	Double pump	Single pump	Double pump
	<b>501 103</b>	<b>501 203</b>	<b>502 105</b>	<b>502 205</b>	<b>503 105</b>	<b>503 205</b>	<b>503 101</b>	<b>503 201</b>
<b>BagOpen®</b> height < 30 cm		✓		✓		✓		✓
Patented removable DripTray		✓		✓		✓		✓
<b>BagOpen®</b> with GeckoGrip		✓		✓		✓		✓
Magnetic stand for <b>BagOpen®</b> (patented shape)		✓		✓		✓		✓
LightCode: color status LED		✓		✓		✓		✓
Compatible with Booster kit		✓		✓		✓		✓
304 L stainless steel body		✓		✓		✓		✓
Stainless casting electromechanical core		✓		✓		✓		✓
Robotic arm		-		✓		✓		✓
Compatible with Jumbo kit		-		✓		✓		-
Protection for tubing nozzle		-		✓		✓		✓
Up to 6 pumps		-		-		✓		✓
Patented Multi-Dispensing mode		-		-		✓		✓
32 editable programs		-		-		✓		✓
Bidirectional connectivity		-		-		✓		✓
Dilution 1 g at 1/10		-		-		-		✓
Resolution up to 200 g					0.01 g			
Weighing range	3 000 g				5 000 g		1 000 g	
Weighing accuracy	0 to 100 g: ± 0,05 g 100 to 3 000 g: ± 0,1%				0 to 100 g: ± 0,05 g 100 to 5 000 g: ± 0,1%		0 to 20 g: ± 0,01 g 20 to 1 000 g: ± 0,1%	
Dilution factor	1/2 to 1/99				2 to 1000, editable fractions			
Dilution accuracy	> 98 %				> 99 %*			
Dilution time for a 25 g sample diluted at 1/10	< 9 s**				< 8 s**			
Dilution time for a 375 g sample diluted at 1/10			< 80 s**		< 75 s**			
Distribution time for 90 mL	< 7 s**				< 6 s**			
Distribution time for 225 mL	< 10 s**				< 9 s**			
Max number of pumps	2 integrated				2 integrated + 4 external			
Dilution/distribution mode	Fast - Standard - Accurate							
Traceability	Printer / Monitoring software (data export to Excel™, Open Office™, CSV file, printer)				Printer / Export to Excel™ / CSV file export on USB stick / LIMS			
Exported data	Sample weight / Total weight / Dilution factor / Dilution accuracy / Right or left pump + with monitoring software: Sample number / Name of operator / Date / Time				Sample weight / Total weight / Dilution factor / Dilution accuracy / Diluent / Sample number / Diluent batch number / Date / Time / Last calibration date / Name of operator / Name of program			
Connection	RS232 output for printer / USB output for computer / Jack output for foot pedal				2 USB outputs (type A) to connect printer, keyboard, bar-code reader, USB stick / 1 USB port (type B) to connect a computer / Jack output to connect a foot pedal / Handy gun / Ethernet connection for LIMS			
Language	English				English, French			
Weight	10.5 kg	13 kg	12.5 kg	15 kg	13 kg	15.5 kg	13 kg	15.5 kg
Dimensions (w x d x h)	31 x 41.5 x 40 cm	37 x 41.5 x 40 cm	31 x 41.5 x 37.5 cm	37 x 41.5 x 37.5 cm	31 x 41.5 x 37.5 cm	37 x 41.5 x 37.5 cm	31 x 41.5 x 37.5 cm	37 x 41.5 x 37.5 cm
Patents	GeckoGrip system, Removable DripTray, Multi-Dispensing, Magnetic BagOpen® (patented shape)							
In compliance with	ISO 7218 - ISO 6887-1 - FDA BAM (Bacteriological Analytical manual)							
Guarantee	1 year							

\* with booster kit in standard or accurate mode \*\* with booster kit in fast mode

Certified production:



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