

# DiluFlow<sup>®</sup>

Gravimetric dilutors for solid samples



The best solution for your dilutions!

interscience

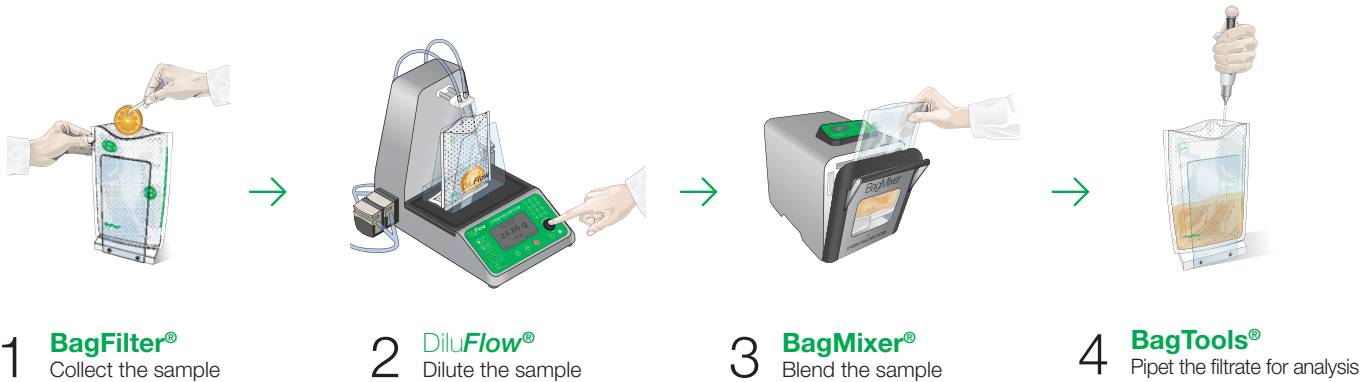


## Our quality for your lab

- Full range of lab instruments for microbiological analyses
- Designed and made in France
- Leadership in R&D for innovative products
- Worldwide distribution network in more than 85 countries



For over 30 years, **interscience** has been designing and manufacturing products for microbiology labs to ensure work efficiency and guarantee consumer health and safety. **DiluFlow**® are part of the **BagSystem**®, a full range of products to optimize sample preparation:



# Why use a gravimetric dilutor?

**DiluFlow**® gravimetric dilutors enable the automatic dilution of the sample with perfect reliability. See the following advantages:

**MANUAL DILUTION** —

**Step 1**  
Weigh the sample

**Step 2**  
Add manually the diluent

**AUTOMATED DILUTION WITH DiluFlow®**

Place the sample and start the dilution  
**The appropriate quantity of diluent is added in a matter of seconds.**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><b>Time-consuming</b> ■</li> <li><b>Inaccurate:</b> ■<br/>Direct impact on final result</li> <li><b>Not reproducible</b> ■</li> <li><b>Not secure:</b> ■<br/>The bag is not maintained</li> <li><b>Not automatically traceable</b> ■</li> </ul> | <ul style="list-style-type: none"> <li>■ <b>Quick:</b> 8 seconds for 225 mL*</li> <li>■ <b>Accurate:</b> &lt; 1 % of sample weighing<br/>As little as &lt; 1 % of dispensing (in fast mode)</li> <li>■ <b>Reproducible</b></li> <li>■ <b>Secured:</b> The bag is maintained with BagOpen® bag opener</li> <li>■ <b>Traceable:</b> with LIMS, printer or Excel™</li> </ul> |
|--|---|

\* Dilution time for a 25 g sample diluted at 1/10 on a DiluFlow® Elite with booster kit

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



DiluFlow®

DiluFlow® Pro

DiluFlow® Elite

	DiluFlow®	DiluFlow® Pro	DiluFlow® Elite
Ultra low profile	✓	✓	✓
DripTray	✓	✓	✓
Robotic arm	-	✓	✓
Jumbo kit option	-	✓	✓
Programmable	-	-	✓
Full traceability	-	-	✓
Up to 6 pumps	-	-	✓
MultiDispensing	-	-	✓

## Superior quality

Watson Marlow™ pumps

## Traceability

To export the results



## Up to 6 diluents

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

## 304L stainless steel casing

For easy cleaning

IN COMPLIANCE WITH



## Robotic arm

To drop the sample easily<sup>(2)</sup>  
Avoid contamination  
Save time

## GeckoGrip

No more adhesive gums !  
**PATENTED**

## Ultra low profile

Perfect for a laminar flow

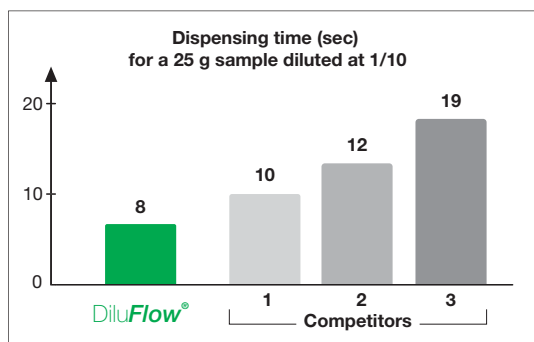


## Removable DripTray

Easy to keep your DiluFlow® clean  
**PATENTED**

(1) Only on DiluFlow® Elite (2) Only on DiluFlow® Pro and DiluFlow® Elite

# Unique features



## World's fastest dilutor:

With a single pump booster kit, the DiluFlow® are the fastest dilutors on the market. Only 8 s to dispense 225 mL!

## Robotic arm

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.



## Ultralow 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, the new GeckoGrip material will hold the bag without pressing hard, and will stick even on a wet surface.

This material can be washed with soap or alcohol, and will last for a long period of time.

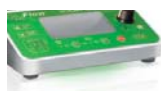
**PATENTED**





## LightCode

A soft and intuitive indicator of the status of the DiluFlow®. You can check the accuracy of the dilution when it is finished (green 2 %, orange 5 % or red over 5 %). It will also turn blue if the balance is not stable, thus telling you to wait for stabilisation.



**Green:**  
Accuracy < 2 %



**Orange:**  
Accuracy < 5 %



**Red:**  
Accuracy > 5 %



**Blue:**  
Balance not stabilized

## DripTray

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

**PATENTED**



## MultiDispensing

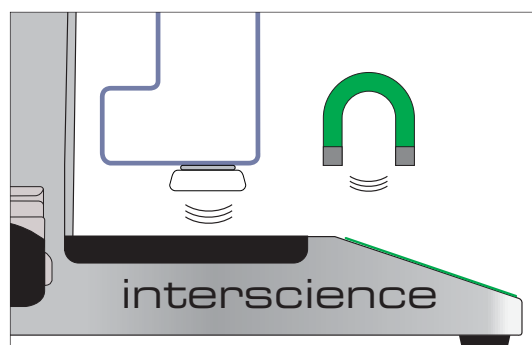
This unique patented mode allows you to serially dispense in small containers such as 9 mL tubes, without having to weigh each tube, by doing just one calibration on the balance.

**PATENTED**

## Magnetic BagOpen®

The 2 points magnetic attachment of the **BagOpen®** allows a stable platform for better measuring accuracy, and also 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 am happy with it.

They enable 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, can dilute samples in only 8 seconds.

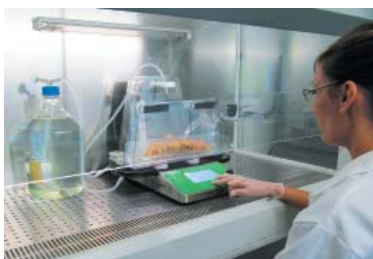
All our devices are connected bi-directionally for traceability so that the user just has to scan a barcode for the dilutor to automatically choose the right program.

Altogether it is time-saving and helps avoid human errors.

Elsa, 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, which 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 pathogen detection, up to 100 g; 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 have been using 225 mL of ready-to-use diluent and that is why we had to pay extra attention to the weight of our sample.

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

We are now using a DiluFlow® which matches completely our requirements. 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 unhooks itself, we just rinse the driptray. 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 MultiDispensing function. I use it to fill my 9 mL dilution tubes.

Before that I was using a peristaltic pump but each time you 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 in the tubes the doses 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 tubes, 90 mL bottles, etc.

Hervé, user of DiluFlow® Elite



# How to order



## DiluFlow®

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



## DiluFlow® Pro














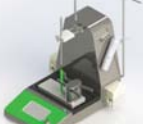








Single pump (5 kg) **Ref 502 105**  
 Double pump (5 kg) **Ref 502 205**



## 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**

## Accessories

 <p><b>Printer</b> Prints all data (date, time, operator...) Paper 521 110 labels 521 012 <b>Ref 521 000</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 sec. <b>Ref 511 000</b></p>	 <p><b>Pump module</b> External module with single pump + silicone tubings for pump head (inner Ø 6.4 mm). <b>Ref 505 007</b></p>
 <p><b>JumboKit</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> 316L 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 (2)</b> Ideal to fill various containers <b>Ref 505 004</b></p>	 <p><b>Adjustable distribution system (3)</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 <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® (3) Only on DiluFlow®Pro and DiluFlow® Elite



# Technical specifications

	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
Reference	501 103	501 203	502 105	502 205	503 105	503 205	503 101	503 201
<b>BagOpen®</b> height < 30 cm		✓		✓		✓		✓
Patented DripTray		✓		✓		✓		✓
<b>BagOpen®</b> with GeckoGrip		✓		✓		✓		✓
Magnetic stand for <b>BagOpen®</b>		✓		✓		✓		✓
LightCode: color status LED		✓		✓		✓		✓
Compatible with Booster kit		✓		✓		✓		✓
304L stainless steel body		✓		✓		✓		✓
Stainless casting electromechanic core		✓		✓		✓		✓
Robotic arm	-			✓		✓		✓
Compatible with JumboKit	-			✓		✓		✓
Protection for tubing nozzle	-			✓		✓		✓
Up to 6 pumps	-			-		✓		✓
Patented MultiDispensing mode	-			-		✓		✓
32 programs	-			-		✓		✓
Bidirectionnal 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			2 to 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**	
Dispensing time for 90 mL			< 7 s**				< 6 s**	
Dispensing time for 225 mL			< 10 s**				< 9 s**	
Max number of pumps			2 integrated				2 integrated + 4 external	
Dispensing/distribution mode					Fast - Standard - Accurate			
Traceability	Printer / Export to Excel™				Printer / Export to Excel™ / CSV file export on USB key / LIMS			
Exported data	Sample volume / Total volume / Dilution factor / Dilution accuracy / Right or left pump				Sample volume / Total volume / Dilution factor / Dilution accuracy / Diluent / Sample number / Diluent number / Date / Time / Time of last calibration / 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, bar-code reader, USB key / 1 USB port (type B) to connect a printer / Jack output to connect a pedal / Handy gun / Ethernet output for LIMS			
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
In compliance with	ISO 7218 - ISO 6887-1 - BAM (Bacteriological Analytical manual)							
1 year guarantee	✓							

DiluFlow® is delivered with 1 dispensing arm, 1 DripTray 400, 1 or 2 pumps, 1 dispensing assembly (GL45 - Ø 6,4 mm) per pump, power cord, 1 BagOpen® 400 for dilutors, user's manual, quick user guide, 10 GeckoGrip, free sample bags.  
 DiluFlow® Pro/Elite is delivered with 1 or 2 pumps, 1 DripTray 400, 1 protecting cap for nozzles, 1 dispensing assembly (GL45 - Ø 6,4 mm (Elite 1 kg: Ø 3,2 mm)) per pump, power cord, 1 BagOpen® 400 for dilutors, user's manual, quick user guide, 10 GeckoGrip, free sample bags.

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

Certified production:



Distributor

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