DiluFlow®
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
BagSystem®
for the best 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**

1. **Step 1**
   - Weigh the sample

2. **Step 2**
   - Add manually the diluent

**AUTOMATED DILUTION WITH DiluFlow®**

- **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® bag opener
- **Traceable**: with LIMS, printer or Excel™

* Dilution time for a 25 g sample diluted at 1/10 on a DiluFlow® Elite with booster kit in fast mode
Easy-to-use efficient & connected
3 models for optimal dilutions

<table>
<thead>
<tr>
<th>Feature</th>
<th>DiluFlow®</th>
<th>DiluFlow® Pro</th>
<th>DiluFlow® Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra low profile</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>DripTray</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Robotic arm</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Jumbo kit option</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Programmable</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Full traceability</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Up to 6 pumps</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Multi-Dispensing</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

Superior quality
Watson Marlow™ pumps

Traceability
Printer, USB stick(1), Excel™, Open Office™, Libre Office Calc™, CSV, LIMS(1)

Up to 6 diluents
With 4 extra connectable pumps(1)

304 L stainless steel casing
For easy cleaning and long-lasting

IN COMPLIANCE WITH

ISO 7218
ISO 6887-1
FDA BAM (Bacteriological Analytical Manual)
**GeckoGrip**
No more adhesive gums!
Ultra adhesive, hygienic and long lasting
**PATENTED**

**Ultra low profile**
Perfect for a laminar flow
Ergonomic: no more musculoskeletal disorders

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

**Robotic arm**
Easy sample dropping
Avoids contamination
Saves time

**Kit booster**
2 times faster

**High accuracy weighing scale**
Weighing accuracy up to 99 %

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

World's fastest dilutor:

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

Robotic arm & nozzle protection plate

The robotic arm enables you to drop the sample safely and easily without contamination risks. Tested more than 1.3 million times, its reliability is guaranteed.

The protective plate protects the nozzle from any contact with the sample.

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 gripping 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 scale is not stable, thus telling you to wait for stabilization.

- **Green:** Accuracy > 98 %
- **Orange:** Accuracy > 95 %
- **Red:** Accuracy < 95 %
- **Blue:** Scale stabilizing

**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.

**Multi-Dispensing**

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 scale.

**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.

---

(1) Only on DiluFlow® Elite  
(2) Only on DiluFlow® Pro and DiluFlow® Elite  
(3) Dilution time for a 25 g sample diluted at 1/10 on a DiluFlow® Elite with booster kit
Multiple ways to use a DiluFlow®

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

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.

Dylan, lab manager

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

Brigitte, lab technician

Accurate, user-friendly and reliable...

We analyze between 10 and 20 samples per day in our lab.

We looked at all dilutors on the market and most of them looked far too complex to use or too sophisticated.

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.

Alain, microbiological coordinator

3-in-1 equipment

What I really like about my DiluFlow® Elite is the Multi-Dispersing 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 ± 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 scale and a dilutor!

Dominique, quality control engineer
Available ports

DiluFlow®
DiluFlow® Pro

DiluFlow® Elite

Data export to a printer

Sample number: 1227E-178-PA

Operator: Jean Durant
02/12/2014 10:06:37
Pump: Right
Theoretical: 290 g
Actual weight: 290.61
Precision: 99.8 %

* Printed via the supervision software

Numéro échantillon : 847610931

24/04/15 15:16:05
Dernier étalonnage : 24/04/15
Opérateur : user 0 Appareil : 200453
Programme: 25g 1/10 dilution Lot: kf/1684
Taux de dilution : 1/10
Masse de l'échantillon : 25.32 g
Masse réelle : 255.38 g
Précision : 99.7 %

* Printed directly from the DiluFlow® Elite

Import and export of computer & network data

Traceability:

• USB connection to computer and data export via the DiluFlow® supervision software
• Excel™ file export from the supervision software

Full traceability:

• Data export to Excel™
• Data export to USB key (CSV)
• Bi-directionnal connectivity to the LIMS by Ethernet
How to order

DiluFlow®

Single pump (1 kg)
Ref 501 103

Double pump (3 kg)
Ref 501 203

DiluFlow® Pro

Single pump (3 kg)
Ref 502 105

Double pump (5 kg)
Ref 502 205

DiluFlow® Elite

Single pump (1 kg)
Ref 503 101

Double pump (5 kg)
Ref 503 201

DiluFlow® Elite (6 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 plate 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 plate 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

Printer
Prints all data
Paper P 521 110
Labels P 521 012
Film P 410 130
Ref 410 150

Foot pedal
For hands-free dispensing. Connection with a 3.5 mm Jack.
Ref 507 008

Bar-code reader (1)
For total traceability of the samples.
Ref 522 000

Handy gun (1)
For high precision work and comfortable tube handling.
Ref 561 001

Booster kit
Accelerate the dispensing speed up to 225 mL/8 s.
Ref 511 000

Pump module (1)
External module with single pump + silicone tubings for pump head (inner Ø 6.4 mm).
Ref 505 007

Jumbo kit (2)
BagOpen® 3500 + 3500 mL DripTray + anti-splash nozzle
Ref 505 006

5L bottle (GL45)
5 L autoclavable bottle
Ref 513 001

Independent stand for broth bags
To easily store diluent bags.
Ref 513 015

Integrable stand for broth bags
Integrated to the unit, to hold one broth bag
Ref 505 010

Trocar
316 L stainless steel trocar for broth bags.
Ref 513 020

Tongs platform
To hold a tube (Ø 10 to 60 mm)
Ref 505 003

GeckoGrip
Set of 10 adhesives for BagOpen®
Ref 505 009

PTFE filters 0.2 µm
Set of 5 autoclavable filters for GL45 bottles
Ref 513 023

Nozzle
Set of 5 stainless steel nozzles for tubings (inner Ø 4.8 to 8 mm)
Ref 513 024

Nozzle
Set of 5 stainless steel nozzles for tubings (inner Ø 1.6 to 3.2 mm)
Ref 513 040

Tube weight (Ø 6 mm)
Set of 5 tube weights
Ref 513 039

Certified standard weight (500 g)
500 g COFRAC calibrated weight, type F1
Ref 513 005

Adjustable distribution system (3)
Ideal to fill various containers
Ref 505 004

Adjustable distribution system (4)
Ideal to fill various containers
Ref 505 005

Weighing platform
To weigh and support a container
Ref 505 002

How to order

(1) Only on DiluFlow® Elite
(2) Only on DiluFlow® Pro and DiluFlow® Elite 6 kg
(3) Only on DiluFlow®
(4) Only on DiluFlow® Pro and DiluFlow® Elite
### Tubings

**Filter**
- Connectors
- Tubings for pump
- GL 45 cap
- Tube weight
- Nozzle

**Distribution set for single pump**
- Sales unit
  - Ref 513 045: Dispensing assembly inner Ø 3.2 mm .................................. 1
  - Ref 513 043: Dispensing assembly inner Ø 6.4 mm .................................. 1

**Silicone tubings for single pump**
- Sales unit
  - Ref 513 047: Silicone tubings inner Ø 3.2 mm ..................................... 5
  - Ref 513 044: Silicone tubings inner Ø 6.4 mm ..................................... 5

**Distribution set for booster kit**
- Sales unit
  - 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

**Silicone tubings for booster kit**
- Sales unit
  - 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

**Tubings for pump head**
- Sales unit
  - 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

**Silicone tubings for pump head**
- Sales unit
  - 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

---

### 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

<table>
<thead>
<tr>
<th>DiluFlow® 3 kg</th>
<th>DiluFlow® Pro 5 kg</th>
<th>DiluFlow® Elite 5 kg</th>
<th>DiluFlow® Elite 1 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reference</strong></td>
<td>Single pump</td>
<td>Double pump</td>
<td>Single pump</td>
</tr>
<tr>
<td>501 103</td>
<td>✔</td>
<td>✔</td>
<td>501 203</td>
</tr>
<tr>
<td><strong>BagOpen®</strong> height &lt; 30 cm</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Patented removable DripTray</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>BagOpen®</strong> with GeckoGrip</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Magnetic stand for BagOpen®</strong> (patented shape)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>LightCode</strong> color status LED</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Compatible with Booster kit</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>304 L stainless steel body</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Stainless casting electromechanical core</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Robotic arm</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Compatible with Jumbo kit</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Protection for tubing nozzle</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Up to 6 pumps</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Patented Multi-Dispensing mode</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>32 editable programs</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Bidirectional connectivity</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Dilution 1 g at 1/10</strong></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Resolution up to 200 g
- 2,000 g
- 5,000 g
- 10,000 g

### Weighing range
- 0 to 100 g ± 0.05 g
- 100 to 1,000 g ± 0.1%
- 100 to 5,000 g ± 0.1%

### Weighing accuracy
- 0.005 g
- 0.1 g

### Maximum weight without support
- 4,500 g
- 7,000 g
- 1,000 g

### Dilution factor
- 1/2 to 1/99
- 2 to 100, editable fractions

### Dilution accuracy
- > 98 %
- > 99 %

### Dilution time for a 25 g sample
- < 9 s**
- < 8 s**

### Dilution time for a 375 g sample
- < 80 s**
- < 75 s**

### Distribution time for 90 mL
- < 10 s**
- < 9 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™, Libre Office Calc™, CSV, printer)
- Printer / Export to Excel™ / CSV file export on USB stick / LIMS

### Exported data
- Specification number
- Total weight
- Dilution factor
- Dilution accuracy
- Right or left pump
- With monitoring software:
  - Sample number
  - Name of operator
  - Date
  - Time
  - Last calibration date
  - 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 / Handgun / Ethernet connection for LIMS

### Language
- English
- French

### Weight
- 9.6 kg
- 12 kg
- 11.8 kg
- 14.2 kg
- 12.6 kg
- 14.9 kg
- 12.6 kg
- 14.9 kg
- 12.6 kg
- 14.9 kg

### Dimensions (w x d x h)
- 31 x 44 x 38 cm
- 37 x 44 x 38 cm
- 31 x 42 x 38 cm
- 37 x 48 x 38 cm
- 31 x 42 x 38 cm
- 37 x 42 x 38 cm
- 31 x 42 x 38 cm
- 37 x 42 x 38 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)

### Warranty
- 1 year

---

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

---

**Certified by:**

- **WEEE**
- **RoHS**
- **ISO 9001 2008**

---

**Your local distributor**

interscience INTERNATIONAL
30, chemin du Bois des Arpents - 78860 St Nom - FRANCE
T: +33 (0)1 34 62 62 61 - F: +33 (0)1 34 62 43 03 - Email: info@interscience.com

interscience USA & CANADA
32 Cummings Park - Woburn, MA 01801 - USA
T: +1 781 937 0007 - F: +1 781 937 0017 - Email: sales.usa@interscience.com

interscience CHINA
上海市徐汇区吴兴路277号锦都大厦588室 - 200030
电话: +86 (0)21-64739390 - +86 189 3097 0733 - 邮箱: sales.china@interscience.com

interscience SOUTH-EAST ASIA
541 Orchard road - 09-01 Liat Towers - SINGAPORE 238881
T: +65 6933 1389 - M: +65 8549 1217 - Email: sales.asia@interscience.com

---

**Technical certification:**

- **CE**
- **ISO 2008**
- **MADE IN FRANCE**

---

**Certified production:**

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