IMPROVING
PLASTICS *TOGETHER*

Dosing of granules – the secret to cost savings

Ferlin has been engineering dosing units from the early 90's. Proudly we can say that our first batchblender is still running after more than 30 years.

We value a high reliability and accuracy. In this way our customers can save on additives while not having to worry about the down time costs.

We focus on reduction of total cost of ownership, we are not trying to have the lowest price in the market. Our customers value our dosing units for the easy service on it, the user friendliness with cleaning or controlling through the HMI but also the countless ways of integrating the devices in their MES, ERP or SCADA systems.

There are two productgroups, GRAVIMIX and ONE.
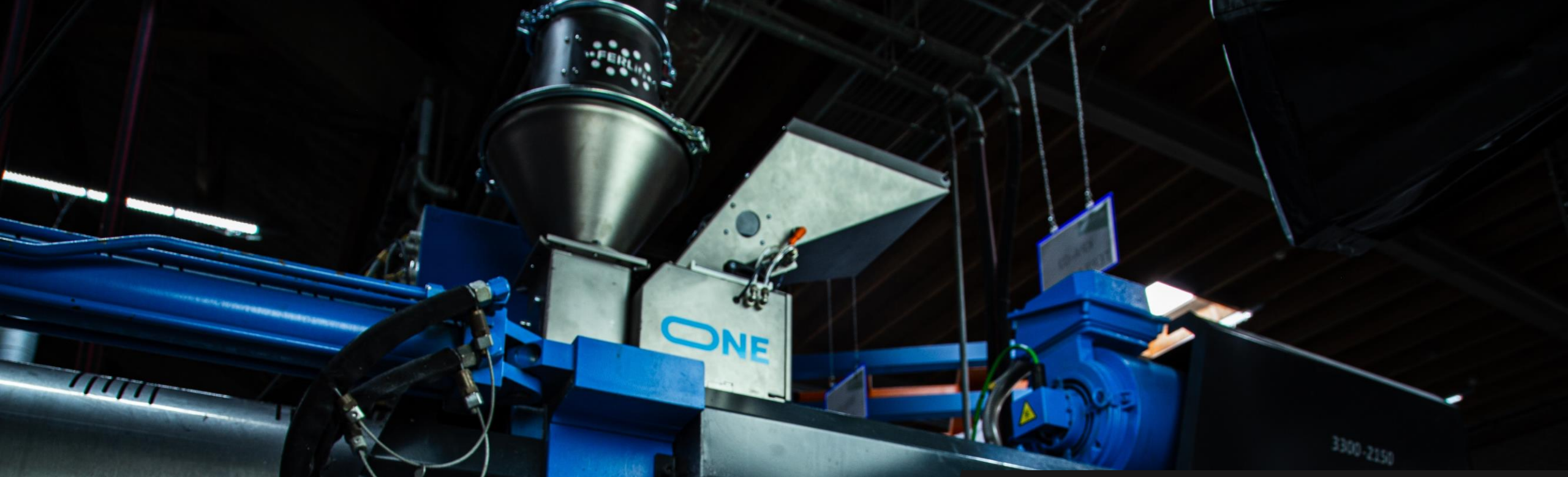
ONE

Gravimetric feeder
- Low price entry model
- Using a belt instead of screw
- Dosing up to 20kg/h
- One component only
- Using 3kg load cell
- Patented dosing system
- User friendly HMI

TOGETHER
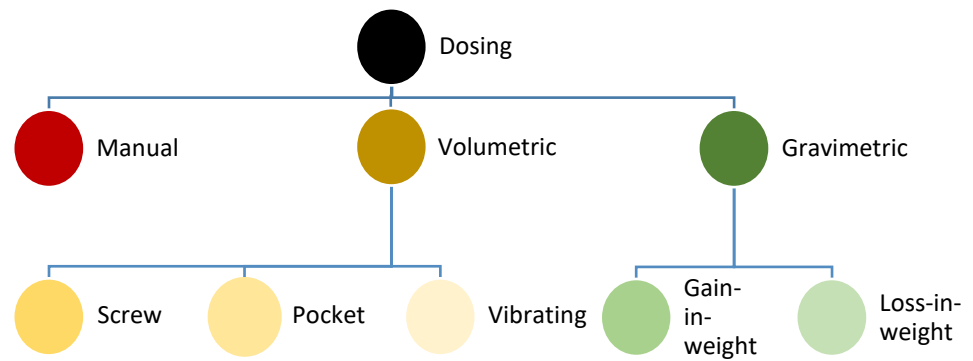**WE EXCEL**

TOGETHER WE EXCEL

GRAVIMIX

GRAVIMIX batchblenders
- First batchblender in EU
- Most user friendly unit in the market
- Price/quality level is outstanding
- Batchweight varies from 200gr to 25.000gr.
- 1 – 8 components
- Special regrind / recycling solutions.
- Many customer specific solutions.

Dosing

Dosing in general means the joining of different components in a certain ratio. This is done to gain economical advantages, increase flexibility, to increase the reproducability and/or to enhance traceability.

There are a few ways of dosing.
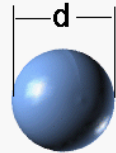
Volumetric dosing
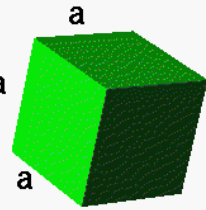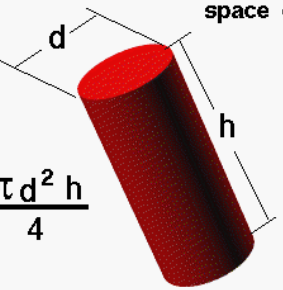
A very common way of dosing is using volume. Volume is the 3-dimensional space occupied by an object. Often a screw or pocket is filled up with material and a rotation makes the material go from point A to point B, triggered by the processing machine. Calibration is needed to determine how much material is held by a pocket or screw when it rotates. Usually during calibration material is catched at a certai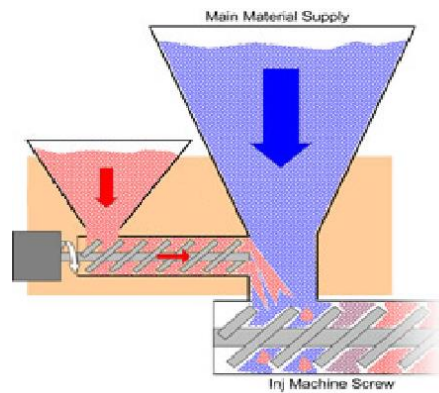n RPM. The material will be weighed, and this weight is entered in the control unit of the dosing unit. It now knows how much material is dosed with at a certain RPM. It assumes equal sizes and equal filling of the 3-dimensional space an object occupies.
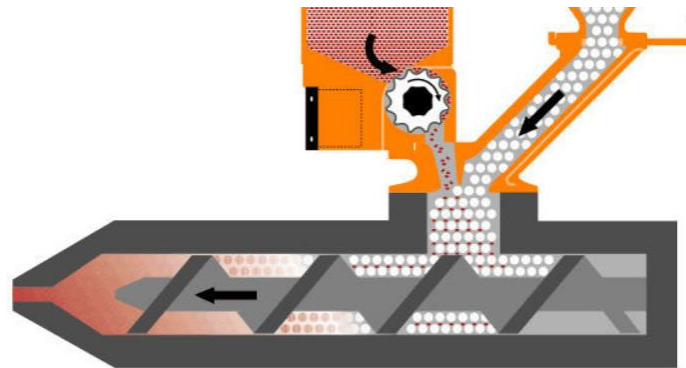
Economic		low
Flexibility	|	middle
Reproducibility	|	low
Traceability	|	low

Examples of volumetric dosing

Screw feeder

Pocket feeder

Vibration feeder

Gravimetric dosing

Instead of using a certain volume to determine the amount of material, the actual amount is weighed during dosing. Basically, it is doing the calibration of the volumetric dosing units for each and every dosing making it much more accurate.

It can be done in two ways:

1) Loss-in-weight, measuring the amount leaving the hopper at the moment you are actually dosing material
2) Gain-in-weight, measuring the increase of material in a seperated weigh bin. Materials are dosed in batches.
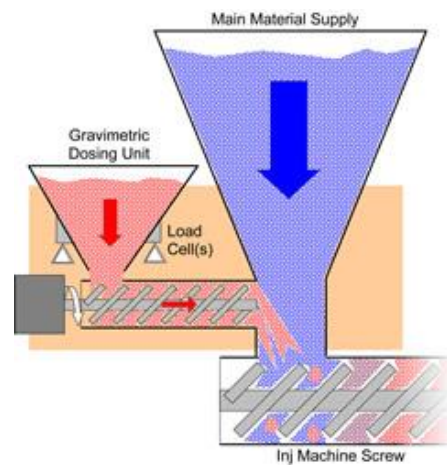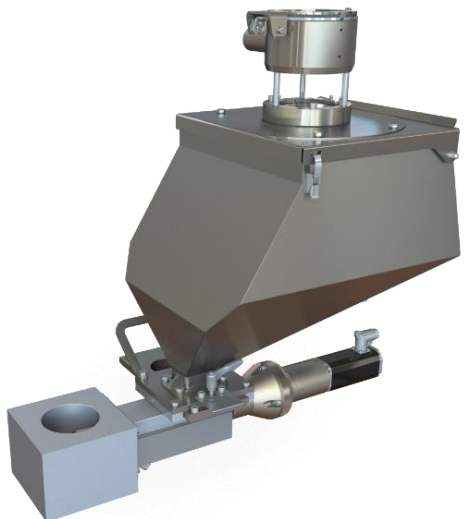
Loss-in-weight dosing

The principle is very common to how a volumetric dosing unit works. The unit is triggered by the processing machine, and it starts rotating a screw (or similar) or belt which is on a load cell. It measures the exact amount instead of assuming based on a calibration. It therefore, in theory, is more accurate compared to a volumetric dosing unit. It only controls the additives, not the naturals and/or regrinds.

Economic	|	middle
Flexibility	|	middle
Reproducibility	|	high
Traceability	|	middle

Gain-in-weight

This principle works completely different. Instead of adding masterbatch or additives on the moment you need it, the dosing unit makes a batch of components. It controls the additives but also the naturals and regrinds which all have their own hopper. There is no signal needed from the plastics processing machine. If any irregularities occur the device can adjust the following components. This results in the most accurate way of dosing possible. In case of the GRAVIMIX we can proof a standard deviation of 0,01%.

Economic	|	high
Flexibility	|	middle
Reproducibility	|	high
Traceability	|	high

GEBRUIKSVRIENDELIJKHEID

KOSTENBEWUST

INTEGREERBAARHEID

PRODUCTMATRIX FERLIN

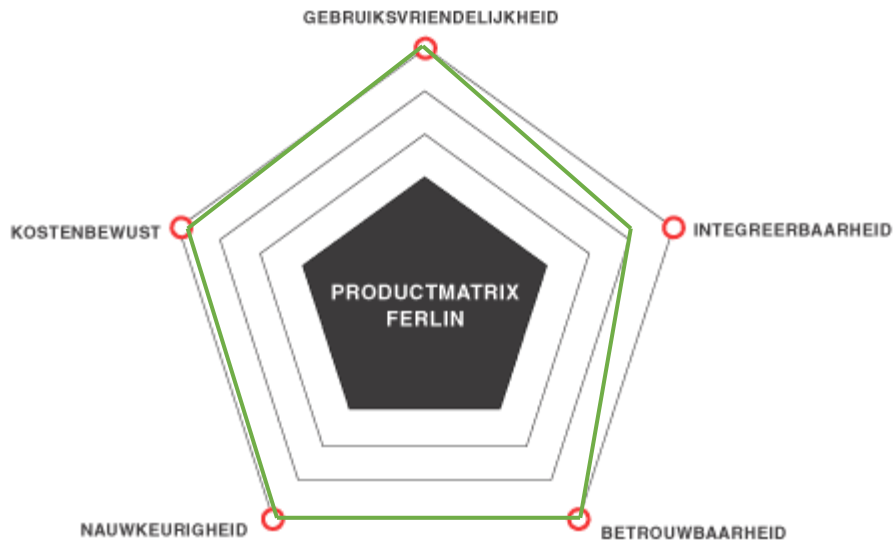NAUWKEURIGHEID

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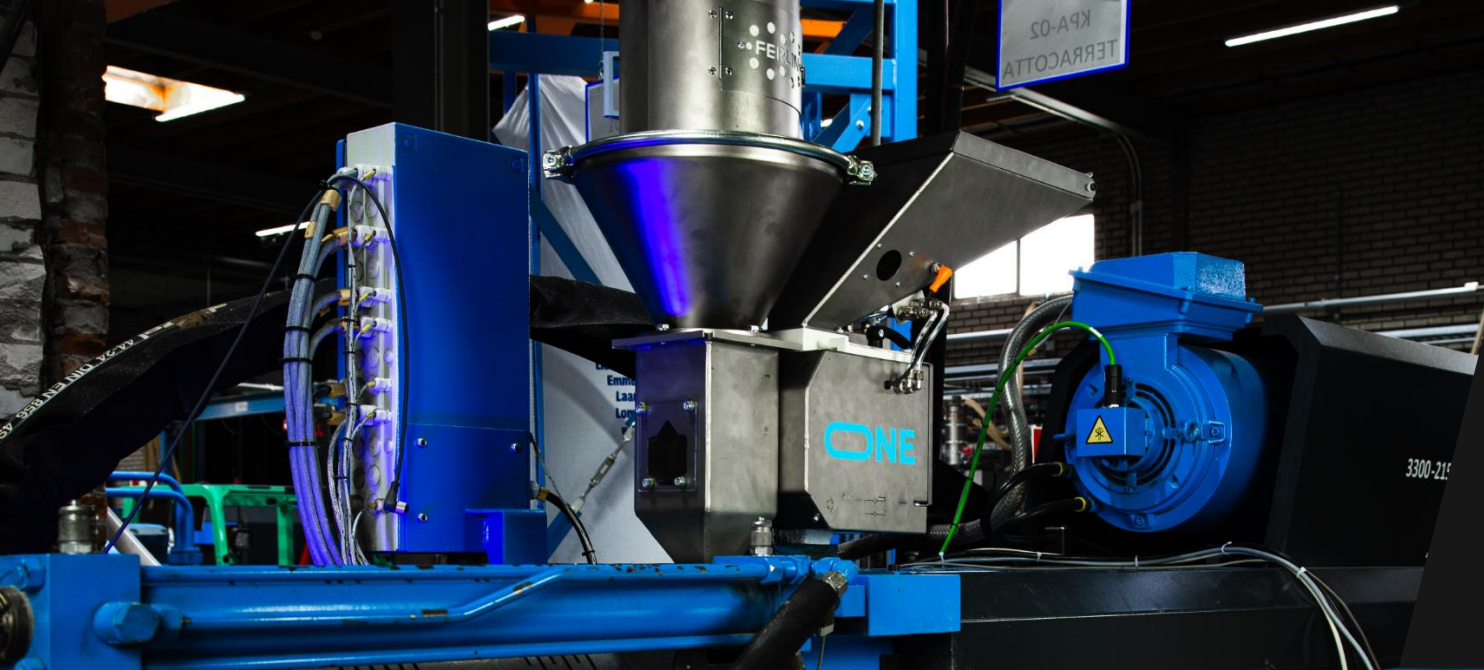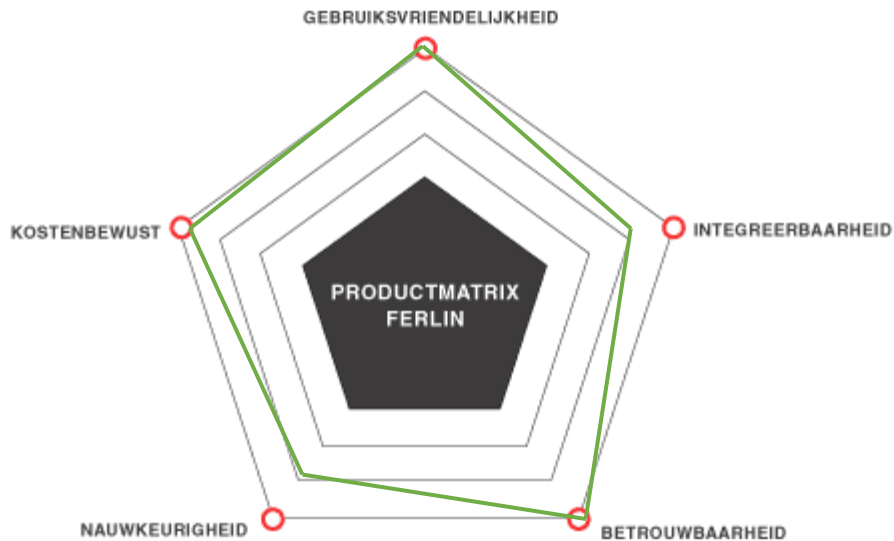
Market proposition One.

The Ferlin One is designed to be a very cost-efficient solution, distinguishing itself by easyness of use and accurate dosing, using a belt instead of a screw.

The dosing part of the One has been patented. Using light-weight materials we can reduce the scale of the load cell to 3kg. This makes it more accurate and faster to follow the processing device compared to market standards like Movacolor or LIAD. The step motor is also capable of using micro-stepping, making it possible to act as vibration dosing unit as well. The belt prevents pulsating dosing. The combination of small scale loadcell and belt makes it possible to trace actual dosing per shot in case of IMM.

During a test with One we came to a standard deviation of 0,4% compared to 0,5% for the Movacolor and 1,5% for LIAD in the same test with same conditions.

GEBRUIKSVRIENDELIJKHEID

KOSTENBEWUST

INTEGREERBAARHEID

PRODUCTMATRIX
FERLIN

NAUWKEURIGHEID

BETROUWBAARHEID

Market proposition GRAVIMIX

The Ferlin Gravimix was built on reliability an accuracy. In the course of time we optimized the user friendliness, resulting in the famous Easy Cleaning System.

The purchase price of GRAVIMIX may be higher compared to our One, the total costs of ownership makes the GRAVIMIX a very cost-efficient solution. The

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Summary

Our dosing unit One is a low cost entry model which outperforms direct competitors Movacolor and LIAD while having a very competitive price. Due to the belt and small scale loadcell we can be more accurate and transparant.

The GRAVIMIX is the most accurate dosing unit out there. In terms of total cost of ownership it will be the most cost-efficient dosing unit. We have a wide range of models and are more than happy to engineer customer specific executions.