



Patented ColorSave® technology - one step ahead in Precise Masterbatch Metering, for injection molding machines

ColorSave 1000 gravimetric masterbatch/additive feeder: An efficient complementary device for remote gravimetric batch-blender feeders

Quite often our customers inquire about the advantage of using the **ColorSave 1000** gravimetric masterbatch/additive feeder when they already have a gravimetric batch-blender feeder, either apart from or at the machine throat.

For a batch-blender mounted on the machine throat, the saving is about 10%-15%. This is a direct result of improving the dosing and preventing the separation of masterbatch that is typical to batch-blenders that are mounted at the throat of the processing machine, mainly due to mixing of materials of very different nature and bulk.

In comparison to a mounted batch-blender, the **ColorSave 1000** is more compact and is easier to optimize, to maintain, and to clean when switching from color to color.

In addition, the **ColorSave 1000** is equipped with an integral venturi loader and thus does not require installation of hopper loaders that are connected to long pipelines (except when used for dosing regrind material).

Installation of a ColorSave 1000 gravimetric feeder at the throat of the injection (or extrusion) machine, in conjunction with a remote gravimetric batch-blender system, yields considerable savings (25%-35%) in masterbatch consumption, as well as other advantages:

- **Improved homogeneity of the masterbatch dispersion**

Since the various components that are blended by the batch-blender have different specifications (bulk density, particles geometry, etc.) there is always some separation of the components, which is further increased by the vibration of the injection (or extrusion) machine when installed on the machine throat. Therefore the mixture is not completely homogeneous. This is especially true of the masterbatch/additives component, which is usually heavier, and tends to sink to the bottom of the mixing chamber.

When the batch-blender is not installed on the machine throat, but is located on the floor, the non-homogeneity is even worse, due to the long conveyance and loading route of the material, from the batch-blender to the machine.

Separate dosage and feeding of the masterbatch with a ColorSave system installed directly at the throat of the machine significantly improves homogeneity.

- **Improved accuracy of the masterbatch dosing**

When the batch-blender is used for weighing and dosing both main material and the masterbatch, its load-cell is adjusted to higher material volumes. Naturally, its accuracy in weighing and dosing the small quantities of the masterbatch is relatively low, especially in the case of high-capacity batch-blenders.

Using the ColorSave 1000 as a separate gravimetric feeder, for the masterbatch/additive only, results in much higher accuracy.

- **Saving in masterbatch/additive consumption**

In order to overcome problems of low homogeneity and accuracy when dosing the masterbatch, especially with a remote gravimetric batch-blender, operators need to dose masterbatch percentage much higher than the minimum theoretical value required, resulting in significant waste of expensive masterbatch/additive.

Experience has shown that feeding the masterbatch separately with ColorSave 1000 results in considerable savings - as much as 25%-35% on masterbatch consumption - without sacrificing product yield and quality.

- **Simple optimizing of the masterbatch/additive dosing percentage**

Optimizing the masterbatch percentage in a gravimetric batch-blender is a prolonged and complicated process, resulting in a waste of time and materials.

Changing the masterbatch type in the batch-blender requires tedious and time-consuming work to empty and clean the complex blending system and the loading and conveying tubes.

Using ColorSave 1000 for feeding the masterbatch makes the job much easier, faster and simpler. Operators/quality controllers can optimize masterbatch percentage simply by modifying one-tenth of the masterbatch percentage at a time.

- **Reducing the number of required batch-blenders systems**

Using the batch-blenders for dosing the masterbatch requires installing a separate batch-blender for each injection or extrusion machine, or at least for each group of machines that are using the same masterbatch type and concentration at the same time.

Using a ColorSave 1000 feeder on each machine for feeding the masterbatch may reduce the total number of batch-blenders required. This may achieve a significant saving in equipment cost, as well as in production floor space.

Summery

Using a **ColorSave 1000** for masterbatch feeding together with a remote batch-blender for main materials feeding has significant advantages:

- **25%-35% savings** in masterbatch/additive consumption
- **Improved homogeneity** of the masterbatch dispersion
- **Improved accuracy** of the masterbatch dosing
- **Easy and simple optimization** of masterbatch percentage, changing masterbatch types

- **Reduction** of the number of required batch-blenders systems
- **Economy** of floor space in the production area

The result is that more and more plastic manufacturers are realizing that it is extremely cost-effective and worthwhile for them to purchase the innovative ColorSave 1000 masterbatch feeders and install them as complementary equipment to the remote batch-blender feeding systems of their injection-molding or extrusion machines.