General Description

Volumetric Doser SCM is mainly suitable for precise proportional feeding of master batch and additives. It can work together with injection molding machine or extrusion molding machine. When receiving the plasticizing signal from injection molding machine, it can make the doser work automatically according to signals of proportion and weight of each mold. When it's working with the extrusion molding machine, it can receive signal of screw speed from the extruder and then automatically adjust the output of master batch according to the screw speed. It also can work with the injection molding machine to complete auto-feeding of raw material and master batch.

The main difference between SGD and SCM is that SGD possesses weightless type weight real-time monitoring function which detects the real-time lose weight of master batch inside the hopper via. precise weight sensor to precisely adjust the screw speed and control the output. SGD is mainly used for precise material feeding.

SGB Gravimetric Blender is mainly applied where it requires precise measured mixing of multi-kind materials. It adopts measuring way of weight gain to weigh multi-kind materials respectively and thus to control their mixing proportion precisely. Working with hopper loader, it can realize automatic production.

Vertical Batch Mixer SVM adopts down material feeding way to make it convenient for operators to add material. It's mainly used for material blending of large quantities. In addition, it requires manpower to prepare materials according to proportions and pour them into the feeding port. It also requires manpower to open discharging port to take the mixed materials after the mixing is finished.

Doser

There are two kinds of selection for dosers: one is suitable for injection molding machine and the other is suitable for extrusion molding machine.

Different forms of materials and bulk densities greatly decide the model of doser. The following calculating methods are suitable for even granules of master batch whose diameters are about 2~3mm. If the master batch is uneven granule, please contact Shini.

Suitable for injection molding machine

Doser machine adopts measuring method of volume type. When used for injection molding machine, the selection of models are directly affected by the bulk density, material form, dimensions, adding ratio, weight of each mold and plasticizing time.

$$Q=(3600/TP)*WS*R*1.2/SW$$

Notes：
Q= Required output quantity of master batch (kg/hr)
TP= Plasticizing time (s)
WS= Weight of each shot (kg/hr)
R= Adding ratio of master batch
SW= Specific weight of master batch (kg/L)

With the required output quantity of master batch (Q) which is calculated and output ranges of different models in the catalogue as a reference, the selection of model can be settled. Usually, it would be better that the required output quantity is a median value of the output range.

Suitable for extrusion molding machine

Doser machine adopts measuring method of volume type. When used for extrusion molding machine, the selection of models are directly affected by the bulk density, material form, dimensions, adding ratio and productivity per hour.

$$Q=P_H*R*1.2/SW$$

Notes:
Q= Required output quantity of master batch (kg/hr)
P_H= Productivity per hour of extruder
R= Adding ratio of master batch
SW= Specific weight of raw material

With the required output quantity of master batch (Q) which is calculated and output ranges of different models in the catalogue as a reference, the selection of model can be settled. Usually, it would be better that the required output quantity is a median value of the output range.

Gravimetric Blenders

SGB-40-4

The main metering valve is suitable for mixing proportion which is not lower than 1%. The mixing proportion error is controlled within ±0.3%.

Pulse valve is suitable for mixing proportion which 0.5~1%. The mixing proportion error is controlled within ±0.2%.

Pulse valve is only suitable for materials of even granules whose dimensions are not larger than 3*3*3mm.

Notes: The machine is only suitable for metering materials of even granules and good mobility, since the feeding port is relatively small (the body side opening is 20*20mm big.). It's not suitable for materials with poor mobility, like glass fiber, sheet stock, irregular material, and so on. Standard model is equipped with 4 main metering valves and a set of pulse valve is attached.

SGB-200-4

The main metering valve is suitable for mixing proportion which is higher than 5%.

For mixing proportion which is 0.5%~5%, there is a secondary metering valve.

For mixing proportion which is 0.2%~0.5%, there is a feeding valve of vertical screw which can control the mixing proportion error within ±0.1% (It's not suggested for the models below SGB-200 to handle materials of mixing proportion lower than 0.2%).

SGB-600-4 and models above

The main metering valve is suitable for mixing proportion which is higher than 5%.

For mixing proportion which is 0.5%~5%, there is a secondary metering valve.

Each Types of Metering Valve Accuracy Table of SGB

The following table is suitable for even granules, even angular aggregates and cylindrical material with dimensions of 4*4*4mm. If you use the uncertain material, please specify.

Mold	Types of Valve	Suitable Mixing Proportion	Accuracy Range
SGB-40	Main metering valve	Not lower than 1%	±0.3%
	Pulse valve	0.5%~1%	±0.2%
SGB-200	Main metering valve	Not lower than 5%	±0.3%
	Secondary metering valve	0.5%~5%	±0.1%
	Feeding valve of vertical screw	0.2%~0.5%	±0.1%
SGB-600	Main metering valve	Not lower than 5%	±0.3%
	Secondary metering valve	0.5%~5%	±0.1%
SGB-1200	Main metering valve	Not lower than 5%	±0.3%
	Secondary metering valve	0.5%~5%	±0.1%
SGB-2000	Main metering valve	Not lower than 5%	±0.3%
	Secondary metering valve	0.5%~5%	±0.1%
SGB-3000	Main metering valve	Not lower than 5%	±0.3%
	Secondary metering valve	0.5%~5%	±0.1%