

## Gravimetric Blenders

SGB series gravimetric blenders can be used in the fields of injection moulding machines, blow moulding machines and extrusion lines for proportionally precise mixing of several types of material. This series machines adopt SIEMENS PLC controller and latest ingredients calculation methods. The machine is controlled by an advanced microprocessor with a digital display that is simple to calibrate. The self-compensation and calibration function ensure accurate material dosing percentages. A high precision electronic weighing scale is used to ensure precise weighing of every batch and ensure accuracy to  $\pm 0.1\% \sim 0.3\%$ .

### Features

- Evenly mixing of materials after accurately weighing.
- Advanced material dosing system precisely controls the weighting of each material.
- Auto calibration after each material weighting ensures accuracy.
- This machine has been designed for direct machine mount as standard. A machine mount base complete with magnets and manual slide gate is supplied as standard.
- Up to 100 recipes can be stored for later use.
- Machine mount model is our standard supply ( equipped with magnetic base, manual discharge valve ), optional pneumatic slide gate is available also.
- Suitable for processing up to four ( 4 ) components simultaneously.
- All parts accessible for easy cleaning.
- Floor stand, pneumatic slide gate, storage bin and suction box should be optionally purchased for floor mounting.
- Alarm log function.
- Memory card can be optional selected to store ratio information for product quality control.
- Optional analog signals ( 0 - 10V ) output function for output capacity adjusting.
- Material level sensor is optional for hopper receiver, when it is shortage of material, it will alarm in advance.
- Upon request, it can be built to comply with worldwide electrical safety standards ( For example : CE, UL, CSA, JIS etc. ).



Motor-driven Auger (Option)



SGB-80-4-2R (Floor Mount)

## Ratio Calculations for Masterbatch and Additive:

### With Respect to Batch Capacity:

Ratios of Masterbatch and Additive are calculated with respect to Batch Capacity.

For example: Batch = 1000g, Hopper 1 = Auto calculated, Hopper 2 = 40%, Hopper 3 = 3%, Hopper 4 = 2%. Thus real weights are:

- \* Hopper 1 ( Virgin A ) =  $1000g \times ( 100\% - 40\% - 3\% - 2\% ) = 550g$ .
- \* Hopper 2 ( Virgin B ) =  $1000g \times 40\% = 400g$ .
- \* Hopper 3 ( Masterbatch ) =  $1000g \times 3\% = 30g$ .
- \* Hopper 4 ( Additive ) =  $1000g \times 2\% = 20g$ .

Under this mode, weight of Masterbatch and Additive will not fluctuate against main Virgin component ( Hopper 1 ).

### With Respect to Two ( 2 ) Virgin Components:

Ratios of Masterbatch or Additive are calculated with respect to Two ( 2 ) Virgin components ( i.e. Virgin A and Virgin B ):

For example: Batch = 1000g, Hopper 1 = Auto calculated, Hopper 2 = 40%, Hopper 3 = 3%, Hopper 4 = 2%. Thus real weights are:

- \* Hopper 1 ( Virgin A ) =  $1000g \times ( 100\% - 40\% ) = 600g$ .
- \* Hopper 2 ( Virgin B ) =  $1000g \times 40\% = 400g$ .
- \* Hopper 3 ( Masterbatch ) =  $( 600g + 400g ) \times 3\% = 30g$ .
- \* Hopper 4 ( Additive ) =  $( 600g + 400g ) \times 2\% = 20g$ .

Under this mode, weight of both the Masterbatch and Additive will fluctuate against both two Virgin components ( Hopper 1 and Hopper 2 ).

### With Respect to One ( 1 ) Virgin Component:

Ratios of Masterbatch or Additive are calculated with respect to Virgin Component ( Hopper 1 ):

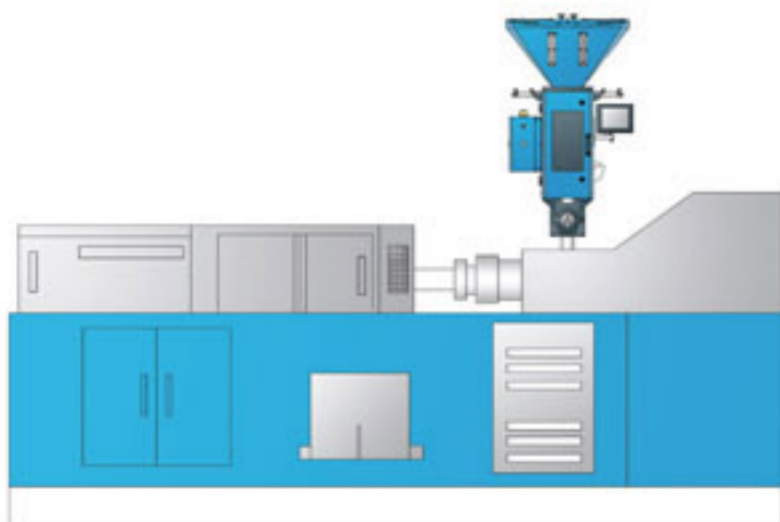
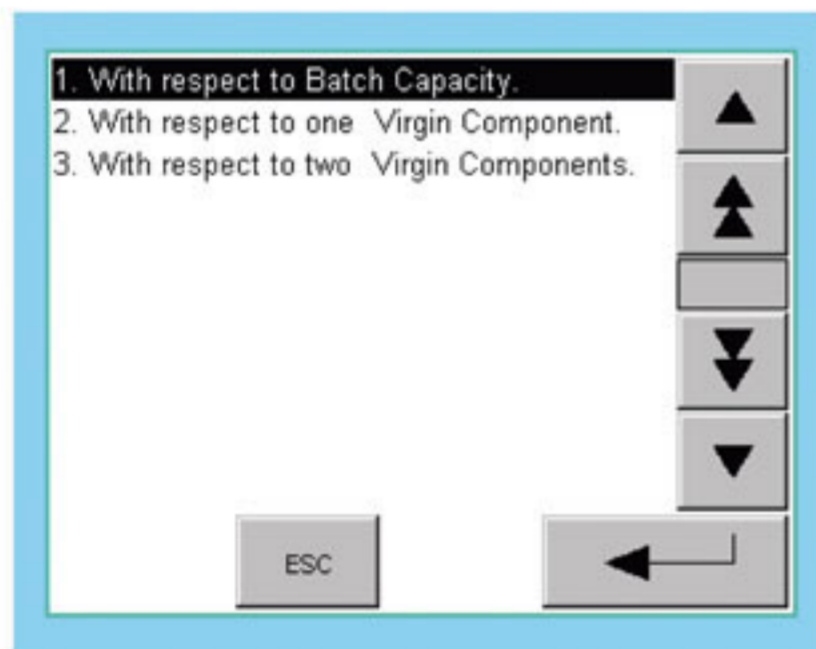
For example: Batch = 1000g, Hopper 1 = Auto calculated, Hopper 2 = 40%, Hopper 3 = 3%, Hopper 4 = 2%. Thus real weights are:

- \* Hopper 1 ( Virgin ) =  $1000g \times ( 100\% - 40\% ) = 600g$ .
- \* Hopper 2 ( Re grind ) =  $1000g \times 40\% = 400g$ .
- \* Hopper 3 ( Masterbatch ) =  $600g \times 3\% = 18g$ .
- \* Hopper 4 ( Additive ) =  $600g \times 2\% = 12g$ .

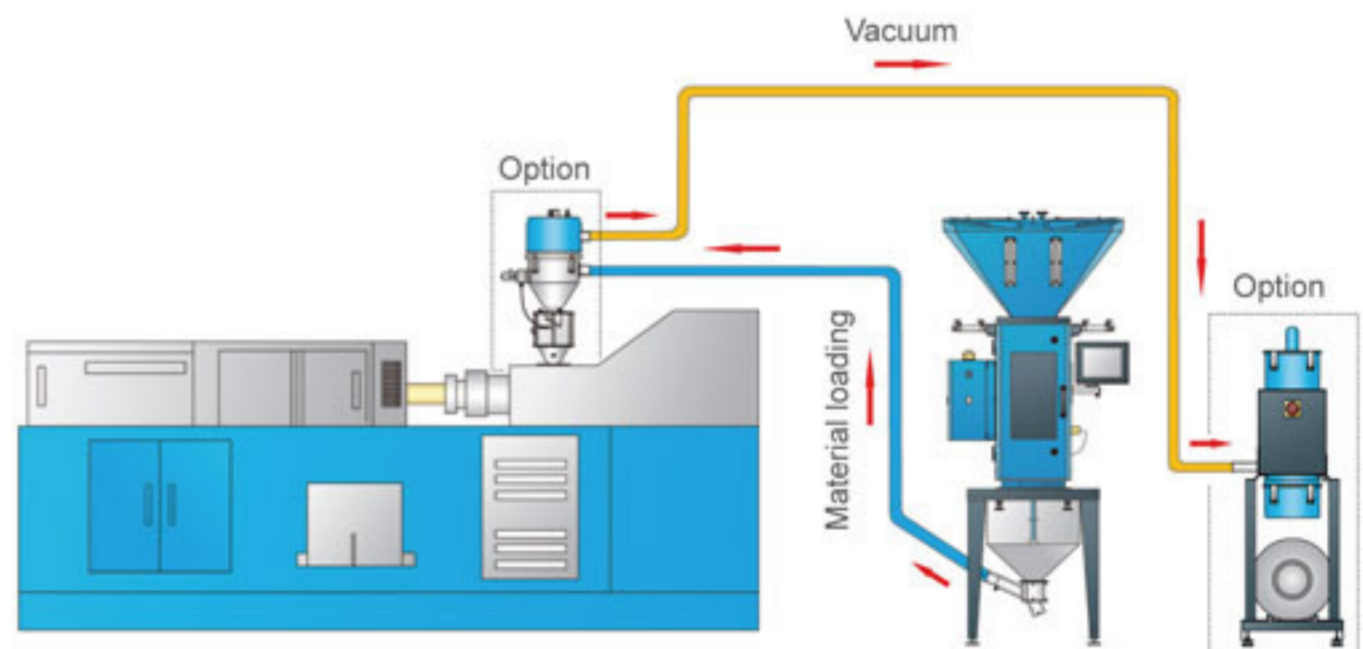
Under this mode, weight of both Masterbatch and Additive will be adjusted automatically depending on the availability of regrind ( Hopper 2 ). Take above as example: As long as Re grind in Hopper 2 is full, amount of Masterbatch ( Hopper 3 ) and Additive ( Hopper 4 ) will be always 18g and 12g respectively. But, if Re grind is not available or its level is low, Virgin component in Hopper 1 will replenish the difference automatically, therefore real weights of Masterbatch and Additive will become:

- \* Hopper 3 ( Masterbatch ) =  $1000g \times 3\% = 30g$ .
- \* Hopper 4 ( Additive ) =  $1000g \times 2\% = 20g$ .

Under this mode, if compensational value is set to 0%, weight of both Masterbatch and Additive will be adjusted proportionally against real weight of Virgin component. And, if the value is set to >0.01% or <0.01%, weight of both Masterbatch and Additive will be adjusted proportionally against real weight of both Virgin and Re grind.

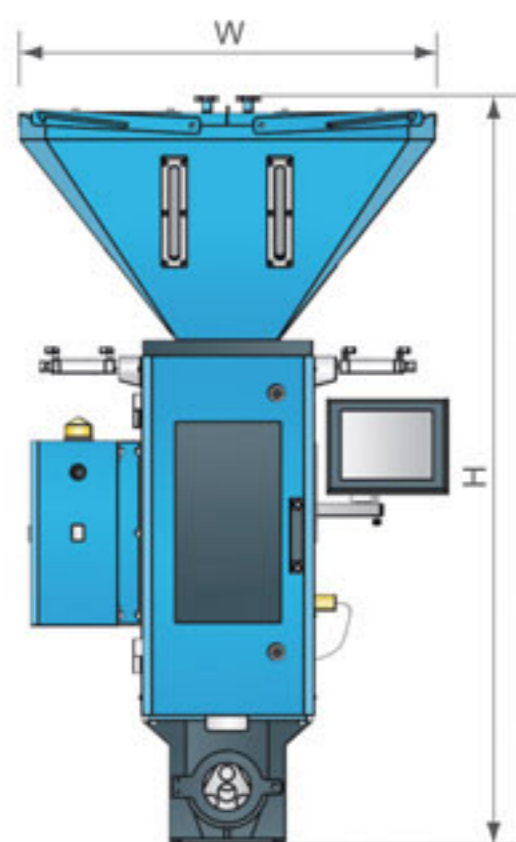


**Machine Mount**

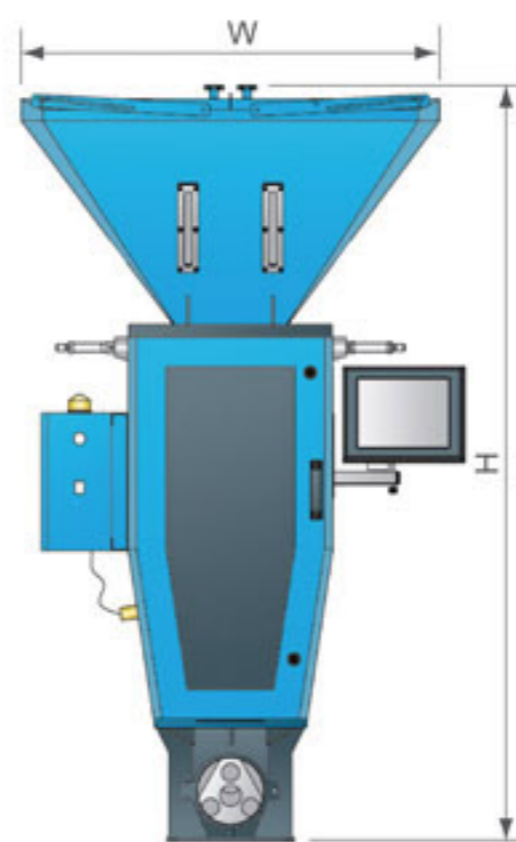
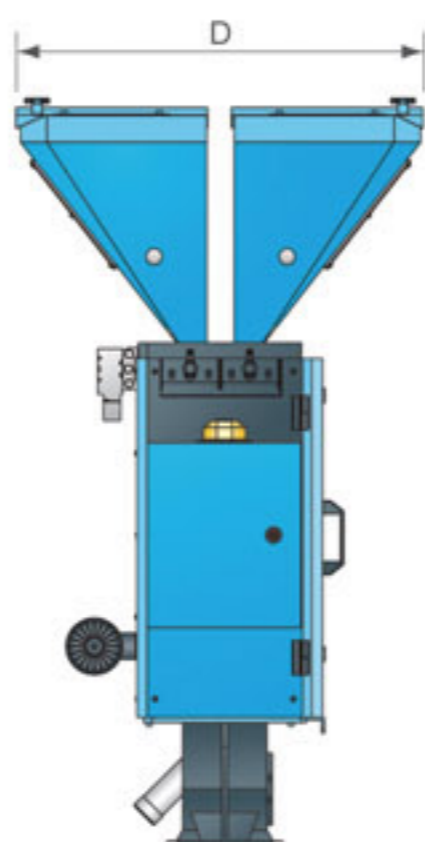


**Floor Mount**

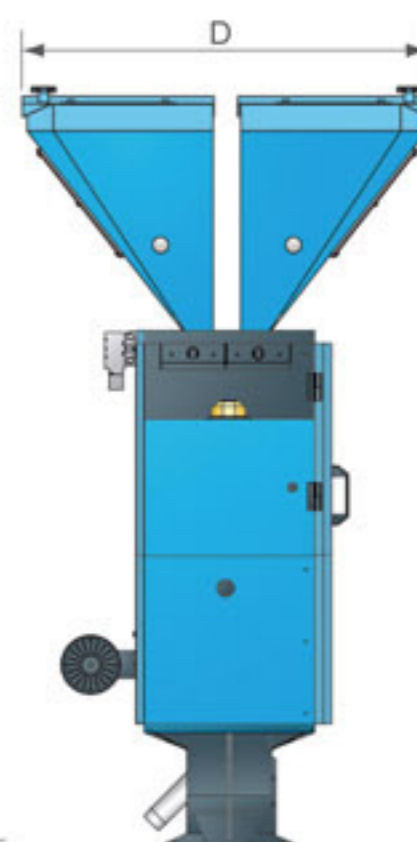
## Outline Drawings



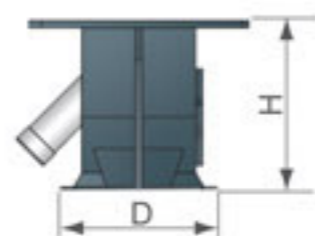
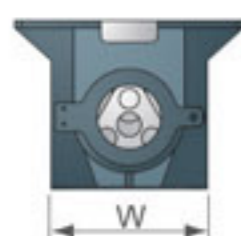
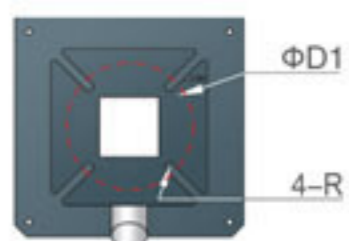
SGB-80 / 200 Model



SGB-600 Model



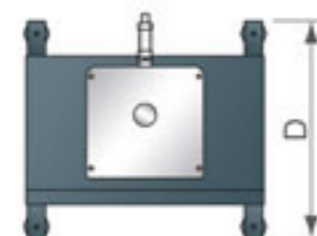
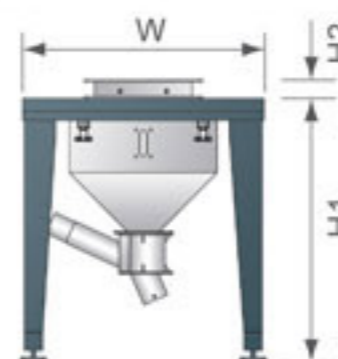
## Magnetic Base



## Optional Accessories

### Mobile Stand

Mobile stand, storage bin and suction box assembly



## Dimensions

Model	SGB-40	SGB-80	SGB-200	SGB-600
H (mm)	875	1395	1395	1845
W (mm)	550	790	790	1000
D (mm)	550	770	770	1000
Magnetic Base (mm) (W × D × H × ΦD1 × R)	110 × 110 × 130 × 80 × 5	220 × 220 × 245 × 160 × 7.5	220 × 220 × 245 × 160 × 7.5	300 × 300 × 420 × 220 × 8.5
Mobile Stand (mm) (H1 × H2 × W × D)	715 × 50 × 655 × 600	715 × 50 × 655 × 600	775 × 50 × 725 × 620	770 × 65 × 705 × 660
Net Weight (kg) (Machine Mount)	80	120	130	210
Net Weight (kg) (Floor Mount)	100	140	155	270

## Specifications

Model	Ingredients	Metering Slide Feed	Metering Auger Feed	Max. Batch (kg)	Compressed Air (kgf / cm <sup>2</sup> )	Mixing Motor Power (kw)	Max. Output (kg/hr)	Power Supply	
SGB-40-	4	4	4	0.6	5~6	0.09	40	1Φ, 115 / 230V, 50 / 60Hz	
	4-1R		3				1		40
	4-2R		2				2		35
	4-3R		1				3		30
	3	3	3				50		
	3-1R		2				1		50
	3-2R		1				2		45
	2	2	2				60		
	2-1R		1				1		55
SGB-80-	4	4	4	1.5	5~6	0.2	80		
	4-1R		3				1		80
	4-2R		2				2		65
	4-3R		1				3		50
	3	3	3				90		
	3-1R		2				1		90
	3-2R		1				2		70
	2	2	2				140		
	2-1R		1				1		120
SGB-200-	4	4	4	2.8	5~6	0.2	200		
	4-1R		3				1	200	
	4-2R		2				2	180	
	4-3R		1				3	160	
	3	3	3				220		
	3-1R		2				1	220	
	3-2R		1				2	160	
	2	2	2				350		
	2-1R		1				1	240	
SGB-600-	4	4	4	8	5~6	0.37	600		
	4-1R		3				1	600	
	4-2R		2				2	520	
	4-3R		1				3	500	
	3	3	3				650		
	3-1R		2				1	650	
	3-2R		1				2	500	
	2	2	2				1000		
	2-1R		1				1	700	

- Note: 1) Dosing accuracy are refer to each ingredient accuracy.  
 2) Metering slide feed is suitable for 5% and above ratio. ( accuracy of  $\pm 0.3\%$  is reachable ).  
 3) Auger or micro feed is suitable for ratio between 0.5% and 5%. ( accuracy of  $\pm 0.1\%$  is reachable).  
 4) Max. output of each model and dosing accuracy are based on the data from bulk density 0.8, dia. 3 ~ 4 mm pellets in a test criteria of continuous running.

We reserve the right to change specifications without prior notice.

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