Gravimetric Blender

SGB-200-4

Refer carefully to this manual before operation.

SGB Series

Coding Principle

SGB -xxxx - x - x

→ Options

→ Quantity of Hoppers

→ Max. Throughput (kg/hr)(4 Ingredients)

→ Shini Gravimetric Blender
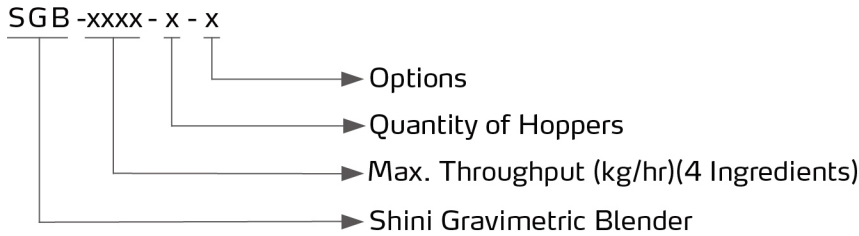
Features

- The microscale metering accuracy is ±0.1% when all materials are blended through gravity
- Auto calibration function which is performed every time after material weighting ensures best proportioning accuracy.
- Up to 100 groups of recipes can be saved
- Have alarm history record function
- SGB-600 and models below are directly mounted on machine.
- For SGB-1200 and models above, floor stand (equipped with floor stand, material storage tank and pneumatic discharge valve)
- Adopt Ethernet communication function to realize online centrally monitor function
- Equipped with automatic suction control function, and vacuum generator SVG and central hopper receiver SHR-U-ST are optional.

Options

- Hopper low material level sensor is optional for advance warning when lacking materials, and "LS" at the end of the model code.
- Floor stand, pneumatic discharge valve, storage bin and suction box is equipped with floor stand (applicable for SGB-600 and models below). Add "GS" at the end of the model code.
- Micro-scale pulse valve is optional for SGB-40 to meter materials with proportion of 0.2%-0.5%, and add "MF" at the end of the model code.
- Assembled metering screws are optional for SGB-200/600 to meter materials with proportion of 0.2%-0.5%, and add "SF" at the end of the model code.
- Special material metering valve is optional for SGB-200 and models above to meter sheets or irregular materials whose diameters are within 12*12*12mm/0.47*0.47*0.47 inch, and add "FF" at the end of the model code.
- Function of recycled material auto-compensation is optional (recycling hopper should option with low level sensor). Aberration compensation can be automatically calculated according to the discharging amount of recycled materials, and add "AC" at the end of the model code.
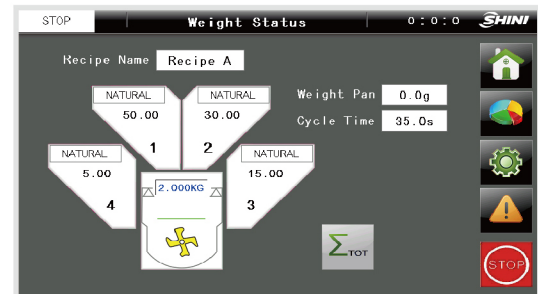
With Respect to Batch Capacity:

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

For example: Batch=1000g/2.2lb, Hopper 1=Auto calculated, Hopper 2=40%, Hopper 3=3%, Hopper 4=2%.

Thus real weights are:

* Hopper 1 (Virgin A)=1000g x (100%-40%-3%-2%)=550g.
* Hopper 1 (Virgin A)=2.2lb x (100%-40%-3%-2%)=1.2lb.
* Hopper 2 (Virgin B)=1000gx40%=400g.
* Hopper 2 (Virgin B)=2.2lb x 40%=0.88lb .
* Hopper 3 (Masterbatch)=1000g x 3%=30g.
* Hopper 3 (Masterbatch)=2.2lb x 3%=0.07lb.
* Hopper 4 (Additive)=1000g x 2%=20g.
* Hopper 4 (Additive)=2.2lb x 2%=0.04lb.

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

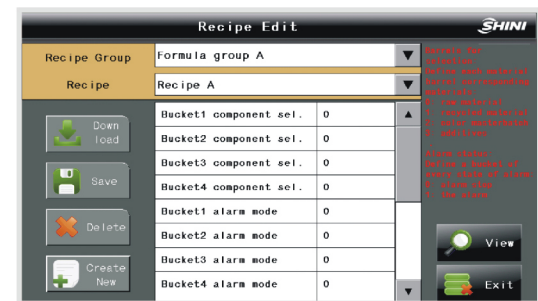Weight Status

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/2.2lb, Hopper 1=Auto calculated, Hopper 2=40%, Hopper 3=3%, Hopper 4=2%. Thus real weights are:

* Hopper 1 (Virgin)=1000gx(100% - 40%)=600g.
* Hopper 1 (Virgin)=2.2lbx(100% - 40%)=1.32lb.
* Hopper 2 (Regrind)=1000gx40%=400g.
* Hopper 2 (Regrind)=2.2lbx40%=0.88lb.
* Hopper 3 (Masterbatch)=600gx3%=18g.
* Hopper 3 (Masterbatch)=1.32lbx3%=0.04lb.
* Hopper 4 (Additive)=600gx2%=12g.
* Hopper 4 (Additive)=1.32lbx2%=0.012lb.

Recipe Edit

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 Regrind in Hopper 2 is full, amount of Masterbacth (Hopper 3) and Additive (Hopper 4) will be always 18g/0.04lb and 12g/0.012lb respectively. But, if Regrind 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 x 3% = 30g.
* Hopper 3 (Masterbatch) = 2.2lb x 3% = 0.07lb.
* Hopper 4 (Additive) = 1000g x 2% = 20g.
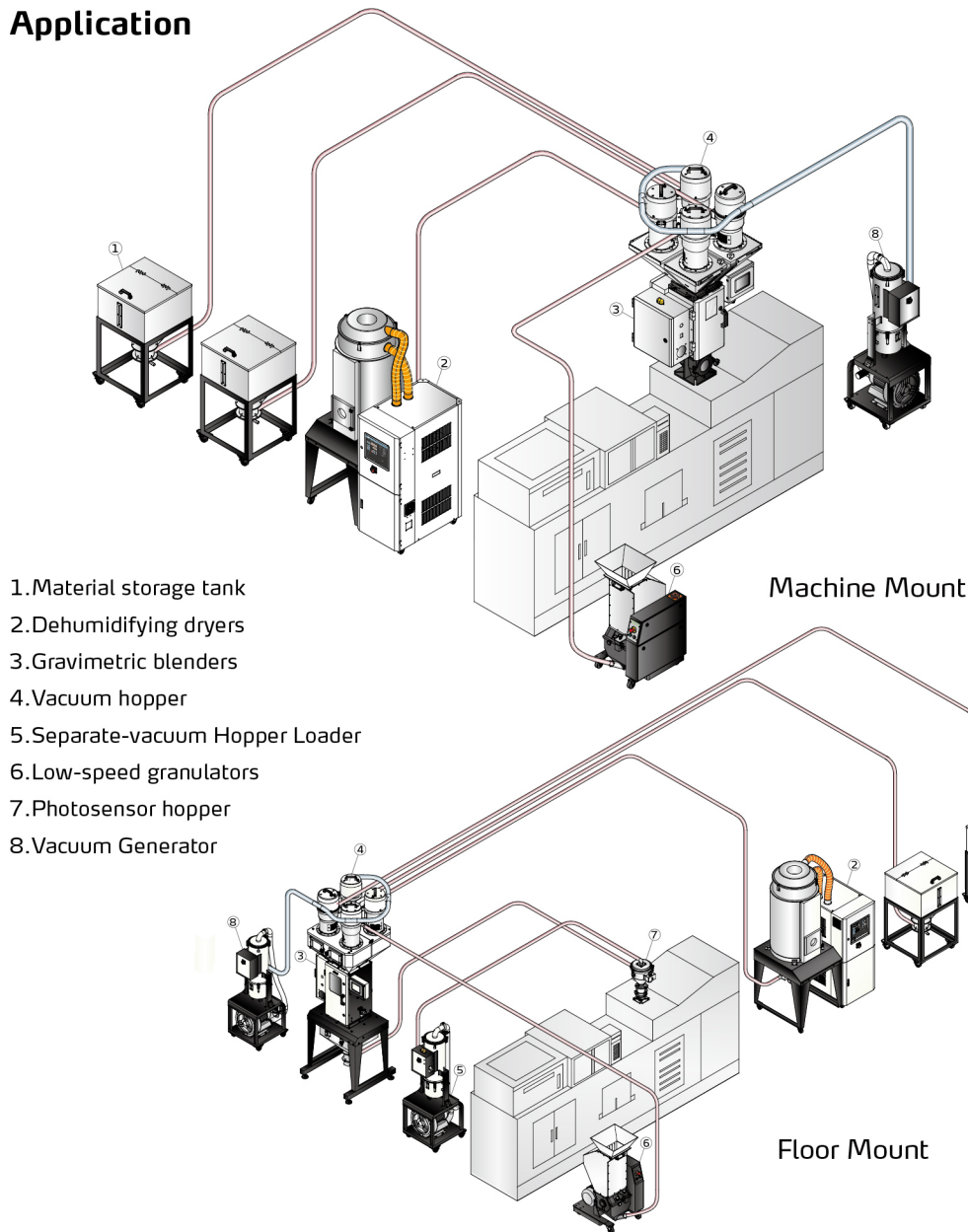* Hopper 4 (Additive) = 2.2lb x 2% = 0.04lb.

Feeding monitor
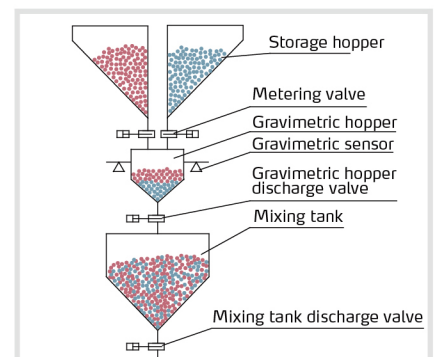
SGB Series

■ Application

1. Material storage tank
2. Dehumidifying dryers
3. Gravimetric blenders
4. Vacuum hopper
5. Separate-vacuum Hopper Loader
6. Low-speed granulators
7. Photosensor hopper
8. Vacuum Generator

Machine Mount

Floor Mount

■ Working Principle

When machine starts working, hopper 1 starts dosing on the basic calculation of set weight and unit time feeding of metering valve. The valve will be closed after feeding time and then load cell will starts work. Within the precision range, the machine will go to hopper 2, and then in succession hopper 3, until all the hoppers finish dosing. After dosing, materials will fall into the mixing tank and be blended until reaching the time limit. Manually open the shut-off plate or automatically open the pneumatic discharge valve to let the material fall into the injection molding machine or storage tank.

Storage hopper
Metering valve
Gravimetric hopper
Gravimetric sensor
Gravimetric hopper discharge valve
Mixing tank
Mixing tank discharge valve

■ Accessories

SRM remote monitoring software

● The software can directly without installation with the Windows system.

● Ethernet technique connecting with Modbus-TCP communication protocol makes easy operation.

● The real-time data can be easily obtained and saved in Excel files ensures simple data traces back and access.

● Functions of remote monitoring, debugging, receipt setting and data saving for several auxiliary equipments (only support the connecting to SGB series).
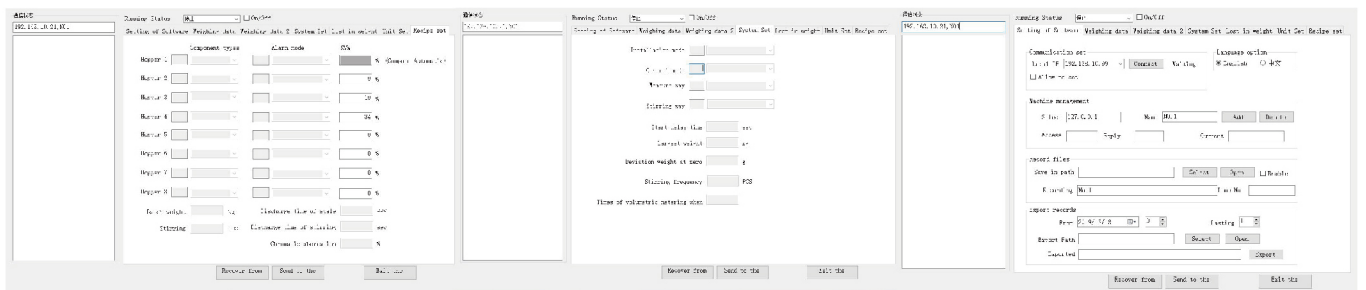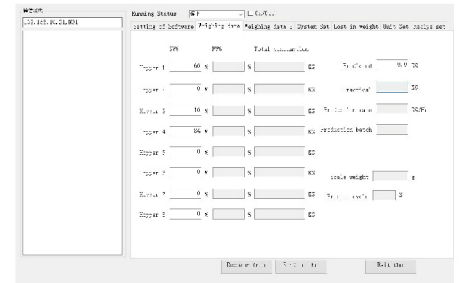
Specifications of SVG

| Model		Vacuum generator	Power (kW)	Central hopper receiver	Hopper capacity		Transporting pipe(inch)	Suction pipe (inch)
					L	gal		
SGB-40	-4	SVG-1HP	0.75	4×SHR-3U-ST	3	0.79	1.5	2
SGB-200	-4	SVG-2HP	1.5	4×SHR-6U-ST	6	1.59	1.5	2
SGB-600	-6	SVG-3HP	1.85	6×SHR-12U-ST	12	3.17	1.5	2
	-4	SVG-5HP	3.75	4×SHR-12U-ST	12	3.17	1.5	2
SGB-1200	-6	SVG-5HP	3.75	6×SHR-12U-ST	12	3.17	1.5	2
	-4	SVG-10HP	7.5	4×SHR-36U-ST	36	9.5	2	2.5
SGB-2000	-8	SVG-10HP	7.5	8×SHR-36U-ST	36	9.5	2	2.5
	-6	SVG-10HP	7.5	6×SHR-36U-ST	36	9.5	2	2.5
	-4	SVG-10HP-D	7.5	4×SHR-36U-ST	36	9.5	2	2.5
SGB-3000	-8	SVG-10HP-D	7.5	8×SHR-36U-ST	36	9.5	2	2.5
	-6	SVG-20HP-D	13	6×SHR-48U-ST	48	12.7	2.5	3
	-4	SVG-20HP-D	13	4×SHR-48U-ST	48	12.7	2.5	3

Notes：1) "T" means the material suction pipe is T joint.
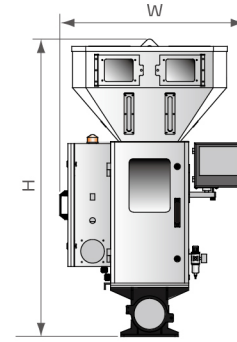2) Power：3Φ，400VAC，50Hz.

SGB Series

■ Outline Drawings
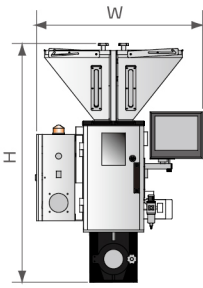
SGB-40
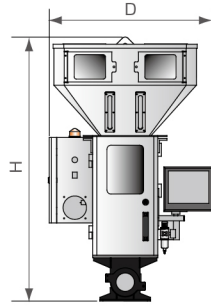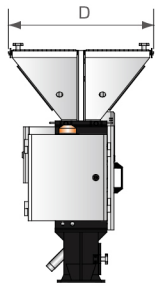
SGB-200
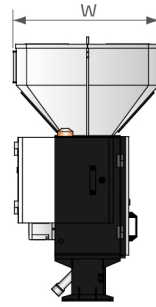
SGB-600
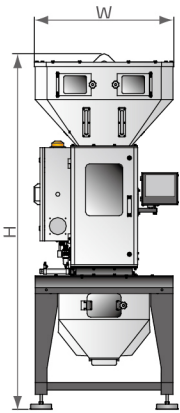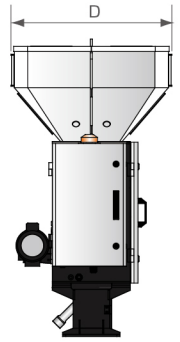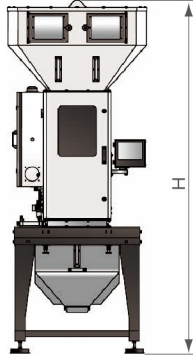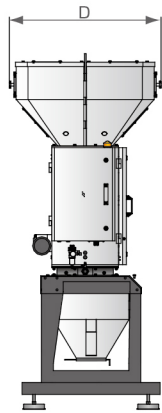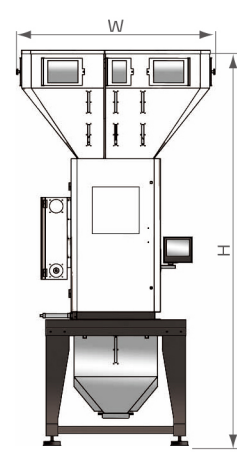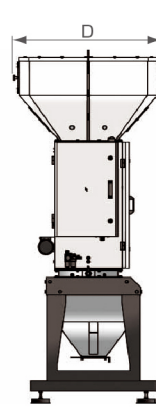
SGB-1200
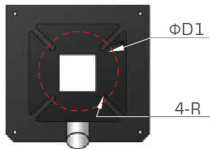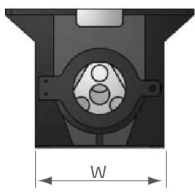
SGB-2000

SGB-3000

Magnetic Base

Floor Stand(Optional)

1.Pneumatic discharge plate
2.Floor stand
3.Storage tank
4.Suction box

Dimension

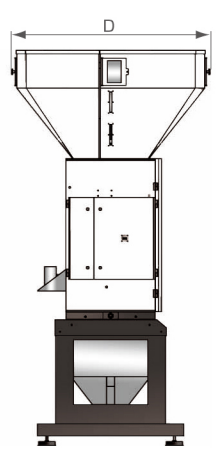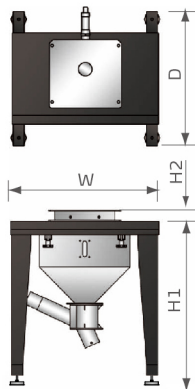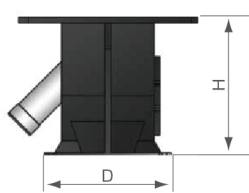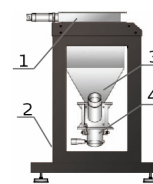| Model		SGB-40	SGB-200	SGB-600	SGB-1200	SGB-2000	SGB-3000
H ×W×D	mm	1110×770×675	1300×810×735	1445×905×785	2398×940×1023	2800×1110×1180	3375×1695×1695
	inch	43.7×30.3×26.6	51.1×31.9×28.9	56.8×35.6×30.9	94.4×37×40.3	110.2×43.7×46.5	132.9×66.7×66.7
Magnetic Base (W×D×H×ΦD1×R)	mm	220×220×244×160×6.5	250×250×213×200×6	280×280×250×220×6	-	-	-
	inch	8.7×8.7×9.6×6.3×0.26	9.8×9.8×8.4×7.7×0.24	11×11×9.8×8.7×0.24	-	-	-
Movable Floor Stand (H1×H2×W×D)	mm	713×50×654×600	880×50×724×800	885×60×814×800	900×60×930×930	1000×65×1060×1000	1075×70×1240×1240
	inch	28×2×25.7×23.6	34.6×2×28.5×31.5	34.8×2.4×32×31.5	35.4×2.4×36.6×36.6	39.4×2.6×41.7×39.4	42.3×2.8×48.8×48.8
Weight Machine Mount	kg	115	135	160	-	-	-
	lb	254	298	353	-	-	-
Weight Floor Mount	kg	135	170	220	400	500	850
	lb	298	375	485	882	1102	1874

■ Specifications

Model	Ingredients	Main metering valve	Secondary metering valve	Largest throughput kg	Largest throughput lb	Mixing Motor Power (kW)	Max. Output kg/hr	Max. Output lb/hr
SGB-40-	4	4	3	1	1.0	2.2	0.25	40	88
SGB-200-	4	4	3	1	3.0	6.6	0.25	200	441
SGB-600-	6	6	4	2	8	17.5	0.55	400	882
	4	4	3	1				600	1323
SGB-1200-	6	6	4	2	12	26.5	0.55	900	1984
	4	4	3	1				1200	2646
SGB-2000-	8	8	5	3	18	39.5	0.55	1200	2646
	6	6	4	2				1600	3527
	4	4	3	1				2000	4409
SGB-3000-	8	8	5	3	40	88	0.75	2000	4409
	6	6	4	2				2500	5512
	4	4	3	1				3000	6614

Notes: 1) The above data is based on continuous running of even particles whose bulk densities are 0.8kg/L(6.68lb/gal) and diameters are 3~4mm/0.12~0.16inch. The values varies along material features. Please further discuss if the material is not sure.

2) The main metering valve is suitable for proportion not lower than 5% and raw material of even particles or recycled materials of even particles whose diameters are within 6*6*6mm/0.24*0.24*0.24inch.

3) The secondary metering valve is suitable for proportioin of 0.5%~5% and master batch of even particles or additives whose diamerters are within 4*4*4mm/0.16*0.16*0.16inch.

4) Come with a set of secondary metering valves for use when replacing recipe.

5) Three-phase supply is adopted in the blending motor.