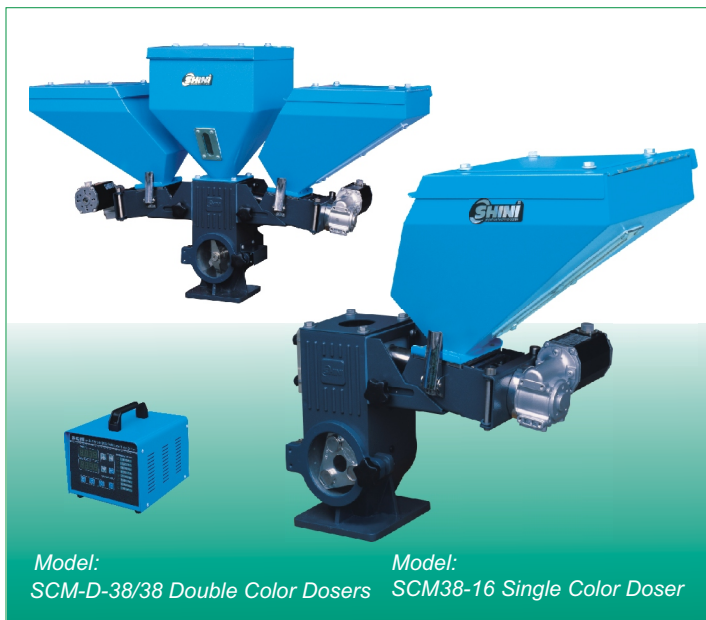


SCM

Volumetric Dosers



Model:
SCM-D-38/38 Double Color Dosers

Model:
SCM38-16 Single Color Doser

Operation Instruction

Contents

1. General Description	1
2. Structure Characteristics and Working Principle	8
3. Installation and Debugging	23
4. Application and Operation	26
5. Trouble-shooting	38
6. Maintenance and Repair	39
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1. General Description



Please read through this operation manual before using and installation to avoid damage of the machine and personal injuries.

The SCM series volumetric dosers are suitable for auto-proportional mixing of new materials, regrinds, master batch and additives. A brushless DC motor is used in this series. According to the set mixing proportion, the microprocessor accurately controls rotation of the high precise dosing screw to squeeze out materials with an accuracy of $\pm 1\%$. A gear motor with deceleration ratio of 38:1 or 75:1 is coupled to a dosing screw of 12, 14 or 16mm diameter to give a total of six models with output ranging from 0.1 to 32 kg/hr. Double color dosers can be supplied to match with two single color dosers if required by clients.

1.1 Main Features:

- 1) Use brushless DC motor and free from maintenance.
- 2) Everlasting data memorizer and settings storage.
- 3) Microprocessor control, intelligent and accurate in calculation.
- 4) External signals can be directly interfaced with control box.
- 5) Dosing screws are chrome plated for durability.
- 6) Unit is comprised of standard modules for ease of cleaning, disassembly and interchangeability.
- 7) Three - tube hopper magnet is equipped at the base of single color doser to absorb metal impurities so to prevent screw of moulding machine from damage.
- 8) Blender is a standard accessory for double color doser to make the material evenly mixed, while also a optional accessory for single color doser to do so.
- 9) Main material hopper is a standard accessory for double color doser. It is optional for single color doser.
- 10) For SHD-100~300kg and SHD-160U~450U, floor stands should be selected.
- 11) Upon request, it can be built to comply with worldwide electrical safety standards (For example : CE, UL, CSA, JIS etc.).

All service work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing. Chapter 7, which contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator.

Any modifications of the machine must be approved by SHINI in order to avoid personal injury and damage to machine. We shall not be liable for any damage caused by unauthorized change of the machine.

Our company provides excellent after-sales service. Should you have any problem during using the machine, please contact the company or the local vendor.

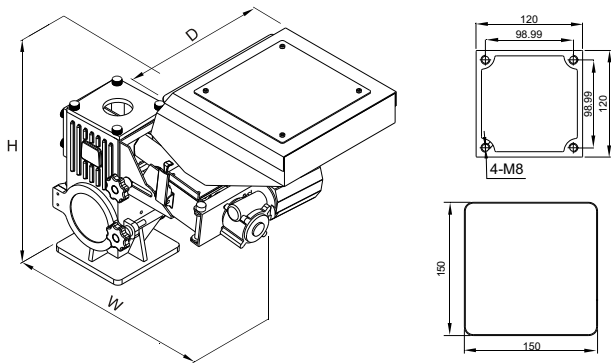
Headquarter and Taipei factory:

Tel: 0800-000-860

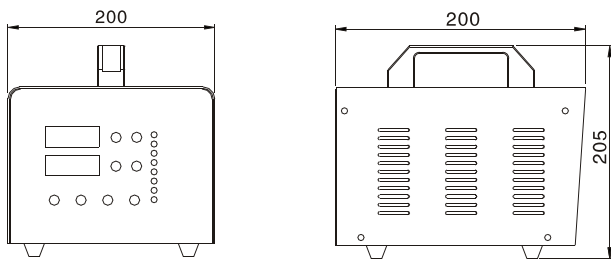
1.2 Technical Specifications

1.2.1 Dimensions of Single-color Doser

Main Body

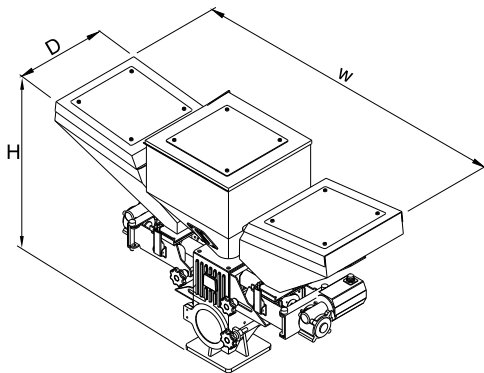


Control Cabinet

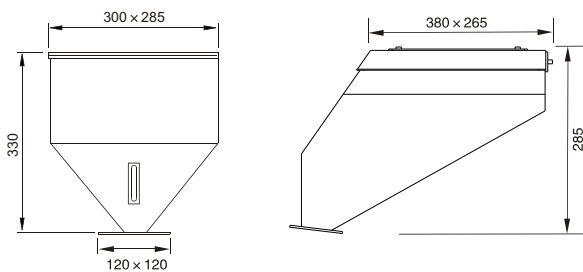


1.2.2 Dimensions of two-color Doser

Main Body



Control Cabinet



1.2.3 Specification List

Model	Single Color Unit						Double Color Units		
	SCM38-16	SCM38-14	SCM38-12	SCM75-16	SCM75-14	SCM75-12	SCM-D-38/38	SCM-D-38/75	SCM-D-75/75
Motor Power (kW) (50/60Hz)	0.06	0.06	0.06	0.06	0.06	0.06	0.06× 2	0.06× 2	0.06× 2
Motor Speed (rpm)	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000	0~3000
Output Power of The Mixer (kW)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Screw External Dia. (mm)	16	14	12	16	14	12	**	**	**
Output Capacity (kg/hr)	1.1 ~ 32	0.6 ~ 20	0.3 ~ 10	0.5 ~ 15	0.2 ~ 8	0.1 ~ 4	*	*	*
Storage Bin (L)	10	10	10	10	10	10	10	10	10
Gear Ratio	38:1	38:1	38:1	75:1	75:1	75:1	38:1 / 38:1	38:1 / 75:1	75:1 / 75:1
Main Material Hopper	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard	Standard
Mixer	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard	Standard
Dimensions									
H (mm)	520	520	520	520	520	520	615	615	615
W (mm)	610	610	610	610	610	610	1045	1045	1045
D (mm)	335	335	335	335	335	335	335	335	335
Weight (kg)	29	29	29	29	29	29	50	50	50

Note: 1) *means the output capacity is depended on model that client selecty, data of single color doser can be a referencis.

For example: SCM-D-38-16/38-14, output capacity 1.7~52 kg/hr.

2) **stands for the external dia. of the screw is up to client's model choice.

3) Mount mixer for single color doser, model denotes "MS".

4) All the output capacity from above models is base on the data from density 1.2 ,dia 2~3mm master batch in a test criteria of continuous running.

5) Power supply: 1φ , 230V, 50Hz.

We reserve the right to change specifications without prior notice.

1.3 Safety Regulations

Strictly abide by the following safety guide to prevent damage of the machine or personal injuries.

1.3.1 Safety Signs and Labels



All the electrical components should be installed by qualified electricians.

Turn off the main switch and control switch during maintenance or repair.



Warning! High voltage!

This sign is attached on the cover of control box!



Warning! Be careful!

Be more careful at the place where this sign appears!



Attention!

No need for regular inspection because all the electrical parts in the control unit are fixed tightly!

1.3.2 Transportation and Storage of The Machine

Transportation

- 1) SCM series volumetric dosers are packed in paper cartons. Handle with care when to move the machine with hands.
- 2) Do not rotate the machine and avoid collision with other objects during transportation to prevent improper functioning.
- 3) The structure of the machine is well-balanced, although it should also be handled with care when lifting the machine for fear of falling down.
- 4) The machine and its attached parts can be kept at a temperature from -25°C to $+55^{\circ}\text{C}$ for long distance transportation and for a short distance, it can be transported with temperature under $+70^{\circ}\text{C}$.

Storage

- 1) SCM series volumetric dosers should be stored indoors with temperature kept from 5°C to 40°C and humidity below 80%.
- 2) Disconnect all power supply and turn off main switch and control switch.
- 3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
- 4) Plastic film should be used to protect the machine from dust and rains.

Working environment

The machine should be operated:

- 1) Indoors in a dry environment with max. temperature +45°C and humidity no more than 80%.

Do not use the machine:

- 1) If it is with a damaged cord.
- 2) On a wet floor or when it is exposed to rain to avoid electrical shock.
- 3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.
- 4) This equipment works normally in the environment with altitude within 3000m.
- 5) At least a clearance of 1m surrounding the equipment is required during operation. Keep this equipment away from flammable sources at least two meters.
- 6) Avoid vibration, magnetic disturbance at the operation area.

Rejected parts disposal

When the equipment has run out its life time and can not be used any more, unplug the power supply and dispose of it properly according to local code. In the event of loss or damage to a key of a trapped key interlocking device, the complete key lock unit shall be replaced.

Fire hazard



In case of fire, Co₂ dry powder fire extinguisher should be applied.

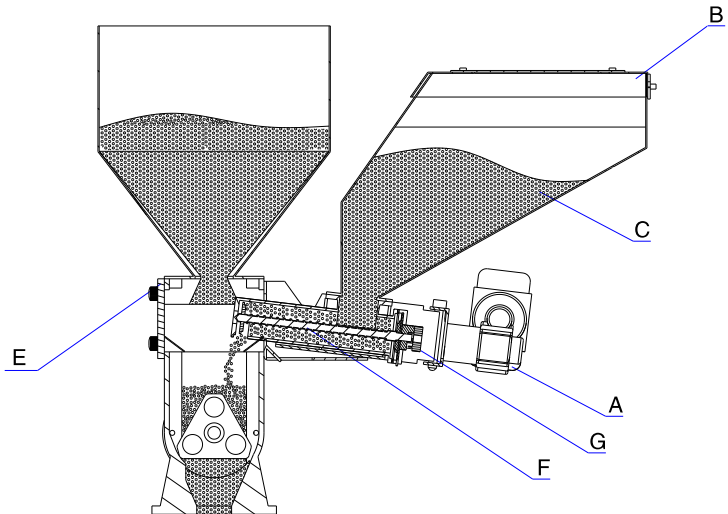


Feeding strip materials can give rise to an entanglement hazard.

2. Structure Characteristics and Working Principle

SCM volumetric color dosers are suitable for accurate mixing of virgin materials, regrinds, masterbatch or additives according to a certain ratio. All models are equipped with DC brushless motor; microprocessor can accurately control the rotation of high precision dosing screws according to set percentages within the accuracy of 1%. Gear motor ratio with reducing ratio at 38:1 or 75 :1 is coupled with 12,14,16mm dosing screw to give a total of six models which offer output capacity ranging from 0.1 to 32kg/hr. Two dosing units can be installed together for two-color dosing if required.

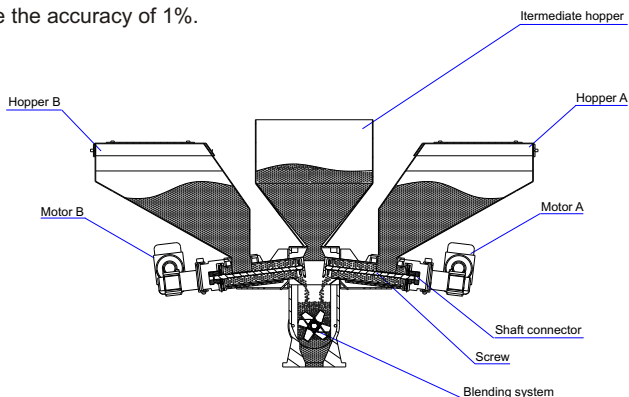
2.1 Working Principle of Single-color Doser



Signals from control cabinet will be sent to motor (A). Then it begins to work. The rotary force is transferred to the dosing screw (F) through shaft connector (G). Color additives (C) in hopper (B) will fall into the groove of conveying screw (F), then be taken to hopper base (E) by rotating action of the screw (F).

2.2 Working Principle of Two-color Doser

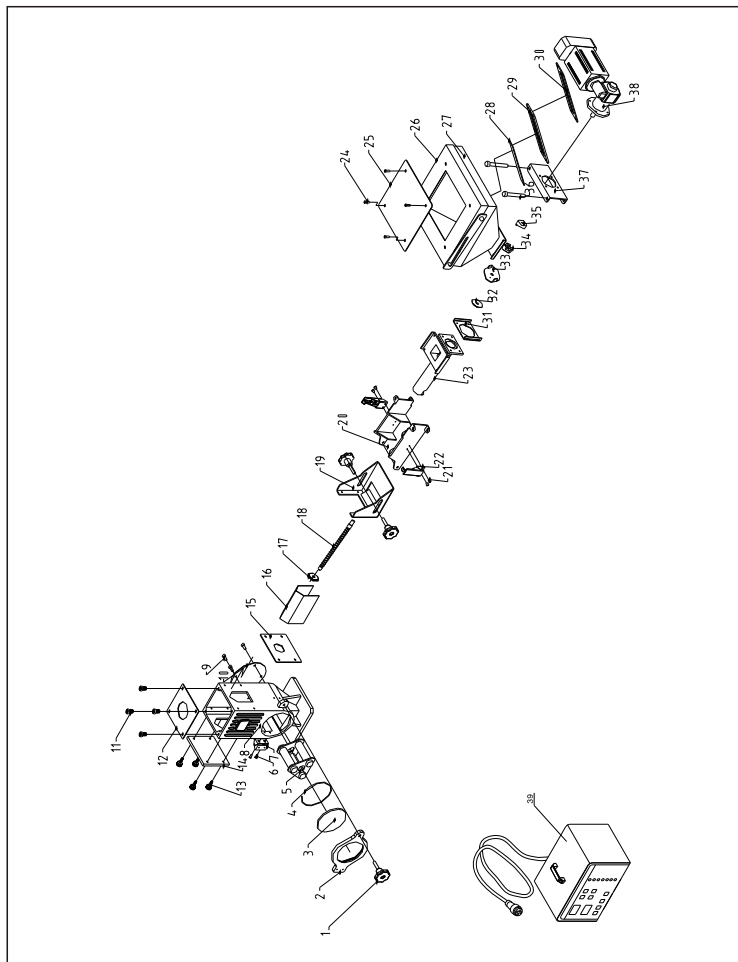
Two-color doser combines two dosing units with a blending system. It can be used to convey two color additives at the same time. Choose different kinds of dosing units according to additive usage. Each dosing unit is controlled by separate system, suitable for accurate dosing of virgin material, regrind, materbatch or other additives. P.I.D. control system and microprocessor can ensure the accuracy of 1%.



Signals from control cabinet will be sent to motor A/B. Then it begins to work. The rotary force is transferred to the dosing screw through shaft connector. Color additives in hopper A and B will fall into the groove of conveying screws, then be taken to hopper base by rotating action of the screws and to be mixed by mixing system before sending to moulding machine.

2.3 Assembly Drawing

2.3.1 Assembly Drawing of Single-color Doser



2.4 Parts List of Single-color Doser

No.	Name	Part number		
		SCM38-16	SCM38-14	SCM38-12
1	Plum-blossom handle	YR40083500000	YR40083500000	YR40083500000
2	Foundation door	-	-	-
3	Tempered glass**	YW70125000000	YW70125000000	YW70125000000
4	Magnetic foundation spring	YW01005000100	YW01005000100	YW01005000100
5	Hopper magnets	BY10305000050	BY10305000050	BY10305000050
6	M5 × 10 Cruciform screw	YW61051000200	YW61051000200	YW61051000200
7	Magnetic foundation loose leaf	BL01005001020	BL01005001020	BL01005001020
8	Base	YW20000000000	YW20000000000	YW20000000000
9	M6 × 15 Socket screw	YW61061500100	YW61061500100	YW61061500100
10	Rear cover	-	-	-
11	M8 × 15 Socket screw	YW61081600000	YW61081600000	YW61081600000
12	Base cover	-	-	-
13	Manual screw	YW69616100000	YW69616100000	YW69616100000
14	Color doser back plate	-	-	-
15	Material shutter	YR10000000000	YR10000000000	YR10000000000
16	Striker plate	-	-	-
17	PTFE stator*	BR90240801410	BR90240801410	BR90240801410
18	ΦC16 Screw	YW09001600100	YW09001600100	YW09001600100
19	Side fixed mount	-	-	-
20	Body fixed mount	-	-	-
21	M4 × 10 Cruciform screw	YW61041000100	YW61041000100	YW61041000100
22	Spring fastener*	YW02003000400	YW02003000400	YW02003000400
23	Conveying pipe	BH11387501710	BH11387501710	BH11387501710

No.	Name	Part number		
		SCM38-16	SCM38-14	SCM38-12
24	M8 × 20 Socket screw	YW61041200000	YW61041200000	YW61041200000
25	Storage hopper's cover board	-	-	-
26	Storage hopper lid	-	-	-
27	Storage hopper	-	-	-
28	Six-way acryl	YR40001200000	YR40001200000	YR40001200000
29	Six-way acryl stringency	YR40000600000	YR40000600000	YR40000600000
30	Six-way acryl iron sheet	YW09000600000	YW09000600000	YW09000600000
31	Junction plate	-	-	-
32	Stator	-	-	-
33	Screw stator	BL31028200020	BL31028200020	BL31028200020
34	Coupling*	BH12001100110	BH12001100110	BH12001100110
35	Coupling2*	BH13001100210	BH13001100210	BH13001100210
36	Motor fixed rotation pin	BH11108600010	BH11108600010	BH11108600010
37	Motor fixed mount	-	-	-
38	Motor	YM50652500000	YM50652500000	YM50652500000
39	Control cabinet	BH44000000050	BH44000000050	BH44000000050

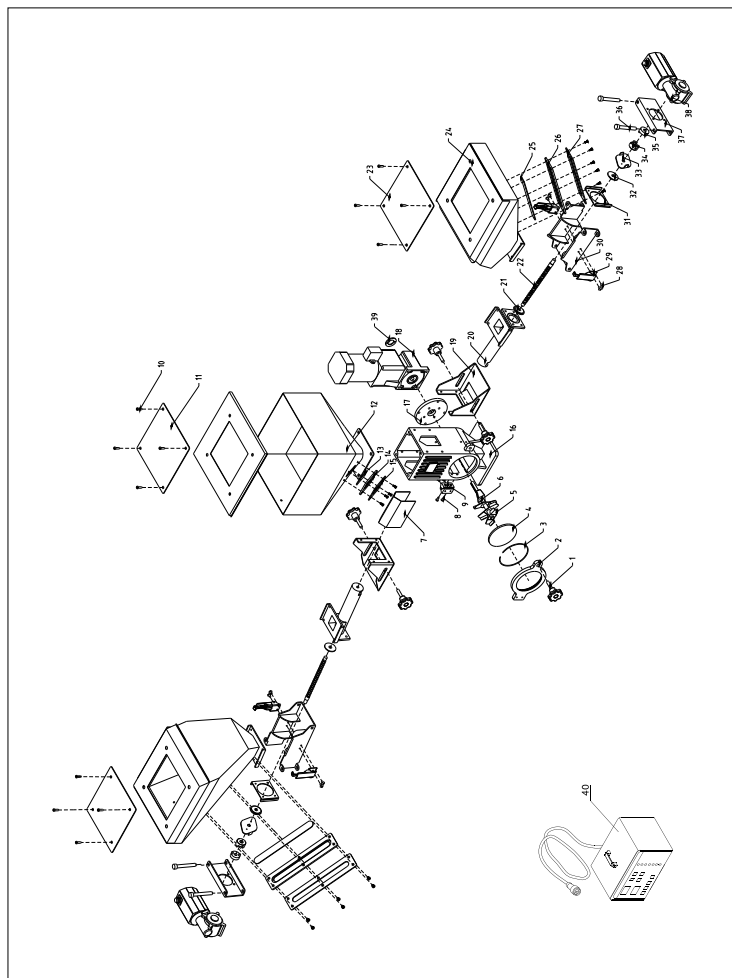
* means possible broken parts. ** means easy broken part. and spare backup is suggested.

No.	Name	Part number		
		SCM75-16	SCM75-14	SCM75-12
1	Plum-blossom handle	YR40083500000	YR40083500000	YR40083500000
2	Foundation door	-	-	-
3	Tempered glass**	YW70125000000	YW70125000000	YW70125000000
4	Magnetic foundation spring	YW01005000100	YW01005000100	YW01005000100
5	Hopper magnets	BY10305000050	BY10305000050	BY10305000050
6	M5 × 10 Cruciform screw	YW61051000200	YW61051000200	YW61051000200
7	Magnetic foundation loose leaf	BL01005001020	BL01005001020	BL01005001020
8	Base	YW20000000000	YW20000000000	YW20000000000
9	M6 × 15 Socket screw	YW61061500100	YW61061500100	YW61061500100
10	Rear cover	-	-	-
11	M8 × 15 Socket screw	-	-	-
12	Base cover	-	-	-
13	Manual screw	YW69616100000	YW69616100000	YW69616100000
14	Color doser back plate	-	-	-
15	Material shutter	YR10000000000	YR10000000000	YR10000000000
16	Striker plate	-	-	-
17	PTFE stator*	BR90240801410	BR90240801410	BR90240801410
18	ΦC16 Screw	YW09001600100	YW09001600100	YW09001600100
19	Side fixed mount	-	-	-
20	Body fixed mount	-	-	-
21	M4 × 10 Cruciform screw	YW61041000100	YW61041000100	YW61041000100
22	Spring fastener*	YW02003000400	YW02003000400	YW02003000400
23	Conveying pipe	BH11387501710	BH11387501710	BH11387501710

No.	Name	Part number		
		SCM75-16	SCM75-14	SCM75-12
24	M8 x 20 Socket screw	YW61041200000	YW61041200000	YW61041200000
25	Storage hopper's cover board	-	-	-
26	Storage hopper lid	-	-	-
27	Storage hopper	-	-	-
28	Six-way acryl	YR40001200000	YR40001200000	YR40001200000
29	Six-way acryl stringency	YR40000600000	YR40000600000	YR40000600000
30	Six-way acryl iron sheet	YW09000600000	YW09000600000	YW09000600000
31	Junction plate	-	-	-
32	Stator	-	-	-
33	Screw stator	BL31028200020	BL31028200020	BL31028200020
34	Coupling*	BH12001100110	BH12001100110	BH12001100110
35	Coupling2*	BH13001100210	BH13001100210	BH13001100210
36	Motor fixed rotation pin	BH11108600010	BH11108600010	BH11108600010
37	Motor fixed mount	-	-	-
38	Motor	YM50652500100	YM50652500100	YM50652500100
39	Control cabinet	BH44000000050	BH44000000050	BH44000000050

* means possible broken parts. ** means easy broken part. and spare backup is suggested.

2.5 Assembly Drawing of two-color Doser



2.6 Parts List of two-color Doser

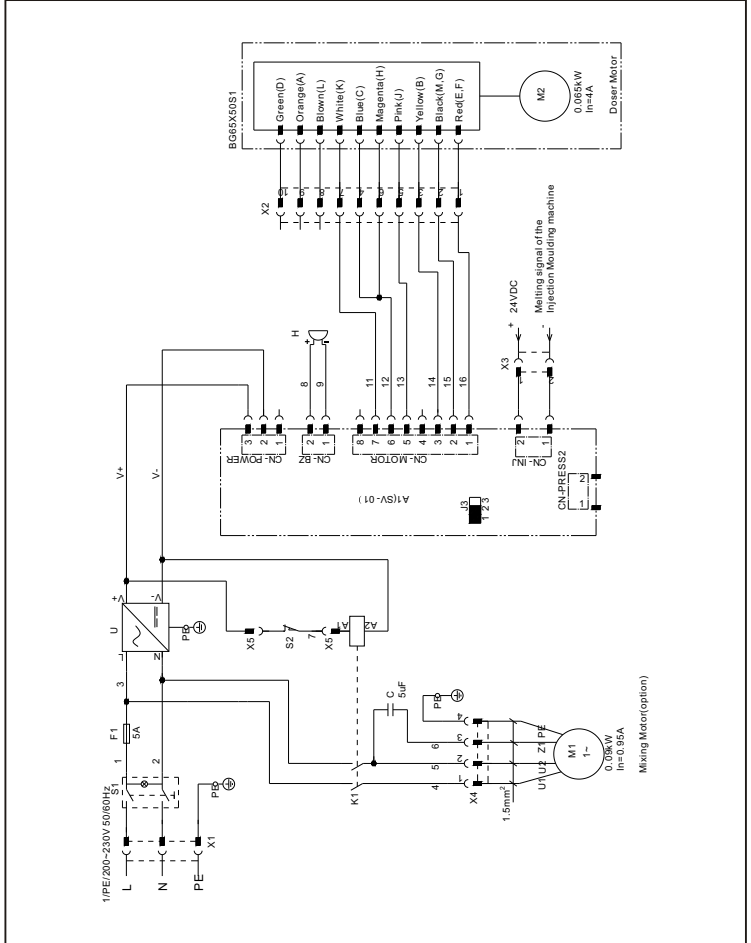
No.	Name	Part number		
		SCM-D-38/38	SCM-D-38/75	SCM-D-75/75
1	Plum-blossom handle	YR40083500000	YR40083500000	YR40083500000
2	Foundation door	-	-	-
3	Magnetic foundation spring	YW01005000100	YW01005000100	YW01005000100
4	Tempered glass**	YW70125000000	YW70125000000	YW70125000000
5	Vertical curved blade	BL31387500320	BL31387500320	BL31387500320
6	Mixer shaft	BH10387500510	BH10387500510	BH10387500510
7	Striker plate	-	-	-
8	M5 x 10 Cruciform screw	YW61051000200	YW61051000200	YW61051000200
9	Magnetic foundation loose leaf	BL01005001020	BL01005001020	BL01005001020
10	M6 x 15 Socket screw	YW61061500100	YW61061500100	YW61061500100
11	Main hopper cover	-	-	-
12	Main hopper	-	-	-
13	Four-way acryl	-	-	-
14	Four-way acryl stringency	YR40000400000	YR40000400000	YR40000400000
15	Four-way acryl iron sheet	YW09000400000	YW09000400000	YW09000400000
16	Foundation	YW20000000000	YW20000000000	YW20000000000
17	Fixed flange for mixing	-	-	-
18	Mixing motor	YM50009300000	YM50009300000	YM50009300000
19	Side fixed mount	-	-	-
20	Transportation pipeline	BH11387501710	BH11387501710	BH11387501710
21	PTFE stator*	BR90240801410	BR90240801410	BR90240801410
22	Screw	YW09001600100	YW09001600100	YW09001600100
23	Storage hopper's cover board	-	-	-

No.	Name	Part number		
		SCM-D-38/38	SCM-D-38/75	SCM-D-75/75
24	Storage hopper	-	-	-
25	Six-way acryl	YR40001200000	YR40001200000	YR40001200000
26	Six-way acryl stringency	YR40000600000	YR40000600000	YR40000600000
27	Six-way acryl iron sheet	YW09000600000	YW09000600000	YW09000600000
28	M4 × 10 Cruciform screw	YW61041000100	YW61041000100	YW61041000100
29	Spring fastener**	YW02003000400	YW02003000400	YW02003000400
30	Body fixed mount	-	-	-
31	Junction plate	-	-	-
32	Stator	-	-	-
33	Screw stator	BL31028200020	BL31028200020	BL31028200020
34	Coupling*	BH12001100110	BH12001100110	BH12001100110
35	Coupling2*	BH13001100210	BH13001100210	BH13001100210
36	Motor fixed rotation pin	BH11108600010	BH11108600010	BH11108600010
37	Motor fixed mount	-	-	-
38	Motor	YM50303000000 YM50009300000	YM50303000000 YM50009300000	YM50307500000
39	Blending motor cover washer	-	-	-
40	Control cabinet	BH44307500050 BH44000000050	BH44307500050 BH44000000050	BH44307500050 BH44000000050

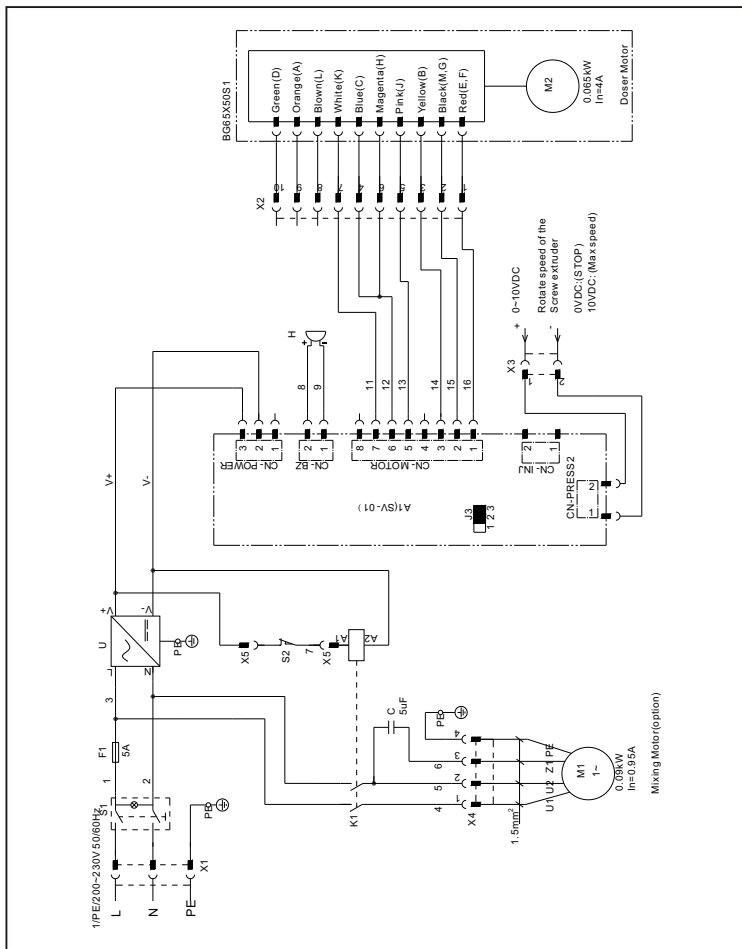
*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

2.7 Electrical Circuit

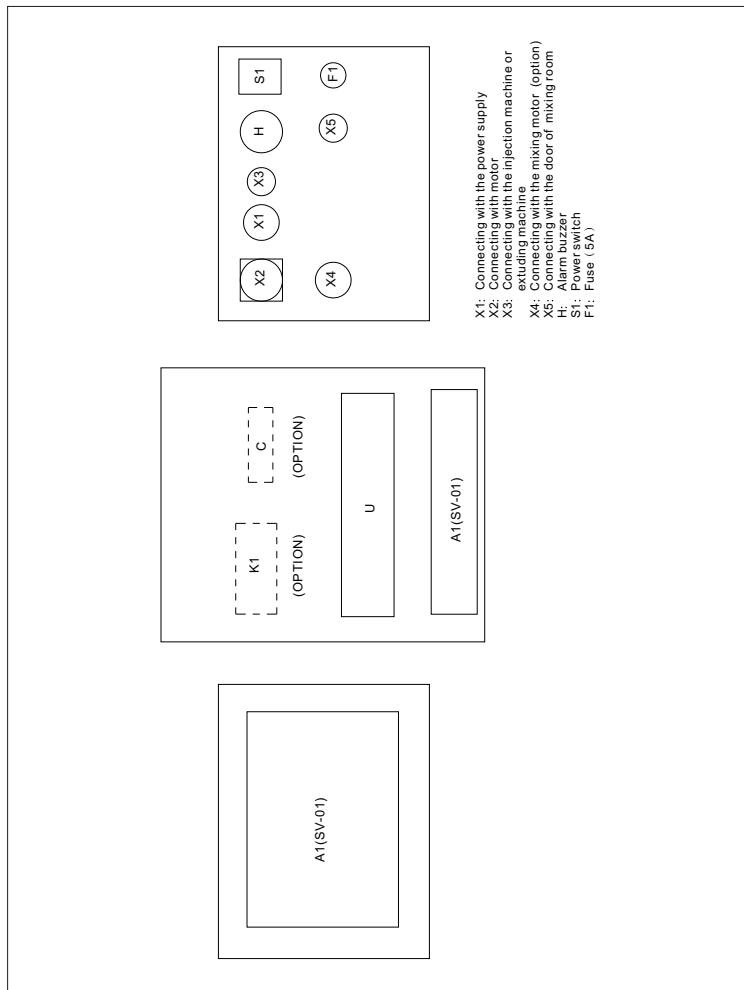
Electrical Descriptions (Apply on Injection Mode)



Electrical Descriptions (Apply on Extruder Mode)



Electrical Components Layout



Electrical Components List

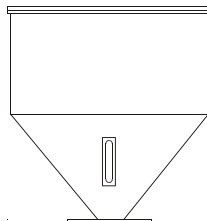
No.	Symbol	Name	Specifications	Part number
1	A1	PCB	24VDC	YE80112200000
2	F1	Fuse	5A	YE46201500000 YE46630500200
3	S1	Switch	250V 16A 4P(WH)	YE10210400000
4	H	Buzzer	24VDC	YE84002700000
5	U	DC Power	IN=115/230V OUT=24VDC 4.5A	M-02
6	X1	Power line	250V-15A 3P	YE51802300000
7	-	Socket	3P	YE68025340400 YE68025340300
8	X2	Socket	10P	YE62241040000
9	X3	Socket	2P	YE68016200100 YE68016200000
10	M2	Motor	65W 24VDC	YM50652500100
11	-	-	65W 24VDC	YM50652500000
12	K1	Relay	24VDC 12A	YE03272400000
13	K5	Socket	2P	YE68016200100 YE68016200000
14	K4	Socket	4P	YE68025400000 YE68025400100
15	M1	Motor	0.09kW 1/230V 50/60Hz	-
16	S2	Limit switch	250V-5(4)A	YE16310200000

*Indicates latent wearing parts; **Indicates latent wearing parts and it's suggested to back them up.

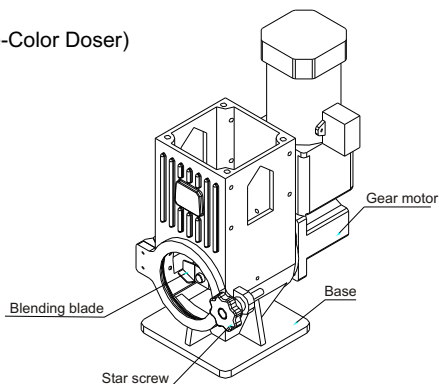
2.8. Optional Accessories

2.8.1 Main Hopper

Single colour doser can select main material hopper on customer demand.

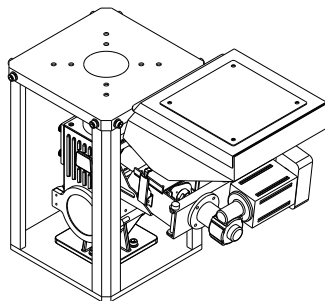


2.8.2 Blending System (for Single-Color Doser)



2.8.3 Floor Stand

When customer need work with SHD-100~300kg or SHD-160U~450U dryer choose this type floor stand.



3. Installation and Debugging

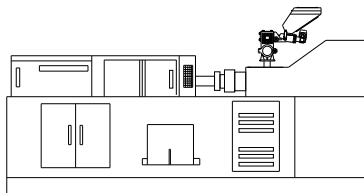


Read this chapter carefully before installation. Install the machine by following steps.

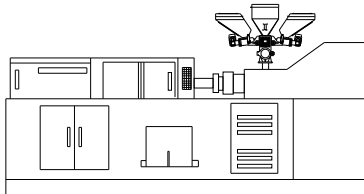
Power supply of the machine should be done by qualified electricians!

3.1 Install on Extrusion or Injection Moulding Machine

3.1.1 Installation of Single-color Doser



3.1.2 Installation of Two-color Doser



According to the specifications of mounting holes on the extruder or injection moulding machine, drill 4 screw holes on the base of SCM machine. Install the whole machine on the extruder or injection moulding machine by locking the 4 screw holes of mounting base.

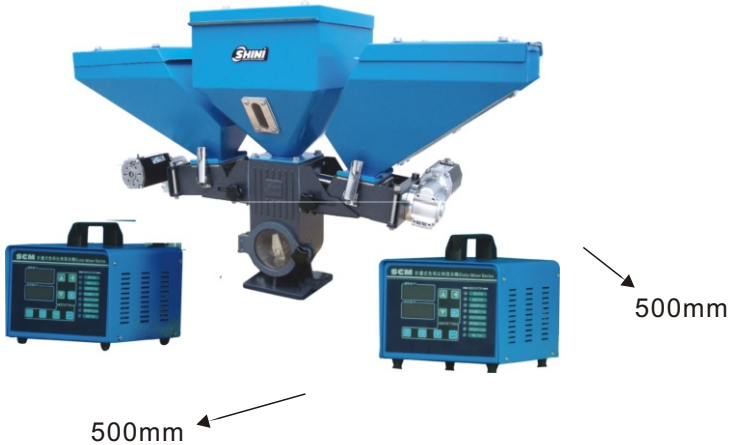
3.2 Installation Space

During installation of the machine, keep at least 500mm installation space around the machine as shown by the picture.

Do not install the machine in a position crowded with other objects. This would cause inconvenience to operation, maintenance and repair.

Do not sit on the machine.

Keep away flammable and explosive goods.



3.3 Power Supply

Connect single-color doser with 1 Φ AC115/230V power supply and earth wire.
 Connect two-color doser (with blending system) with 3 Φ 400V power supply and earth wire, or other special voltage on customer's requirements.

3.4 Sockets and Main Switch at the Back of Control Box

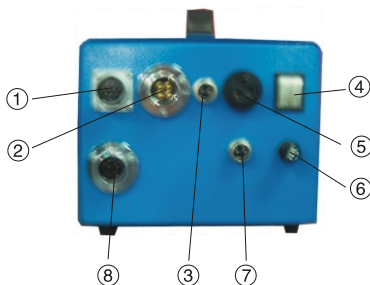
3.4.1 Monochrome Color Machine's Control Cabinet

- ① Doser motor cable connection
- ② Main power supply connection
- ③ VDC machine signal connection
- ④ Power ON/OFF
- ⑤ Alarm buzzer
- ⑥ Fuse

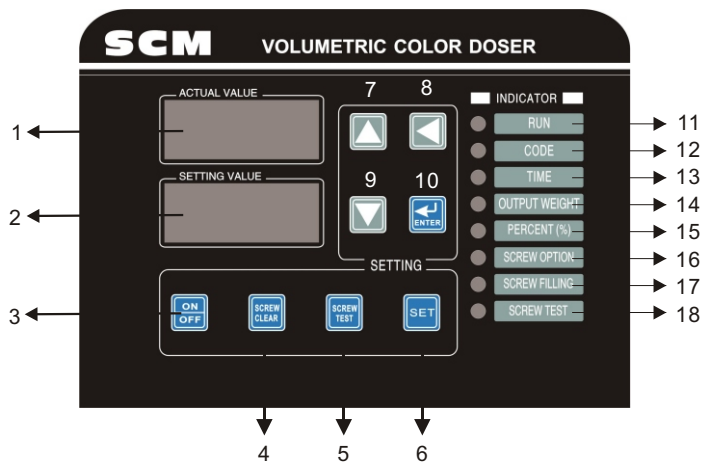


3.4.2 Bi-chrome ColorMachine's Control Cabinet

- ① Doser motor cable connection
- ② Main power supply connection
- ③ VDC machine signal connection
- ④ Power ON/OFF
- ⑤ Alarm buzzer
- ⑥ Fuse
- ⑦ Safety switch at mixer door
- ⑧ Mixer motor connection




















4. Application and Operation



4.1 Control Panel:





NO.	Item	Functions	Remarks
1	ACTUAL VALUE	Actual value display area.	When setting parameters, it displays the code of current setting. When machine is in operation, it shows plasticizing time.
2	SETTING VALUE	Setting value display area.	When setting parameters, it displays setting value. When the machine is in operation, it shows rotating percent of dosing screw.
3	ON/OFF	Turn on/off control panel.	
4	SCREW CLEAR	Clear materials in screw groove.	It is used to clear the remained masterbatch. The buzzer sounds when this function is in operation.
5	SCREW TEST	For filling materials into screw groove for 50 sec. screw test.	

No.	Item	Functions	Remarks
6		Press this key to enter into setting mode.	This key will be used when doing 50 sec. test.
7		It is used to increase setting value.	Also can be used to choose a parameter.
8		It is used to move the cursor.	Also can be used to choose a parameter.
9		It is used to decrease setting value.	Also can be used to choose a parameter.
10		It is used to confirm a parameter or setting value.	
11	RUN	This indicator shines when the system in operation.	
12	CODE	This indicator shines when selecting a code number. F-01	Choose a recipe by    , which can be memorized and to be recalled later.
13	TIME	Plasticizing time set its value as 0 when used for extrusion machine. (F-02)	Use    to set a time within the limits of 0~999.9 sec.
14	OUTPUT WEIGHT	Shot weight of each moulding of injection machine or extruding weight per minute of extrusion machine. (F-03)	Use    to input output weight of moulding machine. (0~999.9g)
15	PERCENTAGE(%)	Percentages between masterbatch and main material. (F-04)	Use    to adjust the value. (0~99.99%) ₀
16	Screw option	Input current screw No. (F-05)	1 stands for Φ 12 dosing screw. 2 stands for Φ 14 dosing screw. 3 stands for Φ 16 screw. 0 is auxiliary for special usage. Note! When choosing dosing screw, move the cursor to right digit to select screw No. 0, 1, 2, or 3.
17	Screw filling	Fill the screw with materials before doing 50 seconds test. (F-07)	Wait until screw groove completely filled with materials.
18	Screw test	It is used for testing screw output capacity during 50 seconds test. (F-08)	

4.2 Start/stop of the Machine




1. Check that the power is turned on.
2. Switch on the main switch at the back of control cabinet.
3. Press $\frac{\text{ON}}{\text{OFF}}$, the RUN indicator will become bright.
4. When there are signals fed into the machine, it operates accordingly.
5. Stop the machine in reverse steps.

4.3 Operation Guide

1. After the machine started, press  for 3 seconds.
2. Choose a recipe when "CODE" indicator is bright. Use   to adjust the value of F-01, standing for recipe code. Press  to confirm and enter next setting.






The value of F-01 can be of any number from 0 to 49. So there can be total 50 recipes. Setting the value of F-02 to F-06 according to the relative requirements in each recipe.

3. Choose plasticizing time when "TIME" indicator is bright. Use   to set the value of F-02, standing for plasticizing time. Press  to confirm and enter next setting item.









Note: set its value as 0 when it is used with extruders.

4. Set shot weight or extruding weight when "OUTPUT WEIGHT" indicator is bright. Use   to adjust the value of F-03, standing for output weight of moulding machine. Press  to confirm and enter next setting.





Note!
when it is used with extruders, the unit of output weight is g/min;
but when used with Injection machines, the unit is g/cycle.

5. Set the percentage of color additive when "PERCENT" indicator is bright. Use   to adjust the value of F-04, standing for color additive percentage. Press  to confirm and enter next setting.
6. Choose a dosing screw when "OPTION" indicator is bright. Use   to choose the value of F-05, standing for dosing screw code No. Press  to confirm and enter next setting.




1 stands for Φ 12 dosing screw. 2 stands for Φ 14 dosing screw.
3 stands for Φ 16 screw. 0 is auxiliary for specially made screw.




Note! When choosing dosing screw, move the cursor to right digit to select screw No. 0,1, 2, or 3.

7. Fill the screw groove with color additives when "FILLING" indicator is bright. "ACTUAL VALUE " shows F-06. Test the output capacity of dosing screw in 50 seconds. If you need not to do the test, press  to return to step 2 or press  to complete parameter setting. If you need to do the test, do it by following steps.



For accurate control of output capacity, it is strongly recommended that you do 50 seconds test.


8. When "ACTUAL VALUE" shows F-06, press "SCREW TEST" for three seconds to enter screw filling mode(F-07). Keep on pressing "SCREW TEST" until the screw is full filled. Press  to enter next step.
9. F-08 stands for the function of 50 seconds test of screw capacity. The screw rotates for 50 seconds(use a container to collect the additives) and then the machine enter F-09 automatically.
10. Use an electrical scale to weigh the materials collected in above step.

Use   to input the weight as the value of F-09. Press  to complete the test.



Note: the unit of input weight should be the same with that used in step 4. So if "g" (10g, 100g or kg) is used as the unit of F-03, then use a corresponding unit for F-09.



Press  at any step to finish the setting.

Note: before using SCM series of machines, please set the parameters of F-01~F-05. (For details of 50 seconds test, please refer to 6.3. It's better to repeat this test for several times to get more accurate average value of F-08. According the color of products, adjust the percentage of color additives(the value of F-04) or the value of F-09 (average of 50 seconds test). Refer to the following data, set a proper value for F-09 or choose screw calibration value for F-14 to F-22 (refer to 6.4 for details).

50 seconds test for the screw of SCM38		
Color additives	Screw diameter(mm)	Weight(g)
White color additives 7028B, density 1.6. Φ2~3mm particles, well-proportioned.	Φ 12	131.6
	Φ 14	228.2
	Φ 16	456.3
White color additives 7018, density 1.4, Φ2~3mm particles, well-proportioned.	Φ 12	113.0
	Φ 14	205
	Φ 16	442.2
Black color additives 2018B, density 1.2, Φ2~3mm particles, well-proportioned.	Φ 12	78.1
	Φ 14	138.9
	Φ 16	228.9
50 seconds test for the screw of SCM75		
Color additives	Screw diameter (mm)	Weight(g)
White color additives 7028B, density 1.6. Φ2~3mm particles, well-proportioned.	Φ 12	54.1
	Φ 14	94.4
	Φ 16	192.4
White color additives 7018, density 1.4, Φ2~3mm particles, well-proportioned.	Φ 12	44.7
	Φ 14	81.8
	Φ 16	172.9
Black color additives 2018B, density 1.2, Φ2~3mm particles, well-proportioned.	Φ 12	32.5
	Φ 14	56.4
	Φ 16	104.9

Note: the above data is the average value gained from 5 repeated test.

4.4 Setting Steps

1) Entry Setting



Press for 3seconds

- 2) Set the recipes (F-01), There are 50 recipes in the region F-01, Press **▲▼** to select the value of F-01, Then press **ENT** to enter to the next step after confirm it.



- 3) Time setting (F-02), That's the time for plasticizing, Set the value as "0" under the extruding mode. Press **▲▼** to select the value of F-02, then press **ENT** to enter to the next step after confirm it.



- 4) Set the shot weight (F-03), Press \blacktriangle \blacktriangledown to select the value of F-03, then press **SET** to enter to the next step.






Injection machine: set the weight for every mould (g/cycle)
Extruder: Set the extruding weight for every minute.(g/min)

- 5) Percentage setting (F-04), Press \blacktriangle \blacktriangledown to select the value of F-04, then press **SET** to confirm and enter to next step.




- 6) Select the screw of the machine (F-05), Press \blacktriangle \blacktriangledown to select the value of F-04, Then press **SET** to confirm and enter to next step.



- 7) Entry F-06, Press  for 3 seconds, Machine will turn to F-07 (screw feeding), if not need to test the feeding weight of the screw, press  to come back to step 2, then press  to finish.




- 8) Screw filling (F-07), keep on pressing  until the screw is full filled. (When there have some colour additives to fall from the screw.)



- 9) Screw test (F-08).



Press  to enter screw test, the screw will run 50 seconds auto. Color additives will fall well-proportioned, use a container to collect the additives, and then use an electrical scale to weigh the materials, it is strongly recommended that you do this test for 3 times for average value.

- 10) Input weight (F-09), The machine enter F-09 automatically after step F-08 finished. Use ▲▼ to input the weight.



Note: The unit of input weight should be the same with that used in step 4. So if "g"(10g,100g or kg...) Is used as the unit of F-03, then use a corresponding unit for F-09.



4.5 Screw Calibration and Special Features



This function should be used only for those who have inconvenience to do the 50 seconds test!

After input the F-01~F-05 parameters correctly, enter step F-09 according to the steps normally and select the corresponding reference parameters as the following table, and then enter F-22 parameter setting picture, you can input it according to the following table:

1. The reduce proportion of the gearmotor (F-22);
2. Select the signal mode (F-23).

Example: when choose SCM-75-14 model, input the presetting value in F-09 as 56.9g, Select the reduce proportion as 1 in F-22 and select the signal mode in F-23.

Press  to finish the setting.

4.5.1 Parameter Description

Symbol	Description	Range	Default
F-14	For SCM-38, capacity of specially made screw rotating at 50% of max. speed. system setting is same with F-15.	0-999.9g	78.1g
F-15	For SCM-38, capacity of No.1 screw (Φ 12) rotating at 50% of max. speed.	0-999.9g	78.1g
F-16	For SCM-38, capacity of No. 2 screw(Φ 14) rotating at 50% of max. speed.	0-999.9g	138.9g
F-17	For SCM-38, capacity of No. 3 screw(Φ 16) rotating at 50% of max. speed.	0-999.9g	228.9g
F-18	For SCM-75, capacity of specially made screw rotating at 50% of max. speed. System setting is same with F-19.	0-999.9g	32.5g
F-19	For SCM-75, capacity of No.1 screw(Φ 12) rotating at 50% of max. Speed.	0-999.9g	32.5g
F-20	For SCM-75, capacity of No.2 screw(Φ 14) rotating at 50% of max. Speed.	0-999.9g	56.4g
F-21	For SCM-75 capacity of No.3 screw(Φ 16) rotating at 50% of max. Speed.	0-999.9g	104.9g
F-22	Select a model: SCM-38 or SCM-75.	0: SCM-38 1: SCM-75	0
F-23*	CYCLE input signal mode.	0: INPUT & TIMER SYNC 1: INPUT ONLY 2: TIMER ONLY	0

Note:* 0---External signals & plasticizing time





1---External signals: the machine works according to external signals.

2---Plasticizing time: the machine works according to the plasticizing time.



Default value is 0. Under this working mode, screw conveying time is decided by the shorter of external signals and plasticizing time.


i.e. When moulding cycle is less than set plasticizing time, SCM stops. While if moulding cycle bigger than plasticizing time, SCM stops operation as well.

4.5.2 Enter the Setting





1. Enter F-06 according to 6.3.
2. Press "SCREW TEST" for three seconds to enter F-07.
3. Press   and  simultaneously for three seconds to enter F-14, then press  to enter F-15 to F-23 successively.

4.5.3 Reset the Machine


1. The same with step 1 and 2 of 6.4.2.
2. Press   and "ON/OFF" simultaneously for 3 seconds.

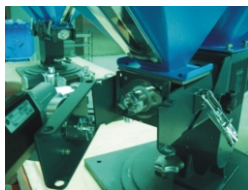
 Note: By performing this step, the machine resume preset parameters.

4.6 Modify Color Ratio

1. Press  to switch to F-04.
2. Press   to modify color additive ratio.
3. Press  to confirm.

4.7 Change Color Additives

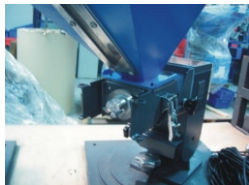
1. Press  to clear the materials in the screw groove. If there are still materials remaining, please loosen the snap hook of material hopper, draw out the conveying pipe together with the hopper, and use high pressure air to blow away the remained materials.
2. Add color additives.



4.8 Replace Dosing Screws

1. Cut off power supply, loosen snap hook of hopper, draw out the hopper and screw. Unlock the screw fastening plate to remove the conveying screw for replacement.
2. Install the screw and hopper back to the machine.

Note: Φ 12/14 screw is supplied with a sleeve.



5. Trouble-shooting

Failures	Possible reasons	Solutions
No indicates on the control cabinet.	<ol style="list-style-type: none"> 1. Power supply not connected. 2. Fuse burt out or control board problems. 	<ol style="list-style-type: none"> 1. Connect through power supply. 2. Replace the fuse or control board.
Motor does not work.	<ol style="list-style-type: none"> 1. Parameter mistakes. 2. Motor overload. 3. Motor damaged. 4. Signal wire broken. 	<ol style="list-style-type: none"> 1. Reset parameters. 2. Contact the manufacturer or local distributor. 3. Replace the motor. 4. Replace motor signal wire.
The buzzer sounds the alarm.	<ol style="list-style-type: none"> 1. Parameter setting exceeds the limit. 	<ol style="list-style-type: none"> 1. Reset parameters.

Error code

Failures	Possible reasons	Solutions
AL n 1	<ol style="list-style-type: none"> 1. The requested output capacity bigger then the machine's highest output capacity. 2. push the SCREW CLEAR button the screw cleaning action is in the progress. 	<ol style="list-style-type: none"> 1. Parameter setting mistake. 2. The machine is too small.
AL n 2	Motor trouble.	<ol style="list-style-type: none"> 1. Screw jammed. 2. Ambient temperature too high. 3. The motor circuit is disconnected. 4. The configuration setup is wrong, please refer to the appendix: parameters of the new circuit board corresponding to the former motor.
AL n 3	The signal voltage too high.	The signal voltage of the injection machine and extruding machine too high.

6. Maintenance and Repair

6.1 Service

All the repair work should be done by qualified technicians to avoid personal injuries or damage of the machine.

6.2 Maintenance

Please keep the surface of the machine free from pollutants.

6.3 The Useful Life of The Key Parts of The Product

Name of the product	Useful life
Motor	Above 5 years
Circuit-Breaker	Above 5 years

6.4. Maintenance Schedule

6.4.1 About the Machine

Model: _____ SN: _____ Manufacturing date: _____

Voltage: ___ Φ ___ V Frequency: ___ Hz Total power: _____ kW

6.4.2 Check after Installation

- Check that dosing screws are fitted correctly.
- Check the snap hook is tightly locked.
- Check if the mounting base is firmly locked.

Electrical Installation

- Voltage: _____ V _____ Hz
- Fuse melting current: 1 Phase _____ A 3 Phase _____ A
- Power supply and signal wire of control cabinet are correctly connected.

6.4.3 Daily Checking

/ /

 Check the main switch Check fastening screws of mounting base

/ /

 Check the main switch Check fastening screws of mounting base

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 Check the main switch Check fastening screws of mounting base

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 Check the main switch Check fastening screws of mounting base

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 Check the main switch Check fastening screws of mounting base

6.4.4 Weekly Checking

/ /

- | | |
|--|--|
| <input type="checkbox"/> Check if there damaged electrical wires | <input type="checkbox"/> Check if there damaged electrical wires |
| <input type="checkbox"/> Check snap hooks are loose or not | <input type="checkbox"/> Check snap hooks are loose or not |
| <input type="checkbox"/> Check if the side holding plate is loose or not | <input type="checkbox"/> Check if the side holding plate is loose or not |

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|--|--|
| <input type="checkbox"/> Check if there damaged electrical wires | <input type="checkbox"/> Check if there damaged electrical wires |
| <input type="checkbox"/> Check snap hooks are loose or not | <input type="checkbox"/> Check snap hooks are loose or not |
| <input type="checkbox"/> Check if the side holding plate is loose or not | <input type="checkbox"/> Check if the side holding plate is loose or not |

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| <input type="checkbox"/> Check if there damaged electrical wires | <input type="checkbox"/> Check if there damaged electrical wires |
| <input type="checkbox"/> Check snap hooks are loose or not | <input type="checkbox"/> Check snap hooks are loose or not |
| <input type="checkbox"/> Check if the side holding plate is loose or not | <input type="checkbox"/> Check if the side holding plate is loose or not |

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| <input type="checkbox"/> Check snap hooks are loose or not | <input type="checkbox"/> Check snap hooks are loose or not |
| <input type="checkbox"/> Check if the side holding plate is loose or not | <input type="checkbox"/> Check if the side holding plate is loose or not |

/ /

Addenda

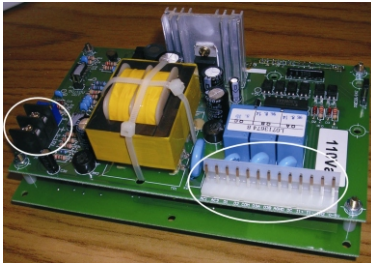
1. Difference between two sets of PCB

New PCB model: SV-01

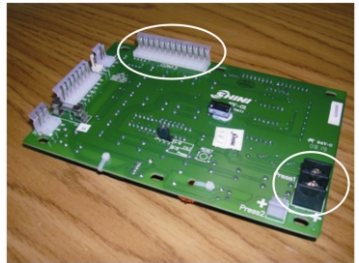
Old PCB model: M0334

2. Wiring difference

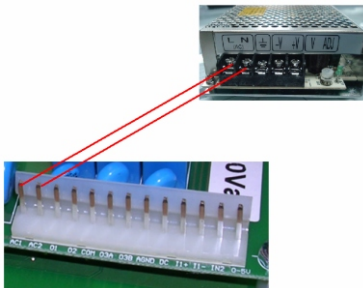
The new PCB could be compatible with the old one because the new one continues to reserve same connecting terminal with the old one (showing in red ellipse in picture). But one point needed to note is that the power specification of the old PCB is 230VAC or 110VAC but the new one uses 24VDC. So when changing the old PCB into the new one, it is needed to only connect the power wire of the old PCB to terminal of V+ and V- but other wires remain same.



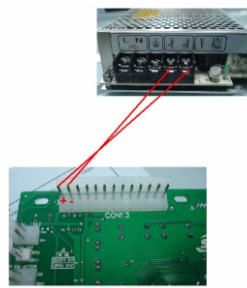
Picture 1: Old PCB(M0334)



Picture 2: New PCB(SV-01)



Picture 3: Power wiring sketch of old PCB



Picture 4: Power wiring sketch of new PCB

3. Parameter setting (new PCB working with different motors)

The output signal of motor will vary with the motor model. So if first time to use, it is needed to set the working mode, mode A and mode B, according to motor model.




MODE A: be responsible for WEG motor, when starting machine, the PV bar will show 3PoA.



MODE B: be responsible for Dunkermotoren motor, when starting machine, the PV bar will show 3Pob.



The steps to adjust the mode between mode A and mode B.

After close the power, keeping press three buttons   , and then reopen the power, the mode will be switched from mode A to mode B or from mode B to mode A. After finished the process, buzzer will sound a second and the mode will be shown in PV bar.



Be careful: if the mode is set incorrectly, the alarm ALA2 will be happened. It is possible to eliminate the alarm according to above steps.

Local Warranty Statement

1. Local warranty applies to the country of purchase only. Once the product is transited out of the country of purchase, this warranty is invalidated.
2. The warranty is only applicable to the original purchaser and in the country of purchase.
3. The warranty covers parts and labour only; and excludes freight and on-site call-out charges.
4. Your SHINI product is guaranteed against manufacturing defects for a period of twelve (12) months from the date of purchase locally unless stated otherwise.
5. The warranty shall immediately cease and become void if the product is found to have been modified or repaired by an unauthorized person.
6. The warranty is subjected to the following limitations and exclusions:
 - (a) Malfunctions or damages resulting from not complying with the recommended manner as outlined in our operation manual in relation with the application, installation, operation and maintenance.
 - (b) Defects from using wrong electrical supply, misuse or damage by negligence and abuse.
 - (c) Malfunctions or damages resulting from natural disaster, fire, civil unrest and / or accidents.
 - (d) Wear parts and accessories.
7. If your SHINI product is not the same place of purchase, you can still send the product to your local SHINI's branch or distributor for servicing at your full costs according to the individual country service policy.
8. If there is no SHINI's branch or distributor in your country, although obviously there is no warranty covered by SHINI, you may direct contact SHINI requesting for the supply of replacement parts at your full costs.
9. All the electricity installation, connection and maintenance should be carried out by the specialists or contact , SHINI or its local agents.

10. The warranty is deemed valid only if the followings are completely filled in:

Purchaser's name and address: _____

Your supplier's name and address: _____

(company stamp)

Product model: _____ Serial number: _____

Invoice Number: _____ Date of purchase: _____

Please send all queries and comments to:

Shini Plastics Technologies, Inc.

Corporate Strategic Center

Dalang, Dongguan, Guangdong, China

Tel: (0769) 8331 3588 Fax: (0769) 8331 3589

E-mail: shini@shini.com

www.shini.com

Main Product

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- Feeding & Conveying
- Dosing & Mixing
- Heating & Cooling
- Granulating & Recycling
- Automation System
- Hot Runner System
- System Solutions

SHINI PLASTICS TECHNOLOGIES, INC.

Headquarters:

Shini Plastics Technologies, Inc.
Minhe St., Shulin City, Taipei, Taiwan
Tel: +886 2 2680 9119
Fax: +886 2 2680 9229
Website: www.shini.com
Email: shini@shini.com

Factories:

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