

**Granulating & Recycling Series**  
**Application Guide**

Confidential

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## 1. Preface

This guide is a model selection and application manual for Granulating & Recycling series which includes information of plastic material granulating equipment selection and application of SHINI's Granulating & Recycling equipment.

### **Purpose**

In order to assist professionals or customer service staffs to pick out proper products for customers, this guide will help them better comprehend application scope of products and enhance their application proficiency.

### **Target Group**

This guide is applicable for professionals and customer service personnel who face the clients directly and need choose appropriate products as requested.

### **Reference information**

Specific models are subject to "Product Catalogue" during model selection for customers. Please refer to "Model Selection Questionnaire" when the customer's demand is not clear or for other reasons the service is unavailable.

### **Notice**

This guide is used for preliminary model selection of SHINI's Granulating & Recycling series products. It is recommended the client contact our customer service personnel before giving an order to ensure correct selection and avoid unwanted loss.

Referential texts and data in this guide do not represent SHINI's viewpoint.

If you need any further information of SHINI products, kindly feel free to contact us:

Dial direct China service hotline: +86 800-999-3222

Log on SHINI Group website: [www.shini.com](http://www.shini.com)

Send e-Mail to us: [shini@shini.com](mailto:shini@shini.com)

## 2. Reference Information

### 2.1 SHINI Grinding Technology with High-efficiency and Safety

- Prospects of plastics recycling

With the development of economy and improvement of people's life, all kinds of plastic products provide not only convenience but also terrible "white pollution". So researching the treatment of waste plastics attracts more and more attention by governments. The recycling use of waste plastics directly affect environment protection, air pollution, and even existence and development of plastics industry. At present, China is the second largest plastics consumption country in the world. Annual consumption is over 3400 tons, but the recovery is only 200 tons. It is obvious that the space of recycling is huge. According to relevant statistics, the market value of plastics recycling in China is beyond RMB 100 billion RMB. So researching the recycling use of waste plastics in China has a profound effect on not only environment protection but also sustainable development.

- Overview of SHINI Granulating and Recycling

SHINI is one of the largest auxiliary equipment manufacturers in the world, which owns six series of products in which granulating and recycling series can provide perfect, high-efficient and safe auxiliary equipment, including low-speed granulators, sound-proof central granulators and large-size shredders, which have great variety of models to meet market requirements for granulating and shredding of plastics.

- High - efficiency Grinding Technology

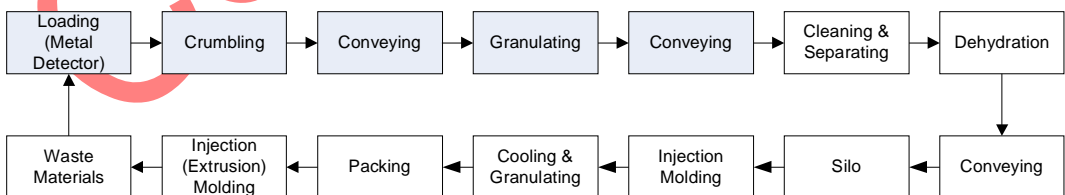
Our granulator has compact structure, full-closed design and sound-proof cabinet ensuring low noise. The cutting chamber is made of high-rigidity material after processed by CNC machine and has the features like high intensity , super wearability, anti-contamination, long service life and easy for maintenance and repairing. High-quality transmission belt connects the transmission shaft and its pulley which helps to maintain a balanced

operation mode, close contact, and also easy to disassemble and repair. The cutting tools adopts new-type design of one-line cutting not only retains advantages of cross-cutting technology, but also holds new features that cut-off point happens on the blade once. This feature can keep low loss, noise and dust level, and save energy too. The cutters are made of imported high quality steel featuring wearability, high rigidity, long service life and reusability after sharpening. Simple cutter installation and adjusting technology makes the rotating blades adjusted within clamps outside the machine, instead of being adjusted inside the machine as before. Automatic feeding can be realized when equipped with blower which saves time and energy.

- Safe Grinding Technique

High-speed rotating blades inside granulators are dangerous. To avoid accidents during granulating, our granulators adopt high-safety protection system.

- Emergency stop button: there is a red button on the control panel, when emergency happens, push it to stop the machine.
- Safety switch: circuit breakers are equipped in the field with hidden danger when machine is running to avoid accidents.
- Stop leather: all granulators equip stop leathers at the feed opening, which ensures no material sprinkling during granulating.



Note: Items in the shadow frame are covered by supply scope of SHINI

Picture 2-1: Recycling and Regeneration of General Plastics

## 2.2 Information about SHINI Granulators

- What is plastic granulator?



Plastic granulators are applicable to crumble plastics such as plastic profiles, pipes, rods, silk threads, films and waste plastics. The crumbled granules can be directly used as raw materials for injection molding.

- What is plastic shredder?

Plastic shredders are suitable for shredding large size plastics such as large size stub bars, pipes and solid materials. The shredded granules can be used as raw materials after being crumbled again.

- Functions of plastic granulators

They are suitable for recycling plastics as plastic cases, thin pipe fittings, blowing parts, bottles and shells. With convenient operation, simple and quick replacement of blades and broadness of flat blades, the plastic granulator is applicable to shred big-sized objects with thin wall and improve shredding efficiency.

- Classification of granulators

SHINI granulators can currently be divided into four sorts:

#### **Low-speed Granulators SG-14/24/24T/24E/16/20**

Being located beside the injection molding machine, low-speed granulators are suitable for granulating the sprues and small amount of defective products when equipped with extruders and belt conveyors for instant recycling of regrind materials.

#### **Central Granulators SG-23(E)/30(E)/36(E)/50/70**

Central granulators are applicable to granulate various plastics including stub bars of injection and blowing molding as well as waste plastics.

#### **Roll-feed Granulators SGF-29**

Roll-feed granulators are suitable for granulating various plastic margins such as packaging braid, extruding sheets and films for instant recycling of regrind materials.

## **Shredders SGS**

Single-shaft shredders can effectively shred large-sized pipe fittings with thick wall and tenacity as well as solid materials. They are also suitable for recycling rubber and wood.

Double-shaft shredders are widely used for shredding various plastics overflowed from injection molding. They are also suitable for shredding thin-wall plastic products, leather products, forage and wood.

## **Selection of Granulators**

Selection of granulators depends on type of material that to be granulated its shape and degree of granulation.

First of all, choice can be made between low-speed granulators and central granulators according to required granulating capacity. Low-speed granulators are suitable for processing small sprues; granulators with staggered blades are for hard materials; granulators with paddle blades are designed for granulating and recycling of thin-wall shells and pipes, and also for general sheets, pipes, profiles and packaging materials. Roll-feed granulators are the preferred equipment for processing films and sheets.

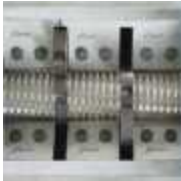


Secondly, regarding to dimensions of the material to be granulated and that of the granulator, the latter should be larger than the former. Thickness and hardness of materials need to be considered to achieve granulation smoothly and save energy.

Finally, specific model and screener with suitable aperture is selected in light of demanded degree of granulation (size of the granules).

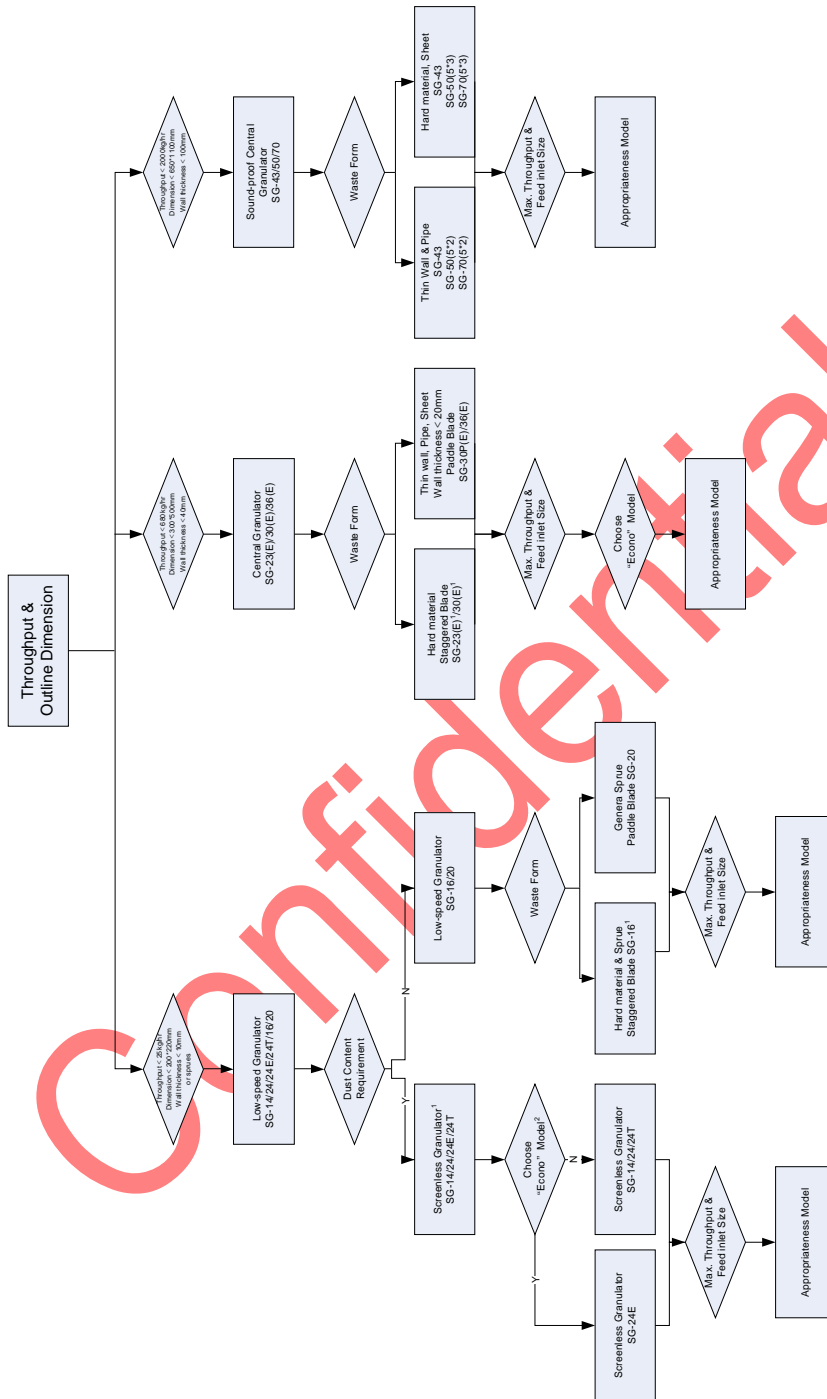
## **Recovery Rate of Granulators**

Generally speaking, pellets with diameter of more than 1mm are worthy to be recycled in plastic recycling industry. Recovery rate of SHINI granulators reaches 95%.

## Blades for Granulators

Blade Type	Picture	Applications
Teeth Cutter		<p>Applicable to instant recycle of thick and slender sprues or that with tenacity, also suitable for granulating small amount of waste materials which belongs to refined granulation.</p>
Staggered Blade		<p>Design of interlacing rotary blades disperses shock load. The blades can easily catch the material and achieve higher efficiency.</p>
Paddle Blade		<p>Integration design with gradual cutting ensures excellent cutting performance and is suitable for granulating thin sheets.</p>

## 2.3 Model Selection Flow Chart



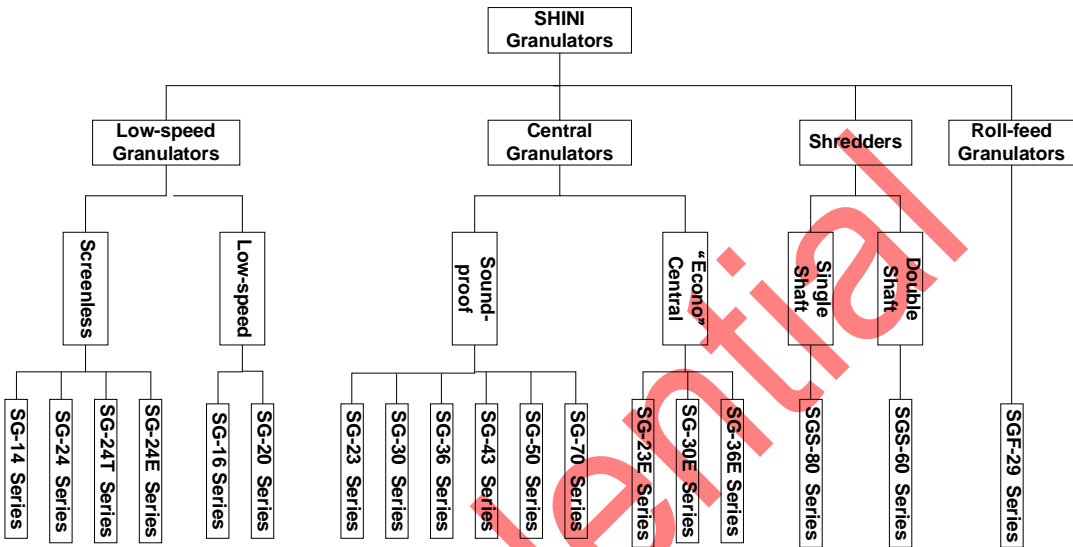
Note:  
 1. The series machine is not suitable for granulating materials with fibers.  
 2. Compared with standard model, the economic type is not equipped with sound-proof device, auto-loading device and warning light.  
 However, both security and granulating performance are the same.

Picture 2-2: Model Selection Flow Chart

### 3. Product Classification

#### 3.1 Product Category of Granulating & Recycling Series

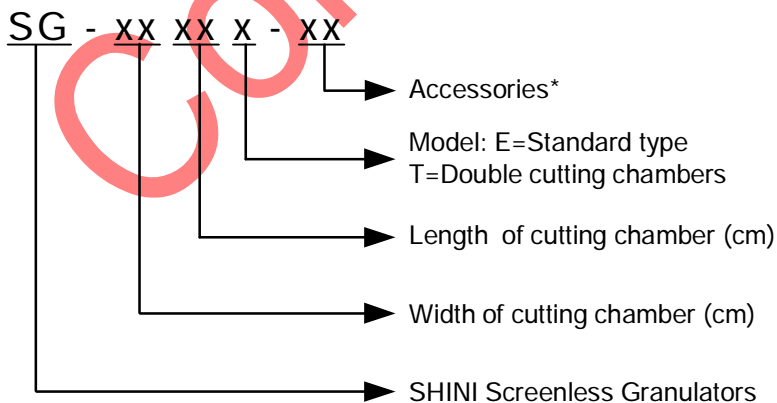
SHINI Granulators have four series now including edge granulators, central granulators, shredders and roll-feed granulators.



Picture 3-1: Product Category

#### 3.2 Coding Principle

##### 3.2.1 Coding Principle for SG-14 / 24 / 24T



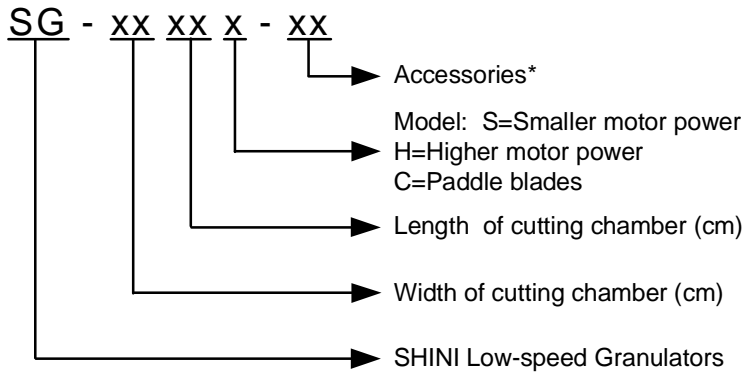
Note: \*

VR = Air conveying      BC = Blower conveying & Cyclone

BR = Motor conveying      DS = Dust separator

Air conveying saves electric energy compared to blower conveying, but it consumes compressed air.

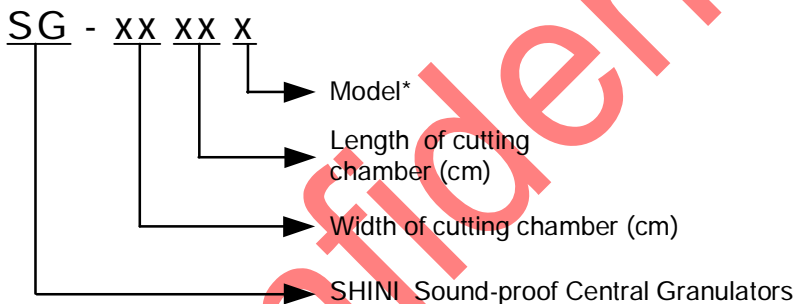
### 3.2.2 Coding Principle for Low-speed Granulators



Notes: \*

VR=Air conveying F= For Fiber-added material BR=Blower conveying  
Air conveying saves electric energy compared to blower conveying, but it consumes compressed air.

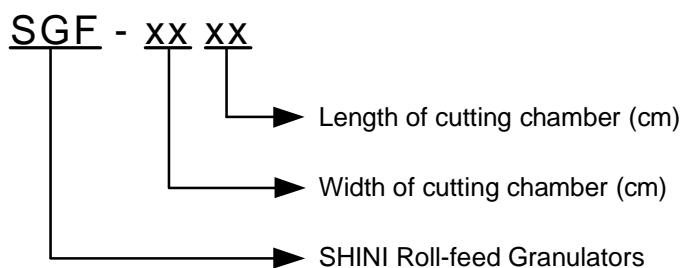
### 3.2.3 Coding Principle for Sound-proof Central Granulators



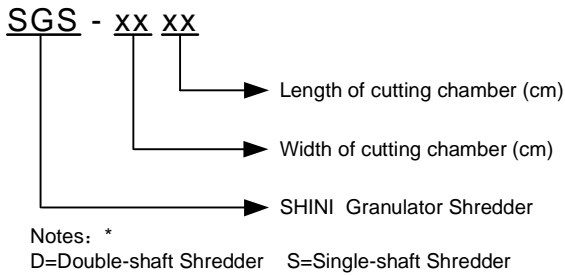
Notes: \*

E=Economic type S=Smaller motor power H=Higher motor power  
P=Paddle blade F=For Fiber-added material  
Compared with standard model, the economic type is not equipped with sound-proof device, auto-loading device and warning light. However, both security and granulating performance are the same.

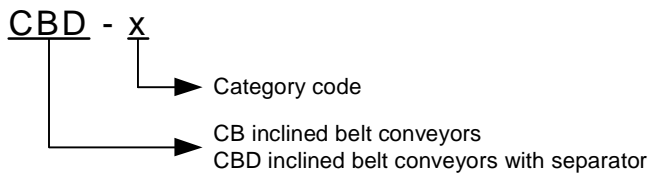
### 3.2.4 Coding Principle for Roll-feed Granulators



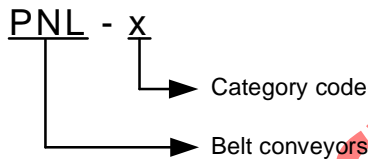
### 3.2.5 Coding Principle for Shredders



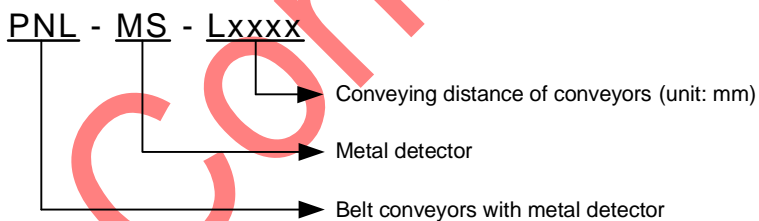
### 3.2.6 Coding Principle for Inclined Belt Conveyors



### 3.2.7 Coding Principle for Belt Conveyors



### 3.2.8 Coding Principle for Belt Conveyors with Metal Detector



### 3.2.9 Coding Principle for Declined Belt Conveyors



## 4. Screenless Granulators SG-14/24/24T



Picture 4-1: Screenless Granulators

### 4.1 Application Fields

Screenless granulators are suitable for by-the-press recycling of sprues they feature easy operation. They adopt screenless design, which is mainly suitable for the field of little dust. They are not be used to granulate chemicals, inflammable and explosive materials and corrosive goods.

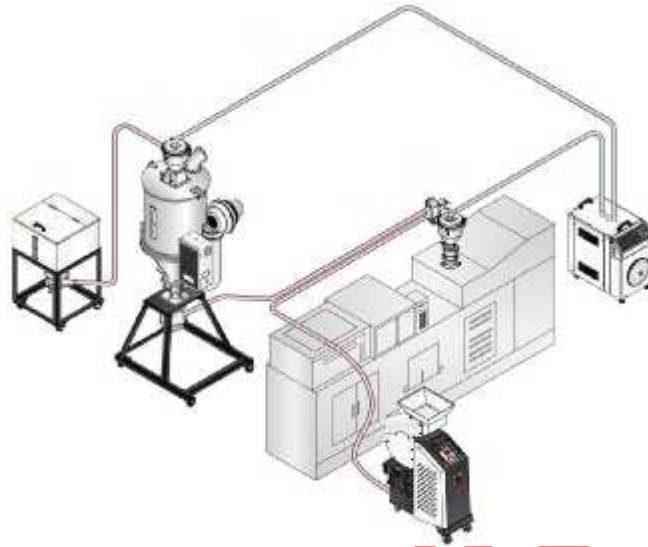
Only when the temperature of regrind material reduces to room temperature, can the granulator process it. Otherwise the blades will become too sticky to work continuously.

### 4.2 Application Cases

Under normal circumstances, SG-14/24/24T series can be directly mounted by the side of molding machine. Materials can be feed by manual or by robot. 30-sec instant recycling system and proportional valve can be optionally equipped for customers' requirement.

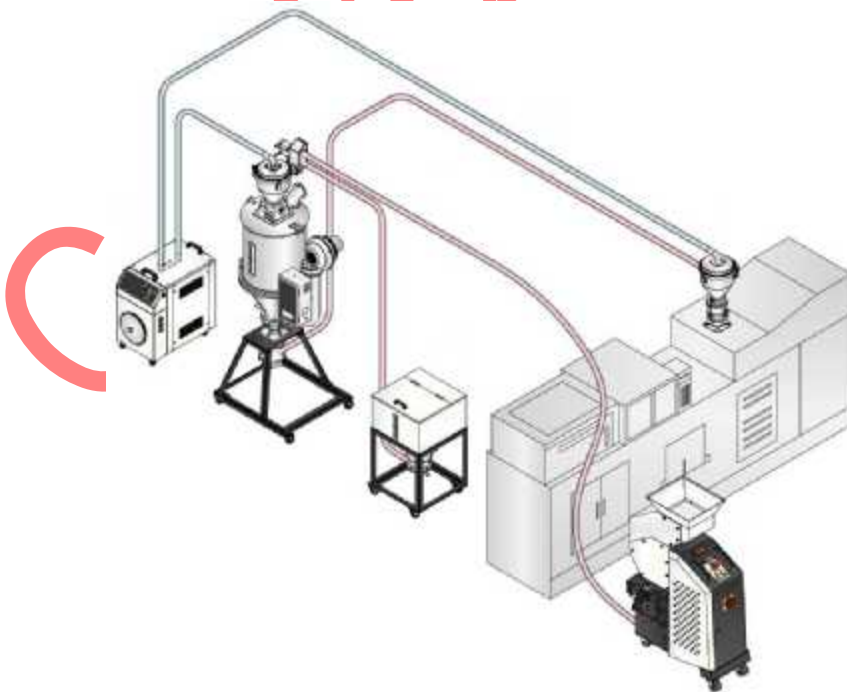


### Application Case 1



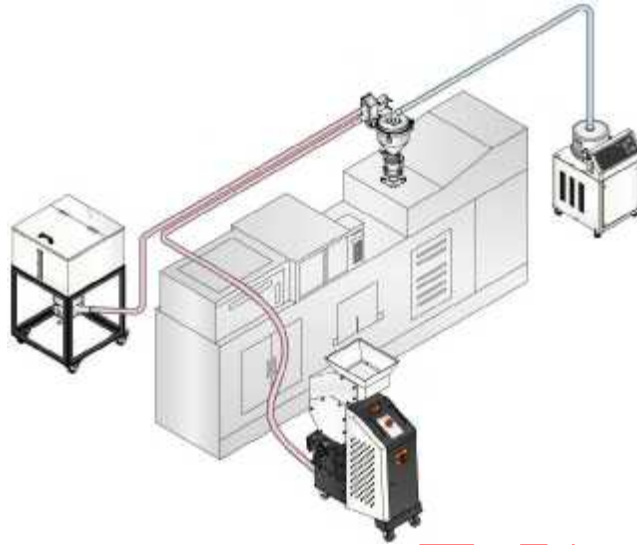
Picture 4-2: Application Case 1 of Screenless Granulators

### Application Case 2



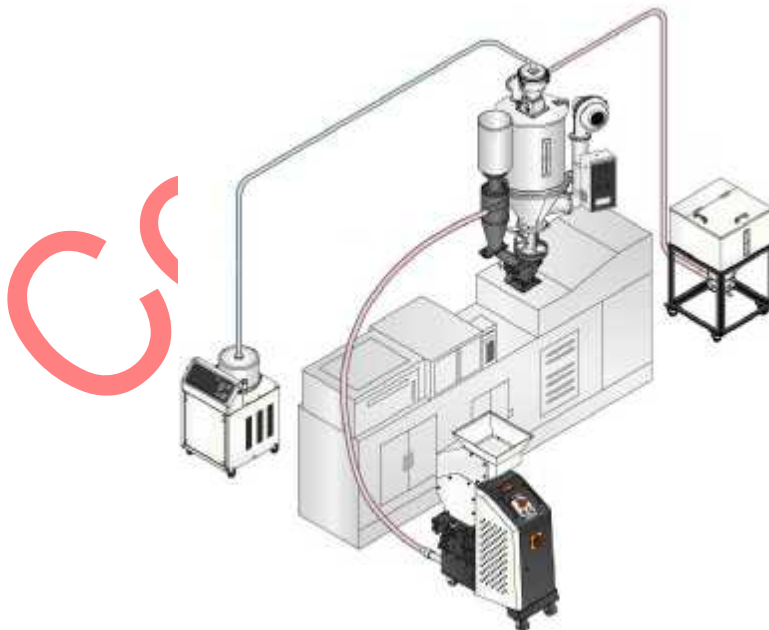
Picture 4-3: Application Case 2 of Screenless Granulators

### Application Case 3



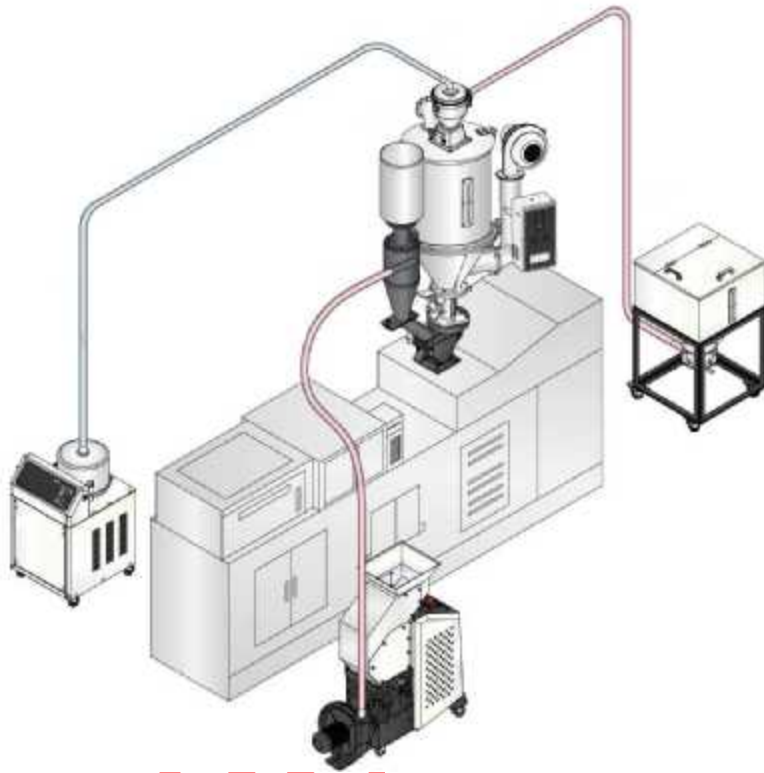
Picture 4-4: Application Case 3 of Screenless Granulators

### Application Case 4



Picture 4-5: Application Case 4 of Screenless Granulators

## Application Case 5



Picture 4-6: Application Case 5 of Screenless Granulators

### 4.3 Model Selection

SG-14/24 series Screenless granulators are suitable for by-the-press recycling of sprues they feature easy operation. Adopt screenless design, to ensure little dust. Model can be selected mainly by max throughput capacity and dimension of granulated materials.

### 4.4 Q & A

Q: If SG-14/24/24T series have the function of reverse running, and when it does? Will it stop after running some time?

A: SG-14/24/24T series have the motor reverse running function, but SG-24E does not. When running is un-normal, motor reverse running function begins to work. If material can not be cleared after 3 times reverse running, motor will stop automatically and sound alarm.

Q: What is the power content of materials granulated by SG-14/24/24T series?

A: Different materials have different power content. Generally, the diameter of materials at most 5% is 1mm below.

Q: Can SG-14/24 series granulate fiber-added materials?

A: No, they can not.

Q: What is the volume of the standard collection bin and manual collection bin of SG-14/24 series?

A:

Model SG-	1411	1417	2417	2427	2436	2446
Standard Collection Bin (L)	0.92	1.2	5.2	7.2	9.2	12.2
Manual Collection Bin (L)	--	--	16.7	23.2	29.6	36.1

Q: Can SG-14/24 series be used to granulate foods and material medica? If should cutting chamber in contact with material be made of stainless steel?

A: SHINI suggest not adopting SG series to granulate foods and material medica. If customers have requirement, they can be used to do that before cutting chamber is cleared, and it in contact with material need not to be made of stainless steel, only feed port, feed box and collection box should be made of stainless steel, suggesting granulated materials be detected by metal detecting separators.

Q: What is the surface hardness of standard blades of SG-14/24 series?

A: The surface hardness is RC56~58.

Q: What is the standard motor protection level of SG-14/24 series?

A: IP55.

## 5. Low-speed Granulators SG-16/20



Picture 5-1: Low-speed Granulator

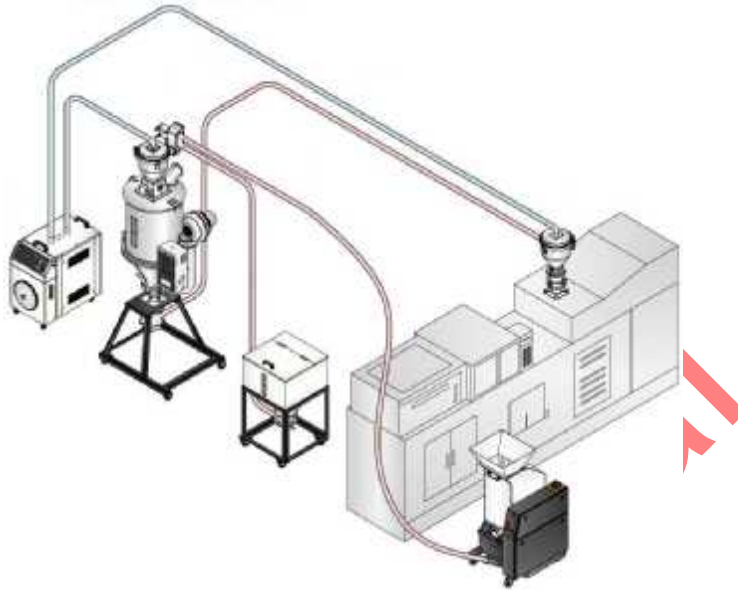
### 5.1 Application Fields

Low-speed granulators are suitable for by-the-press recycling of sprues they feature easy operation. They are not be used to granulate chemicals, inflammable and explosive materials and corrosive goods.

### 5.2 Application Cases

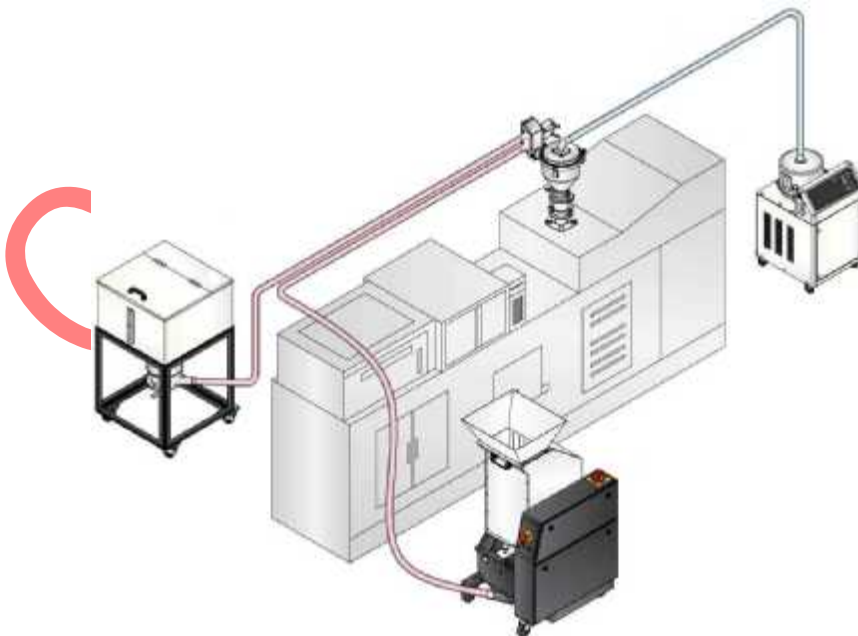
Under normal circumstances, SG-16/20 series can be directly mounted by molding machine. Materials can be feed by manual or by robot. 30-sec instant recycling system and proportional valve can be optionally equipped for customers' requirement.

## Application Case 1



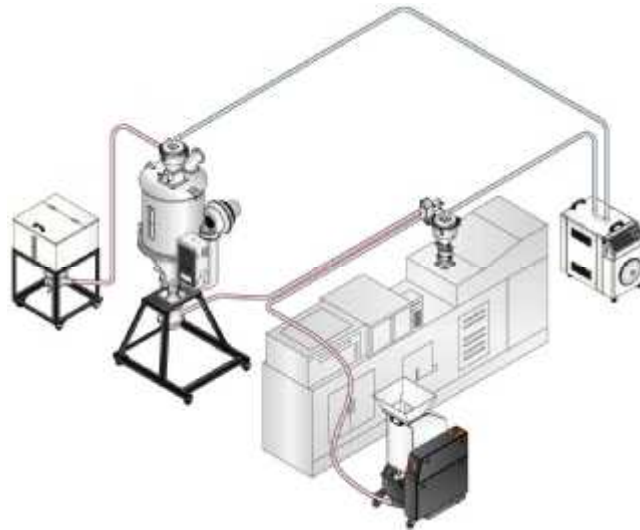
Picture 5-2: Application Case 1 of Low-speed Granulators

## Application Case 2



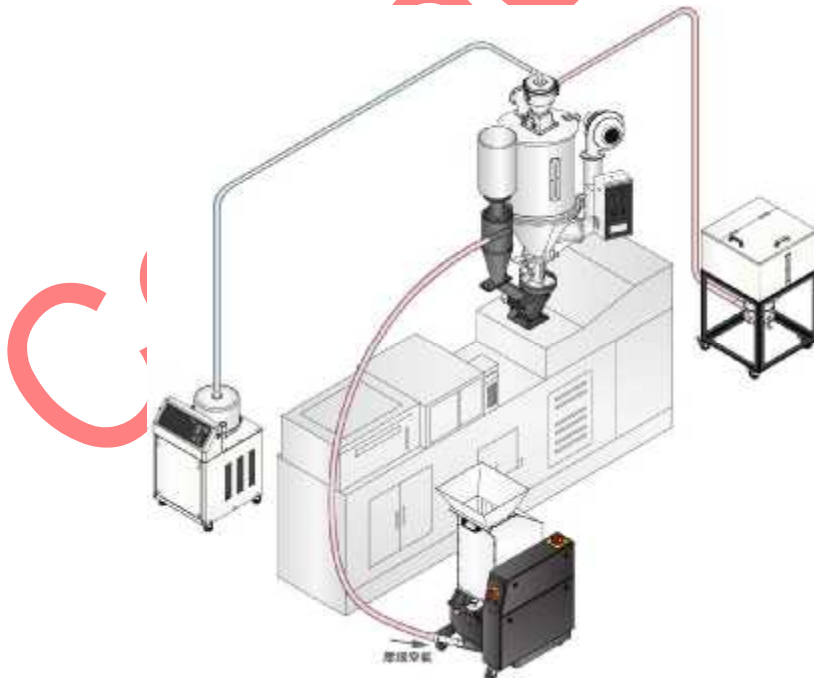
Picture 5-3: Application Case 2 of Low-speed Granulators

### Application Case 3



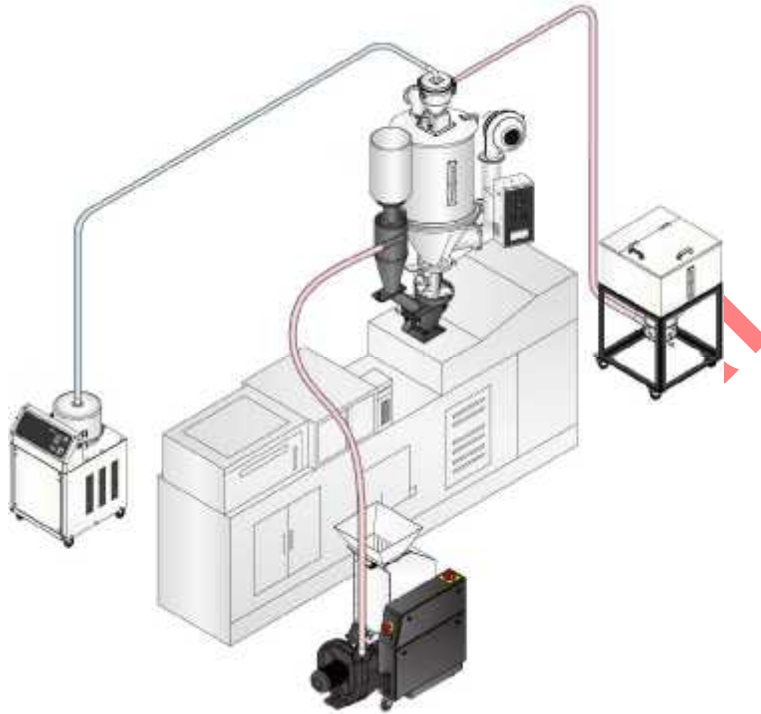
Picture 5-4: Application Case 3 of Low-speed Granulators

### Application Case 4



Picture 5-5: Application Case 4 of Low-speed Granulators

## Application Case 5



Picture 5-6: Application Case 5 of Low-speed Granulators

### 5.3 Model Selection

SG-16/20 series low-speed granulators are suitable for by-the-press recycling of sprues they feature easy operation. Models can be selected mainly by max throughput capacity and dimension of granulated materials.

### 5.4 Q & A

Q: Under what circumstance double-layer screen should be selected?

A: If the material customer want to granulate is slab-sided like sprues, in order to get even regrind material easy to be recycled for, double-layer screen should be selected.

Q: Can SG-16/20 series granulate fiber-added material?

A: SG-16/20 with staggered blades can not granulate fiber-added material,



but SG-20 with paddle blades can do it.

Q: What is the difference between blade V-4E and standard SKD-11 used by SG-20 with paddle blades?

A: SG-20 used to granulate fiber-added material adopts components blade material V-4E joint with ASP-23. Blade edge is V-4E and blade body is ASP-23. V-4E imported from Sweden is alloy tool steel. It's hardness is 4~6HRC higher than SKD-11's, and it's abrasiveness is better than SKD-11'S. So when granulating fiber-added material with high hardness and abrasiveness, the service life of V-4E is longer.

Q: What is the surface hardness of SG-16/20 series?

A: The surface hardness is HRC56~58.

Q: How about the difference in scope of application between paddle blades and staggered blades installed on SG-20 series?

A: Paddle blades are suitable for granulating thin walled tube, bottle, normal flake, tubing and profile, etc. Staggered blades are suitable for granulating salivation material and block material, etc.

Q: What is the volume of the standard collection bin and manual collection bin of SG-16/20 series?

A:

Model SG-	1621	1628	1635	2028	2042
Volume of Standard Collection Bin (L)	4.1	5.3	6.5	6.7	9.6
Volume of Manual Collection Bin (L)	19	25	31	24.6	41

Q: How about the performance of SG-16/20 series used to granulate braided tape?

A: SG-2040H is tested by using braid with 10mm wide and 0.6 thick. Adopt 11 pieces of braided tape with 1m long are bundled to be fed, and the test result is that the granulating capacity is 60kg/hr, and blade holder

winded by packing tape does not occur.

Based on practical experience, SG-16 series staggered blades are not suitable for granulating braid. If SG-20 series are used to granulate braid, the thickness of it should be more than 0.5mm.



Picture 5-7: Packing Braid

Q: What is the standard motor protection level of SG-16/20 series?

A: IP55.

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## 6. Sound-proof Central Granulators SG-23/30/36/43



Picture 6-1: Sound-proof Central Granulators

### 6.1 Application Fields

SG-23/30/36/43 series sound-proof central granulators are suitable for centralized recycling of waste or rejected parts from injection molding, blow molding or extrusion lines. SG series are not be used to granulate chemicals, inflammable and explosive materials and corrosive goods.

### 6.2 Application Cases

Under normal circumstances, SG-23/30/36/43 series are recommended to be directly mounted by molding machine. Materials can be feed by manual or by belt conveyor. Dust separator, full-receiver alarm device and feed hopper with magnet can be optionally equipped for customers' requirement (see also in product catalogue).

#### Equipped with Feeding Hopper for Conveyor



Picture 6-2: Feeding Hopper for Conveyor

If it equipped with feeding hopper for conveyor, full-receiver alarm devices should be selected, controlling the speed of material conveying and start/stop operation, to avoid motor overload resulted from conveying much materials.

### 6.3 Model Selection

Firstly we should consider that if the max dimension of regrind materials is smaller than the diameter of feed-in port. The machine is not available if it is larger. Granulators are also selected according to the thickness and hardness of materials besides acceptable dimensions, to reach desired throughput capacity and save energy. Lastly, screen mesh should be selected according to particle size of regrind materials and type of model.

### 6.4 Q & A

Q: What is the difference between blade V-4E and standard SKD-11 used by SG-23/30/36/43?

A: SG-23/30/36/43 used to granulate fiber-added material adopts components blade material V-4E joint with ASP-23. Blade edge is V-4E and blade body is ASP-23. V-4E imported from Sweden is alloy tool steel. Its hardness is 4~6HRC higher than SKD-11's, and its abrasiveness is better than SKD-11's. So if granulating fiber-added material with high hardness and abrasiveness, the service life of V-4E is longer.

Q: What is the surface hardness of standard blades of SG-23/30/36/43 series?

A: The surface hardness is RC58~60.

Q: What is the difference in scope of application between paddle blades and staggered blades?

A: Paddle blades are suitable for granulating thin walled tube, bottle, normal flake, tubing and profile etc. Staggered blades are suitable for granulating salivation material and block material, etc.

Q: What is the standard motor protection level of SG-23/30/36/43?

A: IP55.

Q: Are the belts of SG-23/30 series and SG-23E/30E the same?

A: The installation dimensions of them are same. The belts of standard SG-23/30 series are imported brands, and national brands.

Q: What is the performance of SG-30/43 series used to granulate CPVC tubing?

A: The handling characteristic of CPVC tubing is similar to Nylon; SG-30 series is not suitable but fiber-added granulator.

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## 7. Sound-proof Central Granulators SG-50



Picture 7-1: Sound-proof Central Granulators

### 7.1 Application Fields

SG-50 series sound-proof central granulators are suitable for centralized recycling of waste or rejected parts from injection molding, blow molding or extrusion lines. SG-50 series are not be used to granulate chemicals, inflammable and explosive materials and corrosive goods.

### 7.2 Application Cases

Under normal circumstances, SG-50 series are recommended to be mounted in workshop specialized for centralized granulating. Materials can be feed by manual or by belt conveyor. Dust separator, full-receiver alarm device and feed hopper with magnet can be optionally equipped for customers' requirement (see also in product catalogue).

## Equipped with Belt Conveyor



Picture 7-2: Equipped with Belt Conveyor

If it equipped with feeding hopper for conveyor, full-receiver alarm devices should be selected, controlling the speed of material conveying and start/stop operation, to avoid motor overload resulted from conveying much materials.

### 7.3 Model Selection

Firstly we should consider that if the max dimension of regrind materials is smaller than the diameter of feed-in port. The machine is not available if it is larger. Granulators are also selected according to the thickness and hardness of materials besides acceptable dimensions, to reach desired throughput capacity and save energy. Lastly, screen mesh should be selected according to particle size of regrind materials and type of model.

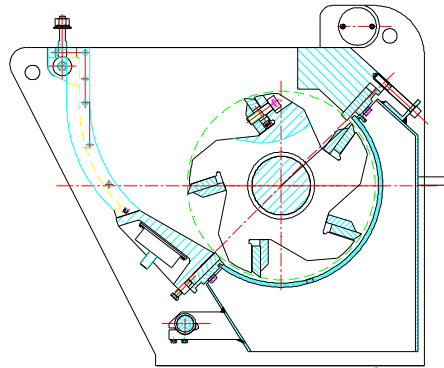
### 7.4 Q & A

Q: SG-50 series have 2 fixed blades and 3 fixed blades, but how to differentiate them?

A: When SG-50 is used to granulate thick flake, salivation material and block materials, in order to improve cutting efficiency and protect cutting chamber, 3 fixed blades and 5 rotating blades are available. Because the impact load for back block of cutting chamber is so heavy.

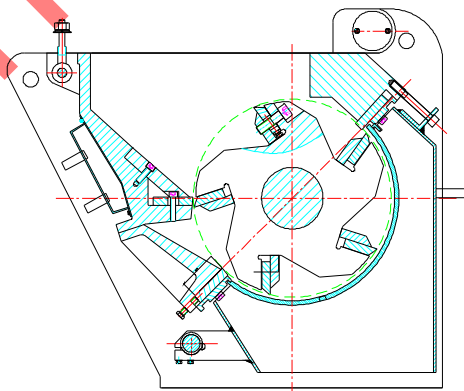
The design of two lines of fixed blades leaves great space to the inlet, and the initial cutting point of the blade is low so that materials can be

caught and cut promptly. This design makes the machine suitable for crumbling hollow objects such as bottles and rollers.



Picture 7-3: Blade Rest (5 × 2) of Sound-proof Central Granulators SG-50

Five-claw semi-closed rotor prevents the material from falling into the rotary blades because gap between two blades is small. The design of three lines of fixed blades narrows the feeding port and heightens the initial cutting point. The cutting effect is not so intensive and the rotor will not be blocked even if the requirements are strict. The large and heavy rotary blades are suitable for granulating head material, thick-wall objects and thick plates.



Picture 7-4: Blade Rest (5 × 3) of Sound-proof Central Granulators SG-50

Q: What is the difference between blade V-4E and ASP-23 and standard SKD-11 used by SG-50?



A: SG-50 used to granulate fiber-added material adopts components blade material V-4E joint with ASP-23. Blade edge is V-4E and blade body is ASP-23. V-4E imported from Sweden is alloy tool steel. The hardness is 4~6HRC higher than SKD-11's, and the abrasiveness is better than SKD-11'S. So if it is used to granulate fiber-added material with high hardness and abrasiveness, the service life of V-4E is longer.

Q: What is the surface hardness of standard blades of SG-50 series?

A: The surface hardness is HRC56~58.

Q: What kinds of materials are SG-50 series used to granulate when they adopt paddle blades?

A: SG-50 series are suitable for granulating thin walled tube, bottle, normal flake, tubing and profile, etc. Please properly select the number of blades for use according to shape and dimensions of materials.

Q: What is the standard motor protection level of SG-50 series?

A: IP55.

Q: How about the performance of SG-50 series used to granulate CPVC tubing?

A: The handling characteristic of CPVC tubing is similar to Nylon, SG-50 series is not suitable but fiber-added granulator.

Q: What are the requirements of cooling system of SG-50 series on water pressure, flow and temperature?

A: The required pressure of cooling system is 2~3kgf/cm<sup>2</sup>, and water flow is not less than 10L/min, room temperature (20°C~35°C).

## 8. Sound-proof Central Granulators SG-70



Picture 8-1: Sound-proof Central Granulators

### 8.1 Application Fields

SG-70 series sound-proof central granulators are suitable for centralized recycling of waste or rejected parts from injection molding, blow molding or extrusion lines. SG series are not be used to granulate chemicals, inflammable and explosive materials and corrosive goods.

### 8.2 Application Cases

Under normal circumstances, SG-70 series are recommended to be mounted in workshop specialized for centralized granulating. Materials can be feed by manual or by belt conveyor. Dust separator, full-receiver alarm device and feed hopper with magnet can be optionally equipped for customers' requirement.

If it equipped with feeding hopper for conveyor, full-receiver alarm devices should be selected, controlling the speed of material conveying and start/stop operation, to avoid motor overload resulted from conveying much materials.

### 8.3 Model Selection

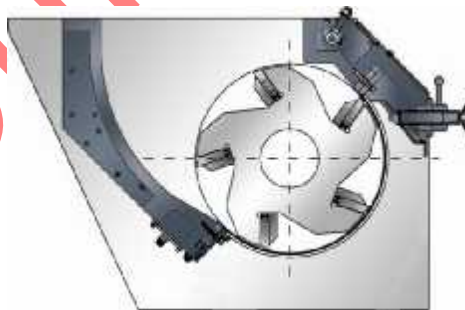
Firstly we should consider that if the max dimension of regrind materials is smaller than the diameter of feed-in port. The machine is not available if it is larger. Granulators are also selected according to the thickness and hardness of materials besides acceptable dimensions, to reach desired throughput capacity and save energy. Lastly, screen mesh should be selected according to particle size of regrind materials and type of model.

### 8.4 Q & A

Q: SG-70 series have 2 fixed blades and 3 fixed blades, but how to differentiate them?

A: When SG-50 is used to granulate thick flake, salivation material and block materials, in order to improve cutting efficiency and protect cutting chamber, 3 fixed blades and 5 rotating blades are available. Because the impact load for back block of cutting chamber is so heavy.

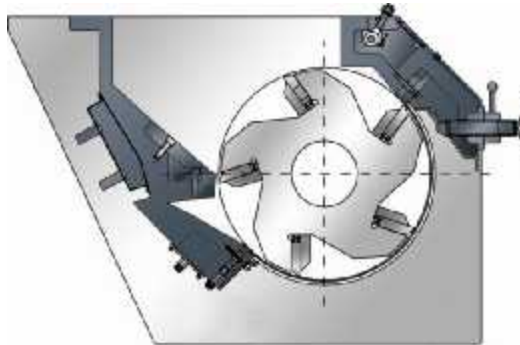
The design of two lines of fixed blades leaves great space to the inlet, and the initial cutting point of the blade is low so that materials can be caught and cut promptly. This design makes the machine suitable for crumbling hollow objects such as bottles and rollers.



Picture 8-2: Blade Rest (5 × 2) of Sound-proof Central Granulators SG-70

Five-claw semi-closed rotor prevents the material from falling into the rotary blades because gap between two blades is small. The design of three lines of fixed blades narrows the feeding port and heightens the initial cutting point. The cutting effect is not so intensive and the rotor will not be blocked even if the requirements are strict. The large and heavy

rotary blades are suitable for granulating head material, thick-wall objects and thick plates.



Picture 8-3: Blade Rest (5 × 3) of Sound-proof Central Granulators SG-70

Q: Can SG-70 series be used to granulate fiber-added material?

A: Yes. The proportion of fiberglass should be less than 30% (this model is not available as the percentage is more than 30%), and V-4E blades are standard.

Q: What is the surface hardness of standard blades of SG-70 series?

A: The surface hardness is HRC58~60.

Q: What is the standard motor protection level of SG-70 series?

A: IP55.

Q: What is the performance of SG-70 series used to granulate CPVC tubing?

A: The handling characteristic of CPVC tubing is similar to Nylon; SG-70 series is not suitable but fiber-added granulator.

Q: What are the requirements of cooling system of SG-70 on water pressure, flow and temperature?

A: The required pressure of cooling system is 2~3kgf/cm<sup>2</sup>, and water flow is not less than 10L/min, room temperature.

Q: What is the requirement to external dimensions of materials when SG-70 series adopt material side feed pipe?

A: Material side feed pipe is easy to feed some long materials, and external dimensions of material is designed according to feeding standard. Besides, the dimensions is not more than side feeding hopper dimensions ( 400x400mm ) .

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## 9. Roll-feed Granulators SGF



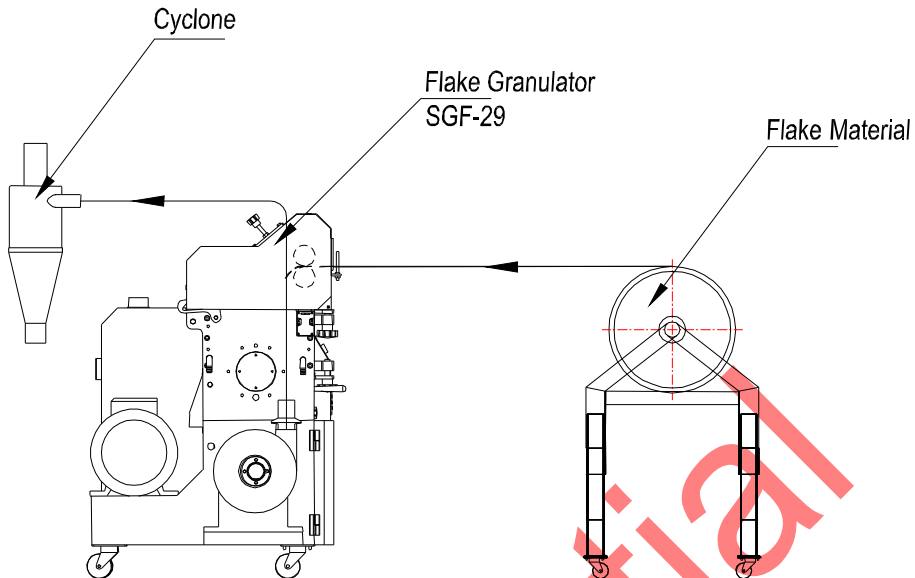
Picture 9-1: Roll-feed Granulators

### 9.1 Application Fields

Roll-feed granulators are suitable for granulating and recycling plastic film, including fabric bags, flakes, and thin films and so on.

### 9.2 Application Cases

Under normal circumstances, SGF series can be mounted by the side of molding machine. Materials can be feed by manual or by belt conveyor.



Picture 9-2: Equipped with Cyclone Dust Collector

### 9.3 Model Selection

Firstly we should consider that if the width of regrind flake is smaller than the diameter of feed-in port. The machine is not available if it is larger. Granulators are also selected according to the max throughput capacity besides acceptable dimensions, to reach desired throughout capacity and save energy. Lastly, screen mesh should be selected according to particle size of regrind materials and type of model.

### 9.4 Q & A

Q: Can SGF series granulate thin film with 0.18mm thick? If can not, what are the improved methods for SGF series to granulate this thin film?

A: If the thickness of film is 0.18mm, grinded materials are hard to be conveyed by feeding blower. The clearance between rotating blades and fixed blades is 0.2mm, and thickness of the material should be 0.5mm~6mm. There is no other good method for SGF to handle this film of 0.18mm except the former one.

Q: What is the blade material and surface hardness of SGF series?

A: The blade is made of SKD11, the surface hardness is HRC56~58.

Q: What is the standard motor protection level of SGF series?

A: IP55.

Q: What are the requirements of cooling system of cutting chamber of SGF series on water pressure, flow and temperature?

A: The required pressure of cooling system is 2~3kgf/cm<sup>2</sup>, and water flow is not less than 5 L/min, room temperature.

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## 10. Shredders SGS



Picture 10-1: Shredders

### 10.1 Application Fields

SGS single-shaft shredder granulator can shred extra thick, tough and large solid materials. It is suitable for recycling all kinds of materials, such as plastic, rubber and wood.

SGS double-shaft shredder is widely suitable for cutting all kinds of plastic piece, plastic with thin shell, leather, matchwood and wood flour etc.

### 10.2 Application Cases

Under normal circumstances, SGS series can be installed in workshop to process central granulating, and forklift or equipped with feeding hopper for conveyor are used to feed.

### 10.3 Model Selection

Firstly we should consider that if the max dimension of regrind materials is smaller than the diameter of feed-in port. The machine is not available if it is larger. Granulators are also selected according to the thickness and hardness of materials besides acceptable dimensions, to reach desired throughput capacity and save energy. Lastly, screen mesh (suitable for SGS-6080S)

should be selected according to particle size of regrind materials and type of model.

#### 10.4 Q & A

Q: What are the requirements of SGS-6080S on external dimensions when it is used to granulate thick wall tubing?

A: Optimally the diameter of tubing is 550mm below and its wall thickness is not more than 60mm.

Q: Can SGS series be used to granulate fiber-added material?

A: Single-shaft shredder is available, but the blades should be made of V-4E (need to be customized). Double-shaft shredder can not be use to granulate fiber-added materials.

Q: What is the surface hardness of blades of SGS series?

A: The surface hardness is RC56~58.

Q: What is the standard motor protection level of SGS series?

A: IP55.

Q: What is the performance of SGS series used to granulate CPVC tubing?

A: The handling characteristic of CPVC tubing is similar to Nylon; SGS series is not suitable but fiber-added granulator.

Q: What is the performance of SG-70 series used to granulate CPVC tubing?

A: The handling characteristic of CPVC tubing is similar to Nylon; SGS series is not suitable but fiber-added granulator.

## 11. Conveyor PNL/PNL-MS/SV/CB/CBD



Picture 11-1: PNL Belt conveyor



Picture 11-2: PNL-MS belt conveyor with metal detector



Picture 11-3: SV declined belt conveyor



Picture 11-4: CB inclined belt conveyor



Picture 11-5: CBD inclined belt conveyor with separator

## 11.1 Application Fields

PNL belt conveyors are widely suitable for working with CB or SV. It also can be used as assemble belt conveyors.

The series of PNL-MS can detect the metal when conveying.

The series of CB is suitable for conveying the sprues or plastics parts from the side or bottom of the injection machine to the height.

The series of CBD is suitable for conveying the plastics parts from the side or bottom of the injection machine to the separator. The separator can divide the plastics parts from sprues. The height can change in a certain range; its

capacity is stable and convenient to control.

The series of SV can be used with fetching machine or mechanical arm to convey the plastics parts to the low.

## 11.2 Application Cases

Under normal circumstances, belt conveyors series can be used with shredders, granulators or mechanical arm.

## 11.3 Model Selection

Firstly we should consider the shape and weight of materials, powder is unsuitable to convey. PNL-MS can convey 150Kg at most, and other's is 70KG, after this, you can choose the type of model according the distance, the shape of material and used site.

## 11.4 Q & A

Q: What is the largest weight which the PNL can convey and the highest temperature that the PNL can bear?

A: It can convey 70Kg at most and bear 80°C at highest.

Q: Can the conveying speed of CB series models be changed?

A: At present, all of our belt conveyors can change its speed in 0~6m/min.

## 12. Clearance between Fixed Blades and Rotary Blades

As core components of the granulator, service life of blades in the cutting chamber determines life span of the granulator. Clearance between blades also decides cutting effect. Clearance between fixed blades and rotary blades we adopt is shown in the following table:

Model	SG-16/20	SG-23/30	SG-36/43/50/70	SG-29
Clearance(mm)	0.2~0.3			0.1~0.15

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## Version

No.	Page (P) Chapter (C)	Description	Date Dep./Name
1		New Document	2010-04-01 TM/Henry Chang
2		Revising coding principle Add introduction of belt conveyor Revising pictures	2010-10-19 TM/Gavin Bai
2		New brand image	2013-04-28 TM/Gavin Bai

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## Feedback Form

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1. Your general feeling about this manual:

- Perfect       Common       Not good

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- Of great help       Not much       Not at all

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