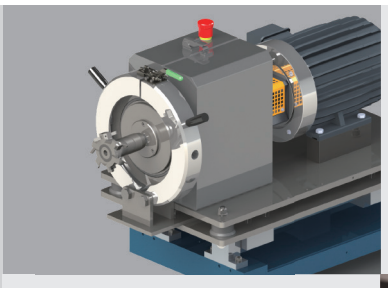
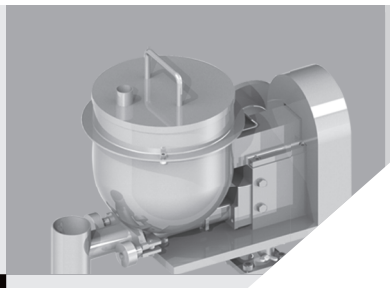
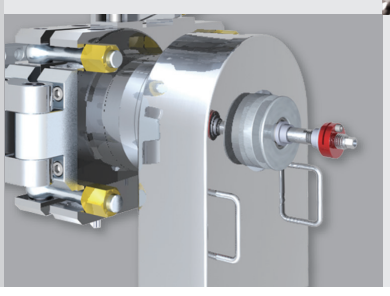
SINO







Sino-Alloy Products

Polyalloy / Sino-Alloy Partnership Optimizes Compounding

Company Profile

Sino-Alloy Machinery Inc. manufactures a full-line of Co-Rotating Twin-Screw Extruders for polymer-alloying, reinforcement, reaction, devolatilization, and masterbatch. Along with our auxiliary equipment, R&D, and our affiliate Polyalloy Inc., we offer turn-key compounding technology using continuously improved efficiency, quality, and reliability with prompt delivery and at a reasonable price. All the while meeting and exceeding the standards expected by our customers.

Product Introduction

PSM Series Co-Rotating Twin-Screw Extruders

The PSM series of co-rotating twin-screw extruders is Sino-Alloy Machinery's main focus of product research and development. The main applications of high-speed co-rotating twin-screw extruders are continuous filling of plastic or rubber material for blending, reinforcing, degassing, reaction, and coloring during the compounding process. These extruders are also suitable for continuous processes such as blending, puffing, wood fiber extrusion, and the gelatinization and extrusion of foods or pharmaceutical ingredients. All extruders in the PSM series utilize modular barrels and screw elements making it easy to swap, maintain, adjust, and tailor to your specific formulations.
The PSM series extruders are equipped with industrial-grade PLC controllers and user-friendly color touch screen panels for manual or automatic operations. The extruders' operating parameters are logged and displayed on the touch panel. The operating algorithm includes abnormal alarm, abnormal shut down, interlock control, and other safety features. All PSM series extruders meet or exceed CE and international safety standards.

PSM20A, PSM20B Laboratory Co-Rotating Twin-Screw Extruder

- Utilizing the latest 3D software and Sino-Alloy's years of experience in compounding and manufacturing extruders, the PSM20A and PSM20B were developed for R&D purposes.
- Suitable for compounding applications, such as: blending, puffing, degassing, reactive, reinforcement, filler, coloring, etc.
- Perfect size for experimenting with different formulations without wasting material and using less space and energy.
- High-efficiency AC inverter motor is used for its stable output speed, torque, durability, and very maintenance-free. A mechanical torque limiter protects the motor and gearbox from sudden overloads.
- The parallel shaft designed gearbox has an output speed of 600 rpm. The independent oil circulation pump with temperature and oil pressure monitoring device ensures complete gear and bearing lubrication to extend the gearbox life. Maintenance is simple, allowing for smooth and quiet operation.

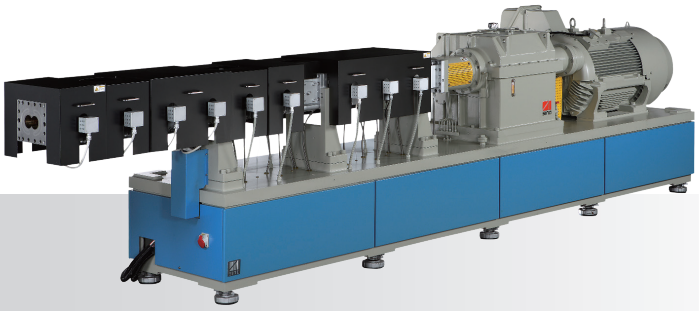
PSM30A, PSM30B Small Co-Rotating Twin-Screw Extruder

- Utilizing the latest 3D software and Sino-Alloy's years of experience in compounding and manufacturing extruders, the PSM30A and PSM30B were developed for R&D testing purposes, and small batch production.
- Suitable for compounding applications, such as: blending, puffing, degassing, reactive, reinforcement, filler, coloring, etc.
- Perfect size for experimenting with different formulations without wasting material and using less space and energy, yet large enough for small production runs.
- High-efficiency AC inverter motor is used for its stable output speed, torque, durability, and very maintenance-free. A mechanical torque limiter protects the motor and gearbox from sudden overloads.
- The parallel shaft designed gearbox has an output speed of 600 rpm. The independent oil circulation pump with temperature and oil pressure monitoring device ensures complete gear and bearing lubrication to extend the gearbox life. Maintenance is simple, allowing for smooth and quiet operation.

- Company name：SINO-ALLOY MACHINERY INC.
- Established：August 10th,1990
- Capital：1 million and 30 US dollars
- Representative Director：Mike Chen
- Business Contents：
  Design, manufacture and sale for co-rotating twin screw extruder and related auxiliaries.
- Number of Staff：30
- Total Area：3300m

PSM50, PSM50A, PSM50B Co-Rotating Twin-Screw Extruder

- Utilizing the latest 3D software and Sino-Alloy's years of experience in compounding and manufacturing extruders, the PSM50, PSM50A, and PSM50B were developed for small batch production.
- Suitable for compounding applications, such as: blending, puffing, degassing, reactive, reinforcement, filler, coloring, etc.
- Small enough for experimenting with different formulations without wasting material and using less space and energy, yet large enough for production runs.
- High-efficiency AC inverter motor is used for its stable output speed, torque, durability, and very maintenance-free. A mechanical torque limiter protects the motor and gearbox from sudden overloads.
- The parallel shaft designed gearbox has optional output speeds of 350, 600, and 900 rpm. The independent oil circulation pump with temperature and oil pressure monitoring device ensures complete gear and bearing lubrication to extend the gearbox life. Maintenance is simple, allowing for smooth and quiet operation.

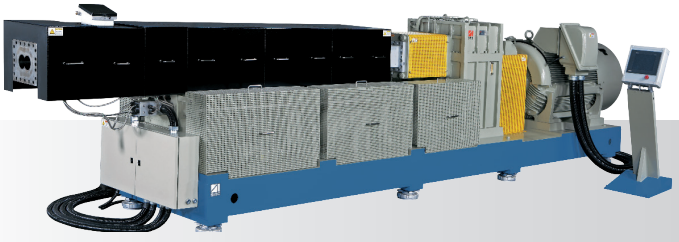


PSM72, PSM72A, PSM72B Co-Rotating Twin-Screw Extruder

- Utilizing the latest 3D software and Sino-Alloy's years of experience in compounding and manufacturing extruders, the PSM72, PSM72A, and PSM72B were developed for small batch production.
- Suitable for compounding applications, such as: blending, puffing, degassing, reactive, reinforcement, filler, coloring, etc.
- Versatility, reasonable price, and ease of operation make the PSM72, PSM72A, and PSM72B our most popular extruder line.
- High-efficiency AC inverter motor is used for its stable output speed, torque, durability, and very maintenance-free. A mechanical torque limiter protects the motor and gearbox from sudden overloads.
- The parallel shaft designed gearbox has optional output speeds of 350, 600, and 900 rpm. The independent oil circulation pump with temperature and oil pressure monitoring device ensures complete gear and bearing lubrication to extend the gearbox life. Maintenance is simple, allowing for smooth and quiet operation.

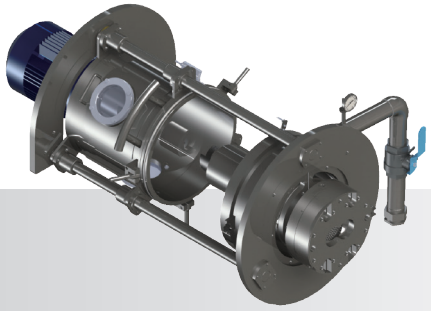
PSM92, PSM92A, PSM92B Co-Rotating Twin-Screw Extruder

- Utilizing the latest 3D software and Sino-Alloy's years of experience in compounding and manufacturing extruders, the PSM92, PSM92A, and PSM92B were developed for small batch production.
- Suitable for compounding applications, such as: blending, puffing, degassing, reactive, reinforcement, filler, coloring, etc.
- High capacity, reasonable price, and ease of operation make the PSM92, PSM92A, and PSM 92B the perfect choice for large production requirements.
- High-efficiency AC inverter motor is used for its stable output speed, torque, durability, and very maintenance-free. A mechanical torque limiter protects the motor and gearbox from sudden overloads.
- The parallel shaft designed gearbox has optional output speeds of 350, 600, and 900 rpm. The independent oil circulation pump with temperature and oil pressure monitoring device ensures complete gear and bearing lubrication to extend the gearbox life. Maintenance is simple, allowing for smooth and quiet operation.



Now available in 112 mm for even higher throughput.

Pelletizer



PSF Water-Ring Pelletizer

- The PSF water-ring pelletizer was developed by Sino-Alloy Machinery as an important accessory to our extruder line. Especially good at handling low hardness rubber material and material which may be too brittle for strand pelletizing.
- Variable speed cutting blade to control pellet size and surface quality.
- Use in line with our PSL series centrifugal dryers to complete the water-ring pelletizing system.

Model	PSF08	PSF20	PSF35	PSF60
Throughput (kg/hr)	12~80	40~250	110~700	1200
Motor Power (kW)	2.25	2.25	3.75	7.5
Knife Max Speed (rpm)	3450	2500	2500	2500
Q'ty of Blade	2 or 4	2 or 4	4	2 , 3 or 4
Heater Power (kW)	1.4	4.3	6	8.4
Die (Hole x Dia.)	6 x Ø3.5	20 x Ø3.0	48 x Ø3.0	132 x Ø3.5

PSH Strand Pelletizer

- The PSH strand pelletizer was developed by Sino-Alloy Machinery as an important accessory to our extruder line.
- Strands from the extruder are pulled through a water-filled cooling bath and blown dry by an air knife before entering the pelletizer. This simple pelletizing process is applicable to many different types of plastics and rubber.
- Our knives are made with tungsten carbide steel to ensure a long life and clean cuts.
- Puller and rotary knife can be synchronized to ensure uniform pellet size regardless of the extruder throughput.
- Designed with built in safety features, the moving parts are all enclosed within a protective cover.

Model	PSH05	PSH10	PSH15	PSH20B	PSH25B
Throughput (kg/hr)	2~20	150~200	350	350~700	1200
Motor Power (kW)	0.75	2.25	3.75	3.75~11.2	3.75 & 11
Cutter Material	SKD11	TCT	SKD11	TCT	TCT
Cutter Dimension (mm)	Ø108	Ø156	Ø156	Ø156	Ø165
Size of Opening (mm)	40	200	200	200	350
Pellet Length (mm)	3	3	3	3	2.5~4

PSQ Underwater Pelletizer

- The PSQ underwater pelletizer was developed by Sino-Alloy Machinery as an important accessory to our extruder line. Especially good at handling low hardness rubber material and sticky materials.
- Hot melt is extruded through a die into a water-filled cutting chamber where it is die-face cut by a high-speed cutter. The resulting spherical pellets are conveyed via water slurry to a centrifugal dryer.
- Use in line with our PSL series centrifugal dryers to complete the underwater pelletizing system.

Model	PSQ05	PSQ10	PSQ20	PSQ35	PSQ45
Throughput (kg/hr)	15	20~100	50~300	110~700	300~1800
Motor Power (kW)	0.75	1.5	4	7.5	11
Q'ty of Blade	2	2	6	4	4&6
Die (Hole x Dia.)	2 x Ø2.5	8 x Ø2.5	10 x Ø3.3	40 x Ø3.3	80 x Ø2.8
Heater power (kW)	7	6.5	6.5	18.3	18.3

PSW Air-Cooled Pelletizer

- The PSW air-cooled pelletizer was developed by Sino-Alloy Machinery as an important accessory to their extruder line. Especially good for hygroscopic materials.
- Variable speed cutting blade to control pellet size and surface quality.
- Use in line with our cyclone tanks to complete the air-cooled pelletizing system.

Model	PSW05	PSW08	PSW20	PSW35	PSW45	PSW92
Throughput (kg/hr)	2~20	4~40	10~200	100~800	50~350	1200
Motor Power (kW)	0.18	0.37	0.75	1.5	2.2	7.5
Knife Speed (RPM)	115~700	115~700	~700	~700	~700	700
Q'ty of Blade	2	4	4	4	4	6
Die (Hole x Dia.)	4 x Ø3.0	7 x Ø3.0	7 x Ø3.0	12 x Ø3.0	12 x Ø3.0	24 x Ø3.0

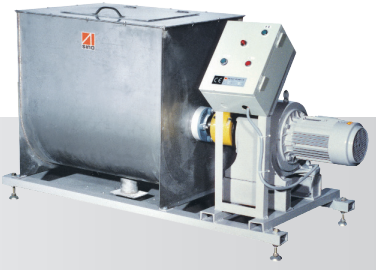
Auxiliary Equipment

PLC Control System

- Touch Screen Interface
- Customization
- User-Friendly
- Records

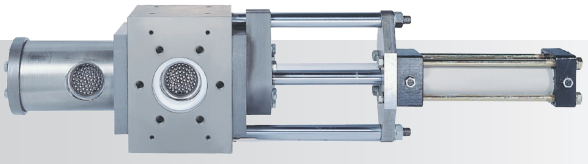
PSE Low-Speed Mixer

- The PSE low-speed mixer is a frequently used accessory for the PSM series co-rotating twin-screw extruder.
- Raw material does not heat up in the mixer which is beneficial to its stability.
- After the premix stage the material can be fed to the extruder via one of our PSA single-screw feeders, PSB twin-screw feeders, PSC twin-screw side feeders, or the PSD single-screw force feeder.
- Also compatible with feeders from other manufacturers or gravimetric loss-in-weight feeding systems.



Model	PSE50	PSE35	PSE40
Hopper Volume (L)	50	360	480
Motor Power (kW)	0.75	2.2	2.25
Mixer Speed (rpm)	17.5	17.5	17.5
Diameter of the Mixer (mm)	Ø316	Ø646	Ø696
Hopper and Blade Material	SUS	SUS	SUS

PSG Screen Changer

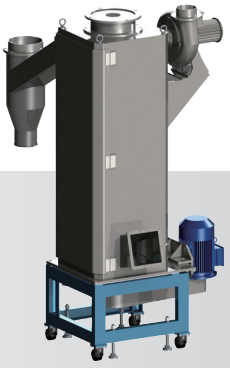


- The PSG series hydraulic screen changer was developed by Sino-Alloy Machinery as an important accessory for filtering out contaminants.
- Suitable for filtering out impurities and the amount of filtration can be determined by using different mesh sizes to meet high quality filter requirements.
- The PSG screen changer uses a manually operated hydraulic actuator to move the dual-cavity piston, allowing for changes within a few seconds.
- Additionally, it has a simple compact design for ease of use and cleaning.

Model	PSG30	PSG50	PSG72	PSG92
Screen Surface Area (cm²)	12.5	30	70	220
Max Resin Pressure (MPa)	30	30	30	30
Heater Power (kW)	2.6	3.2	4.4	7.8
Changing Speed (Sec.)	2	2	5	5

PSL Centrifugal Dryer

- The PSL series centrifugal dryer was developed by Sino-Alloy Machinery as an important and essential accessory for both the PSF series water-ring and PSQ series underwater pelletizers. The PSL series dryers utilize high-speed centrifugal force in combination with forced air flow and evaporation to dry the pellets.
- Superior performance over vibrating dryers in terms of drying efficiency, throughput, space-saving, and noise level. The PSL series centrifugal dryer can also be a great replacement for that old vibrating dryer.

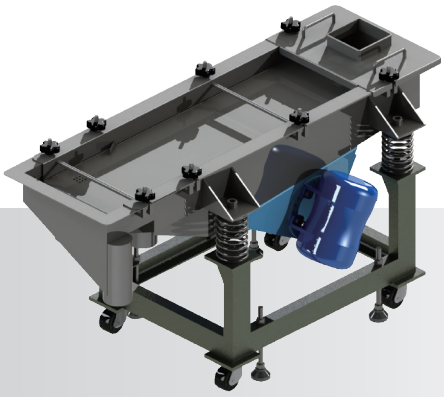


Model	PSL05	PSL20	PSL35	PSL60
Max Throughput (kg/hr)	30	250	700	1500
Motor Power (kW)	0.75	1.5	4	15
Rotation Speed (rpm)	1750	1710	1740	1750
Moisture Aspirator Motor (kW)	N/A	0.37	0.75	N/A
Power of Water Pump (kW)	0.75	1.5	3.75	5.5
Discharge Capacity (L/min)	38	140	400	700

PSK Cooling Bath

- The PSK series cooling bath was developed by Sino-Alloy Machinery as an important and essential accessory for the strand pelletizing process.
- The extruded plastic strand is passed through the cooling bath then dried by an air blade and low pressure vacuum before entering the strand pelletizer to be cut to size.
- It has a simple design which can be customized with chillers or heaters depending on the production needs.

Model	PSK20	PSK25	PSK30	PSK40	PSK60
Dimensions (LxWxH)mm	2000x205x165	2500x402x935	3000x505x1025	4000x610x960	6000x650x1000
Bath Material	SUS	SUS	SUS	SUS	SUS
Dehumidifying Blower Power	N/A	0.75	1.5	2.25	2.25



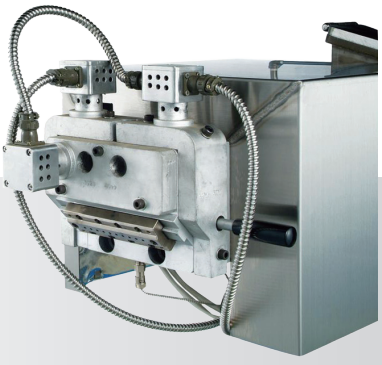
PSN Separator

- The PSN series separator was developed by Sino-Alloy Machinery as an important accessory to their extruder line to ensure uniform pellets.
- Powerful high-speed vibration motors with multiple screens and mesh sizes to filter out small fines and large agglomerates.
- Optional air-cooling and dehumidifying functions can be added to further reduce the heat and moisture of the pellets.

Model	PSN45	PSN70	PSN90
Motor Power (kW)	0.25	2 x 0.25	2 x 0.37
Screening Capacity (kg/hr)	400	1000	2000
Thick Screen (mm)	Ø2 + Ø6	Ø6	Ø8
Thin Screen (mm)	Ø2	Ø2	Ø2
Motor Power of Blower (kW)	N/A	0.37	0.75
Bower Capacity (m³/min)	N/A	17	25

PSZ Strand Die

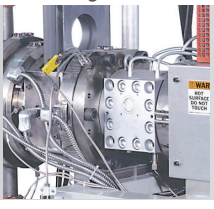
- The PSZ series strand die was developed by Sino-Alloy Machinery as an important accessory to their extruder line and essential for strand pelletizing.
- In order to improve the flow smoothness, Sino-Alloy has brought in special 3D simulation software to help design the die. Precision machining of the parts and the careful selection of materials is part of the process of making the most appropriate strand die.
- The PSZ series strand die has optimized flow design and temperature balance to achieve ease of cleaning, durability, and a smooth flow of material. Furthermore, Sino-Alloy can also help to design or improve strand dies from other manufacturers.



Model	PSZ20	PSZ30	PSZ50	PSZ72	PSZ92
Die (Hole x Dia.)	1 x Ø3	4 x Ø4	6 x Ø4	21 x Ø4	35 x Ø4
Heater Power (kW)	0.6	1.8	1.85	3.0	8.35
Heater Type	Heating Shell / Catridge				
Melt Resin Thermometer	Actual Melt Temp.				

PSV Diverter Valve

- The PSV series diverter valve was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- The PSV diverter valve can divert scrap material during start up or in process. It can also interrupt incoming material input if there is a problem with production.
- The PSV diverter valve is made of special grade steel with surface treatments to reduce surface roughness. The parts are also machined to extremely high standards to ensure there is no leakage or internal wear.
- The thermal and flow dynamics of the internal design are also well thought out to ensure the smooth flow of material. The end result is easy cleaning and no dead spots in the melt flow.



Model	PSV30	PSV43	PSV60
Channel Diameter (mm)	30	43	56
Heater Power (kW)	4.0	5.6	5.0
Hydraulic Cylinder	Ø25 / Ø55 / 130	Ø80 / Ø40 / 120	Ø100 / Ø50
Power of Hydraulic Pump (kW)	2.25	3.75	5.5
Discharge Capacity (L/min)	18.9	18.9	31.8
Max. Working Pressure (kg/cm^2)	350	350	350

PSX High-Pressure Liquid Injector

- The PSX high-pressure liquid injector was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- The PSX high-pressure liquid injector is made up of a storage tank, proprietary precision plunger pump, and one-way valve type fluid injector. It can generate pressures as high as 50 kg/cm. This feeder can be connected to any feeding port of the extruder.
- The PSX high-pressure liquid injector is also capable of injecting high pressure gases or super-fluid liquids. Not only is it suitable for the injection of liquid and gaseous additives in rubber or plastics materials, but also for may plastic and rubber reactive processes or the injection of liquid ingredients in food and pharmaceutical.
- The PSX high-pressure liquid injector can also be supplied with heating and insulation devices, loss-in-weight metering devices, or flow controllers for precise measurements of the input quantity.

PSY Anti-Overflow Vacuum

- The PSY anti-overflow vacuum was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- Developed to prevent extruded material overflow from the vacuum vent during degassing and subsequent vacuum failure.
- The PSY anti-overflow vacuum is driven by a pair of vertical intermeshed screws to move overflow material back to the material barrel while degassing with the vacuum.
- Can also be installed on side feeders to prevent overflow.

Model	PSY40
Motor Power (kW)	0.37
Ratio of Speed Reduction	1:20
Screw Speed (RPM)	12~87
Screw Diameter (mm)	Ø40

PSP Storage Tank

- The PSP series storage tank with optional blower is Sino-Alloy's solution for the temporary storage of the rubber or plastic pellets before packaging.
- The PSP series storage tank is made of stainless steel and can be customized to the customer's specifications. The optional blower/dryer can help ensure there is no buildup of residual moisture.
- An optional vacuum loader can transport the rubber or plastic pellets from the PSN separator directly to the PSP storage tank.
- Also available with a packaging function includes air control valves to regulate the output quantity and an automatic weight scale.

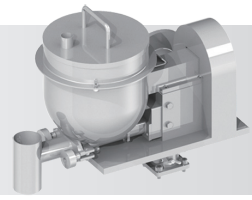
Model	PSP80	PSP160
Volume (L)	800	1600
Material	SUS	SUS
Motor Power of Blower (kW)	3.75	5.5 or 7.5
Blower Capacity (m³/min)	35/45(50/60Hz)	36/48(50/60Hz)

Feeder

PSB Twin-Screw Feeder

- The PSB series twin-screw feeder was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- Its design is based on Sino-Alloy's years of experience. The PSB twin-screw feeder has a large feeding screw chamber for a smooth flow of the feeding material.
- Screw options include intermeshed, non-intermeshed, T-type, and single-flight screws, which can be swapped easily and quickly to match the feeding material.
- The advantages of the intermeshed type of screw pairs are powerful displacement right-angle conveying, self-cleaning of the screws, high feed volume, and stable feeding.
- The deeper and wider groove from a single-flight conveyor, T-type, or non-intermeshed screw is more suited for particulate, flake, fiber, or powder feeding.
- Sino-Alloy can also tailor the design of the feeder to match extruders from other manufacturers.
- Customers can also specify options such as premix, vibrate, preheat or cooling to suit production demands.

Model	PSB20	PSB40	PSB70	PSB92
Throughput (kg/hr)	2~80	65~400	80~1200	160~1600
Motor Power (kW)	0.75	1.5	2.25	5.5
Screw Speed (rpm)	18~350	20~200	28~218	28~218
Screw Diameter (mm)	Ø2	Ø39	Ø70	Ø92
Hopper Volume (L)	5	90	90	150



PSA Single-Screw Feeder

- The PSA series single-screw feeder was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- Its design is based on Sino-Alloy's years of experience. The PSA single-screw feeder has a large feeding screw chamber for a smooth flow of the feeding material.
- Options include standard double-flight, single-flight, T-type, and spring type screws, which can be swapped easily and quickly to match the feeding material.
- The advantages of the intermeshed type of screw pairs are powerful displacement right-angle conveying, self-cleaning of the screws, high feed volume, and stable feeding.
- Sino-Alloy can also tailor the design of the feeder to match extruders from other manufacturers.
- Customers can also specify options such as premix, vibrate, preheat or cooling to suit production demands.

Model	PSA16	PSA32	PSA60
Throughput (kg/hr)	1~15	5~100	80~800
Motor Power (kW)	0.09	0.75	2.2
Screw Speed (rpm)	6~100	18~350	18~180
Screw Diameter (mm)	Ø16	Ø32	Ø65
Hopper Volume (L)	5	10	75

PSD Force Feeder

- The PSD series force feeder was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- Its design is based on Sino-Alloy's years of experience. The PSD force feeder has a large feeding screw chamber for a smooth flow of the feeding material.
- Its specially designed tapered screw has excellent compression properties, designed to handle light powder, fluffy material, mixed type plastic materials, cotton fiber, and wood powder.
- The PSD series force feeder can also be used in conjunction with extruders from other manufacturers.

Model	PSD30	PSD50	PSD70
Throughput (kg/hr)	18~80	40~400	40~400
Motor Power (kW)	0.75	1.5	5.5
Screw Speed (rpm)	11~110	70	110
Screw Diameter (mm)	Ø30	Ø50	Ø110
Hopper Volume (L)	45	120	120

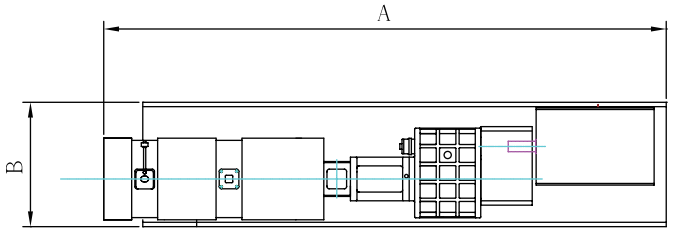
PSC Twin-Screw Side Feeder

- The PSC series twin-screw side feeder was developed by Sino-Alloy Machinery as an important accessory to their extruder line.
- Its design is based on Sino-Alloy's years of experience. The PSC twin-screw side feeder has a large feeding screw chamber for a smooth flow of the feeding material.
- The intermeshed type twin-screw has a self-cleaning feature with powerful displacement force, high feed volume, stable feeding, and excellent aeration properties, making it suitable for moist, low coefficient of friction powders and mixed types of plastics which require forced side feeding.
- Sino-Alloy Machinery can also tailor the design of a PSC twin-screw side feeder to match extruders from other manufacturers.
- Customers can also specify options such as preheating or cooling to suit production needs.

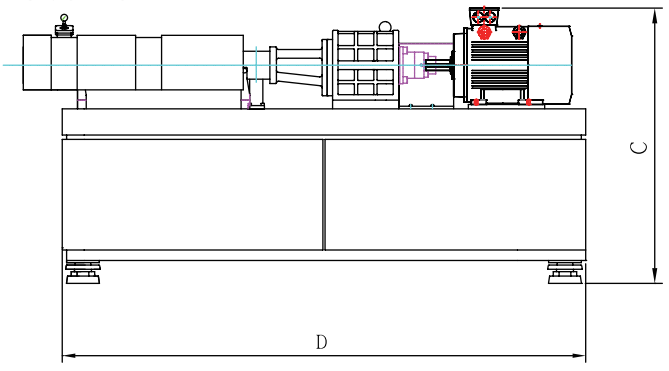
Model	PSC18	PSC25A	PSC40	PSC70	PSC92
Throughput (kg/hr)	2~15	5~30	20~120	80~500	160~1000
Motor Power (kW)	0.12	0.75	1.5	2.25	5.5
Screw Speed (rpm)	6~58	20~185	22~215	18~168	18~168
Screw Diameter (mm)	Ø17.4	Ø24	Ø40	Ø70	Ø92

PSM Series Specification

Top View



Side View



Model		PSM20A	PSM20B	PSM30A	PSM30B	PSM50	PSM50A	PSM50B	PSM72	PSM72A	PSM72B	PSM92	PSM92A	PSM92B	PSM112	PSM112A
RPM of Screw		600	1200	600	900	350	600	900	350	600	900	350	600	900	350	600
Main Motor Power (kw)		5.5	20	22	45	45	90	200	110	220	560	280	430	1100	525	750
Each Screw Torque (N.m)		43	79	180	238	614	710	1060	1500	1750	2971	3820	3430	5836	7162	6130
Screw Diameter (mm)		21.7	21.7	31.2	31.2	50	50	50	72	72	72	92	92	92	110.8	110.8
Center (mm)		1100	1100	1000	1000	1100	1100	1100	1200	1200	1200	1200	1200	1200	1200	1200
Dimensions (mm) (L/D=40)	L	2238	2454	2859	3108	4370	4457	4636	5210	5964	6244	7494	7522	7879	8227	8350
	W	550	550	570	570	760	760	760	870	940	940	1040	1200	1200	1240	1240
	H	1270	1450	1262	1345	1250	1250	1250	1402	1581	1670	1759	1564	1564	1740	1740

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