

Technical Specifications

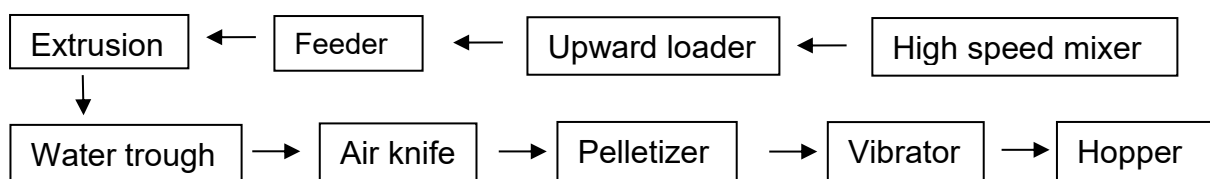


Note: The pictures are for reference, the actual one may differ.



EIBC-95B Water Strand Pelletizing Twin-Screw Extruder


Flow chart



Dear Sirs,

We refer to your requirement, and thank you for the confidence in our equipment and service. Now we quote you:

One(1)co-rotating EIBC-95 twin screw extruder L/D=44



Application	Polystyrene flame retardent
Output	800~1000 kg/h, according to the raw material, formula and processing condition, etc. The smaller the flakes size, the higher capacity. 
Final products size	granule size \approx 3mm, length: 3~4mm(if your request is different, please tell us)


1. Scope of supply

Quantity	Designation
1	Premixing & feeding system Consisting of:
	High speed mixer
	Upwards loader
	Twin-screw metering feeder
1	EIBC-95 Consisting of:
	1 AC MOTOR ,P=315kw for max.600rpm screw speed. speed regulated by ABB inverter.
	1 MECHANICAL NYLON PIN CLUTCH
	1 REDUCTION AND DISTRIBUTION GEAR made in China, main bearing is NSK Japan total torque 2 x 2506 Nm
	1 PROCESSING SECTION L/D = 44 bimetallic liners for barrels (hardness HRC=60~62) and screw elements high-speed steel W6Mo5Cr4V2(hardness HRC=58~60)
	1 SOFT WATER COOLING SYSTEM
	1 VACUUM SYSTEM
	1 ROOTS PUMP
	1 HYDRAULIC SCREEN CHANGER
	1 ELECTRICAL CONTROL CABINET
1	WATER STRAND PELLETIZING LINE

	1 WATER TROUGH
	1 AIR KNIFE
	1 PELLETIZER
	1 VIBRATOR
	1 BLOWRE
	1 PRODUCT HOPPER
1	SPARE PARTS

2.Configuration for EIBC-95B Twin-Screw Extruder

No	NAME	QUANTITY	REMARK
1.0	Feeding system		
1.1	High speed mixer	1set	
	Model of SHR800, motor power 83/110kw, ABB transducer, Heating power 15kw 		
1.2	Upwards screw loader	1set	
	Type: HS 1000 Conveying motor power: 1.5kw Feeding pipe diameter: 102mm 		
1.3	Twin-screw metering feeder	1set	

	motor power is 2.2kw. Speed regulated by ABB transducer.															
																
2.0	Twin screw extruder															
2.1	Main extruder:EIBC-95/600-315--44	1set														
	<div>1) Screw diameter: 93mm. Screw length(L/D):44 Screw speed:600rpm Barrel number:11</div> <div>The individual barrel section are designed as: Barrel#1-11 made of bimetallic liners(45#steel+α101), processing heat treatment. HRC=60-62.</div> <div>A pair of screw shafts, complete with screw elements: Screw elements are made of high speed tool steel W6Mo5cR4v2, HRC=58-60.</div> <div>All barrel sections heated electrically and cooled by water. All the heating power:~107kw</div> <div>Barrel arrangement: 1) Barrel#1: open barrel for feeding 2) Barrel#2-3: closed barrel, casting copper 3) Barrel#4-5: closed barrel, casting aluminum 4) Barrel#6: open barrel for vacuum, casting aluminum 5) Barrel#7-9: closed barrel, casting aluminum 6) Barrel#10: open barrel for vacuum, casting aluminum 7) Barrel#11: discharge barrel connecting to screen changer</div> <div><div><div>↓ Feeding</div><div>↑ Degassing</div><div>↑ Vacuum</div></div><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>Hydraulic screen changer</td><td>Die section</td></tr></table></div>			1	2	3	4	5	6	7	8	9	10	11	Hydraulic screen changer	Die section
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	<div>2) AC Main Drive Unit</div> <div>The extruder main drive unit is a three phase AC motor. Cooling of the motor is ensured by a fan mounted on the motor shaft.</div>															

Technical data-motor

- | | |
|-----------------------|-------------------------------|
| ● Motor maker | Siemens China |
| ● Inverter | ABB inverter |
| ● Ambient temperature | $\leq 40^{\circ}\text{C}$ |
| ● Installation height | $\leq 1000\text{m}$ |
| ● Power | 315kw |
| ● Speed | 1500rpm |
| ● Cooling method | by a fan mounted on the shaft |

Converter cabinet

The converter is suitable for installation in a dry room where air is not polluted with fine dust, e.g. product fines.

The cabinet consists of:

- Main switch
- Main contactors
- Control power transformer
- Operator push buttons integrated in door

3) Clutch

The clutch is used to transmit the power from the motor to the gearbox

The clutch consist of two couples linked with nylon pins

4) Reducing and distributing gearbox (warranty of 2 years)

The gearbox reduces the motor speed to the speed of the screw shafts and distributes it to the two output shafts. Screw torque is 2506 N.m per shaft

The gearbox consists of:

- Involute gear teeth couplings between the output shafts and screw shafts
- Integrated thrust bearing assembly, radial bearings of the output axis are NSK products
- Bottom part of casing designed as oil sump



5) Processing section

Description

Screw barrel

The flexible modular principle is realized with screw barrel sections from the wide range of different designs possible. Fast, intensive and uniform heating of the screw barrel section is ensured by electrical heaters. The barrel sections are cooled with water, by means of an internal bore system, with bores arranged close to the inside barrel wall.

Barrel sections are available as:

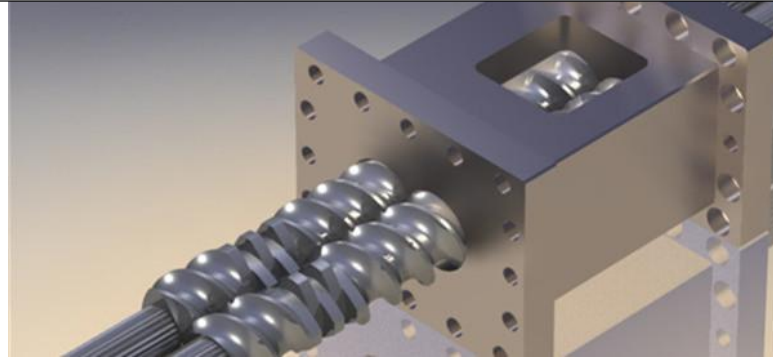
- Closed barrel section
- Barrel section with opening for material feed or for devolatilization
- Barrel section with top open for venting

The processing section is provided with stainless steel plates as a protection against accidental contact.

Screw shafts/Screw elements

The intermeshing screws co-rotate and wipe each other with narrow clearance so that no residues are left in the screw flight and clean effort is thus reduce.

- Screw elements with various pitches and lengths
- Kneading blocks with various angles of stagger, numbers of kneading disks and disk widths.
- Screw tips to fix the screw set axially
- Gear teeth connection to ensure power flow between the screw shaft and screw elements.



6) Soft water cools the barrels with condenser

Material of input and output pipes is stainless steel

Solenoid valve: imported **Danfoss** products

Manual valve: stainless steel

The water pump motor in the soft water system is 1.5kw..

The soft water is distilled water.



The vacuum Vacuum pump motor is 1.5kw,

The flexible vacuum unit is used for the removal of volatile matter from the product.






Including vacuum pump, vacuum tank, valves and gauges and pipes, etc.





2.2 Hydraulic screen changer

Screen changer is used to filter trash from melt. It consist of

- Hydraulic screen exchanger, pistol/cylinder type
- pistol screen changer with big filter area
- Two position for hydraulic re-move
- Oil station
- Motor power: 3.7kw

	<ul style="list-style-type: none"> Electrically heating power:5kw <p>Control system</p> 		
3.0	Water strand pelletizing line		
3.1	Pelletizer	1set	
	<p>Planer type,motor power 11kw.</p> 		
3.2	Water trough	2sets	
	<p>material of stainless steel, each of 4 meters, each trough equipped with 4 sets of auxiliaries.</p> 		
3.3	Air-knife	1set	
	<p>motor power 3kw; material of surface touching products is stainless steel.</p> 		
3.4	Vibration sieve	1set	
	<p>motor power 2*0.2kw, model 500.</p> 		
3.5	Blower	1set	
	Motor power 7.5kw		

		
3.6	Product hopper	1set
	Material of stainless steel, volume of 1m ³ , equipped with conveyor tube. 	
4.0	Electric control cabinet	1set
	<p>For indoor installation within 5m to the extruder in non-hazardous atmosphere, under normal ambient conditions.</p> <p>Essential components as per machine specification:</p> <ul style="list-style-type: none"> ● Max. Ambient temperature: 40℃ ● Measuring circuits with digital display for <ul style="list-style-type: none"> Motor speed Motor current Melt temperature Melt pressure Die head temperature 11 zone temperature control ● Temperature controller adopts OMRON ● Main replays and switches are SIEMENS or Schneider brand ● Each motor run/stop is controlled by light button ● The electrical control system consists of: temperature control system, drive system, and interlocking control system ● The control cabinet is with large space for aeration, abstraction of heats and maintenance; forcing aeration equipment, filter in the inlet air; the light in the cabinet will be turned on when the door is opened, easy for maintenance at night. ● Power supply: 380V ±5%, 3 phase/N/PE 50Hz ● Interlock protection for the extruder <ul style="list-style-type: none"> ➤ Main machine is interlocked with the oil pump of the gearbox for the protection; the main machine can't start before the start of the oil pump; 	

- The main machine is interlocked with the blower of the main motor; the main machine can't start before the start of the blower;
- The main machine is interlocked with the volumetric feeder, the volumetric feeder can't start before the start of the main machine;
- Protection of over current, phasing, voltage insufficient;
- Automatic stop when melt pressure over the set value;

Essential built-in components in the cabinet door;

- Push buttons, illuminated keys, switches
 - Emergency
 - Alarm reset
 - Main motor run/stop
 - Oil pump run/stop
 - Water pump run/stop
 - Vacuum pump run/stop
- Signal lamps
 - Oil pump
 - Water pump
 - Vacuum pump
 - Over current
 - Over pressure
- Digital indicators and controllers
 - N zone temperature control
 - Die head temperature control
 - Main motor current
 - Twin screw speed
 - Melt temperature
 - Melt pressure
- 1 handle for main circuit breaker



4.0	Spare Parts		
4.1	Wheel box input and output shaft oil seal	8 pcs	
4.2	Screw component	300 mm	
4.3	Casting aluminium heater	1 pc	
4.4	O-ring seals	3pcs	
4.5	Solid state relay	2 pcs	
The Above spare parts should be offered to the buyer for free when the buyer orders the complete appliance.			
5.0	Instruction and tools		
5.1	Instruction for assembling and operation	1pc	
5.2	Instruction for electrical control cabinet	1pc	
5.3	List of machine delivered	1pc	
5.4	Toolbox	1set	

3. Optional machines

No.	Equipment		
1	Water tower	1set	
2	Air compressor	1set	

4. Exclusions

The following are not included in the scope of our supply

- The preparation of the site with all the necessary foundation work, ceiling openings etc.
- The connecting cables from the mains to the switch unit and from this to the various motors and auxiliary units of our equipment.
- The electrical installation including the required safety devices outside the machine and switch unit
- The connection pipes, gravity feed hoppers etc. between the various units supplied by us

- Any required frames, platforms, suspension devices, covers for feed hoppers etc
- The operating media such as oil, grease etc. as well as raw materials for starting up and operation
- All equipment and services which are not expressly stated in our quotation.

5. Explanations

1) Validity of quotation

The quotation is valid until 2 months after date of its generation.

2) Warranty:

Warranty to be one year from date of operation. After the warranty period, spare parts are provided at cost price. After the warranty period, spare parts are provided at cost price.

If the damage is caused because of incorrect operation of customer self, we are not responsible for this damage.

Some spare parts such as screw component and electric heaters, are kind of consumer good. If need more, customers could purchase them from our company at cost price.

3) Delivery:

Delivery time is within 60 working days after contract takes effect.

The transportation inside China is undertook by supplier, and unload cargo is done by the customers. According to the cargo list, customer signs the cargo list. The transportation and insurance is undertook by customer from board of Nanjing port to the factory. After the whole line transport to the factory, lay the machines according to the layout drawing, then inform the supplier for commissioning.

Customer should supply the water & electric cooperation. The supplier will make a course to teach the customer operate the machines.

4) Commissioning

Maker will send two commissioning engineers. The customer should supply the round tickets, room and board to the engineers. Customer should pay 300 USD per day for each engineer during commissioning within 10 days; Beyond 10 days is for free.

Customer should sign the receiving report upon the acceptance of commissioning.

6. Engineering condition

- Electricity power: **3-phase, 380V, 50Hz (Any difference, please tell us)**
- Control voltage (transformed): 220V AC

- Total consuming power: ~480kw
- Cooling water: 4-6bar, $\leq 25^{\circ}\text{C}$
- Industrial soft water: 150L/tank, $\leq 25^{\circ}\text{C}$
- Compression air: 4-8bar
- Temperature of electrical control cabinet: $\leq 38^{\circ}\text{C}$, free of conductive dust
- No necessity to make special base, the machine put on even load-bearing ground

7. After-sales & tech-service

- Offer installation and operation guide
- Offer acceptance check and trial
- Train service to the operator from buyer
- Spare parts supply for long-term
- Long-term technical consult service
- Warranty period for one year (for free) No contain the quick-wear parts.

Note:

Work condition (Provided by customer)

Warehouse/Workshop	Construction of foundations, construction works, earthworks, and wall works; Supply of cranes, fork-lifts or other lifting equipment; Mounting materials and tools; Dimension (M*M*M): 25 (Length) \times 4 (width) \times 2.5 (Height)
Temperature & Humidity	0-35 $^{\circ}\text{C}$ / $\leq 95\%$
Power supply	Supply voltage: 3phase*380V+N+PE, 50Hz Voltage tolerance: +5%/-5%; Control voltage: 24VDC+220VAC Frequency: 50HZ \pm 2%
Wire/cables/water hose:	Wires/cables: from power supply to control cabinet of this production line and all electrical cables from control cabinet to each machine; Water hose: supply water to machines and pools;
Cooling Water	Without dissolved or suspended minerals as phosphor, sulphur, iron, etc. Inflow temperature T1: max. 15 $^{\circ}\text{C}$; Outflow temperature T2: T2=T1+5 $^{\circ}\text{C}$; Hardness: 5-8 OdH;

	Reflux: without pressure
Lubrication oil:	L-CKC150# (Recommend)
Ancillary staff	1~2 Person