BP-8177-ZB

LABORATORY TWIN SCREW GRANULATION LINE/AIR COOLING CONVEYOR/PLC CONTROL

This machine is suitable for mixing, plasticizing, and extrusion processing experiments of engineering plastics, modified plastics, and color masterbatch. It has functions such as plasticizing homogenization, coloring and sampling, and filling modification.

I. Twin Screw Extruder

1. Output: According to the raw material formulation process
2. Temperature range: Normal temperature ~300℃
3. Temperature accuracy: ±1℃
4. Screw diameter: Φ20 mm
5. Length diameter ratio: 1:40 optional
6. Screw direction: Rodent type, parallel and same direction
7. Screw rotation speed:0-280rpm
8. Screw material: The mandrel is made of 40CrNiMoA chromium-molybdenum alloy tool steel, and the threaded components are made of W6Mo5CR4V2 wear-resistant alloy steel, with a hardness of HRC60, with conveying blocks, mixing blocks, shearing blocks, banburying blocks, kneading blocks, countercurrent blocks, building block series components, and the mandrel is gradually splined and can be combined according to any material ratio to meet the needs of different extrusion processes
9. Barrel material: The 5-section barrel is made of 45# nitriding steel forgings, lined with a301 wear-resistant alloy sleeve, with hardness of HRC60, and treated by nitriding, quenching and tempering and ultra precision grinding, with surface roughness Ra ≤ 0.4 μm. Wear and corrosion resistance
10. Combination method: The combination mode of the screw suite is building block spiral and the machine barrel is multi-section type, with self-cleaning function
11. Heating zone: 5 cast aluminum heaters fixed at barrel, 1 heater at handpiece, each section with 1 kw heating power, external covered with safety protective wind hood
12. Cooling zone: The entire section of the barrel adopts a soft water circulation cooling system, each segments of cooling water flow rate is adjustable, equipped with self-priming circulating water pump, 304 stainless steel water storage tank, inlet and outlet water pipes and the electromagnetic valve components,etc. Can implement independent temperature control and cooling for each section of the barrel unit
13. Vacuum zone: Water circulation vacuum degassing device, equipped with water ring vacuum pumps, vacuum gauge, regulating valve and other components, forming a non-clogging dehumidification exhaust system
14. Feeding device: Adopting double screw metering type forced feeding, equipped

with a horizontal mixer, the feeding is uniform and stable, and it is not easy to bridge. The feeding speed is adjustable by frequency conversion from 0-50rpm, and a sliding rail type fast discharge device is installed

15. Die head pressure: Dynisco high precision temperature and pressure sensors monitor the temperature and pressure changes of the melt in the machine head, interlock and control the operation of the host, with the overpressure protection function
16. Die head: Cr12 chromium molybdenum alloy head, nitriding hardness HRC60, the number of strips and granulation diameter can be selected, with a built-in fast screen changer and a hinge opening device for the machine head
17. Reduction gearbox: High speed heavy duty hard tooth surface gear transmission, with an integrated structure of gear reduction and torque distribution box, internal transmission parts adopt imported high load bearing and oil seal, oil-immersed splash lubrication, smooth operation
18. Drive motor: Precision heavy duty gear reduction motor, constant torque power output control.
19. Main frame: The overall frame is welded with steel, which is sturdy and not easily deformed. The bottom of the frame is equipped with movable and brake casters, making it easy to install and move
20. Safeguard: Safeguard functions include: Melt pressure is interlocked with the host for overpressure alarm protection; Melt temperature is interlocked with the host for startup and shutdown protection; Feeding and host interlocking for startup sequence protection.
21. Electric control system: PLC programmable color touch screen, man-machine interface operation system, extrusion process can be displayed and monitored dynamically, including temperature control, driving, speed, pressure, interlocking and intercontrol function
22. Power: 3 ∮, AC380V, 50Hz Three-phase five-wire
23. Dimension: 1950×500×1500（W×D×H）mm
24. Weight: About 285Kg

II. Air Cooling Conveyor Belt

1. Conveyor belt: Stainless steel mesh belt
2. Transmission speed: 50-70m/min variable frequency speed regulation
3. Cooling device: multi wing fan air cooling
4. Motor: Variable frequency motor
5. Dimension: 3000×360×850（W×D×H）mm
6. Power supply: 3 ∮, AC380V, 10A
7. Weight: 166kg

III. Pelletizer

1. Strand quantity: 3 strands
2. Cutting length: 1～3mm cutting tools clearance is adjustable
3. Traction speed: 1～25m/min frequency adjustable
4. Cutting speed: 1～20Kg/h adjustable
5. Cutter material: High speed alloy steel

6. Motor: 1.5Kw precision speed regulating motor
7. Power: 3 ∮, AC380V, 10A
8. Dimension: 450×430×850（W×D×H）mm
9. Weight: 125Kg

■Information: Manual and Product quality assurance card

Feature

1. The screw diameters are 16 20 25 30(optional), and the length diameter ratio is 10-30 times can be optional.
2. L/D length ratio is 32 40 44 48 52 and 60 times optional.
3. 16mm 24L/D twin screw for powder coating.
4. The barrel is a “clamshell” design that can be split,easy to open for cleaning or observation.
5. Screw elements are a “block-style” free combination.
6. The barrel and screw are made of high-grade tool steel (other materials are optional).
7. Electric heating and water cooling of the barrel section (16mm model is air-cooled).
8. Volumetric feeding hopper, single screw type or twin screw type forced feeding optional.
9. Optional weightless feeding system.
10. Flexible control panel ensures convenient observation at all angles.
11. The observation mirror above the hopper is convenient to observe the material level in the hopper from a distance.
12. Temperature display and control device in each temperature control zone.
13. Melt pressure measurement and display device.
14. Standard single exhaust and optional additional exhaust.
15. Can be connected to the side feeder, equipped with glass fiber port, liquid injection port and other additional openings.
16. Optional LCD computer control, including all parameter settings and storage.
17. It can be connected to water bath and pelletizer to form a laboratory pelletizing line.
18. Can be connected to other downstream equipment to form casting film line, film blowing line, bottle blowing machine, etc.