BP-8178-B

LABORATORY FILM BLOWING MACHINE/PLC CONTROL SYSTEM

This machine is mainly used to detect the processing feasibility of polymer materials, the gel and color distribution in the materials, and the dispersion of colored dispersions, control mixtures, and extrudates. It can also be used for the production of small size films.

I. Single-Screw Extruder

1. Output: about 3-6kg/h, specific according to the raw material process formula
2. Temperature range: Normal temperature ~300℃
3. Temperature accuracy: ±1℃
4. Screw diameter: 20mm
5. Length ratio: 1:28 other length diameter ratio optional
6. Rotation speed of screw: 0-95rpm frequency control
7. Screw material: It is made of 38CrMoAl chromium-molybdenum steel. With the surface-layer processing of quenching and tempering, nitriding, chroming, polishing and super-precision grinding, roughness Ra≤0.4μm, nitriding depth≥0.6mm, hardness HRC55~60.
8. Barrel material: It is made of 45# carbon structural steel. With the surface-layer processing of quenching and tempering, nitriding, chroming, polishing and super-precision grinding, roughness Ra≤0.4μm, nitriding depth≥0.6mm, hardness HRC55~60.
9. Heating zone: 3 zone heaters for barrel, 2 zone heaters for machine head, external covered with safety protective wind hood
10. Cooling device: 3 groups of multi wing fans with super static forced air cooling
11. Hopper: 304 stainless steel material, equipped with slide rail type rapid discharge device
12. Melt pressure: 0-35MPa high precision melt pressure sensor detects changes in head pressure, interlocking control host running
13. Melt temperature: High precision melt temperature sensor monitors melt temperature changes
14. Quick change chuck: C-type snap ring connection, easy for quick connection with downstream equipment
15. Drive motor: 2.2kw precision gear reduction motor
16. Electric control system: PLC programmable color touch screen, man-machine interface operation system, can dynamically display and monitor extrusion process, including temperature control, speed, pressure, driving, interlock intercontrol function
17. Safety protection: The melt pressure is interlocked with the host for overpressure alarm protection; the melt temperature is interlocked with the host for low temperature start-up protection
18. Power: 3∮，AC380V，50Hz Three-phase and five-line

19. Dimension: 1425×550×1360 (W×D×H)mm (excluding adjustable electric cabinet)
20. Weight: about 175kg

II. Die

1. Diameter of dies: Ø30
2. Surface treatment: there is no dead angle inside the runner, the surface is chrome plated, polished and mirror treated
3. Material: S136 alloy
4. Heating area: 2 zones, covered with safety net
5. Film blowing method: upward blowing method

III. Film Blowing Auxiliary Machine

1. Wind ring: single-layer tuyere structure
2. Film thickness: 0.05 ～ 0.10mm adjustable
3. Maximum folding diameter: 150mm
4. Traction rubber roller: Ø 80 × L320mm
5. Traction speed: 0.5~5m/min, adjustable by frequency conversion
6. Winding steel roller: air expansion shaft
7. Winding speed: automatic tension winding without paper core
8. Blowing gas: 0~6bar compressed air adjustable
9. Cooling air：Blower flow 30L/min
10. Traction motor: 120W
11. Winding motor: 3.5N.m
12. Blower: 0.25KW
13. Observations box: LED light source
14. Electric control system: PID/LED/RKC intelligent digital temperature control, high-precision digital instrument display all extrusion parameters including driving, traction, winding, interlock intercontrol function
15. Volume：800×750×2200 (W×D×H) mm
16. Power supply：3 ∮, AC380V, 15A
17. Weight：About 215kg

Feature

1. This machine has compact design and a small body, not occupying too much indoor area.
2. The host and auxiliary machines are of easy assembly with few raw material. The maximum folded diameter of the thin film can reach 200mm.
3. Equipped with C-type quick change head, easy to connect with other devices, such as calendering, casting, granulation, filtration, etc. Also saving time and effort for test conversion.
4. Single-layer or double-layer cooling vane and the closed-loop control of creasing width ensure reliable product quality.
5. The height of the filming blow tower can be adjusted arbitrarily to meet test requirements.
6. The extrusion, traction and rolling have the property of stepless speed regulating, ensuring requirements of film blowing technology to be met.

7. Pneumatic paperless mandrel winding film device is adopted, which is easy to wind and convenient to replace the paper core.
8. Can connect 12.5mm, 16mm, 20mm, 25mm, 30mm, 40mm and 45mm single screw extruder.
9. Die head diameter 20-190mm, optional insert for die gap.
10. The single-layer blown film die has a spiral flow channel structure to ensure uniform melt distribution; the multi-layer co-extrusion die has a “muffin type” structure to ensure uniform distribution of each layer. The inner flow channel has no dead corners, is highly polished and nickel plated, and the die is chrome plated.
11. Integrated inspection light box facilitates quick and real-time observation of film defects.
12. Perfect safety protection configuration, in accordance with CE safety standards.