



BOCHENG
MACHINERY CO.,LTD.
瑞安市博诚机械有限公司

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BC120-1000 Sheet extruder



Working flow:

Raw material particles / scraps--- Screw heating--- Die extrusion--- Three-roll forming--- Cool + trim--- Coil finished product



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Technical parameters:

Model	BC120-1000
Applicable material	PP, PE, PS
Overall power	220kw
Heating power	110kw
Molding sheet thickness	0.3-2.0 mm
Sheet thickness accuracy	+/- 0.015 mm or less
Effective width of sheet	≤850mm
Work efficiency	350kg/h
Machine weight	≈10T
Machine size	13 m * 1.5 m * 2.5 m
Power source	Three-phase four-wire, 380V, 50Hz
Screw diameter	120mm
Screw length-diameter ratio	35:1
Main motor power	110kw
Net changer size	180mm
Melt metering pump model	200cc (optional)
Melt metering pump motor power	7.5kw (optional)
Effective width of die head	1000mm
Effective width of three rolls	1000mm
Three-roll diameter	Φ500*500*350mm



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Roller motor drive power	3.5kw*3
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Machine configuration:

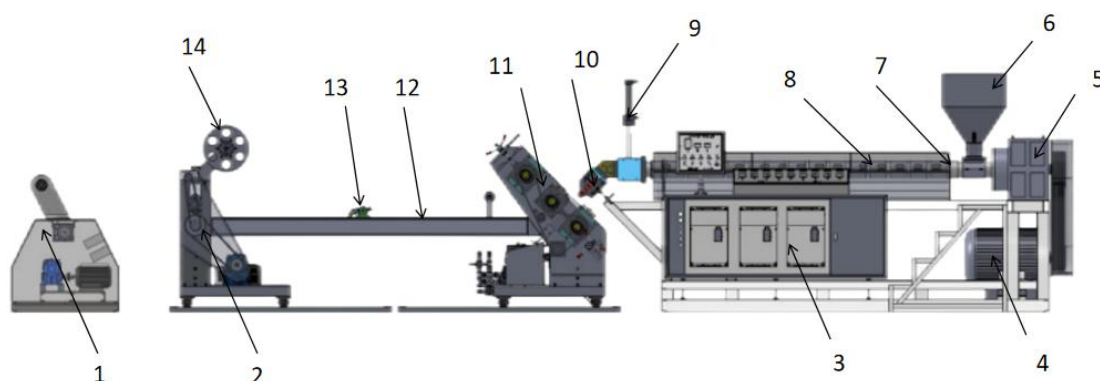
Name	Brand
screw	Gold wheelk
Screw reducer	Guomao/Dabang
Main motor	Wannan Electric Machine
heater	Trimble
Sieve changer	Zhengwei mold
Metering pump	AOMAI
Die head	Zhengwei mold
Frequency changer	INOVANCE
Forming roller	Ziyang roller industry
Roller bearing	NSK
Three roller, traction reducer	Omet
Air switch	Chint
relay	Schneider
contactor	Schneider
Solid state	Yangming



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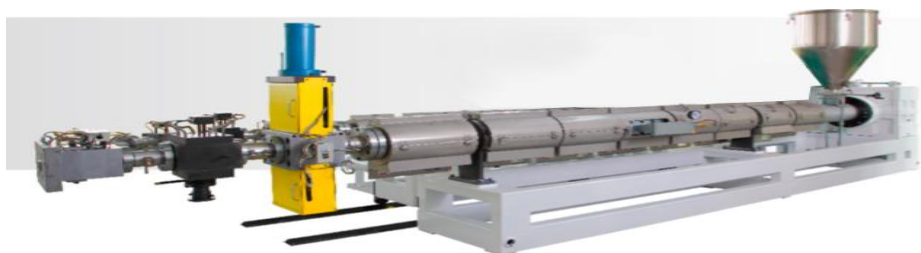
Structure diagram



Code	Name	Code	Name
1	Winding part	8	Heating part
2	Traction part	9	Screen changer
3	Electric box control cabinet	10	Die head
4	Main motor	11	Three roll calender
5	Main reducer	12	Cooling rack
6	Feed hopper	13	Edge cutting knife
7	screw	14	Side material winding

Machine introduction

1. Screw extrusion part:



✧ Screw diameter and length-diameter ratio: $\phi 120\text{mm}$: 35:1

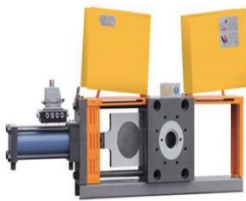


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- ✧ Barrel screw material: 38CrMoAlA (nitriding treatment, nitriding layer thickness 0.4-0.7mm, surface hardness HV850-920)
- ✧ Screw maximum speed: 90r/min
- ✧ Main motor power: 110kw
- ✧ Main cylinder heating power: $10\text{kw} \times 7 = 70\text{kw}$ (cast aluminum heating ring, stainless steel cover with fan constant temperature)
- ✧ Main engine transmission: Horizontal high strength hard gear reducer (ZLYJ250-14-I)

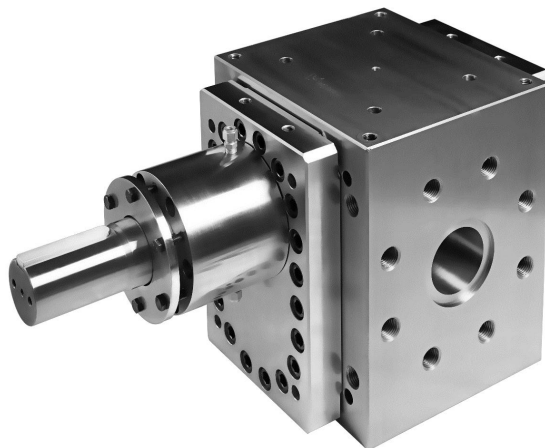
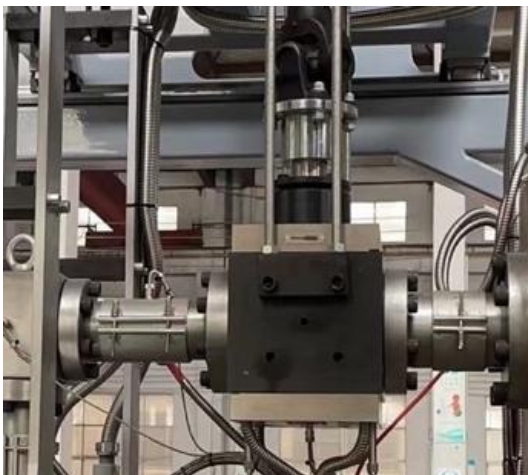
2. Sieve changer part:



The Sieve changer adopts hydraulic double-station pulling type, model 180mm Sieve change port heating power 6kw.



3. Melt metering pump part



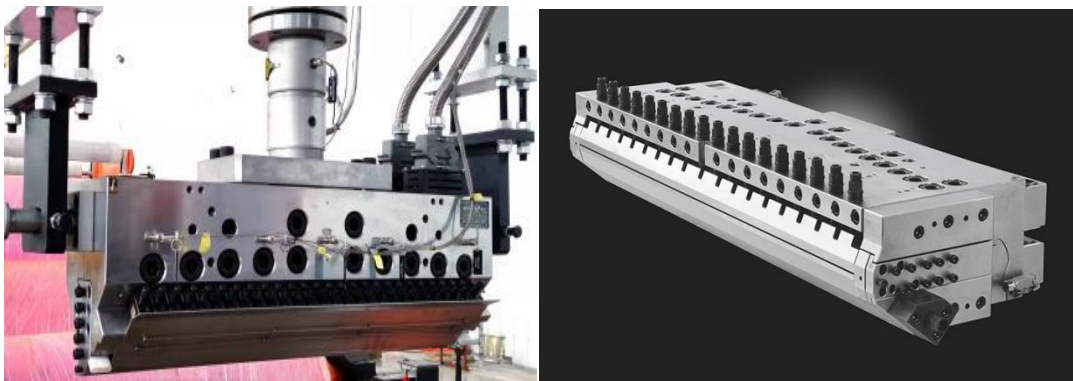


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- ✧ Pump body drive connection mode: cardan shaft connection drive.
- ✧ Pump body reducer: high strength hard tooth reducer, no noise.
- ✧ Pump body control mode: frequency conversion speed regulation, and equipped with melt pressure sensor display pressure.
- ✧ Closed-loop control system: by adjusting the pressure before the pump to automatically control the speed of the screw host, to achieve the melt pressure balance, greatly improve the stability of extrusion.

4. Die



- ✧ Die forming: T coat hanger type
- ✧ Effective width of die: 1000mm (single-side adjustable range 0-200mm)
- ✧ Die performance: Using 40Cr material after modulation, chrome plating, polishing and other processes, with smooth flow path, mold opening and closing uniform, smooth adjustment, low energy consumption



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- ✧ Die heating power: 15kw (built-in stainless steel heating tube, five-zone temperature control)

5. Three-roll calender part:



- ✧ Roller specification: $\phi 350\text{mm} \times 500\text{mm} \times 500\text{mm}$, length 1000mm
- ✧ Roller structure: three-layer structure, outer layer by intermediate frequency treatment, surface hardness HRC55-58
- ✧ Roller surface: chrome plated, coating thickness 0.07-0.10mm after calenzing, surface roughness $Ra \leq 0.4\mu\text{m}$
- ✧ Roller accuracy: radial runout $\leq 0.01\text{mm}$, cylindricity $< 0.01\text{mm}$
- ✧ Roller cooling method: water or oil cooling medium, the internal cooling channel adopts spiral trend, good cooling effect, high sheet transparency
- ✧ Roller drive motor power: 4kw*3 (variable frequency speed regulation)
- ✧ The form of roller drive: three rollers with gear reducer transmission, hard tooth surface gear reducer synchronous transmission, using analog module control
- ✧ Roll pitch adjustment: worm gear pitch adjustment, screw skew block fine adjustment limit



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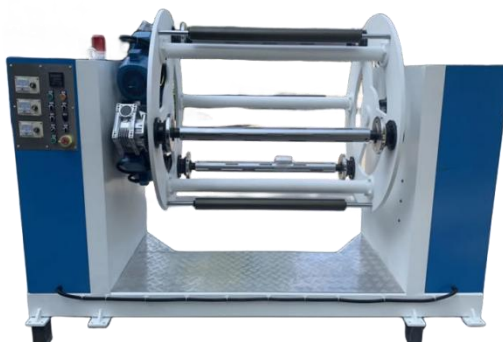
- ✧ Longitudinal walking: electric walking positioning device, equipped with a reducer with a motor

6. Cooling and trimming device:



- ✧ The cooling part is composed of one $\phi 180\text{mm} \times 1000\text{mm}$ roller and seven $\phi 80 \times 1000\text{mm}$ aluminum alloy guide rollers
- ✧ The trimming device is equipped with two cutting knives

7. Traction winder:





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- ✧ Traction steel roller $\phi 180\text{mm} \times 1000\text{mm}$, traction rubber roller $\phi 180 \times 1000\text{mm}$, coated and polished
- ✧ Traction reducer and motor power: hard face helical gear reducer with chain drive, 3kw
- ✧ Opening and closing form: cylinder pneumatic control
- ✧ Winding method: double station winding, air expansion shaft winding sheet, torque motor tension control, can be flipped unloading coil

8. Control part:

- ✧ Console control: movable man-machine interface, touch screen form
- ✧ Temperature control: PID control of temperature module

List

Name	Quantity (Set)
Heat extrusion screw	One set
Hydraulic quick net changer	One set
T-hanger die head	One set
Three roll calender	Independent three-roll*One set
Cooling belt traction device	One set
Mold temperature machine	One set
Trimming device	One set
Scrap take-up device	One set



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winder	Double Staions*One set
Electrical control cabinet	One set