



## UP-6178F Lab Tape Casting Machine



### **Description:**

Laboratory tape casting machine is suitable for mixing, plasticizing and extruding of TPU, engineering plastics, modified plastics, masterbatch and other high polymer. It has the characteristics of uniform dispersion, plasticizing and coloring, filling and modification. It is mainly used in the fields of casting film product forming, casting material formulation development, casting material performance research, etc., such as transporting materials to casting machine to produce casting film products, etc. Suitable for laboratory test and quality control, teaching research and small-scale production.

### **Introduction:**

This machine is single layer casting and sheet extrusion equipment. It is suitable for the testing and evaluation of the casting performance of polymer materials, the research and development of new product formula, etc. it is the first choice of equipment for major manufacturers and scientific research institutions.

### **Application scope:**

1. Test and evaluation of casting performance of polymer materials
2. R & D of new product formula
3. Optimization of production process parameters
4. Small scale production of thin film

## 5. Quality control

### **Parameters:**

#### **Single screw extruder:**

1. Screw:  $\Phi$  20mm PE, EVA, special screw
2. Screw speed: 0-95rpm frequency conversion speed regulation
3. Length diameter ratio: 1:28
4. Screw material: 38CrMoAl chrome molybdenum alloy, surface treated by tempering, nitriding, chrome plating, polishing and ultra precision grinding, hardness HRC
5. 55 ~ 60, roughness  $Ra \leq 0.4 \mu m$ , nitriding layer depth  $\geq 0.6mm$
6. Barrel material: 38CrMoAl chrome molybdenum alloy, surface treated by tempering, nitriding, chrome plating, polishing and ultra precision grinding, hardness HRC
7. 55 ~ 60, roughness  $Ra \leq 0.4 \mu m$ , nitriding layer depth  $\geq 0.6mm$
8. Heating area: mica heater in barrel area 4, heater in head area 1, with copper radiator in each area, covered with stainless steel safety hood
9. Temperature accuracy:  $\pm 1 \text{ }^\circ\text{C}$
10. Cooling device: 4 sets of multi wing fans, super static forced air cooling
11. Drive motor: 3.7KW gear reducer motor
12. Power supply: 3  $\phi$ , AC380V, 50Hz three-phase five wire
13. Electric control system: PLC programmable color touch screen, human-machine interface operation system, dynamic display and monitoring of extrusion process
14. There is cooling device at the discharge port, and the discharge device is added
15. The screw adopts PE special screw
16. The motor uses variable frequency motor, and the motor cold air fan controls the speed separately

#### **Casting die:**

1. Die lip width: 300 mm, vertical discharge type
2. Die lip width adjustment range: 0.05-0.3mm (depending on the material)
3. Product thickness: 0.05-0.3mm
4. Temperature accuracy:  $\pm 3 \text{ }^\circ\text{C}$
5. Die lip adjustment mode: nut compression type, manual adjustment
6. Runner type: T-shaped hanger runner
7. Die material: domestic 5CrNiMo alloy steel and heat treatment
8. Fastener (screw): 12.9 high strength
9. Polishing precision: die lip flow surface polishing precision 0.02-0.04 (UM), (other flow surface polishing precision 0.04-0.05um)
10. Electroplating: die head flow surface is treated with hard chromium plating, with thickness of 0.03-0.04mm, hardness of 60-65rockwellc, and outer surface chromium plating thickness of 0.01-0.02MM
11. Installation mode: flat extrusion installation (customized lower extrusion installation)
12. Feeding mode: feeding at the central round mouth of the mold

**Multi wedge belt tractor:**

1. Roll size: half mirror and half flower metal roll  $\Phi$  150  $\times$  1320mm
2. Motor power: 200W \* 1 set
3. Speed ratio: 1:40
4. Governor: up to 750W \* 1
5. Guide wheel size:  $\Phi$  45  $\times$  1320mm, surface treated with Teflon
6. Roll size:  $\Phi$  75  $\times$  1320mm, single roll
7. Winding motor power: 200W \* 1 set, winding motor adopts torque motor or magnetic powder motor to control winding torque
8. Reduction ratio: 1:20
9. Frequency converter: up to 750W \* 1 set
10. Traction speed: 0-60rpm adjustable, rubber cushion is added at the front of traction platform