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# ◀ PRODUCT INTRODUCTION ▶

**TQC-750**

PLASTIC CUP  
THERMOFORMING MACHINE



# 1、APPLICATIONS

The plastic cup thermoforming machine is the latest product developed by our company. The paper feeding and stretching parts are driven by servo motors. This machine produces disposable products, such as plastic cups, bowls, lids, boxes, etc., through the processes of sheet feeding, heating, forming, slitting, and blowing. It has a wide range of uses and is suitable for most customer requirements. PLC programming, manual interface operation, stable operation, low noise and high efficiency.

## 2、PRODUCT PARAMETER

Model	TQC-750
Maximum forming area	750mm x 480 mm
Maximum forming depth	125mm
Sheet thickness	0.3-1.8mm
Sheet width	760mm
Maximum forming speed	35times/min
Air pressure	0.6-0.8mpa
Air consumption	3.0 m <sup>3</sup> /min
Water Consumption	0.7 m <sup>3</sup> /h
Rated power	140kw
Use power	98Kw
Applicable sheet	PP, PS, HIPS, PET, PVC, PLA etc.
Power supply	AC 380V, 50Hz, Three-phase, Four-wire
Size	L8500*W2200*H3200mm
Weight	About 6.5T

MAIN PARTS	
PLC	SIEMENS (Germany)
servo motor	YASKAWA (Japan)
AC contactor/circuit breaker	SCHNEIDER (France)
Proximity switch	ROCKWELL (USA)
Solenoid directional valve/electromagnetic relief valve/balance valve	YUKEN (Taiwan)
Intermediate relay	IDEC (Japan)
Intermediate relay base	OMRON (Japan)
Molded valve	CKD (Japan)
The electromagnetic valve	SMC (Japan) / Mindman (Taiwan)

### 3、SHOW DETAILS

Industrial manual interface and PLC of SIEMENS (Germany) make the high degree automation, accurate control and convenient operation. The document storage function simplifies the operational processes.





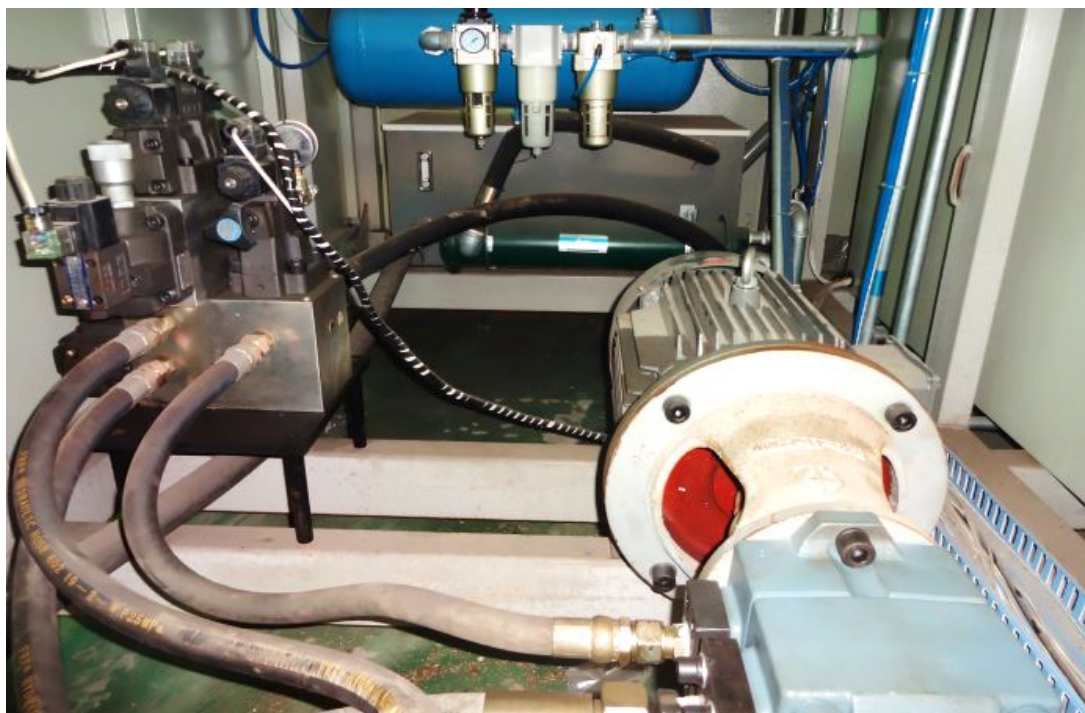
Working stations is driven by stable four guiding-pillars (GCr15 steel, outside is hard chrome plated) structure. Wear resistant, and extend equipment life.



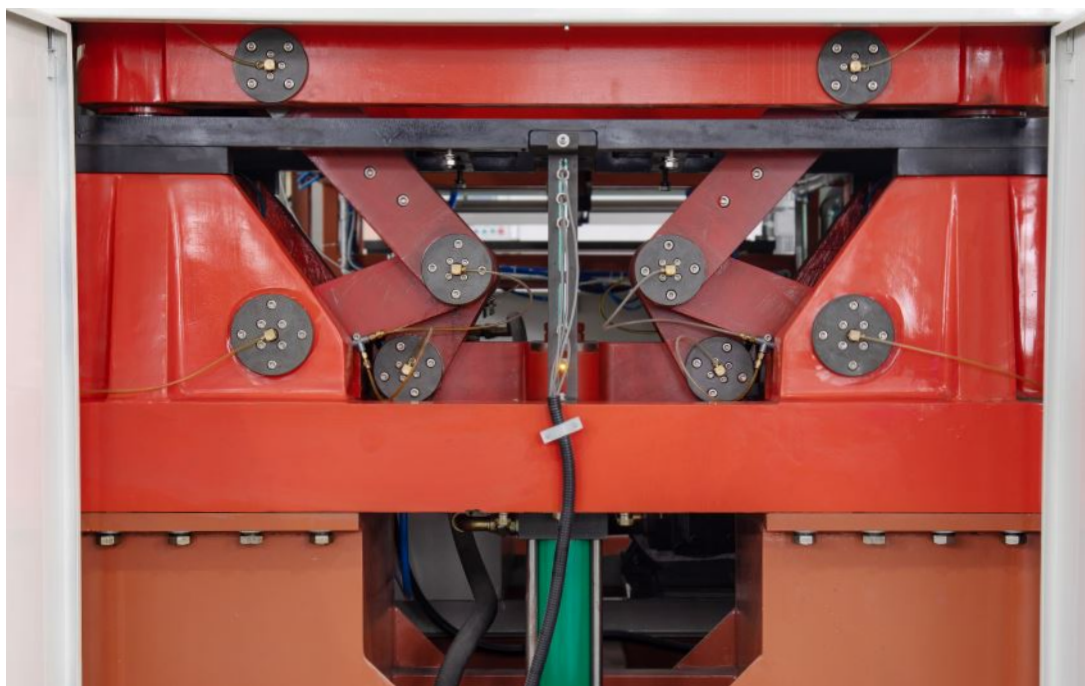
Stretching servomotor of YASKAWA (Japan) controls the speed of the upper and lower die, this can maintain the uniform strength to ensure that the bottom thickness of each cup is uniformly. And the servo motor also controls precisely sheet feeding to avoid wasting.



Hydraulic driven system can provide adequately movement speed and strongly punching power.



The whole part is driven by hydraulic system, which is reliable and steady. Using proximity switch of ROCKWELL (USA) leads to excellent mould positioning precision.





The heater added vacuum insulation cotton, which shows quick response rate, short processing time, and save energy.



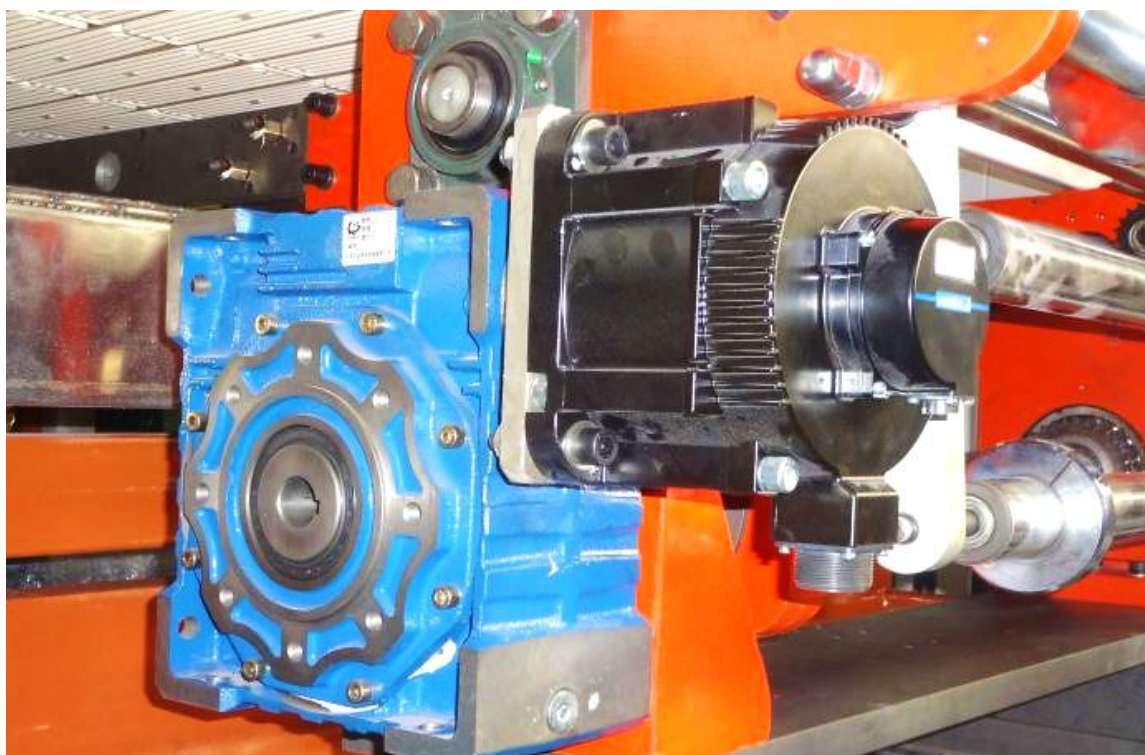
Sharp chain uses 65#Mn, which has higher strength, better heat resistance and elasticity than 45# steel.





The electric lubricating oil pump can automatically inject lubricating oil regularly and quantitatively through the control of computer under the condition of unmanned control, which can make the rotating part of the machine get proper and reasonable lubrication.

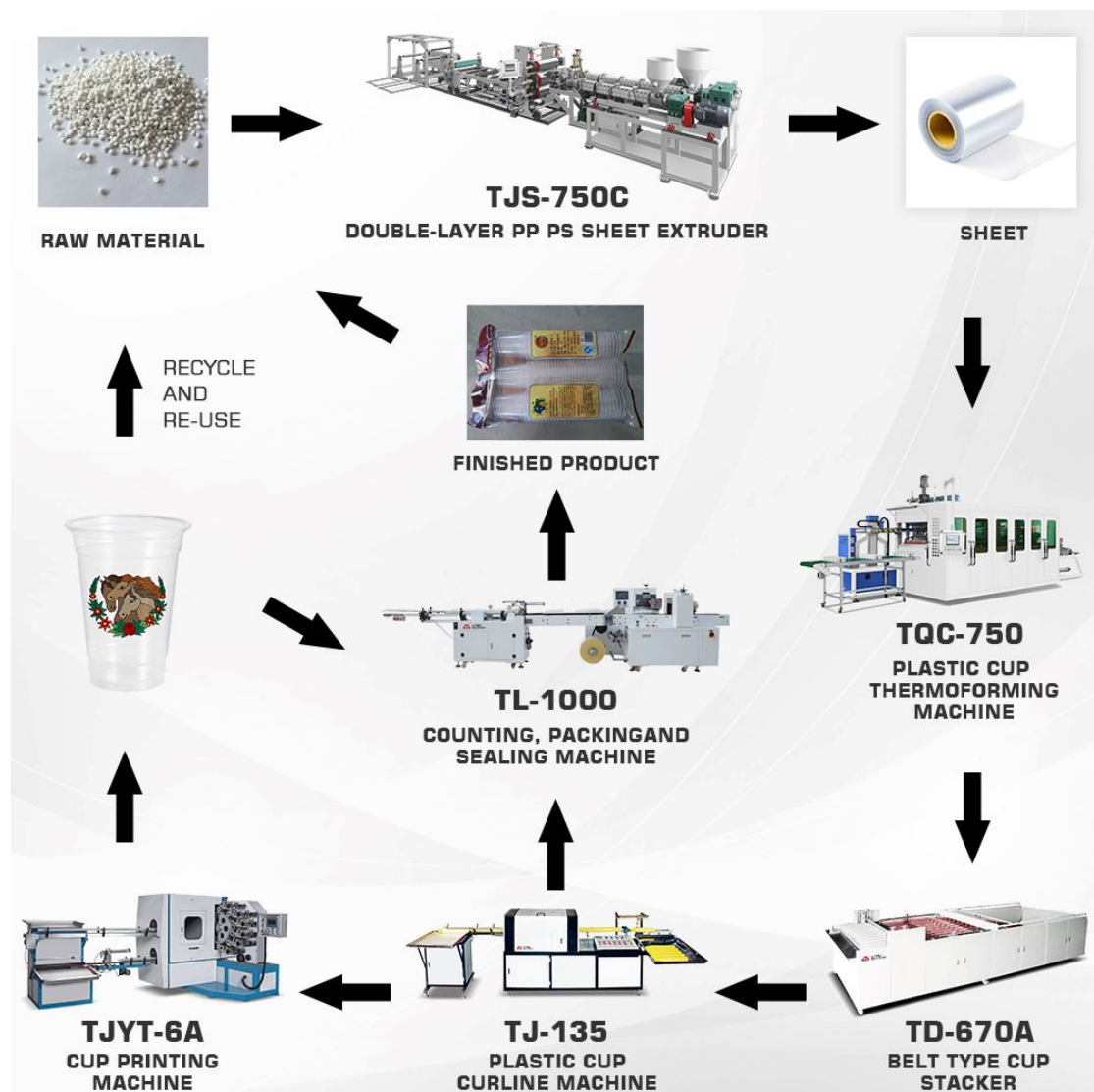
Sheet feeding servo motor adopt YASKAWA brand, made in Japan, the rated power is 3kw, which can ensure stable operation in the process of feeding.





## 4、PRODUCT DESCRIPTION

1. Automatic sheet feeder with square steel structure, high wear resistance, more stable, efficiently, the accuracy of feeding size could be improved by automatic feeding.
2. Material holder combines with the machine, which is controlled by cylinder, can move up and down. It is easy for operation, and saving more space.
3. Machine adopts PID temperature system, it shows high precision, and temp control tolerance  $< 1^{\circ}\text{C}$ .
4. Movably mould device is conveniently to assemble and dismantle mold, and the vibration of the machine could be reduced by machine's counterbalance valve controls the opening and closing speed, good stability, conducive to forming.



plastic cup production flow chart

## 5、AUXILIARY EQUIPMENT



### Chiller

Cool down molds, rails and hydraulic systems while the machine is running.

Model	5F	Motor Power	4.3kw
Refrigerant	R22	Power supply	AC 380V, 50Hz, Three-phase,
Cooling fan	0.18kw x 2		Four-wire
Volume of water tank	80L	Dimension	L1250 x W750 x H1330mm
		Weight	about 175kg



### Air Compressor

Get enough air during molding.

Model	TK-3.6	Dimension	L1150 x W900 x H1350mm
Air displacement	3.6m³/分	Power supply	AC 380V, 50Hz, Three-phase,
Working pressure	0.8Mpa		Four-wire
Motor power	22kw	Weight	about 580kg



### Air Tank

The auxiliary part of the air compression system keeps the air pressure stable.

Volume	1.0m³	Inner diameter	800mm
Pressure	0.8Mpa	Relief valve interface	Rp11/2
Design temperature	150°C	Drain valve interface	R1/2
Total height	2400mm		

## Belt Type Cup Stacker

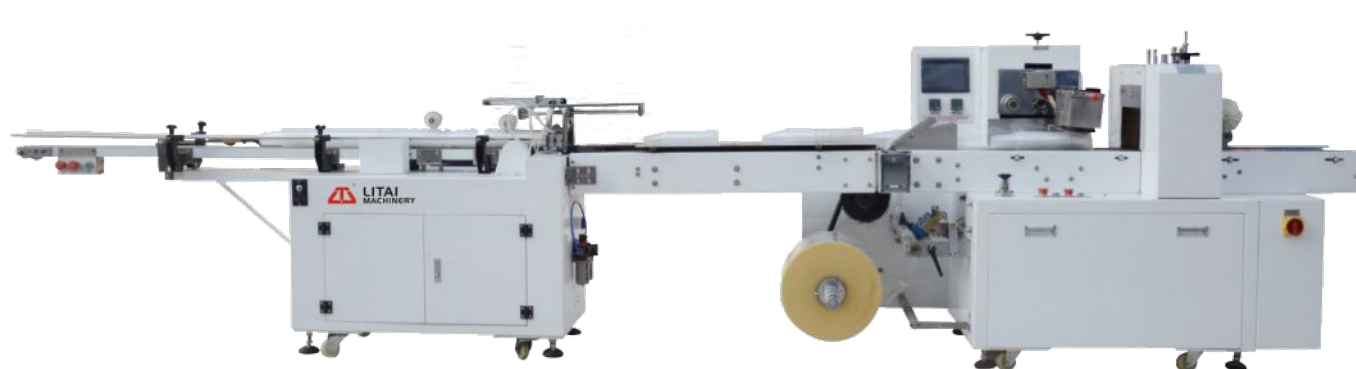
Used for stacking cups, saving space and energy, low noise and high efficiency.



Model	TD-670D
Rated power	1.1kw
Stacking speed	500pcs/min
Cup size requirements	Height is greater than diameter
Power supply	AC 380V, 50Hz, Three-phase, Four-wire
Size	L4000 x W1250 x H1860mm
Weight	about 700kg

## Full Automatic Counting, Packing and Sealing Machine

This machine is suitable for automatic counting, packaging and sealing of paper cups of various sizes. It adopts photoelectric counting, microcomputer control, convenient operation and excellent performance.



Model	TL-1000	Package length	250mm-800mm	Power supply	AC 380V, 50Hz, Three-phase, Four-wire
Type of packaging	H type three side seal	Packing height	≤60-95mm		
Membrane thickness	0.018mm-0.06mm	Fastest packaging speed	10-30 bags/min	Size	L5500 x W1200 x H1080mm
Maximum film width	2420mm	Rated power	3.8kw	Weight	about 680kg





## Robot stacker

Grab the finished product and stack it.

Suitable thermoforming machine	TQC-750
Robert arm driven system	Servo motor
Gripper picking driven system	Pneumatic
Up and down travel distance (Y)	1400mm
Forward and back travel distance (X)	750mm
Max. holding weight (including picker)	3KG
Min. picking time	0.7 seconds
Air consumption	190L/min
Rated power	1.8Kw
Power supply	AC380V,50HZ
weight	155KG

## Full Automatic Cup Printing Machine

The letterpress printing method is used to print double-sided color text and patterns on the surface of plastic products, and six color patterns can be printed at a time.



Max. air consumption	48 m <sup>3</sup> /h
Rated power	15.8 kw
UV lamp power	6 kw x1
Aureole power	1 kw
Dimension	L4500*W2500*H2200 mm
Weight	About 4.50T

Model	TJYT-6A
Printing color	6 colors
Suitable printing material	PP, PS, PET, HDPE , etc
Printing speed (depending on different cup)	150—200 pcs/min
Printing length	300mm
Printing area height	35-160mm
Printing area diameter	50-95mm
Printing cup diameter	65-120mm
Printing mould roller diameter	100mm
Printing plate diameter	600mm
Printing angel	3°--13°
Max. forme on printing plate	3pcs
Cup mould roller	8pcs
Air pressure	6-8 Bar