

# High Speed Aluminum Plastic Blister Packaging Machine



# High-speed Reciprocating Pillow Type Packaging Machine



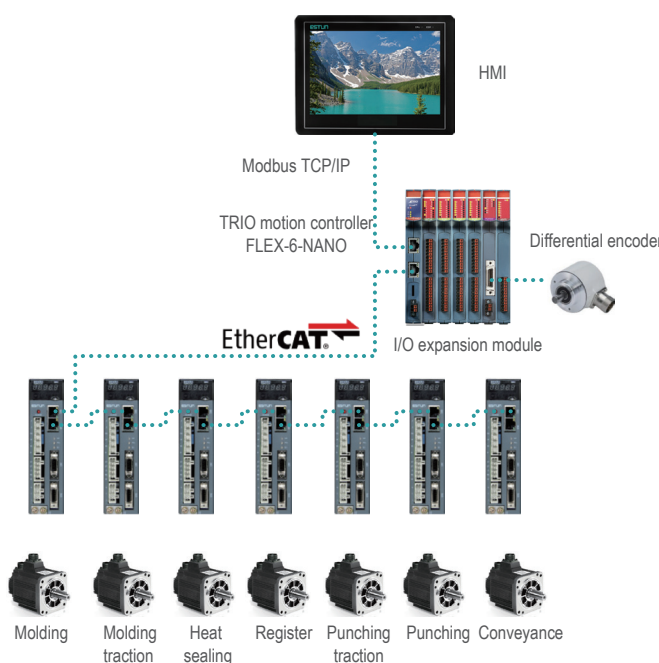
## Device Introduction

- Blister packaging machine is a machine in which a transparent plastic film or sheet is made into a blister, and the product is sealed between the blister and the bottom plate by means of heat pressing sealing. It is widely used in light industry, pharmaceutical and chemical industries, especially pharmaceutical packaging.

## Product Configuration

Name	Specification
HMI	ESV-0097N
Motion controller	FLEX-6-NANO
I/O input module	P377 16 NPN digital inputs
I/O output module	P376 16 NPN digital outputs
Driver	PRONET-xxxEG-EC
Motor	EM3A/EMG-xxAF
Power	750W-2kW

## System Framework



## Solution Advantages

- High-speed real-time EtherCAT bus solution for precise positioning and speed control of traction, molding and punching.
- TRIO excellent cam motion control algorithm greatly reduces mechanical shock and improves control accuracy within 0.1mm.
- The efficiency is increased from 120 beats/min to 200 beats/min.

## Field Devices



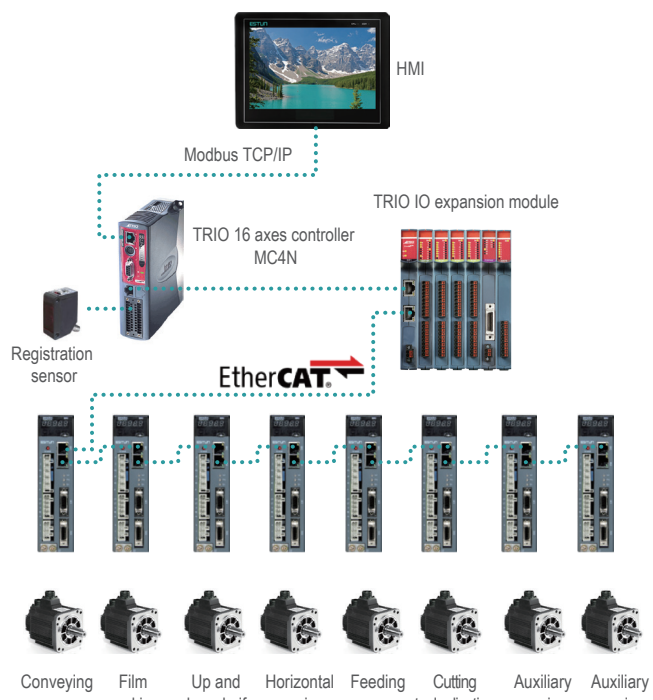
## Device Introduction

- Pillow type packaging machine is widely used in food, medicine and other packaging industries. A large number of daily necessities and food used in daily life are mostly packaged by pillow packaging machine.

## Product Configuration

Name	Specification
HMI	ESV-0097N
Motion controller	TRIO MC4N (16 Axes)
I/O input module	P377 16 NPN digital input
I/O output module	P376 16 NPN digital output
Driver	PRONET-xxxEG-EC
Motor	EMB/EM3A-xxxA
Power	100W、400W、750W、2kW

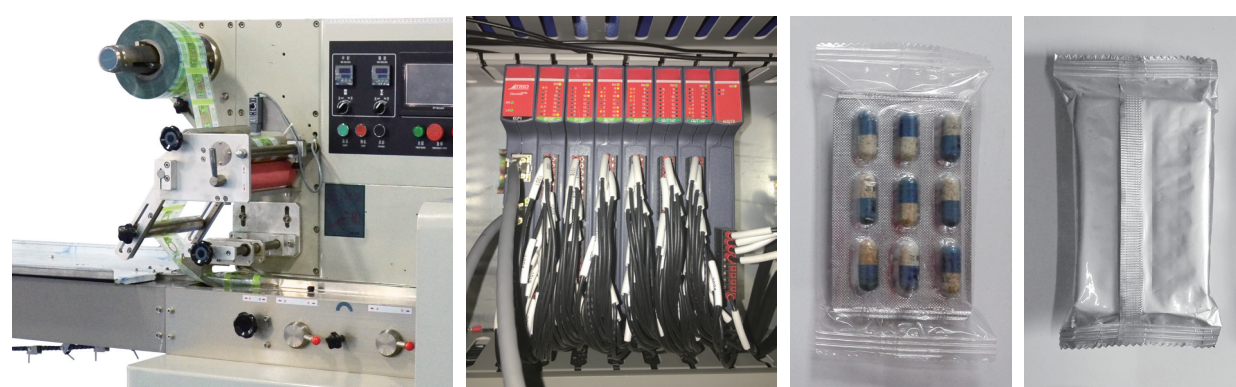
## System Framework



## Solution Advantages

- Using EtherCAT bus control solution, high-performance and stable. Compared with the traditional PLC plus pulse servo solution, the packaging speed is greatly improved, which is up to 300 packs/min (the packing speed of traditional solution is 200 packs/min or less).
- Equipped with ESTUN light inertial high-speed motor, stable and excellent chasing shear cam algorithm, making the motion more smooth. Cutting accuracy reaches to  $\pm 0.5\text{mm}$ .

## Field Devices



ESTUN Automation Co. Ltd. started its business in offering an automation control system for Metal Forming Machinery in 1993 at Nanjing, China. Now ESTUN Automation becomes a leading global product, system and service provider of key industrial automation components/systems, industrial robots and advanced intelligent manufacturing systems.

The Automation Business Group of ESTUN Automation offers a comprehensive product portfolio of servo and motion control products/systems/solutions for General Motion Control and Metal Forming applications. Servo drives, servo motors and EtherCAT based servo systems have been widely used for various Machine Automation applications and served for its global and domestic customers for more than 17 years.

As a global company, ESTUN Automation has 7 oversea branches and serves customers in more than 60 countries and regions. ESTUN Automation will be relentlessly pursuing the excellence in Advanced Motion control solutions, Industrial Robotics (as well as service Robots for rehabilitation, etc.) and Intelligent Manufacturing Systems through collaborating with global subsidiaries and partners, such as TRIO Motion Technology; ESTUN Industrial Technology, Europe; M.A.I. GmbH & Co. KG; Euclid Lab; Barrett Technology, etc. in better serving its global customers.

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# PACKAGING INDUSTRY SOLUTIONS



# High Speed Flat Die Cutting Machine



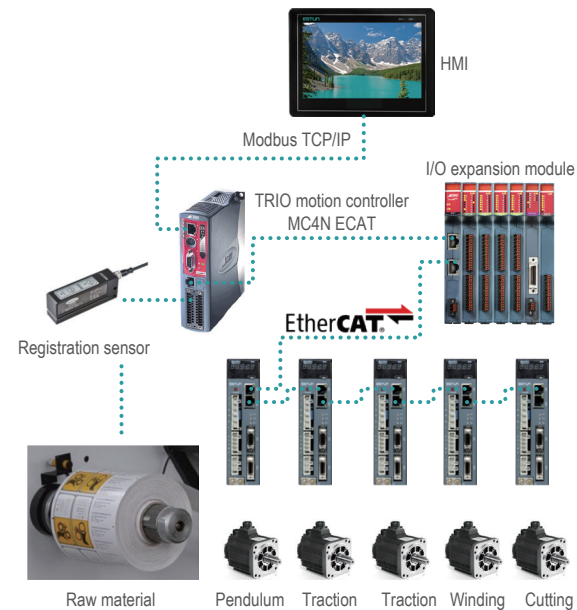
## Device Introduction

- The flat die cutting machine is mainly used for die cutting, indentation and cold pressing of trademarks, cartons, greeting cards in paper packaging industry, and is an important equipment for post-press packaging processing.

## Product Configuration

Name	Specification
HMI	ESV-0097N
Motion controller	TRIO MC4N
I/O input module	P377 16 digital NPN inputs
I/O output module	P376 16 NPN digital outputs
Driver	PRONET-xxxEG-EC
Motor	EMG/EMB-xxA
Power	1.5kW- 7.5kW

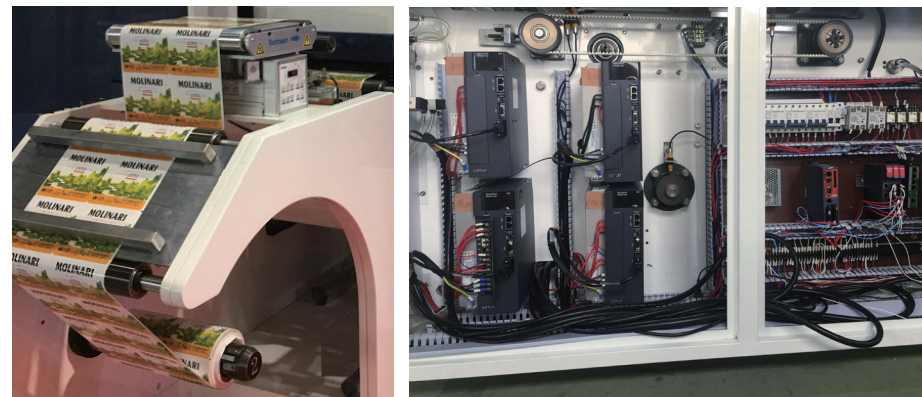
## System Framework



## Solution Advantages

- High-speed real-time EtherCAT bus control solution, high-performance and stable. Die cutting frequency is 400 times / min.
- Servo tension control. Paper feed speed is uniform to ensure stable tension for up and down winding.
- High-speed registration capture, fast correction. Die cutting accuracy is  $\pm 0.1\text{mm}$  and speed can reach to 120m / min.

## Field Devices



# Bottle Unscrambler



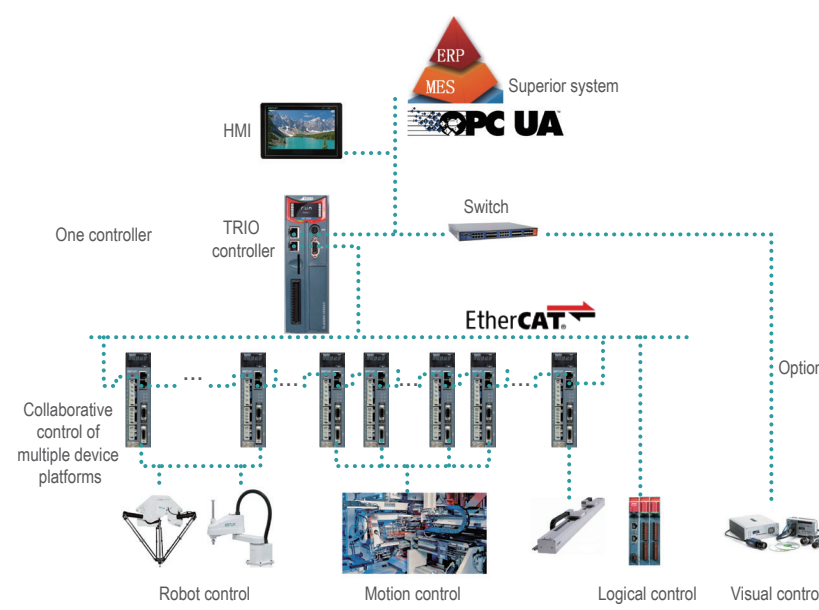
## Device Introduction

- Bottle unscrambler machine uses SCARA robot with vision to grab the bottle and turn it into a vertical state to put the bottle into the bottle holder. It can be used for bottling of filling line.

## Product Configuration

Name	Specification
HMI	ESV-0097N
Robot	SCARA*4
Motion controller	TRIO MC664
I/O input module	P377 16 digital NPN inputs
I/O output module	P376 16 NPN digital outputs
Driver	PRONET-xxxEG-EC
Motor	EM3A-08A
Power	750W

## System Framework



## Solution Advantages

- The bottle unscrambler application of a TRIO controller+4 SCARA robots with vision and belts to complete the dynamic picking and unloading.
- The belt speed is 200mm/s, and the pick-and-place beat of a bottle unscrambler is 1.7s with an accuracy of  $\pm 1\text{mm}$ .
- Expert-level motion control technology of Motion Perfect. The auxiliary software can be used to do off-line simulation.
- EUCLID visual guidance, no need to parse data, greatly reducing project startup and development time.

## Field Devices



# Tracking Servo Capping Machine



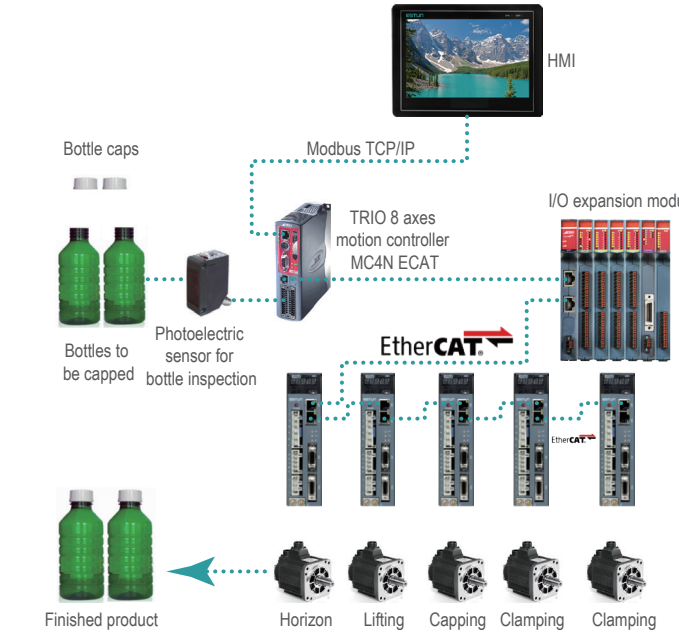
## Device Introduction

- The tracking capping mechanism is used for the capping of various liquid filling bottles. Instead of manual capping, it greatly reduces labor costs and increases production efficiency.

## Product Configuration

Name	Specification
HMI	ESV-0070N
Motion controller	TRIO MC4N (8 axes)
I/O input module	P377 16 NPN digital inputs
I/O output module	P376 16 NPN digital outputs
Driver	PRONET-xxxEG-EC
Motor	EM3A/EMG-xxA
Power	400W- 750W- 1.5kW

## System Framework



## Solution Advantages

- A solution using EtherCAT bus control. It is based on TRIO high-speed hardware registration capture, which has high capture precision.
- Using TRIO high-order motion algorithm, which has softer motion and faster speed than traditional PLC control solution.
- Precise servo torque control ensures consistent capping force. The capping beat is  $\geq 3000/\text{hour}$ .

## Field Devices



# High Speed Vertical Packing Machine



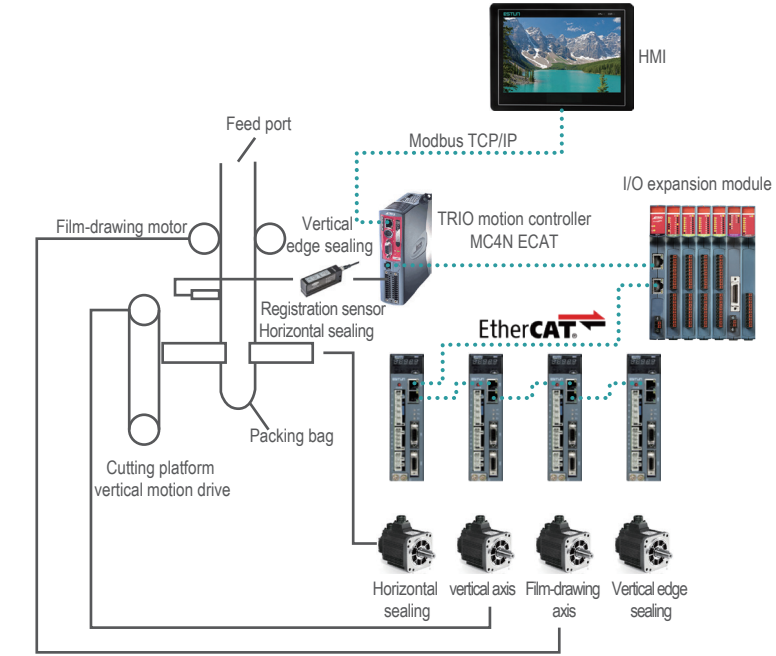
## Device Introduction

- Vertical packaging machine is a machine that makes the roll-shaped flexible packaging material into a bag drum. The bag drum is sealed after it is filled with material. These three functions are automatically and continuously completed.

## Product Configuration

Name	Specification
HMI	ESV-0070N
Motion controller	TRIO MC4N
Driver	PRONET-xxxMG
Motor	EMG-xxA
Power	1kW

## System Framework



## Solution Advantages

- Using high-speed real-time EtherCAT bus, which can realize high-precision position synchronization control of equipment.
- Using TRIO high-order motion algorithm, the movements are softer and faster. The synchronous control of drop-down, horizontal seal, vertical seal and cutting is realized. Compared with PLC pulse solution, the packaging speed of this solution is increased by 20%.

## Field Devices

