

Thermoform, fill and seal

Machine Case Study



- Optimum temperature control for sealing
- Exact positioned chain drive
- Total machine automation supplier

Thermoform, fill and seal

Machine description

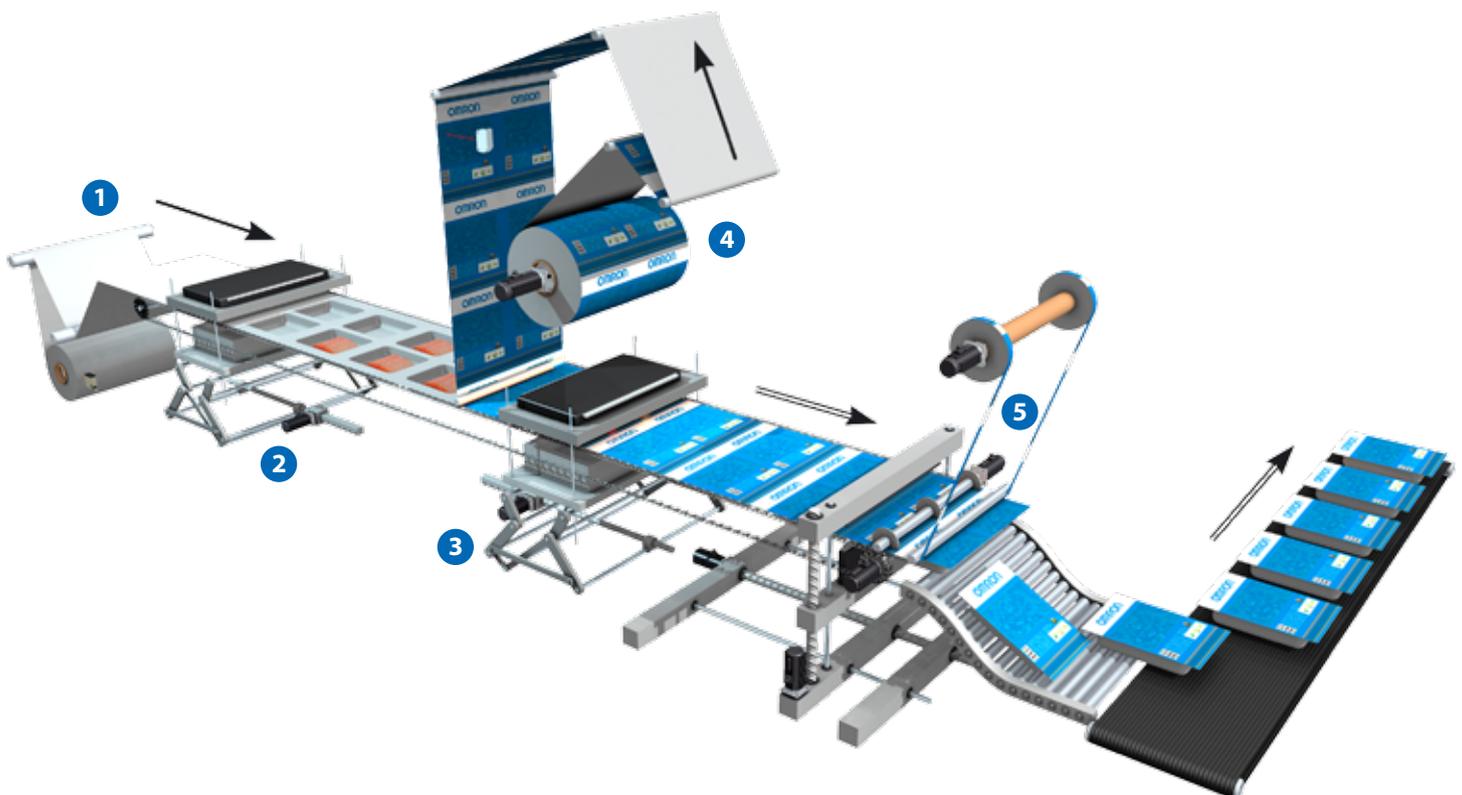
A thermoform, fill and seal machine (TFFS) is one in which a web of thermoformable material is heated and formed with pressure/vacuum. After the form is filled it is then sealed with a top film and finally cut to produce individual packs. Machines can produce one or more lanes of packs and may incorporate equipment to handle gas before the packs are sealed.

Flexible Hygienic moulds

TFFS is also known as deep-draw packing machines. Today O.E.M's provide easy to flush moulds made out of stainless steel to comply to the high hygiene standards that end users demand. Easy changeable moulds make these machines flexible and fast to change to another type of product to pack.

Machine Function

- 1 Transport System**
Base-web (tray-film) unwind and transport system.
- 2 Form Station**
Creating the tray-shape from the base-web.
- 3 Sealing Station**
Sealing the film onto the tray.
- 4 Top-web (Seal-Film) unwind & Residual film wind**
Transporting the film used for sealing the tray.
- 5 Cross and Longitudinal cutting**
Separates the sealed trays from the base-web.

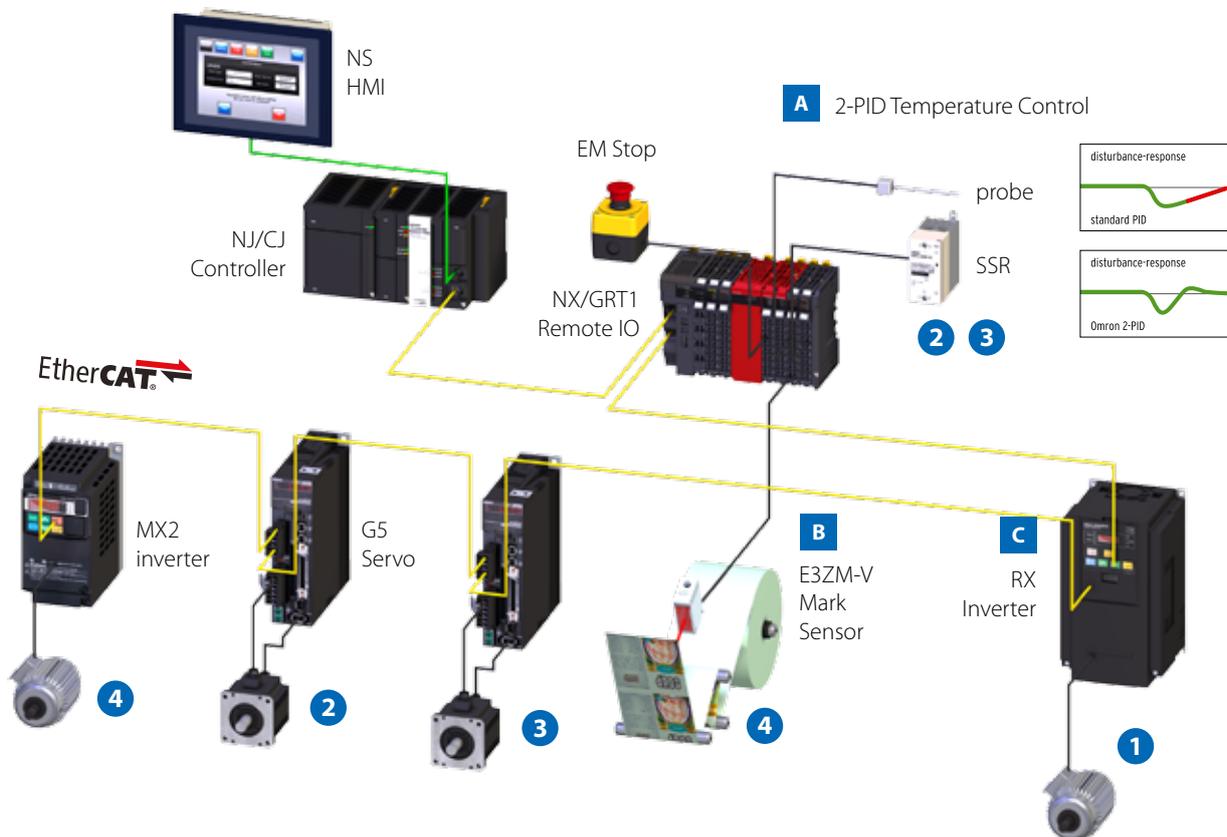


Your automation partner in packaging

We Automate Machines! We supply all the automation products for TFFS machines, including the logic and motion or hybrid controller. In addition we provide all motors, drives, position sensors, safety devices, temperature sensors and other panel components. All devices are easy to integrate and carry the Omron mark of quality and reliability.

A Optimum temperature control for sealing

Temperature control during forming and sealing is critical. At each form and seal the mould drops in temperature and fast recovery is essential to reach high throughput. Omron's unique 2-PID control with built-in auto tune optimizes the system for fast disturbance response, perfect for applications like sealing. Another benefit is fast start-up, giving perfect seals right from the first tray.



B Exact top film position detection

The E3ZM-V mark sensor provides the machine controller with the exact position information of the top film. The sensor is easy to teach with the press of a button and provides stable detection of differently coloured or black print marks.

B Exact positioned chain drive

The main topic of this machine is the base web transport chain. It moves the base-web and, after the sealing process, the top-web all the way through the machine. The forming and sealing puts stress on the films so hold exact position is a must. When the chain stops for the forming/sealing process, the film must stay in place. Omron RX Inverters or G5 servos are able to provide this crucial 'hold' function.

Would you like to know more?

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