

Barrier Biax Film Lines

Multi-Bubble Biax Film Production Solutions



Key Features:

- Versatile extrusion technology can produce films with a variety of barrier resins (EVOH, PA, PVdC)
- Controllable film shrink properties
- 2-bubble and 3-bubble models are available to achieve the specific properties needed
- Stable process that allows for long production runs without bubble breaks

Macro's Series of Coextrusion Barrier Biax Film Lines is the ideal solution for processors seeking to produce high performance multilayer barrier films for food packaging applications, such as meat, cheese, and poultry packaging films, shrink bags, and casings.

These lines are configured in two-bubble, or three-bubble arrangements, each of which facilitates the three basic processes of producing biax (biaxially-oriented) films: extrusion, orientation, and annealing.

Each of these multi-bubble lines is designed for efficiency and quality, using the latest proprietary technologies and state-of-the-art components.

Using Macro's TaperPack die, along with carefully design extrusion screws, each extrusion module allows the processor to extrude a wide variety of polymers from PVdC to EVOH, and Nylon; allowing flexibility to adapt the product to market needs.

The line's water-quenching system ensures that the primary tube is precisely calibrated. Operation of the water-quenching system's calibration unit is simple and allows for adjustments to be made without stopping the line, generating cost savings from scrap during production changes.

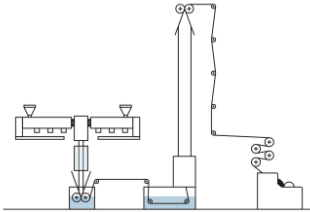
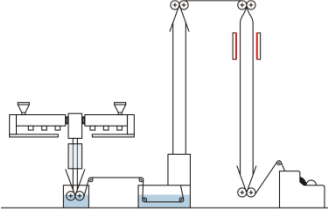
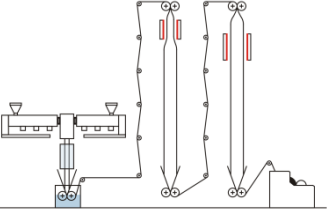
For systems using the water-based orientation method, Macro's proprietary technology initiates the MD/TD orientation process to accurately blow the second bubble. The orientation unit is stable, allowing fast start-ups and long runs without bubble breaks, and allows the processor the versatility to control the shrink properties of the final film.

Each model is equipped with a gauge randomizing unit prior to winding to ensure high-quality roll production. Final roll creation is performed by Macro's Automax-S surface winder, which features programmable tension tapering and fully automatic cutovers.

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Film Application	Barrier Resin	Oxygen Barrier	Moisture Barrier	Shrinkage	Shelf Life	Line Type	E-beam treatment
Meat and cheese packaging	EVOH	High	Medium	High	Medium	Biax-2, Biax-3w	Highly Recommended
Meat and cheese packaging	PA terpolymer EVOH	High	Medium	High	Medium	Biax-3i	Recommended
Meat casings	PA, EVOH	High	Medium	Medium	Medium	Biax-3i	Recommended
Meat packaging	PVdC	High	High	High	High	Biax-2, Biax-3w	Highly Recommended
Cheese packaging	PVdC	Medium	High	High	Medium	Biax-2, Biax-3w	Highly Recommended
Cheese packaging	PA terpolymer	Medium	Medium	High	Medium	Biax-3i	Highly Recommended
CO2 emitting cheese packaging	PVdC	Medium	High	High	Medium	Biax-2	Highly Recommended
Poultry, seafood packaging	n/a	Low	Low	High	Low	Biax-2, Biax-3w, Biax-3i	Highly Recommended
Food packaging (flow pack, lid films, etc.)	PA, EVOH	High	High	Low	Medium	Biax-3w, Biax-3i	Recommended

Model	Barrier Biax-2: two-bubble	Barrier Biax-3w: three-bubble	Barrier Biax-3i: three-bubble
			
No. of Layers	5, 7, 9 or 11	5, 7, 9 or 11	5, 7, 9 or 11
Materials	PE, EVOH, EVA, PVdC, Surlyn	PE, EVOH, EVA, PVdC, PA, Surlyn	PE, PP, PS, PET, EVOH, EVA, PA, Surlyn
Film Thickness	30-90 µm	30-90 µm	30-90 µm
Layflat Width	200 – 600 mm	200 – 900 mm	200 – 900 mm
Output Capacity	40 – 120 kg/h	40 – 200 kg/h	40 – 200 kg/h
Production Speed	Up to 75 m/min	Up to 105 m/min	Up to 150 m/min
Orientation Method	Water Heated	Water Heated	Infrared Heaters
Annealing Method	Heated Rollers	Infrared Heaters	Infrared Heaters



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