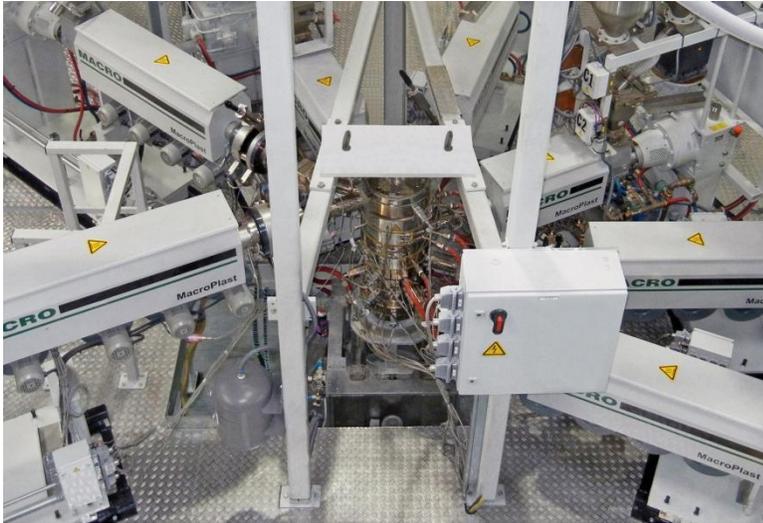


# Barrier Biax-3i

## Three-Bubble Coextrusion Line for Biax Barrier Films



### Key Features:

- Versatile extrusion technology can produce films with a variety of barrier resins (EVOH, PA, PVdC)
- Controllable film shrink properties
- Stable process that allows for long production runs without bubble breaks

Macro's Barrier Biax-3i Series of coextrusion biax film lines produces high performance multilayer barrier films for food packaging applications, such as meat, cheese, and poultry packaging films and shrink bags, and casings.

Configured in a three-bubble arrangement, the line efficiently performs the three basic processes of producing biax (biaxially-oriented) films: extrusion, orientation, and annealing.

### Precise Extrusion with Versatility

Using Macro's TaperPack die, along with carefully designed 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 features Macro's primary tube calibration system, which is a water-based quenching and sizing technology, specially designed by Macro for the biax process. The quenching system ensures that the primary tube is efficiently cooled and precisely calibrated with simple operation that allows for adjustments to be made without stopping the line, generating cost savings from reduced scrap generation during production changes.

### Highly Controlled Orientation

The line is equipped with an infrared heated orientation configuration, which is used to reheat (soften) the film for the MD/TD orientation process.

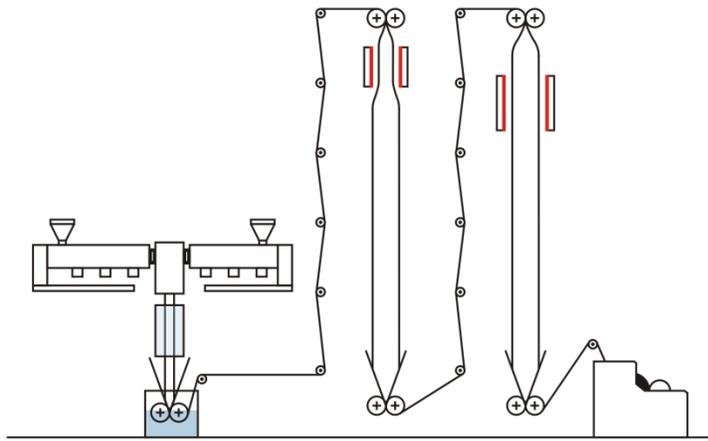
### Third Bubble Annealing

Annealing of the film is performed on the third bubble with infrared heaters.

The line is equipped with a gauge randomizing unit and Macro's Automax-S surface winder, which features programmable tension tapering and automatic cutovers.

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## Applications:

- Meat & Cheese Packaging Film & Bags
- Poultry & Seafood Shrink Film
- High Barrier, Low Shrink Food Packaging Films
- Meat Casings

## Barrier Materials:

- EVOH
- PA (Nylon)

Model	Biax-3i-200	Biax-3i-400	Biax-3i-600	Biax-3i-900
Final Film Width (mm)	200	400	600	900
Film Thickness Range (µm)	30-40	30-40	30-40	30-40
No. of Layers	5, 7, 9, 11	5, 7, 9, 11	5, 7, 9, 11	5, 7, 9, 11
Raw Materials	EVOH, PA, EVA, mPE, Tie Resins			
Output Capacity (Kg/h)	40-60	60-80	100-120	120-200
Production Speed (m/min)	Up to 75	Up to 75	Up to 75	Up to 150
Primary Tube Quenching	Water-quenching unit with adjustable sizing system or vacuum sizer			
No. of Water Baths	1	1	1	1
Orientation	Infrared heated second bubble			
Bubble Stabilizing Cage	Second bubble: Sizing ring Third bubble: Sizing ring			
Annealing	Infrared heated third bubble			
Gauge Randomizing	Winder on oscillating platform			
Width Control System	Width measuring bar with automatic feedback control of second bubble width			
Winding	AUTOMAX-S Surface Winder (additional winder for sheeting optional)			
Airshaft Diameters (mm)	76	76	76	76



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