

Packaging Machinery



Tornado LD

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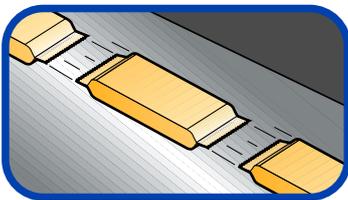


Examples of products



The **Tornado LD** is a horizontal pillow-pack wrapping machine which produces at high speed hermetically closed seals from a flat reel of heat seal wrapping material. The Tornado LD is specifically designed to be compatible with "**M.A.P.**" (*Modified Atmosphere Packaging*) wrapping.

The main features which make the Tornado LD a world landmark in the packaging are as follows:



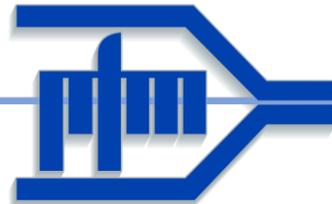
High speed wrapping: High speed wrapping with Hermetic Seals: thanks to the long dwell, continuous flow, transverse sealing system, the Tornado LD reaches packaging speeds of up to 100 packs per minute with the Long Dwell version (pat. PFM).



Ease of cleaning: the Tornado LD has a cantilevered construction. This means the various mechanical and electronic parts are situated at the rear of the machine in separate and protected compartments, whereas the product conveyor belts and sealing area are found at the front. As a result, the front of the machine is free from obstruction and allows any product residue to be cleaned easily without it ever coming into contact with the mechanical or electronic components.



Superior quality of parts and meticulous mechanical engineering: the Tornado LD, with its ease of operation, minimum maintenance and quality of components / raw materials used, are the factors which guarantee, in principle, its limitless lifespan.



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Main standard features:

The machine is manufactured with the following standard features:

- A 2-metre infeed conveyor with adjustable approach rollers.
- An adjustable forming box to easily facilitate changes in pack dimensions.
- Double self-centring reel holder complete with brake (Not BB).
- Photocell for print registered wrapping material centring.
- Balancing device for controlling the tension of the film.
- Crimper dwell timing in oil bath.
- Motorised height adjustment of crimpers.

Main Options:

- Date / Bar Code printing equipment.
- Automatic reel Splicer.
- Longitudinal tin seal with trimming device and removal of excess trim for a smooth, uniform seal.
- Modified Atmosphere Packaging application.

Models available:

- With reel feed from above (Conventional).
- With reel feed from below (Inverted).
- Electronic version.
- Servo version.
- Polyethylene version.
- LVA version: automatic pack length adjustment depending on product length.

Servo version

A new PFM User Friendly automatic programming facility which can easily set up all the machine's functions for up to 20 separate programmes via a touch screen control panel. Format changes are recalled automatically, in particular:

- Adjustment of product length.
- Adjustment of crimper dwell timing.
- Product timing.
- Adjustment of print registration.
- Adjustment of timing for ancillary printing equipment.

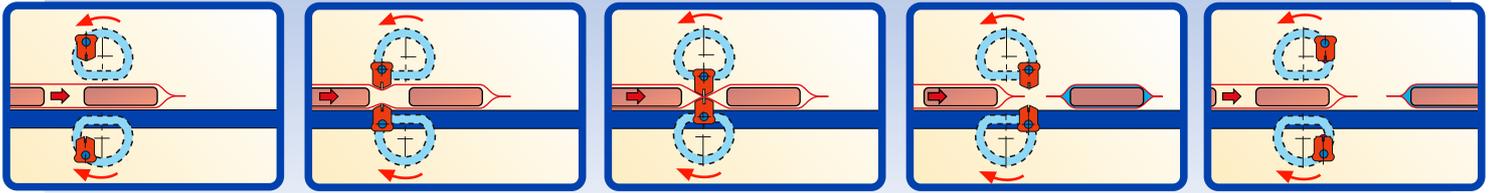
Over and above this, special functions are included such as "no product, no bag" and automatic height adjustment of the transverse sealing jaws.



Long Dwell Sealing System

Temperature, Pressure and Time are the three principle factors that when optimized, using appropriate wrapping material, enables high Integrity / Hermetic sealing to be achieved. The PFM Long Dwell and sealing systems with constant temperature and pressure allow for a longer sealing time than the traditional rotary system.

By taking advantage of the Time / Pressure element, hermetic sealing and high speed wrapping is, therefore, possible.



The Long Dwell sealing system (patented PFM): one jaw per jaw support, superior flexibility, up to 80 cycles/min.

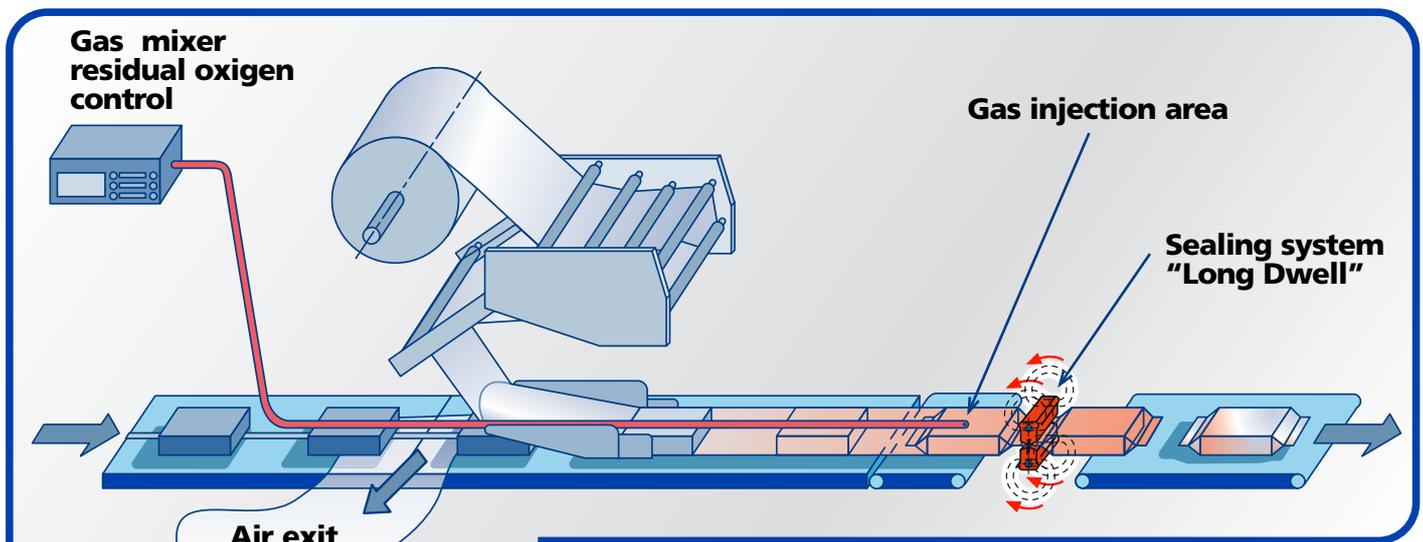


Diagram of the working cycle of a Tornado LD with modified atmosphere.



Examples of wrappable products.



Tornado LD

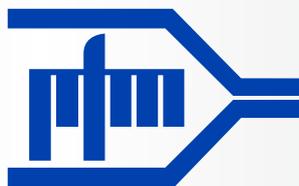
Technical Data:

Pack length:	<i>min 10, max 350 mm</i>
Pack width:	<i>min 10, max 220 mm</i>
Pack height:	<i>max 100 mm</i>
Reel width:	<i>max 750 mm</i>
Reel diameter:	<i>max 350 mm</i>
Crimper width:	<i>max 250 mm</i>
Mechanical speed:	<i>80 cycles/min</i>
Sealing unit:	<i>Long Dwell</i>
Available versions:	<i>BA, BB</i>
Power supply:	<i>380 Volt 3 phase + neutral + earth 50 Hz</i>
Weight:	<i>1000kg</i>
Power consumption:	<i>7 kw</i>
Type of infeed:	<i>In line (AFL ATL), ECF 90°</i>

Details:

The technical data related to the wrapping speeds and the ones related to the dimensions of the products are calculated considering the variables separately. As a consequence, the maximum speeds are not reachable with the larger products being the specific wrapping speed determined in function of the dimensions of the specific product. Technical data must be confirmed by PFM.

PFM reserves the right to modify technical data without previous notice.



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