



DYNAC

Proven Performance. Powering World Class Lines.





High speed buffering and pressure-less line control for bottling lines



Conveyance and accumulation of difficult to handle and lightweighted products

Industries Served:

- Food
- Home and Personal Care
- Beer
- Soft Drink
- Wine and Spirits
- Pharmaceutical

Keeping your product moving demands an intelligent machine — one that dynamically controls upstream and downstream product flow for consistent and pressure-less handling. The Hartness DYNAC is a simple, intelligent solution that provides pressure-less product conveyance, accumulation and buffering, as well as line balancing benefits for your packaging operation — all in a space-saving, configuration.

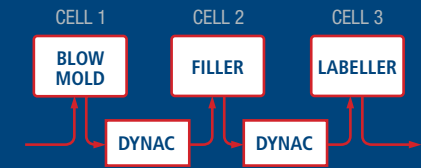
The advantages of DYNAC implementations range from increased throughput and higher line efficiencies, to smaller footprint line layouts and reduced product damage. DYNAC provides consistent, perfectly-pitched product flow to increase downstream machine efficiency. The system also features first-in/first-out (FIFO) buffering and sequential flow for products that require batch integrity. Intelligent design meets dynamic results. DYNAC... Doesn't your line deserve one?

Intelligent Line Design: Proven Innovation

DYNAC offers much more than accumulation. Hartness' industry-leading, DYNAC-centric line design eliminates complicated line controls, while equipment centers are positioned close together in a smaller footprint. DYNAC-centric lines also require fewer operators and less space, while consuming fewer utilities, saving you money, and improving operational efficiencies.

Line Control and Machine De-coupling

DYNAC also serves as a “throttling device,” supplying perfectly-pitched products to downstream equipment and eliminating “micro-stops” that inhibit line efficiency. Pressure-less conveyance and accumulation capabilities enable the efficient and gentle handling of light-weighted or pressure-sensitive containers without damaging the product. DYNAC “de-couples” machine centers, ensuring that each can operate independently. Inefficiencies of one machine do not affect the performance of others.



Proven Innovation : DYNAC-Centric Line Design

Simple innovation has always been at the heart of the Hartness culture. DYNAC-Centric line design is a simple, yet innovative approach to controls and system design which allows Hartness' systems group to deliver packaging lines that require less space, reduce labor requirements, and efficiently convey lightweighted and pressure-sensitive primary packages.

Simplified line controls are key to the success of the DYNAC-Centric concept. DYNAC acts as “throttling device,” supplying perfectly-pitched products to downstream equipment, and eliminating “micro-stops” that inhibit line efficiency.

Intelligent design meets dynamic results.

- / *Eliminates complicated line controls*
- / *Smaller footprint, lean line designs*
- / *Reduced labor*
- / *Efficiently conveys lightweighted and pressure-sensitive packages*
- / *Quieter packaging lines*
- / *Machine centers de-coupled*

DYNAC...at a glance

- Over 3 billion packages “DYNAC’ed”
- Over 2500 systems installed worldwide
- Installations in more than 50 countries
- Over 20 different variations to help clients be as flexible as possible
- Efficiency improvement of up to 20%

Many of the world’s leading suppliers of consumer packaged goods choose Hartness DYNACs to keep their lines running as efficiently as possible. For many companies, DYNAC is employed for its ability to safely and effectively accumulate packages between machine centers. For others, DYNAC is a line control device, ensuring consistent and pressure-less product flow between machine centers.



Benefits

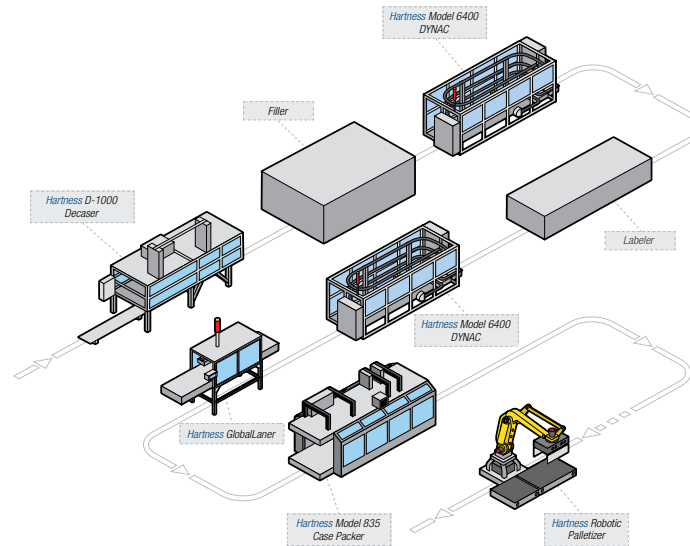
- / Efficient handling of lightweighted containers
- / Pressureless accumulation for even the highest speed lines
- / Increased line efficiency
 - Balances container flow between machine centers
 - Reduces line pressure (eliminates micro-stops)
- / Provides perfectly metered products downstream regardless of upstream output
- / Sequential first-in/first-out accumulation for accurate product tracking
- / Improved product quality and increased uptime
 - Reduced breakage and label damage
 - Eliminates pressure
 - Reduces line lubrication
- / DYNAC-centric line design
 - Elimination of complicated line controls
 - Allows for smaller footprint packaging lines
- / Flexible operation
 - Wide product range
 - Wide speed range
 - Simple to no changeover
- / Reduced labor needs
 - Low maintenance
 - Allows close-coupling of line components for shared operators and small footprint
- / Bypass function allows for maintenance on the system during line operation
- / Variety of machine sizes available
- / Small footprint as packages are accumulated vertically
- / Easy operation due to intuitive screen interface and easy access to essential areas



**Hartness Single File
DYNAC**

Proven Innovation: DYNAC-Centric Lines

Hartness' DYNAC-centric lines offer a lean approach to packaging line design. Simplified, low-pressure line controls, fewer operators due to shared work centers, "best in class" equipment centers and smaller layouts are all characteristics of our DYNAC-centric philosophy.

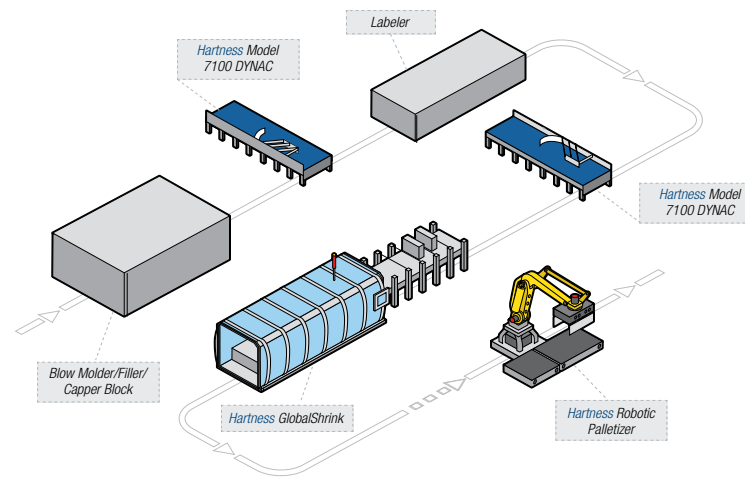


Case Study – DYNAC Single File

| | |
|--------------------------|--|
| Product | Reverse Tapered Wine Bottles |
| Speed | 240 bpm |
| Hartness Scope of Supply | Line design, conveyor, case packer with integrated laner, palletizer, 2 single file DYNACS |
| Deliverables | Reduced noise: Decibels reduced by 35% |
| High Efficiency | Increased efficiency of reverse taper bottle line by nearly 10% over industry average |



**Hartness Mas Flow
DYNAC**



Case Study – DYNAC Mass Flow

| | |
|-----------------------------|---|
| Product | Single Serve Bottled Water Speed: 600 bottles per minute |
| Hartness Scope of Supply | Line design, equipment, conveyor, line control, and project management |
| Deliverables | Reduced footprint: 10,000 square feet vs. 25,000 for traditional 600 bpm lines |
| Reduced number of operators | 1 vs. 3-5 in traditional 600 bpm lines Pressure-free handling of lightweighted water bottles |

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