

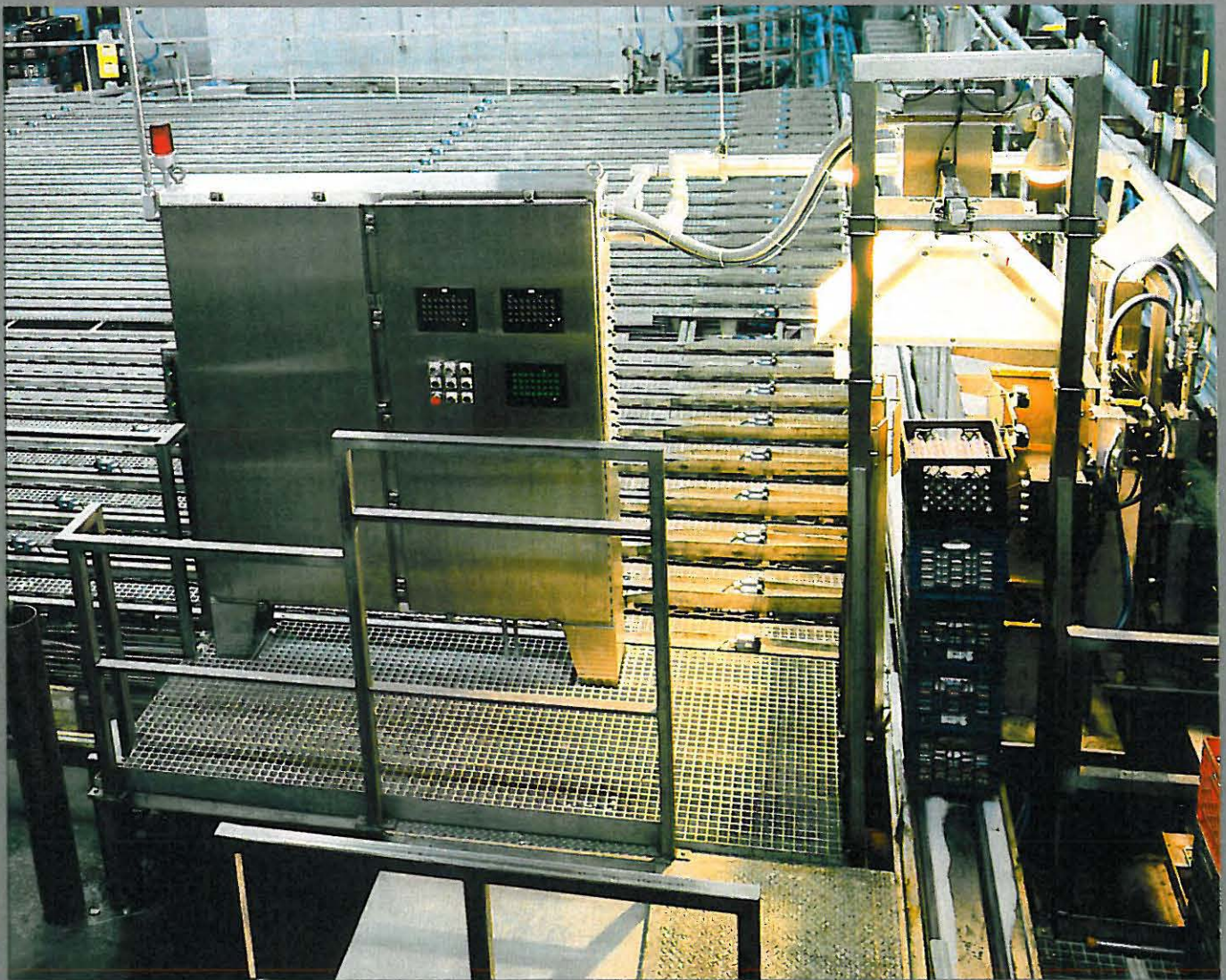
Automated Vision Sortation Storage and Handling

Many new innovations and technologies have been developed over the past several years to modernize and streamline the processing and packaging of dairy products. Yet, until recently, the handling and storage of the finished product was left to the old manual labor-intensive methods of the past. Now Cannon Conveyor has developed a fully automated system that will revolutionize the handling and storage of dairy products. A system that improves efficiency, controls costs, and goes a long way toward increasing profits.

A few of the benefits of Cannon's Automated Vision Sortation System are:

- Significantly reduced operating costs.
- Important energy savings.
- Elimination of bottlenecks in order picking and truck loadout.
- Maximum space utilization.
- First-in, first-out order picking.
- Simplification of the entire after-the-filler material handling process.
- Reduced delivery errors.
- Reduced workers comp cost.





This Automated Vision Sortation System, installed at Stop & Shop Dairy in Readsfield, Massachusetts, provides an excellent example of the sophisticated technology available from Cannon. This installation demonstrates a single level storage and handling operation. If space does not allow expansion on one level, a hi-rise system is an excellent alternative. Each installation will, of course, be unique and contain individual characteristics of its own, but this automated vision sortation system serves as a prime example of Cannon's ability to automate dairy material handling and cold storage areas.

Stacks of product, five and six high, are conveyed automatically from the fillers to 26 accumulation storage lanes. The combined capacity of the accumulation lanes is 11,096 cases. Prior to entering the accumulation lanes stacks pass under the computer-controlled video camera. The video camera reads each stack and differentiates by cap color, container size, case pattern and stack height; in all, twenty-six or more products may be identified by the Vision Sortation System. Based on this identification and the program entered for the day, each stack of product is assigned to a storage lane. Stacks are identified and conveyed to an assigned lane at a rate of 12 stacks per minute, with technology available for higher rates if required.

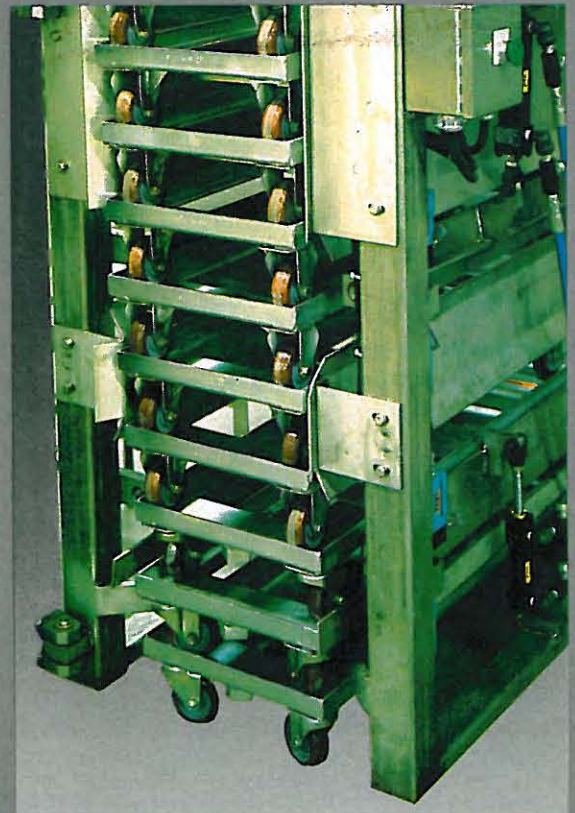


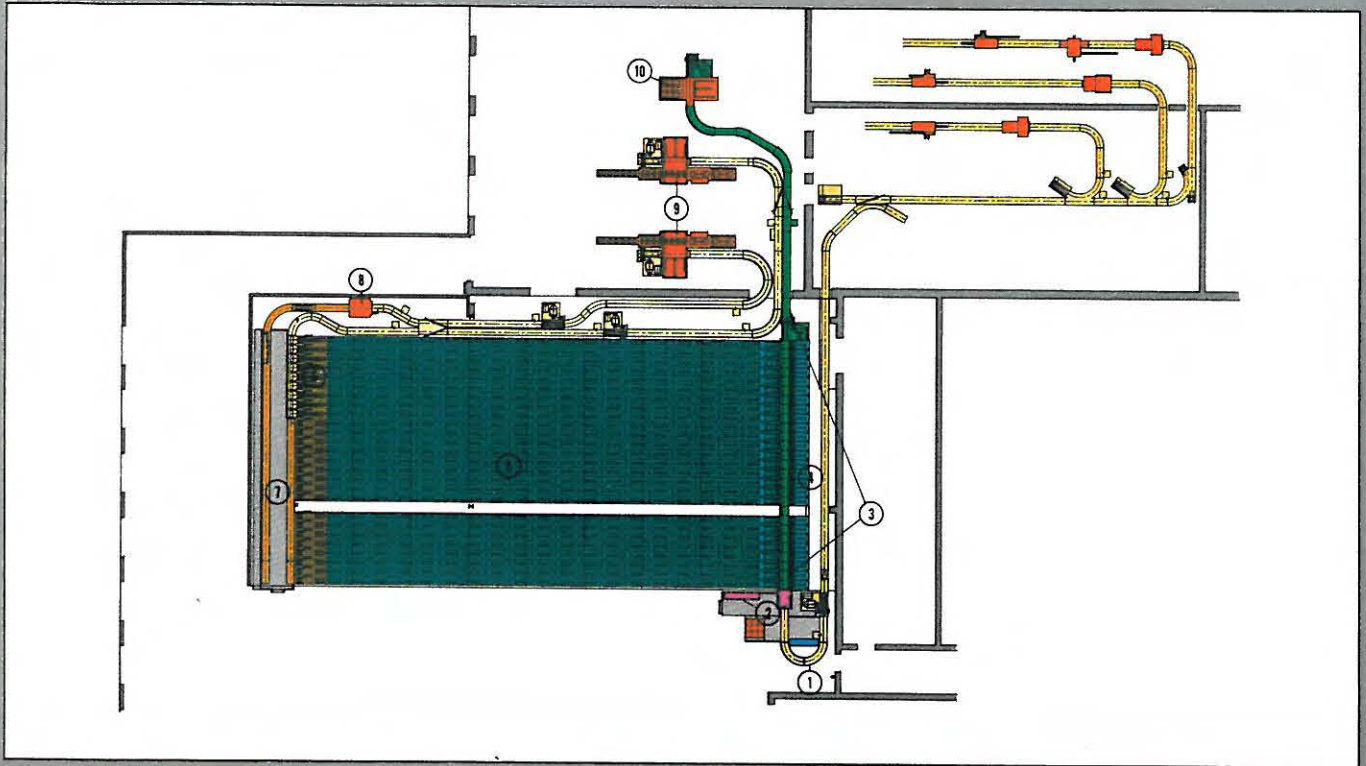


Nine of the twenty-six accumulation lanes are designated for high volume products (although as many as all 26 may be so designated) and will be automatically discharged to fill orders. Product assigned to these automatic lanes are identified by the Vision System and pre-programmed stack height of (usually) five; or six cases (if over half the lanes are used for high volume products). The other 17 lanes contain stacks destined to be manually picked.

Picked stacks are conveyed to a dollytizer where they are loaded onto a three-stack dolly that is used to haul the cases on and off delivery trucks.

After an order is entered and while the automatic lanes are discharging, the operator may manually fill that portion of the order that calls for less than five cases of an item. Manually picked cases are placed on an output conveyor that leads to an automatic stacker. Stacks of mixed cases are then conveyed to one of two dollytizers where they are stacked on dollies for truck loadout.





The layout shown above contains the following operational components.

1. Infeeding Stack Conveyor.
2. Automated Vision Sortation System.
3. Stack Induction and By-Pass Conveyor.
4. Infeed Stack Pushers.
5. Stack Accumulation Channels.
6. Automatic Discharge and Stack Output Conveyors.
7. Manual Order Picking and Picked Case Conveyor.
8. Automatic Case Stacker.
9. Automatic Three-Stack Dolly Loaders.
10. Automatic Nine-Stack Case Unitizer.

Due to Cannon's continuing program of product improvement, specifications are subject to change without notice. For clarity, guarding required by the Occupational Safety and Health Act may have been removed from equipment depicted.



AVSSH-93



For more information call Cannon Conveyor Systems at
1-800-825-8501 or 612-776-8501

 **cannon**
EQUIPMENT

Cannon Equipment Company
Cannon Falls, MN
1-800-533-2071

Cannon Conveyor Systems
St. Paul, MN
1-800-825-8501

Cannon Conveyor Systems East
Brookfield, CT
1-800-537-1857

Cannon Southeast
Chattanooga, TN
1-800-251-6235

Cannon West
Garden Grove, CA
1-800-692-8888