



Dillin Automation Systems Corp.
Creating Optimal Solutions

Products and Services

Dillin Engineered Systems

Dillin Capping Systems

Dillin Control Systems



Dillin Automation Systems

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Dillin Automation Systems

With its subsidiaries: Dillin Engineered Systems, Dillin Control Systems and Dillin Capping Systems, DAS offers a wide variety of products and capabilities which can be custom tailored to solve your specific packaging line productivity problems.

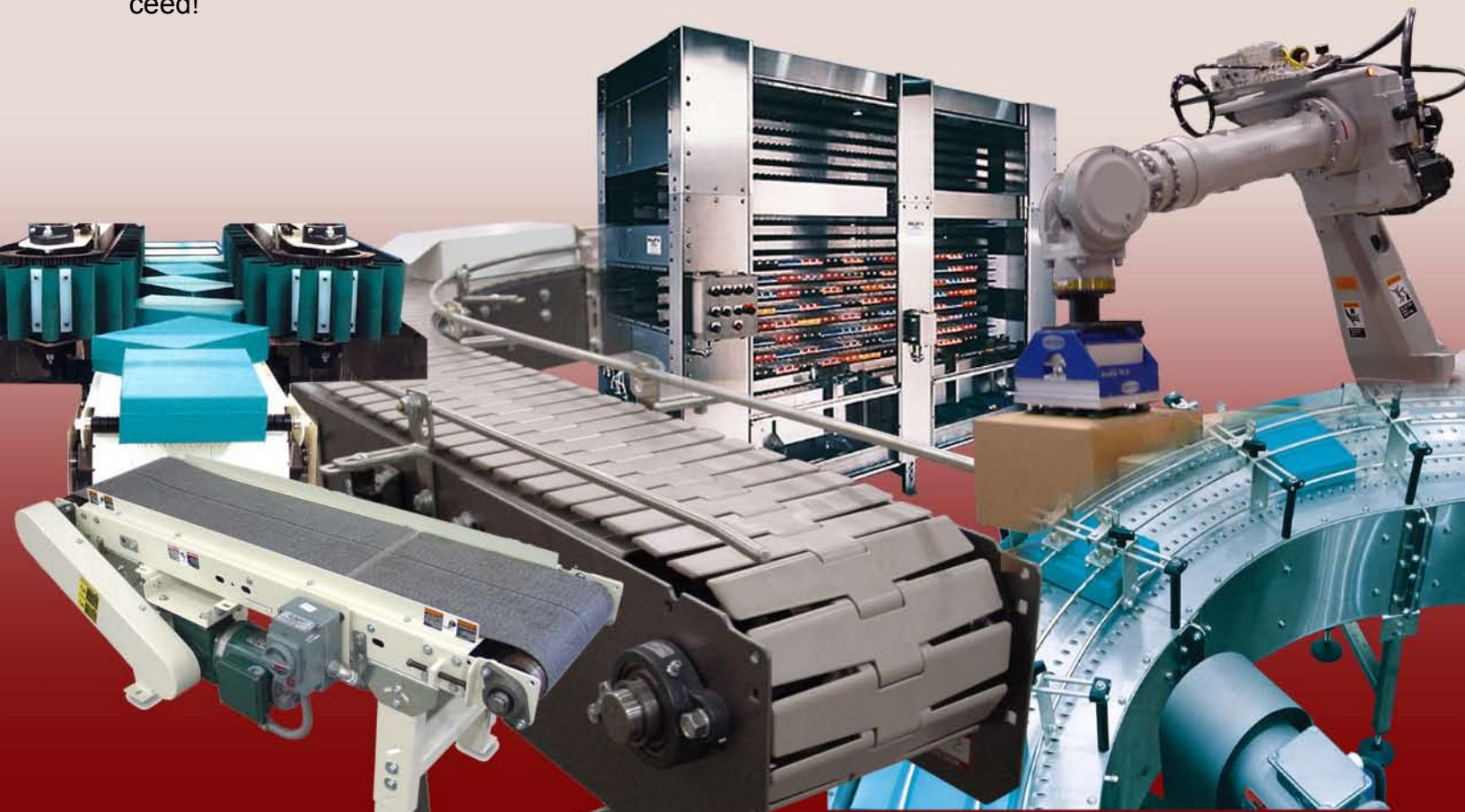
DILLIN AUTOMATION SYSTEMS specialized in Accumulation and Conveying Technology, System Integration, Controls and Panel Building and Capping and Closure Solutions.

With a combined 60 plus years of experience, our Solution Proving Team can assist you with the most basic of applications or the "Packaging Line of Your Future"...today.

DAS is a member of PMMI and specializes in package handling to include unwrapped food, cartons, cups, bag and pouches, caps, PET containers, trays, cases and pallets.

Our technology pedigree includes the following patents: ROE-LIFT® Over-The-Top® Vertical Accumulators, AIR DECK®, QuickSet® Guides and Changeover System, Rwave® Transfer, and "Soft-Touch"® Low Line-Pressure Accumulation.

Our knowledgeable sales persons, applications engineers, design engineers, project managers and highly qualified production technicians have a common goal...to help you, our valued client, take the puzzle out of your productivity challenges. We will do anything in our power to get you the solution you need and then stick with you in the years to come...because that's how we both succeed!



2008 Product Line

ROE-LIFT® Over-The-Top® Vertical Accumulators Maximum Accumulation in minimum floor space

Dillin's time tested and patented ROE-LIFT® accumulators provide a reliable, high speed and high volume accumulation solution. ROE-LIFT® provides completely automatic accumulation during downstream machinery downtime. Open access design permits visibility from operator side and visibility of accumulated product from all sides.



Our Rwave® transfer is available on all ROE-LIFT® models, to allow two or more rows of product to be accumulated on every lift rail.

Our Controls division can provide optional graphical user interfaces with reporting and data collection as well as intuitive operator alarms and displays for operation and maintenance.

AIR DECK® with QuickSet® Guide Rails Gentle high speed conveyance with effortless changeover

For over 25 years our valued customers have asked for AIR DECK® to convey and accumulate everything from candy, caps and cartons to pouches, bags and bottles.

AIR DECK® Conveyor with its accumulation capabilities during downstream equipment down-time, provides cost savings and value through low maintenance and the reduction of waste.



Combined with a complete set of control components, Dillin Engineered Systems has made a science out of AIR DECK® applications.

Standard conveyor and conveyor systems Affordable conveyance engineered to last.

Dillin's Standard conveyors provide both horizontal and incline transport for light-to-heavy weight products. Because of their versatility, our conveyors easily integrate with other types of conveyors and can be used for long distance conveyance.



Dillin's complete line of conveyors utilize or can be adapted with a myriad of application specific conveyance surface material to offer a solution to nearly any conveyance application.

Conveying systems for:

- High Speed Packaging Lines
- Product Accumulation
- Case and Unit Handling Systems
- Bottle Lines
- Detecting and Rejecting
- Feeding and Orienting
- Inspecting and Testing
- Merging and Diverting

Soft-Touch® - Low line pressure accumulation.

Roller bearing design allows low back pressure handling for a variety of products: cups, totes, slug, cartons etc.

Gripper Lifts- Gently and quietly lifts various sized products from one elevation to another

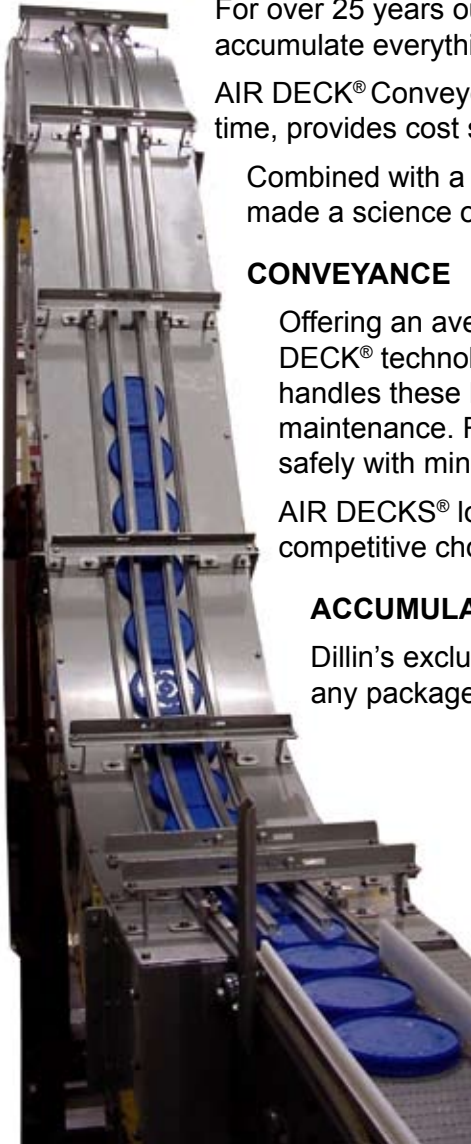
QuickSet® Changeover System- Adjusts guide rail or horizontal and vertical metering belts in less than 5 seconds.

Open Flap Detectors- Provides accurate detection of open or misaligned flaps. Includes positive reject system.

Robotic Palletizers- Flexible systems for heavy payloads.

- Lane Combiners**
- Lane Diverters**
- Squeeze Gates**
- Carton Spinners**
- Case Flippers**
- Case Lifts**
- Waterfall belt conveyors**
- Roller conveyors**

AIR DECK®



For over 25 years our valued customers have asked for AIR DECK® to convey and accumulate everything from candy, caps and cartons to pouches, bags and bottles.

AIR DECK® Conveyor with its accumulation capabilities during downstream equipment downtime, provides cost savings and value through low maintenance and the reduction of waste.

Combined with a complete set of control components, Dillin Engineered Systems has made a science out of AIR DECK® applications.

CONVEYANCE

Offering an average of 400 FPM of product throughput, Dillin's exclusive AIR DECK® technology conveys at more than twice the speed of conventional means. It handles these high speeds with little or no wear to the equipment and requires little maintenance. Riding on a cushion of air, your product is conveyed and accumulated safely with minimal graphics wear.

AIR DECKS® low maintenance, high throughput and higher capacity features make it a competitive choice for reducing your total cost of ownership.

ACCUMULATION

Dillin's exclusive AIR DECK® technology can be customized to accumulate virtually any package type with very little friction.

MASS FLOW

Dillin's exclusive AIR DECK® technology can be customized to convey in mass flow virtually any plastic or metal container type with very little friction. AIR DECK® conveys at more than twice the speed of conventional means. It handles these high speeds with little or no wear to the equipment and requires little maintenance. Riding on a cushion of air, your product is conveyed safely.

FEATURES

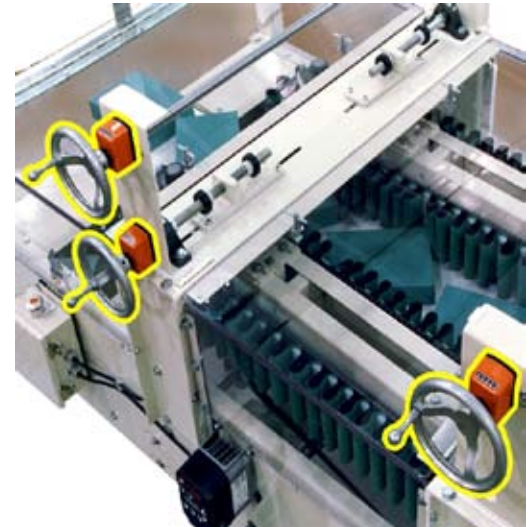
- Extremely low maintenance
- Low noise levels safe-no moving parts
- Capable of rates from 200-1200 fpm
- Can provide accumulation during downstream machinery downtime
- Easy interface with upstream and downstream machinery
- QuickSet® Guides enable product size changeovers in seconds
- Maximum accumulation with minimum line pressure and minimal graphics wear.



QuickSet® Changeover System

Patent #'s: 5,551,555 6,059,096 6,843,367

Dillin Engineered Systems a Dillin Automation Systems Company has been developing patented technologies and trademarked packaging line solutions (ROE-LIFT® Over-The-Top® Vertical Accumulator, AIR DECK®, Rwave® Transfer, QuickSet Guides®, Soft-Touch®) for Fortune 500 companies processing applications for over 25 years.



Product Spinner

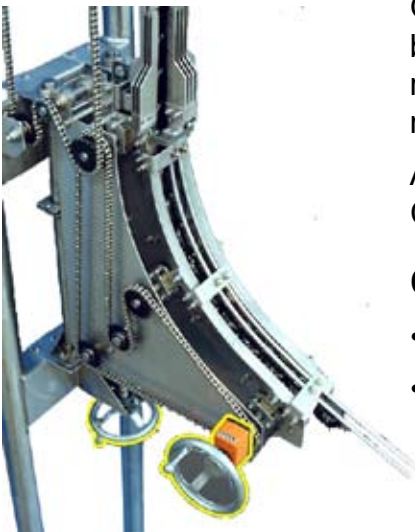
QuickSet® Guides

QuickSet® Guides and Components provide cost savings and value by reducing the amount of time required to adjust conveyor guide rail for product size changeovers. Their durable fabrication provides maintenance free service for years.

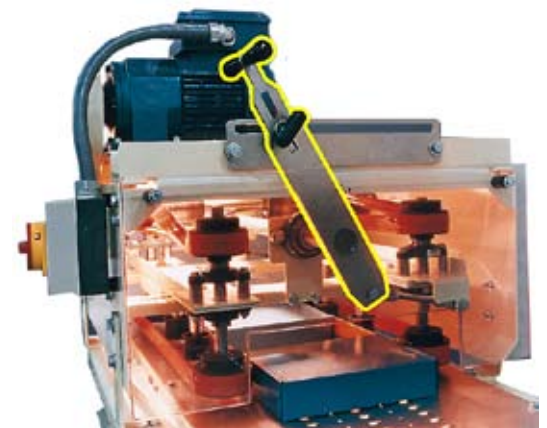
All of Dillin Engineered Systems Table/Mat Top, AIR DECK® and Belt Conveyor can be ordered specifying QuickSet® Guides.

QuickSet® Components

- STANDARD Horizontal Side Grip Metering Belts
- STANDARD Vertical Side Grip "S" and "C" Style Metering Belt



Gravity Cap Chute



QuickSet® Changeover System

Patent #'s: 5,551,555 6,059,096 6,843,367

FEATURES:

- Manually Adjusts Up to 100 Feet of Straight Guide Rail, Multiple Lanes and Curves in Seconds
- In PET handling application **QuickSet® Guides allow for five different sized containers.**
- Adjusts Top and Side Guide Rail at the Same Time
- Retrofits to Existing Conveyors
- Connects to Adjacent Straight Sections and Automatically Adjusts with them
- Simple, Reliable, Unique, Sanitary Design

QuickSet® Guide Specifications

Side Guide Rails	Adjustable stainless steel, 3/8" round rod with brass bar lock
Side Guide Rail Brackets	Formed brackets, Bright nickel plated
Overhead Guide Rails	Adjustable, stainless steel 3/8" round rod with brass bar lock



Soft-Touch®

Low Line Pressure Accumulation Conveyor

The new Soft-Touch® conveyor, combined with its vast array of flexible accessories and unlimited configurations, provides the optimal solution for the challenge of high-speed conveyance and accumulation of small or fragile products.

DESIGN FEATURES

Soft-Touch® technology utilizes timing belts, or urethane band drive technology (dependent on roller pitch) precision roller bearings and stainless steel roller drives, which makes it capable of speeds in excess of 400 fpm. Special composite rollers grip on the stainless steel drive shafts for conveying, or slip for low line pressure accumulation, when the weight of the product is applied to them. This prevents damage to fragile products and graphics on containers.



Customer Benefits:

- Tested and proven line speeds in excess of 400 feet per minute, enhancing production throughput and balancing packaging line machine capacities.
- Proven durability of patented drive system, reducing downtime and maintenance costs.
- Accumulation during downstream machinery failures, allowing the upstream processes to continue operating.
- Divisible into multiple lanes, providing valuable additional accumulation in areas where floor space is limited.
- Variable speed drives, accommodating multiple product flow rates on the same line.



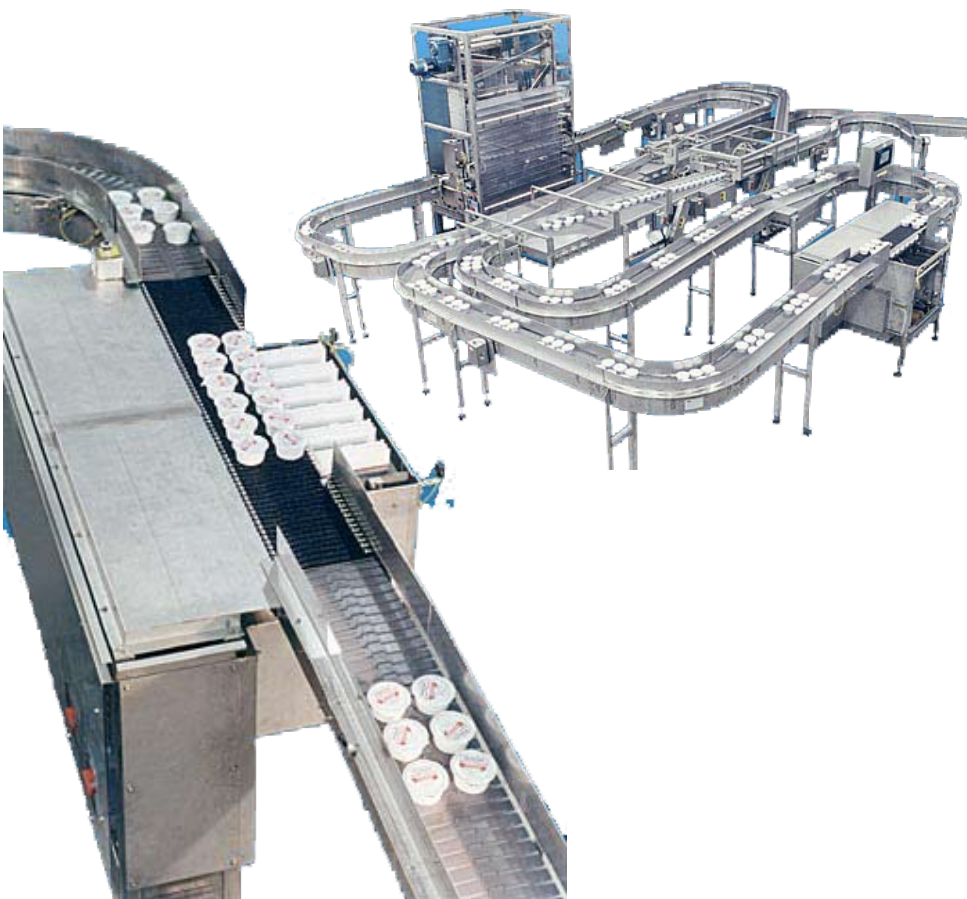
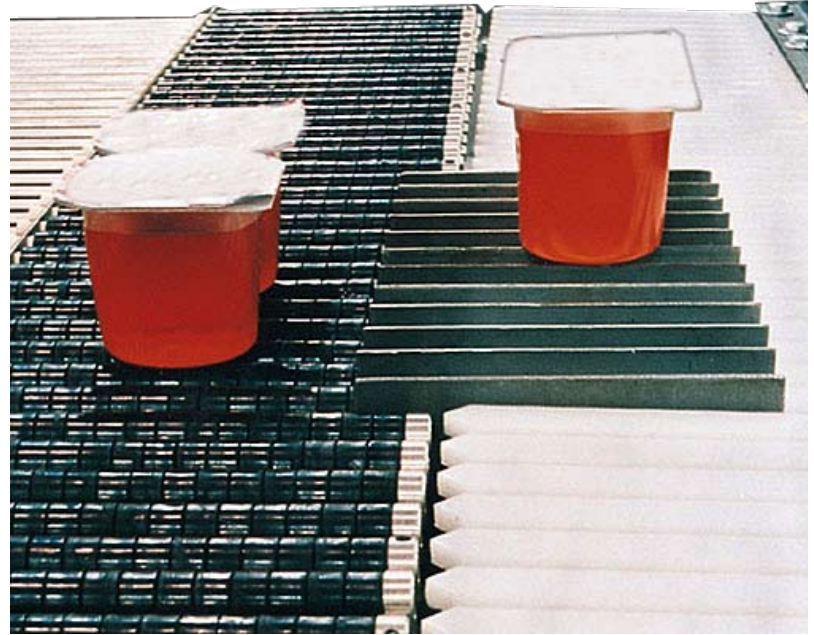
Soft-Touch® Conveyors Offer:

- Close roller centers for the gentle and precise handling of small products and a variety of other “hard to handle” or fragile product types which many industries must deal with.
- Merge/divert/combining, single filing, line balancing and bi-directional conveying solutions to solve even the most difficult of package handling challenges.
- Overhead, side grip and other custom stopping devices to solve a wide range of challenging problems related to odd size or hard to handle products.
- Zoned controls for the benefit of cutting power to a specific section of conveyor, which further protects accumulated product and saves on utility costs.
- Design and fabrication to meet wash-down requirements when needed.
- Multiple product size flexibility with optional QuickSet® Guide Changeover System.



Rwave® Transfer**Round Container Handling System with Rwave Transfer at infeed and in “Mini” Accumulator**

- High Speed, High Capacity, Gentle Handling
- Rwave Transfer available on Roe-Lift Vertical Accumulators: Mini, Midi, Maxi, Mega, and FIFO models
- Allows two or more rows of product to be accumulated on every Lift Rail
- Handles a wide variety of product sizes and shapes



T-Series Table Top Conveyor Components:

Intermediate Section
1'-0" to 10'-0"

Drive Section
Drive Mounted High & Low

Idler End Section

15°, 30°, 45°, 60°, and 90° curve sections

Table Top / Mat Top

M-900 Series, M-1100 Series, M-2400 Series Mat Top Conveyor Components:

Intermediate Section
1'-0" to 10'-0"

Drive Mounted High Section

Drive Mounted Low & Center Section

Idler End Section

15°, 30°, 45°, 60°, and 90° curve sections

Dillin's Standard Table Top and Mat Top conveyors provide both horizontal and incline transport for light-to-heavy weight products.

Because of their versatility, our conveyors easily integrate with other types of conveyors and can be used for long distance conveyance.

Additional Dillin Product Solutions which use Table Top & Mat Top Conveyor include:
"CP-2K" Incline/Decline, Twin "A" Incline, Vacuum Table Top, "Grab & Go" Transfer, Overhead Mat Top Conditioning-Metering Belt for Pouches, Flighted Mat Top Incline.



Belt Conveyors**Light and Heavy Duty Slider Bed**

APPLICATIONS

- Packing, Inspecting Sorting, Transporting, Assembling, Testing

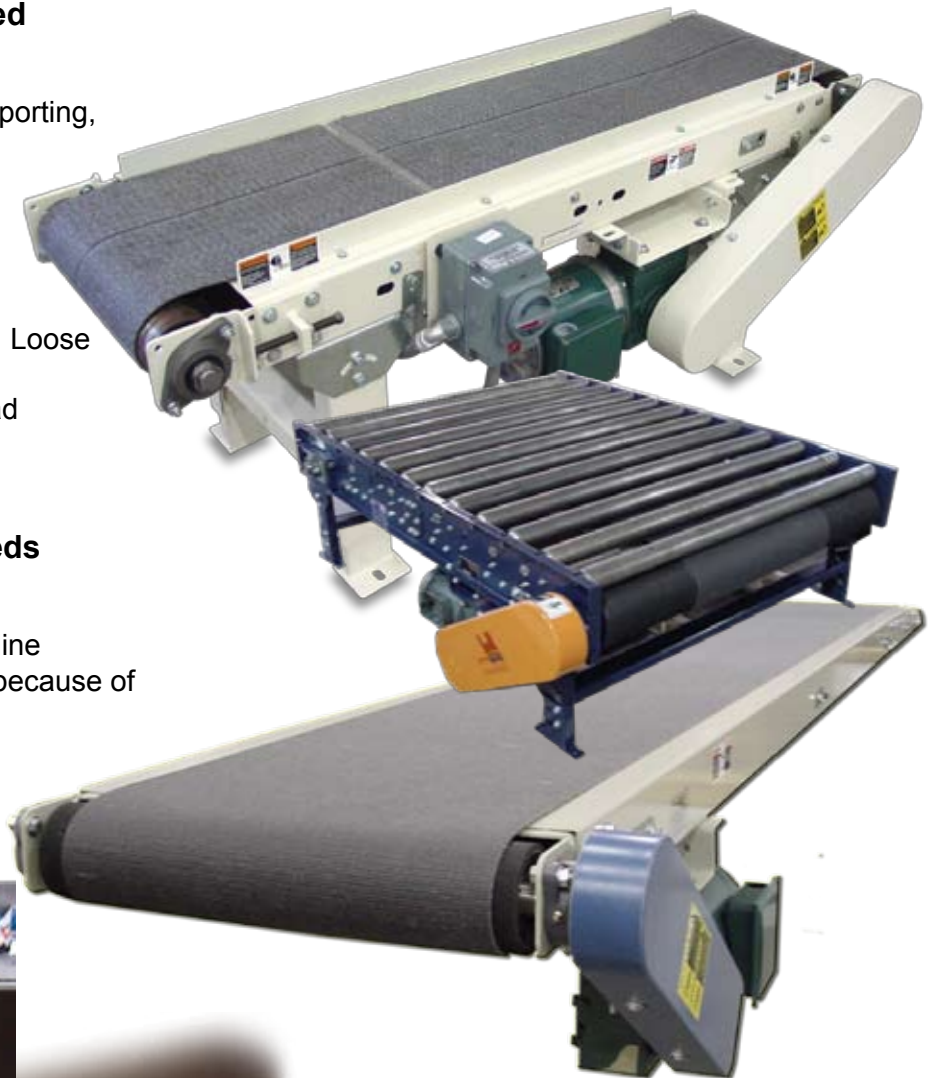
Trough Bed

APPLICATIONS

- Conveys Boxes, Bags, Cases, and Loose Parts
- Built-In Guard Rails Allow Overhead Conveying

Light and Heavy Duty Roller Beds

- Packing/Inspecting/Sorting
- Transporting Horizontally or on Incline
- Heavier Loads Can Be Conveyed because of less friction build up
- Assembling/Testing

**Light and Medium Duty Accumulator**

- Accumulating Light Duty Boxes, Tote Bins, Baskets, etc.
- Minimum Back Pressure
- Economical

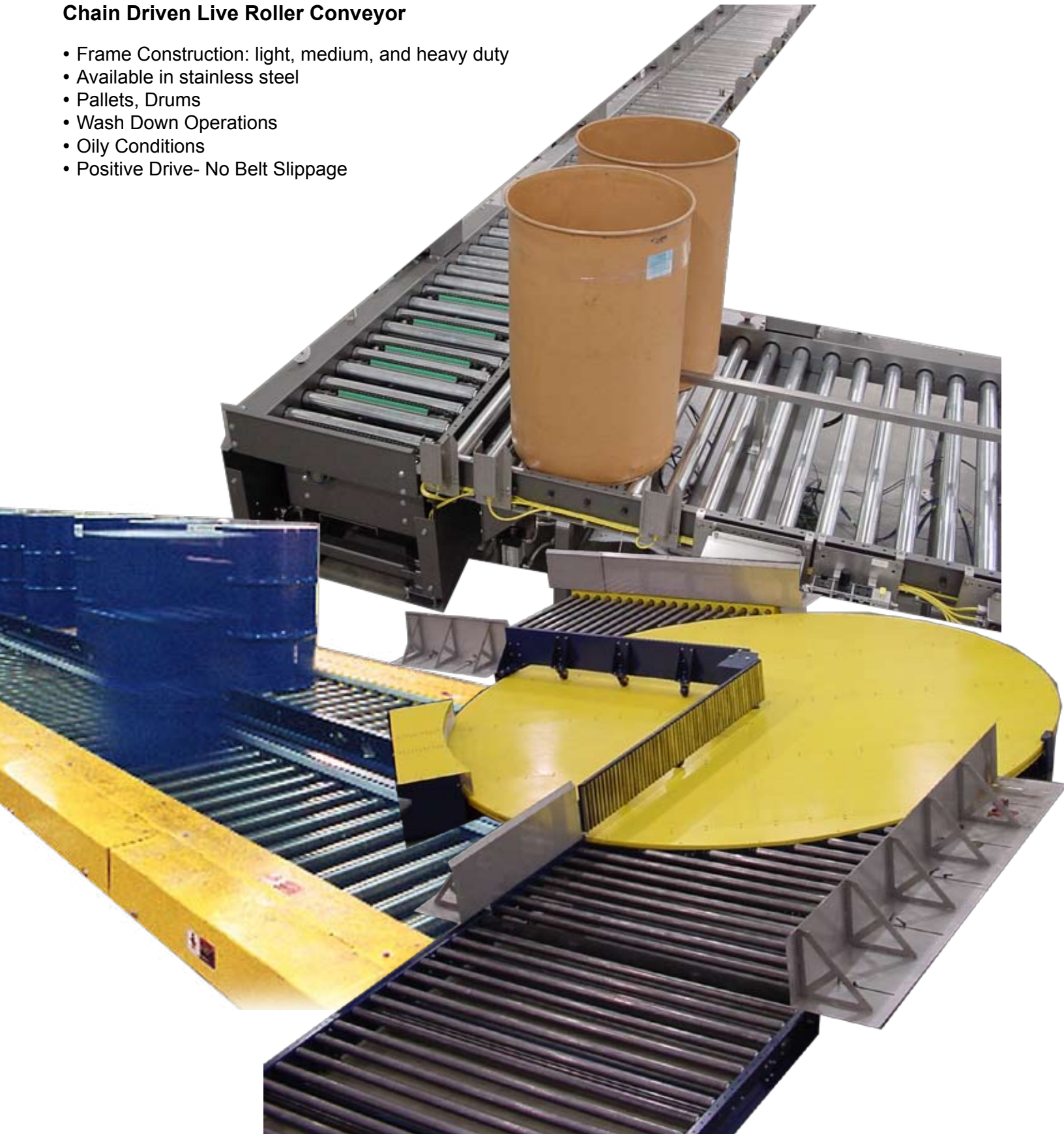
Heavy Duty Conveyor

- Limited Accumulation
- Rugged Design
- Easy Installation & Adjustment

Chain Driven Live Roller

Chain Driven Live Roller Conveyor

- Frame Construction: light, medium, and heavy duty
- Available in stainless steel
- Pallets, Drums
- Wash Down Operations
- Oily Conditions
- Positive Drive- No Belt Slippage



Heavy Duty Capabilities

A few of Dillin's Heavy Duty applications include transfer cars, turning disks, and robotics.



Robotic Integration Capabilities

Robotic Integration Capabilities

Dillin Engineered Systems and sister company Dillin Controls Systems have an experienced staff to accommodate your every robotic integration need.

With successful applications ranging from consumer goods to automotive parts to robotic tray handling we are equipped to quote, design and implement individual robotic cells or entire production line systems tailored to your specific needs and requirements.

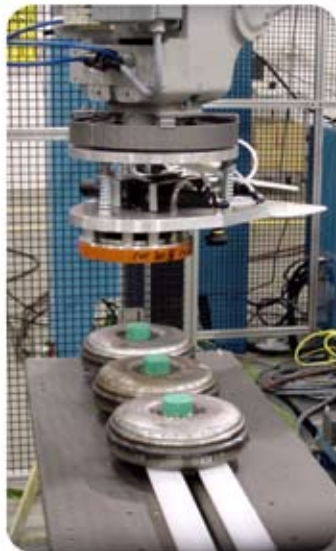
Extraordinary Flexibility

Available modular design provides multiple configuration options to increase productivity. Mechanical grippers can handle single, dual or multiple parts, including rigid or heavy cases, bags, newspapers, or trayed products. Additional “add-ons” provided by Dillin include infeed / outfeed conveyors, pallet stands, pallet



dispensers, pallet locators, slip sheet racks, and various other hardware and software options. These “add-ons” allow Dillin robotic applications to be configured to meet specific automation requirements.

Motoman Robots are the preferred choice of the Dillin companies although we are flexible in that regard specific to customer preferences.



Robotic Integration Capabilities**Increases productivity**

- Saves money
- Modular, flexible, fully integrated solution
- Flexibility to handle large and/or heavy products
- Long intervals of operation without intervention
- Wide array of end effectors to meet a variety of handling applications
- Reduces lost production time

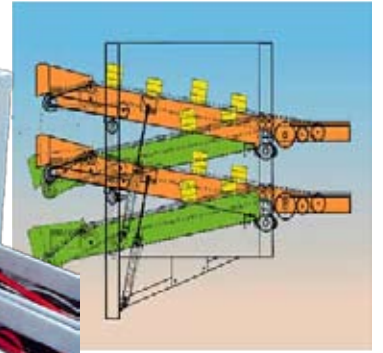
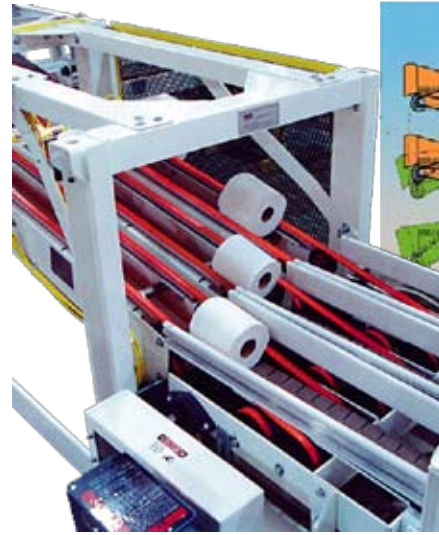
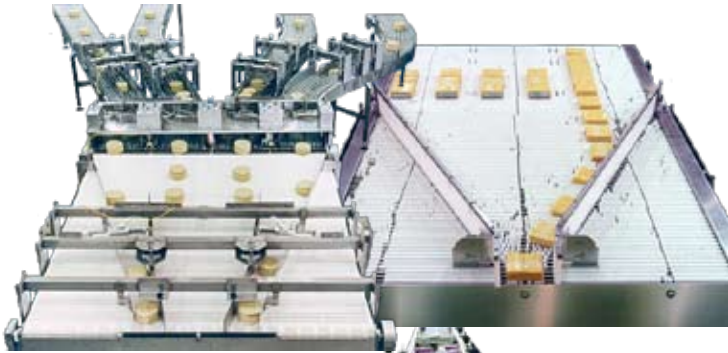
**From concept to production,**

Dillin's modular robotic solutions can increase your productivity and save you money. Modular design provides flexibility, high throughput, and simple operation.

Standard Dillin modules include a Motoman high-speed palletizing robot, a dual-zone vacuum case gripper with complete pneumatics package, XRC controller with menu-driven palletizing software, and DeviceNet-enabled modules. Also included are an incoming lineshaft case conveyor with three accumulation zones, chain-driven live roller pallet conveyor, overload Safety clutch, pallet rack, and safety features that comply with ANSI/RIA safety specifications.

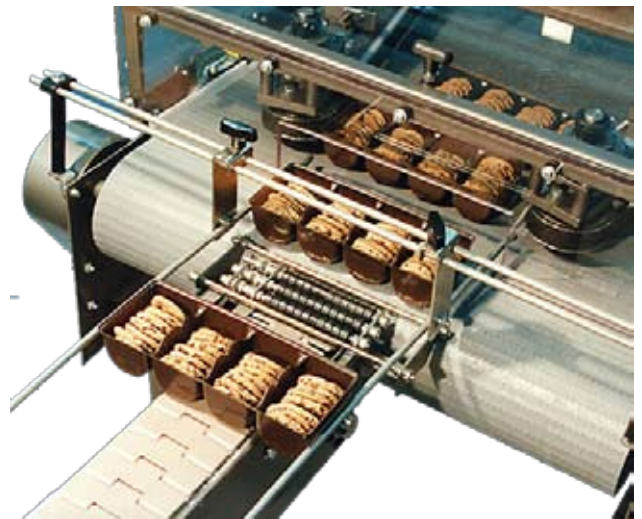
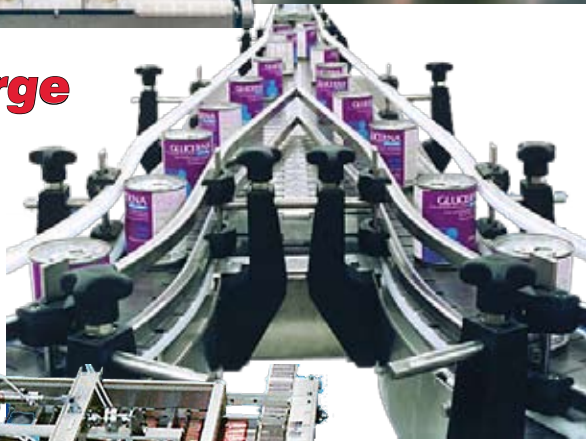


Merge / Divert / Combine - Gallery

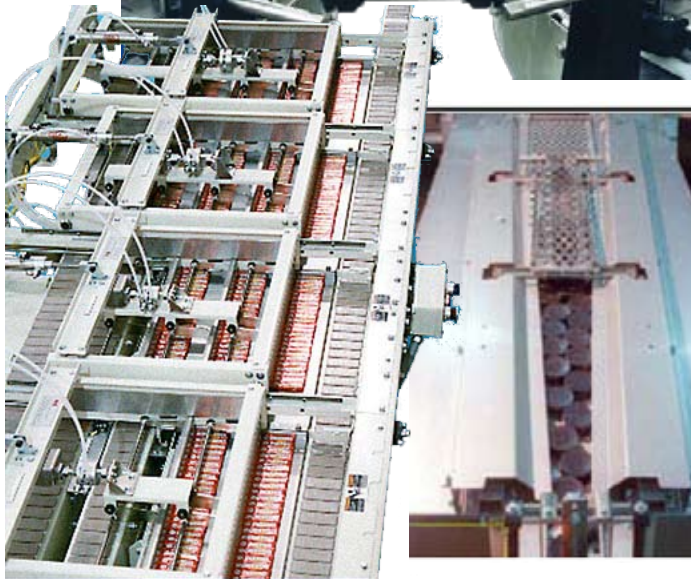


Merge

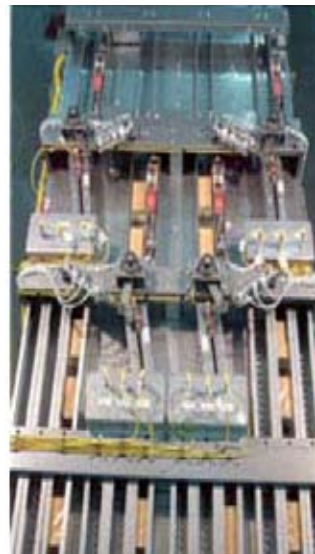
**2 : 3
Vertical
Switch**



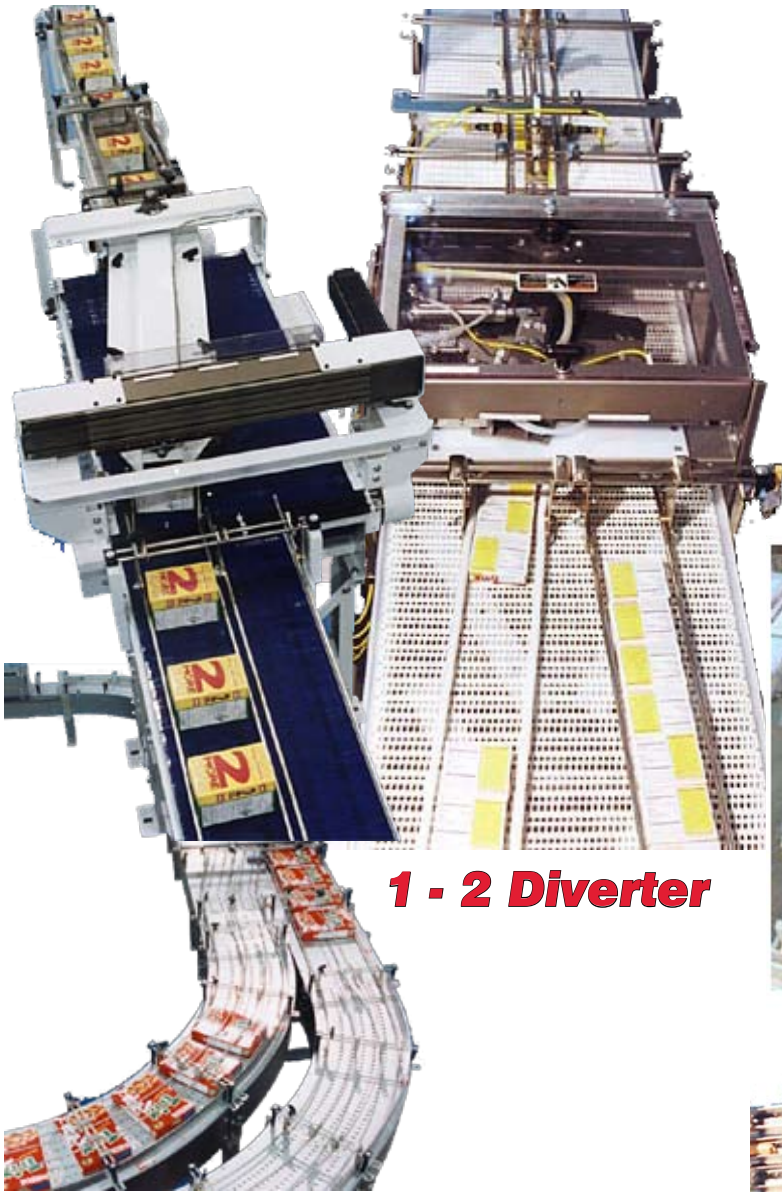
Continuous Combiner



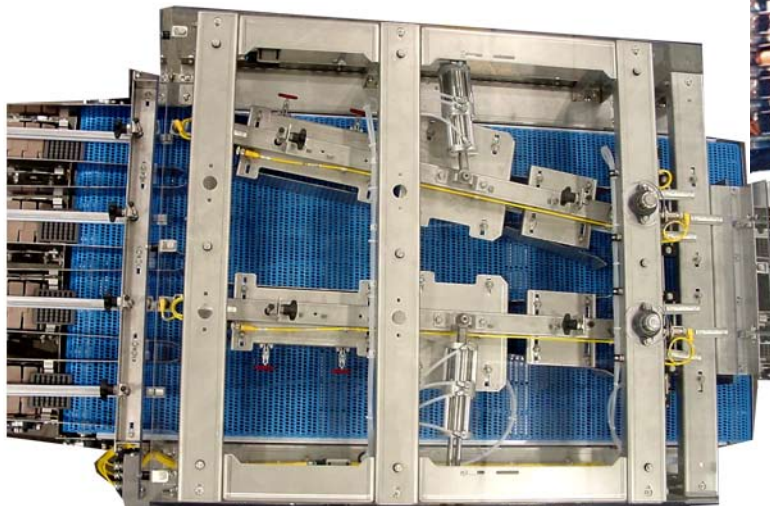
Line Balancing



Merge / Divert / Combine - Gallery



1 - 2 Diverter



2 - 4 Diverter

Case Lift- Model "S" & "C"

Synchronized Case Control

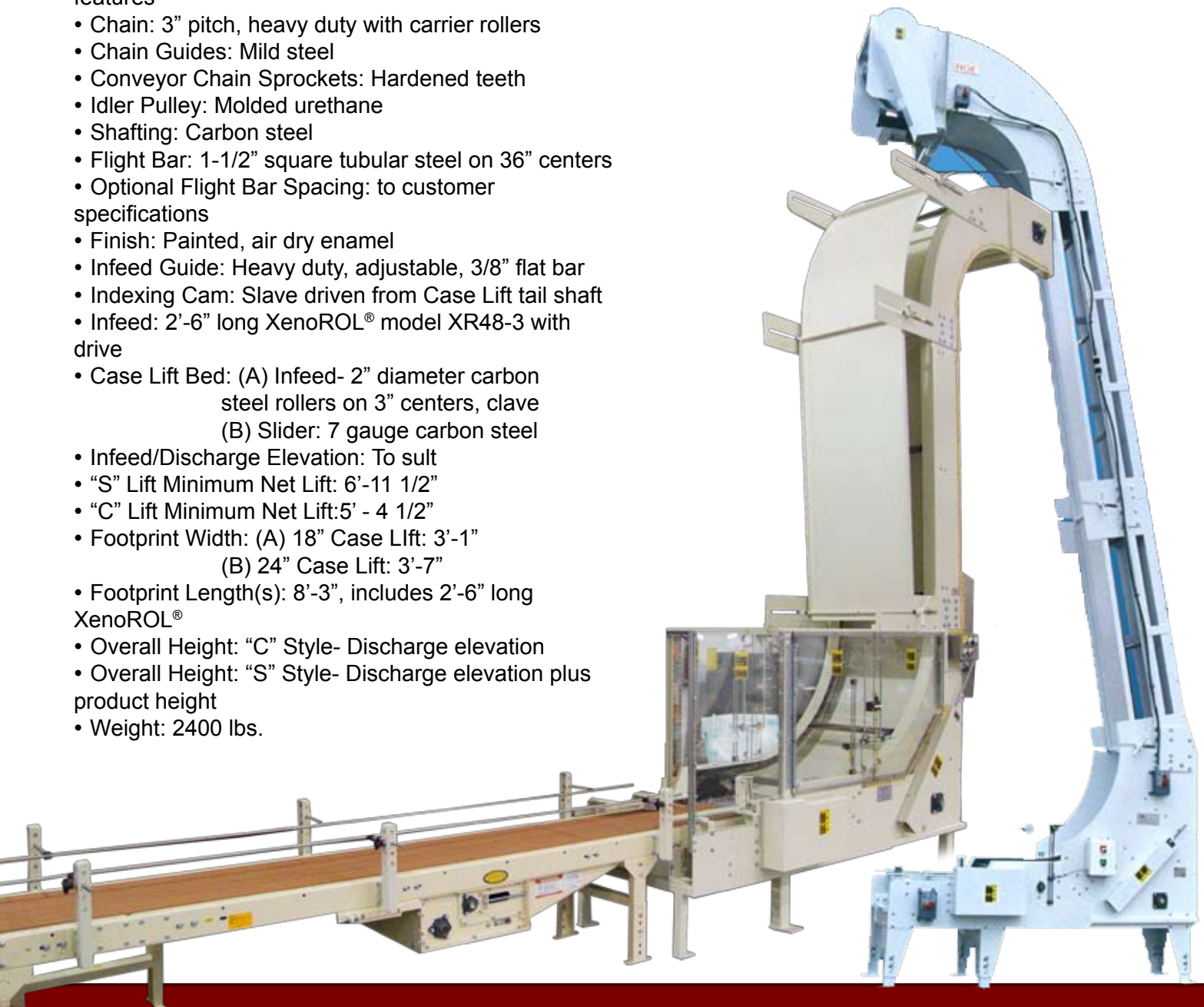
- Saves valuable floor space
- Simple to operate
- No electronic controls required
- Reliable, time proven design
- Original units still in use after 30 years

Standard Specifications

- Design: 7 gauge steel, welded frame, clean design features
- Chain: 3" pitch, heavy duty with carrier rollers
- Chain Guides: Mild steel
- Conveyor Chain Sprockets: Hardened teeth
- Idler Pulley: Molded urethane
- Shafting: Carbon steel
- Flight Bar: 1-1/2" square tubular steel on 36" centers
- Optional Flight Bar Spacing: to customer specifications
- Finish: Painted, air dry enamel
- Infeed Guide: Heavy duty, adjustable, 3/8" flat bar
- Indexing Cam: Slave driven from Case Lift tail shaft
- Infeed: 2'-6" long XenoROL® model XR48-3 with drive
- Case Lift Bed: (A) Infeed- 2" diameter carbon steel rollers on 3" centers, clave
(B) Slider: 7 gauge carbon steel
- Infeed/Discharge Elevation: To suit
- "S" Lift Minimum Net Lift: 6'-11 1/2"
- "C" Lift Minimum Net Lift: 5' - 4 1/2"
- Footprint Width: (A) 18" Case Lift: 3'-1"
(B) 24" Case Lift: 3'-7"
- Footprint Length(s): 8'-3", includes 2'-6" long XenoROL®
- Overall Height: "C" Style- Discharge elevation
- Overall Height: "S" Style- Discharge elevation plus product height
- Weight: 2400 lbs.

Applications

- Continuous Motion
- Automatic Infeed
- Heavy Duty

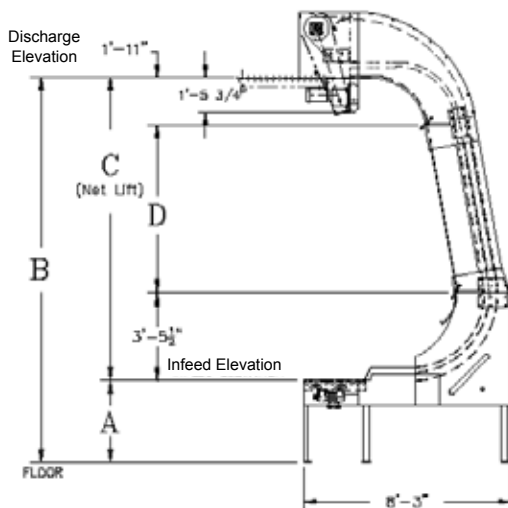


Case Lift- Model "S" & "C"

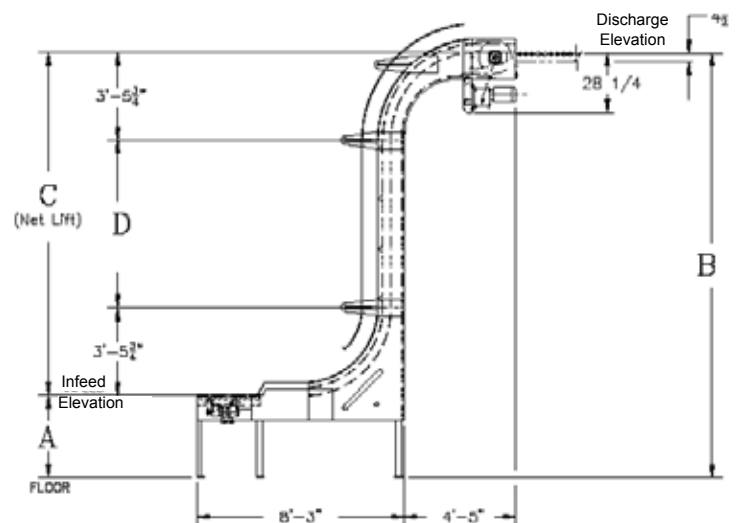
Standard Specifications Cont'd:

- Floor Supports- 3" square tubing
- Speed- Normal Range- 15 cases per minute
- Lifting Capacity- Maximum 50 lbs. per case
- Drive- Reliance motor, Dodge, Tigear reducer
 - (A) Case Lift- 45 FPM, Minimum 3/4 HP
 - (B) XenoROL® infeed- 60 FPM, 1/2 HP
- Torque Limiter- Dodge Torque- Tamer®
- Drive Shaft- Carbon steel
- Sprockets- Hardened teeth
- Motor Power Requirement- 230/460V-60Hz-3Ph
- Electrical Field Devices- 24 VDC
- Field Devices- Open Flap, Mis-aligned Case Detection- Photoeye
- Product Size-
 - (A) 18" Case Lift- 16" maximum case width
 - (B) 24" Case Lift- 22" maximum case width
- Note: The Case Lift handles a wide variety of case sizes. Contact Dillin Engineered Systems Corp. with case dimensions and weight for systems analysis.

- Guarding-
 - (A) Drive chain guarding, 2 piece formed steel
 - (B) Back panel, 7 guage steel
 - (C) Reciprocating cam guarding, formed steel
- Shipping- Exclusive use Air-Ride tractors and trailers at competitive freight rates. May be partially disassembled.
- Regular Maintenance- Lubricate drive chain and conveyor chain periodically. No other lubrication required under normal operation. See owners manual for periodic inspection and adjustment
- Typical Interface Equipment- Belt or Roller Conveyor
- Note: The Case Lift is sold as an independent, stand-alone unit, without controls.

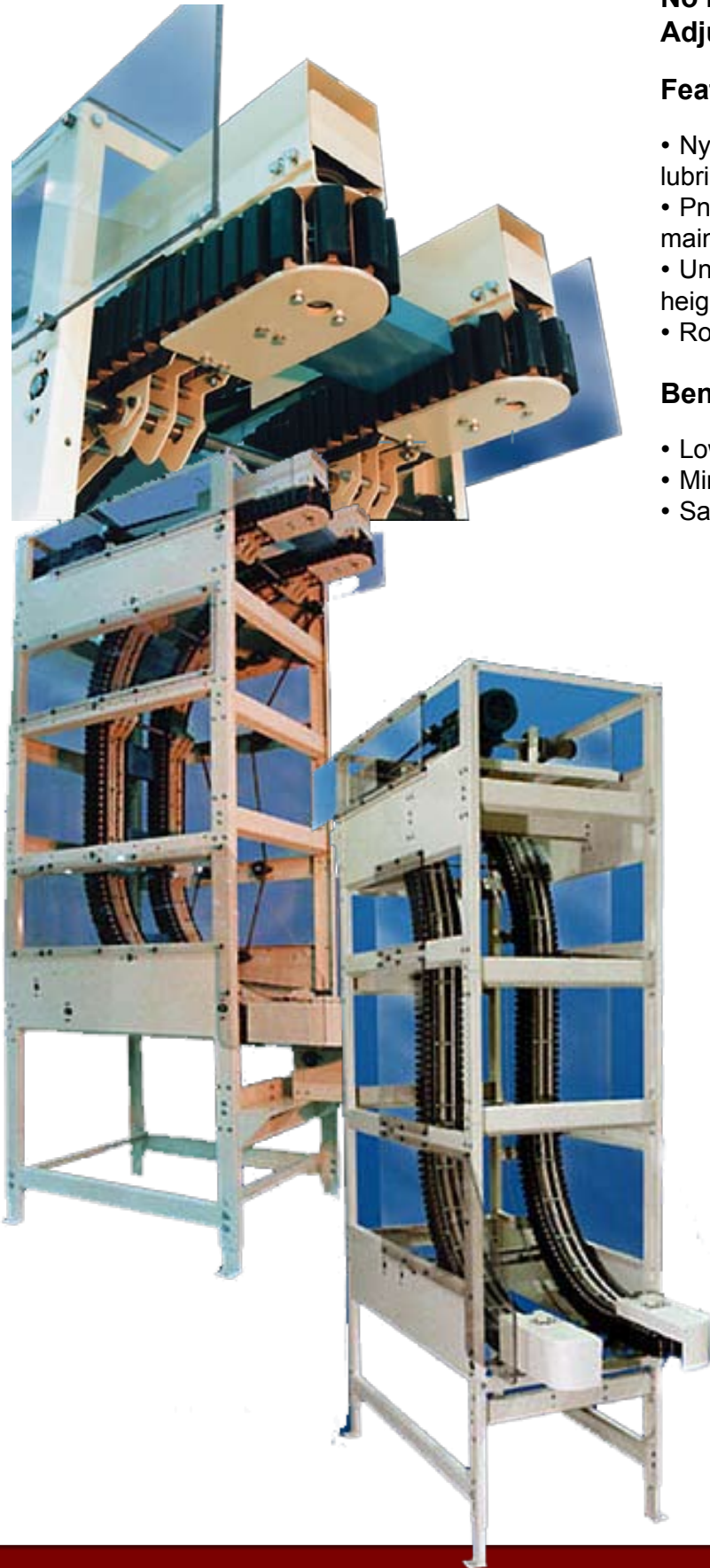


"C" - CASE LIFT



"S" - CASE LIFT

Gripper Lift



High Speed Vertical Conveying No Indexing Adjustable Width

Features

- Nylatron® wear strip permit operation without lubrication (under 150 fpm)
- Pneumatic take-ups and low air pressure sensors maintain chain tension at idle end.
- Unique timing belt drive offers low profile overall height
- Roller chain base with plastic snap-on flights

Benefits

- Low maintenance
- Minimal Operator Manpower
- Saves Valuable Floorspace

Standard Specifications:

- Design- formed channel, 7 gauge welded sideframe with bolted crossmembers, clean design features
 - Chain- Rex LF 1873-K 3-3/4G LF Acetal links on carbon steel roller chain
 - Optional Chain- Rex LF 1873-SSK 3-3/4G LF Acetal links on stainless steel roller chain
 - Chain Guides- Nylatron wearstrips
 - Grippers- "D" style
 - Shafting- Carbon steel
 - Material Finish- Painted air dry enamel
 - Guides- Adjusted automatically with gripper chain adjustment
 - Supports- Floor, adjustable, formed channel
 - Footprint Width- 3'-0" or 3'-1 5/8"
 - Footprint Length- 5'-0" or 4' 1"
 - Height- Discharge elevation plus 1'-4"
 - Speed- Normal range- 60-80 FPM
 - Capacity- Lifting- approximately 25 lbs.
- All systems subject to product testing and engineering analysis by Dillin Engineered Systems Corp.
- Drive- Reliance motor / Dodge, Tigear reducer with timing belts
 - Drive Shafts- Carbon steel
 - Motor Power Requirements- 230/460V-60Hz-3Ph
 - Electrical Field Device- 24 VDC
 - Pneumatic Field Devices- Compressed air, minimal 80 psi

Gripper Lift

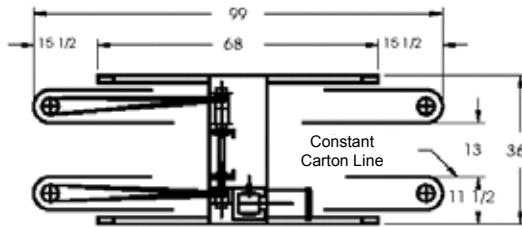
Standard Specifications Cont'd:

- Electrical Field Devices- Air pressure sensors (Barksdale)
- Pneumatic Field Devices- Filter/Regulator/Lubricator (Numatics); Flow Control (Bimba)
- Adjustability- Gripper chain clearance adjustable by hand crank

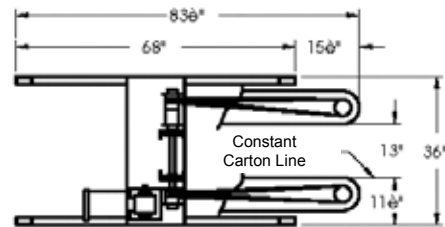
Standard Models	Range of Width Adjustment
W36	5" to 9" or 9" to 13-1/4"
W37	5" to 9" or 8-9/32" to 15"

- Standard Curve- Radii- 33" centerline or 24" centerline

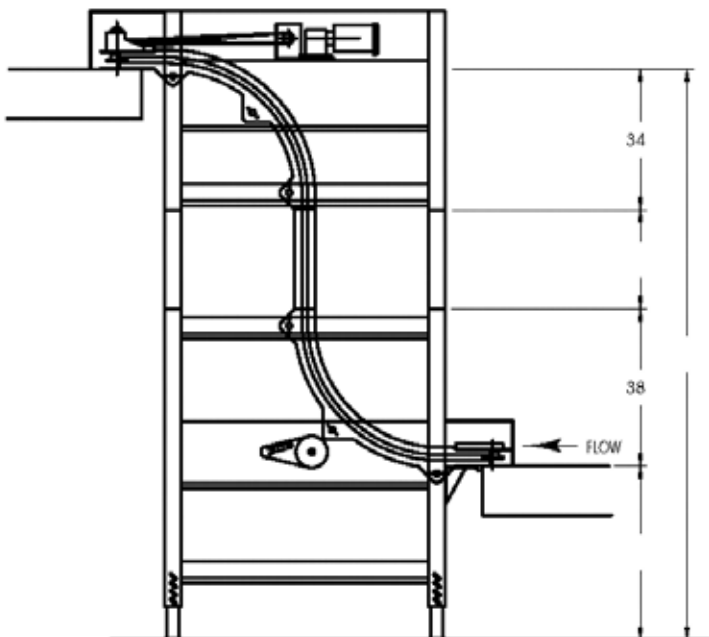
- Guarding-
 - (A) Drive- 3/8" Lexan® enclosure
 - (B) Head Sprockets- formed steel guard attached to gripper chain assembly, moves automatically when unit is adjusted for width
 - (C) Side Panel Guards- 3/8" Lexan® sheeting
- Regular Maintenance- No lubrication required under normal operation. Units faster than 150 fpm furnished with automatic oiler
- Spare Parts- Readily available
- Typical Interface Equipment- Air Deck®, Belt Conveyor, Roller Conveyor



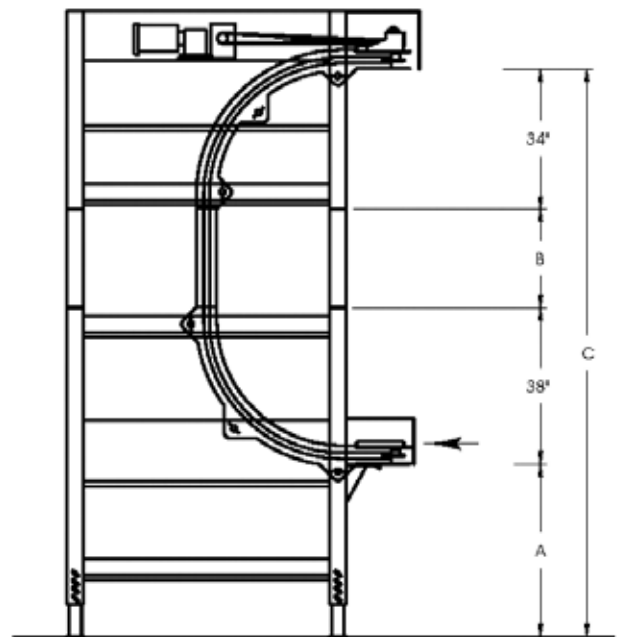
Gripper Lift Plan View



Gripper Lift Plan View



Gripper Lift "S" Model



Gripper Lift "C" Model

CP-2K Incline / Decline

High Speed Vertical Conveying

No Indexing

Adjustable Top Belt For Varying Product Heights

Features

- Nylatron® wear strip on bottom belt permits operation without lubrication
- Top belt of flexible fingers adapts well to wrapped or unwrapped fragile product
- Mat Top bottom belt
- Flexible in Line location-upstream or downstream of overwrapper for trays

Benefits

- Low Maintenance
- Minimal Operator Manpower
- Saves Valuable Floorspace



Twin "A"- Incline / Decline**Low Cost-High Speed
Vertical Conveying- No
Indexing****Features**

- Nylatron/uhmw wear strip on bottom belt permits operation without lubrication
- Belt over Mat Top
- Up to 90° elevation angles
- Flexible in Line location- upstream or downstream of overwrapper for trays
- Rates up to 300 fpm

Benefits

- Low Maintenance
- Minimal Operator Manpower
- Saves Valuable Floorspace



ROE-LIFT®

Over-The-Top Vertical Accumulation

Features

- High speed, High Capacity, Gentle
- Provides completely automatic accumulation during downstream machinery downtime.
- Open access from operator side and visibility of accumulated product from all sides
- RWave® Transfer available on all Mini Models- Allows two or more rows of product to be accumulated on every lift rail.
- Optional graphical user interface with reporting / data collection.
- Intuitive operator alarms and displays for operation and maintenance

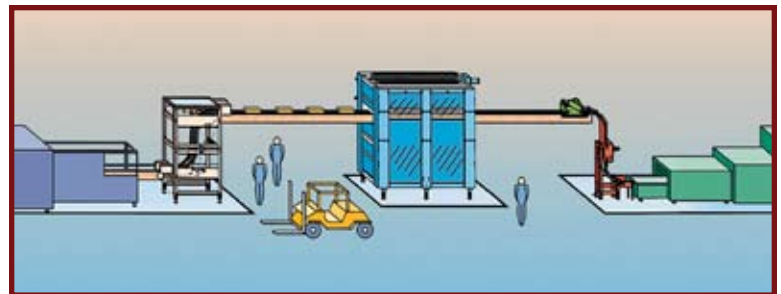
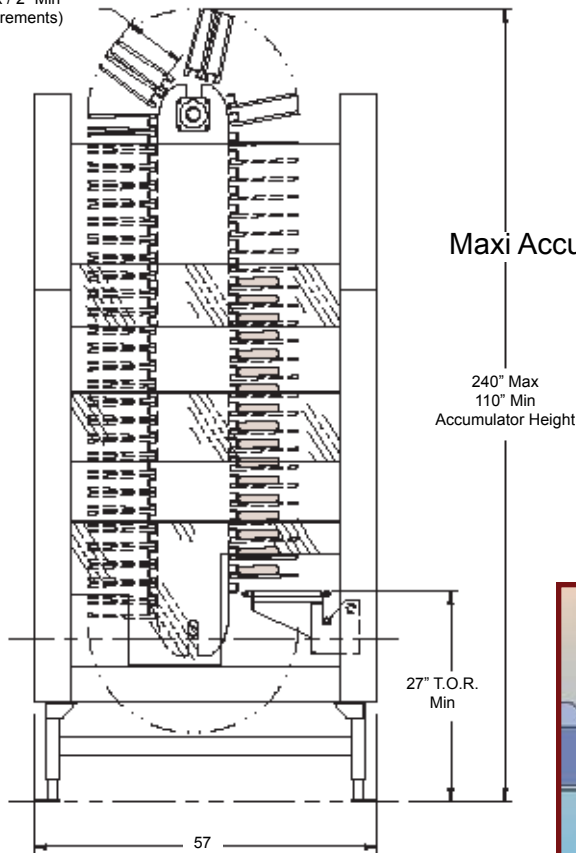


Mini Accumulator



Maxi Accumulator

Finger Length
10" Max / 2" Min
(1/2" increments)

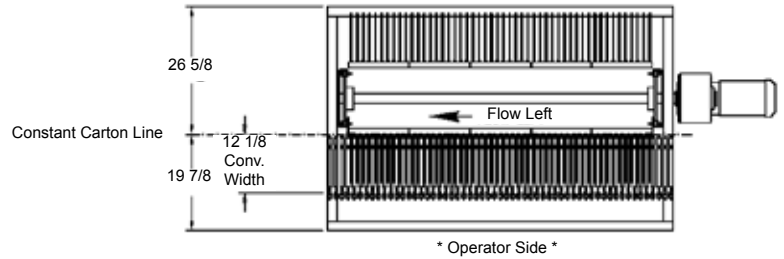
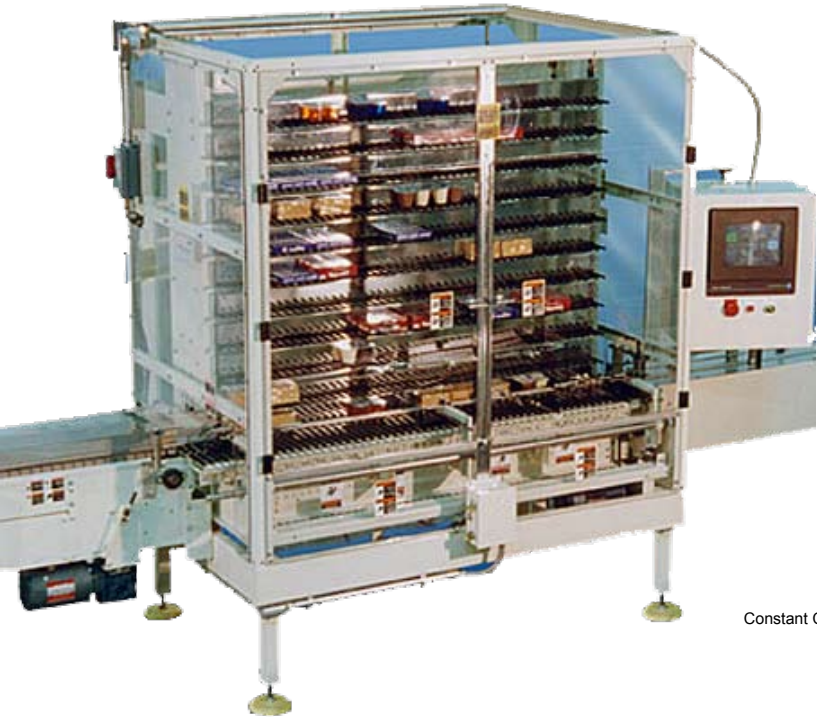


Available in four "standard footprint" sizes, ROE-LIFT is time tested and patented to provide a reliable, high speed and high volume accumulation solution. By standardizing the length and width and building to your height and accumulation requirements, we are able to offer the ROE-LIFT at a substantial cost savings over other accumulation methods.

ROE-LIFT® - Mini

Features

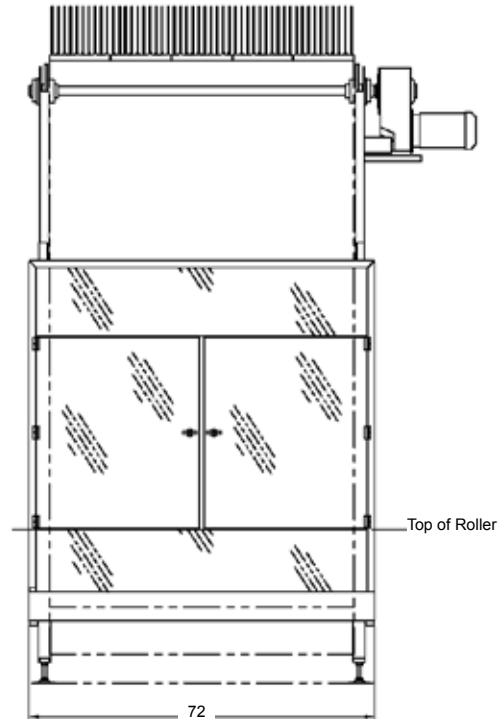
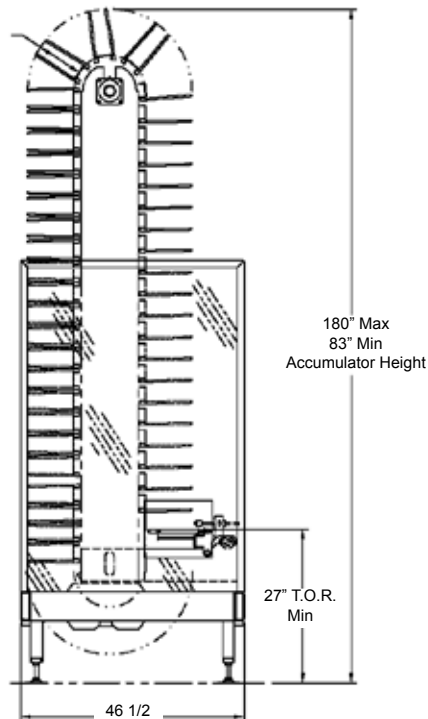
- High speed, High capacity, gentle
- Provides completely automatic accumulation during downstream machinery downtime
- Open access from operator side and visibility of accumulated product from all sides
- Rwave® Transfer available on all Mini models- allows two or more rows of product to be accumulated on every lift rail
- Optional graphical user interface with reporting / data collection
- Intuitive operator alarms and displays for operation and maintenance



* Dimensions are shown in inches and are for reference only.

LH Flow Shown
RH Flows Opposite

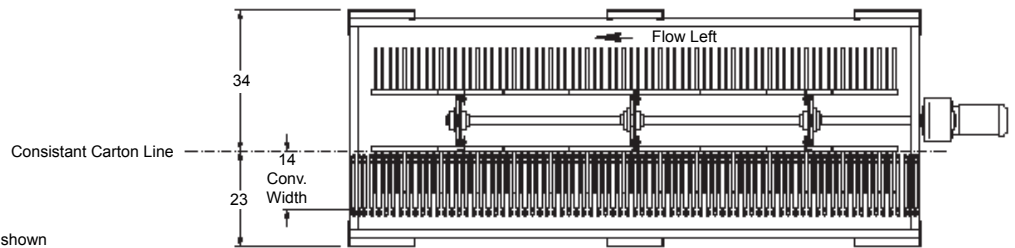
Finger Length
9 1/2" Max / 2" Min
(1/2" increments)



ROE-LIFT®- Maxi

Features

- High speed, High Capacity, Gentle
- Provides completely automatic accumulation during downstream machinery downtime.
- Open access from operator side and visibility of accumulated product from all sides
- RWave® Transfer available on all Maxi Models- Allows two or more rows of product to be accumulated on every lift rail.
- Optional graphical user interface with reporting / data collection.
- Intuitive operator alarms and displays for operation and maintenance

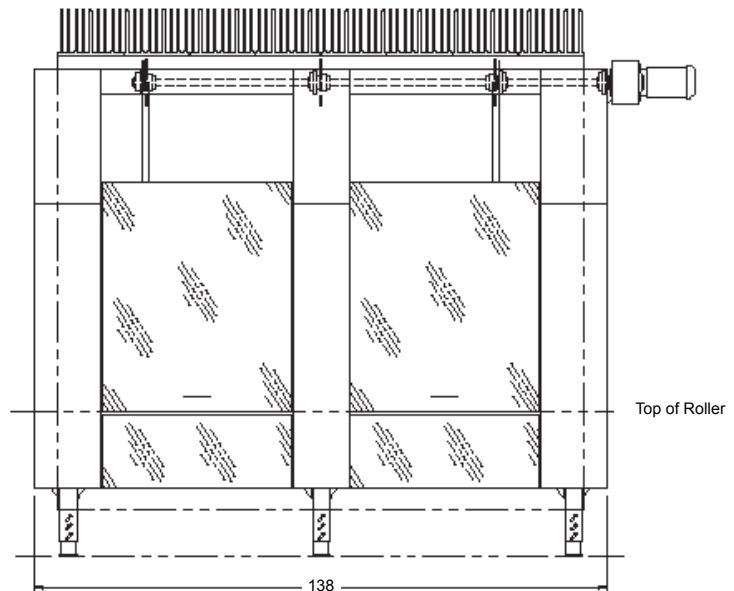
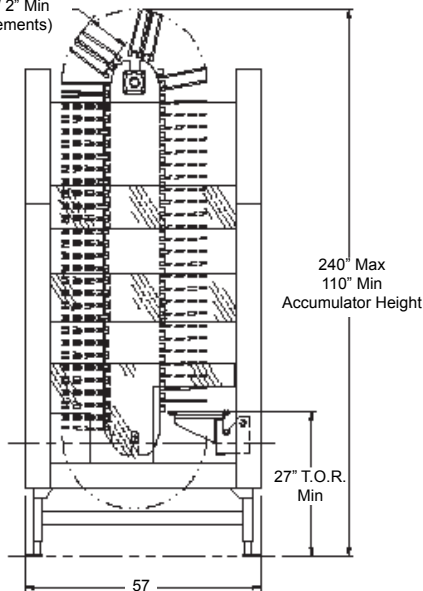


* Dimensions are shown in inches and are for reference only.

* Operator Side *

LH Flow Shown
RH Flows Opposite

Finger Length
10" Max / 2" Min
(1/2" increments)



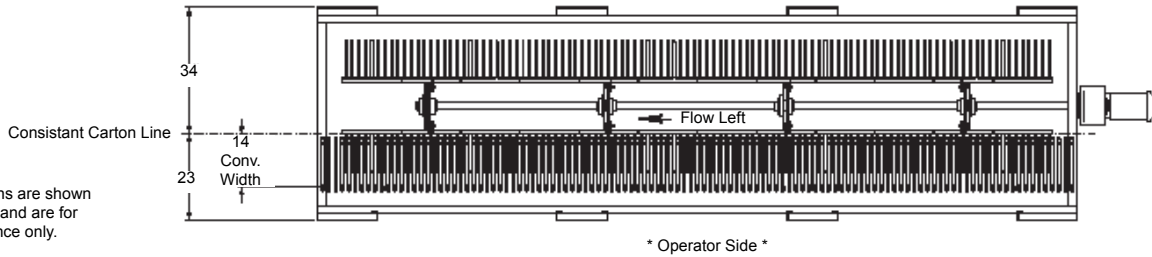
ROE-LIFT®- Mega

Features

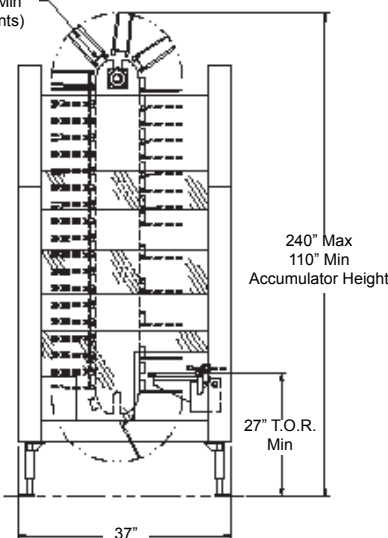
- High speed, High Capacity, Gentle
- Provides completely automatic accumulation during downstream machinery downtime.
- Open access from operator side and visibility of accumulated product from all sides
- RWave® Transfer available on all Maxi Models- Allows two or more rows of product to be accumulated on every lift rail.
- Optional graphical user interface with reporting / data collection.
- Intuitive operator alarms and displays for operation and maintenance



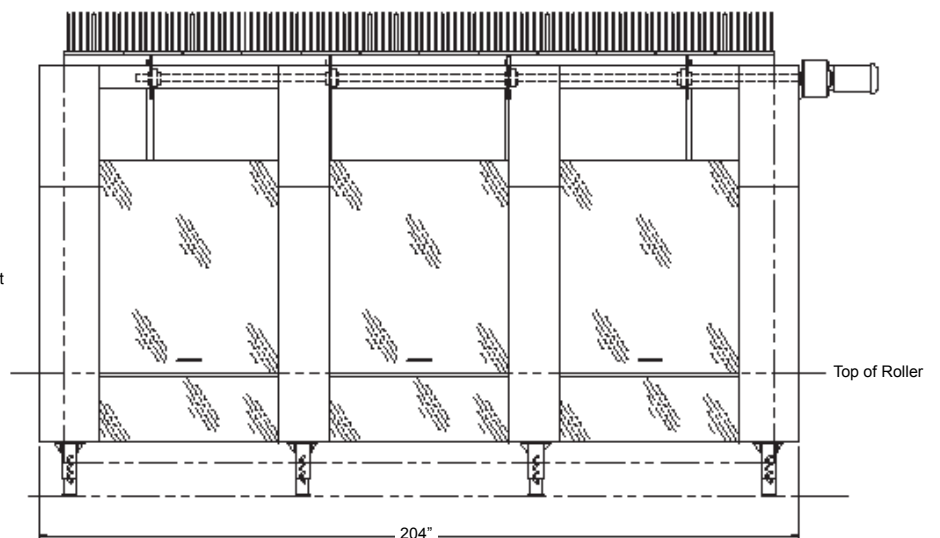
* Dimensions are shown in inches and are for reference only.



Finger Length
10" Max / 2" Min
(1/2" increments)



LH Flow Shown
RH Flows Opposite



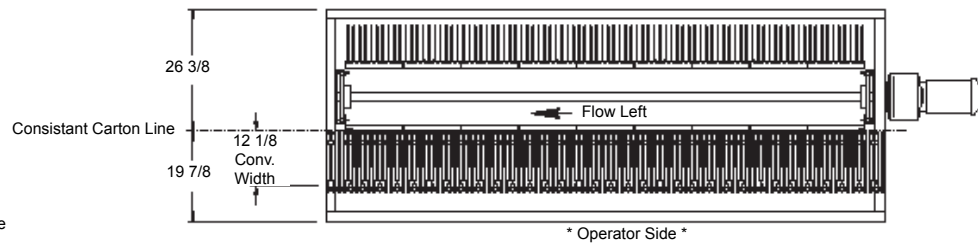
ROE-LIFT®- Midi

Features

- High speed, High Capacity, Gentle
- Provides completely automatic accumulation during downstream machinery downtime.
- Open access from operator side and visibility of accumulated product from all sides
- RWave® Transfer available on all Maxi Models- Allows two or more rows of product to be accumulated on every lift rail.
- Optional graphical user interface with reporting / data collection.
- Intuitive operator alarms and displays for operation and maintenance

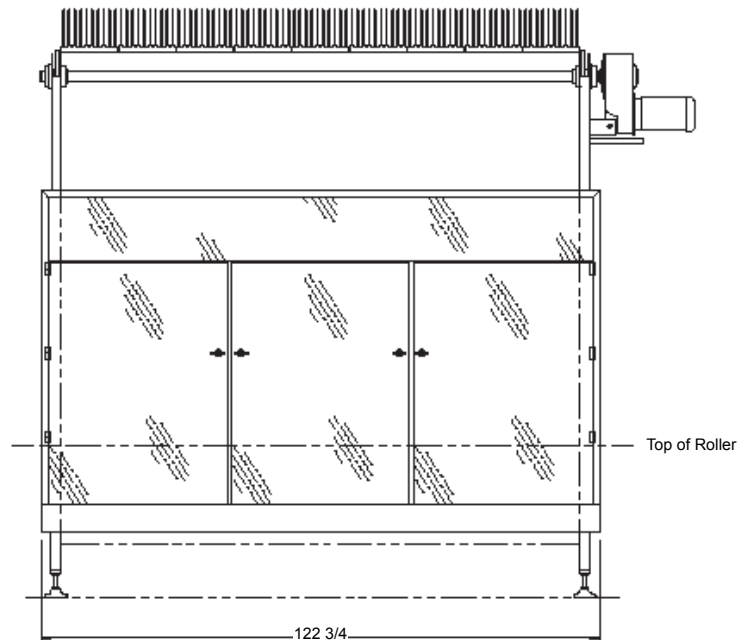
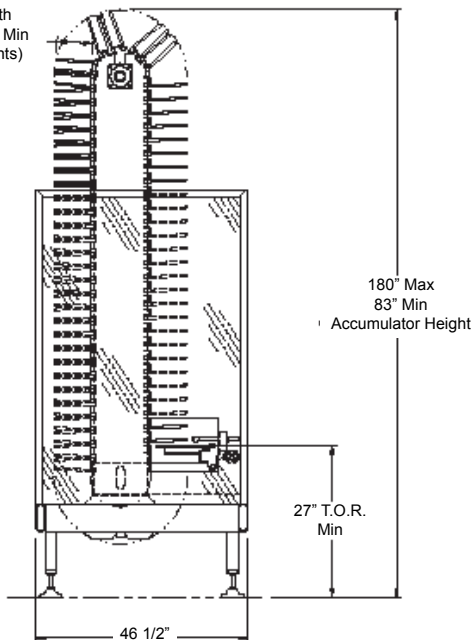


* Dimensions are shown in inches and are for reference only.



LH Flow Shown
RH Flows Opposite

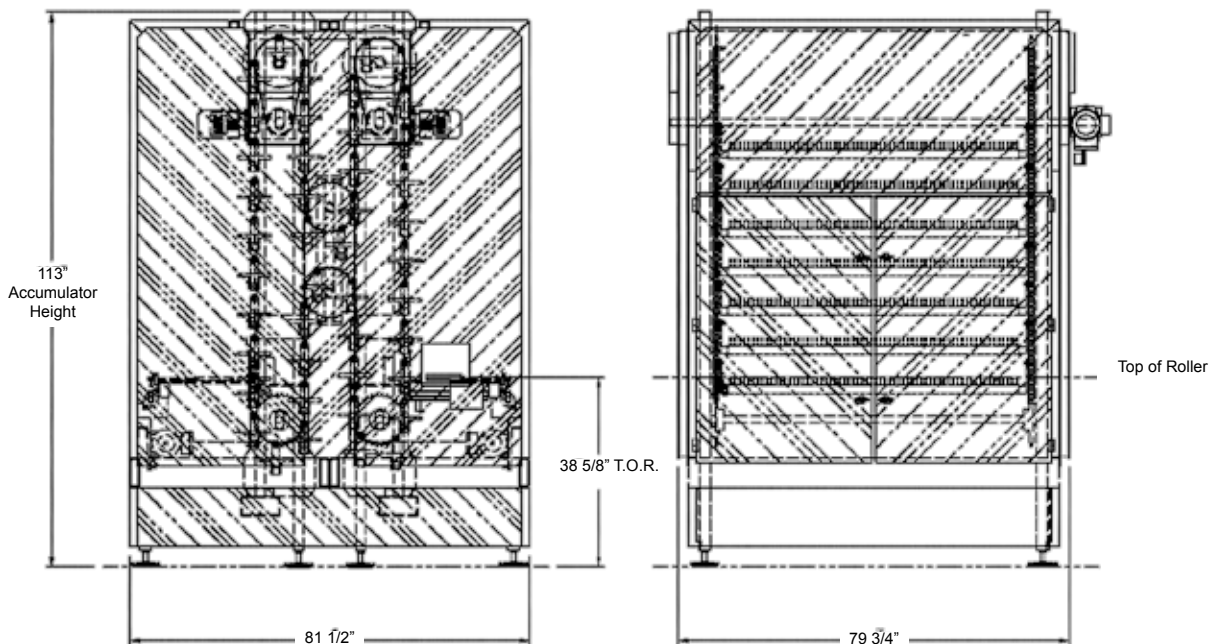
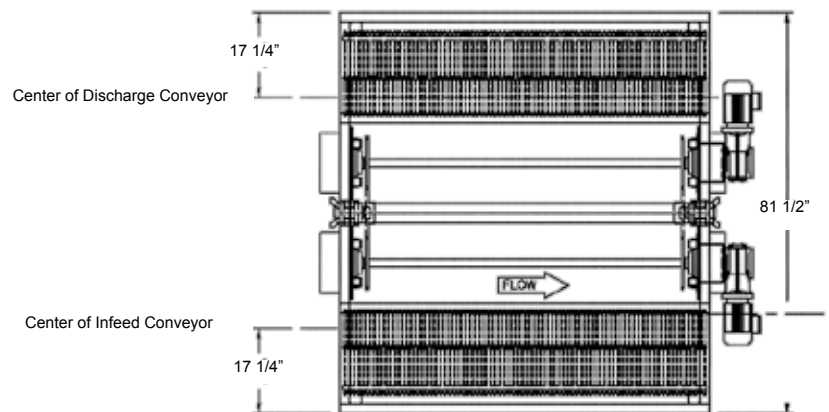
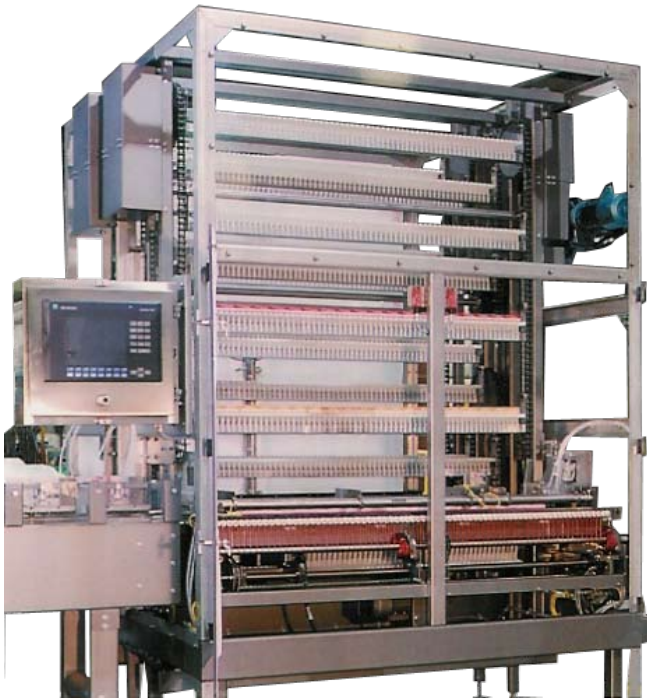
Finger Length
9 1/2" Max / 2" Min
(1/2" increments)



ROE-LIFT® F.I.F.O.

Features

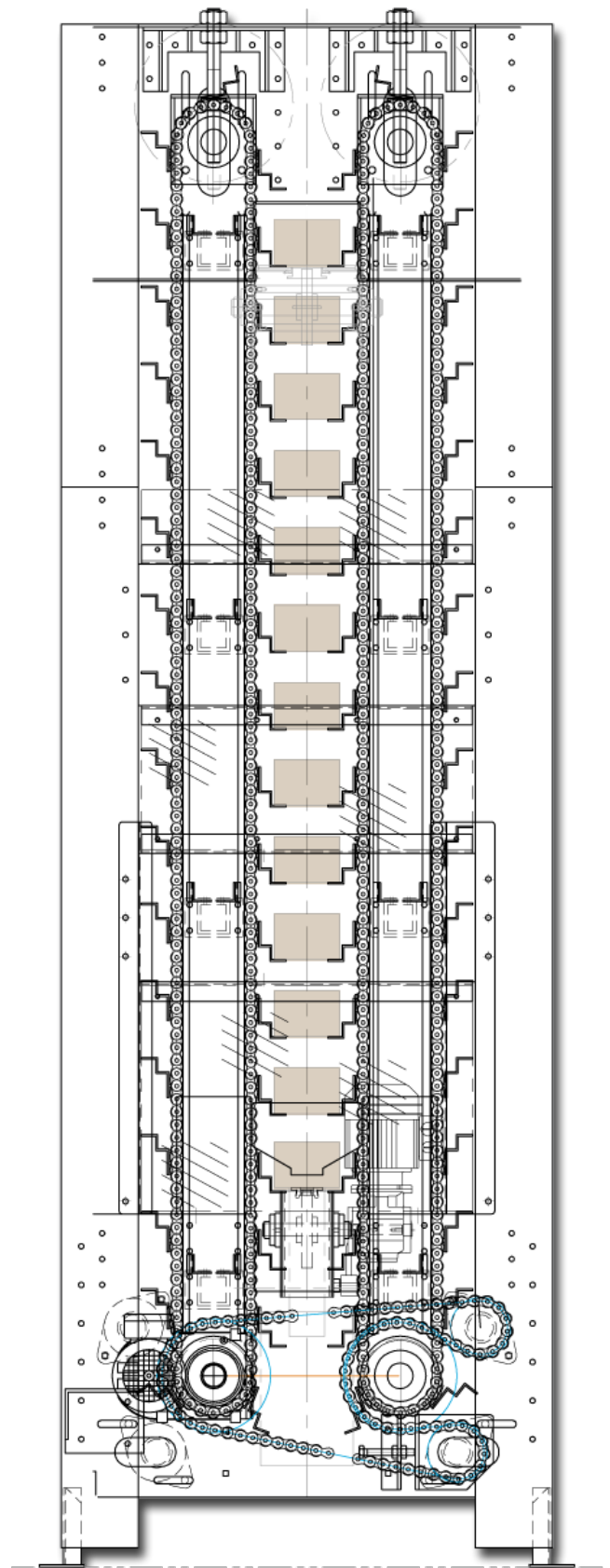
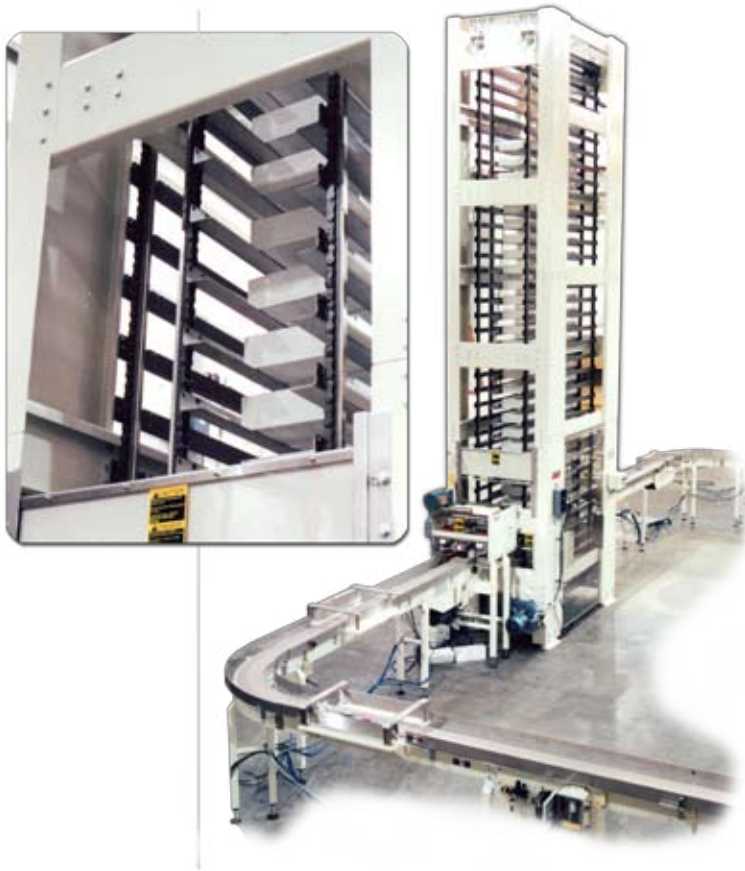
- Carousel Design
- Handles a full range of container and product sizes
- Patented Rwave Transfer technology facilitates gentle and precise product placement
- Front or side loading capabilities
- Optional graphical user interface with reporting / data collection
- Intuitive operator alarms and displays for operation and maintenance.



The F.I.F.O First-In-First-Out Accumulator utilizes a carousel design and can handle a full range of container and product types and sizes. Fitted with our patented Rwave Transfer system, it gently places products on lift rails, eliminating any pushing and allowing for two rows of product to be accumulated on every rail.

F.I.F.O. features a compact footprint while maintaining hundreds of feet of accumulation. It's open access and clear visibility raises operator safety and efficiency.

Angle Accumulator

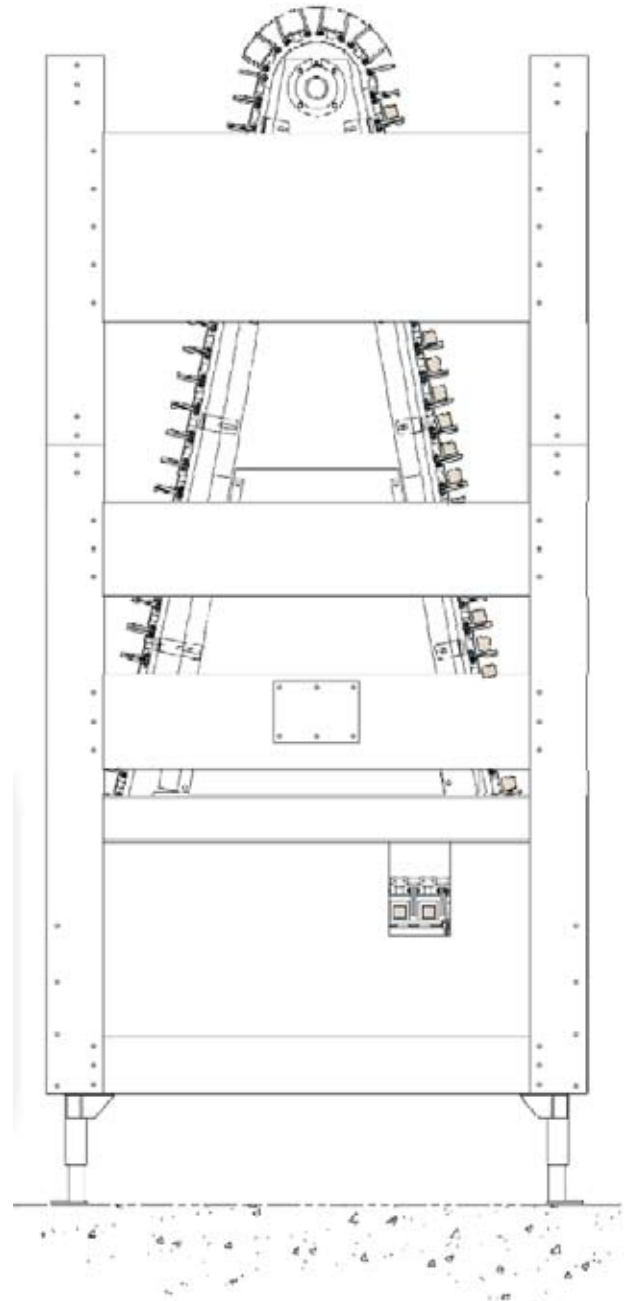


Features

- QuickSet Changeover lift rails accommodate two product sizes
- Handles heavier product cases
- Completely automatic accumulation and deaccumulation
- Maximum accumulation-minimum floorspace.

Flex-Sweep Accumulator**Features**

- High speed, high capacity, gentle
- Multiple lane infeed accomodates high upstream rates
- Provides completely automatic accumulation during downstream machinery downtime
- Open access from operator side and visibility of accumulated product from all sides



Dillin's "Flex Sweep" Accumulator is a specialized solution for products that would normally be difficult to accumulate through standard means. It's multiple lane infeed accomodates high upstream rates and features open access from the operator side and visibility of accumulated product from all sides.

SERVICES AVAILABLE:

System Investment program management / owner representative.

System Design with distributed controls / PLC or conventional analog / discrete systems for the water and wastewater treatment, material handling and food / beverage processing industries.

System process control programming plus custom graphics and report generation.

System CADD generated drawing including: submittal, documentation, system architecture, schematics (PLC and conventional), enclosure layouts, etc.

System fabrication and shop testing.

System Installation management and supervision.

System calibration, startup and commissioning

System operator training

System "turnkey" responsibility

SELECT CLIENTS

Food & Beverage

Nestle
General Mills
Con Agra
Hershey
Kellogg's
Kraft

Industrial

Volvo
Chrysler TMP - OH
Eaton / Aeroquip - NC
Ford Motor Co.
Owens Illinois
Teledyne - OH

Municipal

City of Monroe, MI
City of Toledo, OH
-Div of Water Reclamation
-Div of Water
City of Battle Creek, MI
City of Columbus, OH

2008 Product Line

INDUSTRIAL CONTROL SERVICES

At Dillin Control Systems Corp. (DCS), our industrial control client base is very diverse and ranges from the Food Industry through the Beverage Capping and Pharmaceutical market to the Automotive and Construction Industry. From our divert and merge controls through our package handling and stacking, from our Bottle Capping all the way through our accumulation and case handling, DCS offers our clients the services of a full discipline company providing system integration.

Features

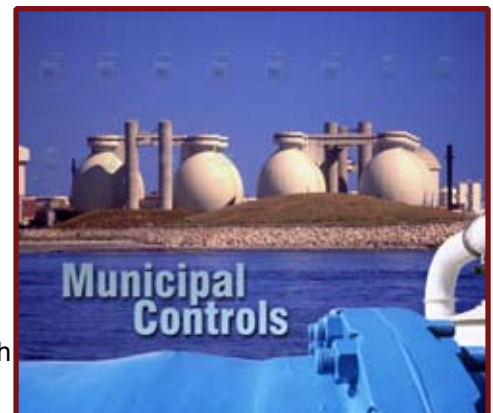
- Complete product flow control from conveyors and turntables to diverts and merges
- Packaging handling with Accumulators and Case Stackers as well as complete Robotic automation and integration
- Capping control
- Servo motion control
- Message Displays
- Graphical Displays
- Radio Control through spread spectrum
- Product Flow through AIR DECK® Conveyors
- Control with Serial, Ethernet, Fiber-Optic as well as user protocols such as Devicenet, Contolnet, Modbus, Modbus Plus, Profibus and DH+.

MUNICIPAL CONTROL SERVICES

The Dillin Control Systems Corp. (DCS) team has extensive experience in the water wastewater and pre-treatment facilities. From systems design with distributed controls / PLC or conventional Analog / Discrete operation, our experienced team is available to prepare functional drawings that can guide the owner as well as the contractor through the Installation process all the way through the startup and commissioning phase. It is DCS's Vision to provide the engineer and the owner with a single source for a complete operating instrumentation and Controls System.

With it's extensive experience in the Municipal Marketplace, DCS is proud to provide its clients with the following services but not limited to:

- System Design from plant inception
- System Process Control Programming using but not limited to Allen-Bradley, Modicon, Bristol and Siemens PLC's and associated hardware
- Custom Graphics and Report Generation
- System CADD generated drawings including submittal documentation, system architecture, schematics and enclosure layouts
- System Fabrication and Complete Shop Testing
- System Installation Management and Supervision
- System Calibration, Startup and Commissioning
- System Operator Training
- Control with Serial, Ethernet, Fiber-Optic as well as user protocols such as Devicenet, Contolnet, Modbus, Modbus Plus, Profibus and DH+



Capping and Closure Solutions

CAPPERS:

Novus Rotary Capper
Rotary Steam Vacuum Capper
In-Line Steam Vacuum Capper
In-Line Spin Capper
In-Line Spin Capper Rebuilds
Single Head Steam Vacuum

Capper Heads

Magnetic Clutch Tightening

PNEUMATIC PARTS

FEEDERS:

111-200 (3.8cu.ft. capacity)
111-700 (15.5cu.ft. capacity)
111-700X (24.3cu.ft. capacity)
111-900 (60.0cu.ft. capacity)

CAP INSPECTION:

66-400 - Cocked Cap Detector

Designed to detect containers with cocked or high caps (metal or plastic).

147-100 - Cocked Cap/No Cap Detector

Designed to detect containers with cocked or high caps (metal or plastic) or the absence of a cap.

74-800 - Dud Detector

Designed to detect containers that have lost vacuum due to seal failure (metal or plastic) and eject the container from the conveyor.

GLUE APPLICATOR:

Model 30-1500 Glue Applicator is designed to operate in high speed packaging lines that apply to a film of adhesive to the top surface of container finishes so that a sheet liner in the cap will adhere to the finish

CUSTOM SOLUTIONS

2008 Product Line

NOVUS® Rotary Capper

High speed capping solution.

- Applications include a wide range of cap styles and container sizes
- Fully automatic
- Pick and place capping chucks
- Powered height adjustment
- 30 minute quick changeovers between product runs
- No tools changeover
- Minimal lubrication requirements
- Easy was down accessibility
- No bottle/no cap logic
- Cap tightening with adjustable clutches for precise torque application
- Rates up to 50 BPM per spindle
- Compact, free standing unit
- Fully interlocked machine guarding



The Novus Rotary Capper is a fully automatic capping machine with cap pick up and placement assemblies. The machine configuration allows left-hand or right-hand flow with production rates up to 50 BPM per spindle. Uncapped containers are supplied to the capper infeed worm by a conveyor that can also be provided by Dillin.

As a container enters the capper, a sensor detects its presence. If a container is not detected, the appropriate cap is prevented from entering the cap starwheel. As the spindle assemblies rotate about the turret, they move vertically by means of a cam. The cam is designed to accurately position the cap chuck over the various pick up and release points of the cap. Adjustments can be made to the magnetic clutches for various torque requirements.

Pneumatic Part Feeders (PPF)

Small part bulk conveyance, up to several hundred feet

Available with heaters to preheat caps that require more flexibility during the capping process.

Available with HEPA filters (efficiency of 99.97%) to remove fine airborne particles.

Available with diverters for flow to multiple lines.

The Pneumatic Parts Feeders (PPF) are designed to save time, eliminate unnecessary labor, and provide controlled delivery of parts for more efficient line operation. These units are ideally suited to convey closures to our capping machines, but are also applicable for handling many other small parts including liners, fitments, corks, capsules, etc. The PPF is a compact, free standing unit with powerful motor driven air blower to effectively transport parts through tubing at an adjustable rate to locations up to several hundred feet from the unit. PPFs are produced in several sizes using stainless steel construction on all surfaces in contact with the product. With its sturdy construction and simple design, maintenance is as simple as changing filters.



Pneumatic Parts Feeders**FEATURES & BENEFITS**

Dillin Pneumatic Parts Feeders are designed to save time, eliminate unnecessary labor, and provide controlled delivery of parts for more efficient line operation. These units are ideally suited to convey closures to our capping machines, but are also applicable for handling many other small parts including liners, fitments, corks, capsules, etc.

The Pneumatic Parts Feeder is a compact, free standing unit with a powerful motor driven air blower to effectively transport parts through tubing at an adjustable rate to locations up to several hundred feet from the unit.

Flexible in design. It can easily be moved to another location by simply adding or eliminating conveyance components.

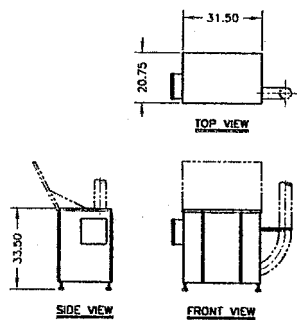


- Simple control using relay logic.
- Can be used to feed a sorter directly to a prefeeder belt.
- Tubing is designed to reduce static electricity.
- Tubing is clear so parts can be observed while conveying.
- Stainless Steel construction.
- Available HEPA filtration
- Easily removable front access panel and cap clean out door for a quick “no tools required” changeover for varying products
- Controlled adjustable delivery of closures, fitments, capsules etc. saves time and eliminates unnecessary labor.
- Available with heaters to preheat caps that require more flexibility during the capping process

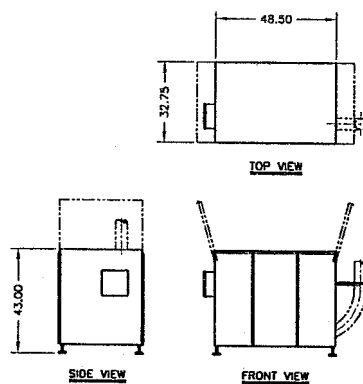
Pneumatic Parts Feeders

COMMON FEATURES

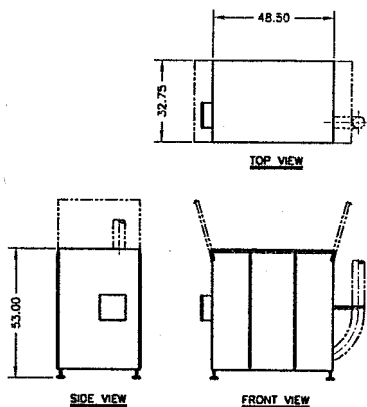
- Blowers:** Centrifugal, direct drive
Manual control damper
Filter-Aluminum Mesh
- Motor:** 120V-60 Hz single phase
Belt motor is variable speed
- Cap Decelerator:** Stainless steel unit shipped loose
- Level Control:** Photoelectrical Eyes
(Shipped loose, to be mounted on downstream equipment and wired to control box w/ timer)
- Electrical:** Mounted and prewired to unit



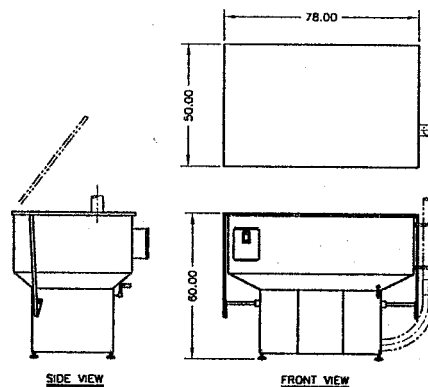
MODEL 111-200



MODEL 111-700



MODEL 111-700X



MODEL 111-900

MODEL 111-200

Bin Capacity: 3.8 cubic feet

Construction: 304 stainless steel, brushed finish

Overall Dimensions: Length: 31.50," Width: 21.50," Height: 33.50"

MODEL 111-700

Bin Capacity: 15.5 cubic feet

Construction: 304 stainless steel, brushed finish

Overall Dimensions: Length: 48.50," Width: 33.00," Height: 43.00"

MODEL 111-700X

Bin Capacity: 24.3 cubic feet

Construction: 304 stainless steel, brushed finish

Overall Dimensions: Length: 48.5," Width: 33.00," Height: 53.00"

MODEL 111-900

Bin Capacity: 60.0 cubic feet

Construction: 304 stainless steel, brushed finish

Overall Dimensions: Length: 78.00," Width: 50.00," Height: 60.00"

NOVUS Rotary Capper**HIGH SPEED CAPPING SOLUTION****Features and Benefits**

- Applications include a wide range of cap styles and container sizes
- Fully automatic
- Pick and place capping chucks
- Powered height adjustment
- 30 minute quick changeovers between product runs
- No tools changeover
- Minimal lubrication requirements
- Easy wash down accessibility
- No bottle/no cap logic
- Cap tightening with adjustable clutches for precise torque application
- Rates up to 50 BPM per spindle
- Compact, free standing unit
- Fully interlocked machine guarding



The Novus Rotary Capper is fully automatic capping machine with cap pick up and placement assemblies. The machine configuration allows left-hand or right-hand flow with production rates up to 50 BPM per spindle. Uncapped containers are supplied to the capper infeed worm by a conveyor that can also be provided by Dillin.

As a container enters the capper, a sensor detects its presence. If a container is not detected, the appropriate cap is prevented from entering the cap starwheel. As the spindle assemblies rotate about the turret, they move vertically by means of a cam. The cam is designed to accurately position the cap chuck over the various pick up and release points of the cap. Adjustments can be made to the magnetic clutches for various torque requirements.



76-450 Straight Line Steam Capper

The Dillin Capping Model 76-450 Straight Line Vacuum Capper is designed for the high speed application of lug or PT style caps to glass containers under steam vacuum. It is used primarily in the food industry for packaging products like jams, jellies, pickles, vegetables, fruits, sauces, juices, etc. It is ruggedly constructed from stainless steel and other materials that are corrosion resistant.

The design permits rapid changeover from one size to another, both cap and container.

ACCESSORIES AVAILABLE:

- Cap Feeders
- Cap Sorters
- Cocked Cap Detectors
- Connecting Chutes
- Conveyor Extensions
- Dud Detectors
- Transfer Discs
- As well as a complete line of conveyance, accumulation and other line automation equipment.

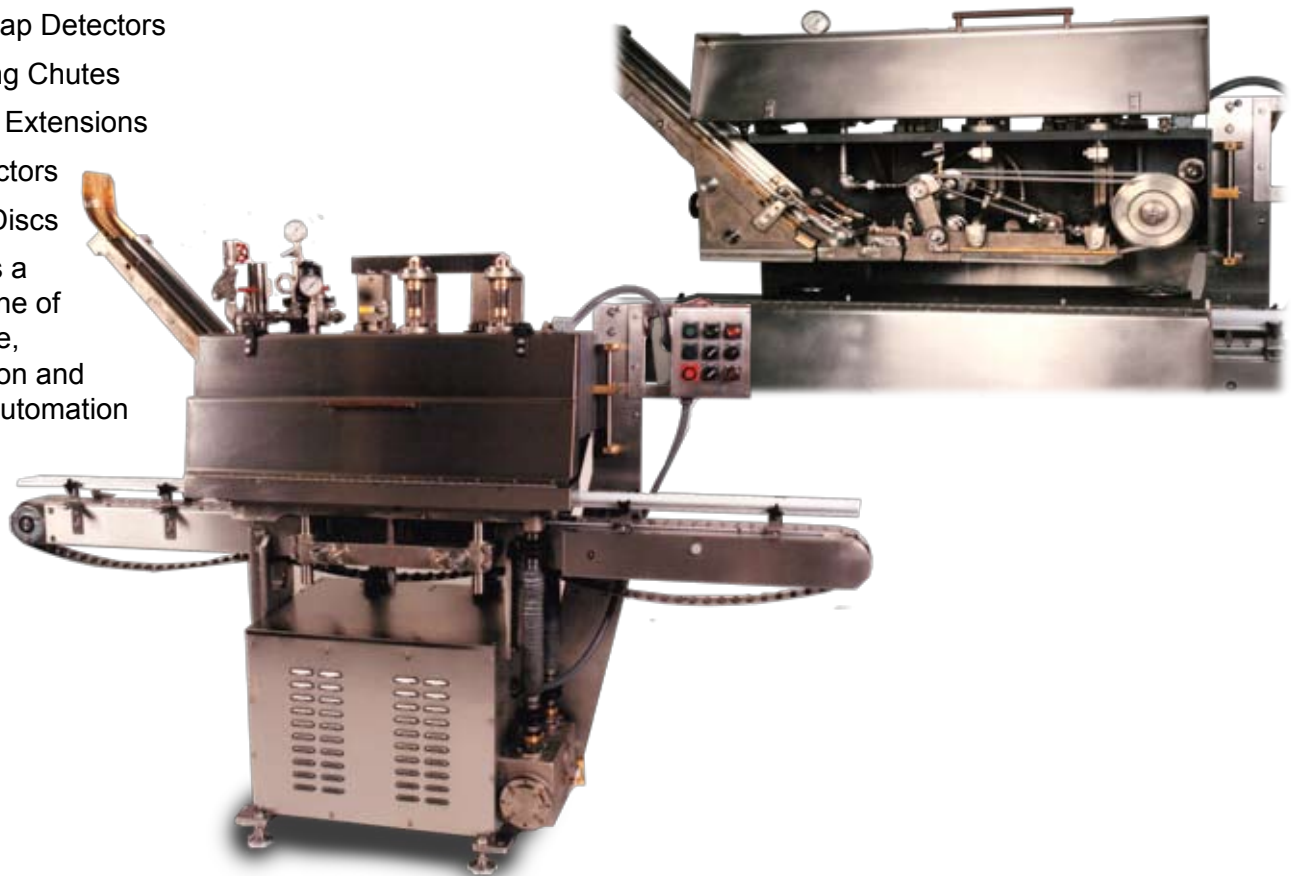
SPECIFICATIONS

Overall Height	69" Maximum
Overall Width	26 3/4" (excluding transfer disc)
Overall Length	8' 6" (End to end of conveyor)
Floor space required	26 3/4" x 35" (exclusive of conveyor)
Conveyor Height	35" Minimum
Power Required	2 H.P., 220/440 V., 60 Cy., 3 PH
Max. Speed	450 jpm*
Min. and Max. Container Diameter	1 7/8" - 6 1/2"
Min. and Max. Container Height	1 3/4"** - 12"
Min. and Max. Cap Diameter	27mm - 89mm
Steam Pressure Required	100 psi dry line required, 30 psi to machine
Weight:	Net 2300 lbs. Crated 2600 lbs.

* Varies with size, conveyor speed, cap diameter and jar spacing

** 1 3/4" min. height is special order, 2 3/4" min. height is standard

An engineering survey may be required to determine your exact requirements.



Series 132 In-Line Spin Capper

The Dillin Capping Model 132-100 is designed to apply lug caps or plastic or metal continuous thread caps to glass or plastic containers. It can be used to package a variety of products including foods, pharmaceuticals, cosmetics, etc.

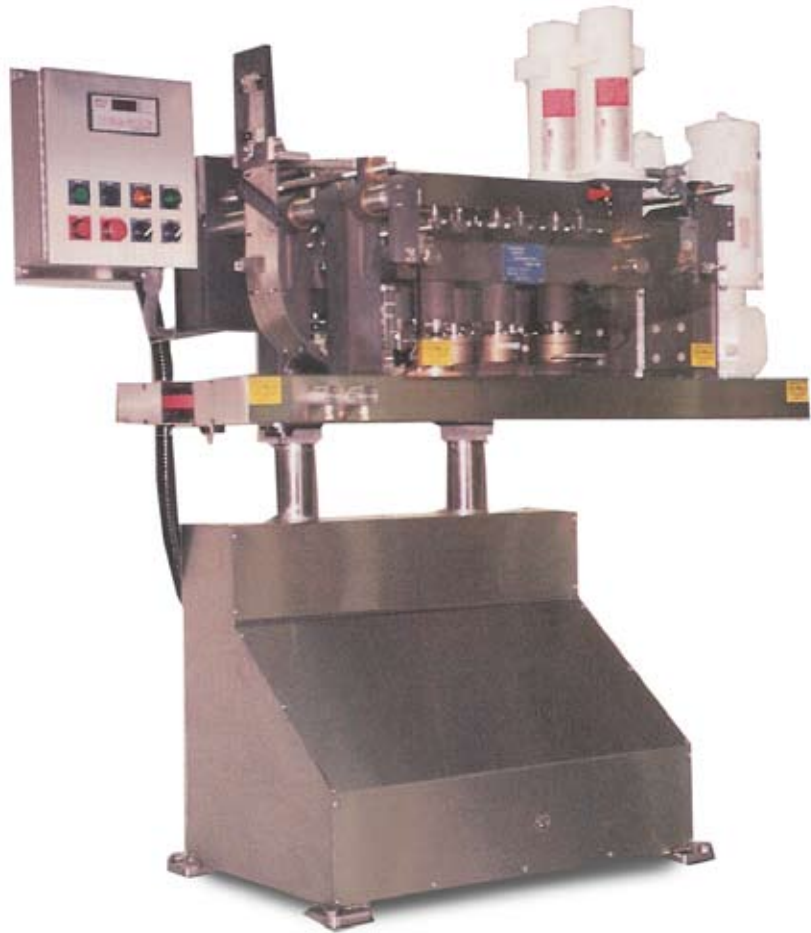
This high-performance capper offers many advanced features such as magnetic clutch cap tightening rolls for low maintenance and accurate control of application torque; adjustable chutes to accommodate a range of cap sizes to permit rapid changeover time; and rugged construction of stainless steel and other corrosion-resistant materials.

The Standard Model 132-100 will operate at speeds up to 450 bottles per minute depending on jar size and spacing, line conveyor speed, etc.

Additionally, the 132-100 can be supplied with a modified cap chute to permit the introduction of inert gas into the jar during the capping process.

ACCESSORIES AVAILABLE:

- Cap Feeders
- Cap Sorters
- Cocked Cap Detectors
- Connecting Chutes
- Conveyor Extensions
- Dud Detectors
- Transfer Discs



SPECIFICATIONS

Floor Space Required	39" x 26" minimum
Electrical Requirements	220/440 Volt, 60Hz, PH
Max Speed	450 bpm*
Min and Max Cap Diameter	24mm - 120mm
Min and Max Container Height	1/2" - 12 1/2"
Min and Max Container Diameter	1" - 6 1/2"
Air Pressure Required	100 psi dry line required
Cap Style (metal or plastic)	ct, lug
Overall Height	80" max
Overall Width	36" max
Overall Length	54" max
Machine Weight	Net-1400 lbs./Crated-1700 lbs.

* Actual speed depends on jar size and spacing-capper can be synchronized with a conveyor speed of up to 160 fpm).
An engineering survey may be required to determine your exact requirements.

Series 143 Cap Inspection Devices

The Dillin Capping Model Series 143 Cap inspection devices automatically check glass containers or packages with metal caps for cocked (cross threaded), no cap and duds (raised safety button or panel).

If used with a steam capper the unit is placed far enough down stream from the capper that the safety button will have been pulled down by the vacuum.

It will also normally detect vacuum in a package which has a cap with no safety button, by sensing a depressed top panel.

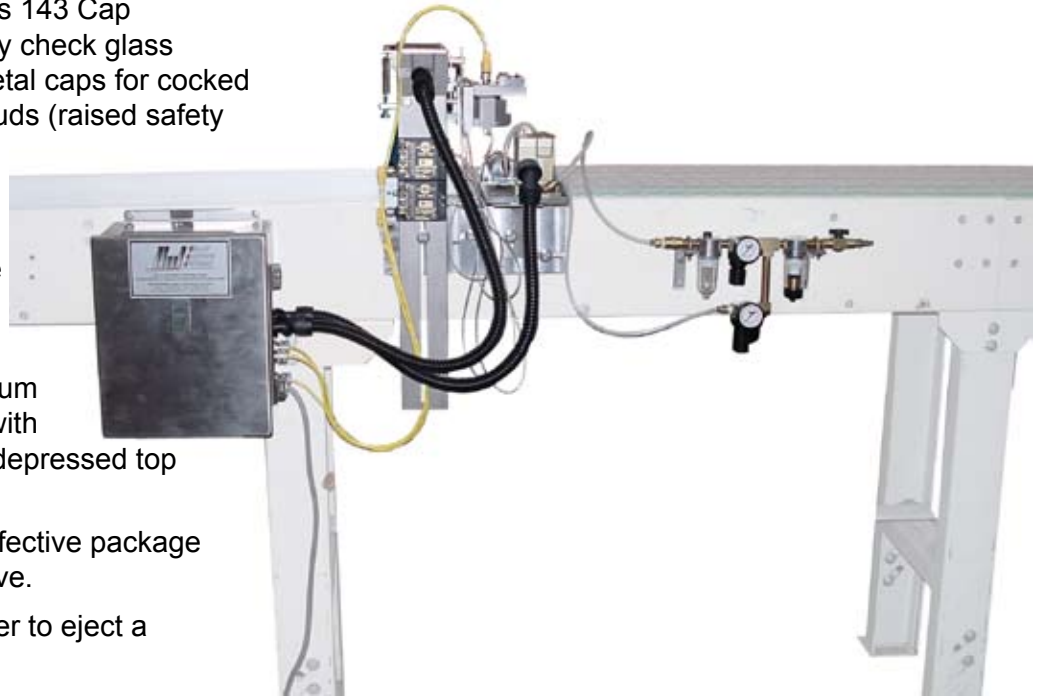
The 143-501 Model ejects a defective package with a burst from a large air valve.

The 143-502 uses an air cylinder to eject a defective package.

The detector will accommodate jars from 3 1/2" to 14 1/2" tall.

The maximum speed of the unit depends on the jar/cap size and conveyor speed.

A small jar and cap can run at up to 800 per minute.



SPECIFICATIONS

Space Required Along Conveyor	Approx. 3 ft.
Accumulation table Size	12" x 24"
Power Required	110 Volt 60Hz
Max Speed	800 jpm
Max Jar Diameter	6"
Min and Max Container Height	3 1/2" - 14 1/2"
Min and Max Cap Diameter	38mm - 120mm

Air Pressure Required
100 psi dry line
Cap Style (metal only)
ct, lug or side
seal

An engineering survey may be required to determine your exact requirements.







Dillin Automation Systems Corp.
Creating Optimal Solutions

Products and Services

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Fax: 419.666.4020

