

BULK HANDLING EQUIPMENT

Bulk Depalletizer - High & Low Level

High level discharge depalletizers used for high speed and difficult round or non-round container applications. The CHSC high level depalletizers are available in semi-automatic or automatic versions.

Low level discharge depalletizers used for slower speed and larger round or non-round container applications. The CHSC low level depalletizer is available in an automatic version.

These machines offer quiet and smooth operation by employing VFD drives throughout the machine. State of the art control systems allow CHSC depalletizers to meet high production rates with operator friendly programming, while affording plants remarkable ease of maintenance with their rugged and robust mechanical design. CHSC depalletizers are designed to use common OEM replacement parts that are readily available.

Standard CHSC depalletizer features include:

- Custom full pallet infeed systems including air chain accumulators
- Empty pallet stacker
- Hoist bin assembly with re-squaring inside walls, non-racking lifting chains, hinged outer access doors
- Low level depalletizer sliding layer table to assist in smooth container transfers with "out of square" loads
- Powered sweep with four sided layer containment rails
- Separator sheet grippers and automatic separator sheet/top picture frame removal systems
- Container accumulation tables with round and non-round discharges
- Cabling in wire trays for power and control make for ease of installations
- Allen Bradley PLC, HMI operator station and VFD drives throughout



High Level Depalletizer



Low Level Depalletizer



Depalletizer "Sweep"

Bulk Gaylord/Tote Dumper and Dumper Systems

CHSC offers gaylord/tote dumpers and complete automatic gaylord/tote handling systems that can be coupled to Nalbach Engineering's NECOSORT unscramblers for an effective plastic bottle handling system that will meet the requirements of most any high speed filling line.

Filled gaylord/totes are accumulated on powered roller/chain conveyors that feed the dump hopper. Gaylord/tote automatically advances to the dump hopper upon demand. Dump hoppers are operated by a heavy duty hydraulic system for smooth controlled dumping of containers into an unscrambler. Pneumatic operated wings in the dump hopper keep the gaylord/tote in place while dumping and reduce spillage of containers. Dump hoppers are equipped with powered infeed conveyors and pneumatic side panels to discharge the empty gaylord/totes where they can be stored on accumulation conveyors before being removed.



Fully Automated Gaylord Dump System

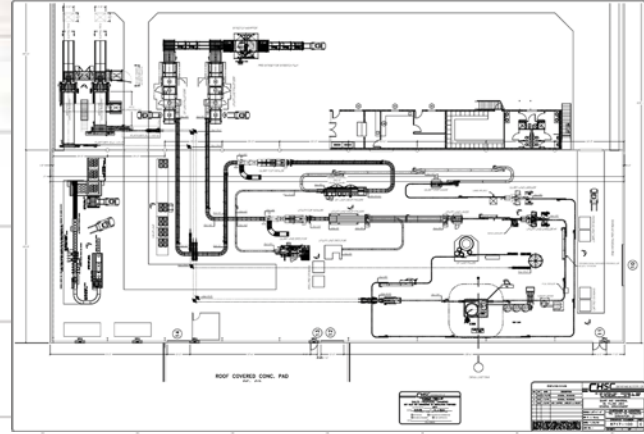
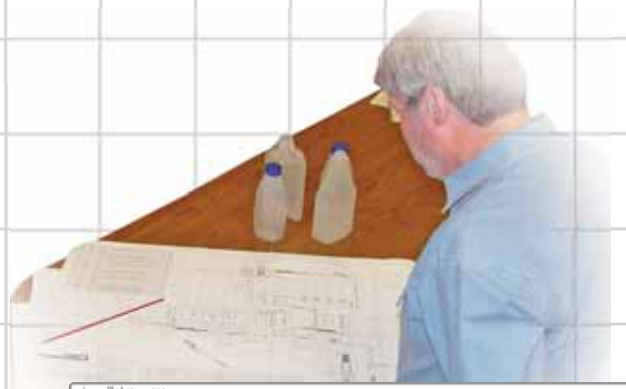
LINE LAYOUT DESIGN

CHSC's application engineering department can be a project partner in the line layout design of any production line. Experienced engineers can help with analyzing a customer's line layout to develop an efficient container handling conveyor system for any industry. Line layouts by CHSC will optimize equipment with correctly designed infeed and discharge conveyor layouts as well as efficient accumulation systems.

Whether installing a new line or retrofitting an existing line with new additions or improvements, a CHSC sales representative can schedule an office meeting or a site visit to start that project in the correct direction.

CHSC expertise and equipment is found in many areas of various industries.

- Empty Container Depalletizing and Conveyor Systems
- Beverage Industry
- Food Processing and Canneries
- Container Manufacturing Lines
- Household and Industrial Product Lines
- Packaging Lines



CONTROL SYSTEMS

From equipment and control design to an integrated system for a complete line, the CHSC electrical control department has the expertise to complete these projects using the most current control technology. Experienced electrical engineers work with customers to incorporate any electrical specification into the equipment design.

All control panels are designed at CHSC and assembled in the CHSC UL approved panel shop. Control systems are serviced in the field by CHSC staff programmers.

Electrical Control Design Engineering

- Project Management
- Line Efficiency and Design Audits
- Project Budget and Specifications
- Packaging Line Design
- Electrical Controls Design and Line Integration
- Installation and Start-Up Commissioning
- Depalletizer Rebuilds & Upgrades
- PLC & PC Controllers
- HMI Interface
- Communication Networks
- Site Management

Conveyor & Equipment Capabilities

- Motor Control Centers
- UL508A Panel Shop
- PLC Control Centers
- Servo Drive Systems
- Pick and Place Control
- Bar Code Inspection
- Machine Vision Inspection
- Product Rejection
- Data Collection



Depalletizer HMI



Depalletizer Controls Panel

CONVEYORS

Table and Mat Top Chain Conveyor Systems

CHSC offers a wide variety of table top chain conveyors and mat conveyor systems. All conveyor equipment is custom built to specific layouts and customer specifications. Conveyor equipment is fabricated, assembled and fitted to assure a quality installation.

Sanitary style raised wear strip closed top and general line open top conveyors are available in stainless and painted carbon steel construction.

Designed to meet any application or specification, CHSC conveyor systems offer a wide variety of side rails with standard side rail brackets to custom quick change style brackets. Many floor support leg designs from basic angle to sealed tube styles are available. Motor mounts are designed to accommodate any customer specified motor with a matching drive package, from hollow shaft drives, economical roller chain and sprocket to timing belt drives.

A complete line of components are designed to accommodate any application from single lane table top conveyor systems with economically designed crossover transfers, radius or right angle corner turns to mat top high speed mass container conveyor systems with engineered components for efficient container handling systems.

- Parabolic Live Transfer Chain Corner Turns
- Multiple Chain Radius Corner Turns
- Pressureless Single Filers
- Massed Inline Accumulation Systems
- Massed Demand Dividers
- Nose Over Inline Transfers
- Decelerating Modules from Single Lane to Massed Conveying



Table Top Conveyors



Mat Top Conveyors

Air Deck Conveyor

Air deck conveyor systems offer a low line pressure method of conveying delicate containers. Ideal for empty aluminum beverage cans, oblong plastic containers, plastic lids, small boxes and various other containers. CHSC air deck allows containers to travel on a layer of air by lifting the containers with a designed pattern of small lifting holes. They are then propelled by directional louvers designed for specific applications. Perforated top covers with reinforced framing control the containers while allowing air to escape, not impeding the container flow. Air covers have optional tool-less pneumatic assemblies for multiple height containers.

Air deck conveyors are fabricated with stainless steel louvered air decks and perforated top covers with conveyor frames available in stainless steel and painted carbon steel.

Conveyor widths vary from single lane to 60" wide standard frames and beyond for special applications. Accessories such as floor supports, side rails and brackets used with the air deck conveyor system are identical to those used with CHSC table top and mat chain conveyors.

The air deck conveyor system is complimented with CHSC designed single filers for aluminum beverage and steel food cans. Custom designed for applications to meet any filling line.



Air Deck Conveyors

"Zone Touch" Zero Pressure Table Top Conveyor

The Zone Touch™ case conveyor system is designed to handle cases safely without the use of rollers. This system offers more up-time than conventional roller and fabric belt systems by using table top chain throughout the system. Zone Touch also offers a conveyor system that has a noise level far less than conventional roller conveyor systems by using a table top chain that rides in UHMW wear strips and return ways. Zone Touch is designed for handling larger cases than other table top chain conveyor systems, without adjustment, by using a 6" wide chain throughout the 16" BB frame series. Curve sections are equipped with 6" wide flex mat top chain with hold down tabs. Inclines/declines are designed with 6" wide rubberized plastic chain, powered feeders and nose over levelers. Smaller product can be handled with the 12" BB frame series that utilizes 4" table top chain, and has the same accessories.

The primary feature of the Zone Touch case conveyor system are the accumulators. The accumulators are self-contained with individual electrical and pneumatic controls. Zone Touch utilizes a short stroke air cylinder with a non-binding, low maintenance lift linkage providing ultra-quick positive response and increased durability over the "air bag" method found in most systems. Each intermediate section has all controls, wiring and air tubing in a protective housing attached to the conveyor frame. A simple connection at the end of each intermediate bed section connects the control wiring and pneumatic system for each accumulator section.



Zero Pressure
Table Top Conveyor

CONVEYORS (continued)

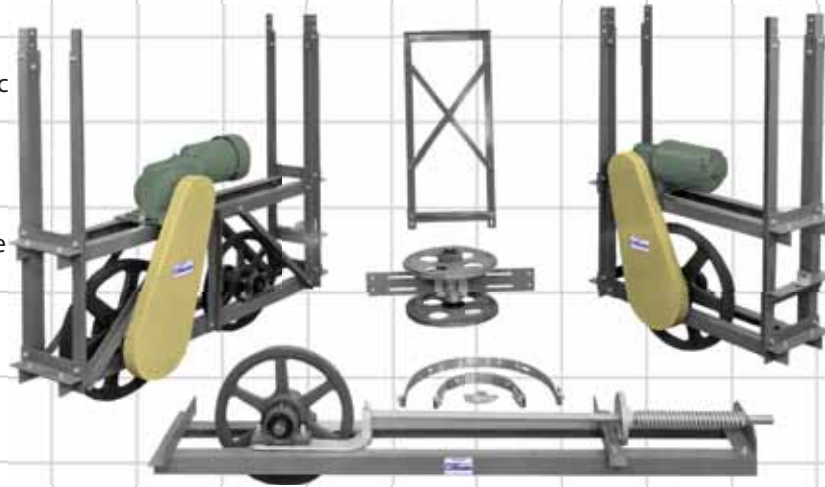
Cable Conveyor Systems

Cable conveyor systems are offered in painted carbon steel, aluminum and stainless steel construction. Cable conveyor systems are ideal for conveying metal cans, composite cans and empty plastic containers. An economical method of conveying while offering performance and efficiency.

Many styles of conveyor side rails and brackets are designed to accommodate dedicated sizes or multiple size containers. Adjustable brackets are available with manual crank handles to sophisticated motorized assemblies.

Multiple diameter corner turns, integrated drive with take-up units, table top conveyor interfaces and other accessories compliment CHSC cable conveyor systems to fit any layout and application.

Pre-engineered cable alpiners for elevating or lowering containers are available. Corner turn assemblies are assembled to the end towers for ease of installation.



Cable Conveyor Components

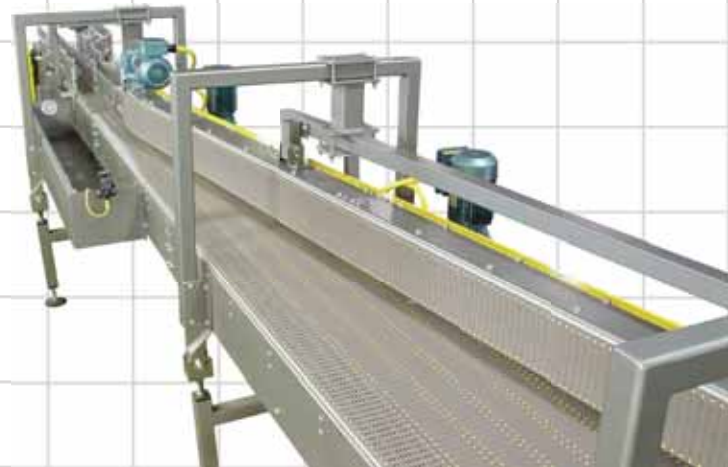
Pressureless Single Filer

Pressureless single filers have become the most effective method to single file empty and filled containers. Round plastic and metal containers at speeds up to 1200 BPM and the ability to single file irregular and non-round containers as well.

CHSC has a series of designed pressureless single filers to accommodate a variety of speeds and containers for any application. Engineered accessories to optimize the performance of these single filers include:

- Tilt bed frames for tall, light weight and difficult containers
- Powered combiner rail to assist in single filing of difficult containers
- Multiple mat top chain design

Sanitary style raised wear strip closed top and general line open top conveyors are available in stainless and painted carbon steel construction.



Pressureless Single Filer

Accumulation Tables and Systems

CHSC accumulation tables and systems are custom designed and fabricated to customer layouts and specifications. Rugged construction to hold the loads they are designed for.

Bi-Directional Accumulation Tables

Manufactured in stainless and painted carbon steel construction. Formed steel construction with plastic wear strips and roller return ways. Tables use a center drive system for a positive drive under full loads. Accumulation tables are modular in design so a minimum amount of sections can be easily reassembled. End idler take-up assemblies allow the plastic chain to be easily installed. Tables can be designed to use DTS chain on the control conveyor to eliminate any dead plate.



Bi-Directional Accumulation Table

In-Line Flow Through Accumulation Tables

Manufactured in stainless and painted carbon steel construction, these tables can be used where accumulation needs to fit into a layout parallel to the container flow. Fabricated with the same specifications as conveyors, components such as decelerating modules can be used at the infeed and single filers at the discharge. In-line flow through tables can also be used in mass conveyor systems. In-line flow through tables are designed with multiple chains to control the line pressure at the discharge.



In-Line Flow Through Accumulation Table

The same optional equipment available for conveyor systems is also available for accumulation tables. Tables can be pre-wired to individual control panels as well.

RINSER EQUIPMENT

Gravity Rinsing Equipment

Gravity can be used when there is ample elevation difference from an overhead conveyor to the filler infeed. Gravity rinsers are used for metal cans or similarly shaped non-metal containers. Containers are put into an inverted position with rod work twist fittings. After being rinsed, they are re-inverted to the correct orientation to the filler.

- Water rinsers include a length of track for water to drain out of the container after rinsing.
- Ionized air rinsers re-invert the container immediately after rinsing.

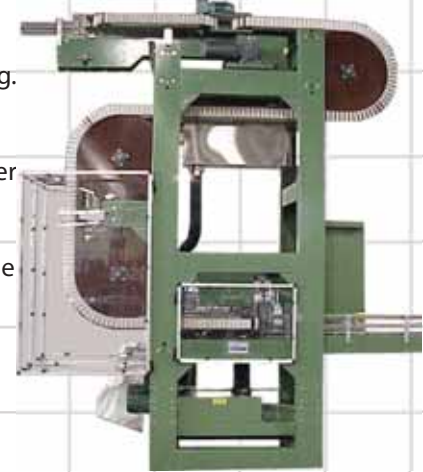


Gravity Rinsing

Side Grip Lowerator Rinsers

Lowerator rinsers are used for irregular and non-round containers. Side grip lowerator rinsers use the same frame and specifications as the standard side grip elevators/lowerators. Containers from an overhead conveyor to the filler infeed are lowered and inverted with 180° turns in the gripper chain conveyor. Meter belts at the infeed of the lowerator can be used to space containers for adequate rinsing.

- Water rinsers have a lengthened frame to drain water after rinsing before re-inverting the container.
- Ionized air rinsers re-invert the container immediately after rinsing with 180° turns in the gripper chain conveyor.



Side Grip Rinsing

Water Rinsers utilize water spray nozzles which are attached to a common manifold to direct water to the inside of the container.

Ionized Air Rinsers utilize a series of air nozzles which spray ionized air into the container to neutralize static electricity that may be holding any foreign debris to the inside of the container. A second set of air nozzles spray filtered air into the container to blow out any foreign debris. A remote vacuum system removes debris from the rinsing hood and is collected into a canister.

Full Can Water Washing Equipment

The CHSC two stage full can washer is an ideal method of washing containers after they are filled to minimize contaminants entering process systems.

The first stage washes off contaminants on sides as well as the top and bottom of containers by a series of high pressure spray nozzles. A reservoir is used to collect strained water as well as fresh water. The reservoir can also be used to add an optional detergent dispenser and a heating element for a maximum cleaning effect. A high pressure pump delivers the water to the first stage cleaning manifold.



Full Can Washer

The second stage is the rinsing section. Fresh water is delivered to the spray nozzles in an enclosed section of the hood to separate the two stages. Rinsed water is strained and drained into the reservoir.

The reservoir is equipped with a skimmer to separate fats from protein contaminants that have been washed off. Skimmed water is then drained out of the overflow.

CHSC also offers a high pressure can blow off with a self contained blower to dry off the containers after being washed.

ELEVATORS & LOWERATORS

CHSC manufactures a wide range of elevators/lowerators for all containers.

Side Grip – for plastic and non-round containers

Manufactured in painted carbon steel and stainless steel construction. Rugged formed steel construction, hand crank assembly for quick adjusting to any width. Available in 24" and 36" radius as well as disc turns to accommodate any non-round container. Frames are custom built in "S" or "C" configurations. Expanded frames are used for case handling.

Vacuum – for aluminum cans, available in single lane or mass conveying

Manufactured in painted carbon steel and stainless steel construction. Cans are carried on perforated plastic chain. Filtered blower(s) is mounted on a separate frame along side the elevator with a dampered duct. Single lane elevators utilize a 3¼" wide chain while the mass elevators have widths up to 36" wide. Custom frame configurations are available to fit any plant layout or application.



Side Grip Lowerator

ELEVATORS & LOWERATORS (continued)

Magnetic – for empty and filled steel cans

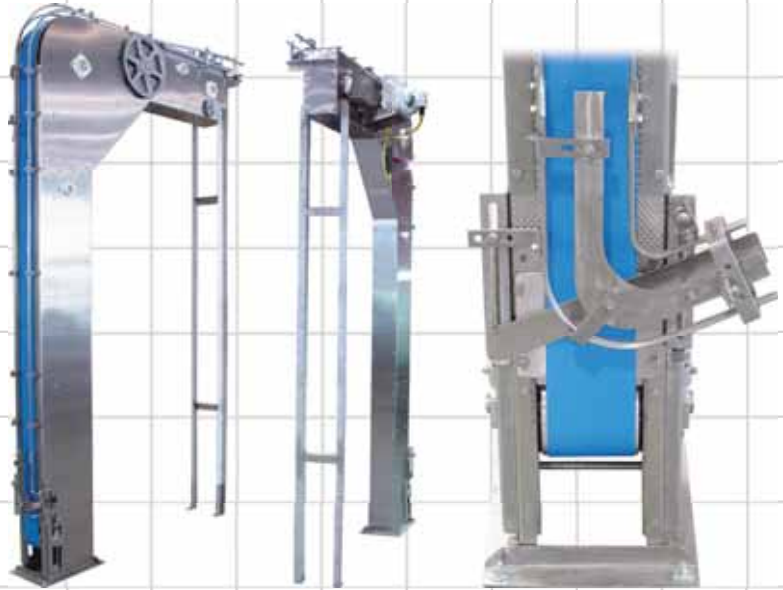
Manufactured in painted carbon steel, aluminum and stainless steel construction. Vertical models used with smaller cans while inclined units are furnished for larger diameter filled cans. Standard belt widths are 4" and 6" wide with custom widths available upon request. Empty can elevators have brush assisted infeeds and discharges. Filled can elevators have magnetic disc or slider bed horizontal transitions with transfers to conveyors. All elevators have engineered infeed chutes.

Belt – for slow speed empty can conveying

Manufactured in painted carbon steel, aluminum and stainless steel construction. Standard elevator configurations are vertical with belting widths of 4" and 6".

Optional CHSC elevator/lowerator features include:

- Custom motor drive packages to fit any specifications
- Control panels with pre-wired motors and controls
- Custom guarding
- Integration to upstream and downstream conveyor systems



Magnetic Elevators

OTHER EQUIPMENT

Spiral Mass Conveyor

A space saving conveyor to elevate or lower containers while being conveyed in a mass condition. The spiral mass conveyor can be used as transportation or as an accumulation system. The spiral conveyor is available in 12" to 36" wide chains. The CHSC design utilizes a powered center drum to assist in elevating the chain that is driven with a standard conveyor drive. The powered center drum allows standard commercial plastic chain and wear strips as part of the design. This allows economical spare parts to be used.



Spiral Mass Conveyor

Servo Laners

A heavy duty frame that can be integrated into any conveyor system. The CHSC servo lane divider employs a break system to hold containers while the servo drive shifts the lane. The servo allows quick shifting and extreme accurate alignment to the conveyor guide rails.

Servo laners are custom designed to match conveyor layouts and electrical specifications. Base unit components include:

- Infeed conveyor with drive
- Servo motor with a timing belt driven lane assembly
- Heavy duty container stop as part of lane rails
- Jam and back up controls
- Allen Bradley PLC control panel



Servo Laner

Container Handling Systems Corporation (CHSC) manufactures a complete range of container handling conveyor systems and bulk container palletizing/depalletizing systems.

Our full line of container handling products can be easily tailored to fit most any applications. Our experience includes systems built and installed for the beverage and canning industry, container manufacturers, and a variety of other manufacturers and packers, designed and built for durability and ease of use.

CHSC equipment can offer a variety of solutions for your product handling applications. Always working hand in hand with the customers needs and requests. Once we have plant drawings and product samples we can start the process.



Container Handling Systems Corporation
621 East Plainfield Road
Countryside, IL 60525
Phone: 708-482-9900
Fax: 708-482-8960
E-mail: Sales@chsc1.com
Web: www.ContainerHandlingSystems.com