



SIMPLE SOLUTIONS

FOR CONTAINER HANDLING



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BHM INVERTOR + ROTATIONAL POSITIONER ↑↓

REPLACING EXISTING CONTAINER TWISTER RAILS AND TURNING DEVICES, ALSO IDEAL FOR CAP STERILIZATION



BMH INVERTOR™

The BMH Invertor gently and rapidly inverts or rotationally positions a variety of containers. The integration of this low cost invertor to your existing equipment is simple. It allows you to dramatically improve the handling of all shapes and sizes of containers such as metal, glass, plastic, fiber, and products ranging from vials to two liter bottles, jars, or cans.

Movement of containers through the invertor is in a continuous motion and is able to achieve ultra high speeds dependent on the container. The utilization of ultra-high molecular weight polyethylene enables the product to fall through the invertor with a minimum of backpressure on aluminum cans, plastic containers, or glass packages.

- Inspection • Coding • Washing • Product mixing 360 degree • Rotational positioning
- Replaces twist rails • In-line air cleaning • Rapid change over • Minimum backpressure
- Eliminates calibration on rails • Space saving • Cap sterilization 0-90-0 degree

CAP STERILIZATION

Many of Carleton's customers realize the advantage of the invertor's ability to pasteurize / sterilize the cap of a hot filled bottle. Whether a partial or full rotation, the cap and seal receive a considerable soak in heat.

Do you have a special need? Carleton can design BMH invertors to accommodate your specific requirements. Through your inputs, Carleton Helical Technologies produced BMH with dump slots for product not fully charged and hinged BMH for ease of cleaning. These two examples prove that Carleton is flexible and will work with you to resolve conveyor issues.

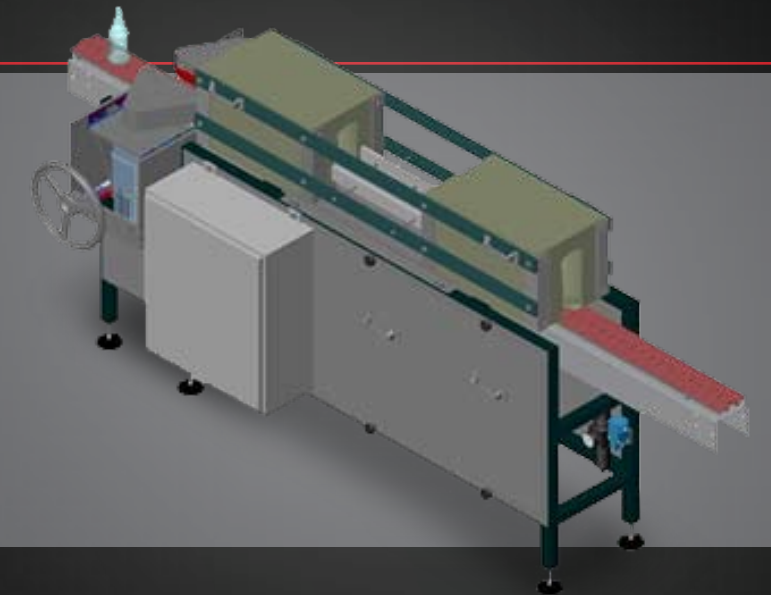
Carleton uses BMH™ invertors as part of our rinser line. The invertor / revertor assembly is an excellent application for a three stage invertor of your container.

Carleton Helical Technologies' BMH Invertor / Revertor Assembly picks up containers from your conveyor, inverts 180 degrees, travels across a slotted dead plate, then reverts back 180 degrees and is re-introduced on your conveyor. There are no moving parts so maintenance and down time is minimal. Mounted on a modular aluminum frame for maximum stability. Excellent application for bottle cleaning and air rinsing. Easy interchangeability for different size containers. Can be changed in minutes without recalibration or retooling. Also available in twist chute.

Carleton Helical Technologies can mount on a modular frame for multi-lane applications as well. This allows multi size containers on same line utilizing a slide rail on a tubular frame. A great application is pass through (no inversion) and invertor on same line.

IN-LINE AIR CLEANER ⇒⇄

- RANGE FROM 20-800 CPM
- INLINE DESIGN
- QUICK CHANGE-OVER
- NO MAINTENANCE/ 3 SHIFT OPERATION
- GLASS, PLASTIC AND FIBER CONTAINERS
- EASY INTEGRATION



IN-LINE AIR CLEANER

The Ionized Air Rinser is designed to integrate into packaging lines for glass, plastic, metal or fiber containers. The System utilizes the BMH Invertor/Revertor System to rotate containers over an Ionized Air/Vacuum Assembly. By supplying clean dry shop air to the ionized air nozzles it produces a turbulent airflow that pulls the debris towards the vacuum and ionizing nozzles. Removing the filter bag and replacing it with a new bag will eliminate debris that may collect in the filter. Some of the key components include Stainless Steel tubular frame construction with locating pins for quick and easy changeover of the BMH Invertor/Revertor Assemblies. AC Sew Eurodrive motors that can be matched for specific applications are utilized. The electrical boxes are NEMA 12 rated for our standard, but other NEMA ratings can but used according to specifications. The Ionized Air Rinser can be wired to 230 or 460 VAC or whatever voltage is necessary. The control wiring is simply 110 VAC.

The BMH Invertor/Revertor Assembly gently and rapidly inverts or rotationally positions many varieties of containers. It is constructed of non-contaminating material such as ultra-high molecular weight polyethylene. The BMH Invertor/Revertor can accommodate a large number of operating speeds, and it features a smooth and shock-free operation. The helical cavity is designed to handle the container on optimum surfaces, which simply means that the container will follow that cavity with minimal backpressure. Because of its design for a specific container it is virtually maintenance free.

The changeover for the BMH Invertor/Revertor Assembly is very easy. It can be performed with two people in a matter of minutes. The large hand wheel on the belt drive allows you to move the belts away from the container so you can remove the BMH Invertor/Revertor Assembly. Handles on the BMH Invertor/Revertor Assembly allow the two people to pick the assembly off the frame. The locating pins allow the new assembly to be placed on the frame and all that is needed is to readjust the belts to accommodate the new container size.

VIRTUALLY UNLIMITED APPLICATIONS INCLUDING:

- REGULAR OR PORTABLE INLINE AIR CLEANING
- INVERTING FOR INSPECTION
- CODING, WASHING OR COOLING
- ANGLING FILLED CONTAINER FOR CAP STERILIZATION
- MIXING PRODUCT WHILE IN CONTAINER
- POSITIONING CONTAINER FROM 0° TO 360°
- CAN MANUFACTURING, AVOIDING OF RIMLOCK ON EMPTY CANS
- POSITIONING ASSEMBLIES FOR PRE-ASSEMBLY OF PARTS

AIR CLEANERS BE BE USED ON A VARIETY OF CONTAINERS AND SHAPES:

- GLASS
- PLASTIC
- FIBER AND METAL CANS
- ODD SHAPED CONTAINERS

FEEDSCREWS

- OEM QUALITY
- CUSTOM DESIGNED PRODUCTS
- WIDE VARIETY OF APPLICATIONS
- ON-TIME DELIVERY
- COLOR CODED MATERIALS AVAILABLE



FEEDSCREWS

Feed screws can be engineered to handle a wide variety of applications for container handling:

- *Combine • Divide • Rotate • Collate • Dwell • De-nest • Registration • Meter*

Carleton Helical Technologies uses custom CAD/CAM software specifically designed for the manufacturing of feed screws. Existing and new applications can be easily designed and manufactured to CNC accuracy.

Every timing screw requires special engineering based on changes of length, pitch. The product is handled according to the application type of screw. If you prefer, send us your sample feed screw. We will record the appropriate dimensions and return the sample back to you the same day if necessary.

Carleton feed screw technology accurately manufactures for precise container handling. Our timing screws are able to orient turn, divide, combine, and meter. Original Equipment Manufacturers prefer the Carleton computer design system for their worm / auger applications.

Carleton has developed a proprietary computerized manufacturing system, devoted specifically to feed screw manufacturing. This system accurately designs a custom pocket for the optimum handling of your product.

Screw material comes in a range of colors and can be made of Delrin, HDPE, UHMW and metallic stainless steel.

FEATURE

- *Timing screws custom designed for specific product*
- *Wide library of proven worm / auger designs and hardware types*
- *CAD/CAM proprietary software*
- *Expert engineering staff*
- *Variety of material color*

ADVANTAGE

- *Best possible fit and stability of containers*
- *Engineers are knowledgeable of most packaging machinery*
- *CNC Accuracy*
- *Consultation on feasibility for new applications*
- *Color coding*

BENEFIT

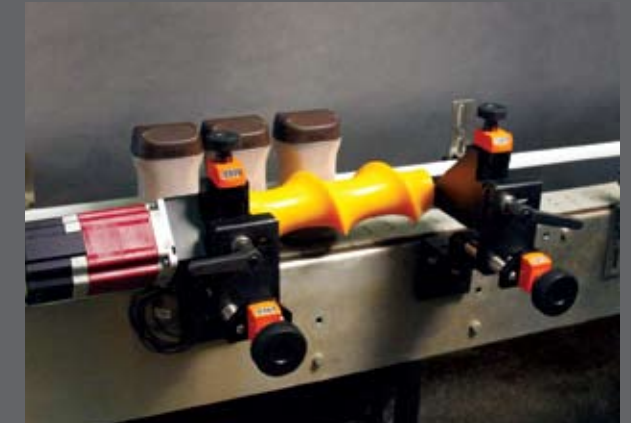
- *Optimum throughput for production line*
- *Excellent lead times and competitive pricing of worms / augers*
- *Precise container handling and pocket manipulation*
- *Fast design to production lead times*
- *Fast line / product specific changeovers*

FEEDSCREWS CAN BE DESIGNED TO HANDLE A WIDE VARIETY OF APPLICATIONS:

- **COMBINING**
- **DIVIDING**
- **ROTATING PRODUCT**
- **METERING**
- **COLLATING**
- **REGISTRATION**
- **DWELLING**

MODULAR FEEDSCREW DRIVE

- USED BY OEMs
- ALUMINUM AND STAINLESS STEEL CONSTRUCTION
- MODULAR
- WIDE VARIETY OF APPLICATIONS
- EASY INTEGRATION



FEEDSCREW DRIVES

Carleton offers a variety of feed screws drives: *Dual Arc • Single Arc • Quick Change Block • Direct Drive*

A single sided or dual sided feed screw drive can be powered or syncro-connected to your equipment

Screw drive technology integrates all components of Carleton's capabilities from fabrication to assembly. Customers prefer installing Carleton screw drive products in their production line. The no-hassle Digital Quick Change Block eliminates tedious recalibration of change parts. Digital horizontal and incremental vertical adjustments are featured on our Quick Change blocks and save you time and money. Single arc or Dual arc feed screw drive is designed to adapt to a specific range of containers.

- Applications for: • *Timing • Turning • Indexing • Sensing • Dwelling • Leak detection • Meter • Dead Plate Transfer • Inspection • Combining • Dividing • Collating • Pucking • Mechanical & Electrical Integration*

QUICK CHANGE COMPONENTS FOR FEEDSCREWS

- **DIGITAL HORIZONTAL ADJUSTMENT**
- **INDEXABLE HEIGHT ADJUSTMENT**
- **SINGLE POSITION TIMING**
- **INTEGRATED INTO EXISTING EQUIPMENT**
- **STAND ALONE DRIVES AVAILABLE**

QUICK CHANGE FEEDSCREW DRIVE COMPONENTS

These components have been developed for a broad spectrum of equipment requiring FeedScrews. This system allows for the rapid replacement and positioning of FeedScrews using digital dial and indexable positioning. A FeedScrew using this system can be replaced and positioned in minutes with no tool design, work that can be done without a line mechanic. Complimenting these components are the digital adjust guide rail system.

CARTON TWISTER



- NO MOVING PARTS
- NO MAINTENANCE
- QUICK CHANGEOVER
- COMPACT

CARTON TWISTER

The Twister Invertor gently and rapidly inverts or rotationally positions a variety of containers. The integration of this low cost invertor to your existing equipment is simple. It allows you to dramatically improve container handling of all shapes and sizes such as metal, glass, plastic, fiber, and products ranging from vials to two liter bottles, jars, or cans.

Movement of containers through the TWIST invertor is in a continuous motion and is able to achieve ultra high speeds dependent on the container. The utilization of ultra-high molecular weight polyethylene enables the product to fall through the invertor with a minimum of back pressure on aluminum cans, plastic containers, or glass packages.

Carleton TWIST Assembly is also used on our rinser line and can be mounted between conveyor breaks or side transfer assembly.

CARLETON CARTON TWISTER CAN TWIST OR TURN CONSUMER SIZE CARTONS TO A REQUIRED ORIENTATION FOR A VARIETY OF APPLICATIONS INCLUDING:

- INSPECTION
- CODING
- BUNDLING AND ACCUMULATION
- "PACK-OFF" TO ORIENT GRAPHICS
- ATTACHING LABELS OR INSTRUCTIONS

PRESSURE/GAP BELT UNITS



- MODULAR DESIGN
- DURABLE CONSTRUCTION
- VERTICAL & HORIZONTAL ADJUSTMENT
- SPRING LOADED PRESSURE
- VARIABLE SPEED DC CONTROL

PRESSURE/GAP UNITS

Pressure Gap Unit. This stand alone or modular design can be easily installed on, or between, conveyors. Heavy construction for long term use as seen on most of our equipment. Gripper belts handle a variety of container dimensions and may be mounted vertically or horizontally. The spring loaded pressure gently but firmly grips containers. Variable speed controller can be adjusted to meet your conveyor speeds. Available in various lengths from 11.0 inches to 72.0 inches. Contact us for a quotation on single side, stacked, dual side or other varieties.

PRESSURE/GAP UNITS FEATURE:

- DEAD PLATE TRANSFER
- INSPECTION
- CODING
- PRESSURE TESTING
- METERING

PROTOTYPING

CARLETON HELICAL TECHNOLOGIES - NEW 3D PRINTER FOR RAPID PROTOTYPE SOLUTIONS.

Carleton's expertise in producing the finest machinery and components for container handling has now expanded! Carleton is known for their excellence in providing timing screws and feedscrews to the

packaging industry since 1979. One reason for our success is the engineering services we provide for our customers. In order to further assist you, we have acquired a 3 dimensional printer, which will produce prototypes made from acrylonitrile butadiene styrene (ABS) plastic material. We can produce model samples for bottles, jars, cans or any other

type of container you may have. In addition, we can produce model parts such as pucks and sub-component accessories.

We now provide 3D Rapid Prototype Service. You are capable of creating tangible models from CAD and other digital data quickly and affordable through Carleton. Your design time is now weeks instead of months. In some cases, we can deliver days after receipt of file. ABS material is durable, strong and ABS material can be drilled, cut painted and / or plated

APPLICATIONS:

- Design review
- Mock up
- Puck Design
- Patterns for casting

ADVANTAGES:

- Test form, fit and function prior to production
- Development to market quickly
- Produce functional prototypes in end use materials
- CNC Accuracy