



the Morrison Guide to TIMING SCREW DRIVE UNITS

container handling solutions
for increased productivity

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FEEDING · TURNING · GROUPING · TWISTING · INVERTING · COMBINING · DIVIDING · ORIENTING

the Morrison Guide to **DRIVE UNITS:**

Timing screw drive units maximize efficiency and productivity on your line by manipulating the container to be presented to a variety of downstream applications. By being flexible and screw driven, they increase line functionality by automating container handling for virtually any application.

We take every aspect of your packaging line into consideration when designing drive units and assemblies which increases success and potential downtime by creating a smooth packaging flow.

INNOVATIVE
CONTAINER HANDLING
EXPERT DESIGN
SUPPORT BUILT IN®

INNOVATION POWERED BY TIMING SCREWS

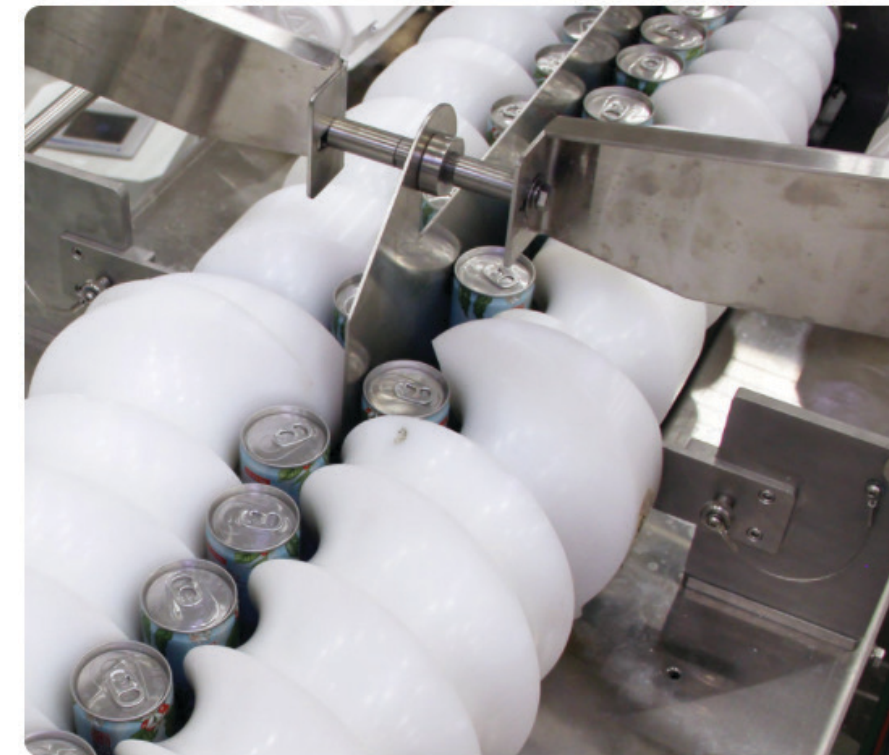
How do you need your container to be oriented?

This is what we'll always ask first. Evaluating upstream and downstream equipment, Morrison experts design and build custom solutions to accept, manipulate, and present your container to the downstream equipment, taking into account every unique aspect of the container's makeup. Essentially, these processes are often done manually, but Morrison automates it so your labor can be re-purposed to more meaningful, cost-effective tasks.

By automating these processes with timing screw drive units, you're often able to increase throughput and therefore profits. These systems can have quick ROI and efficiency improvements that last for years to come.

Common applications our drive units are used for:

- indexing
- grouping
- turning
- transferring
- feeding
- metering
- inverting
- orienting
- stacking
- dividing lanes
- combining lanes
- collating



Square or round we handle it all!

A common misconception is timing screws are only for round containers, but this is false. Morrison screws are a step above due to our unique outside diameters used to fully encompass square containers as positively control them as well as round containers.

These solutions work for nearly any rigid or semi-rigid container.

DID YOU KNOW?
DRIVE UNITS
ARE ALSO CALLED:
timing screw drive units
drive assemblies
timing screw kits
timing screw systems
custom drive assemblies
feed screw drive units
feed screw kits
feed screw systems

types of drive units for EVERY LINE:

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Explore the many options we offer in the following pages.

QUICK DELIVERY DRIVE UNITS

Do you need a better container metering solution for...?

- conveyor transfer
- spacing prior to inspection
- check weighing
- x-ray
- inline capping
- backlog control

If you have any of these concerns, Morrison can design and supply a custom drive unit in around 3 weeks in order to provide a solution on fast and on the fly.

These drive units utilize our industry-applauded custom timing screw design and handling to move your containers for a variety of metering applications. The custom nature of the timing screw focuses on the unique needs of your rigid and semi-rigid containers, handling even the most difficult triangular and square designs nimbly with care, with operating speeds up to 350 containers per minute.

Ready to retrofit on all common conveyor configurations, our quick delivery timing screw drive assemblies help you meet your need to increase productivity while maintaining efficiency.

RUN UP TO 350 Containers Per Minute

CONSTRUCTION OPTIONS

ORIENTATION:

- Left Hand
- Right Hand

MATERIALS:

- Black Anodized Aluminum
- Stainless Steel Low Washdown

ADJUSTABLE MOUNTING BRACKETS:

- In/Out - Up/Down - Back/Forth

GUARDING:

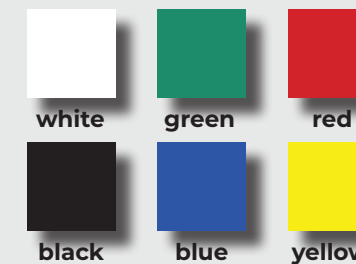
- Pulley/Shaft Guards Included
- OSHA Guarding Available

MOTOR:

- Inverter Rated Dual Voltage Motors

SCREW FEATURES

SCREW COLORS:



SCREW LENGTHS:

- 18" - 24" - 30" - 36" - 48"
- Custom Lengths Available

FEATURES:

"NO TOOLS"
Quick Change
for Easy
Changeover!



CUSTOM INTEGRATED SOLUTIONS

In packaging, our experts know cookie cutter doesn't work.

Container handling equipment isn't a one size fits all business. We design, manufacture, and install machinery tailored to your specific needs. Each system can be as unique to your container and application as needed and allow you to automated timely processes on your packaging line. Customization saves money over time due to requiring fewer equipment changes in the long-term, while solving some of the trickiest container handling problems.

With custom container handling equipment, you'll enhance development, manufacturing and speed, as well as often enjoy greater flexibility and control with improved productivity.

Explore some of our customization solutions below:



INVERTING

When containers need to go from right-side up to right-side down, or vice versa, it is often done manually. That's where Morrison's inverting solutions come in.

Utilizing timing screw technology, we can invert containers from all different sides and back again for a variety of applications (common uses included: **code dating, sanitation of caps, orientation, stacking for packaging, multi-packing, bottle rinsing, bar code scanning, and more**) that will bring your container to the correct presentation to be accepted by the downstream equipment.



HIGH SPEED METERING

Morrison is able to deliver high speed applications that maintain container control with precision and accuracy. Able to **run over 1000 containers per minute**, many of these applications are used in order to metering container to be properly **spaced prior to high speed sleeveers, cappers, and other equipment**.

We tool our machines to handle these top, high speeds and maintain the integrity of the product running through the screws. Our high speed capabilities are not just for metering drive units and can be utilized for a variety of applications.



COMBINING + DIVIDING

Rooted in timing screw technology, our combining and dividing solutions are reliable machines to integrate into your line that can eliminate the labor intensive task of manually dividing and combining on a production line. These solutions allow OEM's and retail customers alike to save on labor cost while bringing in quick ROI's due to efficiencies increases and throughput maximization.

These solutions can take multiple lanes and merge or divide them for the downstream equipment. By installing a combining and dividing application, you help take up less line space and provide a easy changeover solutions to automate this process for multiple container sizes.



GROUPING + COLLATING

Our grouping and collating systems utilizing timing screw technology to bring containers together for the **sleeving, cartoning, and banding process**. Automating this process is helpful to your line as it eliminates the need for an operator to manually perform these tasks while providing reliability and predictability with the timing screw doing the same thing with every rotation.

These systems are easy to retrofit to your existing conveyor and make a useful addition when enhancing your efficiency and throughput.



STACKED TIMING SCREW UNITS

In order to maintain positive control of tall, unstable containers, our experts will use a two screw stacked design to better handle the containers while performing the intended screw application.

Most often used for **feeding and metering** prior to downstream equipment, these timing screw drive units provide a reliable, cost-effective way to keep your containers upright and get there to the place on the line they need to be.



MULTI + VARIETY PACKS

There are multiple ways to create pack patterns for your variety pack or multi-pack needs. Integrating various different design approaches, we build full systems that prepare your containers to go into the final stage of the **boxing, cartoning, bundling, or shrink wrapping process.**

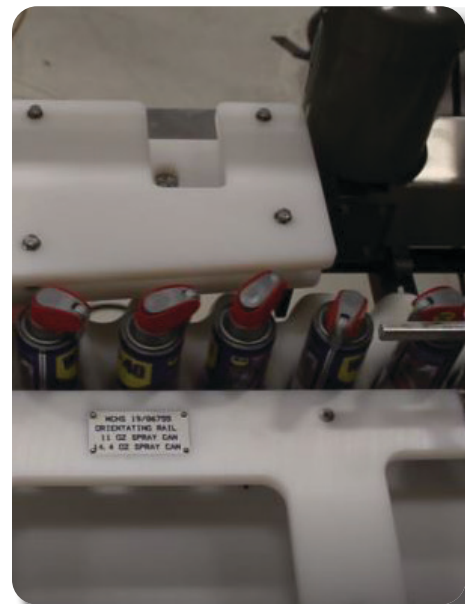
Nimble and responsive, these systems can be equipped with controls packages that will give you adaptability to run different variety pack or multi-pack options all on one system. If you need to run different containers on the same system, we can even equip it with quick change parts that will allow you to easily adapt container handling to the new product size now and in the future.



STACKING

Stacking is often a challenging, manual process for a variety of applications. Our engineers will use our timing screw drive unit technology that stacks containers automatically for downstream equipment such as **sleevers, bundlers, or cartoners, as well as baggers.**

Timing screws are a unique tool to help create the stacks needed for the end of line processes. We've stacked everything from tobacco cans to single serve plastic cups and can find a solution to stack nearly any product that is rigid or semi-rigid.



ORIENTING

Automatically orient your containers for various applications such as labeling and packaging with our orienting solutions. Morrison can supply everything from the change parts, timing screws, vision systems, and integrated controls in order to provide you with a turnkey solution that will improve your orienting process, making sure **all containers face the way needed for the downstream application.**

Manually orienting containers can be a costly process. Installing automated orientation solutions on your lines can eliminate timely and costly processes and allow you to focus on more throughput and uptime. Containers that can benefit from this application could be asymmetric, labeled, or containers with distinctive markings.

retrofits and upgrades for CURRENT LINES:

If your current lines need some love, most of our timing screw drive unit solutions can be offered as retrofits or upgrades to your existing equipment.

Retrofitting and upgrading can be a cost-effective way to increase your margins, efficiency, and overall throughput while not having to make a large investment up front. Essentially, you see quick ROI's on your purchase and get to work with container handling experts!



uniquely **designing** **CUSTOM SOLUTIONS:**

Our team doesn't provide a model X, Y, or Z. Each piece of equipment we provide is designed custom to your line and to solve your unique container handling challenge. We are a team of engineers rooted in solution providing designs that enhance your productivity and efficiency.

Our case studies and videos serve as inspiration and our experts will provide advice and guide you through exactly what you need to improve your outfit.

USER MANUALS + MAINTENANCE

DOCUMENTATION

Morrison User Manuals are handcrafted to match the custom nature of our container handling equipment. We pride ourselves on having some of the best manuals in the business, with the goal of shipping it with every machine.

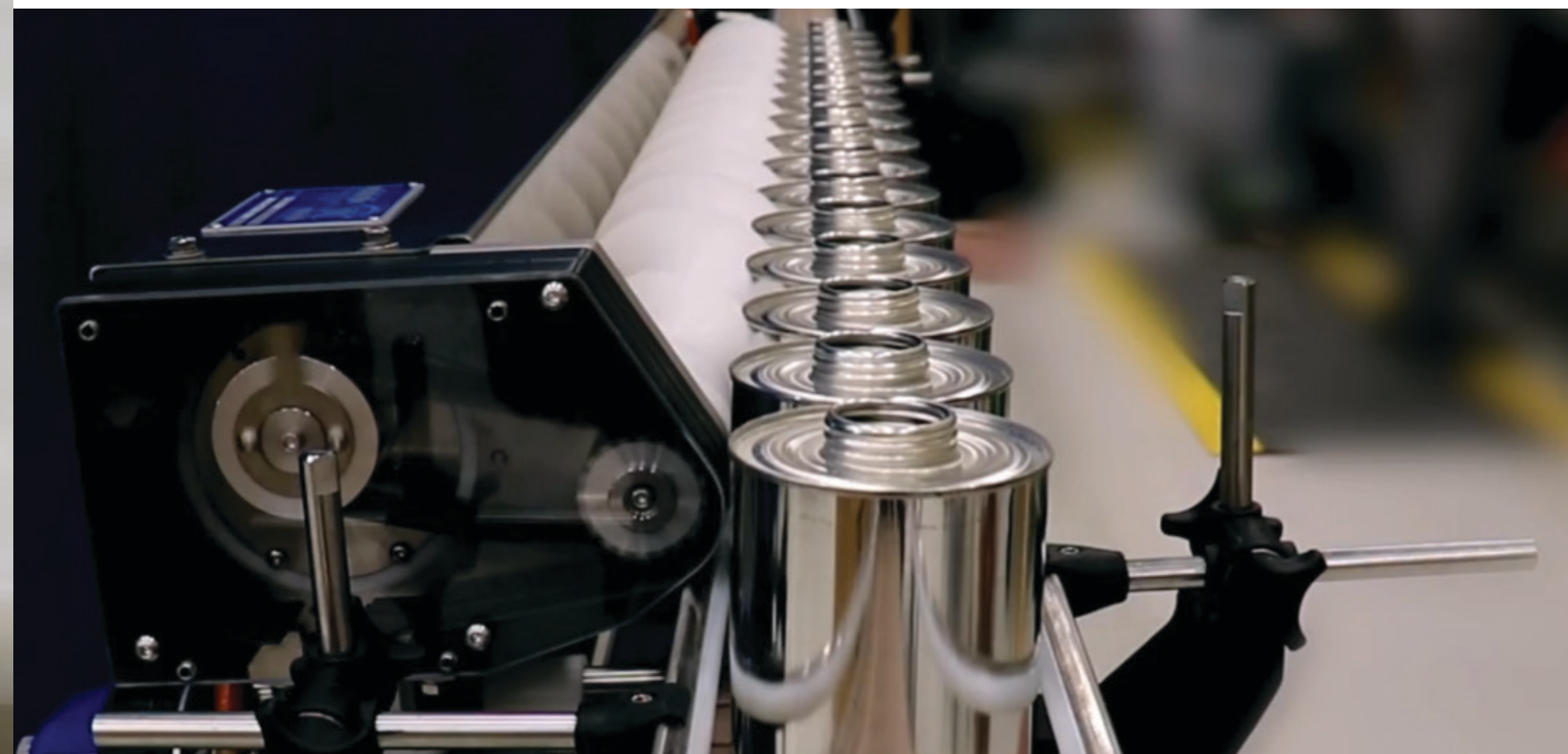
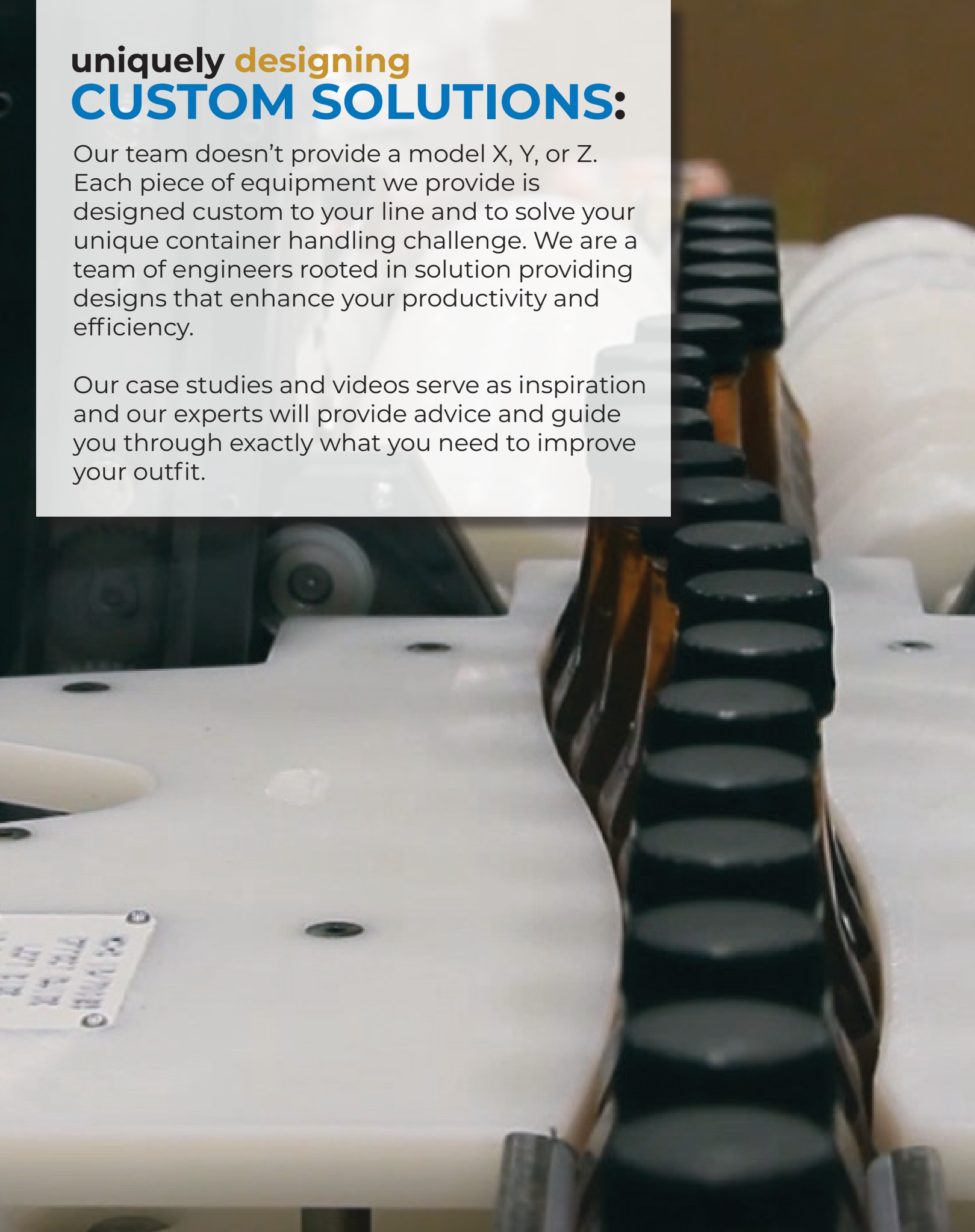
Providing information on timing screw changeover, preventative maintenance, mounting information, and more, these user manuals are essential for the operation of the equipment and helpful to the operators on your line.

Our industry-standard-setting manuals are included with every timing screw drive unit so your maintenance and operations team has the information needed to properly use and PM the machine.

PREVENTATIVE MAINTENANCE

Every user manual includes our preventative maintenance guide to make it simple and easy to know when and what needs to be maintained, including how. If you stock spare parts ahead of time and change them during regular scheduled maintenance, you'll eliminate downtime even more.

This guide prepares your team to keep your line up and running more efficiently.



stocking recommended **SPARE PARTS:**

Stocking spare parts is just one way to be prepared to tackle downtime quickly and efficiently, but we know it can be cumbersome to know what you need to keep on hand.

It's why Morrison makes it easy, including a recommended spare parts list in all of our user manuals for every system that leaves our facility. If you're looking for more guidance, our Aftermarket Service and Sales Manager will walk you through your machine's assembly prints, providing a comprehensive look at what you need and when to keep your line running, just like the day it was installed, with minimal downtime in between scheduled maintenance.



service + installation **SUPPORT BUILT IN®**

Morrison has a dedicated field service department so you can rest easy knowing we have the right people to service and install any of our equipment, as well as train operators on best changeover practices that reduce downtime on your line. This is part of our Support Built In® program offered to every customer.

When you work with Morrison, you get a partner for a lifetime.

WHAT IS SUPPORT BUILT IN®?

It's included in all our Morrison's products. This is our personal customer service program for any general questions you may have or technical expertise you need before, during, and after installation - for years to come.

Our support doesn't just stop at installation. We'll be there any time you need replacement parts or help diagnosing other container handling inefficiencies on your line.

Beyond change parts, our department, equipped with PMMI certified trainers, is trained to diagnose and provide real-time solutions, in plant and remotely, that will keep your line up and running and discover solutions for better container handling.

INDUSTRIES SERVED

wine + spirits + beer
beverage
food + snack
dairy
pharmaceutical
tobacco
household products
cosmetics
personal care
canning
pet food
grain + mill + spices

OPTIONS AND CUSTOMIZATION

COLOR CODE YOUR CHANGE PARTS + SCREWS FOR QUICK, EASY CHANGEOVER

Production downtime costs money! To reduce changeover times, Morrison timing screws and change parts can be manufactured with color coding.

We stock 6 colors, but additional ones can be requested to fit your line needs. Select one of the stock colors for us to make your order with for shorter lead times.



RUNNING MULTIPLE CONTAINERS ON THE SAME LINE? USE COLOR PLUGS FOR EASY CHANGEOVER IDENTIFICATION

WHAT ARE COLOR PLUGS?

If you order all of the same color parts and screws but still want to create color association with container sizes being run, color plugs are a great option to use.



Morrison will install a color plug, highlighted on the right, in your screws and change parts that will allow operators and maintenance to quickly identify which screws and change parts need to be installed to run the different container. This can minimize changeover time by making identification simple.

MORRISON PARTS CARTS - SAFE STORAGE SOLUTIONS



Parts carts are great storage solutions when parts are not in use - for example, when running a different container size or during sanitation processes. Morrison's carts keep your change parts safe from damage when not in use.

Morrison's shadow board design highlights the specific place each part should be stored, making it easy for operators to quickly locate each individual part. This helps with the 5S lean manufacturing concepts that many plants have implemented.

Carts have stainless steel frames to allow for cleaning of the parts directly on the carts and are equipped with extra enclosed storage to accommodate any other pieces that accompany your container handling sets.

how to place YOUR ORDER

When you're ready to place your order, our sales team can come to your plant, virtually or in person, to provide a line evaluation at no cost to you.

After that, we can begin processing your order, scheduling a measure, and get you the parts you need to get up and running. It's that easy.

Let's bring Morrison container handling expertise to your plant and achieve your production goals.



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CONTACT US

CONNECT WITH AN EXPERT



Phone 708-756-6660
335 W. 194th Street
Glenwood, IL 60425
info@morrison-chs.com
www.morrison-chs.com