

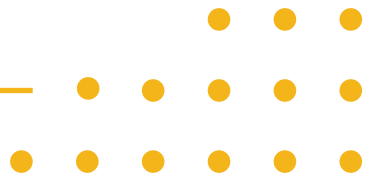
# THE MULTI-DRIVE™

TM



**MAG-DRIVE**  
A CLEAN ENERGY DRUM MOTOR

[www.mag-drive.net](http://www.mag-drive.net) | (501) 753-4774



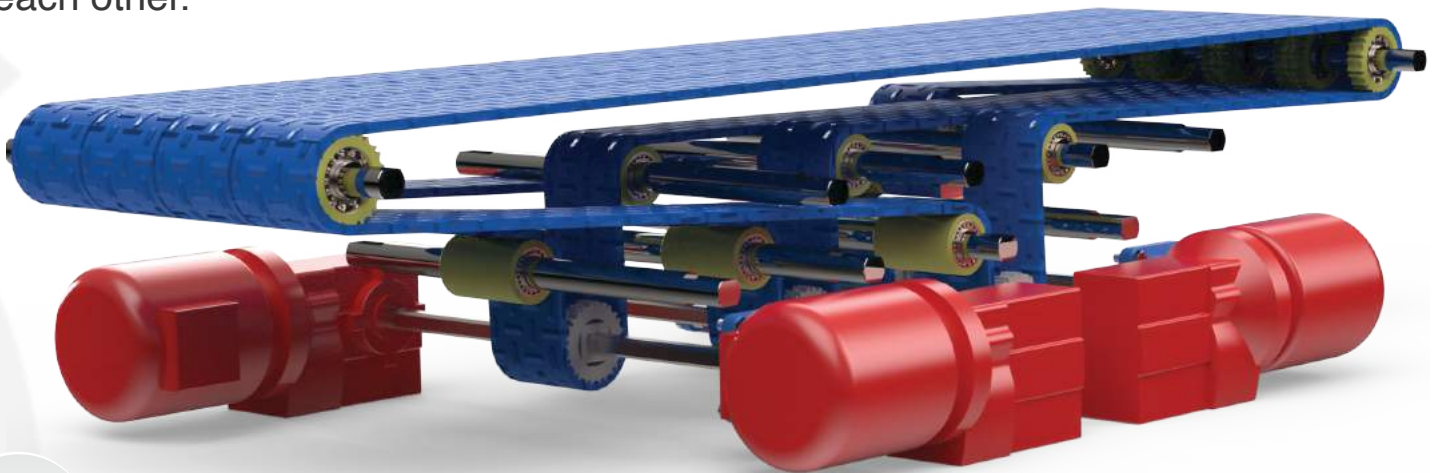
# INTRODUCTION

The Multi-Drive™ provides unique advantages not previously available in the packaging automation industry. It allows automation equipment manufacturers to place multiple conveyors side-by-side with minimum belt separation.

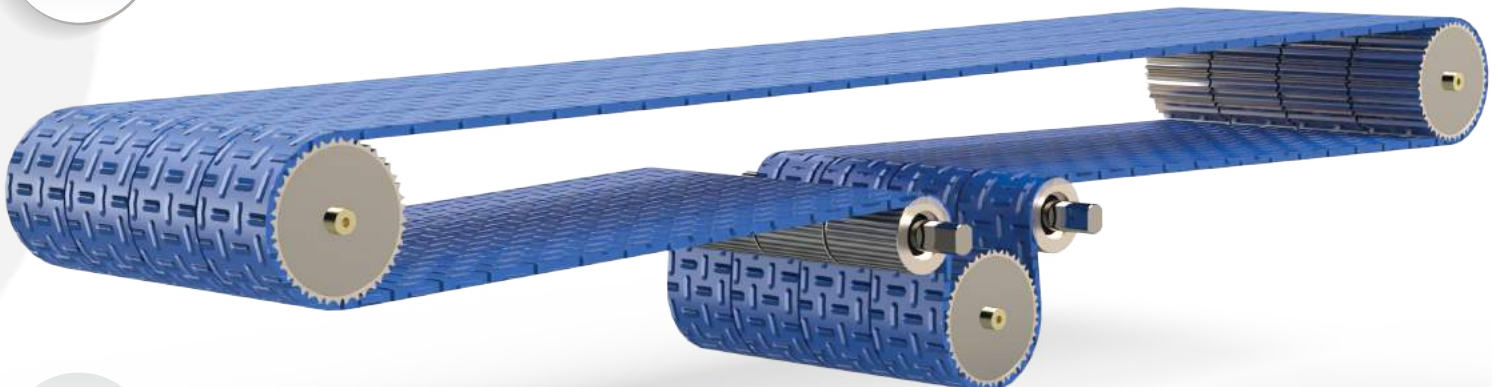
This arrangement is accomplished without the need to design complex power transmission components that get buried underneath the conveyors. Conventional four belt systems make repairs and maintenance difficult and are not easy to clean.

The Multi-Drive™ can run 2, 3, or as many as 4 belt rollers on a single shaft, with as little as just a few millimeters of separation between the conveyor pulleys.

When integrating Multi-Drive™ powered pulleys in a multi-conveyor system, each conveyor can be run separately and completely independent from the other conveyors mounted on the same shaft, regardless of how close they are to each other.



**CONVENTIONAL 4 BELT SYSTEM**



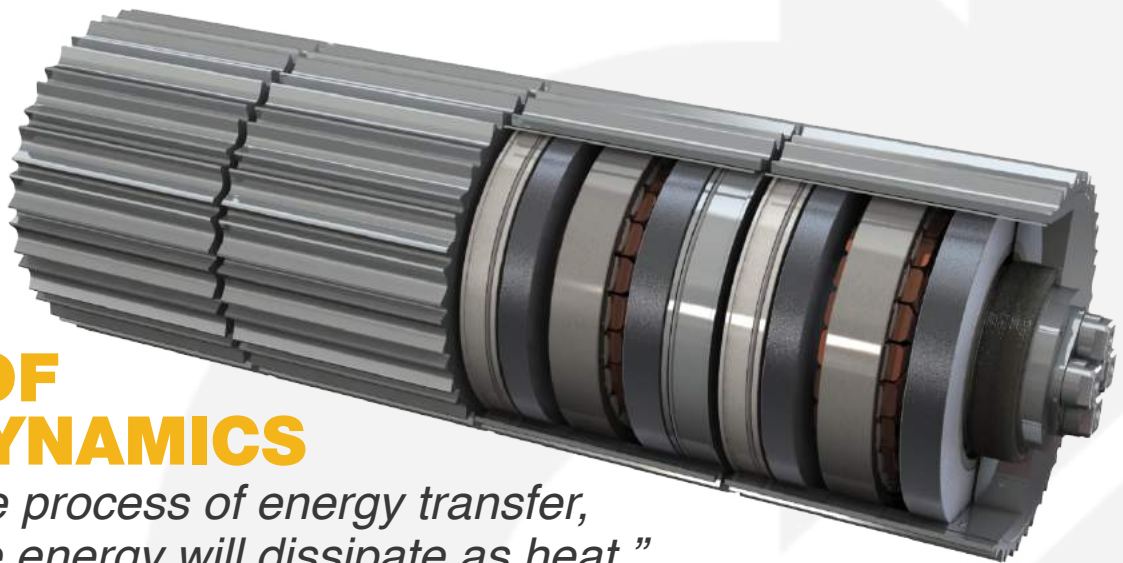
**ONE MOTION™ MULTI-DRIVE™**

**TWIN****TRIPLE****QUAD**

## OUTER RUNNER DESIGN

In a conventional motor / gearbox solution, electrical power is transferred multiple times, first to the motor then to the gears before finally reaching the belt roller. As a result, energy is lost, making the system generate heat and wear down.

With the Multi-Drive™, there is only one transfer of energy as electrical power is used to directly create rotation. There is no wasted energy moving through mechanical gears.



## 2ND LAW OF THERMODYNAMICS

*“In the process of energy transfer, some energy will dissipate as heat.”*

Magnets shaped to create a high pole count create high powered magnetic arrays resulting in high mechanical power and constant torque over a wide speed range.

The absence of external hardware means fewer parts that wear down over time. Halting production for repairs and maintenance can be very costly. In this way, the simplicity of this design equals reliability.

Another unique advantage with this technology is the ability to drive a belt with a pulley as small as 58 mm in diameter. At this size, it can be used in an end-drive or center-drive configuration.

Being the only pulley available at this size in the market, the nose of the drive can be positioned right next to the feed or discharge.

# ADVANTAGES

Our products lead the industry in efficiency, reducing electrical output by as much as 55%. That number multiplies 2 - 4x in the case of the Multi-Drive™. Reliability also improves with 2 - 4x less bearings and other rotating components. Other benefits include:



## EACH FACE OPERATES INDEPENDENTLY

Though all on the same shaft, each face is independently operated and can be run at different speeds and directions.



## START & STOP ON A DIME

Just as the speed can be quickly dialed up to 500 RPM, it can stop just as fast. Coupled with encoders, the Multi-Drive™ acts as a servo replacement, making it an ideal solution for precision indexing, timing & registration needs.



## WIDE SPEED RANGE

Easily adjust the speed anywhere from 0 - 500 RPM with quick acceleration and constant torque, regardless of load size or weight.



## CUT SHELL

The profile is cut into the shell, thus eliminating many of the creavases where food debris and bacteria traditionally like to form.



## EASY TO INSTALL & OPERATE

The device can be dropped or bolted in and operated using nearly any of the popular Variable Frequency Drives on the market (*must have permanent magnet mode*).



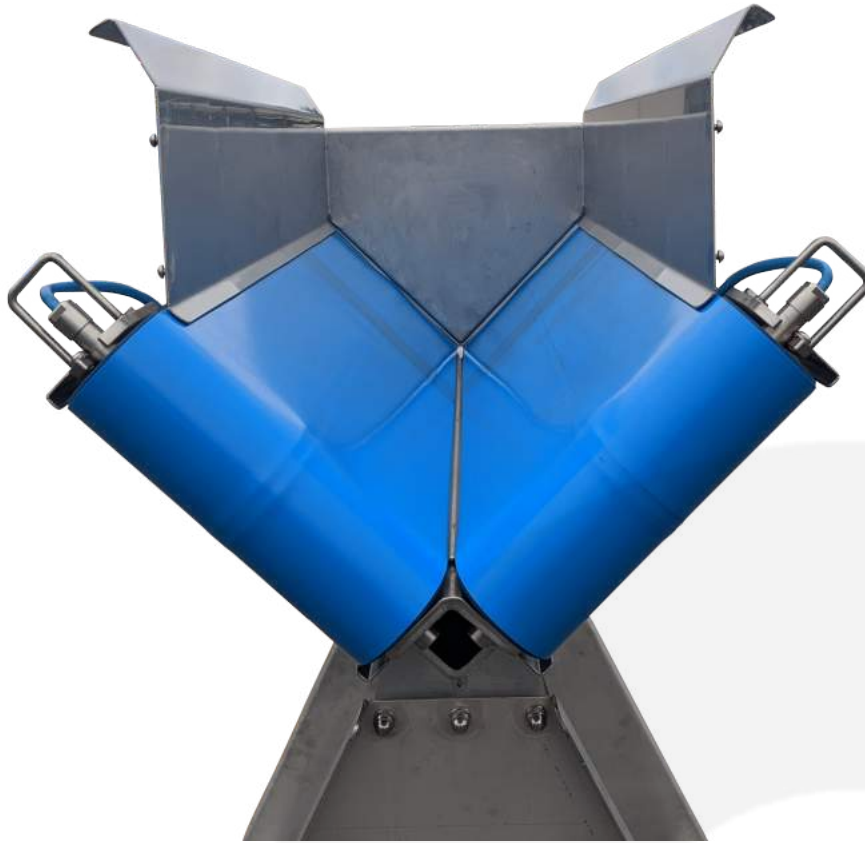
## FOOD SAFE

Using a lubricant-free design, there is no chance of an oil leak.



# USE CASES

The Multi-Drive™ provides a plethora of possibilities. One example of this is the V-belt Machine which arranges two drives into a "V" shape (manufactured by Heinzen). With seemingly endless possibilities, here are a few popular ways in which it has been used:



## PRODUCT ALIGNMENT

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Offering more than just speed and torque, the Multi-Drive™ provides precise positioning of product and is able to meet most servo replacement needs. Because each belt operates independently, encoders are used to read the placement of the product and slow down or speed up a belt to rotate product into alignment.

## PRODUCT MERGE

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Feed randomized, incoming product onto a Multi-Drive™ and have the product merged in a timely manner. A recent case study involving Blue Print Automation illustrated this by improving the merge performance of 140 products per minute with conventional servo motors to 180 products per minute using the Twin Multi-Drive. See the video demonstration at: [www.OneMotion.info/BPA-Merge](http://www.OneMotion.info/BPA-Merge)

## CUSTOM DESIGN

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Depending on your project needs, the Multi-Drive™ may be the perfect solution. Rather than offering a one-size-fits-all product, our engineers take a "First-Time-Right" approach, taking the time to design, develop and build automation into packaging automation projects.