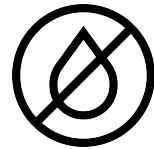


AES

Performance Comparison



Hygienic

Using smart conveying technology, and One Motion products gives AES the ability to drive a belt with complete control over speed and precision without the need for a servo motor and a gearbox. One Motion Mag-drives eliminate the use of oil and have zero nooks and crannies where bacteria can grow.



Reliability

By using 90% fewer rotating components than a traditional smart belt conveyor system, the exceptional reliability of AES's Smart Belt line of products stands out for its durability, supported by an industry leading 3-year warranty.



Cost

Making the move to a hygienic operation usually involves higher costs of special motors and electronics.

One Motion products significantly lower the barrier to entry cost when moving to a hygienic solution. In fact, taking into account all components saved by its integrated design. AES hygienic solutions are price competitive compared to standard designs. Additional savings are achieved from its high efficiency (94%) compared to other hygienic motors (84%) and traditional motors (55%).

With AES conveyors powered by One Motion mag-drives, users can confidently expect a solution that combines hygienic design, outstanding efficiency and reliability, long life expectancy and delivers superior ROI.

AES

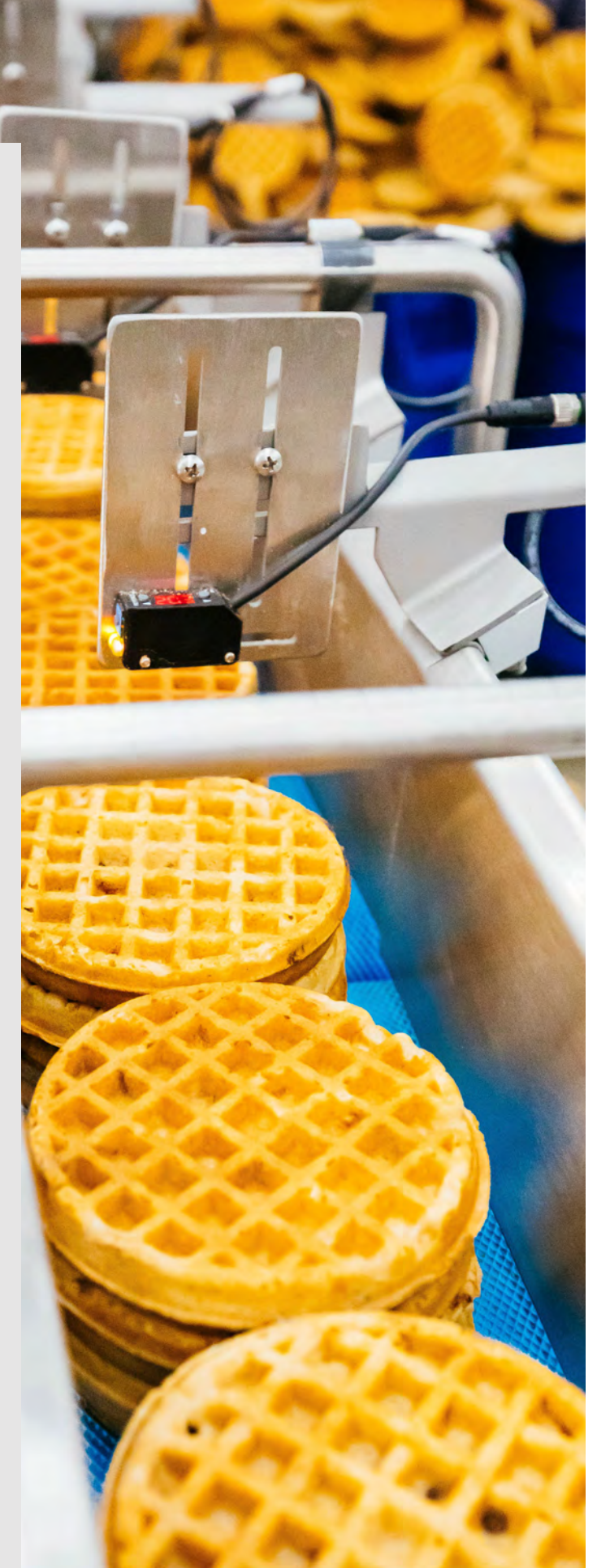
Smart Belt Conveyors Powered by One Motion

**An innovative solution
to hygienic automation at
an affordable price**

AES Smart Belt conveyors are designed to automatically reposition randomly arriving product into single file of products, equally spaced and phased to the infeed section of a flow wrapper, end load cartoner or any other secondary packaging machine.

The AES smart belt conveyors are sanitary, easy to clean with a special cantilever design ideal for quick belt changes. Equipped with an automatic belt tracking device, these conveyors are reliable, easy to maintain, clean and repair.

Each conveyor is independently driven by One Motion Mag-drives integrated into the driving pulley, resulting in a superior hygienic design without the cavities, nooks and crannies created by a conventional servo motor driven system.



The AES Advantage

Compared to conventional systems using standard servo motors and gearboxes, the AES Smart Belt conveyors offer multiple advantages:

- ✓ Modular design allowing for custom lengths, widths and quantity of modules in order to optimize the performance of the system.
- ✓ Simple controls using standard variable frequency drives (VFDs) such as Allen Bradley 525.
- ✓ Clean and sanitary design with motors integrated into the driving pulley and only one control/power cable.
- ✓ Stainless steel construction suitable for standard (IP65) or wash-down (IP69K) applications.
- ✓ High dynamic response for quick position correction
- ✓ Higher system efficiency per smart belt (94%+)
- ✓ High system reliability (3 year warranty on all drives)

The AES Smart belt conveyors operate in open loop configuration based on position and velocity commands using a standard variable frequency drive (VFD) equipped with a permanent magnet function such as the Allen Bradley 525 VFD.

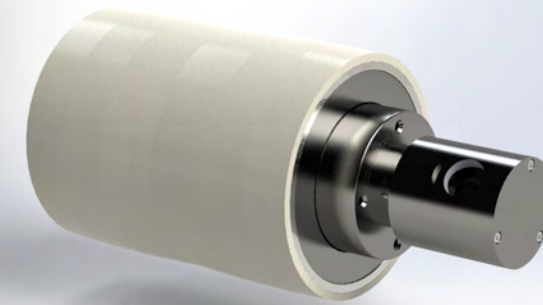
Due to the synchronous characteristics of One Motion Mag-drives, such position and velocity commands can guarantee precise movement and position within a margin of error under 1.5 mm. Once a product is detected entering the system, its current phase and position is compared to the phase position and timing required by a virtual axis in the PLC, determining the degree of correction needed.

The complete positional adjustment of every product entering the smart belt system, occurs over several belts that are connected to each other to feed product into the downstream machine.



The number and length of the correction belts required by each system will depend on the type of product, dimensions, products per minute and friction between conveyor belt and product.

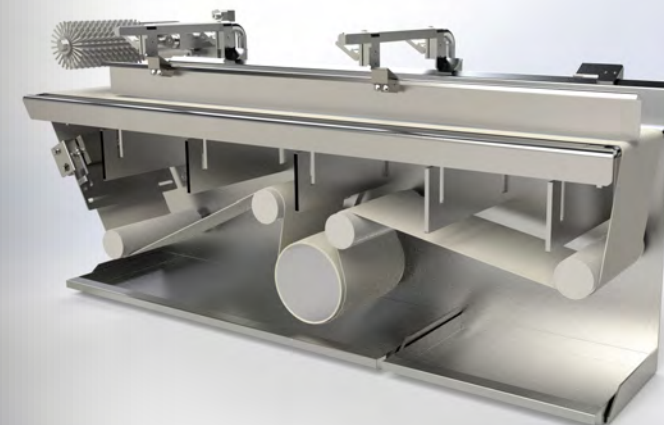
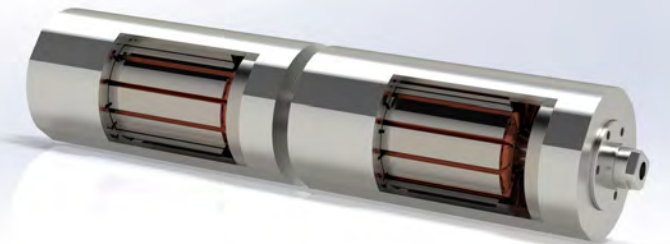
More belts in the system means less aggressive corrections per belt and less product slippage or product damage due to sudden accelerations required to make the such corrections.



About One Motion Mag-drives

One Motion Mag-drives are integrated permanent magnet synchronous motors. The outer surface carrying the magnets rotates while the shaft - carrying the stator - is stationary. This arrangement results in higher operational efficiency and more torque density than a servo motor of similar volume.

Running without gears, oil, or any other secondary transmission device, these motors are essentially permanent magnets rotated by electromagnetic forces. The result - possibly the simplest conceivable design to convert electrical current into rotary motion.



With no mechanical contact between components, other than the two bearings holding the outer shell, their reliability is much higher than conventional servo motors. This allows for a standard warranty of 3 years instead of the standard one year offered by most manufacturers.