

Case Study: 43% Energy Reduction

A recent test was performed in a factory for the world's largest poultry producer that pit a mag-drive against a drum motor (a gearmotor with the gears inside the pulley).

To create a fair and accurate test, the power going into the panel that is responsible for powering the motor / mag-drive was measured, using both a drum motor and a mag-drive.

The input power going into the panel is what ultimately affects the electric bill. Measuring the wires going into the panel also keeps the input power isolated from other power factor issues going into the motor, which could skew the results.

Measuring the amps in this way creates a clear picture of the actual power being spent to power the conveyor.

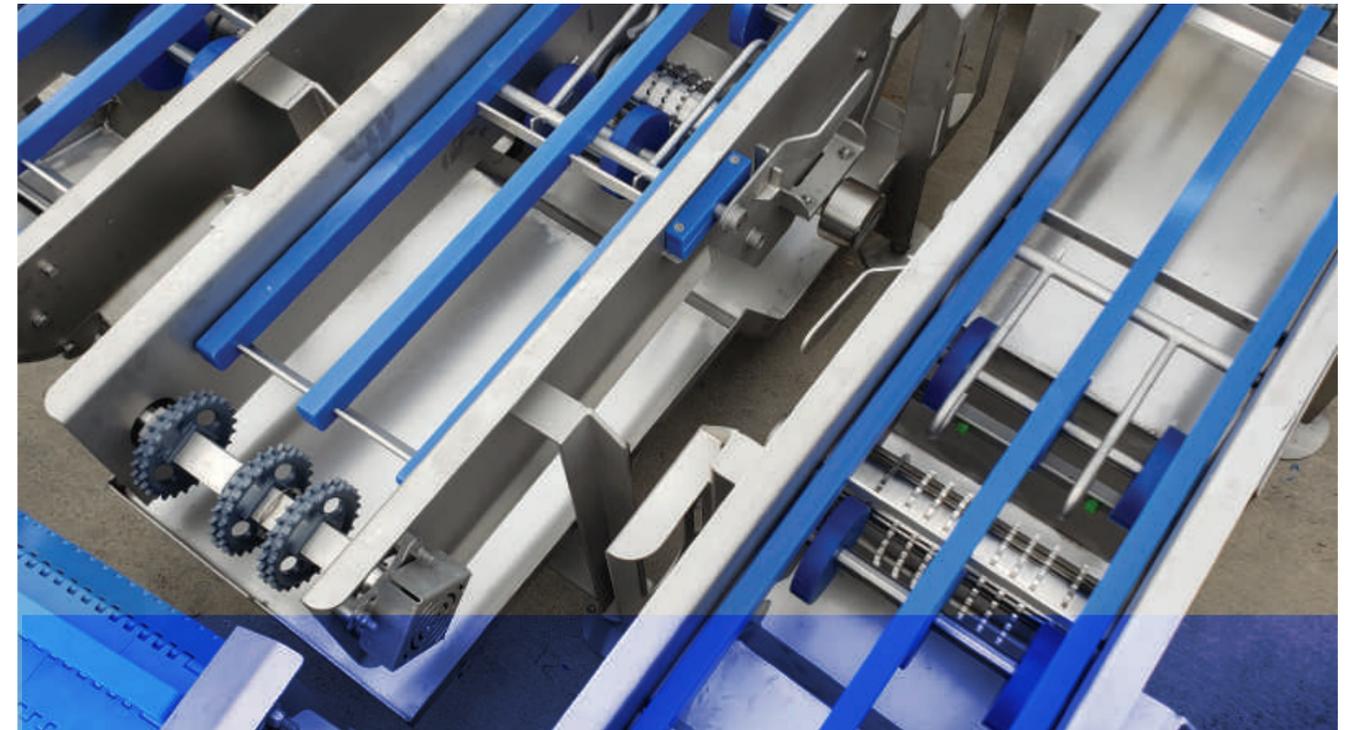
The electric current on the wires to the drum motor were 1.1, 1.1, and 1.3 amps. That is an average of 1.16 amps.

The electric current on the wires to the mag-drive were 0.6, 0.6, and 0.8 amps, which equates to 0.66667 amps. The resulting difference was a reduction of about 44%!

 DRUM MOTOR RESULTS	 MAG-DRIVE RESULTS
1.2 (amps) x 480 (voltage) = 576 Watts	0.68 (amps) x 480 (voltage) = 326.4 Watts
When converted to kilowatts, it would be 0.5760	When converted to kilowatts, it would be 0.3264
That equates to 13.824 kWh in a day (24 hours)	That equates to 7.8336 kWh in a day (24 hours)
Based off of \$0.12 per kWh, the resulting monthly cost would be 49.77 and annual cost \$597.20.	Based off of \$0.12 per kWh, the resulting monthly cost would be 28.20 and annual cost \$338.41.

EFFICIENCY

Magnetic, Direct-Drive Technology by One Motion™



CASE STUDY

Discover How The World's Largest Poultry Producer **Improved Electrical Efficiency By 43%**

ONE MOTION

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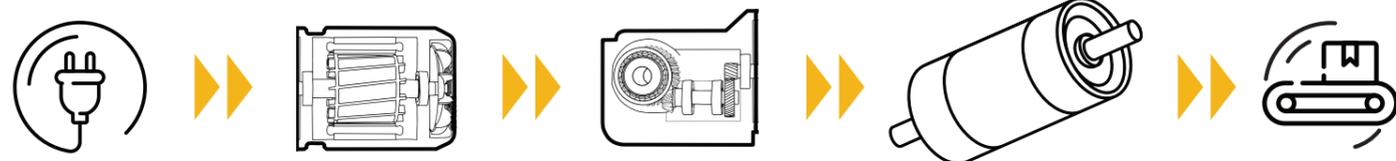
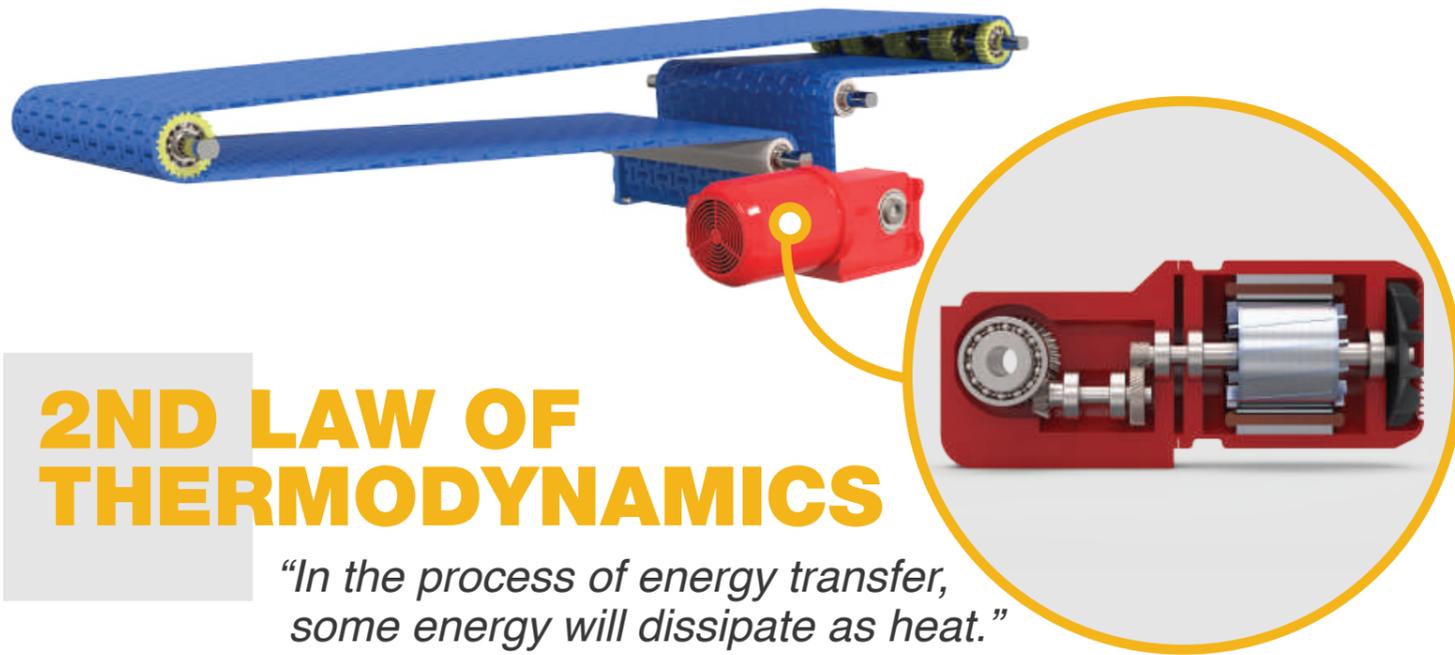
Are You Getting What You Pay For?

As much as half of the world's electricity is consumed by motors. Not surprisingly, conveying equipment can consume up to half of a facility's energy usage according to a representative from Rossi North America, a gear motor and gearbox manufacturer.

When it comes to electrical usage, are you getting what you pay for? On average, an AC motor wastes 15% of the electrical energy used for mechanical energy.

Electrical energy is lost as it passes through each rotating component before reaching the final mover.

As the electrical energy is wasted, it is dissipated as heat which is evidenced by a rise in motor temperature. This shortens the lifespan of your system and leads to costly downtime and unplanned maintenance.



LOSS OF ELECTRICAL ENERGY

Why Magnetic Direct Drive Technology?

One Motion™ mag-drives use just one transfer of energy as electrical power is used for direct mechanical rotation (watts to torque). No energy is lost passing through gears.

Carefully shaped magnets are used to create a high pole count inside of the mag-drives. The large quantity of rare earth permanent magnets line the outer moving surface, creating high mechanical power and constant torque over a wide speed range.

No gearing is required for speed adjustments and can easily be operated using most popular variable frequency drives (VFD's), such as Allen Bradley, Yaskawa, Lenze and Emerson.

The one transfer of energy prolongs the life of machinery by emitting minimal heat, thus improving reliability and making for a safer working environment.



ONLY ONE TRANSFER OF ELECTRICAL ENERGY