

The page is decorated with various geometric shapes: orange and blue diamonds, squares, and lines. A large white dashed circle is centered behind the main text. An orange horizontal bar is located at the bottom left, and a blue diamond is at the bottom right.

# Improving Food Hygiene Standards and Increasing OEE with Cutting Edge Machinery



In manufacturing industries, efficiency is heavily influenced by the use of equipment. Unfortunately, if the equipment isn't running at peak performance, then it can't yield a large enough output to cover the initial investment. There are multiple factors to account for when determining the effectiveness of equipment due to the fact that equipment interacts with products, laborers, and conveyors that feed equipment.

Measuring the productivity of your manufacturing equipment and gaining insight to improve your process, can be achieved through Overall Equipment Effectiveness, or OEE. Essentially, OEE identifies the percentage of manufacturing time that is actually productive, focusing on three factors: availability, performance, and quality. Companies can utilize OEE to help them define, visualize, and ultimately eliminate losses and waste.

Hygienic conveyors typically require much of your business's time and resources to properly clean due to lengthy disassembly and reassembly processes. Throughout this ebook, you will learn how to achieve OEE through the use of precision hygienic conveyors that are specifically designed to be low maintenance and deliver products accurately.



# MEASURING PRODUCTIVITY OF YOUR MANUFACTURING EQUIPMENT



Oftentimes, it is unclear how to actually go about measuring the productivity of your manufacturing equipment. As mentioned previously, OEE is a standard for measuring productivity.

Mathematically,

**OEE = Availability x Performance x Quality.**

Ideally, you would want your equipment to achieve a perfect score, which means your machine must manufacture 100% Availability (no stop time), 100% Performance (as fast as possible), and 100% Quality (only saleable products).

In the Food Handling and Processing Industry, precision hygienic conveyors are essential because they maximize OEE while also delivering a more sanitary platform. While these conveyors are low maintenance, they are also versatile, capable of accommodating numerous tasks and generating a high OEE.

## AVAILABILITY – OPTIMIZE RUN TIME

Planned production can be interrupted by mistakes or labor changes, causing production to be inefficient. You can optimize your runtime with cleaning and sorting accessories that eliminate error by automatically handling these tasks.

**Spreaders and Spacing Techniques:** Strategically space items in preparation to maximize the next process

**Belt Scrapers:** Provide continuous section cleaning

**Clean in Place Stationary Washers:** Clean inner and outer surfaces quickly

**Merging and Diverting Devices:** Precise movement of product to maximize throughput into equipment or packaging

**Depositing Retracts:** Strategically space products in preparation for the next process

**Singulating or Chicaning Solutions:** Automates product placement for faster production or packaging

## PERFORMANCE – INCREASE PRODUCTION CAPABILITIES

Precise, hygienic conveyors can be sanitized in just a few minutes, allowing for an increase in production capabilities. Not only that, but these conveyors enable one person, without any tools, to suspend and release the belt in six seconds and disassemble the entire conveyor in less than three minutes.

Although OEE only focuses on a machine's effectiveness, the benefit of only needing one worker for a sanitation job results in an increase of overall efficiency. To illustrate this, take, for example, the following scenario:

*A system runs 50% more effectively with one operator, but 65% effectively with two operators. The effectiveness goes up 30%, yet efficiency drops down to 50% based on labor.*

Therefore, it's important to take the measurements of both efficiency AND effectiveness into consideration when choosing a machine.

## QUALITY – GENERATING MORE SALEABLE PRODUCTS

Sanitary conveyors are responsible for safely processing raw, baked, and ready-to-eat foods without any chance of contamination. Engineered with this in mind, hygienic designs are built to withstand high pressure washings and are chemically resistant, which means they can be easily sanitized and used for a variety of products including:

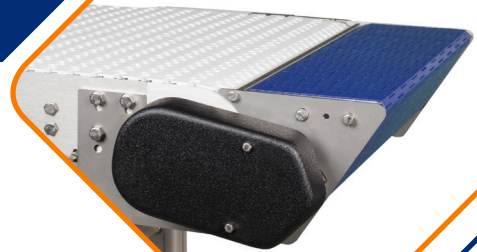
- Dairy
- Seafood
- Meat & Poultry
- Confectionary Items
- Baked Goods
- RTE

Having a conveyor that is capable of being managed by a single worker and properly sanitized in a matter of minutes allows for the risk of contamination to decrease and the volume of successful units to increase. The increase of marketable products means an increase in revenue.

Now that we know how these three components – Availability, Performance, and Quality – contribute to your machine's Overall Equipment Effectiveness, we can focus on hygienic conveyors specifically, and how they should be optimized for a sustainable design.



# IDENTIFYING QUALITY HYGIENIC CONVEYOR EQUIPMENT FOR ANY OPERATION



As companies scrutinize how to improve their food processing practices and stay ahead of the curve, the conclusion they often arrive at is installing a new sanitary conveyor. Taking a proactive approach toward food safety by adding safeguards to try and prevent contamination or problems from occurring in the first place is a sound decision, especially since conveyors are in direct contact with food on the processing side. When identifying quality hygienic conveyors to install, it is important to find equipment that is built with strong, sanitary attributes to eliminate any chance of contamination. However, not all “sanitary” conveyors are built the same.

As you research sanitary conveyor systems, analyze the engineering and design attributes that make the conveyor a truly sanitary platform. Keep in mind that the ultimate goal is to achieve OEE through the use of precision hygienic conveyors that are specifically designed to be low maintenance and deliver products precisely.

The following questions can be taken into consideration to appropriately identify a precision hygienic conveyor that will maximize OEE while simultaneously delivering a more sanitary platform.

- Are there built-in features that will cut down cleaning time?
- Are these features removable or permanent?
- How easy is it to disassemble for cleaning?
- How many people/tools are necessary to sanitize the equipment?
- Will the design simplify the cleaning process?
- Will the product fulfill sanitary requirements?
- Is the product approved by the required health agencies?

# TAKE FOOD HANDLING CONVEYORS TO A WHOLE NEW LEVEL WITH DORNER



Dorner is improving food hygiene standards and increasing your OEE with our cutting-edge handling machinery. Our ISO registered systems are easy to clean and disassemble, hygienically designed, and most importantly, safe to use.

With the only Modular USDA Red Meat & Poultry Certification and conveyors built exclusively with FDA approved materials, Dorner helps you adhere to the highest safety standards, such as the Food Safety Modernization Act, NSF specifications, and 3-A Sanitary Standards. Our AquaGard and AquaPruf series possess BISSC certification and our 1x, 2x, and 3x series conveyors are Clean Room Certified.

In addition to these safety measures, all products are CE certified and RoHS compliant because we're committed to providing safe, quality conveyor equipment for any operation.

## DORNER'S FIVE-STEP APPROACH TOWARD FOOD SAFETY

### Hygienic Design

With Dorner's hygienic design, your specific production requirements can be achieved while meeting the most stringent sanitation requirements. Our machines are certified, application proven, and simple to sanitize. Our designs include:

- Three sanitary levels configured to your own unique application
- No areas where the product can accumulate
- Minimal horizontal surfaces
- Smooth, completely sealed welds

## Ease of Sanitation

Our conveyors are developed with fast, tool-less access to the conveyor frame for twice the clean-up speed of the competition. Sanitation is simple with our removable wear strips, belt lifters, frame cut-outs, and tip-up tails.

## Effective Sanitation

Dorner's conveyor systems are expertly designed with an open, stainless steel frame to optimize the cleaning process. Our patented sprocket alignment key moves and realigns the sprocket quickly to decrease sanitation time.

## Ease Disassembly

The simplicity of our hygienic design decreases assembly time and increases OEE. The disassembly time required to prepare for cleaning is less than three minutes.

## Operator Safety

Operator safety is just as important as food safety, so our conveyors are engineered and designed to industry safety standards. Our five-step approach was developed with your dedicated employees in mind and our conveyors are engineered and designed to industry safety standards.

Regardless of your industry, you can be confident that our product handling equipment will help you successfully achieve Overall Equipment Effectiveness. Rely on Dorner for safety and sanitary standards above the rest.

