

Small margins and increased responsibility for food producers

Food producers cannot afford to make mistakes when it comes to food safety. New consumer trends and product variances increase the need for hygienic practices. This includes cleaning procedures, hygienic regulations and requirements, safe equipment, and even traceability of food ingredients. Collectively, these are factors that challenge production efficiencies and cost margins.



The importance of hygiene

The food industry – like any other industry – is driven by changes in consumer demands. The latest trends dictate that food products should be more organic and natural with less preservatives. Organic and healthier food are more susceptible to bacterial contamination, because of its low levels of salt and sugar. This puts demands on food producers and equipment suppliers to ensure that their processes and equipment inhibit bacterial growth and cross contamination. For food producers it is highly critical that their equipment can also be cleaned to a consistent standard, ensuring that bacteria levels kept within safe limits.

Standards and regulations

Food producers have an obligation to produce safe food and to understand how contaminated products can affect consumer health. The best way to decrease contamination risk is by using qualified equipment, following highest available food safety standards, and having mandatory Hazard analysis and critical control points (HACCP) in place. HACCP controls the production process to prevent contaminated products reaching the consumers. It also ensures that the whole process of cleaning is risk assessed and that the operators can achieve consistent results, with help of the right tooling and accessibility.

3A qualification or EHEDG certification on equipment ensures food producers that a thorough review was completed by a third party. By meeting strict guidelines, these processes verify that the equipment is safe for food handling. It provides the best opportunity for reducing the risks of bacterial contamination.

The challenges of cleaning

Being able to achieve a high level of cleanliness on a production line is harder than one thinks. It is not a simple process. To clean a system more than once is costly both in time and material, reducing overall line efficiency and bottom line. Some food producers can spend up to 40% of their available production time cleaning the equipment to a safe level. Any improvement of that process results in a major gain for the producer.

Consequences

It is estimated that in the US, 128,000 people are diagnosed with

Food Born illnesses and 3,000 die annually. How many of these could be prevented? How many of these are caused by the lack of clean processing equipment?

The overriding question that food producers need to ask themselves when choosing equipment has to be: Can they afford to have equipment that potentially puts people lives or their business at risk? The answer is obvious.

Product contamination can have disastrous consequences for the producer while incurring massive cost penalties. One customer I interviewed had a listeria outbreak in their plant and all retailer stock had to be returned. The manufacturing site was closed for 6 weeks to ensure the facility was clean and free from contamination.

6 weeks with no revenue and the added cost of the cleaning has a sizeable cost impact on any organization – and with the generally low margin on food products, this could mean closure for some companies. Therefore, hygienic standards and regulations should in no way be underestimated.

If substandard food reaches the consumer and causes a major recall, it will certainly harm to the company brand. The affect of today's fast spreading news can be devastating for a brand, to the point that it never recovers. This happened with a famous brand in UK, where small contamination issues caused a potentially carcinogenic bromate to be present in their water bottles. 500.000 bottles were withdrawn from circulation and within a few weeks



the brand disappeared altogether, never to recover in the UK market place.

If there is any chance that consumers can become ill or worst case die from contaminated food products the food producers can also open themselves up to possible litigation and prosecution.

The FlexLink philosophy

Our hygienic philosophy contains a few key drivers, all of them focusing on product development within the food industry.

Hygiene

We believe in key hygienic design practices and follow the very latest guidelines set forth by the 3-A and EHEDG associations and use recognized ISO standards in the design of our equipment. We are, currently, the only 3-A qualified conveyor supplier to 3-A standard 75-01 and are working with NSF to achieve the same rating. We also want to be the first to receive a future EHEDG certification, assuring our products align with global hygienic standards.

Safety

FlexLink also focuses on the operator, providing an easy to use product, while meeting the requirements of machine safety regulations. Hygiene and safety are not mutually exclusive and both should be held to high standard. Equipment that is very easy to clean with fully open sides, open belt areas

and running pinch points is extremely dangerous for operators, causing injury. Today, major international food producers will no longer accept equipment that is clean but unsafe. Some of them have adopted our designs into their benchmark for equipment as the minimum standard they will use.

Cost of Ownership

We design to reduce the Total Cost of Ownership for our customers. Our hygienic conveyor platforms were designed with this in mind; understanding the cost of water, detergent and disinfectant. For example, FlexLink received very positive customer feedback in that respect. One customer in Sweden stated that since installing a hygienic conveyor system from FlexLink he has never had to go through a re-cleaning cycle, – whereas before he would have to clean several times before protein swab tests was at a safe enough level to start production.

It's also important to bear in mind the power consumption – equipment that run smoothly with low friction at heavy load will reduce power consumption and contribute positively to the running costs of the system.

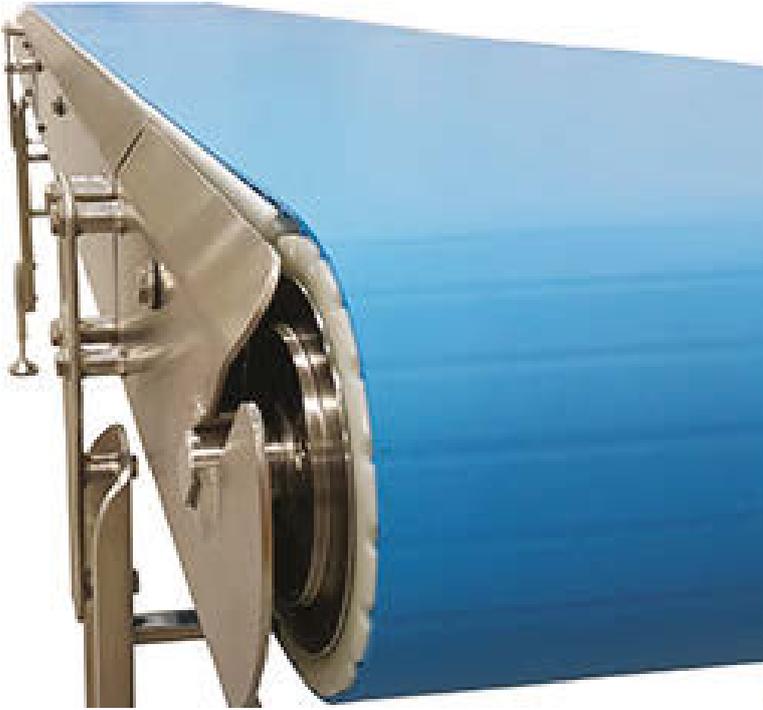
Modularity

Another key customer requirement is flexibility. By having a modular conveyor approach we can be more flexible in conveyor layout design. If the customer requires changes to the layout this can be completed in a very efficient way without the need for cutting or welding.

Cleaning

The last key driver of our hygienic philosophy is cleaning. The efficiency at which cleaning can be carried out is a major contributing factor to the production line's downtime. If cleaning has to be repeated it effect negatively the overall equipment effectiveness (OEE) . The ability to easily clean and inspect all areas of equipment without any heavy lifts or pinch points, contributes to a consistent result. If the equipment has to be stripped down from its base components to then be re-assembled it takes up a large proportion of the production time. By using a modular approach and having minimal mechanical fixings the hygienic conveyor from FlexLink can achieve a typical strip down time of two minutes (three meters long conveyor).





Conclusion

Four things to remember:

- Hygienic standards and guidelines, such as 3-A, EHEDG, NSF and ISO, for equipment design are key for food safety.
- Implications of ignoring hygienic design and practices are severe - for the consumer and business.
- Hygiene and safety are not mutually exclusive.
- A practical equipment design and operator convenience drastically improve the cleaning result.

| | WLX - hygienic conveyor system | Competing technologies |
|-----------------|--|--|
| Electricity | Usage of electricity was 0,8 Ah without and 1,2 Ah with loading | Usage of electricity was 1,2 Ah without and 1,5 Ah with loading. |
| Bends / corners | Normal friction | High friction. Causing temperature up to approx. 40°C |
| Friction / dust | Normal friction. Small amount of dust is applicable and within tolerance of customer. | We did not had the option to check the dust of competitor. |
| Safety | Safe. Focus on eliminating all safety risks | Poor safety engineering |
| Design | Standardized design, modular and flexible | No standardization, difficult to change |



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My name is Danny Parsons. I am the Product Manager for the FMCG segments at FlexLink and am based in Milton Keynes (UK). I have been working at FlexLink for more than 18 years, and have over 25 years of experience in FMCG; from design and product engineering to project and product management. My interests outside of my family include maintaining a fit and healthy lifestyle with a keen interest in football as a player, coach and fan.