



Compressed Air Systems for the Food and Beverage Industry

Purchase the Wrong Compressor and Get Dangerous Food Additives for Free

Contamination is something that can happen intentionally or accidentally. Either way, an unwanted substance polluting your compressed air system can remain undetected until it is too late, causing big problems to your product quality or brand reputation. Here are just a few ways contamination can occur:



Solid particulates like pipe scale, ambient dust or dirt can infiltrate your system



Moisture that creates the perfect environment for fungi and microbes can accumulate and make both direct and indirect contact with the food you are packaging or processing



Oil contamination can occur from insufficient or improperly maintained filtration systems or poor air intake such as a loading dock with diesel engine fumes



Caustic gases like sulfur oxides, nitrogen oxides and chlorine compounds cause corrosion

What It Can Cost You

Product Spoilage

Contaminated compressed air can ruin products, resulting in expensive waste and scrap as well as broken customer promises.

Product Recalls and Liability

Contamination can also cause damage to your reputation and to profitability due to costly recalls or liability.

Expensive Downtime

A failure at any point can reduce productivity, prevent on-time deliveries or even shut down your operation.

Higher Operating Costs

Save a little money up front on the wrong compressor and you can end up spending too much every month in energy, materials and maintenance.

Reduced System Life

Particulates can damage your equipment as well as produce volatile and hazardous compounds. Gone unchecked, the lifecycle of your equipment will diminish rapidly over a short period of time.

Managing Compressed Air Contamination Risk

High-quality compressed air is essential to food and beverage production, leaving little room for error. The goal of food and beverage manufacturers is to provide products that are reliable and safe. In order to do this, a risk assessment should be performed before choosing a compressed air system.

Because the FDA does not stipulate specific compressor types for the food and beverage industry, both oil-free and oil-flooded air compressor systems can be used. Ingersoll Rand offers three common compressed air system designs that will help you minimize the risk of contamination before it has the chance to happen:

Oil-Flooded with Synthetic Lubricant

This system uses built-in separators and downstream filters to remove oil. Initial costs are low; however, it requires more maintenance and constant system monitoring to ensure consistent, contaminant-free air.

Oil-Flooded with Food-Grade Lubricant

Replacing synthetic oil with FDA-approved food-grade oil reduces the risk of contamination in the system. These products comply to USDA H1-F and FDA 21-CFR standards and should be Kosher Pareve and Halal certified. However, acquisition and maintenance costs are slightly higher.

Certified Oil-Free System

An oil-free air system has the highest start-up acquisition cost of the three, but offers the lowest risk. There is no oil in the compression chamber, posing no threat of contamination – especially important if compressed air is in direct contact with your production process. These systems have reduced maintenance costs due to the elimination of oil in the compression process.



More Than Just Compressed Air...It's a Systems Partnership

Choosing the right system is an important decision. That's why we offer:

- Dryers and filters to eliminate moisture and particulates
- Antimicrobial Ultra FG food-grade lubricant to reduce risk, with an industry-leading 6,000-hour life
- SimplAir aluminum piping to provide superior corrosion resistance and prevent oxidation
- Chemical filtration to remove gaseous contaminants that cause corrosion
- Comprehensive services that mitigate risk, such as risk assessment, system design and turnkey project management

Introduce contamination and you invite risk. Every decision you make when purchasing your next compressed air system must protect the consumer. Make sure you choose the right system for your specific application.



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