

## Food Processing for Sustainable Agriculture

### Focus:

Since the mid 1800's this generational family business has stood the test of time by offering high-quality food from sustainable agriculture. They are a global leader in inspiring a transition toward a plant-based diet with the goal of maximizing health.

### Challenge:

Their existing installation was having issues with air quality at point-of-use applications. An SQF (Safe Quality Food) audit found them out of compliance. The existing installation used inexpensive 5-micron filters on their process lines.

### Solution:

They purchased a Parker membrane compressed air dryer and three stage Parker 6000 series sterile air filters that were sized to meet maximum flow demand. Since the filters were going to be in a wash down area stainless steel housings were chosen.

### Impact:

They are now meeting and exceeding SQF guidelines for sterile air at point of use and are achieving a filtration efficiency of 99.999% down to .01 microns compared to the previous rating of 5 microns. Their air quality at point-of-use applications is now consistent in quality.



**Project Name:** Food Processing Plant

**Location:** Northeastern United States

### Summary

A food processing plant in the Northeast was utilizing compressed air in their daily production of fresh food, however the existing installation was not specified correctly to comply with SQF (Safe Quality Food) audits and was producing very low-quality compressed air at point-of-use applications which in turn produces a low-quality product. In food processing applications clean, dry air is required. The SQF specification calls out a filtration efficiency of 99.999% and down to .01 microns. Additionally, stainless steel housings were needed in wash down areas to protect against aggressive chemicals that are used in the wash down process.

### Challenge

Compressed air is often referred to as the fourth utility as it is the only utility that is generated on-site and is the responsibility of the user to maintain its quality. Throughout the facility compressed air was used for general purpose and point-of-use applications. Low-quality compressed air results in low quality products. Although high-quality compressed air comes at a cost, it is nowhere near the cost of a company's reputation.

### Solution

This food processing plant worked with a Parker distributor to size a system that would maintain compliance with SQF audits, manage peak demand, and produce superior compressed air quality for point of use applications within the plant. This Parker distributor was familiar with the customer's requirements because he previously worked with additional plant locations for the customer.

The membrane dryer allowed the customer to achieve a  $-40^{\circ}\text{F}$  dewpoint by removing water vapor found in the compressed air stream. The three-stage filtration system was sized to meet the customer flow demand. The first stage in a 3-stage sterile air system removes large quantities of oil, water, and dirt. The second stage removes trace quantities of oil and dirt. The third stage removes bacteria. These three stages are in full compliance with FDA requirements and are USDA/FSIS accepted. In conjunction with the membrane dryer this installation will produce clean, dry air to the entire system. This food processing plant can rest assured that their family business can produce high quality food for generations to come.

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### Stainless Steel Air Filters 6000 Series

The Parker 6000 Series is constructed of 304 stainless steel designed to hold up to the harshest environments for many years of trouble free service.

Harsh environments can lead to problems with the reliability, integrity, and maintenance of process components. Facility equipment and components can be subjected to accelerated corrosion leading to short service life and frequent maintenance. This results in high maintenance costs, replacement costs, and unpredictable production downtime. To minimize these high costs, the equipment and components are typically constructed of stainless steel which will hold up against chemical and vapor attack.



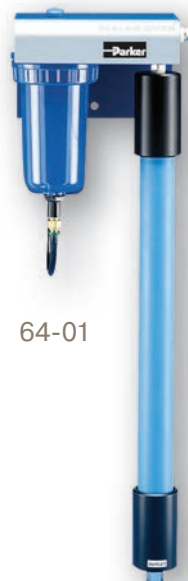
#### Features and Benefits

- Removes all viable organisms
- Removes all moisture and particulate contamination
- Has full compliance with FDA requirements
- Able to meet the flows of a variety of applications
- In full compliance with USDA requirements
- Stainless steel housing

### Membrane Air Dryers 64-01, 02, & 03

The Parker 64-01, 64-02, and 64-10 Membrane Air Dryers will supply oil and particulate-free dry compressed air to dewpoints as low as  $-40^{\circ}\text{F}$ , and at flow rates of up to 25 SCFM.

- Dry air for hazardous areas
- No electricity required - low operating costs
- No refrigerants or freons - environmentally sound
- Explosion proof
- No moving parts or motors - silent operation



64-01

The membrane air dryers are engineered for easy installation, operation, and long term reliability. They incorporate the highest efficiency membrane available, offering low cost operation and minimal maintenance. The dryers are lightweight, compact, can be easily installed on an existing air line and require no electrical connections, making them ideal for remote and point-of-use installations or those in hazardous areas.

If oxygen is not a concern, the air dryer is ideal for all laboratory applications requiring ultra-dry, purified compressed gas.

Water vapor quickly permeates the membrane, and is released harmlessly to atmosphere. Air flows along the membrane fiber as a separate product stream.

