



# Vacuum solutions for food processing and packaging



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Used in food packaging for more than 70 years, vacuum plays a crucial role in a variety of food packaging processes. Latest advancement in packaging at international level contributing to significant improvement in product quality, safety and freshness. Combining efficiency and accuracy of vacuum supply for low to high volume packaging lines is very tricky.

When you need solutions to support your vacuum and low pressure applications, you'll want expert partners that will give you all the benefit of their experience and knowledge.

## Powering your productivity with...

- ❖ **Compliance: ISO 22000.** ISO and its member countries used the Quality Management System approach, and tailored it to apply to Food Safety, incorporating the widely used and proven HACCP principles and Good Manufacturing Principles (addressed

by Prerequisite Programs in ISO 22000).

All our products come fully certified and our experts with you to ensure you have necessary compliance for the Food & Beverage Industry.

- ❖ **Process Quality Improvements:** Air quality is particularly important in a food and beverage manufacturing environment. Our vacuum experts can help you improve the quality and reliability of your vacuum supply.
- ❖ **Complete Vacuum Solutions:** Gardner Denver have the widest range of vacuum technologies available in the market, including both oil free and lubricated technology options.
- ❖ **Vacuum Advice & Expertise:** Gardner Denver can help identify and reduce any risks through a free site survey, which may extend to working with the production team to ensure the equipment is included in the HACCP assessment.

- ❖ **Support Before, During & After:** We pride ourselves in offering exceptional after sales care. We work with you to offer timely, predictive maintenance using high quality genuine spares to keep you up and running no matter what.

## Solutions for Vacuum Applications

### Oil Free Vacuum Pumps

**Go Oil Free:** Choose an oil-free vacuum pump specifically developed to meet the needs of manufacturers requiring only the highest air purity standards. Oil-free vacuum pumps don't require the same level of maintenance as oil-lubricated models, as there is no need to replace oil or filters.

This also provides the added benefit of cutting down on costs over a pump's lifetime. Another major advantage to an oil-free vacuum pump is that it doesn't

have to be removed to carry out maintenance. This means a dramatic reduction in equipment downtime and associated costs from oil, waste oil disposal or labor.

With the focus on air quality only likely to increase as time goes on, there's real potential for those operating in production sensitive environments to reap the rewards of oil-free vacuum pumps.

### Oil Lubricated Vacuum Pumps

High Volumetric Efficiency at Low Power Consumption: The Elmo Rietschle oil lubricated pumps have been the favorite choice for food packaging vacuum applications over many years now. Listening to the voice of our customers we have redesigned this successful industry classic.

### Best Practices: Key Tips for Preventing Contamination

- ❖ **Fit Downstream Exhaust Filters:** This safeguards against oil discharging from the exhaust or oil carryover from the pump, which could contaminate food. Check filters regularly to ensure that they are not blocked.
- ❖ **Carry Out Regular and Timely Maintenance:** This ensures that pumps operate at peak efficiency with little or no oil carryover and have an optimum life span.
- ❖ **Use Food-Grade Lubricant:** Even when procedures are very rigorous, trace amounts of lubricant can and do come in contact with surfaces, packaging or the food itself.

- ❖ Avoid risks to health, taste and smell and ensure regulatory compliance by using a food-grade lubricant, which has no harmful effects.
- ❖ **Always Use Genuine Parts:** In oil-lubricated vacuum pumps, genuine parts dramatically reduce the risk of oil being discharged from the exhaust and of a separator element failing
- ❖ **Go Oil Free:** With oil-free vacuum pumps there is no risk of oil discharging from the exhaust, and no risk of oil carrying over.

As there is no need to replace oil or filters, they also require less maintenance than oil-lubricated models, which in turn significantly reduces whole life costs

### Vacuum Applications for Food Packaging

- ❖ **Filling and Closing Machines:** When bottling beverages, cosmetic or pharmaceutical products, the bottle is at first evacuated before being filled to make sure the product reaches the customer in good quality. Machines used for applications in the food industry are, in most cases, made from stainless steel.
- ❖ **Food Packaging:** Air and the oxygen that air contains have harmful effects on the quality and durability of fresh food. For this reason, many processes need evacuation. The classic vacuum application in this field is vacuum packaging. Before sealing, a vacuum pump evacuates the air out of the packet. Vacuum pumps are used in numerous packaging machines for industrial use, e.g. Chamber machines, forming machines,

Carousel machines and Tray sealing machines.

- ❖ **Forming:** For vacuum forming, an additional pump is needed at that part of the machine.
- ❖ **Modified Atmospheric Packaging (MAP):** The surrounding pressure exerts a mechanical influence on the product that can greatly alter the external shape.

For this reason, the MAP process has been the method of choice in many application areas. In this process, products are packaged in modified atmosphere and the oxygen removed. The product is enclosed in a blister package, placed in the vacuum chamber and evacuated. The modified atmosphere is then injected and the blister package and food are sealed with a protective film.

Using this method, the food retains its original shape and meats present a suitably red appearance to customers, even after extended storage.

- ❖ Tray Sealing
- ❖ Generating a vacuum and sealing the bag or
- ❖ Feeding inert gas and sealing the bag afterwards

Elmo Rietschle is part of Gardner Denver, Inc., a leading global manufacturer of highly engineered products. Rastgar Air Compressors is authorized distributor of Elmo Rietschle vacuum pumps in Pakistan with complete after sales support and service facilities. Learn more at [www.rastgar-co.com](http://www.rastgar-co.com) ♦

