
Protect liquid food with overpressure

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Minimizing risks during the processing of such sensitive foodstuffs requires a high level of hygiene - whether for milk or liquids containing milk, cream, raw fruit juices, vegan soy drinks, liquid egg, sugar-free lemonades. A gateway for bacteria, yeasts and fungal spores can be silos and tanks where liquid foods are temporarily stored prior to further processing or filling. One potential source of contamination is impure air that enters the tanks through open vents, for example.

The TPU 500 tank overpressure system effectively and permanently keeps germs and harmful particles away from the valuable liquid goods. The hygienic air quality thus created avoids rejects, protects products from spoilage and the health of consumers. It ensures high product quality and long shelf life. The latter is particularly important when liquid foods are pasteurized or subjected to complex further processing, such as fresh milk to yogurt, quark and cheese or liquid egg to baked goods and convenience products.

Freudenberg Filtration Technologies offers food manufacturing and processing companies a wide range of filtration materials and filter models in liquid and air filtration and dust removal technology. This is complemented by comprehensive consulting and services right through to engineering system solutions. The new TPU 500 tank overpressure system - the abbreviation TPU stands for Tank Pressure Unit - is one of these latter complete systems from a single source.

Contamination-free air blanket forms safety corridor

Its basic principle is as simple as it is sophisticated in detail. The TPU 500 system creates an air blanket free of bacteria, yeasts and molds above the liquid raw, intermediate and end products. A slight overpressure in this air blanket ensures that no impure outside air comes into contact with the food - even when emptying the tanks and silos. Incidentally, Freudenberg's hygiene protection system works just as reliably in filling plants in the beverage and food industries.

The man-sized modular design consists of fully welded stainless steel housing sections connected with locking latches; each system can be customized to meet specific on-site specifications and requirements. The modularity allows for easy and safe replacement of air filters. The continuous volume flow of the system regulates itself fully automatically. The TPU 500 unit continuously monitors the pressure development and indicates necessary filter changes to operators in good time - for optimized production processes and results in food manufacturing.

Two filter stages for controlled air quality

Speaking of filters. At the heart of the system is the Group's filter technology, which has been tried and tested in the food and beverage industry. Two filter stages consisting of reliable prefilters and high-separation final filters produce the hygienic air quality. The exact filter configuration varies depending on the application and local conditions. All the filter series in question are microbiologically inactive and harmless in contact with foodstuffs. They meet the relevant food conformity standards and comply with the relevant recommendations of the European Hygienic Engineering and Design Group (EHEDG doc. 47).