

How a quality air dryer with dew point monitoring prevents condensation

Application in a silo trailer

Overview

How to prevent condensation in a silo trailer and thus the growth of bacteria or germs?

The answer lies in a new innovation developed by Ants Technology & Consulting: a high-quality air dryer to improve the air quality in the silo trailer. The project is realized in cooperation with Van den Bosch Transport B.V. in Erp (NL).

Approach

The air dryer is equipped with an activated carbon filter so that the incoming air is filtered. As a result, the air is of better quality than the outside air that is still present in the trailer due to the charging process.

The system draws in outside air, filters and dries it and blows it into the trailer. The unfiltered and possibly humid air in the trailer is discharged. This optimizes the air quality in the trailer and prevents condensation. Another advantage is that the risk of residual charges and the risk of bacterial and/or germ growth is greatly reduced.



Since the beginning of 2021, a semi-trailer has been equipped with the dryer/filter system mentioned above. Great importance was attached to hygiene and food safety during construction, e.g. the avoidance of protruding parts and bumps and the use of food-safe materials.

SUTO Dew Point Monitoring

An essential part of the system is the measurement and storage of data on the relative humidity and the pressure dew point. The clean, dry air that is blown into the silo and the moist air that is blown out of the silo is monitored by two SUTO S217 pressure dew point sensors connected to the SUTO S331 data logger.



S217 Dew Point Sensor



S331 Data Logger

www.suto-itec.com



Advantages

The permanent removal of moisture from the silo has led to:

- ✓ The cleaning interval of the silo has been extended considerably.
- ✓ After cleaning, the silo is immediately flushed with dry and clean air, removing the residual moisture from the cleaning process.
- ✓ Adhering product residues on the walls are rare or non-existent.
- ✓ The inside of the silo wall is dry, no condensate.
- ✓ The product is more "liquid", which improves the discharge time.
- ✓ Fewer lumps in the product, a significant quality improvement that is also noticed by the buyer.
- ✓ The risk of bacterial growth is significantly reduced. No rejection of whole loads.

Partner

The Compressed Air Specialist

Ants Technology & Consulting BV is a professional, independent compressed air specialist for a variety of industrial processes. Together with the customer, Ants develops individual and optimal measurement and monitoring solutions for different applications and needs.

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