

New compressed air quality classes

Fresh air standards

Compressed air preparation is not exactly a hot topic for plant operators. Yet poor compressed air quality causes wear to high-quality pneumatic valves and drives and also reduces machine availability. Now a new ISO standard is putting the topic of compressed air preparation back on the agenda. So for help in selecting service units to achieve the right compressed air quality class, look no further than Festo.

Contaminated compressed air in service units causes faster wearing of seals, oiled-up valves in the control section and dirty silencers. This decreases the availability of the machines and the service life of the pneumatic components and systems, and increases the energy costs due to leakage and the maintenance required.

Standard air quality classes with ISO

The topic of compressed air quality gained a new and official status in 2010 with ISO 8573, a series of international standards designed to ensure the purity of compressed air. The standard 8573-1 defines the maximum permissible contaminant content for the respective compressed air quality classes.



“If you want to increase your machine availability, you need to go right back to the beginning and take a close look at your compressed air supply.”

Dieter Ade, Product Management
Air Preparation, Festo



Eight compressed air quality classes and their solutions:

Applications range from opencast mining to food production.

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Which compressed air quality class is required for which applications? And which compressed air preparation products are needed for that class? There are considerable differences between the compressed air quality classes, with eight classes ranging from the simplest applications (e.g. in opencast mining where the only requirement is for most of the condensate to be removed from the compressed air) to highly sensitive applications in food production.

Perfectly filtered

Filters are not needed for applications where the compressed air does not need to be particle-free. For general applications requiring air without any condensate, the water separator from the MS service unit series is sufficient. Filters with a grade of filtration of at least 40 m are needed for standard requirements for compressed air as per the second compressed air quality class. Examples are applications where compressed air is used as the operating medium for valves and cylinders or for handling secondary packaging for food.

The number of filters increases with the demands of the application and the compressed air quality class. Applications for servopneumatic positioning and compressed air tools require filtration with 5 m. Highly sensitive applications in the semiconductor or pharmaceutical industry demand a filter cascade with at least four filters. Depending on the requirement for process reliability, up to six filters are used.

Air humidity plays an important role in applications where the compressed air comes into direct contact with dry foods, for example during transport or mixing. In these cases, the applicable compressed air quality class requires the use of an adsorption in the service unit in addition to filters. This protects both the quality of the food and the health of the consumers. ■

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Perfect compressed air preparation

We're there where you need us



More detailed advice on compressed air efficiency is available from our sales engineers and Festo's technical hotline. With seminars and in-house training courses on site, Festo Didactic brings knowledge where you need it. The brochure "Reliable processes thanks to perfect compressed air preparation" from Festo provides an overview of the compressed air quality classes as well as the corresponding products for compressed air preparation in a clear tabular layout – simply download it from the Support portal or request it from the Festo information service 2.11-02.

* Class according to ISO 8573-1:2010 at room temperature.