

# EVERAIR

filtration & drying solutions  
made in germany

Innovative product and system solutions  
for the purification of compressed air  
and technical gases  
made in germany



- 03 EVERAIR – Passion for Progress
- 04 Compressed air filtration: microfilters with threaded and flanged connections
- 05 Compressed air filtration: sterile, process and steam filtration
- 06 Heatless adsorption dryers
- 08 Heat regenerated adsorption dryers
- 09 Heat of Compression dryers
- 10 Engineered solutions – Special systems



Frank Mueller  
Managing Director  
EVERAIR GmbH



# Passion for Progress

**When the attention to the detail reaches its limits, then it is time to improve the proven with technical expertise in order to make the best even better.**

**EVERAIR** GmbH has his roots in Dortmund (Germany) and is well known in the compressed air industry as an innovative company for several years. After being established in 2009 **EVERAIR** GmbH focused on the technical support for its Asian distribution network at first. With innovative and highly efficient solutions **EVERAIR** was able to quickly establish a dominant position in the Asian market. At the start of the fiscal year 2016 and the related move into new offices in Willich, near Duesseldorf, **EVERAIR** GmbH has resumed business activities in Germany. At its new location **EVERAIR** GmbH develops, plans, and manufactures systems and filtration solutions to purify compressed air and technical gases. The main business is in adsorption drying, particularly in application-specific solutions. The

newly developed series of adsorption dryers use a modular design and are characterized by supreme operating efficiency and unbeatable reliability. They can be easily adapted to any specific customer requirements. The core business of **EVERAIR** GmbH also includes systems requiring individual design and project management due to their size or special layout. The engineering team has a lot of experience with the technology of large and special systems. The company is managed by Frank Mueller, worldwide well known as an expert in adsorption drying technology. The product and service portfolio is completed by an already long lasting strategic partnership with KSI Filtertechnik GmbH.



Even the simplest things in life need attention.  
Play safe!  
High-performance filters from EVERAIR

EVERAIR industrial filters reliably remove rust and dust particles, water and oil droplets, and even oil aerosols, which are accumulated in large quantities after the process of compression.



A wide range of filtration efficiencies and flow capacities covers customized solutions for every application.

### Why EVERAIR compressed air filters?

EVERAIR industrial filters have been specially developed to protect processes and production equipment from contaminants and the damage they cause. They feature high efficiency and long lifetime maintaining at low differential pressure. The easy-to-service design is clearly visible.

### Industrial Filter product range

- » **Filter housings** in aluminum, carbon steel and stainless steel versions
- » **High pressure filter housings** (up to 500 bar)
- » **Cyclone separators**
- » **Industrial filters:** industrial-grade depth and surface filters
- » High quality **replacement filters** for other brands

# EVERAIR sterile and process filters meet the highest standards

## Free of bacteria, viruses and microorganisms

Sterile and process filters from **EVERAIR** meet and exceed the high standards of the food and pharmaceutical industries. The unique filter housing system with various DIN and ANSI connection types meets all the specifications of global markets.

While a certain particle-free level is sufficient for normal compressed air applications, the food and beverage industry - and the pharmaceutical industry in particular - have special requirements for the compressed air quality. Just the remove of particles is not sufficient. The compressed air must be free of bacteria, viruses and microorganisms. Sterile and process filters from **EVERAIR** must be used. Sterile and process filters from **EVERAIR** have an excellent resistance to steam and aggressive media, which guarantees a distinctively longer life time.

## Steam filter for sterilisation

Steam is often used for the required regularly recurring sterilization process. The purity of the steam is ensured by means of steam filters. The steam filters are made from a regenerative sintered stainless steel filter tube with generally welded filter endcaps. Here again, steam filters from **EVERAIR** set the standard for reliability and efficiency.



## Sterile and Process Filter product range

- » **Process filter housing** made of electropolished stainless steel (various connection types)
- » **Process-quality industrial filters:** stainless-steel depth filters for particle filtration in process
- » **Sterile filter:** sterilizable process-quality depth filters for compressed air and technical gases
- » **Steam filter:** Sintered stainless steel filters for particle filtration in steam applications, up to generating culinary steam quality

## EVERAIR High-performance filters

Do the special requirements of your compressed air system require a special solution?

We will be happy to provide advice and work with you to develop a customized solution for your application.



A man in a dark jacket is working on a large blue industrial tank. He is using a long metal rod to adjust a component on the tank. A green overhead crane is visible above him. The background is a bright, industrial setting.

The best thing about it  
is not just the dryness afterwards.  
Adsorption dryers from a good family,  
an enrichment to any purification solution.



After compressed air is cooled and condensate is removed, it leaves the compressor in a moisture-saturated condition. As the compressed air cools down further in the downstream pipework, additional condensate is usually formed. This leads to negative side effects such as corrosion, icing, and high maintenance costs for the compressed air system. Drying compressed air is therefore a mandatory requirement of any compressed air purification system. If lower pressure dew points are required, adsorption dryers are applied.

## Product range

- » Heatless adsorption dryers in compact aluminum design up to 110 m<sup>3</sup>/h <sup>1)</sup>
- » Heatless adsorption dryers in open frame design with welded vessels up to 10.000 m<sup>3</sup>/h <sup>1)2)</sup>
- » Activated carbon tower up to 10.000 m<sup>3</sup>/h <sup>1)2)</sup>
- » Breathing air units for technical and medical breathing air
- » Heatless high pressure adsorption dryers and activated carbon towers up to 500 bar operating pressure
- » Heat regenerative adsorption dryers with blower regeneration, up to 10.000 m<sup>3</sup>/h <sup>1)2)</sup>
- » Heat of compression adsorption dryers up to 10.000 m<sup>3</sup>/h <sup>1)2)</sup>
- » Adsorption dryers - large and special systems up to more than 100.000 m<sup>3</sup>/h <sup>1)</sup>

1) based on 1 bar abs., 20 °C compressor intake conditions, at 7 bar g operating pressure

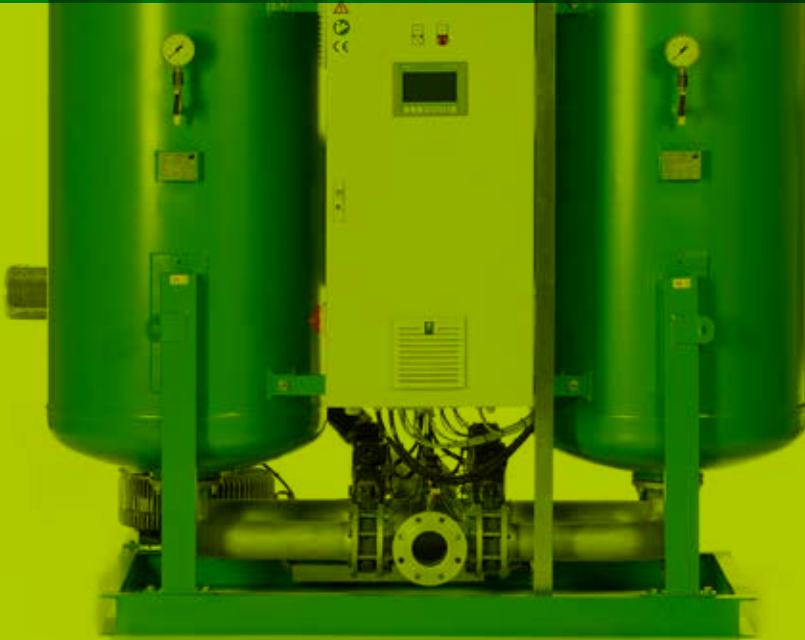
2) higher flow rates available upon request

## Functionality

In an adsorption dryer, the compressed air to be dried flows through a layer of desiccant removing the moisture by adsorption. The adsorption capacity of the desiccant is limited. Therefore a changeover to the second alternating adsorption vessel takes place before the critical load limit is reached. The adsorption vessel that is fully loaded with moisture is entering then the regeneration process. The regeneration time is always shorter than the adsorption time of the operating vessel, so that the continuous supply of dried compressed air to the point of use is guaranteed all the time.

## Premium quality „made in germany“

The heat regenerative adsorption dryers in the EVERAIR SERVODRY® series are uniquely innovative, unbeatably efficient, and remarkably reliable. They can also be individually adapted to any requirements and conditions.



# EVERAIR SERVODRY® Adsorption dryers with blower regeneration, the measure of all things.

LOOP version for low dew points and/or tropical conditions can be easily retrofitted due to the modular design.

## Customized Drying Solutions based on a modular system design

With the modular design concept, standardized systems can be individually adapted to customer-specific requirements or local conditions, such as environmental factors. This is where the strength of EVERAIR GmbH is really evident, with a team that can provide a customized solution based on an outstanding experience with compressed air purification systems to meet customers'

## Added value due to operating efficiency and reliability

The composition and continuous further development of existing, proven drying technologies are the foundation of the new EVERAIR SERVODRY® series of adsorption dryers. Using the state-of-the-art control systems and continuously optimized drying processes guarantee the technical advantage for these novel system solutions, which will once again define the market for adsorption dryers. When selecting components, reliability and durability are given the highest priority. Products from leading German and European manufacturers that demonstrably meet high quality standards are used exclusively. The result is an extremely high operational safety, unique reliability, and very low energy costs: an added value for any compressed air station.



individual needs. An elaborated concept and optimized production procedures sustainably reduce the production complexity and associated manufacturing costs, so that a customized system solution from EVERAIR regularly has lower investment costs than a comparable off-the-shelf adsorption dryer available in the market.



## Low dew points without energy demand

Adsorption dryers in the EVERAIR RECODRY® series are unbeatable in energy savings, as they use the heat of compression from the compressor for regeneration.

# EVERAIR RECODRY® Heat of Compression adsorption dryers

Wherever compressed air generated by a non-lubricated compressor is applied and a stable, low pressure dew point is required, the use of an **EVERAIR RECODRY®** adsorption dryer should be considered. In addition to tremendous energy savings, these systems have particularly high reliability and an extremely long life time for all components, because every part of the system works under operating pressure in all process phases, so they are not subjected to alternating pressure loads.



## Perfectly designed system concept

In contrast to the typical adsorption dryers in the market that use the heat of compression, **EVERAIR RECODRY®** adsorption dryers do not need complicated adjustment of the regeneration volume flow rate. Due to the system concept, several compressors can also be connected to one single dryer; the system works reliably even if only one compressor is in use, so it is suitable for partial flows without limitation.

These systems can also be modified with devices such as booster heater, so that the regeneration conditions defined by the compressor and the environment can be improved such that lower pressure dew points, down to  $-70^{\circ}\text{C}$ , can be achieved.

Give us a challenge,  
we are looking forward to your assignment!



Large units  
Special units  
Special design

Contact us – we will find a solution.

No matter how large, no matter how special, EVERAIR develops the best solution for any application and requirement.

### Maximum flexibility

The standard adsorption dryer series are design to fundamentally meet all international technical specifications. This makes the local required approvals and authorization easy to complete. EVERAIR works together with vessels manufactures who have extensive approvals and certifications. This makes it easy to implement special vessel approvals such as ASME u-stamp (USA), TR TS (Russia) and SELO (China). Compliance with individual factory standards is also part of a day's work when handling projects. All of the components used can be modified or replaced to suit any customer requirements. Internalelectricalandcontrolsystemengineering, along with in-house control panel construction, guarantee maximum flexibility to implement every customer requirement smoothly.



Due the experience of EVERAIR's engineering team in design and project handling of large and special systems EVERAIR GmbH is also first address to contact for improvement of already installed systems. The engineering team is specialized particularly in what are known as heat-of-compression dryers, recovering the heat generated by the compressor for regeneration. While in standard solutions, the normal design with two vessels is used, EVERAIR GmbH has implemented the concept of a 3-vessel design for large flow rates into the product portfolio on the basis of its unique expert knowledge with such systems.



**EVERAIR** GmbH

Siemensring 56  
D-47877 Willich

T +49 2154 89146-0  
F +49 2154 89146-280  
mail@everair.com

[www.everair.com](http://www.everair.com)