



Delair® Standard Adsorption dryers

Introduction

Compressed air is a widely used source of energy and power. For the production process to function properly, the compressed air must above all be clean and dry. Filters trap dust, oil and other contaminants. Dryers remove water (vapour) from systems. Moisture, dirt and dust in the airflow can cause costly problems, such as wear and increasing maintenance on pneumatic systems, blocked precision apertures, loss of control or total failure. Moisture in process applications can have a negative impact on a product or initiate an undesirable chemical reaction. At sub-zero temperatures the moisture in compressed air lines freezes.

Your best choice is a Delair® desiccant dryer. Delair® desiccant compressed air dryers remove water vapour down to a dewpoint as low as -70°C .

Under the Delair® brand name, Flair develops and manufactures a complete range of desiccant dryers for every desired compressed air quality.



cold regenerative Euro-dry

Desiccant compressed air dryers

In desiccant compressed air dryers, water molecules in the airflow are adsorbed by a granular, porous drying agent (desiccant). This desiccant is periodically regenerated. The adsorbed water is expelled. To make continuous operation possible, the air is flowed alternately through two desiccant bed towers in an automatically controlled cycle, with one tower absorbing moisture while the other is off-stream being regenerated. The regeneration method determines the type of desiccant dryer: cold regenerated or heat regenerated.

Cold regenerative desiccant dryers

Cold regenerative desiccant dryers use some of the already dried compressed air to discharge moisture during the regeneration process. No external energy source is used.

Cold regenerative desiccant dryers supply high-quality dry air, with dewpoint suppression down to -40°C (standard) and even as low as -70°C (option). There are 11 models to choose from with various air treatment capacities up to $4,050\text{ m}^3/\text{h}$.

Delair® Euro-dry adsorption dryer

Your advantages:

The Euro-dry 1020 to 2080 are suitable for wall mounting, the Euro-dry 2085 and 2090 for floor installation.

All Euro-dry models have inlet/outlet connections on both sides of the dryer so the unit can be installed with a minimum amount of piping.

With a Deltech® filter the unit is ready for operation.

The Euro-dry is of non-welded construction, therefore no insurance inspection is required. And it is easy to service, just remove four screws and the front panel can be removed.





cold regenerative ZW

The Euro-dry has a high reliability because of high quality equipment and because of the smooth switch-over. Before switching over, each vessel is fully re-pressurized in order to alleviate any "pressure bumps. This feature has the additional benefit of extending desiccant life by reducing attrition (dusting).

Due to the cam timer, which can be switched off at any time, at start up the dryer will continue the cycle from the point at which it was shut down. Thus ensuring a continuous outlet dewpoint.

All Euro-dry adsorption dryers are equipped with deltech[®] HQ-A desiccant. Bed fluidisation is eliminated by the use

of desiccant support screens. The delair[®] Euro-dry has a low noise level, <78dB(A), and makes a perfect point of use dryer.

Delair[®] ZW adsorption dryers

The simplicity of the ZW dryers, coupled with the relatively low number of components, ensures trouble-free operation and minimum maintenance requirements.

For areas where no electricity is available, or a risk of explosion is present, Flair offers these dryers in a fully pneumatic version.

The ZW dryers comply with the CE standard EN286.



deltech[®] filter PF-CF-DF-HF-GF

Benefits:

- Relatively low purchasing costs
- Low maintenance costs (simple construction and controls)
- Exceptionally dry air, dewpoint suppression down to -70°C
- Optional fully pneumatic operation (explosion-proof)
- Suitable for irregular or standby operation



EMS

EMS: Energy Management System

The ZW range of cold regenerative desiccant air dryers can be fitted with an energy saving system which matches the energy consumption for regeneration precisely to the dryer's operating conditions. Energy savings are proportional to the lower loading.



heat regenerative MWE

Heat regenerative desiccant dryers

Flair produces three types of heat regenerative Delair® desiccant air dryers:

- Dryers with internal heating
- Dryers with external heating
- Heat-of-compression dryers

Desiccant dryers with internal heating

Desiccant compressed air dryers with internal heating combine heat from an internal source with a small amount of purge air for the regeneration process. Electric heating elements provide the heat that evaporates the adsorbed moisture. The heating elements are contained in ribbed tubes in order to increase the useful heating surface. In this way a homogeneous heating process is obtained. The purge air (2.2% of the dryer's capacity) is used to discharge the water vapour from the regenerated desiccant bed tower.

Delair® MWE adsorption dryer

MWE dryers are heated internally for the regeneration process by specially shaped and located heating elements which ensure optimum efficiency of the electrically generated thermal energy. The use of an optional dew-point control produces significant energy savings, especially in varying conditions of loading.

In the Delair® MWE series there are 11 models to choose from with air treatment capacities ranging from 245 m³/h up to 4,280 m³/h. The complete adsorption and regeneration cycle of an MWE dryer takes nine hours.

Benefits:

- Lower operating costs
- Less use of compressed air during the regeneration cycle
- Simple and reliable process
- Capacity from 245 to 4,280 m³/h



external heating DB

Desiccant dryers with external heating: delair® DB dryer

A heavy-duty fan draws in the ambient air, whose temperature is then raised by the thermostatically controlled heating. This heated air regenerates the desiccant. At the end of the regeneration process the desiccant is cooled.

Benefits:

- Reliable and economical under all conditions
- Large capacity
- No loss of compressed air
- Constant dewpoint
- Many options possible
- No compressed air loss and no dewpoint peaks
- Pressure loss lower than 0.1 bar
- Operation via PLC system



heat of compression XD

Heat of compression/heatless: delair® XD dryer

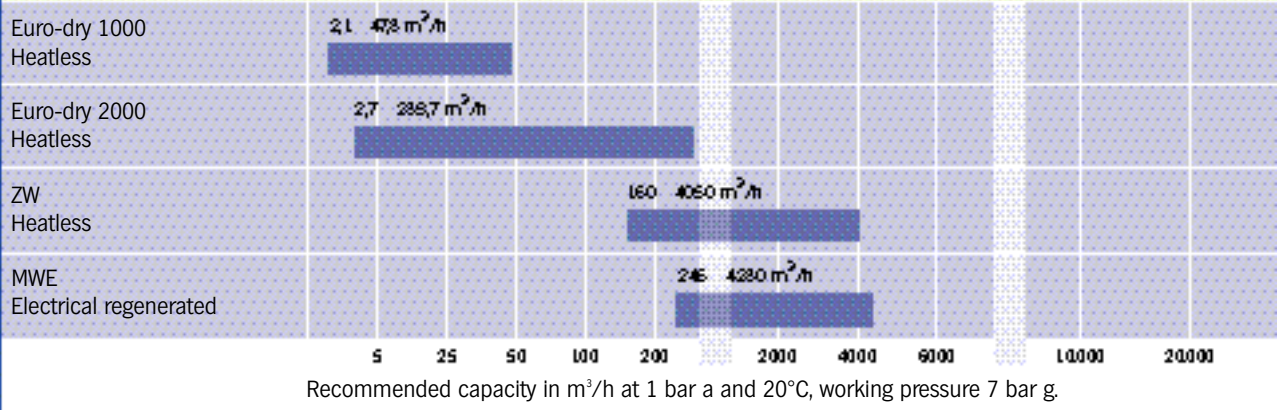
Heat-of-compression/heatless dryers
To dry the desiccant (regeneration) the heat-of-compression dryer (XD) needs no extra energy.

A desiccant dryer which operates on the heat-of-compression principle utilizes the heat which is released when the air is compressed.

Benefits:

- Regeneration principle according to HOC; no extra energy requirement
- Installation without a first filter for preliminary filtration
- No loss of compressed air
- Reliable operation in varying conditions of loading
- Low maintenance costs

Adsorption dryers



Flair After Sales Service

Flair's After Sales Service – embracing spare parts, service and equipment hire – provides total support: for standard compressed air dryers and fully customized dryers for major projects – and for all customers everywhere in the world. Flair's Emergency Call Centre can be reached 24 hours a day, seven days a week. Your call will be answered immediately by one of our After Sales staff.



Flair worldwide

Flair is the world's largest manufacturer of air treatment products. With more than 70 years' experience in the design and development of compressed air, atmospheric air and gas conditioning equipment, the comprehensive range of Flair products can take care of all your air and gas treatment needs. From standard refrigerated dryers, desiccant (absorption) dryers and filters to turnkey systems for projects and full-service contracts. With celebrated brands such as Delair®, Deltech®, Dollinger®, Pneumatic Products® and Technolab®. Equally important, with these brands you are assured of quality: all Flair companies have ISO 9001 certification.

Flair is a member of United Dominion Industries, a conglomerate of industrial manufacturing companies with more than 12,000 employees.



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