

Humidity control at the production of pharmaceutical products

The best way to solve problems at the production of pharmaceutical products

How to stop the processes which deteriorate the quality of pharmaceutical products during production?

How to minimize idle time of equipment and reduce maintenance costs?

How to improve long-term storage and increase shelf-life of pharmaceutical products?

In order to achieve all these goals, it is necessary to reach the optimum humidity during production and storage of products!



Uncontrolled humidity during production and storage creates the following problems:

- Formation of condensed moisture on the surfaces of production equipment (cooling tunnels) and at production facilities.
- Clumping and sticking together of hygroscopic products during pneumatic transportation.
- Adhesion of tablets to each other during coating (which increases volume of waste).
- Low productivity at drying hard and soft gelatin capsules.
- Loss of active components (drying at high temperatures).
- Development of mildew and bacteria on products, at production and storage facilities.
- Adhesion of the packaging material to the product.
- Frequent stops of production equipment for maintenance.
- Failures of electronic and electrical systems.
- Quicker deterioration of bearing constructions of buildings.

The best solution to these problems is to remove excessive moisture by desiccant method during production and storage of pharmaceutical products. This is a smoother method of air drying, which ensures the optimum level of product humidity at low temperatures. It prevents development of bacteria and their spreading through the system of ventilation.

*These tasks are solved by desiccant dehumidifiers of **Desiccant Technologies Group**.*



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The advantages of desiccant dehumidifiers of Desiccant Technologies Group:

- High drying efficiency at a low energy-consumption level.
- Efficient operation at low temperatures.
- Easy installation.
- Small size and low weight.
- Possibility to fully automate the process of humidity control.
- Corrosion-resistant body (stainless steel, aluminum zinc).
- Compliance with all acting Directives and quality standards of the EU.



Desiccant Technologies Group, European manufacturer of high-tech industrial desiccant dehumidifiers well-accounted for in many industries, produces the most advanced equipment for the effective control of air humidity at the production and storage of pharmaceutical products.



Using the desiccant method at production and storage facilities maintains the recommended relative humidity and the necessary airflow conditions, which accelerates production processes.

For example, at the production and coating of tablets or at the drying of granulated products, if the humidity level is controlled by the desiccant method up to 2.2 g/kg, the drying time reduces by 50%.

Use of the desiccant dehumidifier **Desiccant Technologies Group** will effectively control the preset humidity mode at any temperature.



Installation of Desiccant Technologies Group equipment

- reduces the volume of waste at production; sensitive to heat products are dried to the necessary moisture content without deterioration and damage; there is no loss of volatile substances and active ingredients;
- prevents products from sticking onto the conveyor;
- solves problems at pre-packing and packaging;
- prevents mildew;
- reduces idle time caused by stops in the equipment operation;
- prolongs the storage time of finished products;
- saves energy;
- increases productivity, reduces maintenance costs;
- creates the necessary microclimate at production and storage facilities.



How does the desiccant dehumidifier work?

The air which should be dehumidified (process air) goes through the desiccant rotor. Water molecules are adsorbed in a special silicagel rotor.

Desiccant rotor is regenerated by the second air stream preheated to 90-140°C. Moisture is removed from the premises in the form of warm moist air.

