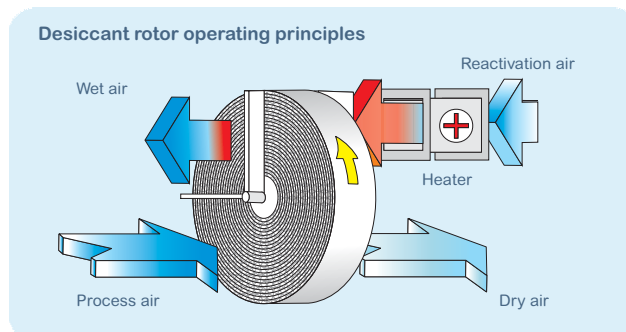




## Confectionery and Chocolate Industry




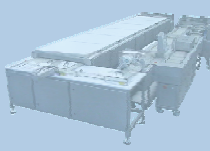

Major benefits can be achieved by using dry air in the production process for chocolates, sweets and confectionery: **increases in production capacities, production unaffected by climatic conditions, and excellent product quality.**

The influence of humidity is of extreme importance in seasons other than winter: drying cycles lengthen, packaging equipment gets blocked, products become sticky, etc. By **using FISAIR dehumidifiers** all these problems can be eliminated or reduced through the provision of an ideal environment at every stage of the production process.





## Problems arising in the confectionery industry in the absence of humidity control

				
<p><b>Pneumatic transport and storage</b></p> <p>Sugar, cocoa, starch, flavouring and other raw materials are stored in silos and hoppers</p> <p>In this case the dehumidifiers:</p> <ul style="list-style-type: none"> <li>• Prevent condensation inside silos resulting from temperature changes (nigh/day for example), and the growth of bacteria and moulds.</li> <li>• Ensure the uniform flow of products and uninterrupted production processes.</li> </ul>	<p><b>Sweet making process</b></p> <p>The provision of dry air during the process means:</p> <ul style="list-style-type: none"> <li>• Faster water evaporation, improved drying phase, and the same production capacity throughout the year (without dependence on exterior weather conditions).</li> <li>• Reduction in losses because of waste.</li> <li>• Production and maintenance cost reductions.</li> </ul>	<p><b>Product drying</b></p> <p>Using the Fisair units:</p> <ul style="list-style-type: none"> <li>• High drying temperatures are avoided.</li> <li>• Product properties are maintained.</li> </ul> <p>Dehumidificacion enables the maintenance of the drying processes, even at low temperatures, and improves production efficiency.</p>	<p><b>Cooling tunnels</b></p> <p>Dew points are reduced inside tunnels when a Fisair dehumidifier is installed:</p> <ul style="list-style-type: none"> <li>• Temperature reductions without a risk of condensation forming on products, dripping, or the formation of ice in the cooling coils.</li> <li>• Improved cooling means products solidify quicker.</li> <li>• Faster movement through the tunnel increases its capacity.</li> </ul>	<p><b>Packaging process</b></p> <p>The inyection of dry air in the packaging areas:</p> <ul style="list-style-type: none"> <li>• Reduces stoppage times for cleaning and washing machinery blocked by deposits or sticky products.</li> <li>• Improves product quality by preventing sticking to wrapping paper.</li> <li>• Improves product conservation and quality.</li> </ul>

### Case study: Chocolate

A common problem encountered when handling chocolate is the chocolate crystallization effect. This occurs when sugar crystallizes on its surface because of condensation or when the cold product is moved to a warmer area and the fat in the cocoa crystallizes on the surface.

A FISAIR dehumidifier in a cooling chamber helps:

- Prevent condensation, hygiene and crystallization problems
- Protect the softening of packaging
- Maintain the quality of the product

The atmosphere in the warehouse is controlled and monitored on a daily basis, to maintain these strict conditions: +5°C/55% HR. These conditions enable the maintenance of the original freshness and quality of the products, with no product loss resulting from humidity.



The German multinational par excellence in the confectionery sector, Haribo, employs Fisair DFRA-0175E air dehumidifiers for its cooling tunnels in its plant in Gerona, Spain.