



Bry-Air

Dehumidification Application

The choice for
desiccant dehumidification®
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SOFT GELATIN CAPSULE MANUFACTURING

Bry-Air environmental control systems allow for consistent control to efficiently prevent the effects of humidity on gel capsules



Photo Courtesy of MCT Direct

In the manufacturing of soft gelatin capsules the capsulating process works in the following manner: warm liquid gelatin is spread over a slowly revolving stainless steel drum which is about 24" in diameter. This drum is exposed to 400 CFM of 57-59°F air at 20% RH. The cool, dry air congeals the gelatin as the drum rotates so that a tacky, elastic band rolls off of the other end. This thin band is then automatically formed into capsules; filled with medicine, vitamins or other products; sealed; and dropped into a tray.



Photo Courtesy of MCT Direct

If the air blowing against the drum has too low a temperature, the gelatin will set too rapidly and become brittle which can cause the manufacturing process to grind to a halt. Too high of an air velocity will disturb the consistent thickness of the gelatin ribbon being formed. If the air temperature and humidity are too high, or the air velocity is too low, the gelatin will not solidify into a ribbon. Thus, the need for constant control of the air being introduced to the drum is critical in the process.

From the capsulating machines, the soft, moist capsules are transferred to drying drums or chambers for rapid drying. The extent of moisture to be removed during drying depends upon the size of the capsule, the number of capsules, and the period of time over which this moisture can be removed. Typically the environment to be maintained for effective and rapid drying corresponds to a dew point of 25° F or an absolute humidity level of 20 grains per pound of air.

The following are typical design conditions:

Temperature	Humidity
78°F	15% RH
68°F	20% RH

In order to achieve the controlled air requirement listed above, refrigeration equipment alone becomes uneconomical, impractical and cumbersome to design, operate and maintain. On the other hand desiccant type dehumidifiers combined with refrigeration can offer a simple and economical solution to controlling both temperature and humidity levels as low as necessary.

Bry-Air desiccant dehumidifiers have been utilized in many capsulating and soft gel manufacturing applications all over the world resulting in millions of dollars saved annually.

For more information on Bry-Air's products and services please visit www.bry-air.com

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