

dry facts

...from BRY-AIR

July-Dec. '92

Vol. 2 No. 3 & 4

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HAPPY NEW YEAR



Bry-air is a company committed to the two most demanding issues of modern age 'Environment & Energy'. This was the theme message of our New Year Greetings. Operating within the broad frame of 'Environment & Energy' Bry Air has been **pioneering air engineering technologies** in the field of dehumidification, drying, energy recovery and solvent recovery. Bry Air simulates and controls these environmental parameters of humidity, temperature, bacteria, dust and energy depletion through various technologies integrated into its products to enhance people's comfort and create a **better overall environment**.

Bry-Air

"an inspiration to all."

said Governor Voinvoich of Ohio, on his visit to the Bry-Air Malaysia plant with his 14 member trade mission.



Bry-Air is a SME (Small Medium Enterprise) in Sunbury, Ohio, USA. Paul Griesse, owner and President of Bry-Air in Sunbury, Ohio, was quick to see the potential of International business and steered his company to expand to the Netherlands in 1969, India in 1982 and Malaysia in 1991.

Bry-Air Malaysia is the first tri-country—USA, India and Malaysia—joint venture in Malaysia. Governor Voinvoich lauded the Bry-



Air venture and urged other Ohio companies to follow the Bry-Air example for similar joint ventures. (Continued on Page 4...)

Did you know?

Millions of ¥ £ \$ Dm are lost annually due to corrosion!!

Metal components and equipments begin to rust and corrode while in storage, assembly or during plant shut down, due to moisture in the surrounding air.

Relative humidity at 40% is the critical level, above which rate of corrosion accelerates. Industrial pollutants, like sulphur dioxide, also enhance the corrosion rate. The rate of corrosion is faster, when surfaces are exposed to polluted air in combination with high relative humidity.

Hence, if the surrounding air in storage/production area can be conditioned to restrict relative humidity to 40%, then stored material can be retained in good condition.

Dehumidification provides the perfect solution for controlling relative humidity in a warehouse or storage area or any other area where controlled conditions are required. Not only does controlled relative humidity check rusting on iron and steel but also protects other moisture sensitive materials.



More Dry Air stories from the Bry Air Library



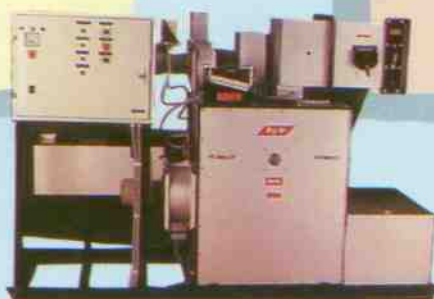
Life Craft Repair Room

Fibre board life crafts develops cracks and holes while in operation, which needs proper sealing, repairing and repainting to be fully operative and safe for use again. It is imperative that all moisture trapped inside these cracks be removed before repair and respraying. It is impossible to remove moisture totally from these cracks by conventional method. The best and quickest method of drying the life craft thoroughly is to surround it with dehumidified air at $30 \pm 5\%$ RH at ambient temperature from Bry Air dehumidifiers.



Microfilm and Video Tape Storage

Processed films are quickly affected by moisture and can be damaged irretrievably over a period of time. Moisture damages its gelatin content, encourages growth of molds, increases dimensional changes, accelerates decomposition of nitrate support and deterioration of both B & W and colour images. For archival storage, film needs to be preserved at $15-30\%$ RH at 70°F and $30-45\%$ RH at $70-77^\circ\text{F}$ for medium term storage. Many television stations, Archives etc. are preserving their video and micro-film records with help of Bry Air dehumidifiers.



Explosive Storage

Ammonium Nitrate, gun powder, solid fuels etc. are extremely moisture sensitive and are rendered totally ineffective if stored in uncontrolled conditions. When the humidity level of the surrounding air goes over 35% , the raw material absorbs moisture causing them to stick together making the product useless. Ammonium Nitrate also becomes explosive in nature in presence of high humidity. Syarikat Malaysia Explosives has installed a Bry Air dehumidifier to maintain the required level of $35 \pm 5\%$ RH at 72°F in their store house to check deterioration of the explosive.



Seed Storage

High moisture content in seeds during storage leads to loss in viability, discolouration, toxic production etc.. Seeds must be stored in controlled humid condition for safe storage.

A specially engineered 7500 cfm Bry-Air Package industrial dehumidifier was supplied to Commodity Development Centre, Titi Gantong, Perak, for safe storage of seeds. The dehumidifier has total air handling capacity of 1500 cfm and incorporates an after cooling coil, a refrigeration condensing unit and a standby compressor for continuous running of the system. It maintains the required condition of $40 \pm 5\%$ RH at $59 \pm 2^\circ\text{F}$ in the seed storage room.

WHEN MOISTURE IS TORTURE !!

In this column we will share with you, our experience in major application areas where usage of dehumidification is both extensive and essential.

HUMIDITY CONTROL IN FOOD INDUSTRY

Humidity can make a meal of your products!

Potato chips, biscuits, dry breakfast cereals, soda crackers, etc. all exhibit an affinity for water when exposed to high humid conditions. The result is soggy and unappetising food.

Humidity, also causes powdery foods like cocoa, coffee, energy foods, etc. to lump, cake and stick together and to the processing machine resulting in production loss.

The four major areas in food processing industry where control of humidity is absolutely necessary are:

★ Drying ★ Processing ★ Packaging ★ Storage

We bring you some interesting applications from our long list of jobs done for the food industry.

food packaging equipment. This hinders smooth running of the equipment.

Solution lies in conditioning the air i.e. controlling RH in the packaging area and in the cooling tunnel (in snack food & packaging machinery) so that no change in the state of food takes from the finished material to the final packaged product.

Tunnel drying and dehumidified packaging area results in a better quality product and a high rate of production.

Spices and Herbs Packaging

Dried and powdered spices being highly hygroscopic, absorb moisture from the surrounding air when humidity is high and becomes sticky. This inhibits their free flow through the packaging machine. The damp powder also sticks to wrapping material, slowing the process and creating hygiene problems. Dehumidification of the air surrounding the packaging and storage area keeps the area dry, letting production and packaging, equipment run efficiently. This reduces operative cost and also increases shelf life of spices.

Brewing Beer

'Product contamination' is an inherent problem in any brewery and distillery'

The brewing process itself requires very low temperature but for growth of yeast high heat, water and malted grains are essential requirements. Yeast, which is a beneficial fungus, converts natural sugar to alcohol. The presence of high humidity, due to frequent water usage for cleaning, is conducive to condensation and growth of harmful bacteria and fungus apart from yeast, which affects the product quality negatively.

Dehumidification keeps relative humidity level low and prevent spoilage from organic corrosion.

Bry-Air Dehumidifiers.....

The Ideal Solution

Bry Air dehumidifiers offer the simplest and most economical method of drying/humidity control.

Bry Air has the capacity to custom design systems for most stringent conditions.

Do not let humidity make a meal of your products!!

Biscuits (Storage, Packaging)

The biscuit conveyor moving out of the baking oven carries biscuits at a very high temperature. These biscuits are cooled to ambient temperature on extended conveyors before packaging. Between the time when biscuits are cooled to ambient temperature and taken out for packing, they get exposed to humid environment and due to their highly hygroscopic nature absorb moisture and become soggy and rubbery, losing their appeal and taste.

Humidity level in the hot room (storage areas) has to be controlled between 35 - 40% RH at ambient temperature in order to retain the crispness of the biscuits. Ideal condition for biscuit packaging is 40% RH at 70-75°F

Dehydrated and Snack Food Packaging

(Noodles, Dry breakfast cereals, Corn chips, Soda crackers, Creamers, Citrus crystal packaging, Dry soup conc., Cake mix, Potato wafers).

Dehydrated food if exposed to a humid environment even for a short time, absorb water from surrounding air and become soggy and unappetizing.

Also, the presence of moisture results in frost formation and sweating in cooling tunnel in snack



IN THE

LIME LIGHT

(Continued from Page 1)

Gov. George V. Voinovich, right, learns about the Bry-Air machine from Bry-Air President India Deepak Pahwa, centre, and Bry-Air Inc. U.S. President Paul Griesse at the Bry-Air plant near Kuala Lumpur.

Ohio-based firm thrives in Malaysia

By VINDU P. GOEL
PLAIN DEALER
REPORTER
BANGI, Malaysia

SELLING
OHIO IN
SOUTHEAST
ASIA

"Taiwanese products, Japanese

As is true throughout much of Southeast Asia, the ethnic Chinese are disproportionately represented in business and therefore control a disproportionate



The Airengineers at Bry-Air had an extremely busy quarter, spreading the dehumidification solution to a wide variety of industries.

Participation at Asian Food Tech, Plastics '92, Malaysia Int'l Fair helped to forge ties with the food, plastics and engineering industries in Malaysia and the South East Asian Region.

For detailed information on dehumidification in the food industry and plastics industry, **Write for your Free copy to our Malaysia office**

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NEW

THE Bry-Air DEHUMIDIFIER TROLLEY A Weather Proof Answer... ... To Outdoor Installation



The Bry-Air Trolley

—A perfect complement to the compact dehumidifier.

Constraints of space and even application needs, often necessitates the dehumidifier to be installed outside the covered space, in the open. Exposed to the harsh climatic condition—rain, mist, sand storm etc.—the dehumidifier gets damaged and often its operational smoothness is affected.

The Bry Air dehumidifier trolley is designed to provide the dehumidifier complete protection from the vagaries of nature.

UNIQUE DESIGN FEATURES

- Trolley top smoothly curved to avoid accumulation of water.
- Weather proof.
- Easy handling.
- Removable hood with dehumidifier in service without disturbing air connection.
- Ease of maintenance of dehumidifier on the trolley itself.
- Maximum maneuverability with lockable rubber wheels.

Bry-Air

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