

dry facts

...from BRY-AIR

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Dry Air Solutions

Food, pharmaceuticals, plastics, electronics, chemicals, defence . . .



Rust, mildew, mold, decay, warping, malfunctioning are all common visible effects of a single invisible cause ~ Moisture or Humidity.

Fortunately, humidity levels can be controlled through dehumidification to provide an effective and complete solution to the problem of moisture.

Packaging of refined sugar

Sugar absorbs moisture very quickly, creating operational problems during packaging. Refined sugar is fed via belt conveyers to sugar bins or hoppers. At this point the sugar is at about 118°F with moisture content approximately 0.035% of its weight. This sugar, however, has to be cooled to about 100°F - 104°F before it can be packaged. If cooled by the conventional method, the cooling process takes about 12-36 hours during which condensation takes place on the bin ceiling. This results in lumping of the top layer and deterioration in quality.

Bry-Air, when called by a renowned sugar processor in Malaysia to solve this problem, offered a perfect solution: Blow

cool dehumidified air into the bins at condition $79 \pm 1^\circ\text{F}$ and $30 \pm 2\%$ RH. This would not only take care of the moisture problem due to condensation but also reduce the cooling time to 6 hours, resulting in considerable saving of operating time, man hours and cost.

Telephone exchange rooms

EPABX, or the electronic private telephone exchange has almost totally invaded all offices, hotels, hospitals and other numerous organisations. Like any other sophisticated equipment, the EPABX, especially the large ones, are very heat and moisture sensitive. Presence of excess moisture can cause operational failure. Since majority of these exchanges are installed in air-conditioned rooms, water vapour condenses on the cool machine surface when the air-conditioner is switched off temporarily or during the night, causing damage to the internal cards and PCBs.

Bry-Air has provided the ideal solution to telephone exchange users, right from 5 star hotels to army communication bases at high altitudes, by installing dehumidifiers which keep the humidity under control.

Watch out for more dry air stories in our next issue!

Did you know? Dry air extends life of paper!

Paper used for books and manuscripts before the 18th century was very stable and not significantly affected by room environments.

The modern-day paper is susceptible to deterioration and yellows quickly. This is due to the acid content in the paper and the substitution of rosen sizing by gelatine.

For archival preservation of manuscripts

and books made from this paper, low temperature and humidity (75°F and 10-20% RH)* is required.

Once again, it is dehumidification that comes to the rescue and helps in preservation

* Courtesy
Ashare Handbook 1987



On the campaign trail

— to eradicate the moisture menace

May 20, 1992. Bry-Air Malaysia celebrated its first birthday. It was also time to take stock of the year gone by and gear up for the future. As a result of multi-pronged marketing efforts the market has been considerably developed, a wide sales and service network created and a sound manufacturing base has been established. It is all set now to launch an attack on the 'Moisture Menace'.

Moisture / Humidity - your hidden enemy was the theme of the ad campaign launched in all major dailies in Malaysia. The ad started appearing on the back page every week. Soon the 'moisture droplet' was a recognizable symbol of the invisible enemy which caused production loss, bad quality, immeasurable damage in the industry.

At Bry-Air we were overwhelmed with the response. **A lot of people facing a lot of moisture problems!**

Belhadi tum... on the brink of politi... wer to face charges of... spiracy against the... The maximum penal... y is death. — Reuter

of business, the of... ficial China Daily said to... stone borde... A... piece... and... hav... the... tho... at t...

A recent government cir... day. A cular orders shop clerks in... China's special economic... zones in Guangdong and Fu... xian to take proficiency ex...

MOISTURE

HUMIDITY
Your hidden enemy

High humidity could play havoc with your product equipment, typically in: Pharmaceuticals • Electronics • Computer rooms/clean rooms • Analytical Instruments • Food packaging (milk powder, biscuit, tea, coffee, chocolates, etc.) • Food processing • Missile assembly • Marine • Storage of seeds, fertilizers, sugar, hygroscopic chemicals, machine components, negative films, ammunition, etc. and a myriad of other applications.

Bry-Air DEHUMIDIFIERS

The simplest most economical method of humidity control.

Bry-Air (Malaysia) Sdn. Bhd.
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In the circuit!

Bry-Air displays its dehumidifiers at Procurement Electronic Malaysia 1992.

Penang was the venue for this international exhibition on electronics. Bry-Air used this opportunity to introduce its dehumidifier to the electronic industry.

Bry-Air dehumidifiers find wide applications in electrical and electronic industry. As the sophisticated technology and advanced development in this field entails working under precisely controlled environmental conditions requiring steady temperature and strict control on humidity and air contaminates, it becomes all the more essential to provide dehumidification in the manufacturing, processing, storage and operations of electronic and electrical components.

For more details write to our Malaysia office for a free copy of Dehumidification for Electronics and Electrical Industry.

Apart from electronics, Bry-Air dehumidifiers also find wide applications in food, plastics, defence, pharmaceutical, chemical and many other industries where moisture is a problem.

Bry-Air is participating in:

- ASIAN '92 Food Technology** 23-26 Sept. 1992
PWTL, KL
Booth No. 3216
- PLASTICS' 92 MALAYSIA** 25-29 Sept. 1992
PWTL, KL
Booth No. P 187

FIFTH MALAYSIA
MIF '92
6-11 October 1992, PWTL, KL
Booth No. 17

... and many more shows.

Spreading the 'Solutions' philosophy

At Bry-Air, the biggest asset is the company's trained and dedicated manpower. Bry-Air believes "**Training is to skill formation, what R&D is to product development**". In fact, skill formation goes beyond the training of its own personnel and extends to cover its reps and agents, as well as service staff. Most important of all is the company's commitment to its customers. When Bry-Air sells, the customer does not get just a product but a profitable solution to a problem.

Selling strength through training

Twelve reps from eight countries — **Taiwan, Hongkong, Singapore, Thailand, Philippines, Bangladesh, Nepal and Iran** recently attended a week-long training and orientation programme at the Indian and Malaysian plant on the Bry-Air range of products and its applications.

Bry-Air



WHEN MOISTURE IS TORTURE !!!

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

Problem:

'Mold sweating'

Cause:

Use of chilled water to cool hot molds, resulting in condensation of water vapour on mold.

Solution:

Surrounding the mold with cool dry air

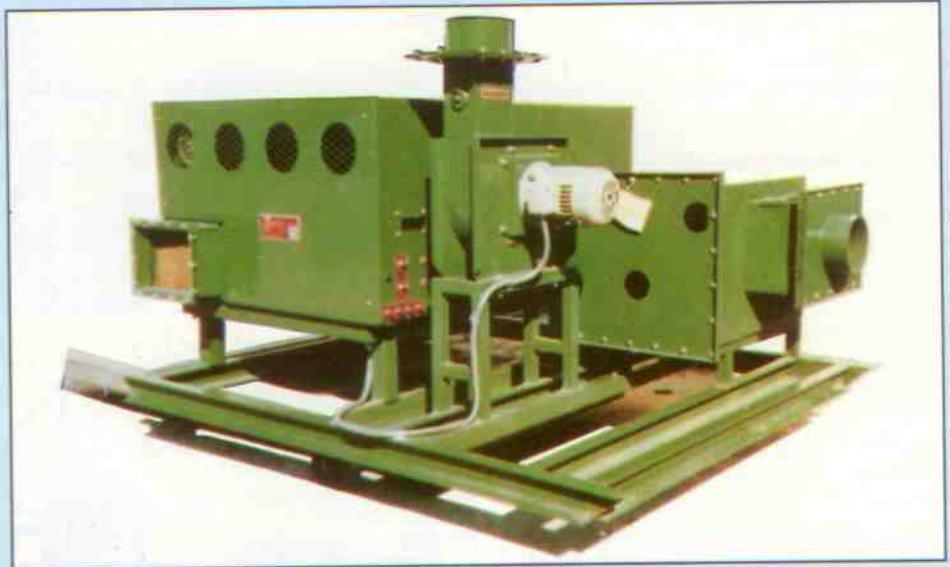
All injection and blow molders face the problem of mold sweating. This is nothing but condensation of water vapour due to sudden change in temperature. Production efficiencies and product quality necessitate hot plastic mold to be cooled by chilled water to harden the plastic quickly and release the molded part. This leads to a drop in temperature of molds, which results in condensation of water vapour present in the surrounding atmosphere on the mold.

The condensed water vapour drips on to the machine bed, gets into the mold, leading to rusting and corrosion of the costly equipment and distorted molded parts

Prevention of mold sweating

The traditional method of avoiding this problem is raising the mold temperature. Unfortunately, this lengthens the cooling time and thus the cycle, resulting in lowering the quality of components and slowing down the production rate.

The increasing volume of applications that require chilled water-cooled molds and the decrease in production during humid weather is often intolerable for any plant management looking for profitable manufacturing cycles. Many plastic



processors try plant-wide air-conditioning for temperature and humidity control. This method not only involves very heavy investments and operating cost but is also not fully effective.

The ideal solution

The solution to this problem lies in simply lowering the dewpoint of the air surrounding the molds by 5°F to 10°F lower than the temperature of the chilled water in the molds.

Therefore, chilled water temperature can be lowered without fear of condensation or mold sweating. This improves cycle times which in turn substantially increases machine productivity

The Bry-Air way

The Bry-Air Mold Dehumidification System (MDS) eliminates mold sweating totally by lowering the dewpoint of the surrounding air to the required temperature by incorporating an adsorbent type chemical dehumidifier, with a pre- and after-cool coil mounted on a common skid.

A wide range

The Bry-Air MDS range offers a wide choice of models for individual, plant-wide and centralised control with features tailor-made to suit every molder's requirement.

Bry-Air's plant-wide desiccant dehumidification is often the most economical approach where multiple machines occupy a large area.

Centralised control can be provided where the ratio between the number of machines and total plant area is too small. In such cases, it is more economical to duct dry air directly to each mold area rather than plant-wide. Each mold area is shrouded to control the permeation of the high humid ambient air to the mold area.

Bry-Air also manufactures dehumidifiers dedicated to a single machine and mold area. The dryer, being small and compact, can be mounted above the mold area. Individual station dehumidification can be achieved without major capital expense and can be adjusted to fit the specified need of the mold. The individual stations can be expanded by adding new unit, if required.

Thus Bry-Air provides a complete package solution to mold sweating, assuring better molded parts, lower rejection rates, increased machine and labour productivity and total cost savings!



Introductions of the year

Plastics Dryers

The Bry-Air range of plastic dryers and auxiliary equipment represents a new generation of air dryers which combine proven benefits of desiccant drying with plastic technology for the 90's. The expanded use of sophisticated engineering plastics has made pre-drying of material prior to processing (in order to eliminate wastage because of high moisture content) imperative.

Plastic resins are highly hygroscopic and absorb moisture from the atmosphere, either during storage or during processing, which adversely affects the final quality of the molded parts. Even non-hygroscopic plastics are susceptible to surface moisture contamination. Improper drying leads to:

Poor surface quality • Loss of physical properties • Splay • Silver streaking • Internal bubbles • Surface defects, etc.

Hence, proper drying of plastic resins is the first critical step towards a zero-defect molding.

THE BRY-AIR RANGE The drying equipment

The Bry-Air plastic dryers offer the ultimate in plastic drying. Using the adsorption principle, Bry-Air dehumidifying dryers – RD series and LVD



series – supply dry air at -40°C dewpoint year round, regardless of the ambient conditions. As distinct from other drying systems, the Bry-Air dryers in conjunction with the drying hopper – H series – dry the plastic resin to the core.

The material conveying system

The resin can be fed into the molding machine from the hopper through the Bry-Air loaders – VLS series without losing heat or gaining moisture. Bry-Air offers single loader to plant-wide centralised pneumatic conveying / loading systems.

Mold dehumidification system

The Bry-Air MDS eliminates the problem of 'mold sweating', assuring better molded parts, lower rejection rate, increased machine and labour productivity and total cost saving.

From the resin dryer to hoppers, to loaders, to mold dehumidification system, Bry-Air has the experience, the capability and the equipment to meet the dehumidification / drying and other auxiliary equipment needs of today's plastic processor.

Everything we make, makes plastic handling easier.

The Energy Saving Unit (ESU)

The 'Fresh Air' solution to the problem of 'Sick Building Syndrome'

The Bry-Air ESU allows you to

Breathe Fresher

Live Healthier

Save Energy

The Bry-Air ESU is a small, compact, ceiling heatwheel-based energy recovery device, which exchanges stale contaminated room air with fresh outdoor air. In the process, it recovers 85% of the waste energy from the exhaust air and recycles it to pre-heat or pre-cool the supply air.

The ESU adds more fresh air to the existing stale conditions without adding to the energy cost (as an additional

air-conditioner would) and reduces the size and capital / operating cost of air-conditioning equipment in an existing building.

Additional benefits of the ESU

- Improved air quality
- Sensible plus latent heat transfer
- As energy device, it qualifies for 100% depreciation in many countries
- Energy plus cost savings
- Reduced equipment cost
- Dry energy transfer surface
- Virtually no maintenance or breakdown compared to air-conditioning equipment



The ESU is ideal for:

- Manufacturing / Processing applications
- Nursing homes / Health care facilities
- Board rooms / Conference halls / Auditoriums
- Restaurants / Bars / Pubs / Discotheques

For further information write to:

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