

**Bry-Air**

# dry facts

...from BRY-AIR

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## Committed to a better Indoor Environment . . . .



The urbanization and industrialization in recent years has resulted in rapid growth of commercial buildings - hotels, office complexes, shopping arcades etc. All commercial facilities have a common factor as a beacon of modernization - Airconditioning.

Air conditioning is a major factor affecting quality of indoor air. Indoor Air Quality (IAQ) is extremely important to our health as more that 85% of our time is spent indoors . . . most of it in airconditioned spaces.

Airconditioning systems are generally designed with very little or no provision for 'fresh' air, to cut down energy costs, as more fresh air would mean more tonnage.

The result is recirculation of stale, indoor air - the air which is full of

bacteria, fungus, odour, VOCs, CO<sub>2</sub> and other contaminants. The result is that the occupants feel sick... nausea, headaches, cough, fatigue are all common symptoms of poor Indoor Air Quality (IAQ).

Worldover, IAQ is becoming an area of concern. As a company committed to 'Quality Air' we are sponsoring a series of workshops for the design engineers on Indoor Air Quality. A series of seminars are also being organised to promote awareness of IAQ and it's affect on health among user's of conditioned spaces. Both the seminars and workshops will address various issues concerning IAQ.

Mr. Mark Clark, specialist - IAQ related technologies and Mr. N.S. Hukmani, eminent AC&R consultant will be conducting these country-wide seminars and workshops.

### TRADE SHOW PARTICIPATION CALENDAR

<b>HOTELICA</b>	26 - 29 SEPT. '95	CALCUTTA
<b>ASIAN SEED CONFERENCE</b>	27 - 29 SEPT '95	LE MERIDIEN, DELHI
<b>PHARMATECH '95</b>	29 SEPT - 1ST OCT. '95	NEHRU CENTRE, BOMBAY
<b>PHARM INDIA '95</b>	16 - 20 NOV. '95	NSE, BOMBAY
<b>PLASTIVISION '95</b>	1 - 4 DEC. '95	NSE, BOMBAY
<b>IPC '95</b>	27 - 29 DEC. '95	VIZAG
<b>TECHEX 4</b>	1 - 3 FEB. '96	WTC, BOMBAY
<b>FRIG AIR</b>	6 - 8 MAR. '96	WTC, KEMPTON PARK, JOHANNESBURG, S. AFRICA



# Did you know ?

Indoor airconditioned spaces can be more polluted than outdoors ...

## Myth or Reality?

Most of us would dismiss it as MYTH but would be shocked to know that it is the truth. Airconditioned spaces are generally designed to keep "indoor" air "in" and "outdoor" air "out". This is done to keep energy costs low because more fresh air means more ventilation which means more tonnage and thus, more energy



cost. The lack of ventilation/fresh air causes build up of contaminants or pollutants like CO<sub>2</sub>, bacteria, viruses, VOCs, tobacco smoke, odour etc. which gets recirculated in the 'closed' space resulting in the indoor space becoming more polluted.

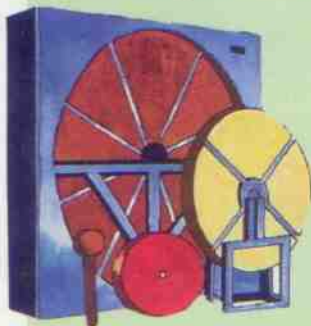
An 'Environment Protection Agency' study has shown that organic contaminants can occur indoors at upto 10 times the outdoor levels found in either industrial or rural areas.

So the next time you walk into any conditioned space, office, restaurant, nursing home, club give "Indoor Air Quality" a thought !!

## ENERGY RECOVERY PLUS IAQ ... **ECO-FRESH** SOLUTION

ENERGY SAVING PRE-CONDITIONER

As energy costs continue to rise, it is imperative to integrate heat/energy recovery devices to airconditioning design to keep utility/energy bills low, at the same time maintaining required ventilation levels. Indoor Air Quality (IAQ) and energy conservation have become fundamental design criteria for all HVAC engineers today.



One of the simplest and most effective devices for reducing energy usage is the rotary air to air heat recovery wheel commonly referred to as the 'heat wheel'.

The Heat Wheel is the only device currently available that can accomplish latent and sensible energy recovery with effectiveness rates exceeding 80 percent.

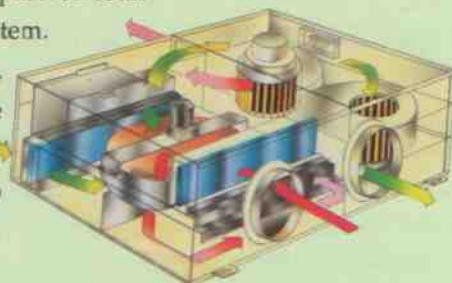
When ventilation standards need to be maintained as well as energy costs to be managed, the Eco Fresh Heat Recovery Wheel (HRW) provides the ideal solution for improving IAQ as well as managing energy costs.

Economic and eco-friendly, Eco Fresh Wheels are designed to perform optimally when outdoor air is brought into the system specially in areas like hospitals, hotels, auditoriums, manufacturing areas etc.

The Eco-Fresh Heat Recovery Wheel makes healthy air affordable, and gives you the best of both the worlds more outdoor air and lower energy consumption. That means cost-effective, healthier indoor environment and dramatically reduced chiller and boiler load.

The Eco-Fresh range of wheel based systems covers an entire range from small compact standard window type Energy Saving Preconditioners (ESP) to large Heat Recovery Wheels which can be packaged to be a part of total airconditioning system.

But large or small, the Eco-Fresh range brings in a breath of fresh air into your conditioned space !





## WHEN MOISTURE IS TORTURE

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

# Quality Packaging !

## Humidity Control Makes the Difference

Hygroscopic products are prone to regain moisture after processing and during packaging. Moisture regain not only alters the appearance of the product but also results in deterioration of the product itself, like food products become soggy, rubbery and less appetizing, tablets and capsules disintegrate or become sticky, fungus, mold grows on leather, fertilizers becomes sticky, lumpy and so on.

### Packaging problems of Snack Foods

Biscuits, potato chips, wafers, cereals etc. tend to regain moisture during packaging unless humidity is effectively controlled in packaging area. The result of moisture regain is soggy, unappetizing food.

### Beverage

Soft drink concentrates, instant coffee powder, milk powder, tea leaves, tend to agglomerate and lose their flavour due to moisture regain during packaging.

### Candy and Chocolate packaging

Candy wrapping machines often malfunction if surrounding air is humid as the candy tends to stick to the wrapping machines. Chocolates lose their lustre or show sugar bloom, becomes grainy and sticky if the packaging area is humid.

### Dry Powder/Vial Filling

The filling operations always require airveying of powdered substances to packaging areas in a high velocity airstream and filling of the powder in minute quantities in the vials and capsules. High humidity may cause the powder to stick and cluster together to the conveyor thus preventing airveying and filling operations.

### Strip Packaging

Dehumidified airveying of hygroscopic chemicals during filling and packaging is critical. The product package must maintain the "as manufactured" moisture level considering that air is packed with the product in the final step, thus maintaining viability and expected shelf life. Hence the necessity to surround the packaging area with dry air.

### Basic Drug Packaging Area

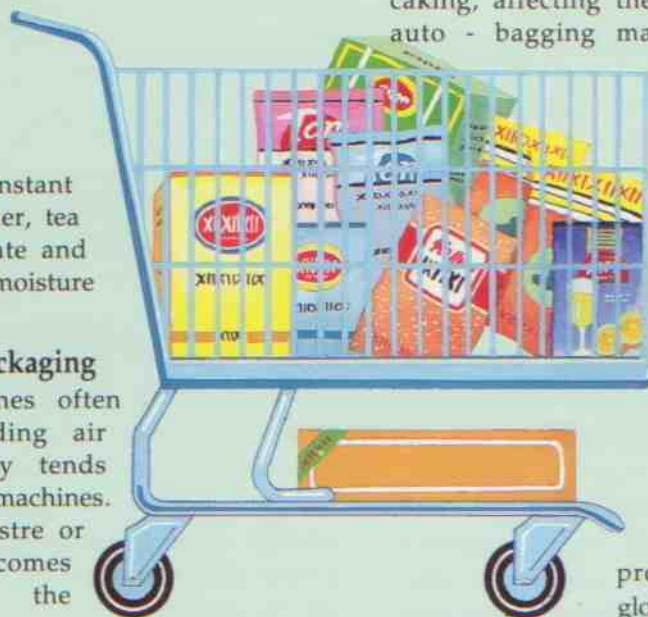
Basic drugs like Cloxa Cilline Sodium, Sefpaxine, Norfexasin etc., are extremely hygroscopic. They tend to absorb moisture from the surrounding air during packaging, resulting in deterioration of quality and product spoilage. Dehumidifying the packaging area prevents damages and preserves quality of the processed drugs.

### Fertilizer Packaging/Bagging

The fertilizer is very hot and hygroscopic when it comes out of the silos for bagging. Presence of moisture during bagging operations results in lumping and caking, affecting the free flow of fertilizer through auto - bagging machines to the polythene bags leading to lower quantity in actual weight of the fertilizer being packed. Most modern bagging machines operate at  $\pm 10$  gms weight variation of a preset weight. Having absorbed moisture, the fertilizer becomes heavy resulting in less quantity of the actual fertilizer being bagged.

### Leather Product Packaging

Being organic, leather is highly hygroscopic and regains moisture if not packed under controlled conditions. Mold, fungus etc. proliferate on leather items like gloves, jackets, shoes etc due to high humidity causing leather to lose its shine and strength.



## THE **Bry-Air** SOLUTION

Bry-Air Package Unit can provide the total environmental control with very close tolerances of not only humidity but also temperature.

The Bry-Air package is indeed a 'package deal' since environmental control of the packaging area provides several benefits — Reduction in first cost as temperature and humidity are controlled by a single unit. Reduction in due operating cost as machine and packaging equipment downtime is totally eliminated. Improvement in product quality is ensured by preventing agglomeration, wastage and preserving product appeal.

This package undoubtedly ensures the delicious difference.

*This article is fifth in the series of how moisture can be harmful to your business.*



# Compact Answers to Massive Problems

**NOW**

New version **Bry-Air** compact with  
**MICROPROCESSOR CONTROLS**



**Bry-Air compact dryer** answers a very special need in the 'industrial class' desiccant dryer area.

## Small in size only

Normally, smaller versions of machinery are presumed to have lighter performance. It's not so with the "Compact" from Bry-Air. Here is a tool for the industry that performs to the same levels as its behemoth relative, the "MVB"

The "Compact" operates on the same principle as the "MVB" — providing dry air by passing it through a patented rotating bed filled with an adsorbing material. The desiccant adsorbs the moisture and dried air is moved to the controlled area. Desiccant which has adsorbed moisture moves to the reactivation sector of the dehumidifier as the bed rotates, whereby heated air reactivates the desiccant by driving off the adsorbed

## Benefits at large

The newer version of the compact with microprocessor controls uses counterflow reactivation process and has

higher thermal efficiency. Continuous, even dehumidification with no peaks or valleys is achieved with this process, thus providing precise control. High desiccant-to-air ratio ensures longer and more uniform performance.

The adsorption process does not require the complicated machinery or draining needed when dehumidifying air by using cooling or compression methods. Desiccant replacement is easy and constitutes only a fraction of the total cost of the unit.

The compact design provides ready access to the unit for the relatively little maintenance which is necessary. Mechanical and control design is simple, making it reliable and easily maintainable. The unit lends itself to easy engineering and can be combined with mechanical cooling systems. The Compact can be used 'in line' without the risk of damage to the Brysorb desiccant.

## Where Dry-Air is important

Compacts can be used in any small area where humidity control is essential. The unit may be installed inside or outside the controlled area. Overhead installation is also possible because of its relatively small size and weight. Compacts can be mobile, mounted on trolleys for applications where the site is not fixed. Compacts can be made weather proof for outside installation.

Typical applications where dehumidifiers find wide usage are pharmaceutical manufacturing rooms, storage rooms, pumping stations, water treatment plants, food processing, packaging areas and a whole gamut of other applications. Bry-Air has specialised in custom designed environmental control equipment for more than 27 years. Compact or custom designed, special units can be engineered by experts at Bry-Air.

*Problems of any size, massive or small, can be addressed by the Bry-Air Dehumidifier.*

**Bry-Air**

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