



dry facts

...from Arctic India Sales

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'The Nineteens' — A Decade of Growth!!

A recent article in the July 24th issue of Hindustan Times, Economy and Business section attracted a lot of attention. 'Bry-Air (India) goes to Malaysia' is certainly not like creating history, for Indo Malaysian economic relations have been quite extensive over the last several decades. At one time, India had the largest number of joint ventures in Malaysia among all countries.

What is significant though, is that all within a short span of seven years, not only has Bry Air created a market niche in the Indian market, but is all set to establish a hundred percent owned subsidiary plant in Malaysia.

The successful implementation of marketing led approach in India had also been applied to South East Asian countries. It resulted in the opening of

markets in this region. A sales office was set up in Malaysia, which is currently servicing the entire region with sales, engineering and after sales service. Furthermore, the emergence of East Asia as a growing market and an important economic force provided the desired impetus for a greater presence. **Bry Air is ready to take advantage of this with the manufacturing facility planned in Malaysia.**

A Great Start

Bry Air Malaysia has been granted, 'pioneer status' by the Malaysian Government and has been allotted land in the prestigious Bangi Industrial Area for its plant. The venture is to go on stream in early 1991.

Bry Air Malaysia is all set for a great start supported by its team of Airineers.

dry facts — broadens its sphere

After a decade of presenting Dry Facts to the Indian customers every quarter, Bry Air is all set to launch its inaugural issue of Dry Facts— S.E. Asia edition.

Dry Facts in India has been a great success with the current mailing list at 25,000 per quarter. Feedback, continuous encouragement and enquiries have convinced us of its efficacy as an effective communication tool with our customers. The new edition in colour is modelled on the Indian version and will have more news of the ASEAN region. With a strong customer base in these countries already, we trust Dry Facts from Bry Air will enjoy the same popularity.

Don't Miss the Opportunity!!

View the latest in Energy Recovery equipment!

The Heat Wheel and the Heat Pipe based air to air heat recovery, systems from Bry Air will be on display at the 'airconditioning pavillion' (AIACRA) at the India International Trade Fair from Nov. 14th to Nov. 23th.

For details on the product see the back page.

NEW DELHI, TUESDAY JULY 24 1990

THE HINDUSTAN TIMES ECONOMY & BUSINESS

Bry Air (India) goes to Malaysia

By Bhairavi Shukla

NEW DELHI, July 23 — Bry Air India's two units at Gurgaon are now under the new management and will be merged into a single company from July 24. For this about four acres of growing foreign as well as domestic market. The company services not only Indian market but also those of South East Asia, Middle East and the Soviet Union and exports about 35.50 per cent of its turnover.

It is in line with the foreign market strategy in Malaysia where it already had a representative office since 1980. The project was cleared by the Investment Council of the Government of India on March 26 this year, then, as far as the performance is concerned, Mr. Pabwa is particularly happy with the Malaysian Government's response, which has granted autonomy to the Bry Air project, given a five year complete tax holiday. Not only this, the Malaysian Government has also

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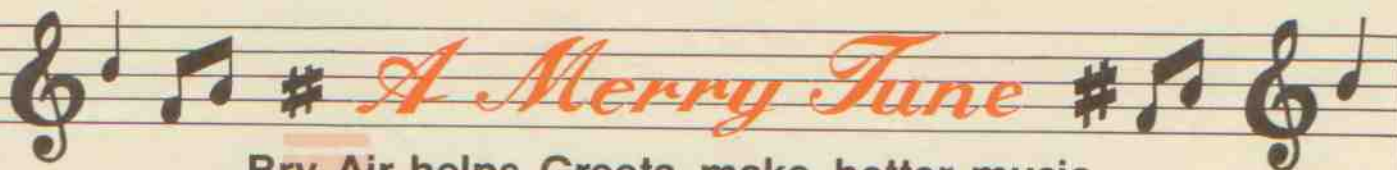
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Bry Air helps Greeta make better music.

Greeta Musical Instruments Mfg. & Exports P. Ltd., is a hundred percent export oriented unit exporting electric guitars to USA, UK, France, Italy, Spain, Ireland, Switzerland, Australia and many other countries.

Mr. K.A. Joy, Production Manager, Greeta Musical Instruments was kind enough to spare his valuable time to answer questions from our editor. We bring you here the excerpts of the interview:

Ed. What are the products manufactured by your company?

Greeta. We manufacture several models of Electric Guitars.

Ed. Why was the need for the dehumidification felt?

Greeta. Our product being wood based musical instruments, the quality of wood and its moisture content play a vital role in its function and standard of finish. Moreover, since our product is manufactured in relatively high humid area and being exported and marketed in countries where humidity is low, the excess humidity locked within the material can seriously affect even the playing of the instrument.

Ed. Specifically, in what way is humidity a deterrent for your product?

Greeta. Humidity or moisture content of the wood material below or above a specific percentage by weight to a large extent determines the stability and finish of the material; specially if it is subject to climatic variations or humidity differences. Excess moisture that is locked within the pores of the wood grains when exposed to environmental changes (consequent humidity changes) may deform the shape or size of the material resulting in deformation or warping or shrinkages of the wood structure. These changes are totally disastrous for our product. Hence dehumidification and moisture control of our product until the paint sealing stage is an utmost necessity.

Ed. Do you require the system only during certain parts of the year or is a controlled environmental conditions necessary throughout the year?

Greeta. The annual seasonal changes, the relative humidity of our place (Madras) is usually well above the permissible limit of our product process requirement. Hence we have no other alternative but to have the system operate on a year round cycle. The parameter of humidity control or degree of dehumidification varies between very severe, during monsoon to mild during dry winter and hot summer.

Ed. What are the significant improvements observed upon installation of the dehumidifier?

Greeta. Most significant improvement on the quality of our product after the installation of your dehumidifier systems is the stability of the wood material (no deformation, no shrinkages and no warping). It has resulted in a remarkable improvement in the quality of the painted surface.

Ed. What is the application area of the dehumidifiers in relation to your product?

Greeta. Major areas of application of dehumidifiers are 1) Forced air seasoning (demoisturing) of sawn timber. 2) demoisturing and stabilising the required moisture level throughout all the stages of production in the factory till the work piece reaches the paint sealing stage.

Ed. What do you think is the payback period of the equipment?

Greeta. On a regular and continuous systems of operation strictly adhering to its operational instruction and monitoring, we feel that the entire systems payback period falls less than a year.

Ed. Are you thoroughly satisfied by our product/service?

Greeta. I agree to the principle or the concept of operation. Apart from the engineering, design and functional aspect, I am quite satisfied by its performance efficiency and the same goes to the pre/post sales service facilities Bry Air extended to us.

Ed. Could you briefly describe the wood drying process?

Greeta. Timber cut into the form of planks or shooks after chemical treatment (for wood that is prone for borer attack and sap stain) are stacked with inter spacing for natural air seasoning away from direct sunlight, for a period ranging from 30 days to 45 days. By then the moisture content (core moisture) would have come down below 30%. This material is re-stacked in forced air dehumidifier chambers with interspacing between planks and gradually & evenly increasing the temp. from ambient to around 60 deg. C over a period of twelve to fourteen days. Within this period the material would have shed its moisture in a uniform manner to the range of 8-10% without any sort of deformation or warping.

When Moisture is Torture!!

'Dehumidification in the Yeast Making Process'

Rising to the Occasion

The story of yeast is as old as the story of bread. For centuries, yeast has been associated with bread-making as a fermenting agent.

The origin of bread, though obscure, dates back to the Stone Age. Flat breads were common in the late Stone age, while raised bread developed around 4000 B.C.

Traces of yeast were discovered in beer jars and beer breads were used as offerings in Theban tombs in 2000 B.C. Fermentation, originally a matter of chance contamination of airborne yeast, was promoted by using a piece of old dough. To this day, this is the method the most prestigious bakers choose. By 300 B.C. however, yeast-making became a specialized profession.

Yeast is now commonly available in packets and foil sachets in the supermart. However, there is nothing new in its function of a raising agent for imparting that special light texture to the bread we eat.

Yeast is made up of living cells with the ability to change sugar into alcohol and carbon dioxide.



Making of Yeast

The yeast making process is as interesting as the bread it helps to make. Yeast making involves growing the organism in suitable media. The crop is harvested when a sufficient crop of cells has appeared. '*Saccharomyces cerevisal*' is normally used as the micro-organism which is prepared in the laboratory as the seed yeast. This is then passed

into a clear mineral salt-sugar solution, used as the medium, where fermentation occurs. The temperature is kept constant for rapid growth to take place. The yeast cells are then separated from the fluid in which they have grown by a filter process. The yeast cells are mixed with starch cells and pressed into large cakes. Fresh yeast can survive only for a few weeks at controlled temperature of 4 deg. C. Hence, it needs to be stored in specially constructed cold stores. On the other hand, dry active yeast can be kept for two to three years without any loss of properties.

Dry yeast is also manufactured by employing a special technique. Drying of yeast is an intricate process, requiring cold dry air to produce quality yeast without destroying the organism. The quality of air required for drying of yeast has to be controlled and moisture content kept between 10-14 grains/ib (1.6 gm/kg-2 gm/kg) or the dewpoint of air must be in the region of 12 deg.-18 deg.F. (-11 deg. to -7 deg. C.)

Bry Air dehumidifiers maintain these stringent conditions in the drying area of yeast manufacturing. The use of the latest technology helps produce yeast to the international quality standards.



Low Temperature Drying

The manufacture of yeast, as we have seen involves low temperature drying. Though elevated temperatures ensure faster drying, it can spoil the product quality.

Bry-Air Equipment specialises in such applications. In conjunction with air-conditioning plants, very dry air at low temperatures can be supplied for the product drying applications. Typical products which need low temperature drying are seeds, gelatine, katha, cocoa and wood.

SHIFTING FOCUS ON ENERGY RECOVERY !!

The energy crisis and the increasing demand for more efficient use of energy, has promoted various methods and tools for energy recovery. The energy conservation concept having gathered momentum in the last decade had led to the commercial use of heat exchangers.

Our company introduced for the first time in India, the concept of air-to-air waste/heat energy recovery. The heat pipe based heat exchanger recovers and recycles sensible heat from industrial exhaust for reuse in process & comfort application.

The Heat Recovery Wheel (HRW) is the latest in our product introduction

is another first to our credit. The HRW recovers both sensible and latent energy from airconditioned, exhaust air stream to preheat or precool incoming air thus saving on energy consumption

The HRW can rightly be called the Next generation of Total Energy Recovery.

The 'Exclu-sieve' Heat Wheel now provides a fresh solution to Indoor Air Quality

THE EXCLU-SIEVE TECHNOLOGY

The Heat Recovery Wheel (HRW) represents a major technological break through in the field of rotary air-to-air total energy recovery. It's patented transfer media provides certified performance superior to that of any other recovery device. In fact, it is the "Next generation of Total Energy Recovery".

The HRW's desiccant coated surface transfers only water vapour and excludes all air borne material, thereby eliminating the risk of desiccant cross contamination. That's why the media is known EXCLU-SIEVE.

The HRW provides more than twice the energy savings than any other conventional type of heat exchangers. This performance edge allows for significant reduction in chiller/reheat cost which reduces the initial cost of a project while paying sizeable dividends through annual energy saving. Typical payback periods are measured in months not years.

THE NEED FOR TOTAL ENERGY RECOVERY

All airconditioned space can benefit by introduction of more fresh air. Efforts to save energy by cutting back on outdoor air quantities has created the age of "sick building syndrome".

The use of heat recovery wheel reduces the energy required to condition outdoor air, thereby reducing energy consumption and capital equipment cost, which results in a better controlled, comfortable and pollution free working environment.

'The Exclu-sieve Expertise'— Some Common Applications

Office and residential buildings the world over have revised their codes for introduction of more outdoor air quantities in their HVAC designs. The new standard recommends 15 to 20 cfm of outdoor air per person in lieu of the previously accepted 5 cfm level. Indoor air quality of the work environment has become a major issue for the well being and productivity of their employees. Three times the outdoor air requirement spells major costs in terms of both investments and operating costs.

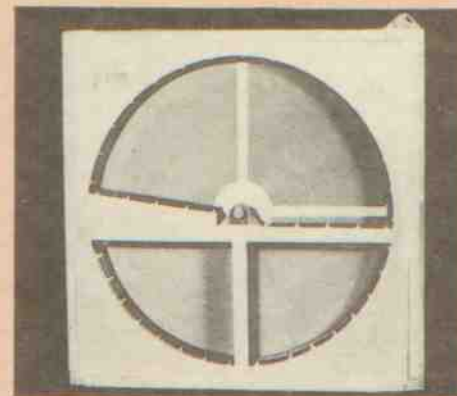
This is where the use of 'Exclu-sieve Heat Wheel' media for total energy recovery comes in. The wheel recovers upto 80% of the exhausted energy from the HVAC exhausts, reducing the need to pre cool or preheat the incoming air. In summary the Excludesieve technology provides design engineers and owners with an effective way to incorporate the indoor air quality recommendations into their building designs, without increasing the cost of the project.

A more healthier work environment by providing more outdoor air at lower energy consumption are all advantages, designers of HVAC systems cannot afford to ignore.

Laboratory and Animal Research Labs

Most laboratory applications require a significant amount of outdoor air combined with the need for precise space conditioning. This calls for mechanical systems whose first cost and energy consumptions are significant.

The use of Exclu-sieve heat wheel in such applications has tremendous advantages. The ability to recover moisture as well as temperature is important since 50% of the HVAC load is latent which allows for significant reduction in chiller and boiler capacity. Its total recovery capability allows for the 100% outdoor air system to operate at a cost similar to a 25% outdoor air conventional system. Optimum number of air changes can be incorporated, cross contamination and odors are eliminated and operating costs can be reduced by the inclusion of the heat wheel, thus providing the only viable solution to a effective laboratory HVAC system design.



POTENTIAL REDUCTION IN PHYSICAL REFRIGERATION PLANT CAPACITIES

Outdoor Air Requirement	Physical Plant Capacity Reduction with HRW
100%	65%
50%	58%
30%	49%
15%	39%