



dry facts

...from Arctic India Sales

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BRY-AIR GOES INTERNATIONAL

On February 28th, Bry-Air (India) completed its first year of operation. From its grand inauguration by U.S. Ambassador Harry G. Barnes to this date, it has covered a lot of ground. Domestically, through the network offices of Arctic India Sales and the introduction of the new generation MVB, it has made inroads in to many an established and fresh application area. To its major credit lies the establishing of markets in major South East Asian countries which had been a virgin territory till now. Through the efforts of our International Sales Co-ordinator Mr. Arun Bhatnagar & agents in most of these countries, Bry-Air has already executed a few prestigious export orders. In February Mr. Deepak Pahwa & Mr. Bhatnagar toured these countries extensively for export promotion & to establish Bry-Air goodwill in all these places. This was followed by the training programme for South East Asia at Bry-Air (India) plant in March. Four of our men from the Bry Air (India) plant went on an exciting two weeks training trip to the Bry-Air plant at Columbus, Ohio. A write-up on their trip in a local daily is featured on the next page.

With the parent company in U.S.A. & plants in Holland & India, Bry-Air now services the world markets.



Picture above shows standing L. to R. Mr. Laurence Bastein, Mr. Victor T. Santos, Mr. Benoy Kumar Bhadra.
Sitting : L. to R. Mr. Wiboon Arunthenes and Y. Murni Nugroho.

BRY-AIR (India) hosted the first training programme for engineers from various countries in South East Asia. The programme was aimed at training individuals on Bry Air dehumidification equipment for sales in South East Asia. Engineers from Bangladesh, Thailand, Philippines and Indonesia attended the programme held from 12th March to 18th March, 1984. This training programme is the first one of the series of similar programmes which would be organized for training various levels of executives of Bry Air distributors on dehumidification equipments. The engineers who attended this programme were :—

Mr. Laurence Bastein
Mr. Benoy Kumar Bhadra
Mr. Wiboon Arunthenes
Mr. Y. Murni Nugroho
Mr. Victor T. Santos

Bangladesh
Bangladesh
Thailand
Indonesia
Philippines

The Sunbury News

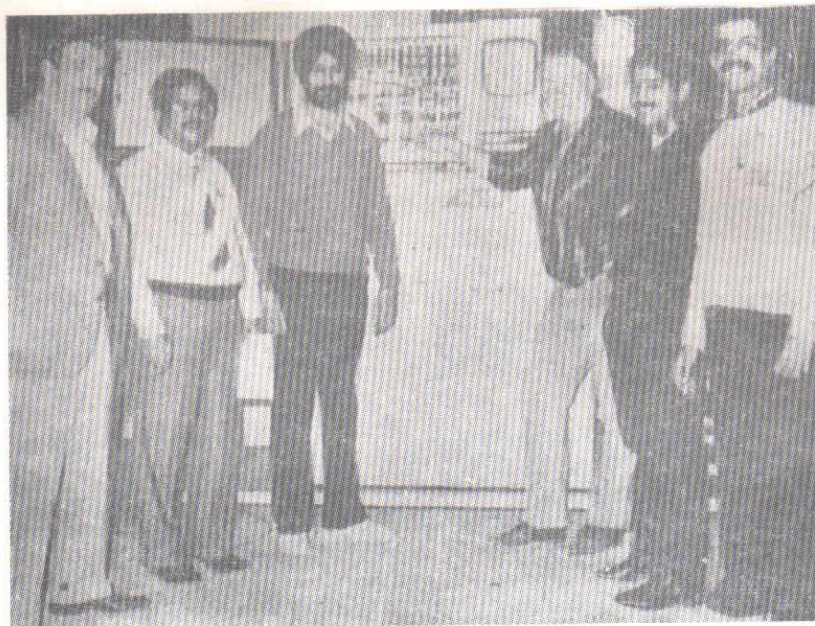
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Indian Delegation Visits Bry-Air Plant

Four representatives from Bry-Air's sister plant in New Delhi, India, have been visiting here the past two weeks, learning more about the design and production of one of Bry-Air's units, as well as a little of the culture here.

Pictured above with Bry-Air vice president in special engineering, Dave Leonard, left, and production manager, R. Marvin Collins, center, are from left, O. P. Chugh, Mohinder Singh, Di-leep Sharma and Y. T. Joshi. Chugh is director of production and Singh, factory superintendent of the New Delhi plant, while Joshi is director of engineering and Sharma, a design engineer.

Bry-Air, India, opened in the fall of 1982, with its inauguration date officially Feb. 28, 1983. Lower photo shows the plant, located in an industrial area in the suburbs of New Delhi.

The Indian delegation is studying the design and production technical aspects of Bry-Air's 'MVB' dehumidifier unit, in front of which the men are standing. As they explain, the New Delhi plant is to begin manufacturing the units soon.

The four visitors represent the first such group coming to Sunbury from the India plant. A

Sunbury delegation is to reciprocate with a work trip to India this September, Leonard says.

For all four men, this trip represents the first time they've been outside of their own country. And, even though the main focus of their short stay here has been on work, the men have also taken part in the exchange of the two cultures.

"For instance," Collins laughs, "we had the first annual Indian-American pocket billiards championship the other night, and Joshi is the champ." Chugh notes the men have tried just about every kind of food around the area, "and just as we're getting used to it, of course, we have to go back to India."

All four speak English, learned, they say, as their second language in the schools of India. And, all four were in the dehumidifying-air conditioning business prior to becoming a part of the Bry-Air international family.

Bry-Air, India, is a partner to the local plant, with Deepak Pahwa as president, counterpart to Paul Griesse in Sunbury. Bry-Air also has a licensee, Del-Air, in Holland, to which local employees have traveled on other business excursions.

Farewell the '22' Exchange !!!

It was with great pleasure we bid a farewell to the oldest exchange in Delhi. It had tested the patience and nerves of many, for a good number of years now. Nevertheless if the business has been good till now sans this communicational aid: the new electronic exchange should only make it better. Our new telephone numbers at our Delhi office, at 20 Rajpur Road are:—

Old Nos.	New Nos.
222424	252-2424
225937	251-6947
223866	252-3866

Our office is open from 9 a.m. to 6 p.m. Monday thru Friday. Our Sales & Service staff will be happy to assist you on any of these days.

Some Recent Applications

Our table top models, the 50 cfm, 150 cfm and the 300 cfm are the most versatile & are found useful in a myriad of applications. Some recent interesting applications have been in the—

Auto coils manufacturing areas where low RH prevents occurrence of corrosion and scaling.

The Nylon Fabric Processing area of MRF, Madras, to maintain low RH.

Ion implementation lab at SSPL Delhi.

Storage of Unwrapped Biscuits to preserve the quality of biscuits at Dalmia biscuits—Rajpura.

Storage of Sugar Powder by Sharda Bairon.

In confectionery manufacturing units, Gum Product, Madras use a table top model too.

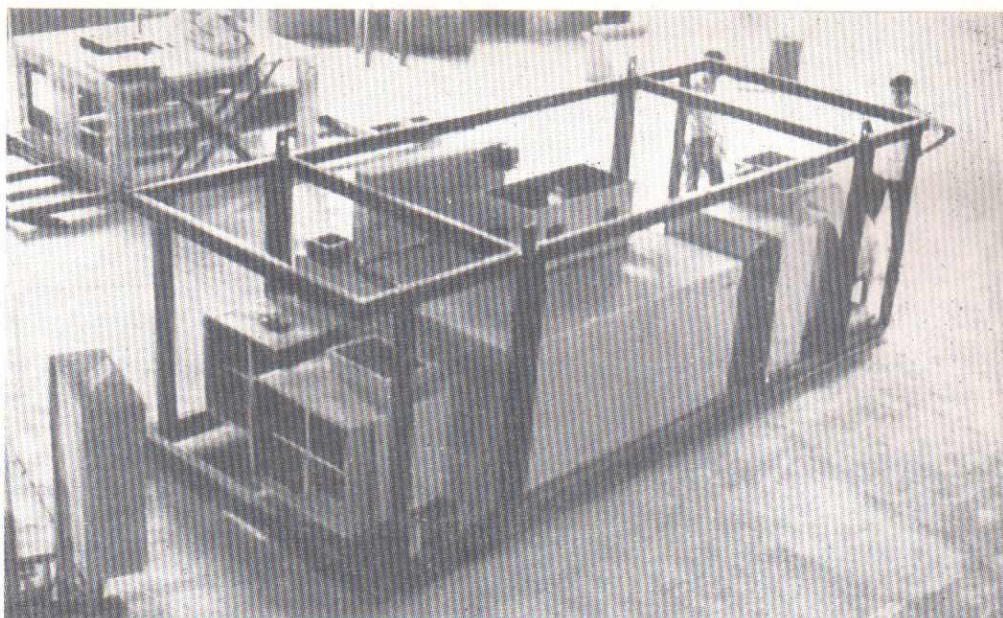
Analytical Instrument laboratories in Raychem Engg., Rallies India Ltd. B'bay and VSSC Trivandrum all employ table top models to maintain the RH.

In the pharmaceutical industry in Ampule filling room, powder filling, tablet compression/manufacturing area, capsulation and dry syrups manufacture the 150 cfm is being used by Key Pharma Delhi, Span Diagnostics-Udhana, Boots (India) Ltd, Remington Pharmaceuticals-Vijaywada & TTK Pharma-Madras, Beekay Pharmaceuticals-Taloja, Apex Capsulation, Leeman Laboratories-Madurai & a host of other names.

Seed Storage is another important field where dehumidification is being considered for extensive use. H.A.U. Hissar & Pioneer Seeds-Hyderabad both use the Bry Air dehumidifier to maintain the necessary conditions at their seed stores.

FORM IV—STATEMENT OF OWNERSHIP & Other Particulars of 'Dry Facts'. 1. Place of publication, 20, Rajpur Road, Delhi-110054. 2. Periodicity of publication-Quarterly. 3. Printer's, Publisher's & Editor's Name & Address—Vinita Pahwa, 20, Rajpur Road Delhi-110054. 4. Name and address of owner—Arctic India Sales. I, Vinita Pahwa, hereby declare that the particulars given above are true to the best of my knowledge and belief.

From the Bry-Air Album



Pictured above is the 3000 cfm unit exported to Medicaps, Bangkok. A 3000 cfm unit with a fan uprated to 5000 cfm and steam regeneration, the

equipment will maintain low RH in the drying tunnel of soft gelatine capsules.



Among the Bry-Air trio Pictured above are two—a 1200 cfm and 1500 cfm units for Win Medicare-Modipuram and one 1500 cfm for German Remedies.

Win Medicare in their modern pharmaceutical plant will maintain a critical environment of 15% RH &

74° F with the help of these two units.

Based on the performance of the previous 4 Bry-Air units, German Remedies had placed an order for the 15B to achieve the necessary condition at one of their pharmaceutical plants.

WHEN MOISTURE IS TORTURE !!!!!

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

MOISTURE CONTROL IN LITHIUM BATTERY ROOMS

Introduction

Lithium batteries have come a long way from being produced in sample batches to now being mass produced in large assembly areas and fabrication rooms. These high energy batteries are being used in wide range of application areas. The most important single factor governing their manufacture is that all lithium batteries must be fabricated in a low moisture controlled processing environment. In the early years of development moisture free (inert gas) glove boxes were used, to produce the batteries in small quantities. However development of equipment which can control moisture at extremely dry level, in an assembly area containing automatic processing machines and a number of people, have made large scale production of these batteries possible.

Importance of DRYNESS

A critical requirement of the processing of lithium batteries is to exclude water vapour from work area; this is based on the fact that lithium reacts with water to form lithium hydroxide, hydrogen & heat energy. Water vapour acts as a catalyst & hence the rate at which these reactions occur depends upon both the moisture level in the atmosphere & the time lithium metal is exposed to moisture, thus impairing the quality, performance & shelf life of the batteries.

Moisture Control Systems

A desiccant dehumidifier has provided the answer to provide low dewpoint in the lithium battery manufacture. The system is specially designed to typically control moisture level in lithium processing areas at or below a dewpoint of minimum 20°F or a moisture content of 1.8 grains of water vapour per pound of dry air. However in some applications dewpoints as low as minimum (-) 40°F

can also be maintained with the same equipment. The design of the equipment must also include a substantial number of other components such as filters, fans, refrigeration equipment and heating/cooling coils.

In designing the system essentially two key variables have to be established.

The first of these variables is the moisture load in space. The total moisture in space constitutes of the following :—

A Special Note

We have been carrying a serial on interesting application areas where dehumidification is essential under the heading of "When Moisture is Torture!!!" In our past issues a serial on dehumidification in "Soft Gelatine Capsule Manufacturing, Electrode Storage, Seed Storage, Fertilizer Storage, analytical instrument labs and rooms, powder coating painting, capacitor storage, Marine industry, onion storage" has appeared. In case any of the aforementioned interest you, kindly write to us & we will be happy to send a copy to you.

- a) Moisture ingress due to permeation i.e. vapour pressure difference between the ambient and the space to be conditioned.
- b) The major contribution to moisture load is by the workers themselves. Typically an average of 1500 to 2000 grain/hr. per person is taken for estimation.
- c) Door & other openings also add up to the moisture load in space.

The second critical variable to be defined is the control of moisture

level in the space. The sizing of the equipment & hence the cost not only depends on the amount of moisture to be removed from the air but also how dry the air is to begin with. The more the latent load inside, the larger would be the selection of the equipment to achieve the desired conditions thereby making the first cost higher. It has been clearly established that the drier the air the better is the product quality. Generally the moisture level vary between—40°F dewpoint to—15°F dewpoint. This is partly dependent on the expected time of exposure of the lithium to the atmosphere.

Room Construction

Apart from designing a complex energy efficient and reliable moisture control system a lot of care has to be taken in the construction of the room itself. The single most important characteristic of the construction is simply that it must be vapour tight and that access be controlled through an air lock vestibule.

Conclusion

While control of moisture levels below minus (-) 20°F dewpoint is not an altogether simple problem, it is certainly well within the range of existing technology. In fact, the low level moisture control system may become an essential production tool for other electrochemical technologies as well as lithium systems. Sodium-based batteries and sealed lead acid batteries can also profit by extremely dry atmospheres at a certain point in the production process. In addition, some types of fuel cells benefit by excluding moisture from the assembly operation. The improvement in production efficiency that comes from moving operations from small rooms to large assembly areas offers a manufacturer substantial incentive to consider such systems.