



dry facts

...from Arctic India Sales

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Season's Greetings

January, 1982

With the beginning of the New Year we would like to take this opportunity to convey our thanks and appreciation for helping make our relationship a successful and pleasant one.

We trust 1982 will bring health and happiness to all.

Ravi Bhandari
Deepak Pahwa
Padmaja Prasad
D. Z. Hans
Rajnish Joshi
M. Shah

Our U. S. Visitors

Mr. Paul D. Griesse, President of BRY-AIR, Inc. U.S.A. and his wife Mrs. Jill Griesse were with us in New Delhi on 26th October 1981 for two weeks. During this period we covered some very important grounds and finalised construction plans for our 30,000 sq. ft. facility at Dundehera Indl. Complex, just 3 Km. from the International Palam Airport, and also formulated policy on exports to the South East Asia, Russia and Middle East from the new facility of BRY-AIR (INDIA) PVT. LTD. a joint venture of BRY-AIR Inc. U.S.A. This

is an important step in introducing this high technology to the entire Asian market including Japan where such systems are not currently manufactured. The new facility will be operational within the next six months. At a cocktail party hosted on the occasion of their visit, Mr. Paul D. Griesse had a first hand opportunity of meeting with several business associates and clients already using our dehumidification equipment.

Pictured along-side are Mr. Paul D. Griesse, President of Bry-Air Inc. U.S.A. and Mr. Deepak Pahwa, President of Bry-Air (India) Pvt. Ltd.

Seminar on Heat Recovery Systems

Maurya Sheraton was the venue on 20th & 21st Nov. 1981 for the seminar organised by National Productivity Council, New Delhi, on low and high temperature heat recovery systems where papers were presented by several members on different heat recovery devices which, though already in use in India, relate to water to water, air to water, water to air heat recovery with limited efficiencies. Arctic India Sales presented its paper on "Air to Air" heat recovery devices using the latest heat pipe concept within the range of -60°F to 500°F .

With this upto 85% of waste heat can be economically recovered with pay back periods of 4 to 10 months. The paper received enthusiastic response from the participants representing different leading industries from all over the country including Government Undertakings. The paper was presented on behalf of Arctic India Sales by Mr. Deepak Pahwa & Mr. Rajnish Joshi.





I.I.T.F.—81

With our very successful participation at India International Trade Fair-79 (IITF-79) we once again participated in the IITF-81 for 3 weeks beginning from 14th November to 4th December 1981. Our items of display were: air to air heat recovery systems, several models of dehumidifiers, plastic dryers, seed dryers etc. The response was excellent as we received 506 recorded written enquiries and several firm orders. This participation also brought us into contact with several foreign trade delegates which contributes to realize our commitment to export these high technology products.

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.)

Seed Storage

Safe storage of seed is important for a variety of reasons. Obviously, seeds must be preserved for use as human and animal food, and for planting. Seed viability must also be protected (germplasm protection) for various uses by the plant scientist who maintains a permanent reservoir of seed stock by establishing a seed bank. Some of the factors affecting the final quality of seeds are:

1. Treatment during harvesting
2. Type of processing
3. Method of drying
4. Environmental control in storage particularly temperature and relative humidity.

Of the various points mentioned above we will consider in greater detail the one very important factor relating to temperature and humidity control during storage of various types of seeds. Put in another way the two most important factors in determining the life of seeds are "Moisture content" during storage and "storage temperature". These factors are quite interrelated. For example, while the moisture content of the seeds during storage, is always important, moisture

content becomes critical for seeds stored at temperature about 32°C.

Storage conditions depend on seed projected use. In addition to controlling the relative humidity and temperature, the storage structure has certain requirements which include protection from water, contamination, rodents, fungi, fire etc. For seeds which require short term storage of one to two years the rule of thumb developed for controlling the temperature and relative humidity is that both should total up to 100. In another words typically environmental conditions to be maintained would be say 60°F and 40% rh or 55°F and 45% rh or 65°F and 35% rh. However in most of these cases the dew point to be maintained inside corresponds to nearly 35°F. This is a fairly good design criteria. However when seed is to be stored over very long period the temperature and humidity considerations become slightly different. Regardless of the climatic conditions, seeds stored for germplasm preservation must be stored under very controlled conditions.

Storage may be either under low temperature and low relative humidity conditions or in sealed moisture proof containers. If the storage temperature does not exceed 50°F and the rh is not

higher than 50%, most kinds of seeds will retain their full initial viability for atleast five years. Many seeds will retain good viability for 20 years, or more when stored at 35° to 40°F and about 40% rh.

For achieving the controlled air requirement as indicated above refrigeration equipment alone becomes uneconomical, impracticable and cumbersome to design, operate and maintain. On the other hand the desiccant type dehumidifiers in combination with refrigeration offer a direct, simple and economic solution to control both temperature and humidity to the specified level. Thus the dehumidification equipment for moisture removal and humidity control, and refrigeration equipment for sensible cooling and temperature control formed the first choice for the above application for the leading seed processor in the country, M/s Maharashtra Hybrid Seeds Co. Ltd. We have designed a system for controlling of temperature and humidity for storage of germ-plasm for upto 10 years. International Crop Research Institute for Semi Arid Tropics (ICRISAT) is using 5 of our 900 cfm dehumidifiers for relatively shorter period seed storage.

Sales Conference

Our first sales conference was held at our Delhi office in November 1981, during which we had the active participation and guidance of Mr. Paul D. Griesse, President of Bry-Air Inc. U.S.A. The emphasis was on customer service and new application areas as also launching of new product line which are the patented range of Bry-Air i.e. heat recovery devices and unitary type humidifiers. Pictured along-side are our Sales Co-ordinators from different offices and with the joint programme achieved we expect in the forthcoming year to give very effective support to all our clients in terms of application engineering and after sales service.



Some Recent Applications

Ajay Cotton at Bombay have ordered 7500 cfm dehumidifier as a replacement for the existing system for the purpose of Cotton drying. This was after careful scrutiny and evaluation of faster drying and lower operating cost.

Hindustan Safety Glass Works Ltd. at Bamrauli, Allahabad have recently taken delivery of 100 cfm dehumidifier for the storage of laminates which form the interlayer for the manufacture of safety glass. Normal relative humidity and temperatures for glass are 20°C and 20% rh. This is initially on a pilot scale where their experience will be extended to the usage of our equipment for their various facilities in the country.

Godrej & Boyce have recently taken delivery of our 300 cfm and 150 cfm units for the purpose of storage of very specialised hygroscopic chemicals.

Atul Glass have entered the export market in Chip-glass and our 150 cfm unit is being used by them for faster drying of the glass coating for faster production and meeting timely export commitments.

Export to Basrah

One of our fastest moving models is the 150 cfm table top unit and during the last week of Dec. 1981 we shipped out a 150 cfm unit to the University of Basrah, College of Engineering. We are in the process of selecting agents in each of the middle eastern countries to effectively handle our export goods in these region.

33rd Indian Pharmaceutical Congress

The 33rd Indian Pharmaceutical Congress was held at Jaipur from December 20 to December 22 where leading manufacturers of Pharmaceutical machinery displayed their products. The star attraction was the Arctic India Sales booth where the latest in rotary type dehumidifiers were displayed, where we recorded in a short time of 3 days almost 150 enquiries and booked several firm orders. The exhibition at the Indian Pharmaceutical Congress provided us first hand opportunity of meeting several engineering Managers and Chemists of almost every important Pharmaceutical Company where our equipment is already in use and also discussed their new application requirement.

UNDERSTANDING DEHUMIDIFICATION BETTER

(This is in continuation of the few definitions given in our previous newsletter)

Condensation

The change of vapour to a liquid.

Infiltration

The passing of water through walls, floors, and ceilings arising from differences in partial pressure. Infiltration factors are accounted for by the Bry-Air consultant when designing a complete environmental control system for a given area.

R.H.

Relative Humidity—The amount of water that can be contained in a pound of air is dependent upon the temperature and pressure of the air. The amount of water present, or the degree of saturation is evaluated in terms of Relative Humidity.

Vapour Barrier

Necessary for impeding the infiltration of moisture through structures such as walls. Common types are plastics, metals, and coatings.



Electric Boiler has many advantages

With increasing cost and scarcity of fossil fuels, the number of electric boilers used for space and process heating in commercial, industrial, and institutional buildings has risen dramatically.

One of the biggest advantages of electric boilers is the initial cost savings. Since there is no need for large fuel storage tanks, building space is conserved at \$15, \$20, or more per square foot. In addition, the owner does not have to invest in a large inventory of fuel, since electric power is readily available. The additional expense of air pollution control equipment, often required with fossil fuel plants, is also eliminated with an electric boiler. Further, the cost of boiler breaching, chimneys or stacks, and expensive combustion control panels with exotic alarm and/or monitoring equipment is eliminated.

Lower operating costs are another advantage. Electric hot water and low pressure steam boilers do not need continuous supervision or a maintenance engineer. They are easy to start up and require minimum maintenance; further, since electricity leaves no residue, there is no ash hauling, carbon deposits, or chimney cleaning required. These factors can mean a \$10,000 or \$15,000 salary savings to the owner, when compared with coal, gas, or oil fired boilers.

The operating efficiency of electric boilers must also be taken into account. With no smokestack required, there are no stack losses. And improper firing due to improper settings of combustion controls is never a problem, since electric boilers require no combustion controls. The thermal efficiency is also higher, because of a four-inch-thick blanket of insulation which retains 98 per cent of the heat generated.

Design engineers appreciate the flexibility of electric boilers. Since they require no smokestack and occupy less floor space, they can be placed in strategic locations in buildings of unusual design. They are frequently placed in the penthouse of the structure being served, which can easily be designed to support the operating weight. Fossil fuel equipment, due to the increased weight of the firebrick combustion chamber, refractory material, combustion equipment and breaching, must be located at grade level.

Initial cost savings, more economic and efficient operation, and more design flexibility are just some of the advantages of electric boilers. Consulting engineers and contractors are finding them to be just the answer for new construction and remodeling jobs that involve hydronic, steam, or closed loop heat pump systems.

In India Arctic India Sales are the exclusive agents for Brasch Mfg. Co. Inc. U.S.A.

For their new hotel coming up at Kashmir, Hotel Corporation of India had placed an order for three number Hot Water Boiler. These boilers are already on their way to India.



Humidifiers

The best of the new patented range of Bry-Air humidifiers is the type "8" humidifiers which is designed for installation in ducts, plenums or air handling units. These type 8 humidifiers also form part of our unitary high capacity single unit installations complete with enclosure and fan. The full range of humidifiers provide controlled steam humidification without the complication and high cost of grid, pan or other types of units. There is no scale build-up and all parts in contact with steam or vapour are of non-corrosive metals. Type 8 humidifiers have no moving parts. No other type of humidifiers will last as long. No other humidifiers can be installed as quickly and easily. No other humidifier will operate with as few headaches.

The diffusion assembly, which is patented, has a unique method of preventing accumulated condensate from getting to the air stream. There will be no dripping, no wet ducts, even if lines are cold after long periods with control valve closed. Type 8 Humidifiers offer a new freedom to the Engineer, Contractor and User, since they can be installed quickly and at low cost in new or existing systems. They have no power costs for operation, need no water have nothing to wear or fail. They can be placed in ducts for zones requiring humidification without humidification of the whole system.

CAPACITY : A single unit will disperse upto 125 lb. per hour with 2 to 5 psi pressure steam. For higher capacity, multiples of standard units mounted side by side are used. Units are sufficiently light in weight so that they are entirely supported by the piping, if in plenums or at the discharge of the air handling units. They may be attached to the bottom of the duct side by side then piped for multiple duct applications.

The type '8' humidifier diffusion assembly, when not fitted in new or existing system can be offered in self contained, heavy duty humidifier assemblies which are installed singly or groups with fully automatic or manual control. Attractive lightweight units are simply suspended overhead like unit heaters. The high-volume fans circulate humidified air uniformly throughout the conditioned space.

These humidifiers are being extensively used in textile mills, printing plants, wood working plants, meat packers etc.

Bry-Air (India) Pvt. Ltd. now offer this world class technology to the Indian user from our new and very modern manufacturing facility. The type '8' humidifiers and the unitary type humidifiers gives the potential user a tremendous advantage of being able to directly buy these units from us with minimal field installations without having to resort to turn-key humidification project with extensive duct works etc.

These units provide precision humidity control combined with durability and genuine economy, both in first, COST as well as operating cost. We can prove it.