



dry facts

...from Arctic India Sales

April - May - June - 1981

Vol. 1 No. 1

Something About Us The Past

Eleven years ago ARCTIC INDIA made a humble beginning in the field of environmental control project services comprising primarily of air conditioning, refrigeration, ventilation and dust control projects on a turn-key basis. During this period, the expansion was very rapid and important projects in air conditioning and refrigeration were handled through out the country and some of these also included the very specialized field of dehumidification. The experience gained in the field of dehumidification was consolidated under ARCTIC INDIA SALES beginning April 1979 with Mr. Deepak Pahwa as its chief executive.

The Present

Thus, with this first issue of DRY FACTS we celebrate our second birth day. Today the company makes the finest in dehumidification equipment of the rotary desiccant bed type with the technical assistance of M/s BRY AIR Inc. U.S.A., the world leader in this field. We have today emerged as the leading specialist in moisture control and low humidity equipments and systems. The experience is further strengthened by several world leaders that we represent exclusively in India, in the field of environmental equipments, controls, air distribution products etc.

The Future

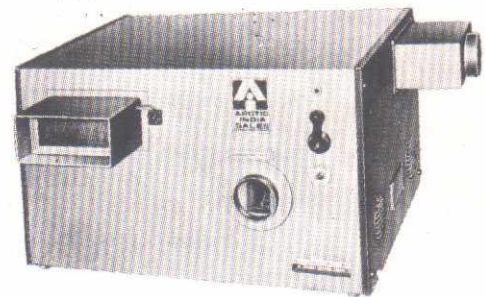
Exciting things are happening at ARCTIC INDIA SALES. Integrated combination dehumidifier-cum-refrigeration systems are being built by us as offered today only by BRY AIR in U.S.A. Heat recovery systems using the heat pipe concept are under production. Seed dryers with rotary desiccant beds are now already

our standard line. Desiccant type dehumidifiers also is the basis of our new range of plastic dryers. Environment simulation chambers of the programmable type to cover for temperature, humidity, rain, sleet, noise and vibration are available. Duct heater banks completely pre-assembled for air conditioning refrigeration and other industrial applications will soon be available. Industrial fans manufacturing programme is anticipated to commence next year.

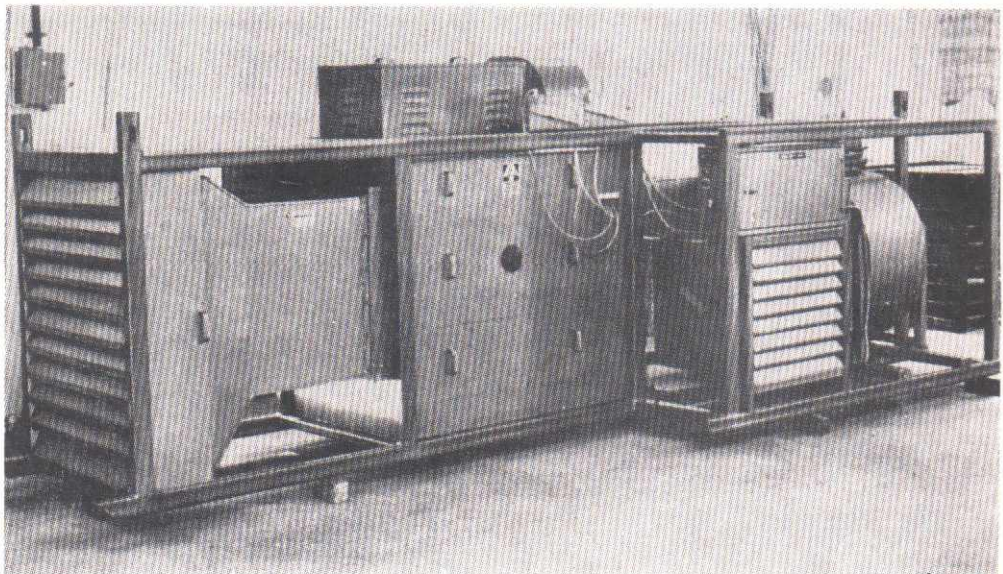
Our endeavour has always been to serve our customers to the best of our ability and DRY FACTS is yet another step towards keeping in touch with each and everyone who has shown an interest in our product and keep them informed about the latest developments and applications in the field of dehumidification and environmental control.

Portable Dehumidifiers

Though we offer the world's largest range of dehumidifiers in 23 standard models from 50 CFM to 30,000 CFM, our portable dehumidifier from subcompact 50CFM to the table top 150 CFM are a boon as a 'small size,



low cost answer to humidity problems in environmental rooms, drying cabinets, laboratory applications and pharmaceuticals manufacturing rooms: typically Glaxo alone has 10 such units.



One of the two 10,000 cu. m/hr. portable dehumidification systems for Cochin Shipyard

Our Plant at Delhi

Our manufacturing facility at the Badli Industrial area is situated just on the outskirts of Delhi. The plant is equipped with the most updated and modern machinery facilitating sheet metal fabrication, assembly, painting and complete testing of each unit before it is despatched to our customers.



Exports

As the dehumidification equipment offered by us is the state of the art and of the top quality and reliability as available anywhere in the world, Arctic India Sales is now currently in the process of developing a team of agents in each South-East Asian and West Asian country as also Russia for making its mark as a leader in dehumidifiers and other environmental control equipments in this region.

Some Recent Applications

Maharashtra Hybrid Seeds Co. have ordered two numbers of 4500cfm dehumidifiers and also associate refrigeration equipment for maintaining a low temperature and low humidity facility for long term seed storage. With this our country emerges as one of the few locations for Germ Plasma Storage on long term basis.

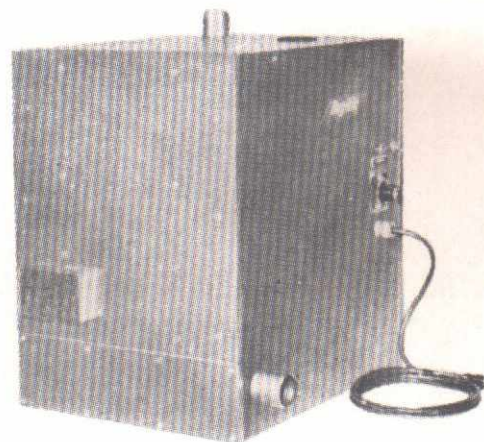
T. Maneklal have ordered a 600cfm dehumidifier along-with the associate refrigeration to provide controlled air for cooling and drying of travelling rubber tube for one of their recent industrial projects.

Oil India have recently taken delivery of two numbers of sub-compact dehumidifiers for controlling the humidity in a computer equipped multimillion dollar van being used by them for oil exploration.

Plastic Dryers

The Arctic India Dehumidifying dryer has revolutionized resin drying concepts in the plastic industry assuring of better quality-ware and fewer rejects. After the "Twin Tower" design and multiple cartridge cyclic models, the rotating dessicant bed provides the ultimate in dehumidification design made in Technical collaboration

with BRY AIR, U.S.A. It delivers uniformly dried air at prescribed CFM hour after hour without fluctuation using minimal electrical power. The drier is coupled with a drying Hopper which disperses the supply of dry air using a special diffuser cone evenly



through the material. The first in, first dried, first out principle prevents any wet material from entering the processing machine. This light weight compact dryer is available in 5 standard models from 20 CFM to 150 CFM, is ideal for small molders of ABS, Polycarbonate, Butyrate, Acetate SAN, cellulose and acrylic compounds.

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.

Soft Gelatine Capsule Manufacturing

In Soft gelatine capsule manufacturing, briefly, the capsulating process works in the following way: warm liquid gelatin is spread over a slowly revolving stainless steel drum about 24" in diameter. Over this drum 400cfm of 57 to 59°F air at 20% relative humidity is blown.

The chill, dry air congeals the gelatin as the drum rotates so that a tacky, elastic band rolls off the other end. This thin band is then automatically formed into capsules; filled with medicine, food, or other product; sealed; and dropped into a tray.

If air blowing against the drum has too low a temperature, gelatine will set too rapidly. Then it becomes brittle and the ribbon breaks, stalling the manufacturing process.

Too high an air velocity will disturb the constant thickness of the gelatine

ribbon being formed. If air temperature and humidity are too high, or air velocity is too low the gelatine will not solidify into a ribbon, with equally disastrous results. Thus the need for constant air control.

From the capsulating machines, the soft, moist capsules are transferred to drying drums or chambers for rapid drying. The extent of moisture to be removed during drying depends on the size of the capsule, the number of capsules and the period over which this moisture is to be removed.

Typically the environment to be maintained for effective and rapid drying corresponds to a dew point of 25°F or an absolute humidity level of 20 grains per pound available from following typical combinations:

78°F	—	15% rh
68°F	—	20% rh

For achieving the controlled air requirement as indicated above refri-

geration equipment alone becomes uneconomical, impractical 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 controlling both temperature and humidity to any low level. Thus, the dehumidification equipment for moisture removal and humidity control and refrigeration equipment for sensible cooling and temperature control formed the 1st choice for the above application for the following organisations.

Glaxo Laboratories, Bombay
Softsules, Bombay
Aristo Labs, Bombay
Syrup Thio-Kof, Bombay
Bloomin Capsulations, Delhi
Eastern Capsulation, Bahadurgarh
Jyoti Capsules, Kanpur
Gem Caps, Kanpur
Gelsules Medcaps, Bombay

SOME TYPICAL JOBS WITH
**ARCTIC INDIA
 DEHUMIDIFIERS**

with

Bry-Air

U.S.A

Technical Assistance

Glaxo

- 10 Nos—150 cfm each
- application : capsulation.

CYANAMID

- 1500 cfm dehumidifier + 12 TR refrigeration (combined)
- integrated skid mounted unit
- application—ACCOGEL, HARDGEL
- 75°F, 30% RH

abbott

- 600 cfm dehumidifier + 5 T.R. refrigeration (combined)
- for sterile room
- 76°F, 25% RH



- 600 cfm unit
- for welding electrode store,
- 95°F—35% RH

**GRINDWELL
 NORTON LTD.**

- 2 Nos 3000 cfm + 25 TR refrigeration,
- integrated & skid mounted units
- for grinding wheel/abrasives
- 74°F—30% RH

Glaxo

**COCHIN
 SHIPYARD LTD.**

FACT

- 2 Nos 1500 cfm unit
- for soft gelatine capsule drying
- 78°F—20% RH

- 2 Nos 6000 cfm
- portable dehumidification plants
- for paint drying in ships.

- 9000 cfm unit
- for fertilizer bagging/storage
- ambient & 40% rh,



Dabur

German Remedies



- 100 cfm
- Drug Formulations

- 150 cfm unit
- for tableting/capsulation/coating.

- 2 Nos 300 cfm unit
- for tableting/coating.

**RICHARDSON
 HINDUSTAN LTD.**

Agfa

- 5 Nos—1000 cfm to 3000 cfm units
- for cough drops (vicks) manufacture.

- 150 cfm unit
- for Optic lens assembly.



DEFENCE



Uptron

- 150 cfm unit
- for analytical instrument room.

- 900 cfm for missile assembly
- 70°F—30% RH
- 1500 cfm for dehydrating/packing of foods
- 68°F—20% RH

- 150 cfm unit
- for electronics assembly/PCB manufacturing

- 1200 cfm unit
- for capacitor winding/storage
- 72°F—25% RH

and several more

WHO DO I TALK TO ??????

In case you are wondering just which department and person could best serve you when calling the office we are giving for your information a list of Sales and Office personnel with job description. Feel free to contact anyone on the list at any time.

ACTIVITY

PERSONNEL

Sales Matter

DELHI : Deepak Pahwa,
 Rajnish Joshi, Prem Munjal

BOMBAY : Dinesh Z. Haria

BANGALORE : Pankaj 'J'
 Shah

Commissions

Rajnish Joshi, Vinay Kumar
 Sharma

Equipment Pricing

Deepak Pahwa,
 Rajnish Joshi, Dilip Sharma,
 Prem Munjal

Equipment Shipping
 capabilities

Mahinder Singh,
 Rajnish Joshi

Engineering Assistance

Deepak Pahwa,
 Rajnish Joshi, Prem Munjal

Quotations

Rajnish Joshi, Pankaj Shah,
 Dinesh Haria, Dilip Sharma,
 Prem Munjal

Literature requirements

Suman Giri

Drawing approvals

Rajnish Joshi, Dilip Sharma

Equipment operating
 problems

Deepak Pahwa, Dinesh Haria
 Rajnish Joshi, Prem Munjal

Field Service

Mahinder Singh
 C.H. Vedak

Placing spares parts
 orders

Sasi Kumar, Dilip Sharma,
 Prem Munjal

Placing equipment
 orders

Rajnish Joshi, Dilip Sharma,
 Prem Munjal

Warranty replacements

Dilip Sharma, Prem Munjal

Shipping Dates

Mahinder Singh,
 Rajnish Joshi

Advertising & Publicity
 matter

Vinita Pahwa,

Accounting Matters

Vinay Kumar Sharma

Company Policy

Deepak Pahwa

Remember we are a small company and many can help. Should you not be able to reach anyone listed above under specific activity, most anyone can help.

Our business hours are 9.00 a.m. to 6.00 p.m. I.S.T.
 daily Monday thru Friday.



ARCTIC INDIA SALES

20, RAJPUR ROAD, DELHI-110054
 PHONES : 222424, 225937

DON'T LET THE HEAT ESCAPE !!!!

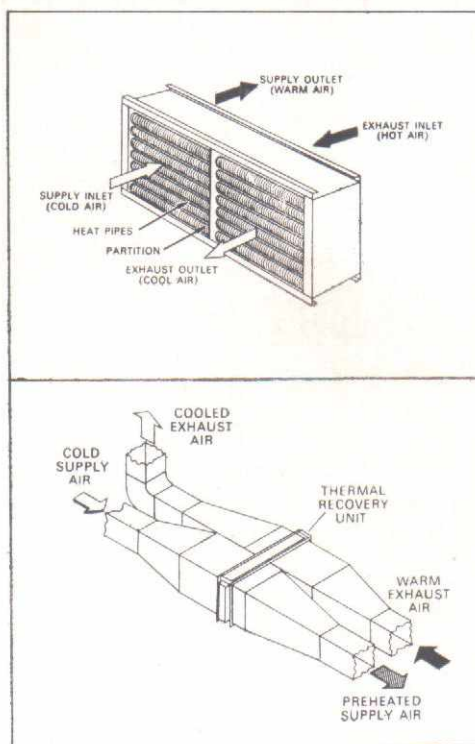
Energy conservation and energy recovery are the "buzz" words of today. The energy crisis and the increasing demand for more efficient use of fuels has prompted time and again various methods and tools to be developed for heat recovery.

The rotary air to air regenerative exchange—commonly known as the heat wheel, stationary plate type and coil run-around all have their advantages and dis-advantages. One of the most promising new developments in energy conservation technology however has been the *heat pipe*.

The heat pipe was invented in 1942. In the early 1960's the idea was reviewed by the Atomic energy commission and the space Administration, U.S.A. After considerable research an improved version of the original design is now used to cool nuclear reactors and transfer heat in space craft, including the present earth orbiting skylab.

Heat Pipes : A heat pipe is a super thermal conductor that transmits heat by the evaporation and condensation of a working fluid. In its simplest form a heat pipe consists of a internally grooved pipe, into which a specific amount of refrigerant (fluid) is injected and sealed. It can transfer upto 1000 times more heat energy

than copper, one of the best known conductors. Arctic India makes use of this concept of heat pipes in its



heat exchangers for heat recovery from a wide range of processes and applications.

Justification for the system :

Operating cost of the system are minimal since no external power source is required and there are no moving parts to wear. Calculations indicate that the heat reclaim system will return the original installation cost in 4 to 18 months. The Arctic India heat pipe heat exchangers can recover upto 90% of exhausted energy under ideal conditions.

Applications : All types of dryers, ovens, kilns & boiler exhausts (forced draft) chemical dehumidifiers, Heat treatment furnaces can recover heat gainfully by this process. All building HVAC exhausts, Industrial Plants, hospitals, laboratories, institutions and the list is endless.

Whatever the process or application the Arctic India heat pipe exchanger because of its simplicity of design and operation represents a tremendous savings of energy while yielding immediate and future monetary savings in a rapidly increasing energy consumer's market. And this is a concrete step towards energy conservation; however, at best, only a part of the solution.

FORM IV

STATEMENT OF OWNERSHIP &

Other Particulars of "Dry Facts"

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Nationality: Indian
Address: 20, Rajpur Road Delhi 110 054
6. 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.

Our New Bombay Office :

With more inflow of business in the Bombay region and with a view to providing a more efficient & prompt sales and after sales service, Arctic India Sales moves into its new office premises at 319, T.V. Tower, Industrial Estate, Worli, Bombay 400 025, from May 15, 1981.

For enquiries and assistance please feel free to contact the above address.

IN OUR NEXT ISSUE

Look out for—

1. Our new Dealer Family
2. A case study on seed storage and drying

Some of our Principals :

- BRY AIR Inc. U.S.A. — dehumidifiers.
- BARBER COLMAN CO. U.S.A. — Air distribution products.
- IMC INSTRUMENTS. U.S.A. — Temperature indicators and controls.
- BRASCH MFG. CO. U.S.A. — Hot Water and Steam boilers. Duct heaters.
- MCC Powers, U.S.A. — Refrigeration and industrial controls, energy management systems.
- WEISS TECHNIK, WEST GERMANY — Environmental Test chambers.
- BAUSCH & LOMB, —U.S.A. — Analytical instruments.
- HOWDEN THERMAL INC. U.S.A. — Heat pipes and heat recovery systems.

In our subsequent issues we will be carrying more details on the aforementioned principles and their product lines.