



Dry Facts

...from Arctic India Sales

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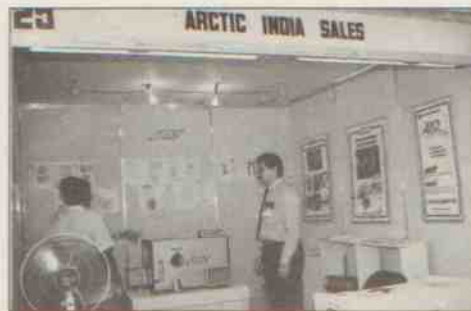
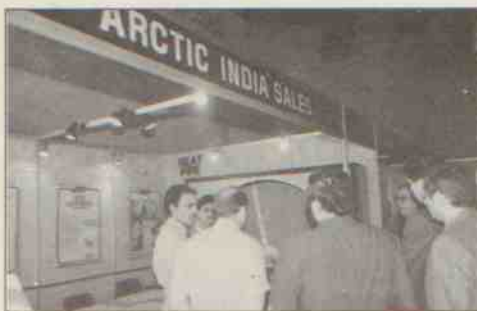
SELLING THROUGH SOLUTIONS

Twenty four Airineers from all over India met recently at Delhi to share with each other, their individual experiences of providing "solutions" to the customer's moisture related problems.

They unveiled a treasure house of new applications where they had successfully provided solutions. We will be sharing these new applications with you in this issue and other issues to come!



Keeping in Touch



October through March can be called the "Exhibition Season" at Bry Air. Like every year, Bry Air and Arctic India Sales participated in a number of exhibitions in India and abroad, renewing old ties and forging new ones at these shows!



...through trade shows and exhibitions



Bridging the Language Barrier

FROM OUR DATA BANK

Here are few interesting new applications, we would like to share with you in this issue.

Packaging Pan Masala

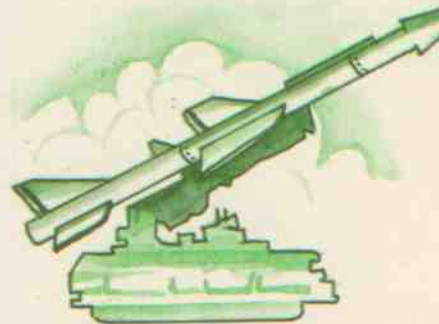
DharamPal Satyapal, manufacturers of the popular "Rajngandha" Pan Masala were troubled by a 'typical moisture' problem - coagulation or lumping of finished product during packaging.

The main ingredients in pan masala - catechu, lime, betel nut and cardamom are very hygroscopic. These ingredients absorb moisture from the surrounding air and become lumpy, leading to large quantity rejections during the packaging. The air conditioner installed in the packaging area was unable to maintain required humidity level. The obvious answer to this problem was installation of a Bry Air compact dehumidifier which maintained humidity level at a constant $35 \pm 5\%$ RH at 25°C by supplying a constant flow of dry air into the packaging area.



Missile Body Welding - A very precise art

Aluminium welding is a very precise application, especially in the manufacture of missiles. Presence of high humidity in the welding area leads to weak welds at seals and blow-hole damages. These weak links during the welding are totally unsafe and hence unacceptable to the defence.



KCP Madras, leading fabricators of steel and aluminium for the defence in their projects solved the problem of excess humidity by installing a Bry Air dehumidifier MVB 20 C, which maintains the required environment by controlling RH at $35 \pm 5\%$ at 32°C in the welding area.

Skyjumping !!

No! The Airgineers did not go skyjumping but they provided a solution to a much vexing problem being faced by the skyjumpers.

Parachutes are normally wet after the jump, water vapour having condensed on it. To save parachutes from damage, from fungus and mold growth due to excess moisture, they are dried after the jump and before, being packed away. The conventional method is to hang the parachutes from hooks like "coats on hangers" in huge room with high ceiling and fans on. This process is not only time consuming but also does not entirely free the parachutes from moisture. Moisture invariably remains trapped in the folds leading to fungus growth on the parachutes.

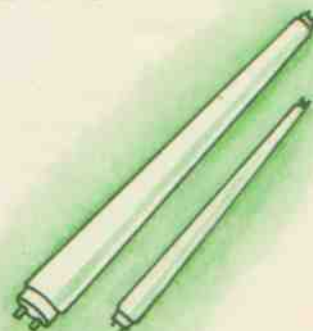
Bry Air has offered the completely "dry" solution. A Bry Air dehumidifier can continuously surround the parachutes with dry air by maintaining low RH under 40% at 35°C .



Lighting up your world !

Fluorescent tubes, though, a common household item, have a stringent manufacturing process. Moisture, again is the invisible enemy in the manufacturing process of tubelights.

A leading manufacturer of fluorescent tubelights were facing the problem of oxidation of filaments in their manufacturing process due to unwanted moisture. This affected the product quality in general by reducing the life of the filament. The solution to the problem of excess moisture in the storage, processing and quality control rooms is to maintain RH at $35 \pm 5\%$ at ambient temperatures. The required condition is easily maintained by a Bry Air dehumidifier.



CORRIGENDUM

In our last issue, the name 'Larsen and Toubro' and 'L&T Mcneil Limited' were wrongly spelt. We apologise for the error.

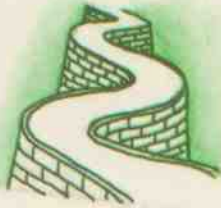
WHEN MOISTURE IS TORTURE !!!

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

TEA TALK. . . From the gardens to your cup.

The History

The first mention of tea in the Far-East in China was about 350 AD. Tea started being cultivated in Java in the 17th century from where the Dutch picked it up and carried to Europe and the British Isles. The brew was sold publicly for the first time in England at Garway's Coffee House in London. In India, it was first discovered in 1823 by Robert Bruce, a British Military officer.



Tea Types

China was only tea producer till the middle of the nineteenth century and British the main importers. With the expansion of British rule in India, tea started being produced in Assam. The Assam variety currently dominates the world market being strong, unequivocal and a real refresher. The Ceylon tea is another popular all rounder. Bright and golden, it is good for anytime of the day. The connoisseur's tea is, however, the Darjeeling Tea, because of its flavour and aroma. The archetypal Chinese tea though indispensable in Chinese community is not very popular outside it.

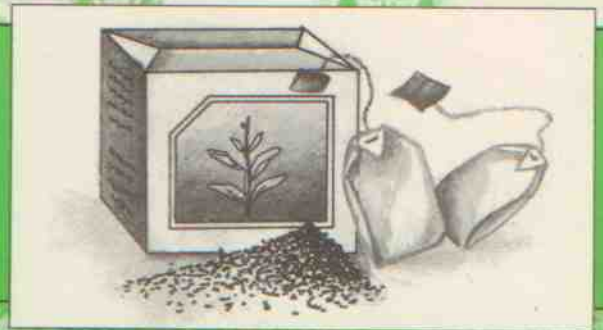
The different types of tea, as available in the market today, are actually classed according to their manufacturing process, apart from the area they come from and type of leaves.



fermentation. After drying it is desirable that the leaves do not contain more than 2% of moisture.

Tea being highly hygroscopic tend to pick up moisture quickly. After drying, the leaves have to be stored in an environment where the leaves cannot pick up moisture. Even during the drying, the hot air, used in conventional method can be harmful for the quality if it is too hot. Tea also has a tendency to pick up moisture during the blending and packaging process. Excess moisture causes -

1. Distortion of colour
2. Change in flavour
3. Increased possibility of fungus growth



Another very significant commercial disadvantage, if tea picks up moisture, is that its weight increases, which may further cause problems with excise authorities.

The ideal solution to the problem of moisture picked up by tea leaves is to surround the tea leaves with dry air at controlled temperature levels using a Bry Air dehumidifier. The optimum recommended conditions is relative humidity between 30 to 35% at ambient temperature.

Bry Air dehumidifiers have been successfully applied by

1. Bush Tea Co. Ltd.
2. Sycotta Tea Co. Ltd.
3. Maud Tea and Seed Co. Ltd.
4. Goodricke group Ltd.
5. Staffed Vanaspati

The Journey to the Cup

The tea leaves brought to the processing plant undergoes five stages. First, the fresh leaves are withered, which removes 25-30% of moisture and leaves them soft and pliable. Next they are rolled - a process where the leaves are twisted and crushed to break down the cell walls and release the chemical compounds. These compounds allow the leaves to ferment. The next step is oxidation where the juices convert into the essential oils which gives the beverage its aroma and flavour. The final and most important step is the firing where an appropriate amount of hot dry air is forced across the leaves to dry them and arrest any further

SIFTING QUALITY TEA FROM ORDINARY

Tea sorting machines are used to sort out various types of tea leaves, so that they can be graded and blended according to their quality.

Tea sorting machines use compressed air for its sorting process. The compressed air is able to sift out big leaves from small and so on. And like so many other processes, moisture is the main barrier to the smooth process of sorting.

The functioning of the sorting machine is hampered by clogged valves. Moisture along with other air contaminants like dust clogs up the valves making them sticky leading to operational failures. Thus, it is necessary to keep the air being fed into the compressor clean and dry.

The compressed air exiting from the sorting machine, also must be moisture free and clean, as moisture in the compressed air will be picked up by tea leaves. Tea leaves, being hygroscopic absorbs moisture quickly leading to loss of aroma and flavour.



THE CLEAN DRY AIR SOLUTION from delair

It is best to ensure that the compressed air is clean and dry before it is fed into the sorting machines.

Maud Tea Company, Assam successfully solved the problem of excess moisture in compressed air by installing a Delair Heatless Type Compressed Air Dryer model DC 122 with pre and after filters with its sorting machine.

The heatless dryer has proved to be an ideal solution since it is :-

- automatic and continuous in operation
- low in first cost
- simple to install
- low in maintenance and operation cost.

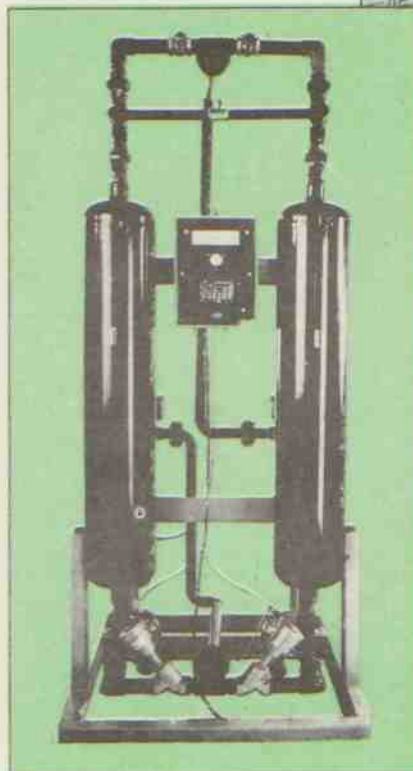
All of which help in keeping tea sorting machines and all such equipment using compressed air operating with minimum failure.

delair range of compressed air dryers

Refrigeration type, Adsorption type (Heatless, Heat Regenerated and Energyless), Dehydrators for Waveguides and Cables, Brake dryers for Railways, Air / gas separation plants for the general industry.

For any further information on the applications covered in this issue. Please write to :

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Arctic India Sales,
20 Rajpur Road,
Delhi 110054



DC Dryer



Tea Sorting Machine