

dry facts

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When *moisture* is Torture

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

The world is crazy for cheese and cheese products.

Cheese consumption is rising every year. With the rising demand the variety of cheese has also increased widely. Today, there are over 2000 varieties of cheese produced globally.

The most popular type of cheese available in the market are Cottage, Mozarella, Cheddar, Parmesan, Feta, Ricotta etc. Each differ in flavour, appearance and texture. The variation is due to different sources of milk, moisture content, fat content, processing technique and more.

Type of Cheese	Firmness	Source of Milk	Moisture Content
 Cottage/ Paneer	Soft and Fresh (unripened)	Cow	50-80%
 Ricotta	Soft	Cow	55-85%
 Cheddar	Hard	Cow	45-30%
 Parmesan	Very Hard	Cow	10-35%
 Mozzarella	Soft	Buffalo	55-45%

Cheesy dishes and its life . . .

The cheese life and its quality is dependent on its production process. During fermentation, it is produced in a controlled environment to allow the development of microorganism that usually accentuate the basic cheese flavours. It is kept under low temperature to retain its freshness. Some of the challenges due to uncontrolled environment at cheese production are:

- Mould growth
- Softening of dough
- Unpredictable curing time and quality
- Change in taste and smell
- Inconsistent productivity
- Cheese sweating

The mouth-watering cheese is also used in preparing a variety of dishes, dips, dressings, biscuits, chips and many more.

**SAY
CHEESE**

WITH

Bry-Air

DEHUMIDIFIER

as slight change in relative humidity can spoil the cheese quality

The dry air solution

To retain the consistency, premium quality and flavour of cheese, it is necessary to maintain the desired temperature and humidity levels during drying, ripening and storage of cheese.

The ideal solution is to maintain the humidity at recommended levels with the help of desiccant dehumidifiers.

Bry-Air Airingers recommend cheese production takes place at lower humidity so as to ensure more consistent quality.



Bry-Air Dehumidifiers

help remove moisture from the air during processing, storage and packaging of cheese.

It is the optimal alternative solution for handmade type of

high quality cheese production. Bry-Air desiccant dehumidifiers help prevent spoilage of cheese thereby leads to savings and increase in your profitability by enhancing the freshness, consistency and quality of cheese.

The cheese producer can have full control on the curing time required, avoid mould formation and produce superior quality premium cheese with the help of Bry-Air dehumidifiers installed at its facilities.



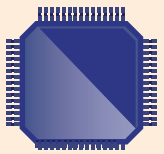
Enter Bry-Air... exit moisture



Gas Phase Filtration need in semiconductor manufacturing from Bry-Air

Semiconductors are an integral part of our daily lives today. Be it smart phones or control panels for industrial machines, semiconductor is the key element to the operations of virtually everything we use today. With semiconductors becoming more and more complex, come the challenges.

are an integral part of our daily lives today. Be it smart phones or control panels for industrial machines, semiconductor is the key element to the operations of virtually everything we use today. With semiconductors becoming more and more complex, come the challenges.



One of the challenges is that semiconductors release significant quantity of harmful gases, volatile organic compounds (VOCs) and air pollutants during the production process. It can be in the form of fumes, smoke, vapours and contaminated gases.

In the inbound air stream, contaminated gases such as hydrogen chloride, silane, arsine, phosphine, diborane, nitric acid, sulphuric acid, lead sulphonic acid, propanol, and in some cases, cyanide compounds are chemically active in high concentrations. Hence, the production facility needs to be cleaned above permissible level (phase wise).

If not treated, they pose critical threat to man and machine working in the environment. Therefore, it is critical to keep them safe from toxic and corrosive gases.

The contaminated inbound air can lead to the following challenges:

- Corrosion of silver and copper contacts
- Crystal formation by neutralization with SO₂ and NO_x with NH₃
- Defects in process and its electric properties
- Lower illuminance due to lens contamination
- Current leakage and abnormal voltage resistance
- Oil film formation on wafer surface
- Toxicity and odour for workers

Here are the environmental classification for describing the levels of contaminants in the semiconductor facility

Corrosivity Levels of Environment as per ISA 71.04 - 2013 Standard

Class	Severity Level	Cu/Ag Reactivity Rate/Month	Comments
G1	Mild	<300 Å=Cu <200 Å=Ag	An environment sufficiently well-controlled such that corrosion is not a factor in determining equipment reliability.
G2	Moderate	<1000 Å	An environment in which the effects of corrosion are measurable and corrosion may be a factor in determining equipment reliability
G3	Harsh	<2000 Å	An environment in which only specially designed and packaged equipment would be expected to survive. Specifications for equipment in this class are a matter of negotiation between user and supplier.
GX	Severe	>2000 Å	An environment in which there is a high probability that corrosive attack will occur. These harsh levels should prompt further evaluation resulting in environmental controls or specially designed and packaged equipment.

The Bry-Air Solution

Air contaminants are best controlled at source so that they are neither dispersed through production facility nor allowed to increase to toxic concentration level. Bry-Air Gas Phase Filtration (GPF) system is an ideal solution as it removes contaminants and corrosive gases at source through the process of adsorption and chemisorption. When contaminated air passes through pre-filters, it retain dust and particles. Thereafter, the chemical media stages (combination of activated carbon and activated alumina impregnated with proprietary chemicals), chemically destroy remaining gaseous contaminants. Bry-Air GPF system is designed to maintain the ISA standard 71.04, IEC standard and Environmental Standards followed by most electronics manufacturers.

During semiconductor manufacturing, excess moisture can adversely affect the bonding process, increase defects and can lead to frequent circuit failures. Bry-Air Desiccant Dehumidifier can effectively maintain the optimum humidity conditions required for semiconductor manufacturing areas regardless of its ambient conditions.



We are never too far from you . . .



Comatrol, the Bry-Air representative in Egypt

Computer and Control Systems Inc. (Comatrol) is one of the international representatives of Bry-Air, and is providing service to Bry-Air customers in Egypt

Comatrol has been providing technical solutions and professional services including design, supply installation, commissioning, maintenance and after sales services in the field of HVAC and protection systems for buildings and large complexes.

With around 90 employees, Comatrol is one of the leaders in providing Automatic Control Solutions, System Integration and Engineering Services. Since 1988, Comatrol has successfully implemented hundreds of prestigious projects all over Egypt and in the region, serving a long list of satisfied customers. Comatrol is an exclusive solutions partner with key international brands in its fields of operation.

Comatrol has been a Bry-Air partner for over 20 years. Installed over 50 Bry-Air units all over Egypt, including engineered systems with 40,000 - 60,000 CMH of air flow.

Some of the applications areas:

- Pharmaceuticals
- Gel Drying
- Yeast Drying
- Food Processing
- Fertilizers
- Hospitals
- Seed Drying
- Food Storage
- and many more

Some of the key customers:

- JEDCO
- EgyBelg
- Evergrow
- Amoun
- Kraft
- Cadbury



You may get access to our Representative in Egypt at the below contacts:

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