

AIR FACTS

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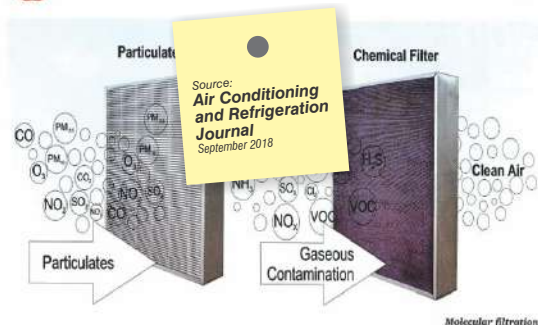
News on Gas Phase Filtration

Bry-Air Shares Insights on Air Filtration

Bry-Air spokespersons, Mr. Dinesh Gupta, Executive Director, and Mr. Manish Kumar Jain, National Sales Manager, shared their knowledge and expertise through an article to Air Conditioning and Refrigeration Journal on Air Filtration at Molecular Level.

The article covers the concept, need, technology trends and equipment on air filtration, especially for mission critical facilities.

Read the complete technical article on our website www.bryair.com



Air Filtration at Molecular Level

By Dinesh Gupta Executive Director, Bry Air India Pvt. Ltd., Gurugram
and Manish Kumar Jain National Sales Manager - GFM Division Bry-Air India Pvt. Ltd., Gurugram

Abstract

Air filtration, as commonly understood and depicted in air conditioner advertisement and the print media, is about the poor quality of air around us, which mainly pertains to filtration of particulate contaminants. This article, however, will discuss various aspects of air filtration at the molecular level, i.e. filtration and removal of gaseous contaminants. Air filtration at the molecular level is often referred to as gas phase filtration.

Today, when technologies and equipment, especially in mission critical facilities, require a clean environment to function at their optimum, an understanding of molecular phase filtration is essential.

This article will also discuss the concept, need, technology trends and equipment for molecular phase filtration.

Introduction - The Basics

Molecular Phase Filtration is the filtration of gaseous contamination of the molecular scale size.

Particulate Air Filtration is the filtration process that removes solid particulate from the air.

ASHRAE Standard 52.2 classifies particulate filtration as:

- Pre-Filtration (G class) from MERV 1 to MERV 8.

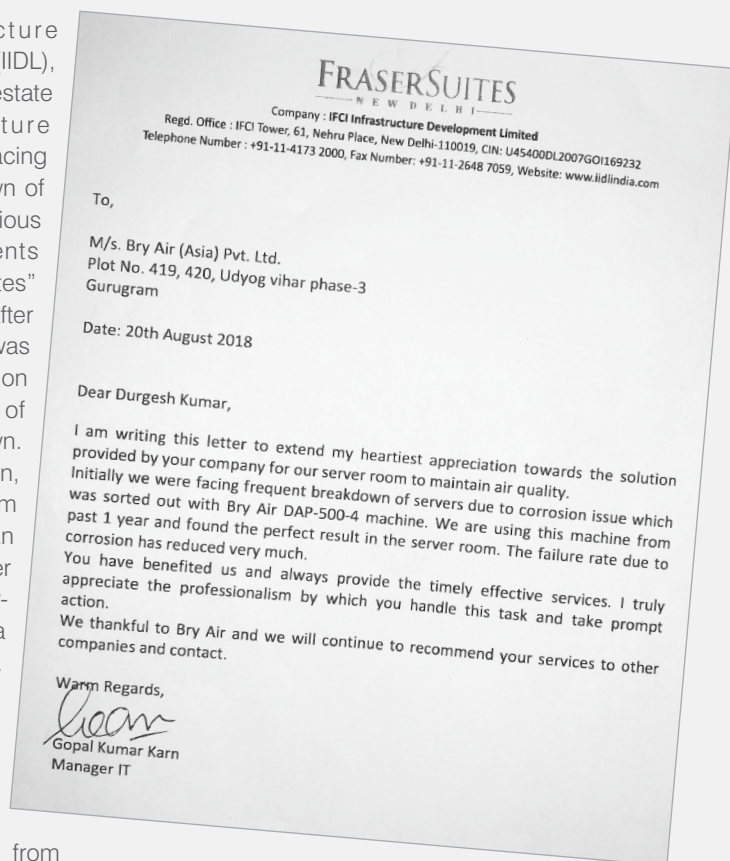
About the Authors

Dinesh Gupta is Executive Director at Bry-Air India, a Wholly owned company of Pawa Group, with almost four decades of experience in global filtration and indoor environmental control. He has specialized in application and engineering of environmental control equipment like dehumidifiers, energy recovery system and engineering controls. His papers on humidity control, gas phase filtration, energy recovery systems and IAQ have been published in various technical journals. Currently, he is Chair - Student Activities and Sustainability at ASHRAE India Chapter, and its Past President.

Manish Jain graduated in 1994 as an Electronics Engineer and has experience of more than two decades in automation and controls and gas phase filtration. He is heading the Gas Phase Filtration department in Bry Air India Pvt. Ltd., Gurugram.

Bry-Air solves IIDL's server breakdown problems

IFCI Infrastructure Development Ltd. (IIDL), the leading real estate and infrastructure company, was facing frequent breakdown of servers at its luxurious service apartments named "Fraser Suites" in New Delhi. After assessment, it was found that corrosion was the real cause of servers breakdown. To prevent corrosion, Bry-Air advised them to maintain clean air at their server rooms. Thus, Bry-Air installed - Data Center Air Purifier. After installation, Fraser Suites is satisfied with the DAP performance and has been using the product from the last one year.



BRYCARE™ Service Division begins SMS alert service

For our long lasting relationship, Bry-Air had initiated BryCare™ service, where Bry-Air cares for all equipment even after sale. Now, Bry-Air has added another feather to the cap and began predictive sms notification service. In this service, Bry-Air remind its existing customers about the upcoming expiry date of chemical media. The sms are auto generated and released 60 days and 30 days prior to the expiry of the chemical media.



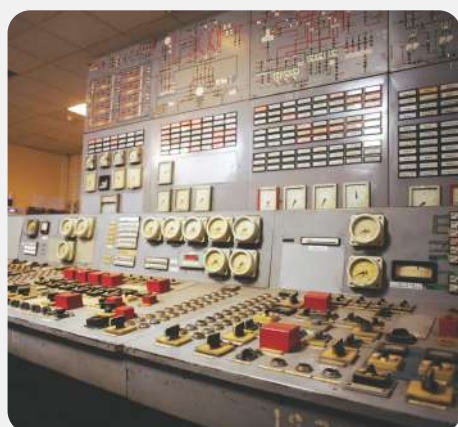
Prevent electronic corrosion at control room in paper manufacturing

Over the last few years, automation and digitisation have brought substantial benefits to the paper manufacturing industry. However, corrosion has been eating away the digital infrastructure and the revenue. Corrosion degrades the electronic equipment as the metals have the tendency to react with moisture and corrosive gases.

During the paper manufacturing process, the expensive electronic metal equipment are exposed to various corrosive gases and particulates. Particularly, during the digestion process, evaporation, kraft process in recovery boilers, bleaching and chemical storage, it releases odourous and harmful gasses and particulates in the air.

These harmful gasses alone, or in combination with humidity and/or temperature, reacts with silver and copper metal in electronic circuit boards, server cards, datacom connections placed in control rooms and equipment room. It results in micro-electronics corrosion/malfunction leading to downtime losses in control rooms, rack rooms and motor control centers.

The frequent breakdown due to electronic corrosion disturbs the functioning of administrative block and ultimately increases the business operating cost.



AIR CONTAMINATION AT PAPER PLANT

Process	Gases Released/Air Contamination		
Digestion Process	H ₂ S	SO ₂	Mercaptans
Bleaching	Cl	ClO ₂	
Boiling and Waste Water Treatment	H ₂ S	SO ₂	H ₂ S

Bry-Air Solution

Bry-Air Airgineers™ can install and evaluate the level of corrosivity with the help of Atmospheric Corrosivity Monitor in paper industry. Eventually, based on result, the Airgineers™ can recommend the installation of Gas Phase Filtration Systems (Deep Bed System) in the control room or monitor control center. It removes airborne molecular contaminants and eliminates production downtime.

The systems are designed to meet the stringent air quality standards set by ISA (International Society of Automation).



Corrosion peeping in chemical industry profits

Chemical industry touches the common man in the form various useful products. It provides pesticides and fertilizers to agriculture sector, medicine to pharma, synthetic dies to textile, soaps and creams to cosmetic industry and many more.

In view of the common man's demand, the scale, and operations required in the chemical industry, the units have implemented automation technology. Compared to other industries, the automation technology is at higher risk in the chemical industry. The reason is the environment at the chemical manufacturing unit does not treat the automation systems well because the chemical units releases harmful and corrosive gases in the air such as Hydrogen Sulphide (H_2S), Sulphur Dioxide (SO_2), Bromine and Oxides of Nitrogen, Chlorine etc.

These gases alone or in combination with humidity and/or with temperature peep into automated control rooms and react with copper and silver in electronic circuit boards, server cards, EVA, cooling equipment, switchgear, datacom connections resulting in micro - electronic corrosion/malfunction resulting in downtime losses.



AIR CONTAMINATION AT CHEMICAL PLANT

Industry	Gases Released/Air Contamination				
Refinery & Petrochemical	SO ₂	NOx	Cl ₂	NH ₃	H ₂ S
Fertilizer	NOx			NH ₃	
Chemicals	NOx, Cl ₂ , SO _x , H ₂ S,HCL, HF, VOC				

Recommendation

The gas phase filtration process removes contaminated, suspended particles and odour to provide a perfect and healthy environment for equipment.

Prevention is better than cure

Bry-Air EcoScrub™ Deep Bed System is an ideal way to prevent control/server rooms from abrupt failures caused due to corrosion in the electronic cards and electrical components. It removes contaminant and eliminates downtime by removing corrosive gases through the process of adsorption and chemisorption. In this process, the contaminated air is made to pass through pre-filters which trap suspended particles in the air. After this process, the air is made to pass through chemical media beds that destroy all the remaining

gaseous impurities. The chemical media can be either activated alumina or activated carbon which is impregnated with various proprietary chemicals. One can use the combinations depending upon the requirements and the concentration of impurities that are present in the air.

EcoScrub™ Deep Bed System is designed to maintain the ISA standard 71.04-2013 for corrosion and gases, IEC standard and environmental standards followed by electronics manufacturers.

Thank you for visiting us at



Productronica India, Bengaluru



Abu Dhabi Seminar



Hyderabad Seminar



Bangladesh Seminar



Seminar in Kuala Lumpur



Engineering Expo, Pune

Bry-Air® Chennai, Anna Nagar office shifted to Saidapet

For any communication, please contact us at 044-48606141/42/43. The new office address is "Harrington Chambers", Block A, 3rd Fl., Door No. 2/1-7, Abdul Razack Street, Saidapet, Chennai - 600 015.



Indian Pulp and Paper Technical Association seminar, Hyderabad



Paperex South India, Chennai

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