

# 25 years of delair<sup>®</sup>

Delair has grown from a Compressed Air Dryer Company to Compressed Air Treatment System Company with a wide range of Compressed Air Dryers – standard and engineered type as well as large range of Accessories. Delair is backed by a world class technology and sound product knowledge. Being associated and grown with the industry, Delair felt that 'One-Stop-Shop' was a must to provide the industry with the complete 'A to Z' in Compressed Air Treatment System. Please look forward to a wider range of **State-of-the-Art** Compressed Air Treatment Systems in days to come.

## Changing Batons

Mr. R.K. Guha, who headed Delair for last 11 years, retired in April 2013, handing over the baton to Mr. Rajasekhar Manda.

Mr Rajasekhar has worked with Mr. Guha closely for many years. He has over 20 years of experience in the industry.

We wish Mr. Guha a very happy retired life.



Mr. R.K. Guha



Mr. Rajasekhar Manda

## Delair Upgrades its Product Range

New Ultima Series  
Micro Processor  
based Refrigeration  
Dryer.

The Dryer removes moisture from compressed air, enabling uninterrupted running of compressed air powered pneumatic systems.



### Range

- Ultima Series (Air Cooled)  
FDI-U-18A to FDI-U-1690A (18M<sup>3</sup>/Hr TO 1690 M<sup>3</sup>/Hr.)
- Ultima Series (Water Cooled)  
FDI-U-540W to FDI-U-10000W (540M<sup>3</sup>/Hr TO 10000 M<sup>3</sup>/Hr.)

### Key Features:

- Eco-friendly Gas
- Unique Volume Liquid Accumulator
- Latest DelSmart Card with RS-485 port - Touch Screen
- Aluminium Structure

## Case Studies

### Pharmaceutical Industry

#### Associate Biotech

Delair successfully commissioned Refrigeration Dryer – FDI 180 A at Associate Biotech, Baddi, Himachal Pradesh manufacturing plant for spraying / coating process.

#### Problem

Majority of the pharmaceutical products are highly hygroscopic and tend to suffer physical, enzymatic, microbiological and biochemical deterioration after coming in contact with moisture laden compressed air. In Associate Biotech, moisture in compressed air in spraying / coating process lead to problems like change in colour of tablets, blisters on tablets and breakage of tablets. There was wastage of tablets due to reaction of chemical with moisture. Also, there was rust and corrosion in compressed air pipe lines.

#### Delair Solution

After thoroughly analyzing the problem, Delair engineers decided to install Refrigeration Dryer FDI 180 A and Desiccant Dryer DC 125. Refrigeration Dryer freezes the compressed air to the near freezing point to remove moisture and reheat it to approximately 10°C below the incoming compressed air temperature at nominal conditions.

### Power Industry

#### NTPC

Refrigeration Dryer was commissioned at NTPC-Tanda, UP manufacturing plant at their Ash Handling System

#### Problem

NTPC faced various problems in Ash handling system due to moisture in compressed air. Moisture in the process of ash handling system lead to:

- Corrosion in pipes, ash intake valves, air intake valves and other components.
- Increased downtime and maintenance costs of pneumatic controls.
- Lump of ash in pipelines during ash handling.
- Rust and scale formation in pipelines, silos
- Sluggish and inconsistent operation of air valves
- Malfunctioning of pneumatic shutters

#### Delair Solution

After reviewing the situation, Delair engineers decided to overhaul the compressed air drying system to increase efficiency. They installed Refrigeration Compressed Air Dryer FDI 5400 + FDI 6500. This Dryer operates on the method of cooling the air to near freezing point to remove the moisture and reheating it to approximately 10°C below the incoming compressed air temperature at nominal conditions.

### Automobile Industry

#### Maruti Suzuki

Maruti Suzuki was 2 Refrigeration Dryers, 2 Oil filters, 2 Pre filters and 7 Pressure gagues were commissioned at their Gurgaon, Haryana manufacturing plant at their paint booth shop for spray painting and powder coating process.

#### Problem

At MARUTI SUZUKI the major problem was presence of moisture, dust particles, oil fumes and solid contaminants in compressed air which adversely effected the air quality. In their manufacturing unit Bumper Paint Shop is powered by compressed air for spray painting / powder coating process. When compressed air mixes with paint before spraying then all these pollutants found in compressed air lead to blisters in paint surfaces, water droplet marks in surface and low quality shining in bumpers which leads to low quality finish. When spray painting is done through painting robots then contaminated compressed air causes low quality final finishing and rust / corrosion in painting robots. This leads to malfunctioning of pneumatic systems, high maintenance cost and decrease in durability of painting robots. Also, there was rust and corrosion on compressed air pipe lines.

#### Delair Solution

After reviewing the situation, Delair engineers decided to overhaul the compressed air drying system to increase efficiency. They installed Refrigeration Compressed Air Dryer FDI 1690 A. This Dryer operates on the method of cooling the air to near freezing point to remove the moisture and reheating it to approximately 10°C below the incoming compressed air temperature at nominal conditions. They also installed Pre Filters and Oil Filters to remove dust particles and oil particles present in compressed air which were caused by lubricated air compressor.

# Moisture Problem in Food Industry



In Food processing units, generally following compressed air powered pneumatic machines are used :

Pneumatic Control and Actuators	Labeling Machine	Packing Machines
Pelleting Machine	Weighing Equipment	Conveying Machine
Air Tight Packing	Spraying	Cleaning Trays
Filling equipment for drink	Powder Coating	Bulk Packing
Bottling	Packing Can	Sugar Coating



## Problems

A major problem in compressed air systems is the presence of water, dust particles, oil (oil particles are introduced by lubricated air compressors) and solid contaminants which can adversely affect air quality. Majority of the food products are highly hygroscopic and tend to suffer physical, enzymatic, microbiological and biochemical deterioration after coming in contact with moisture laden compressed air.

- Containers require reliable clean-out and evacuation to meet stringent quality standards.
- Moisture and dust particles in air-tight packs may spoil food.
- Presence of moisture and dust particles during spraying leads to unhygienic food.
- Presence of moisture and dust particles in baked food trays may spoil food.

If the contaminated compressed air will be used through pneumatic tools and machines then there will be following problems :

Malfunctioning of pneumatic tools and machines	Sluggish and inconsistent operation of valves and cylinder
Corrosion in pipelines, cylinder and other components	Increase in downtime
Increase in maintenance cost of pneumatic machines / tools / controls	Freezing in exposed lines during cold weather

## The Delair Solution

Remove moisture, dust particles, oil (oil particles are introduced by lubricated air compressors) and solid contaminants from compressed air.

Delair offers wide range of Refrigeration Dryers and Adsorption Dryers which remove water/moisture from compressed air.

### Delair Refrigeration Dryer

This Dryer operates on the method of cooling the air to near freezing point to remove the moisture and reheating it to approximately 10°C below the incoming compressed air temperature at nominal conditions.

### Delair Adsorption Dryers

The Dryer is based on the principle of heatless regeneration and the physical properties of the desiccant to adsorb and desorb the water vapour. It uses pressure swing principle / purge air to regenerate the desiccant bed.

### Delair Filters

Pre Filters and Oil Filters remove dust particles, oil particles and other types of solid contaminants present in dry air.



## Some Recent Big Projects :



Company: **NTPC**  
 Location: Nabi Nagar, Rajasthan  
 Product: Refrigeration Dryer – FDI – LP – 6500W(S),  
 Capacity: 4550 cfm, After Cooler – AC – LP-6500 = 4550 cfm



Company: **NTPC**  
 Location: Tanda, UP  
 Product: FDI-LP-5500 W(S)  
 Capacity: 3850 cfm  
 Accessories: After Cooler – AC-LP-5500



Company: **Reliance**  
 Location: Silvasa, Maharashtra  
 Product: Moisture Separator – MS 22500, MS 48000, MS 7500, MS 7000

## Seminar at Panchkula



Delair organised a seminar on compressed air drying at Panchkula, Chandigarh. We shared technical details of compressed air drying and its application to technical people from various industries. The event included a discussion on challenges in compressed air drying technology.

## News from Group Companies

### **Bry-Air**® Sets Up India's First Gas Phase Filtration Lab

Bry-Air, has recently setup a state-of-the-art Gas Phase Filtration laboratory at its Gurgaon plant. The lab is one of its kind in India and in the world. The Gas Phase Filtration Laboratory (GPFL) is equipped with world-class technology and systems. It is capable of testing the performance of – impregnated / non – impregnated loose granular media and impregnated / non – impregnated air cleaning device such as chemical filter, under one roof.

### **DRI** presented Technical Paper at ISHRAE TECH FEST Goa

DRI made a Technical Presentation titled “**Gas Phase Filtration for Mission Critical Facilities & Indirect Evaporative Cooling for Green Data Centers**”. Presented by **Mr. Rahul Aeron, National Sales Head-Energy Recovery**, the presentation received a huge applause by the audience. DRI has played a pioneering role in propagating the concept of energy recovery and Indoor Air Quality (IAQ) in the country.

## Upcoming Exhibitions



Exhibition	P Mec	Plastivision India	National Expo	Engineering Expo	ACREX
<b>Date</b>	3-5 Dec 2013	12-16 Dec 2013	13-15 Dec	11-14 Jan 2014	27 Feb - 1 Mar
<b>Location</b>	Mumbai	Mumbai	Raipur	Aurangabad	Delhi

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