

Raj Deep  
**ENVIROCON**<sup>TM</sup>  
ISO 9001:2015 Certified Company



Pneumatic Conveying & Air Pollution Control System Manufacturer



**Raj Deep Envirocon LLP**

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# Dust Control / Dust Extraction System

**We offer complete line of Dust Collection Equipments like Bag Filter, Cyclone, Scrubber etc.**

- ✚ Air borne Dust generated in plant due to handling, Transferring, Processing, Loading / unloading etc. gets sucked and is routed through proper sized ducting network to DUST FILTERING EQUIPMENT.
- ✚ An Efficient Method of filtering the air borne dust giving effective working environment there by eliminating the Dust Hazard.
- ✚ Our Dust Control System satisfies all Pollution Control Board regulations and their requirements of Emission Norms. The system is designed with Optimum Power Economics and suitable Duct Sizing.



## Dust Collector / Bag Filter

**Working principle of our Dust Collector or Bag Filter are:**

- ✚ Air Borne dust/powder enters in hopper (variety of inlets, depends on nature of dust).
- ✚ Air + Dust travels to Bag. Fine Dust/Powder retain on the bags;
- ✚ Heavy dust settles in hopper. Clean Air is passed through bags.
- ✚ Clean Air Exists from the Top of the Bag Filter.
- ✚ Compressed Air header with blow pipe network provides filter cleaning.
- ✚ Pulse Valve, connected to blow pipes is controlled by sequential timer for filter bag cleaning.
- ✚ Cleaning the Filter Bags by Reverse Pulse Jet of Compressed Air. Dust released from the bags get settled in the hopper.
- ✚ Collected Dust/Powder in hopper is discharged through different aids provided at hopper discharge in Rotary Valve, Double Dump Valve, etc.





# Pneumatic Conveying Systems

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We provide STATE-OF-THE-ART Pneumatic Conveying Systems for different Solids (Powder/Pellets).

We offer customized solution for Solids transfer; Providing clean, leak-proof, safe atmosphere in material handling plant.

We offer broadly dilute phase and dense conveying system.

## Dilute Phase Pneumatic Conveying System (Lean Phase)

- ✚ This System works on low solid to air ratio.
- ✚ System has low air pressure, high air volume.
- ✚ System works with high velocity solid transfer.
- ✚ System works with Pressure Conveying i.e. air blow or vacuum conveying viz. air suck.
- ✚ Use of wide variety of solids system commonly used for, Non Abrasive Material, Economical up to 200 Meter Conveying.
- ✚ System mainly Comprises of Positive Displacement Blower (Pressure < 2 barg), Rotary Feeder and Product Separator.



## Dense Phase Conveying

- ✚ This system works with high solid to air ratio.
- ✚ System has high air pressure, low air volume.
- ✚ System works with low velocity of solid transfer.
- ✚ System mainly consists of a compressor (Prime Mover, Pressure > 2barg), Pressure Vessel / Transfer Pot, Controlling instrument, Valves and Panels.
- ✚ Best suited for conveying abrasive solids.
- ✚ Best suited for long distance conveying.



# Screw Conveyor

**We offer Design, Manufacture & Installation of screw conveyors.**



- ✚ Screw conveyors are usually designed to suit specific applications as per customer requirement.
- ✚ Materials of construction are selected to suit the application (MS / SS304 / SS 316)
- ✚ Screw conveyor of size 50mm to 800mm and length maximum upto 30mtr with hanger bearing.
- ✚ Screw conveyor of 'U' type or 'O' type.
- ✚ Application as conveyor designs as Conveyor, Feeder & Mixer.
- ✚ Twin screw and paddle versions are also available.

## Centrifugal Fan

- ✚ Creates Required Suction.
- ✚ Highly Efficient.
- ✚ Backward curved propeller.
- ✚ Variety of Construction Material.
- ✚ Air Volume Range of 1000m<sup>3</sup>/hr - 200000m<sup>3</sup>/hr.



## Double Dump Valve

Double Dump Valve are used mainly for silky and hydroscopic material discharge.



# Rotary Airlock Valve (RAV)

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We offer state-of-the-art Rotary Airlock Valve application discharge duty, feeder pneumatic metering device



## Salient Features

- ✔ Precision Construction.
- ✔ Casted Body.
- ✔ 8-10 Vane Rotor (with adjustable tips / Beveled tips)
- ✔ Sealed outboard bearings.
- ✔ Optional body venting & purging packing glands.
- ✔ Self lubricating bearing.
- ✔ Fall through type / Blow through type.
- ✔ **Pallet type Rotary Airlock Valves** designed for handling Granules Material to avoid jamming & breakage.
- ✔ **Powder Design** for handling powder.
- ✔ High Temperature Application.
- ✔ MOC : CI / CS / HRS / SS304 / SS316
- ✔ Provided with line injector & venting box on request.

Various diameters and their Lit / Rev. available for rotary valve are

Diameter (MM)	Lt / Rev	Motor HP	Empty Weight in Kg	Flange to Flange Height	Width (AXB) overall	Flange Opening
150	3.4	0.5	100	280	520X530	Round
200	5.4	0.5	125	325	575X580	Round
250	10.4	1.0	200	400	650X580	Round
300	18	1.5	250	450	720X760	Round
350	28	2.0	400	520	770X900	Round
400	48	3.0	550	570	880X880	Round
450	62	3.0	650	640	1010X750	Round

Further sizes can be provided as per requirement.

Rotor RPM < = 20rpm. Filling efficiency = 50% to 80%



## Product Separator

Our product Separator (Bag Filter) has a variety of Filtering (Product Separation) design.

## Bag Dump Station

Bag Dumping Station for unloading 25kg to 100kg bags manually. Its in-built dust collection system keeps charging area dust free.



## Diverter Valve

- ✚ For multiple line connections.
- ✚ For source & destination selection.
- ✚ Dual tunnel type.
- ✚ MOC AI / SS304

Wear resistance type is available for aggressive material handling.



# Pneumatic Conveying Components

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## Storage Silo / Hopper

We provide variety of Silos/hoppers for intermediate storage.

- ↘ Efficient design for uninterrupted solids flow while unloading.
- ↘ Circular/Modular designs.



## Venturi Eductor

For unique application of solids transfer, we provide Venturi Eductor in place of Rotary Valves, mainly for Abrasive Solid transfer in lean phase conveying.

## Control Panel

We provide user friendly controlling system with required mandatory interlocks for smooth and accident free working of system.

- ↘ Closely designed as per the requirements of the Plant & operator.
- ↘ Provide Visual Mimic Panel box or Advanced version on PC.



# Formulation System

**We provide unique solution for Formulation plants. Formulation Plants require different solids, semi solids and liquids addition in precise quantity to make the batches.**

- ✚ Each Solid / Liquid metering or weighing is fed to a common weigh hopper or to mixer/blender. The master batch is then sent to further processes or packaging.
- ✚ We provide total integrated system as the user requirements.
- ✚ All equipment's involved in the system are sized for its uses.
- ✚ Total system is operated by centralized programmed Panel with required instrumentation and Valves.



## Other Equipments

### Conveying & Batching System





## Cyclone



## Bin Activator



## Grain Handling System (Breweries & Distilleries)





## Big Bag Unloading Station



## Telescopic Chute



## Pug Mill



## Hammer Mill



## Lump Breaker



## Scrubber





## Other Equipments

### Blender



### Hopper & Silo



### Weighing & Batching





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## Industries We Serve



Food Processing



Chemical



Dairy



Cement



Petrochemical



Brewery & Distillery



Agro & Fertilizer



Paint



Pharmaceuticals



Steel & Power

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