

Rajdeep

Engineering Systems

Rajdeep



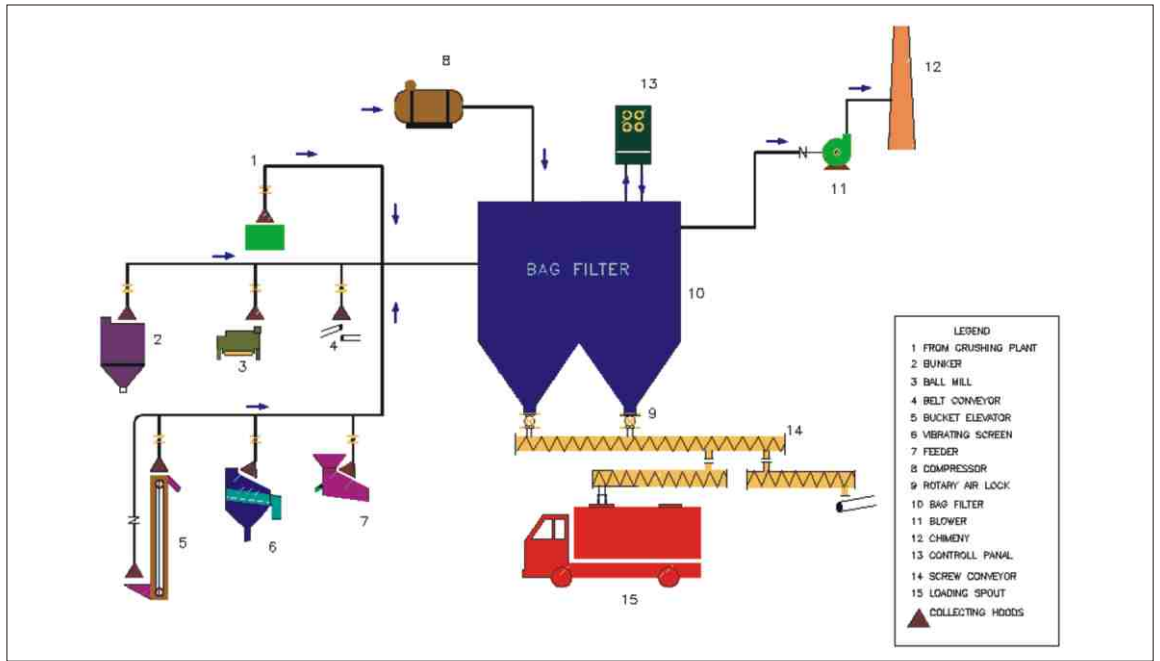
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DUST CONTROL SYSTEM

RAJDEEP complete line of Dust Collector equipments offers an effective and efficient method for filtering the air-borne dust generated by plant process, storage silo, receiving bin, mixer, dryer etc.

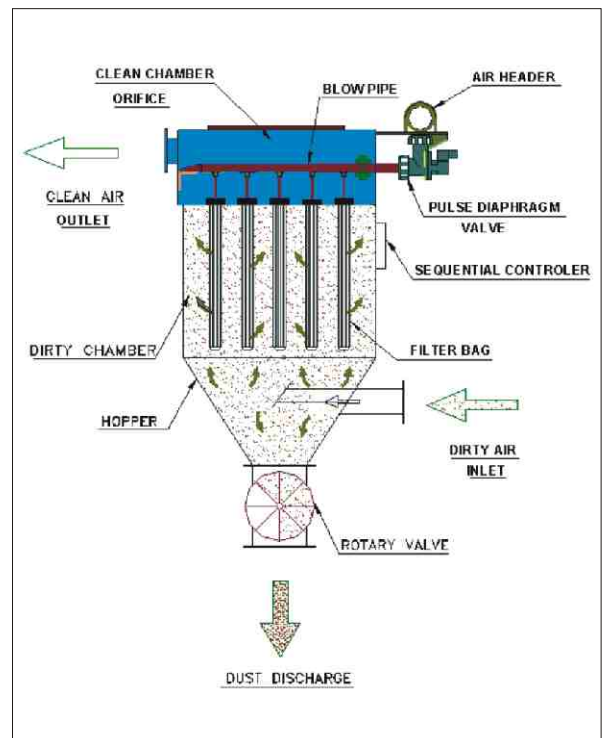
Dust laden air can produce an unpleasant, even hazardous work environment.

RAJDEEP proprietary dust collection systems have helped process plants with pollution control boards regulation by controlling in plant & environment pollution. In addition to this, these systems help to reduce occupational hazard, reduce mechanical & electrical failures & improves product quality & working environment.



Dust Collector/Bag Filter

Air along with dust particles under suction or pressure enters the lower portion i.e. hopper of the bag filter. The air travels through the filter bag, which retains the dust particles on surface of the bag, and the clean air passes out through bags and plenum to the outlet of Bag filter. Dust collected on the outside of the filter of the bag filter. To control the pressure differential across the bag filter, a sequential bags causes an increase in the pressure differential between dirty and clean air sides timer actuates a series of normally closed pulse valves at preset intervals causing them to open. A momentary rush of high- pressure air (4-5bar g) flows from the compressed air header to the blow tube and is expelled from the blow tube through nozzles at a high velocity (primary air flow). Air from each nozzle induces a secondary airflow. The combined effect of the primary and induced secondary air causes an instantaneous pressure rise on the clean side of the filter bags, causing a reverse flow air through the filter bags, thus dislodging the dust particles held on the outer surface of the bags. By this mechanism, the dust collected is released from the bags and falls into the hopper. From this hopper it is discharged through suitable device i.e. Rotary valve, screw conveyor. Since only fraction of the total filter area of the bag filter is cleaned at any given time, continuous flow through the bag filter at rated capacities is assured.

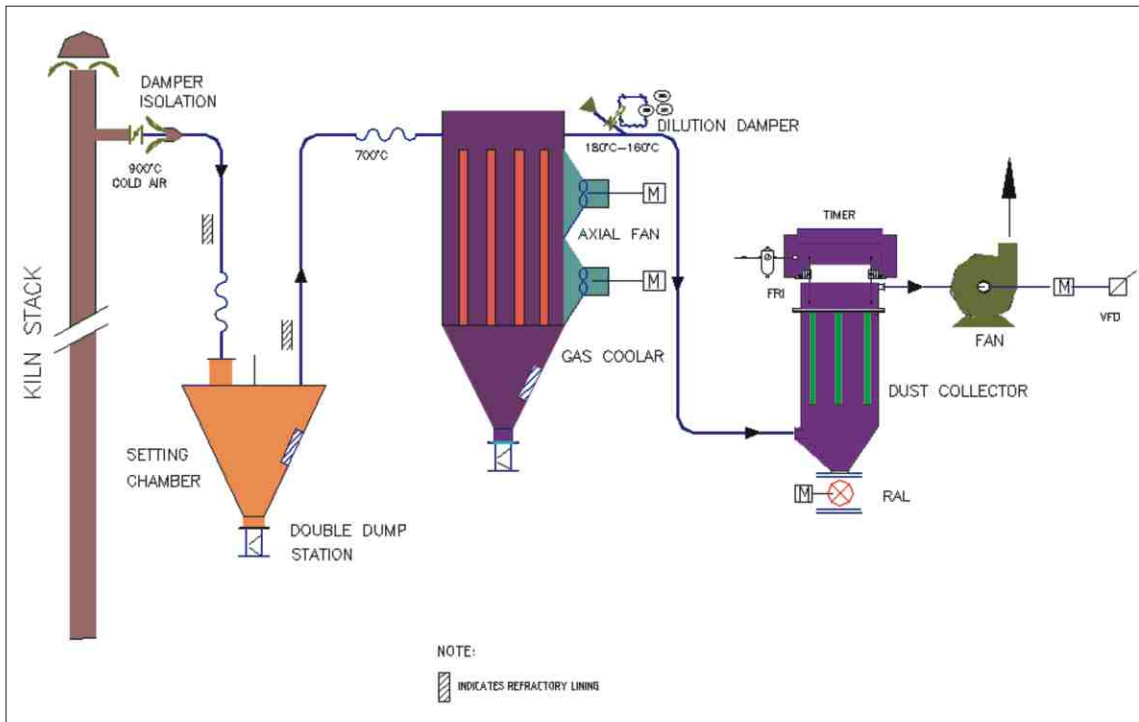


GAS CLEANING PLANT

Legal regulations and other social reasons are the necessities for gas Cleaning systems for different production processes. Corrosive gases, dust particulate creates adverse effect in environment. Highly polluted air as well as indoor sources greatly contributes to poor indoor air quality. To have clean & healthy environment, it is necessary to clean the exhaust high temperature polluted air. Necessity to have dry gas cleaning plant with gas cooler & bag filter combination.

Gas Cleaning Plant consist Isolation damper to take the tapping from exhaust stack, Dilution damper, Settling chamber/spark arrestor to settle the heavy dust & arrest spark, Gas cooler to reduce the gas temperature, Dust Collector/Bag Filter to Collect the Dust & clean air to atmosphere.

Application: - (1) Sponge iron industry kiln exhaust
(2) Cement kiln venting
(3) Steel Industry



Rotary Airlock Valve

Rotary airlock valves are typically required in dilute phase systems to control material feed, while isolating system pressure differential. RAJDEEP offers various state-of-the-art airlock designs to suit each application.



Centrifugal Fan

High efficiency robust design.

Impeller with backward curved, backward inclined and radial blades.

Capacities from 100M³/Hr to 250,000M³/Hr 250,000 M³/Hr and pressure up 120MBr.



PNEUMATIC HANDLING SYSTEM

Design

Systems Design Services

Since each bulk material handling system is truly unique, RAJDEEP offers custom design services tailored to meet the needs of an ever-changing industry. We work closely with your staff and/or consulting engineers to develop solutions for a wide variety of applications at an affordable price. Some of the design services routinely offered by RAJDEEP include:

- A) Analyze and solve problems with existing systems
- B) Develop system concept options & their Associated Cost
- C) Create specifications for Bidding
- D) Conduct plant Material Handling Process Studies.

Dilute Phase System	Dense Phase System
1. High Volume/Velocity	1. Low Volume / Velocity
2. Low Pressure: Under 15 psig	2. High Pressure: Above 15 psig
3. Dilute phase system is most suited to those materials, which are :	3. Dense phase system is most suited to those materials, which are :
A) Non-Abrasive	A) Abrasive D) Heavy
B) Non-Fragile	B) Fragile E) Hygroscopic
C) Light Density (Typically < 800kg/m ³)	C) Mixed batches (Minimize segregation)

AUTO WEIGHING & BATCHING SYSTEM

Many processes required that precise quantities of ingredients be brought together to make up a specific batch or formula. This typically involves metering materials individually into a weigh hopper using a metering device such as a screw feeder, airlock, or butterfly valve.

Through many years of experience, RAJDEEP has developed a unique control package, designed specifically for bulk materials. Each ingredient has fast & slow speed feed, automatic target weights set, and auto log. Multiple weigh hoppers, or loss-of-weight feeders, may also be used to formulate the batch. Liquid addition scale systems are also provided. Commercial programmable logic controllers (PLC's) are used for system management and ease of operation. A multitude of options are available for batching systems.

OTHER EQUIPMENTS

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| <ul style="list-style-type: none"> ● Silos ● Horizontal 'U' Ribbon Blenders ● Screw Conveyors ● Cyclones ● Manual Bag Dump Stations ● Isolation Dampers ● Expansion Joints (Metallic) | <ul style="list-style-type: none"> ● Agitators ● Vertical Mixers ● Air slides ● Ventilation System ● Big Bag Unloaders (Bulk) ● Pneumatic/Electric Dampers ● Access Doors For ESP |
|--|--|