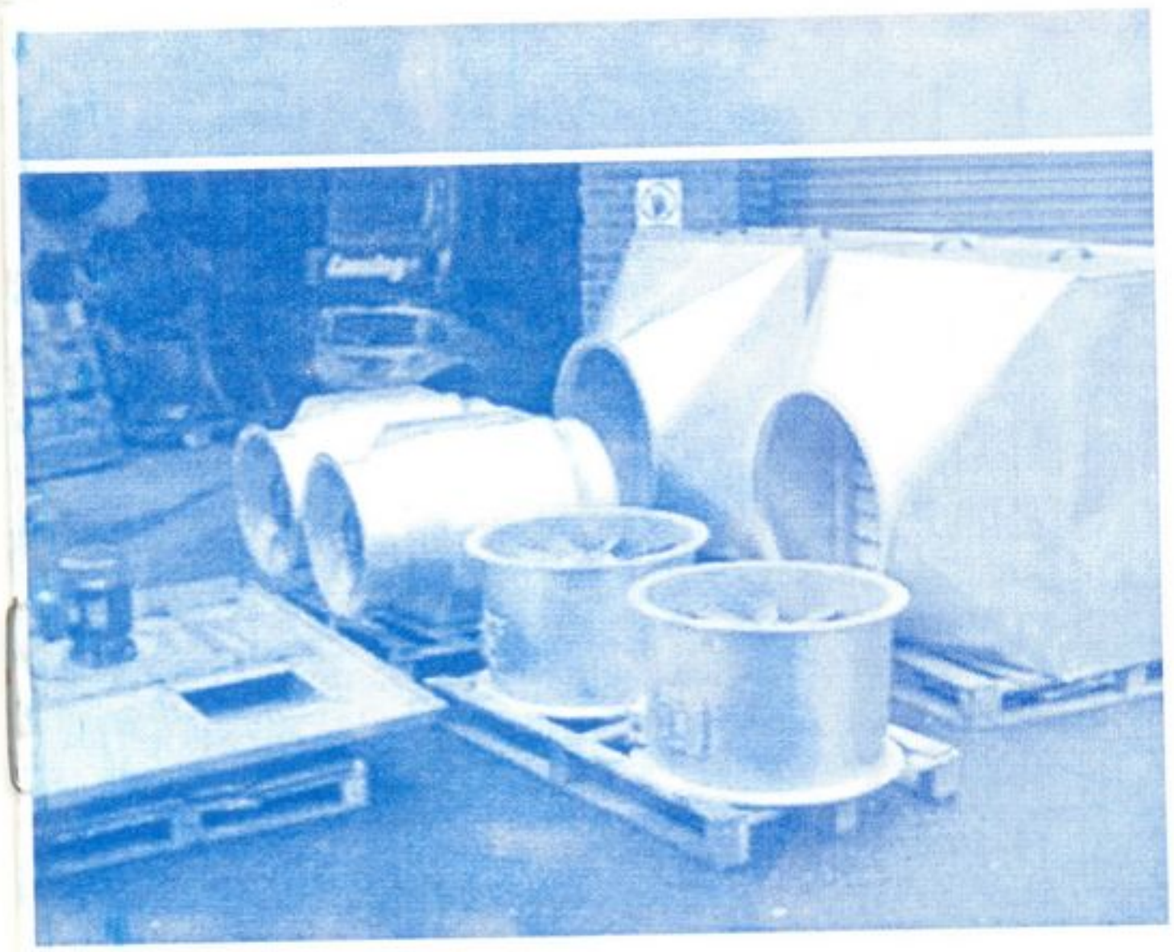


AIR HANDLING - VENTILATION
AIR POLLUTION CONTROL

For your Industries

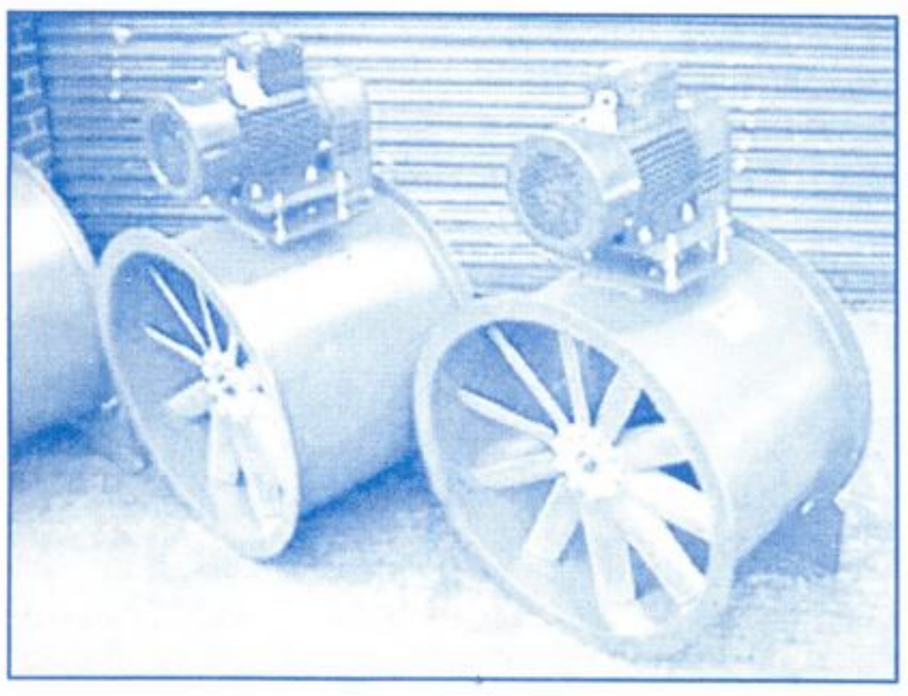
AIR TECHNIKO (India) PVT. LTD.

Registered Office

84, Bhattacherjee Garden Road.
Serampore,Dist. Hooghly (W.B,) Pin-712 203, India
Telefax : 00 91 33 2622 3407/2622 0657
E-mail : atl@cal2.vsnl.net.in

SOME OF OUR MAJOR CLIENTS

- Associated Ceramics Ltd
- Bhilai Steel Plant
- Bharat Refractories Ltd.
- Dalmia Cement Ltd.
- Electrosteel Castings Ltd.
- Hindustan Motors Ltd.
- Hindustan Lever Ltd.
- Indian Iron & Steel Co. Ltd.
- Jaya Shree Textile
- Jaya Shree Insulators
- Kesoram Rayon.
- Maithan Ceramic Ltd.
- Orissa Cement Ltd.
- Rourkela Steel plant
- Rourkea Fertilizer Plant
- Riga Sugar Co. Ltd.
- Tata Refractories Ltd.
- Berger Paints india Ltd.
- Hindalco Industries Ltd.
- Bata India Ltd.
- Gazy Tyres, Bangladesh
- Visakhapatnam Steel Plant
- Vikram India Ltd.
- Trident Sugars Ltd., A.P.
- Rayalaseema Alkalies & Hy-strenglh Hypo Ltd., A.P.



Works : B-2 Khiddepore Industrial Estate, Hide Road
Extn. Kolkata - 700 088 ph :2439 3604
(Near Brace Bridge Rly.Station/FCI Godowr)
2449 6068

AIR TECHNIKO (INDIA) PVT. LTD.

AIR TECHNIKO, established in 1983, are an established manufacturer of Industrial Fans, Air handling. Ventilation &. Air Pollution control equipment and systems.

With the design and engineering capabilities, manufacturing, inspection and testing facilities and after sales service, Air Techniko possess the necessary infrastructure to produce quality products as well as undertake projects on turnkey basis with total systems responsibility to meet any environmental regulations.

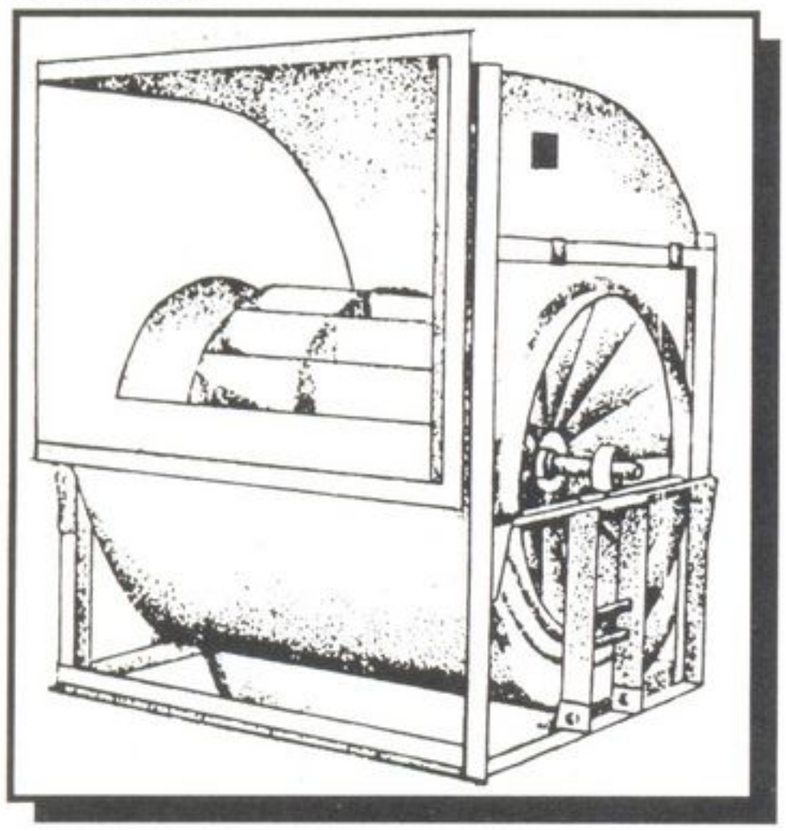
INDUSTRIAL CENTRIFUGAL FANS

The centrifugal fans comprising of casing, impeller, shaft with bearings and pedestal
The casing is manufactured from sheet steel with circular inlet and rectangular outlet. The larger sizes are split to provide access for the impeller.

The pedestal is fabricated from sheet steel and supports the casing and bearing assembly for smaller sizes whereas for larger sizes the pedestal supports only the bearing assembly.

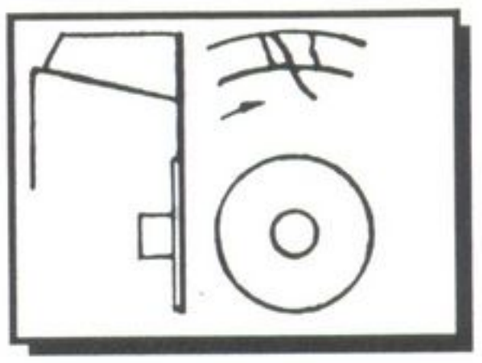
The impellers are both statically and dynamically balanced to ensure smooth and vibration free performance.

AIR TECHNIKO centrifugal Fans are manufactured in various driving arrangements, direction of rotation anc discharge and motor positions. Please refer our STANDARD 001.

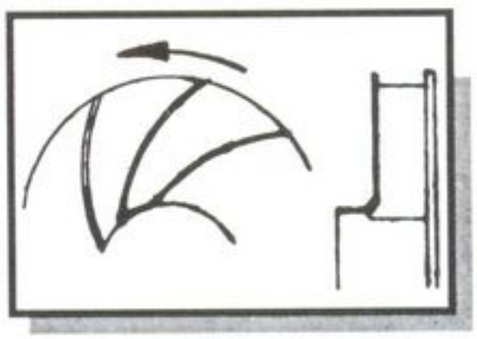


TYPE

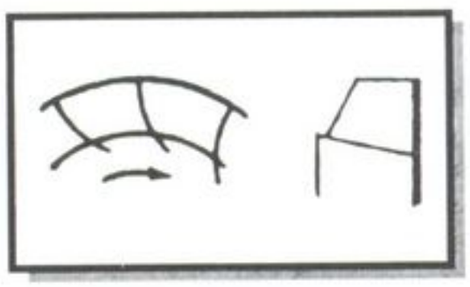
LOW AND MEDIUM PRESSURE FAN



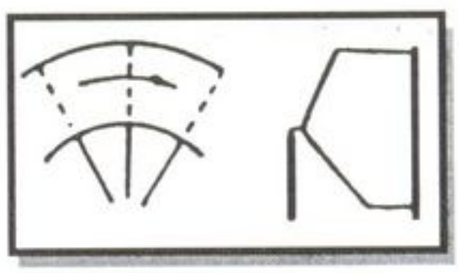
Limit Load Series : High efficiency centrifugal fans with capacity ranging from 1000 M^3/hr to 200, 000 M^3/hr and pressure upto 150 mm W.G. Available in single width single inlet and double width double inlet models.The impeller blades are double curved.These fans find application for ventilation and Air-conditioning.



ATHR Series : High efficiency centrifugal fans with capacity upto 100,000 M^3/hr and maximum Pressure upto 1200 mm W.G. The impellers have backward curved blades and suitable for hot air circulation, as forced draft fans and to handle limited amount of dust.



ATAW Series : High efficiency centrifugal fans with capacity ranging from lOOO M^3/hr to 90000 M^3/hr and pressure Upto400 mm-WG.These fans have Backward curved redial tip blades making the wheel self-cleaning and are widely used for dust extraction system.

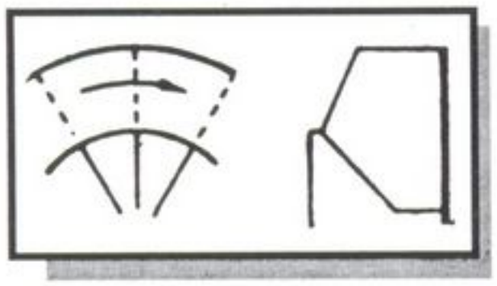


ATMW Series : High efficiency centrifugal fans with capacity from 1000 M^3/hr to 90000 M^3/hr and pressure upto 400 mm W.G. The impellers have straight radial blades giving highest degree of self cleaning and for installations to handle larger quantities of dust.

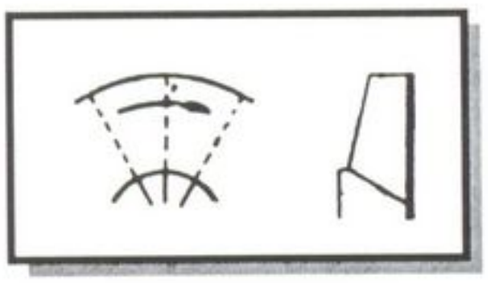
HIGH PRESSURE FANS

There are available in various designs depending upon the requirement.

a) Radial tip blades for its application in handling of coarser materials, conveying of saw-dust, chips etc.,



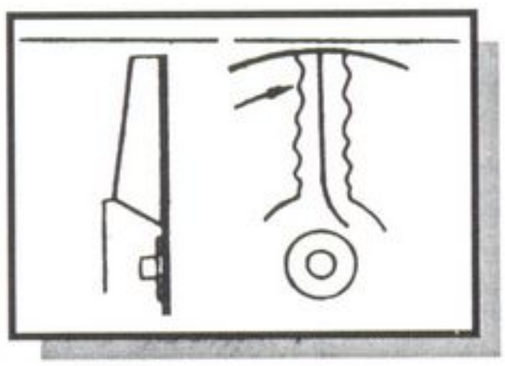
Typical specification
Capacity : 20,000 M^3/hr.
Pressure : 760 mm WG



b) Narrow width radial blades for its application in supply air for combustion, forced draft installation, boiler etc.

Typical specification
Capacity : 15,000 M^3/hr. to 2,50,000 M^3/hr.
Pressurc: 500 mm WG to 1760 mmWG

c) High speed Fans mainly find its application for combustion air supply for furnaces cupolas.



Typical specification
Capacity : 7,500 M^3/hr.
Pressure : 1000 mm WG

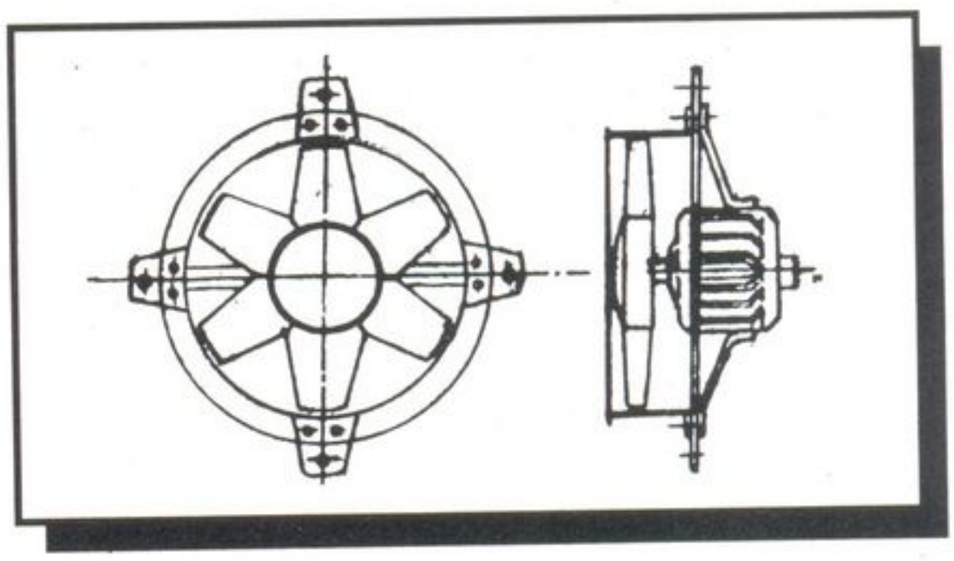
AXIAL FLOW FANS

AIR TECHNIKO Axial Flow Fans are available in a-wide range of air quantities and for low/medium/high pressure applications in industrial ventilation systems.
Axial Plow Fans consist of cast aluminium alloy impellers with high efficiency aerofoil section blades and mounted either directly on motor shaft or on fan shaft supported by bearings.

TYPES

WALL MOUNTED AXIAL FLOW FAN (DIRECT DRIVEN)

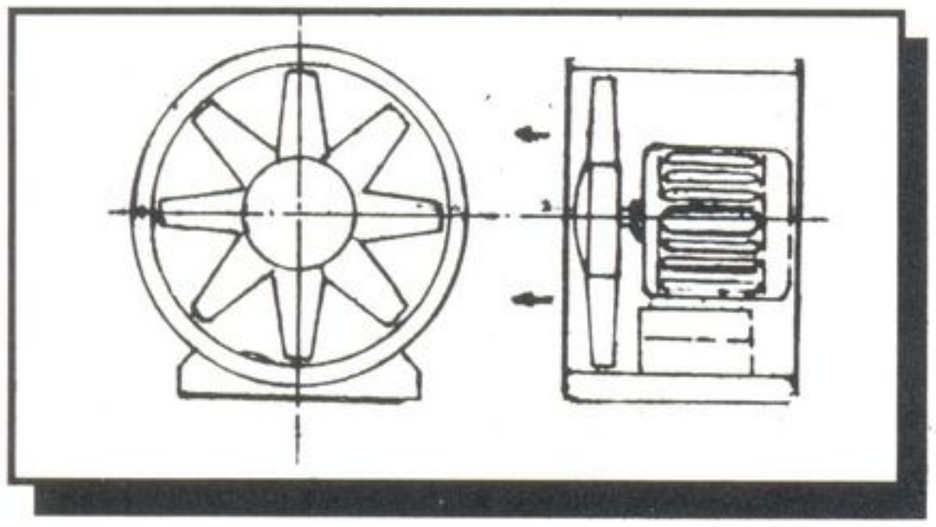
There are suitable for heavy duty supply or Exhaust systems. The impellers are designed for silent movement of a large volume of air. These fans are particularly suited to factories, mills, foundries etc.



Sweep upto 1200 mm. Capacity upto 90000 M^3/hr.

TUBE AXIAL FAN
(DIRECT DRIVEN)

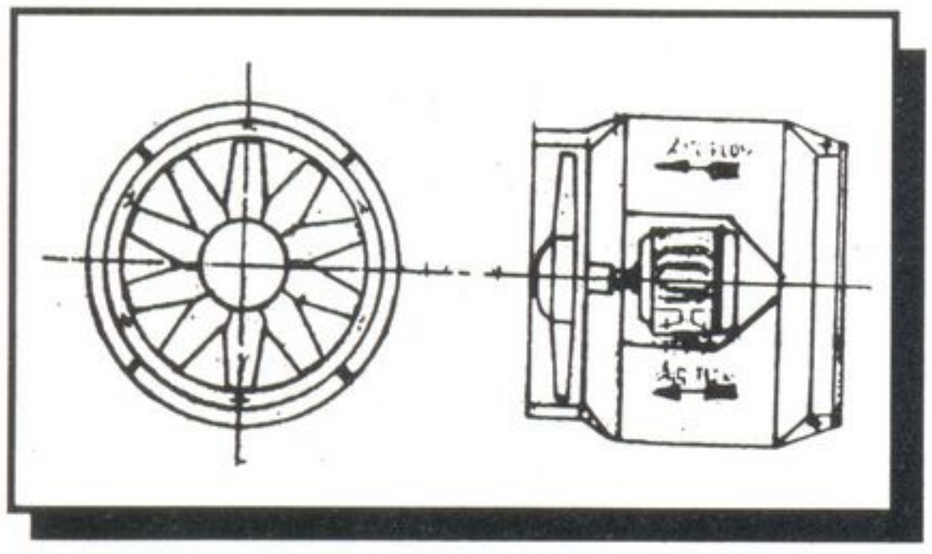
Direct Driven Axial flow Fans are suitable for duct systems in which temperature and air/gases are not connecting up may be difficult detrimental. These can be installed economically and designed for maximum efficiency against high static pressure.



Sweep upto 1600 mm. Capacity uplo 220.000 M^3/hr.

BIFURCATOR AXIAL FLOW FAN

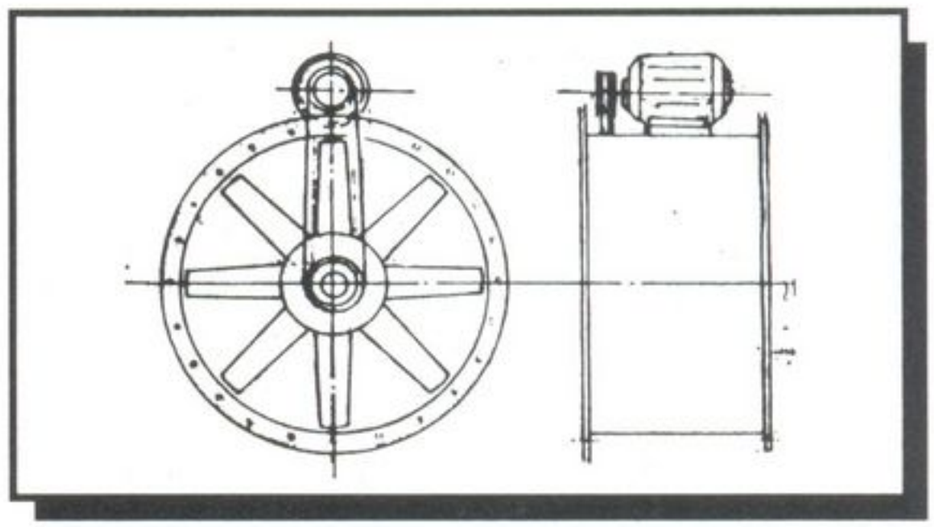
Bifurcator Fans have been designed for exhausting hot, corrosive inflammable or explosive gases. Motors are mounted in separate enclosure and the gases are by-passed around the motors.



Sweep upto 900 mm. Capacity upto 60000 M^3/hr.

TUBE AXIAL FAN (BELT DRIVEN)

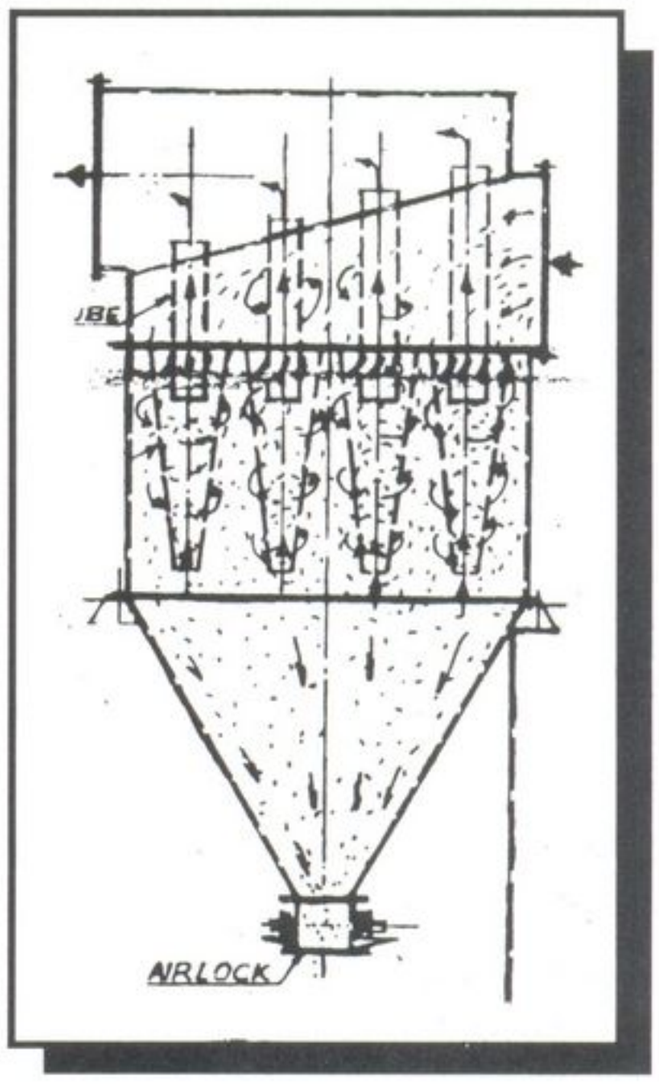
These are suitable for hazardous air/gases and high temperature application through duct-work. Motors and bearing blocks are isolated from the air stream.

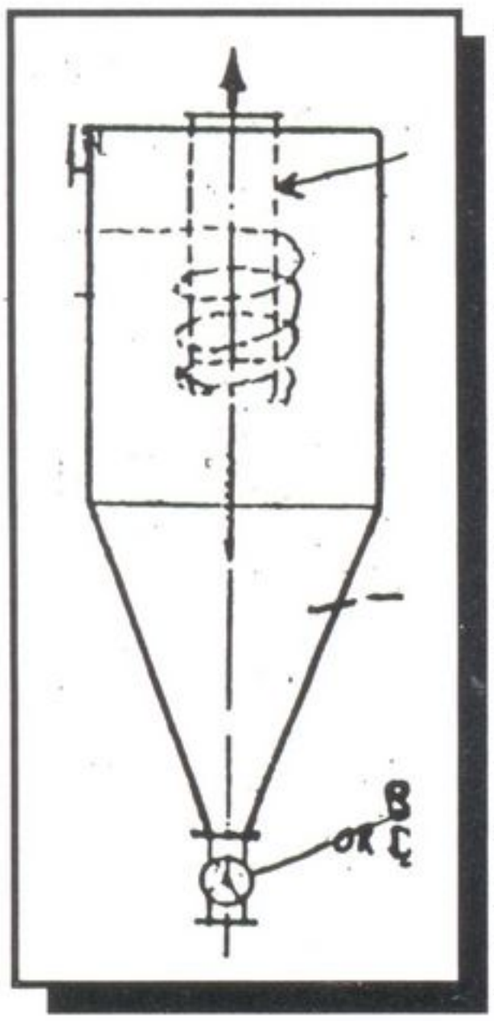


Sweep upto 900 mm. Capacity upto 60000 M^3/hr.

MECHANICAL DUST COLLECTOR

Mechanical Dust Collectors are used mainly for their reliable operation, low initial and operating cost and fairly high dust collection efficiency (85-90%) for coarse particles. These also act as pre-separator for very high dust concentra-tions with





more effi-cient final collectors downstream.

Depending on volume of gas to be handled and required efficiency, these may be single cyclone or multi cyclone of small diameter cyclone elements in cast iron construction fitted with inlet guide vanes.

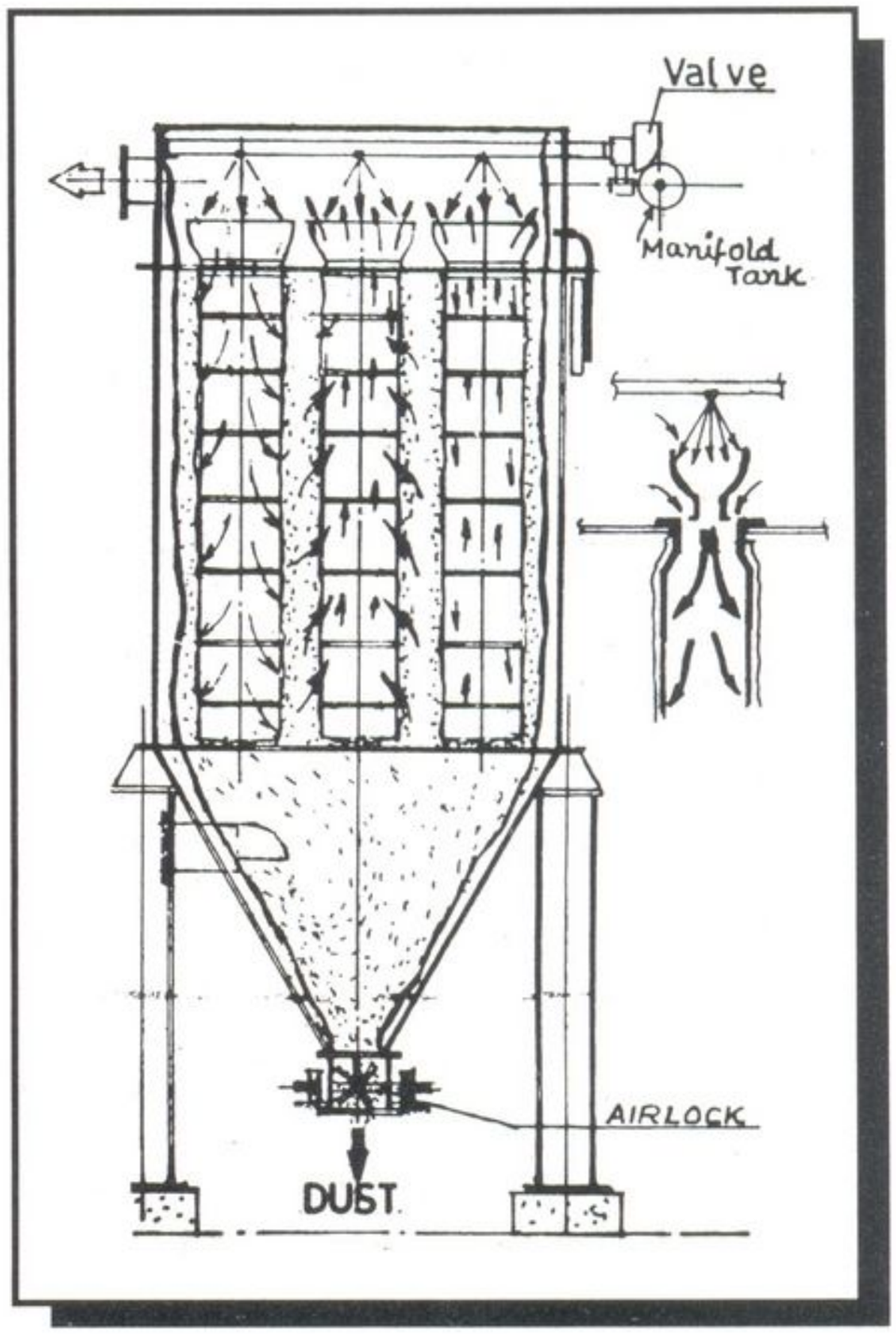
The dust particles are separated from the air stream by centrifugal force.

These are available in a wide variety of designs, dust collection efficiencies and materials of construction and can be installed in any combination of units to meet the desired capacity.

Pulse Jet Bag Filter

Pulse jet bag Filters are fully automatic compressed air back-wash type dust filter units offering high dust collection efficiency (99.9%) and designed and manufactured for continuous 24 hours operation.

The bag filter comprises a filtration chamber (bag housing) and a clean air plenum. The air laden with dust enters the bag housing through a special pre-separator in the hopper which directs heavier dust particles directly into the discharge hopper. The subsequent filtration from the outer surface to the inner face of filter bags cleans the air to a very high degree. As the dust builds up on the bags, it forms a permanent dust cake which increases the efficiency.

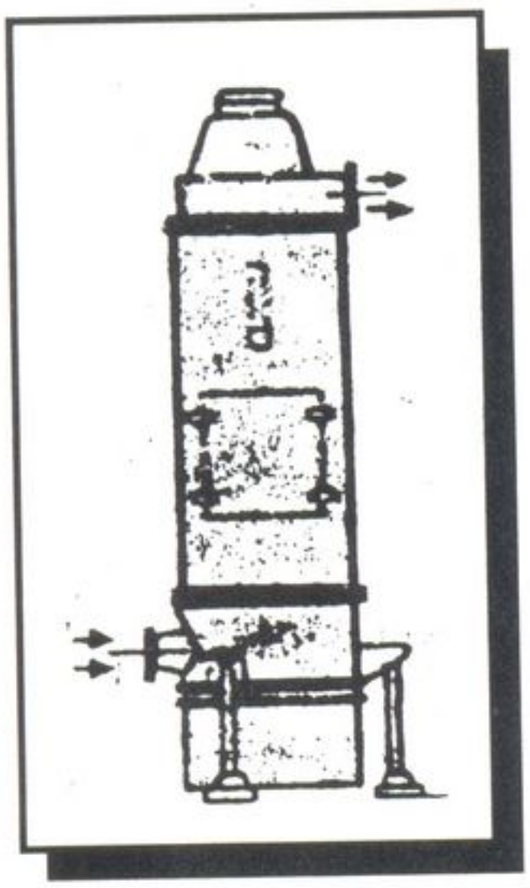


To limit pressure drop across the filter bags, the adjustable solid state timer sequentially opens the solenoid operated diaphragm valves and high energy reverse pulse of clean, oil and moisture free compressed air jet alongwith induced secondary clean air back washes the filter bags.

The collected dust is removed from hopper by double flapper valves/rotary air lock valve/screw conveyer.

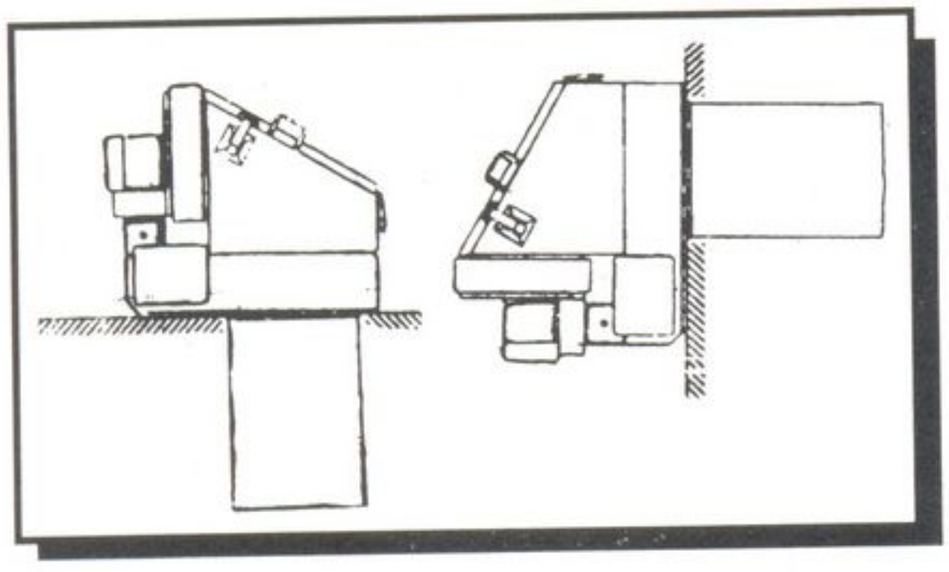
These are available in a wide range of sizes and in modular construction to suit any application and capacity requirement. Various filtration medias are chosen to suit the duty conditions.

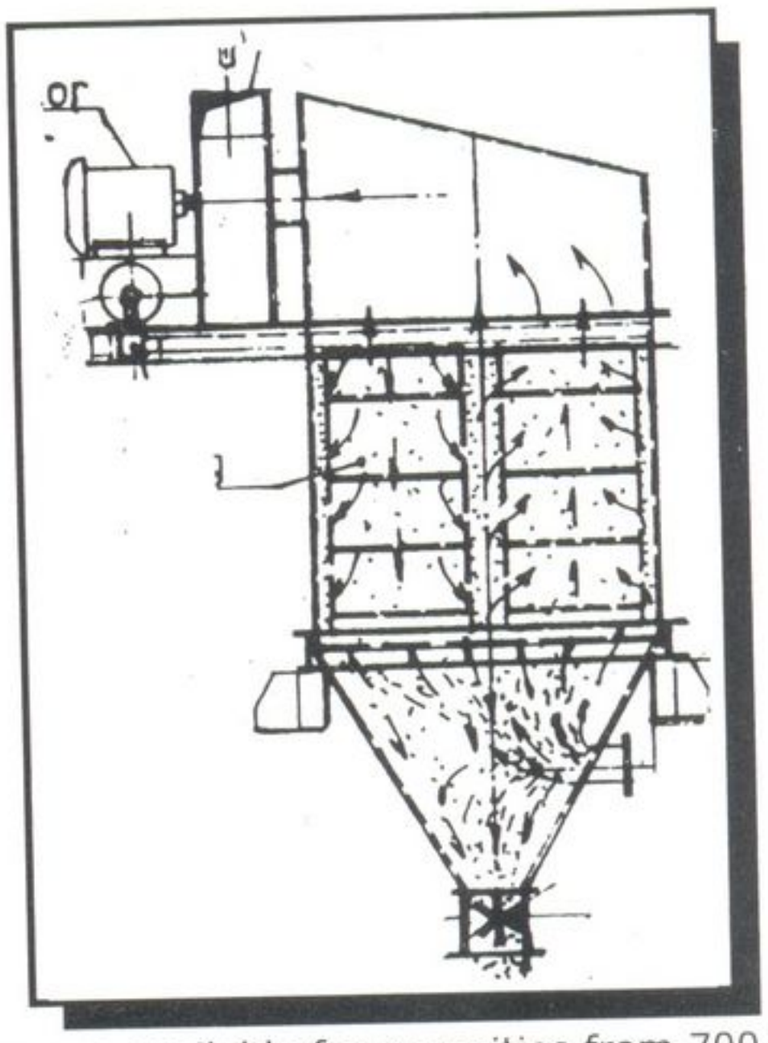
Bag Filters are available in three arrangements



Unit type dust collector with bag filter and fan in one unit for small dust extraction requirements in industrial operations such as grinding, welding, metal working, tablet manufacture for pharmaceuticals etc. Available in capacity upto 1800 M^3/hr.

Insertable type Bag Filters suitable for direct mounting for bin vent, belt transfer point, bag dump, mixer ventilation applications etc. The dust laden air is drawn on to the rectangular filter pads where dust is retained on the outside of the fabric. The pad is cleaned by reverse compressed air pulse.





There are available for capacities from 700 M^3/hr. to 5000 M^3/hr. and can be offered in both horizontal and vertical configurations.
Standard high capacity for centralised dust extraction systems.

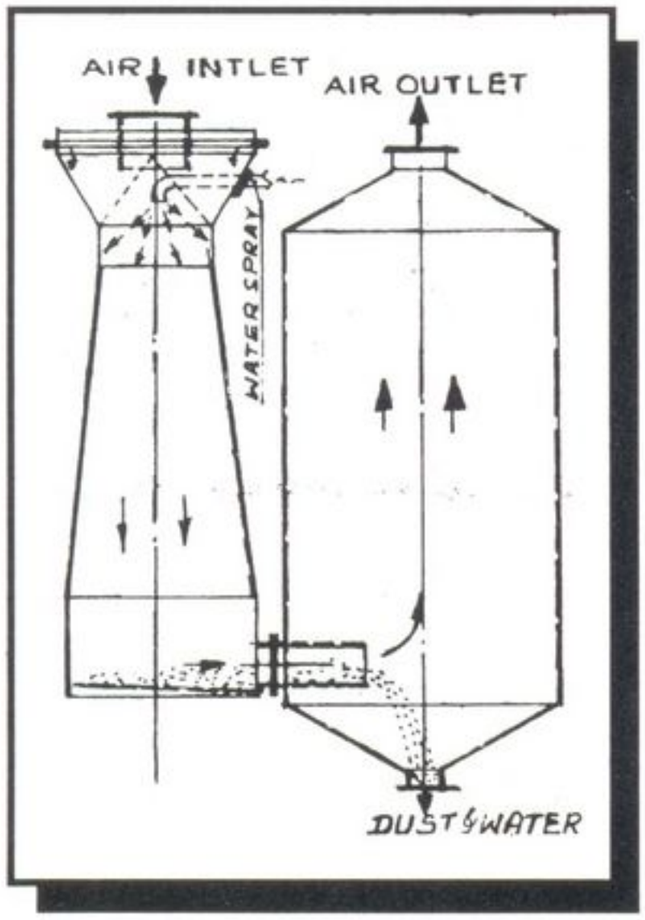
Wet Scrubbers

Scrubbers are most commonly used device for removal of particulate and gaseous pollutants. undesirable liquid mists and also for elimination of odour. Depending on the method adopted for wet dust collection scrubbers are of various types.

Wet Cyclone
(Centrifugal Scrubber)

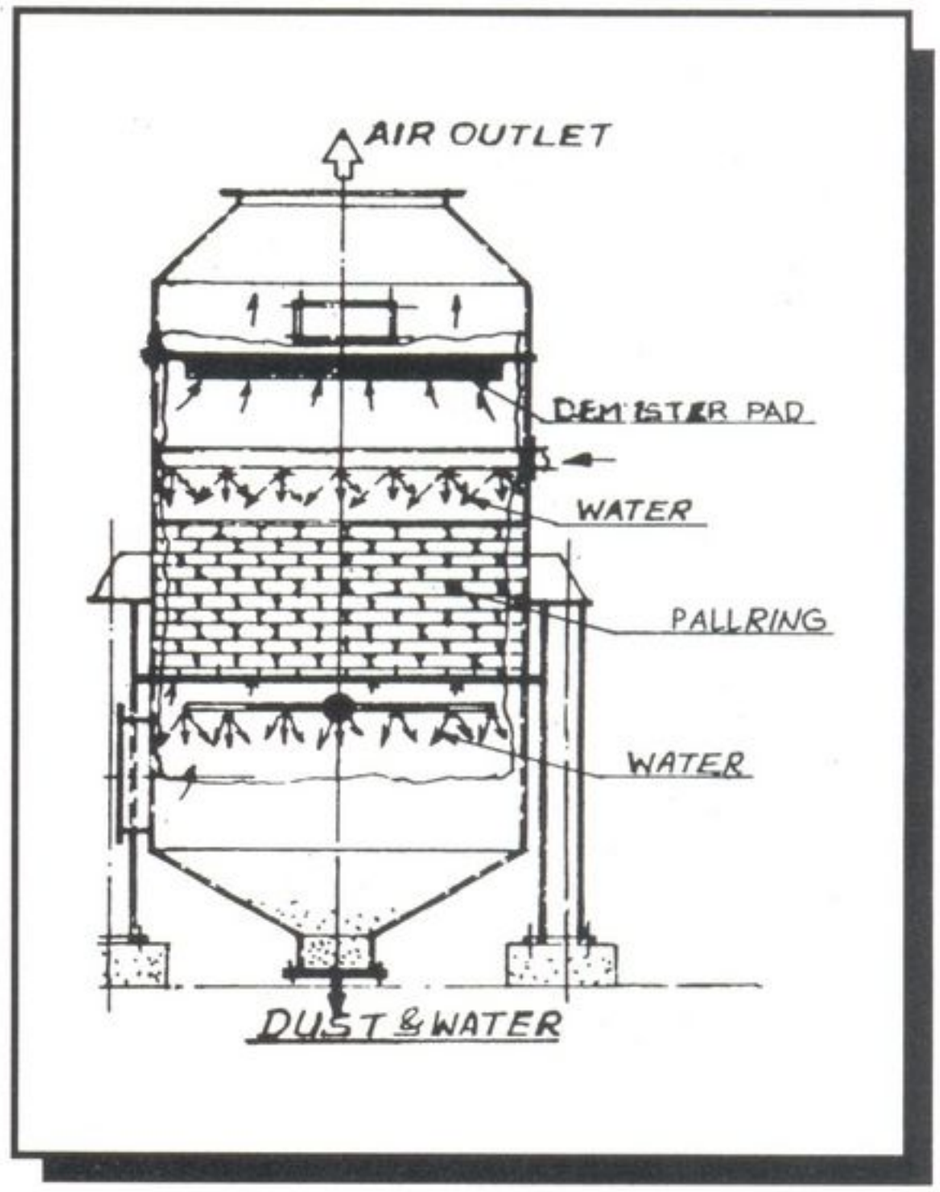
Dust laden gas stream impinges upon the wetted surface of a dust collector sprayed by a liquid. Dust particles are captured by a liquid film and are thus removed from the gas stream. The unit provides efficient low pressure drop scrubbing for particles sized 10 microns and above and thus works at low operating cost.

VENTURI SCRUBBER



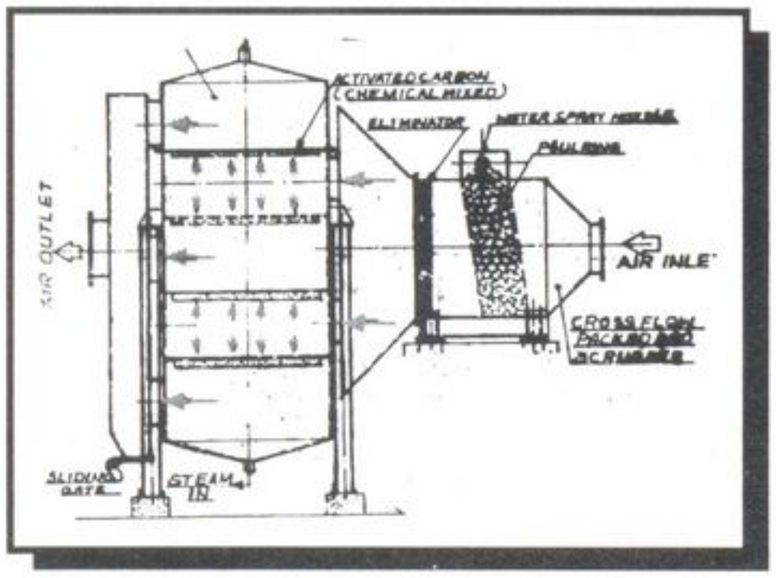
The most commonly used high efficiency device for particulate removal is venturi Scrubber. The contaminated gas after acceleated in the converging section enters the venturi.The scrubbing liquid-Fed uniformly at the top of the converging section cascades by gravity towards throat where they get mixed up with the gas at high energy and extreme turbulence. The scrubbed gas and entrained droplets with dust particles entrapped, enter the diverging section where further collisions and agglomeration take place. The gases then enter the cyclone separator where all liquid drops with entrained dust particles are removed from gas stream and pass out through a drain connection to a settling tank. The cleaned gas leaves at the top. On most installations the filtered liquid is recirculated back to the sprays.The venturi pressure drop is fixed based on the required scrubbing efficiency on a given job. Venturi can be offered either with fixed or variable throat with leaf dampers or centre cones. Depending on the need and degree of sophistication required, adjustable throat can be operated with manual or automatic device.

PACKED BED GAS SCRUBBER



This is an efficient and well accepted method for removal of noxious and corrosive contaminants from gases by absorption and chemical reaction. The contaminated gas flows upward through a tortuous path over the packing media on which scrubbing liquid is uniformly sprayed. Demister located above the spray manifolds prevents liquid entrainment. The scrubbing liquid collected may be recirculated or disposed off. The materials of construction of scrubbers can be MS/MSRL/SS/FRP or MS with anti-corrosive painting depending on application.

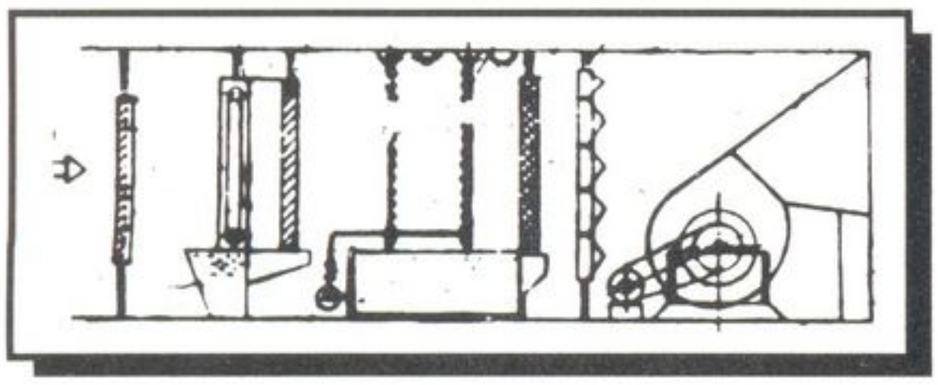
ODOUR CONTROL



Absorption with chemicaf treatment and adsorption system.

A specially designed odour control system comprising of cross-flow packed bed scrubber followed by an adsorption tower are offered. Typical applications are for Animal Feed, Food industry, Sewage Treatment, Leather Tanning etc. A dust collector is often installed upstream of scrubber.

AIR WASHER



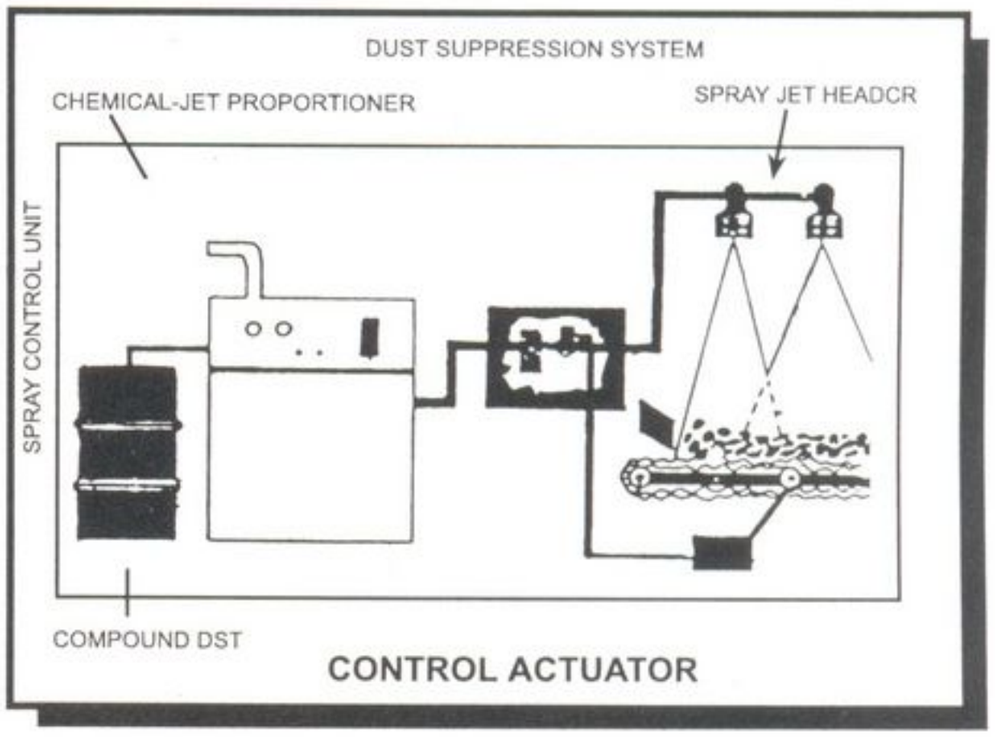
AIR-TECHNIKO Air Washers are designed for the dual purpose of cleaning and cooling of ambient air. The air is passed through self cleaning automatic viscous filter followed by bringing in contact with finely atomised wafer. Due to adiabatic cooling of air the dry bulb temperature tends to reach the wet bulb temperature and thus air is cooled and humidified.

Air washer units are ideally suited for spot cooling in high heat areas, pressurisation and temperature control of electrical rooms,turbine halls, Diesel generators, oil cellars. Pump Houses etc.

These units are available in capacities from 5000 M^3/hr to 200,000 M^3/hr in single unit and in steel/masonry construction.

DUST SUPPRESSION SYSTEM

Dust suppression systems are effective solution of arresting dust nuisance problem, at lower cost compared to conventional dust extraction systems.



The basic concept of chemical mixed or plain water spray system is to suppress the dust prior to becoming air borne. Generally water mixed with a wetting chemical agent is sprayed in form of fine atomised mist through a proportioner solution pump and spray headers with non-clogging nozzles, forming a shroud and entrapping the dust particles.

Suppression system offer dust control with total moisture seldom exceeding 0.75%.