

Experience A New Environment



CADILLAC is in "AIR HANDLING SYSTEM" having a past experience of more than 26 years. Our A.H.U. are designed and manufactured to meet international standard ideal for Air Ventilation (Fresh Air), Indoor Air Quality, Comfort Air Conditioning and specialised application like Clean Room.

APPLICATION :

- Pharmaceutical
- Electronic Manufacturing Unit
- Food Processing Unit
- Commercial spaces like Office Building, Hotel etc.
- Hygienic systems like Hospital Environment,
- Clean Room
- Pressurised Room
- Industrial Process or Equipments etc.

CONSTRUCTION FEATURES :

- Cadillac standard A.H.U. consists of Mixing Chamber, Pre Filter, Fine Filter, Coil Section, Fan Section. A.H.U. Frame Work is constructed from hollow extruded aluminium profiles anodized or powder coated to protect all weather. In critical cases thermal break profile can be selected. The frame works are held by thermoplast, corner joints and omega section. Special accessibility components are used for easy maintenance and replacement.

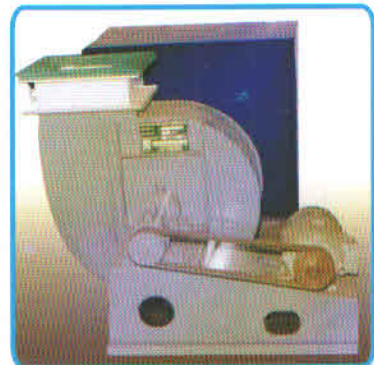
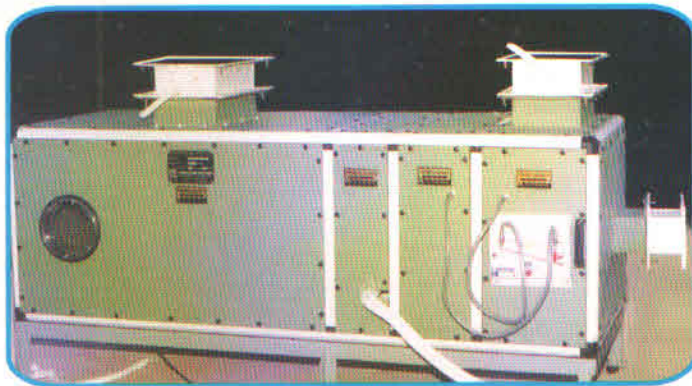
- Doubled skinned panels are made in various thickness (25 mm., 30 mm., 50 mm.) which are insulated by PUF (density 36 ± 4 kg/m³) of K value 0.017 to 0.019 watts/m degree centigrade or expanded polyesterene sheet (density 26 to 40 kg/m³ of K value 0.03 watts/m degree K). Phenolic insulation is also available as per customer's requirement. Panels are constructed by G.I. Sheet, Aluminium Sheet, S.S. Sheet etc. Special Epoxy paints are done on inside part of panel for Anti Corrosive effect. Inside part can also be covered by perforated sheet for acoustic insulation.



- Cadillac offers high energy efficient forward or backward curved SISW or DIDW fan range from 1000 cfm to 30,000 cfm and static pressure of 6" of WG. All fans are individually tested and dynamically as well as statically balanced for smooth & noise free operation. Fan and Motor are mounted on slide rail & vibration isolator for easy adjustment of belt tension and maximum isolation.



- Cooling coils with S.S. drain pan are psychometrically efficient with low air pressure drop. As per design condition multiple row with aluminium / copper fins are available. Each coil is tested at 21 kg/cm² under water. Heating coil / Dehumidifier is used where dehumidification is required.



SPECIAL FEATURES :

1. Compact but strongly marked in construction.
2. Easy to install & service.
3. Noise & vibration free.
4. Wide range of application.
5. Built for long trouble free operation.
6. View Port & Lamp Switch.
7. Intake louvres with bird screen for fresh air intake.
8. Fire retardent flexible joint for inlet & outlet of the unit.
9. Sound attenuation for low noise application.
10. Humidification Section.
11. Electric heater section for heating / humidity control.



- Optional highend control & Monitoring facilities.

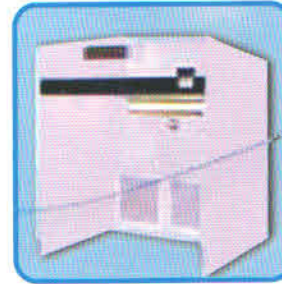
CLEAN ROOM AND ACCESSORIES :

Cadillac initiated the building of Clean Room to meet the huge requirement of pharmaceutical industries, hospital hygiene microelectronic & other emerging technologies in India. Clean Room is a enclosed space of controlled environment with respect to dust content, temperature, relative humidity, air pressure and air flow (velocity & pattern), illumination, vibration, noise. It is an integrated solution to create state of art for high precision industries. Cadillac generally follow standard as per Fed-209 E or ISO 14644 for Clean Room class & also CGMP for pharma house.

AIR BORNE PARTICULATE CLEANLINESS CLASSES

Class Name		0.5 micron		5 micron	
FED 209E	ISO 14644	VOLUME UNITS (m3) (ft3)		VOLUME UNITS (m3) (ft3)	
100	5	3520	100		
1000	6	3520	1000	247	7
10000	7	352000	10000	2470	70
100000	8	3520000	100000	24700	700

For tablet section in pharmaceutical unit there are special dust collection system, Scrubber in which Cadillac has its expertise. Cadillac is associated with highly experienced engineers for any critical challenge. Cadillac is also in line of Clean Room accessories like as Laminar Flow Bench, Dispensing Booth and Air Shower etc.



CLEAN ROOM VALIDATION :

To maintain the clean room performance it should be checked or validated at a regular interval. CGMP has its certain rules & regulations on different aspect of checking like :

- Particle size & quantity count - Half Yearly.
- Temperature & humidity - daily.
- Air change (Air flow quantity, measurement, air velocity measurement) rate - Half Yearly.
- Room pressurization daily.
- Filter pressure drop measurement.
- Light level check.
- Noise level check.

Cadillac has its all the testing equipments like Particle Counter Machine, DOP Generator, Anemometer, Temperature & Humidity Meter, Digital Manometer, Lux Meter etc. for exact analisation & validation.

We are in the process of continuous development in the field of Clean Room & Validation Procedure keeping in mind the latest technological growth like U.S.P. 797 for pharmaceutical unit, GLP (Good Laboratory Practice) etc.



PULSEJET DUST COLLECTOR :

Cadillac dust collector consists of

- (a) Dust collecting hopper with baffle plate or drop out section.
- (b) Filter chamber.
- (c) Clean gas exhaust chamber.
- (d) Cleaning device.

The dust laden air enters through inlet of the hopper where baffle plate or drop out section act as a precollector by helping the coarse dust to fall down into the hopper & also it helps air to reduce its velocity with equivalent distribution throughout the filter chamber Cadillac provides an Inspection Door on the hopper. In special cases, where dust are fine top entry can be offered.

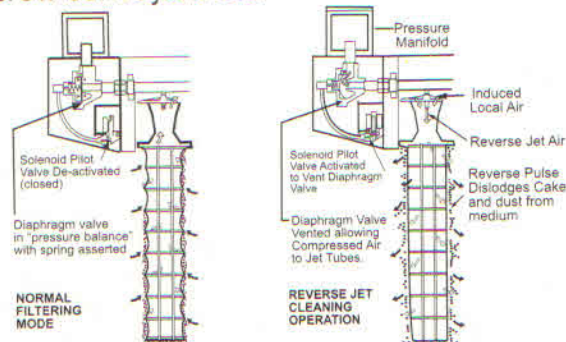


Filter chamber are equipped with bag filter, cage, venturi, Cadillac experience engineers give special attention on selection of **Bag filter** fabric, keeping in mind the type & nature of dust, dust load, temp. of gas, emission level, atmospheric condition etc. for normal application polyester needle felt is being used (temp. 100 to 150 degree centigrade) & for high temp. aramide needle felt is used (Temp. 180 - 200 deg. c.). Cadillac can provide cartridge type bag filter where space is constrained.



Clean gas exhaust chamber contains bag holding plate or cage plate, blast pipe, accessible door, outlet of gas. We give special attention on cutting of bag holding plate because its provide proper sealing & perfect alignment of the cage with the bag. The blast pipes are connected by union joint to maintain automatic alignment with the filter bags. Venturies are set properly with the cage or cage plate to provide support for dedusting of filter bags. This clean chamber is completely accessible by its door. Also railing & platform is provided for support.

Cleaning devices, consist of manifold tank which contain compressed air at a pressure about 6 - 8 kg./m² is connected with a solinoid operated diaphragm valve, which are connected with the blast pipe. The compressed air should be oil & moisture free. As per customer's request we provide **Zero Oil Filter** to get oil & moisture free air. The sequential timer is used to control the several diaphragm valve with an extra features of D.P. mode. A D.P. Switch sense the different pressure between clean chamber & filter chamber & start the pulsing. In normal condition timer control the pulsing of diaphragm valve. When dust laden air flows through the filter bag, where the particulates larger than the fabric intertices are deposited on the bag surface to form a cake of dust which act as a efficient filter. When sequential timer starts the diaphragm valve it starts pulsing the filter bag & the bag streches & excess adhering dust drop to the dust hopper which is removed from hopper by dust discharging device like ravs, chute, screw conveyors etc.



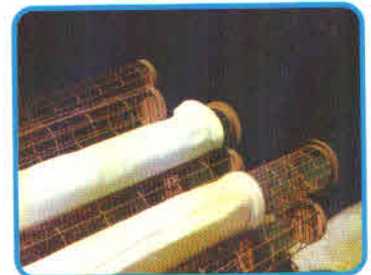
ADVANTAGE :

- Lower emission levels, less than 50mg/m³.
- Simple supervision.
- Maintenance free control of cleaning system.
- Improved dust discharge system.
- Improved compressed air.
- Long lasting of bag filter.

CAGES :

Cages are used as a support to bag in normal Operation of bag filter system. Cages are manufactured with high speed accurate welding machine with jig fixture by which no chances of wear & tear of the bag. Top & bottom caps are made by individual dies for proper fittings of the rod.

- Material - Mild Steel, S.S Sheet 304 & 316.
- Wire dia - 3 mm. to 6mm.
- Galvanised plating, zinc plating or synthetic or epoxy paints finish available.



VENTURI:

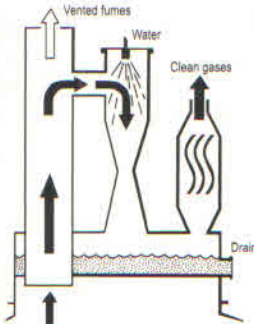
Venturi is an important component of pulse jet dust collection system. It protects the bag from abrasion caused by turbulent air flow & off line blow pipe. Basic principle of venturi is to reduce the pressure & increase the air velocity for effective cleaning. We take special care to smoother the inside surface of the venturi.

- Material - Aluminium Sheet C.I., C.S., Mild Steel, S.S.
- Production type - Casting, Drawing, Spinning.



CYCLONES :

Cyclones are basically aerodynamic Separator, where the air being handled is caused to develop vortex flow literally throwing out more dense particles from the air.



WET SCRUBBERS :

Cadillac wet scrubbers are designed to wash fume or dust-laden air or gases with a spray or sheet of water to remove such contaminants as are present, leaving only clean air or gas to be exhausted from the system. They are capable of handling many fume and dust control problems arising from industrial process and are particularly applicable to hot gas processes. Generally scrubbers are Opened (Vented) type or Enclosed type.



IMPELLERS : Cadillac can supply the different kind of Impellers of different sizes which are designed to handle most corrosive dust material. Special attention are given at the time of construction of this Impeller for smooth vibration free operation and all are dynamically and statically balanced. Cadillac has wide range of Impellers in different range of air capacities and static pressure.

CADILLAC CAN ALSO SUPPLY ALL TYPES OF INDUSTRIAL POLLUTION CONTROL EQUIPMENTS LIKE RAVS, BLOWERS, SOLINOID VALVE ETC.



Cadillac
ENGINEERING WORKS

SOLUTION TO MAKE A POLLUTION FREE WORLD



OFFICE : 69B, SANTOSH PUR AVENUE, KOLKATA - 700 075
PHONE : 2416-2535/2536/9334, TELE FAX: 91 (033) 2416-2536
E-mail : sales@cadillacfilter.com/cadillacengg@rediffmail.com
Website : www.cadillacfilter.com

WORKS : KARBALA, KUMRAKHALI, P.O.-NARENDRAPUR, KOLKATA-700 103