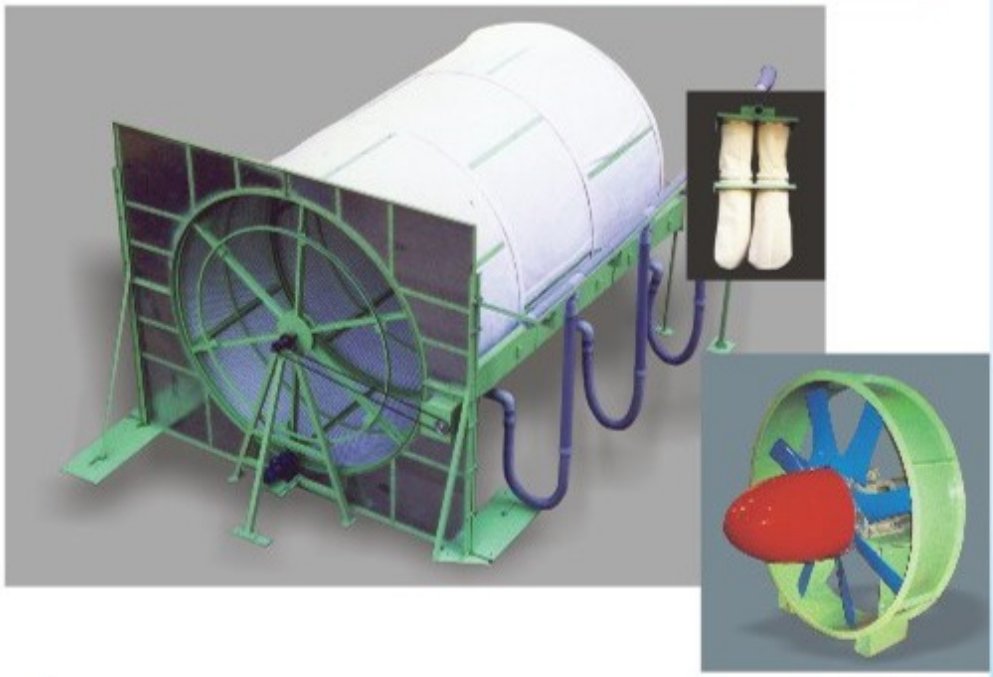
Manvi Textile Air Engineers Private Limited







TEXT - AIR

Design & Mfg. of Humidification,
Waste Collection System

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AIR WASHER SYSTEM

The systems are design considering all heat load in the department and required RH can be maintained with air washer system. The supply and return air system is design considering the heat load in the department to maintain uniform condition throughout the department. The system is designed in such a manner that whole department is maintained with positive pressure which leads to the better elimination of fly and dust from the department. Return air system is also designed with return air grill and slit arrangement with specific negative pressure which cleans the department as well as take out the heat produced by the motors effectively.
It shall consist of inlet louvers, spray piping & water eliminator with required hot deep galvanized fixtures.

SPRAY PIPING

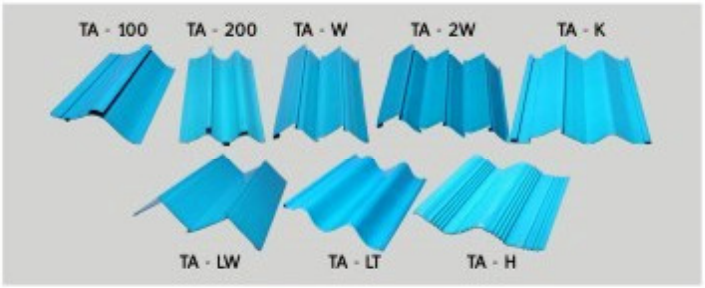

Air Washer System

a) Corrosion free, leak free, extra heavy duty PVC piping with special double molded PVC main header & sub header.
b) Non-clog poly carbonate spray nozzle with SS. Cap & SS. 304 clamp for easy quick fixing.
c) Nozzles give fine hollow spray with wide angle.

WATER ELIMINATOR

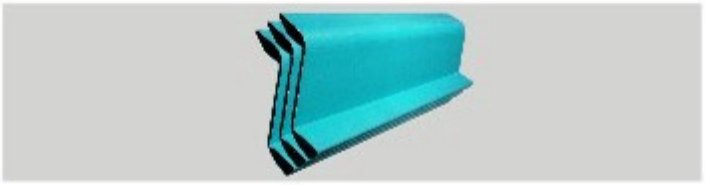
Various range of water eliminator are designed for horizontal air flow & complete elimination of free water particle. We manufacture different type of eliminator leaf.

* Reduced pressure drop.
* Low maintenance cost.
* Less capital cost prolonged life.
* Higher efficiency of separation.



INLET LOUVERS

PVC hollow 'Z' type louvers are designed & arranged in such way that air sucked through form a air curtain equally all over the width of air washer & help to achieve more saturation efficiency.



SCREW COMPACTOR:

Compactor is used to separate textile waste such as fibers or dust from a conveying air flow. Screw conveys & compact the waste and expel the material through waste outlet. They are use in automatic waste removal system to separate dusty fibrous waste from air. It compacts the waste and expel through spring loaded diaphragm into waste container. Highly efficient fibre removal ensures continuous operation of waste removal plant and ultimately optimal production output of the connected textile machinery.

OPERATION:

The conveying air enters through the inlet nozzle

- Into the conical perforated cone. The fibre material is deposited on the interior side of the cone. The air flows through the perforated cone
- To an after filtration. The delivery screw shaft.
- Conveys compacted fibre material
- And is supplied via the outlet. To the bottom in a waste container.
- Via spring plate diaphragm

It mainly consist of

- Air inlet nozzle
- Air outlet nozzle
- Screw shaft
- Conical perforated cone
- Spring plate diaphragm
- Waste outlet
- Geared motor

CONSTRUCTION:

Compactor body and perforated cone are made out of heavy gauge CRC M.S. Sheet on latest CNC machines. Screw shaft is manufactured on CNC lathes duly balanced. Screw is driven only by energy efficient 0.37kW motor, which is suitable for continuous operation. Compactor body is powder coated with 7 tank treatment for longer lasting and elegant look that can match any international standards.

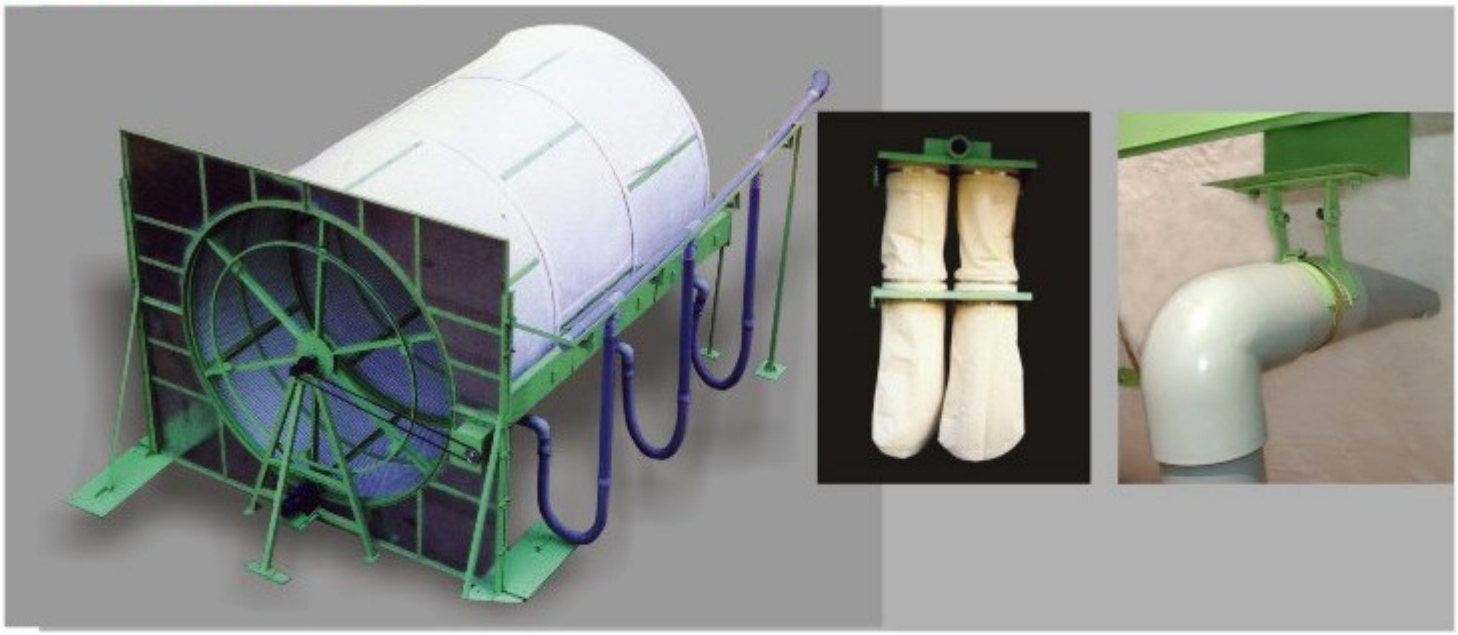
SCREEN FILTER

The continuous rotating disc type primary screen filter filters the coarse particles/fibers from the air with high concentration dust discharge by blow room and carding machines inlet air ladden with dust and fibre will be deposited on this and it suck through a nozzle by evacuation fan and fed to the compactor for compacting.

CONSTRUCTION:

Compactor body is made out of heavy gauge CRC M.S. Sheet on latest CNC machines. Screen filter body is powder coated with 7 tank treatment for longer lasting and elegant look that can match any international standards.

ROTARY AIR FILTER



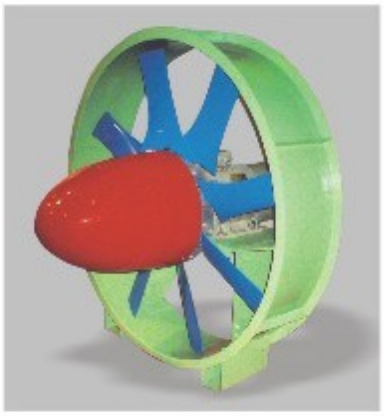
1. Rotary Air Filter Shall have rotating drum made of steel grid mesh with suitable mounting frames, driven by a geared motor at low rpm.
2. It is designed to provide large filtration area.
3. It is handling high volume of air laden with fiber & dust returning along with return air from department.
4. Drum shall be covered with a suitable filter media as per the application, pressure drop and dust level. The fluff, fiber & dust shall be arrested on the surface of the filter media covering the rotating drum surface & it will be sucked by suction nozzle arrangement with to & fro motion connected to flexible suction hose. This arrangement shall continuously clean the fluff & dust arrested on filter media & collect in separate collection bag. Suction fan with collection unit shall be house in separate room adjoining the filter room.
5. Low pressure drop is maintained due to High pressure cyclone fan which is designed to work effectively to remove not only the fluff collected on the surface of filter media but also the dust arrested in pores of filter media. This in terms lead to uniform flow of Return air at constant high pressure to remove continuously fluff and dust from department so as to maintain clean department.
6. The clean air is then either re-circulated or exhausted into the atmosphere.

AXIAL FLOW FAN

Size :- 900 mm to 1800 mm.
Capacity :- 15,000 CFM to 1,15,000 CFM.
Pressure :- Upto 80 mm WG.

Fan casing is made from heavy gauge steel with adjustable bolted type base support frame.

1) Fan blades are designed with latest aerodynamic software & achieve efficiency upto 85%.
2) Static & dynamic balanced to ISO grade.
3) Bell mouth inlet & outlet cone increases system efficiency by 5 to 6%.
4) Nose fairing or spinners reduces static or resistance by 5 to 7 %.
5) Saves power compare to any other manufacturer & gives better pressure.



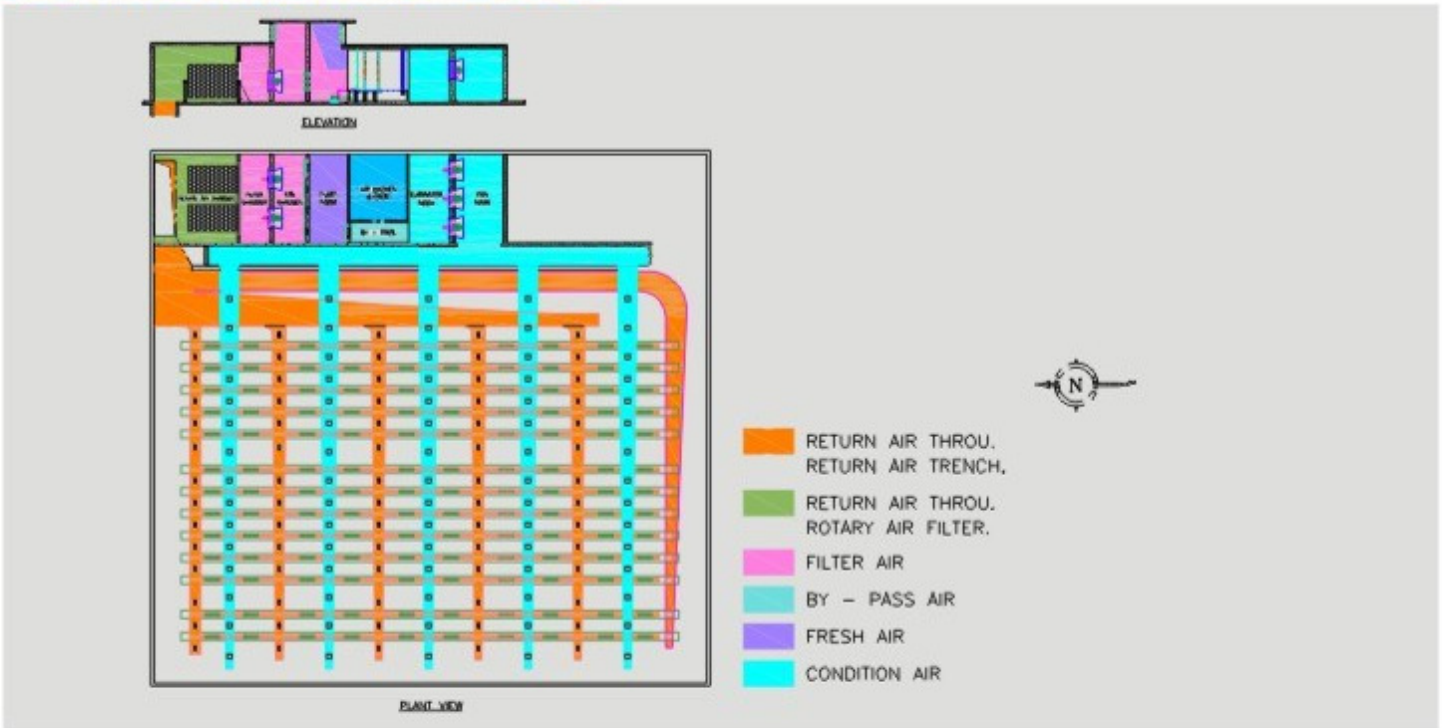
DAMPER

1. Extruded aluminum damper aerofoil designed blades gives low pressure drop & offer power saving.
2. Linkage & gear system used for the smooth operation.
3. Ideal for automatic control operation.

AUTOMATIC CONTROL SYSTEM

1. Ease of operation and efficiency.
2. PLC base Automation system.
3. Extremely sensitive dry bulb and wet bulb temperature sensors to compute temperature and RH accurately.
4. Motorized dampers and motorized water flow control valve to maintain the desired RH.
5. Our central monitoring system to control parameters right from your computer.
6. Temperature is controlled by opening and closing of fresh air, return air and exhaust air dampers automatically with the help of actuators. Humidity is controlled by operating by pass dampers.

CENTRAL AIR WASHER PLANT



MANVI TEXTILE AIR ENGINEERS PRIVATE LIMITED

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MANVI TEXTILE AIR ENGINEERS PVT LTD

HUMIDIFICATION & FOGGING SYSTEM

MINI HUMIDIFIER

TA-MHT-003


RH CONTROLLER

FEATURE :

- Portable independent spot humidification system.
- Produce ultra fine particles<5micron.
- Noiseless & continuous operation.
- No condensation & no water droplets occur.
- Lowest power consumption in its category (only 120 W).

APPLICATION:

- Testing laboratory , yarn storage, small garden can be used for disinfection & deodorization

TECHNICAL SPECIFICATION:

Model No.	Power (W)	Voltage (V)	Fre (HZ)	Mist Flow rate (L/H)	Area coverage (M2)
TA-MHT-003	120	220	50	02-03	30-50

CENTRIFUGAL HUMIDIFIER

HIGH FOG HUMIDIFIER
TROLLY MOUNTED
TA-SHT-050

HIGH FOG HUMIDIFIER
CEILING MOUNTED
TA-SHC-050

ADVANTAGES:

1. Fast cooling, temperature drops 5-8 degrees, increase humidity 60-80%, super micro droplets 15 micron, 304 stainless steel mist maker and anti-corrosion.
2. Saving space, low noise, durable & thermal protection motor, strong structure, easy to operate and maintain, low power consumption.
3. Without nozzles and water filter devices, no blockage and leakage, portable design.

APPLICATION:

Textile, Mine Industry, Agriculture for stock Raising & Disinfection.

TECHNICAL SPECIFICATION:

Model No.	Size (inch)	Power (W)	Voltage (V)	Freq (Hz)	Mist Flow Rate (L/H)	Air flow M3/Hr	Area Coverage (M^2)	Effective Distance (M)	Tilt Angle in degree	120 Oscillation	Water Tank Capacity (ltrs)
TA-SHT-050	20"	500	220	50	0-50	8280	100-150	10-15	30°/15°	Auto	60
TA-SHC-050	20"	500	220	50	0-50	8280	100-150	10-15	NO	Auto	8

SEMI CENTRAL FOG HUMIDIFICATION PLANT


SEMICENTRAL FOG HUMIDIFICATION PLANT

It will consist of one wall mounted fan with 5/7.5/10/15 hp motor, and v filter grouted in masonry chamber behind the fan so that filtered will be sucked by fan and fogging box with water eliminator will be mounted in department. From the outlet of eliminator section box, we can mount duct with grills on the both side, through which humid air will be delivered in the department.

It is designed based on the heat load of the department and can achieve RH% UP TO 85% in the department.

ADVANTAGE:

1. Power saved in pump hp and supply air fan hence less running cost.
2. Very less construction required hence capital investment reduces.
3. In humidification only RH can be achieved but we can connect small chiller of 3 to 10 TR depending on department heat load and can maintain department temp. Less then outside wet bulb.

CENTRALISED HIGH PRESSURE FOGGING SYSTEM WITH AUTO CONTROL

FOGGING SYSTEM FOR BLOW ROOM

FOGGING SYSTEM FOR COTTON WEAVING

AUTOMATIC CONTROL FOR CENTRALISED FOGGING

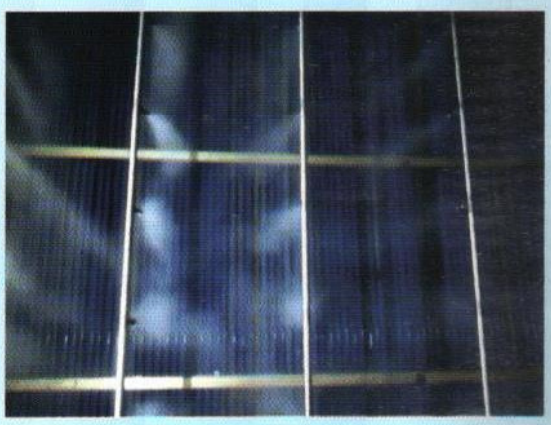
FOGGING SYSTEM FOR JUTE WEAVING

Centralized Fogging system for Blow Room, Yarn Conditioning area and Weaving area consists of high pressure pump, high pressure piping and nozzle spread on Baleplucker area, Yarn Conditioning area and weaving area. Uniform RH is maintained in every corner of department as it is distributed as per heat load of the department. This is connected to automatic control system consist of Microprocessor controller based Temperature & Humidity PID Controller/Indicator with RH% & temp. display and Control panel is provided with VFD linked to PID Due to which water quantity can be varied as required which will control humidity up to set percentage with 1.5% accuracy.

Advantages :-

1. Desired RH for Blow Room 70%-75% & for Yarn Conditioning and Weaving 80-85% can be maintained.
2. By Installing fogging system for Blow Room CSP will improve.

FOGGING SYSTEM OF CENTRALISED AIR WASHER WITH CHILLER



Features:

- Additional fogging bank in the air washer plant increase saturation efficiency.
- Increase in saturation can achieve required RH with less CMH, which indirectly saves power.
- Fogging bank can be connected to small chiller to achieve desired temperature in the department

Advantages:

1. due to increase saturation desired RH can be maintained with lower CMH or with same CMH is can maintain better RH% in the department
2. power saved in pump HP and supply air fan hence less running cost.
3. In humidification only RH can be achieve but we can not connect small chiller of 3 to 10 TR depending on department heat load and can maintain department temp less than outside wet bulb.
4. 60 to 70 % less power consumed compared to conventional chilled water spray air condition.

TEXT - AIR

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Waste Collection System

Factory & Office : Unit No 2, ACME Indl Park, LB Patel Road, Goregaon (E), Mumbai - 63, India