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**An ISO 9001 : 2008 Certified Company**

# ABOUT US

ESSAR ENVIRO AIR SYSTEMS has been in the business of Air pollution control equipment and Material Handling Equipment since 2007. Our standards of air pollution control systems in terms of air emission, efficiency & power demand are in line or better than industry norms. Our Material Handling Equipment are in Operation in Industry like Cement, Steel, Fertilizer etc... We utilise most innovative and state of art technology in all our equipment manufacture and offer our customer a total solution rather than mere supply. We have R&D facility for specific to customer need. We have experienced Engineers in Design, Manufacturing & Erection. ESSAR team is a qualified and experienced in the technocrat and entrepreneur. We have modern facility of Manufacture for the fabrication, Machining, Assembly and testing. we have a tight quality control system. we offer onestop solution to our customer. ESSAR getting repeat orders for our all over India customers, which is a proof of our quality and reliability. We also executed export orders. We also **ISO 9001:2008 Certified Company**



## Mission

Mission way of thinking philosophy, what we live for... call it what you want you'll find it below. Introduce yourself to the way we think.

"To TRANSFORM our spheres of influence and to improve the quality of life by building institutions that provide better ACCESS to better dust & pollution free services to more people ..all the time".

We aim at supplying the best products in the markets that give maximum satisfaction to our clients and help in keeping the environment clean.

## Vislon

To develop energy efficient systems by doing equipments continous research & development. By keeping in the view of end user requirement. fThe ESSAR ENVIRO AIR SYSTEMS design, manufacture and supply at affordable cost with high features.

## Our Products

### Air Pollution Control Equipments

- \* DUST COLLECTOR (PULSE JET BAG FILTERS)
- \* CENTRIFUGAL BLOWERS
- \* FUME EXTRACTION SYSTEMS
- \* CYCLONE SEPARATORS
- \* MULTY CYCLONE SEPARATORS
- \* SCRUBBERS

### Material Handling Equipments

- \* SCREW CONVEYORS
- \* BELT CONVEYORS
- \* BUCKET ELEVATORS
- \* ROTARY AIR LOCK VALVES
- \* AIR SLIDES



# DUST COLLECTER

ESSAR offers its product and service with a commitment to continue to solve Industrial Air pollution problems. We are engaged in providing durable PULSE JET BAG FILTER that may be designed in pulse jet air systems.

The pulse jet bag filter ranges highly appreciated for better collection or efficient filtration. ESSAR systems are designed to achieve the highest performance with online reliability, minimum of down time, minimum expenditure and lowest maintenance of the equipment. We have successful installation at our credit in India on a wide variety of difficult applications. ESSAR offer the pulse jet bagfilter at market leading rates to the valued clients.



## Special Features

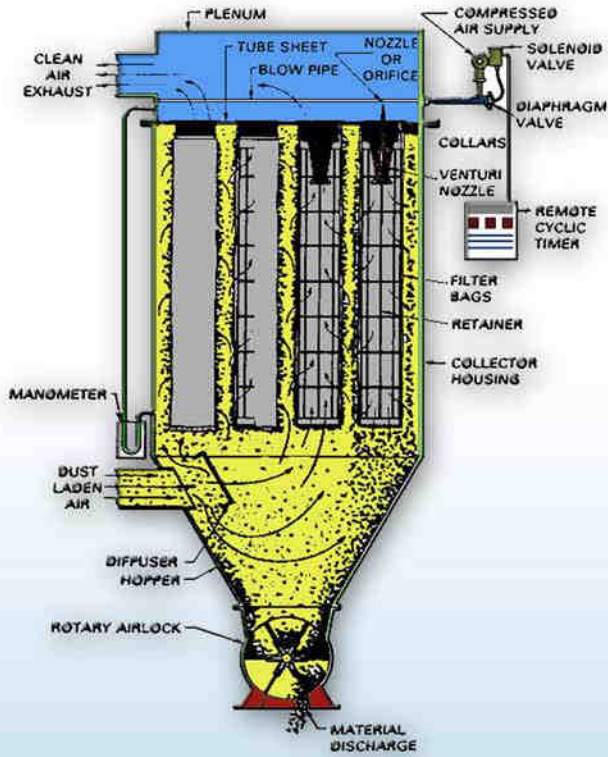
- \* Optimal design of the bag filter to meet the specified requirement. ( Square, Modular & Round shapes ) . Full as well as bin Mounted versions.
- \* Low investment and maintenance cost and low assembly work
- \* Low power consumption combined with high filtration efficiency
- \* Good accessibility of compressed air supply system
- \* Simple filter bag replacment
- \* Compact construction and therefore modest floor space requirement
- \* Standard design pressure: 500 mm WG
- \* Design for up to 1000 mm WG
- \* Unique design with combination of COMPRESSED AIR JET and REVERSE AIRFLOW cleaning
- \* Effective cleaning of longer filter bags
- \* Fully automatic bag cleaning mechanism.

## Applications

- \* Pharma
- \* Iron/Steel
- \* Textile
- \* Ceramic
- \* Pesticides
- \* Food
- \* Plastics
- \* Coal
- \* Rubber
- \* Cement
- \* Foundry
- \* Chemical
- \* Fly Ash
- \* Machining
- \* Grinding
- \* Welding
- \* Furnaces
- \* Cotton/Ginning
- \* Wood working
- \* Laminates
- \* Plywood Mfg.
- \* Glass Mfg.
- \* Laser cutting
- \* Plasma cutting
- \* Detergent



# Construction of Bag Filter



During the filtration of the dusty gases, the dust is deposited into the external surfaces of the filter bags, which are made from high-performance needle-felt.

A high-efficiency sequential "PULSING MECHANISM" injection cleans the filter bags continuously and its automatically at interval of between 1-10 minutes with pulses of compressed air at pressures of 5-6 bar, with a pulse duration of 0.1-0.2 sec.

The compressed air enters the "PULSING MECHANISM" injection radially and leaves it in axial direction. Large quantities of air are therefore drawn in through 1st and 2nd stages of the injector which reverses the flow of air through the filter media and cleans the dust off the filter bags. In the filtration phase, cleaned gas passes directly through the nozzles in to the clean gas channel.

Collected dust is taken out from RAV and clean air let to atmosphere through chimney.

## Components of Bag Filter



Timer



Solenoid valve



Rotary Air Lock



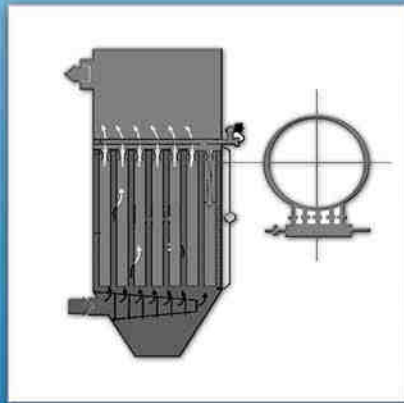
Cages



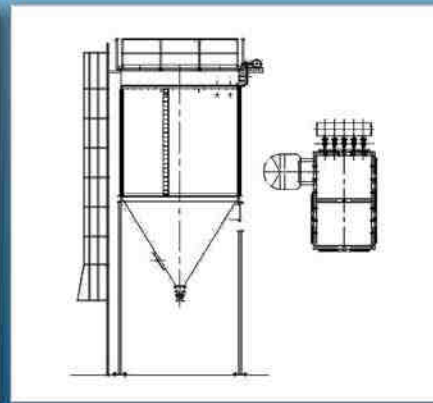
Filter Bags



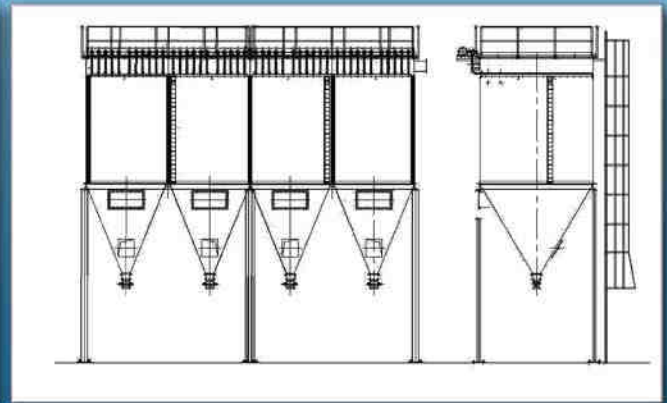
Ventures



Cylindrical Model



Singular Model



Modular Model

# ESSAR

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# CENTRIFUGAL BLOWER

ESSAR one of the leading manufacturers and suppliers of centrifugal blowers. Centrifugal Blower is indispensable equipment for air pollution systems. We manufacture quality range of industrial fans which include ID fans, FD fans, SA fans and the mechanical construction of centrifugal blower provides maximum efficiency with minimum maintenance. The fans are manufactured MS, SS, PP & FRP and Aluminium of various grades. Centrifugal blowers of both SISW and DIDW types. ESSAR fan impeller are statically and dynamically balanced as per IS 4894 standards.



Centrifugal blowers are offered in 3 types such as high pressure, medium pressure, low pressure blowers. Our Centrifugal Blowers are specially designed with different Curves and different widths such as Backward Inclined, Backward curve, Radial tip, Forward curved blade blowers, and etc. We also supply Multi-stage blade blowers, these blowers meet different duty conditions with low pressure, medium pressure, high pressure applications. Our centrifugal blowers are highly acknowledged for their features like low maintenance, heavy duty, noiseless operation and efficiency. For wear resistance of the impeller, we provide hard facing. Also, we make the impeller from Sialma/Hordox material.

## Our Product Range

- \* Our blower static pressure range from 10 mmWG to 1500 mmWG.
- \* Our blower capacity range from 100 m<sup>3</sup>/hr to 5,00,000 m<sup>3</sup>/hr.
- \* Our blower temperature range 0 to 500 c.



## Special Features

- \* We provide DIDW & SISW blowers.
- \* High efficiency, low maintenance.
- \* Low power consumption.
- \* Low noise level.
- \* Impeller is statically and dynamically balanced.
- \* The fans are available in Direct drive, V belt coupled drive.
- \* We provide hard facing by Sialma/Hordox for wear resistance.
- \* Economic design & affordable & competitive price for our customer.



## Applications

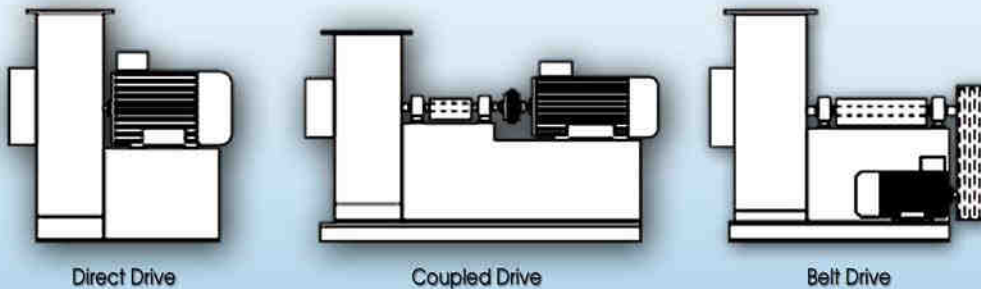
- \* Cement plants
- \* Power plant
- \* Sponge Iron/Steel plants
- \* Chemical plants
- \* Food Industry
- \* Plastic Industry
- \* Foundries
- \* Ceramic Industry
- \* Rubber Industry
- \* Cinema Theaters
- \* Wood Industry
- \* Glass Industry

## Centrifugal Blower - Type of Fans

Backward curved, Backward inclined, Radial tip blade, Forward curved, Air handling, Material handling, long shavings(open type), Multi-stage blade blower, Radial blade blowers.



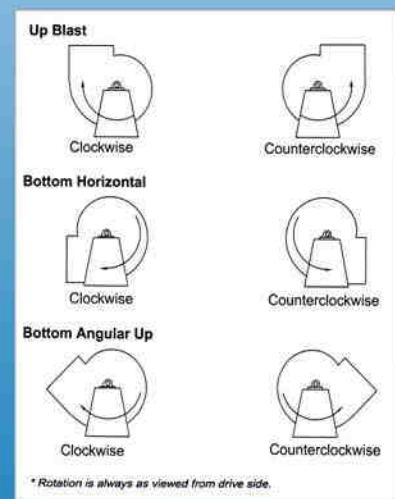
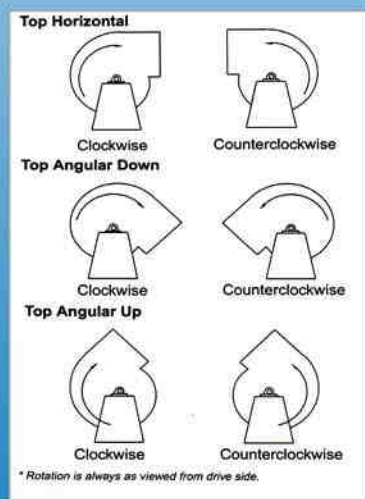
## Drive Arrangement



## Spare Parts

Impeller / shaft with Hub / Inlet-out let control dampers  
 Antivibration mountings / Cooling disc / shaft seals  
 Inlet -out let flexible connections

## Rotation Charts



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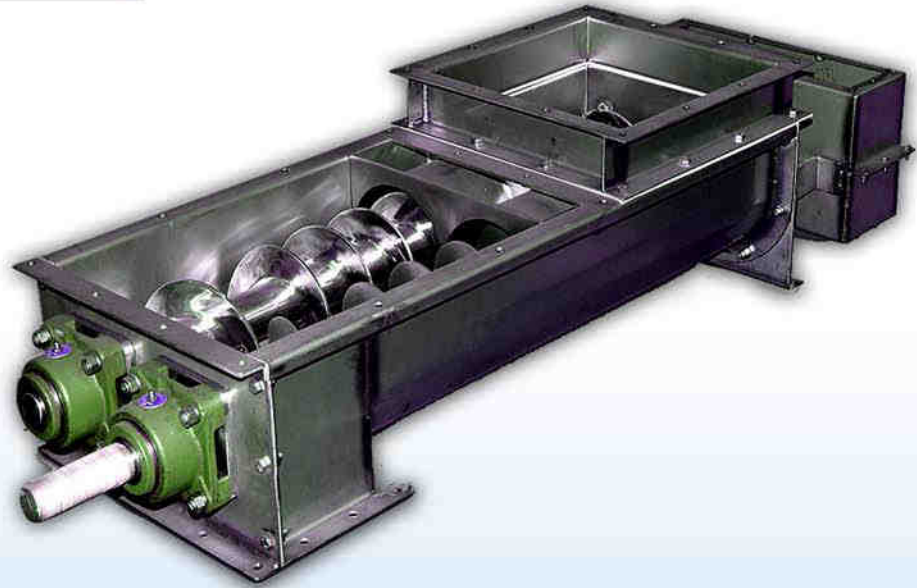
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# SCREW CONVEYOR

ESSAR has established a leading position in design and supply of Screw Conveyor to various industries.

Screw conveyors are positive material movement mechanical devices employed in almost all industries.

Powder, Grain, Wet & sticky material also can be transported. Temperature range is 250°C. Horizontal, inclined & vertical transportation is possible. RH & LH screws as per customer requirements. 30-45% filling for U-trough, 80-90% filling for tubular casing. Screw conveyor components performance proved screw conveyors are ruggedly built and accurately manufactured to assure complete dependability as well as versatility required to meet a wide range of job arrangements.



## Range of Product

- \* From 30mm to 1000mm constant and variable pitch
- \* Single length without hanger bearing is 5 to 6 mtr long
- \* NO limitations of length if hanger bearing is introduced
- \* Capacity -max 350TPH

## Special Features

- \* Unit roughed / tubular casing
- \* Unit direction / Reversal
- \* Without hanger bearing up to 6 mtr long
- \* Hanger bearing in every 6 mtr long
- \* Perfect shaft seal so that bearing life is increased
- \* Capacity from 10 Tph to 300 Tph
- \* Hard facing as trough for Abrasive material up to 300-500 BHN
- \* Equip. protect by zero speed switch fixed at Tailend.

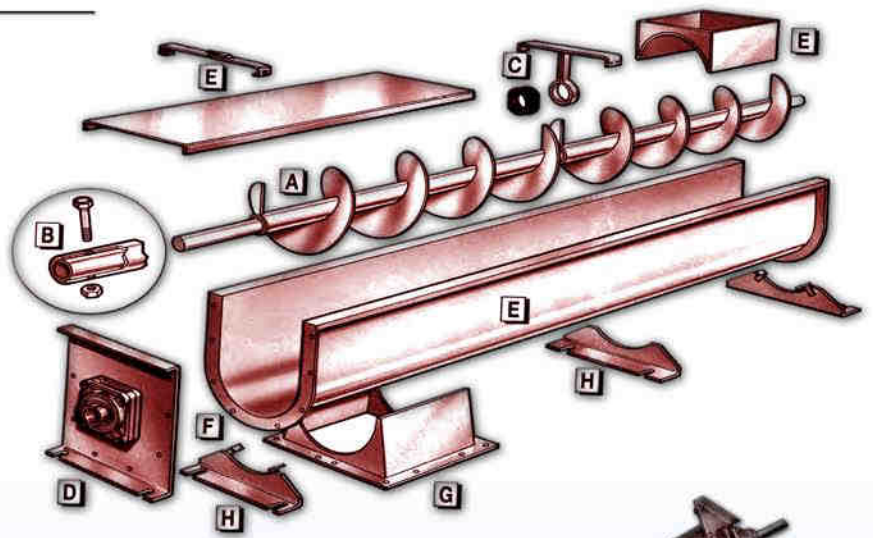
## Silent Features

- \* Reliability
- \* Efficiency
- \* Low power consumption
- \* Easy availability of spare parts
- \* Design for continuous operation as minimum maintenance



# Screw Construction and Components

- A -conveyor screw
- B -shaft end bush & bolt
- C -hangers & bearings
- D -trough ends
- E -trough, covers, clamps & shroud
- F -end flange
- G -discharge spouts
- H -supporting feet and saddles



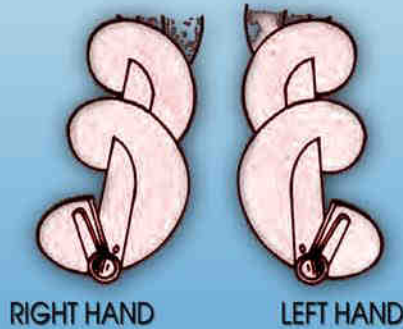
## Type of Screw Conveyors

- \* U-Trough
- \* Tubular
- \* Tubular Inclined
- \* Reversible



## Spare Parts Availability

- \* Screw flights
- \* Hanger bearing
- \* Shaft bearing
- \* Couplings



## Applications

- |                            |                    |                    |                       |
|----------------------------|--------------------|--------------------|-----------------------|
| * Cement plants            | * Chemical plants  | * Foundries        | * Wood Industry       |
| * Power plant              | * Food Industry    | * Ceramic Industry | * Glass Industry      |
| * Sponge Iron/Steel plants | * Plastic Industry | * Rubber Industry  | * Pesticides Industry |

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# BUCKET ELEVATORS

Essar has established a leading position in design and supply of bucket elevators to various industries. Bucket elevators for mechanical, vertical transportation of materials have become crucial link in production process in many industrial sectors.

Elevators supplied by ESSAR are working satisfactorily with more than rated capacity, optimum power consumption.

Bucket & Casing sizes are as per Indian standards. Large number of satisfied customers give evidence of fact that ESSAR Elevators are Economical, efficient & almost maintenance free. MS, SS & Plastic buckets are offered as required by customer, along with belt/chain are also offered to food & fertilizer & chemical industries.

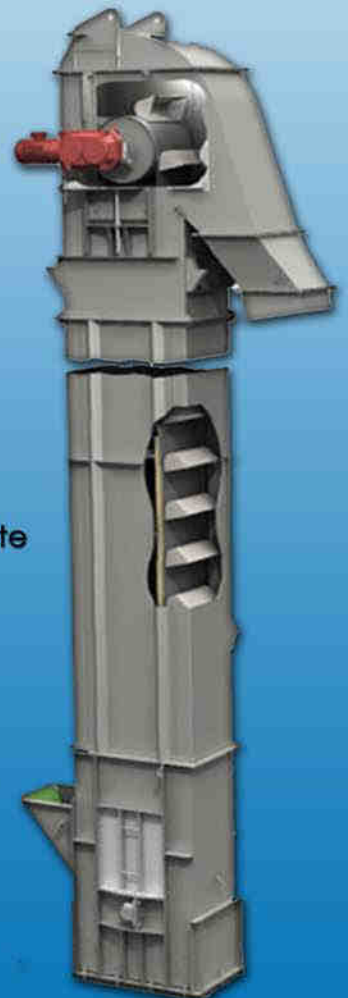


## Product range

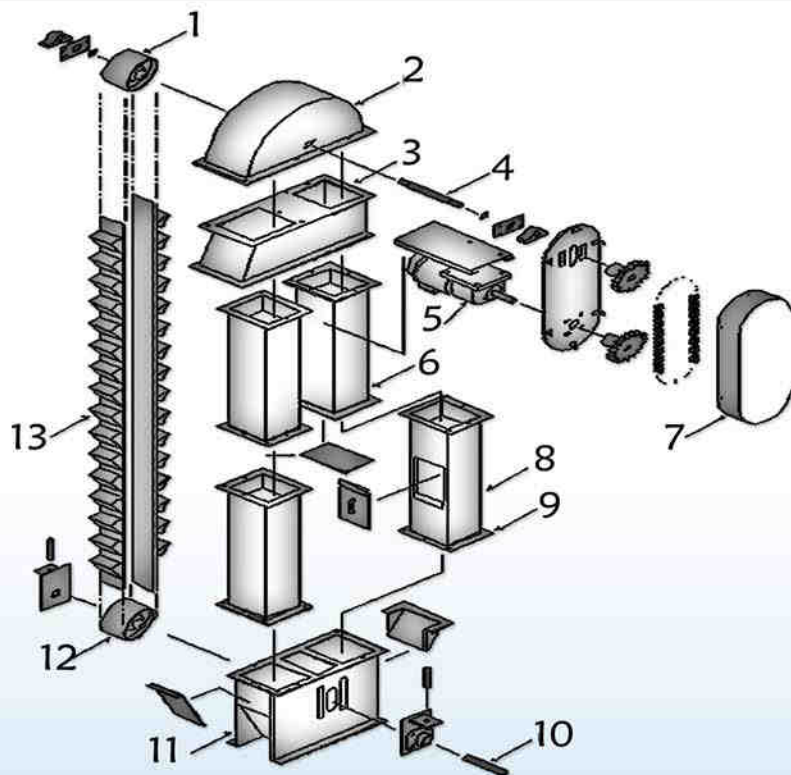
- \* 1-30 meters shaft C/C distance
- \* 1 TPH - 350 TPH
- \* Ambient to 250 c
- \* Powder materials, grains, Hot material applications

## Sallent Features

- \* Continuous or centrifugal discharge
- \* Rigid strong built casings in perfect alignment and weather tight
- \* Two piece hood, permitting access to head section interior, without disturbing machinery
- \* Inspection covers that can be easily lifted to view terminal machinery
- \* Large latch type door located in front/back/sides of boot section to facilitate inspection, service and clean out
- \* The head shaft is mounted in antifriction bearings, pillow blocks
- \* Superior components, chain, sprockets, pullers belt buckets & bearing take up & drives
- \* Hold back device to prevent reverse motion of buckets.



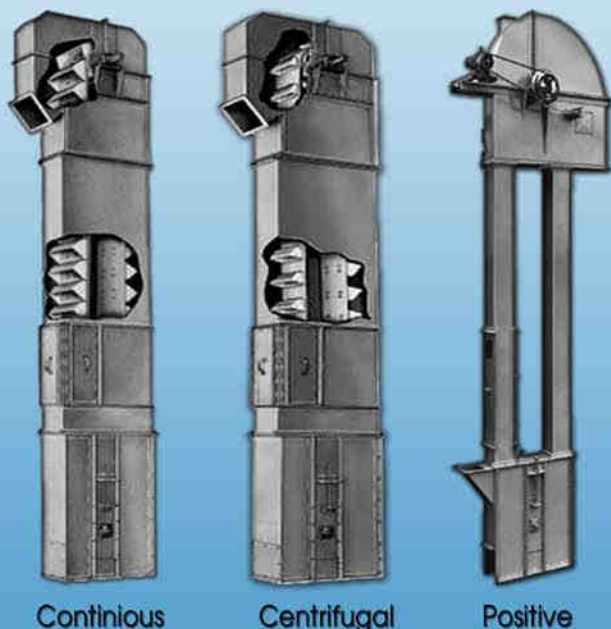
# Construction and Components of Bucket Elevators



- 1 - head pulley
- 2 - head cover
- 3 - head
- 4 - head shaft
- 5 - drive motors
- 6 - legging
- 7 - chaincase
- 8 - inspection leg
- 9 - flange
- 10 - boot shaft
- 11 - boot
- 12 - boot pulley
- 13 - bucket

## Type of Bucket Elevators

### Type of Discharge

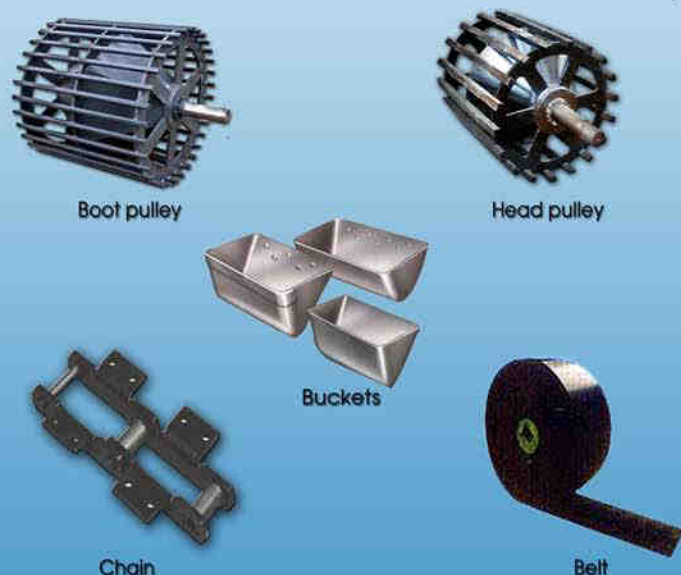


Continuous

Centrifugal

Positive

### Spare Parts



Boot pulley

Head pulley

Buckets

Chain

Belt

## Applications

- \* Cement plants
- \* Power plant
- \* Sponge Iron/Steel plants
- \* Chemical Plant
- \* Food Industry
- \* Plastic Industry
- \* Foundries
- \* Ceramic Industry
- \* Rubber Industry
- \* Wood Industry
- \* Glass Industry
- \* Pesticides Industry

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# ROTARY AIR LOCK VALVE

ESSAR Manufactures precision rotary air lock valve to the need of various industries. Rotary air lock feeds uniform discharge of material and there is a dosing valve also Rotary air lock valves also seals the air by preventing from inside to outside and outside to inside. Rotary air lock are versatile and known for smooth operation occupies less space. The prime function of a rotary valve is to regulate the flow from one chamber to another while maintaining a good airlock condition. The product is mainly in dry powder or granular form. In the dust filtration field good airlocks are essential on cyclone and bag filter applications in order that the manufacturer's quoted high dust collection efficiencies can be maintained. Airlocks are also important in the pneumatic conveying industry, where product is regulated into a high pressure conveying line while minimising air leakage.



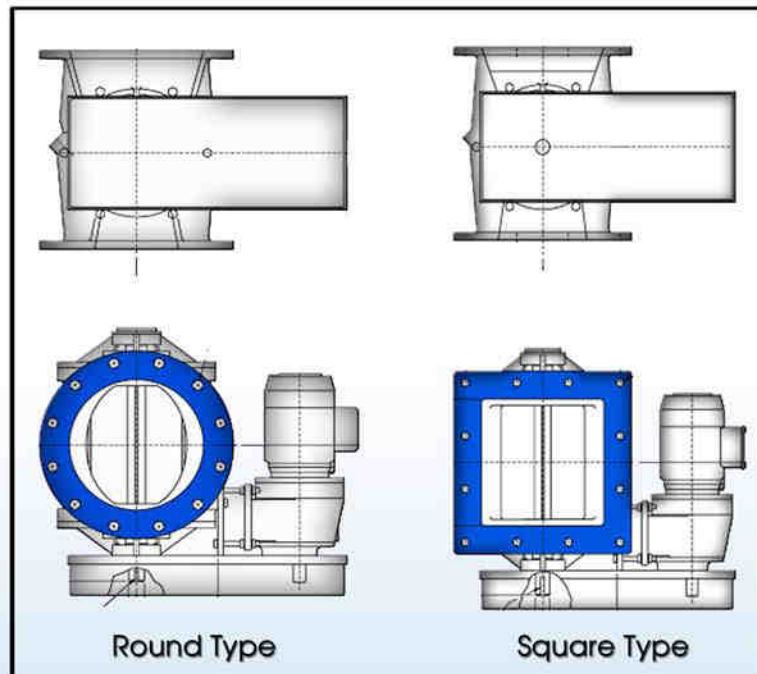
## Silent Features

- \* Applicable for powder lump material hot material also.
- \* Suits Round & Rectangular & Square feed & discharge requirements
- \* The gap between vane and casing is minimum and can be readjusted if worn out by vane adjusting plate
- \* Cast Iron, Stainless steel, MS fabricated versions are available according to need of customers

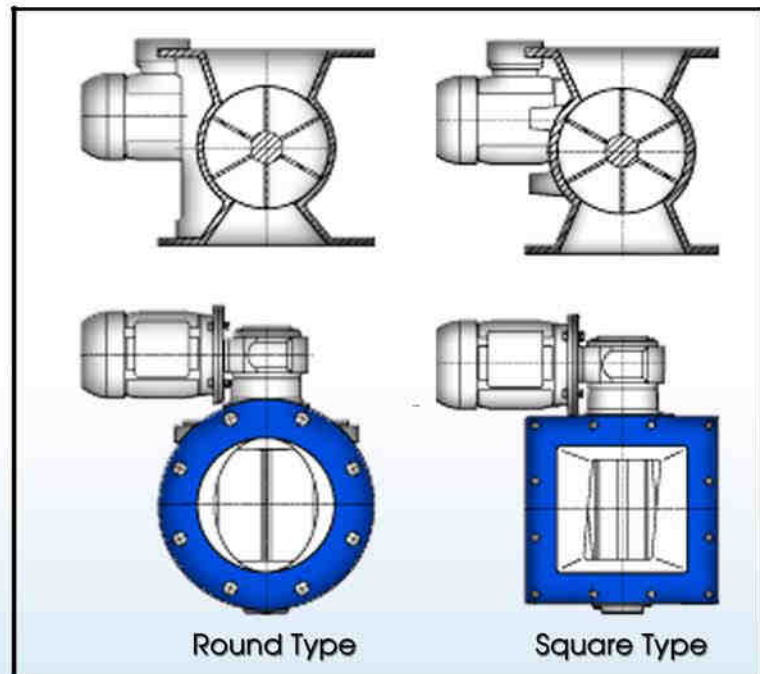


# Models

## Chain Drive



## Direct Drive



## Availability Sizes

\* 150, 200, 250, 300, 350, 400, 500, 600

## Type of MOC

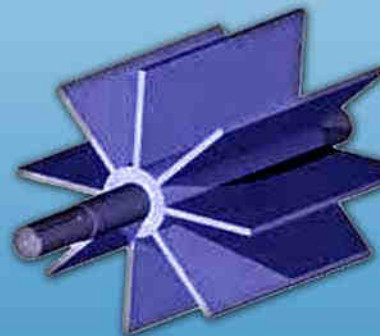
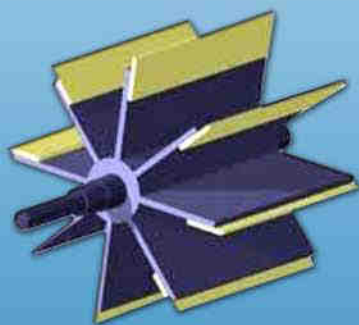
\* M.S.Fabricated

\* S.S.Fabricated

\* Cost Iron

## Spares

\* Rotor



## Applications

\* Cement plants

\* Power plant

\* Sponge Iron/Steel plants

\* Chemical plants

\* Food Industry

\* Plastic Industry

\* Foundries

\* Ceramic Industry

\* Rubber Industry

\* Wood Industry

\* Glass Industry

\* Pesticides Industry

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# ESSAR Other Products



Cyclone



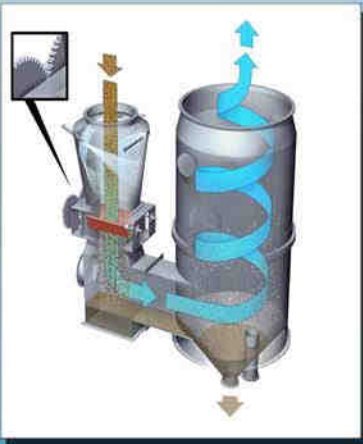
Cleated Belt Conveyor



Multi Cyclone



Trough Belt Conveyor



Venturi Scrubber



Fume Extraction System



Air Slides



Z Belt Conveyor



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