



ENGINEERING & EQUIPMENTS

MECHSOL
Mechanical Solutions 



BULK HANDLING BELT CONVEYOR / SHUTTLE CONVEYOR/ BELT FEEDER: -

Belt conveyors are the most commonly used powered conveyors because they are the most versatile and the least expensive. Product is conveyed directly on the belt so both regular and irregular shaped objects, large or small, light and heavy, can be transported successfully. We are capable of manufacturing both long distance and short distance conveyor. Also High angle conveyors, Reversible conveyors, Side Wall Types etc.. are Designed and Manufactured at our works. Belt Width; - 400 mm to 2200 mm (Flat and Troughed angle) Capacity: - upto 2000 TPH. Since Belt conveyor has lot of Bought out items, the parts like Idler Assembly, Pullies, Takeups, Drive frames, Chutes, Skirt board, Deck Plates etc.. are manufactured in house.

SCREW CONVEYOR: -

A screw conveyor is a mechanism that uses a rotating helical screw blade, called a "flighting", usually within a tube / trough, to move liquid or granular materials. They are used in many bulk handling industries. Screw conveyors in modern industry are often used horizontally or at a slight incline as an efficient way to move semi-solid material. Vital element in a Screw Conveyor is the Hanger Bearing. We have achieved mile stones in manufacturing screw conveyors of long distances without hanger bearings thereby by the cost of maintenance reduced. Also Screw conveyors for various applications and for various abrasive materials are manufactured. Special type of Hanger Bearings like Ceramics for conveying highly abrasive materials.

BUCKET ELEVATOR: -

A bucket elevator can elevate a variety of bulk materials from light to heavy and from fine to large lumps. A centrifugal discharge elevator may be vertical or inclined. Vertical elevators depend entirely on the action of centrifugal force the material into the discharge chute and must be run at speeds relatively high. Inclined elevators with buckets spaced apart or set close together the discharge chute set partly under the head pulley. Since they don't depend entirely on the centrifugal force to put the material into the chute, the speed may be relatively lower. Both Chain type and Belt Type Bucket Elevators are Designed and Manufactured depending on the applications. Special type of Tensioning arrangements with Pneumatic cylinders are provided for Chain type Bucket Elevators which holds the Chain Tension and reduce the frequent failures. We have a sound economical design for Bucket Elevator applications. The fabrication of casings, drive end, tension end, receiving and delivery chutes are fabricated inhouse. Also the precision shafts, gears, sprockets for drive and tension is manufactured inhouse. The chain is sourced from reputed suppliers around the globe.



TRIPPER CONVEYOR :-

Trippers are used to discharge bulk material from the belt conveyor. Trippers are most appropriately used to load large stockpiles or bunkers to spread the material over a larger area. Trippers can be stationary or movable. They are the conveyors in mining sector, Power Plants, Steel Plants that can distribute the product lengthwise in stock areas. We are capable of manufacturing Trippers for Long distance movement and as well as stationary trippers. The capacities of tripper conveyors is the same with conventional conveyors.



ROLLER CONVEYORS: -

Roller conveyors are, as their title suggests, powered via a shaft beneath rollers. When the shaft is powered, the rotating of the rollers pushes the product along the conveyor. Roller conveyors are largely used for unit handling applications, for example to move crates, pallets etc. Usually the Roller conveyors are selected based on the L x B x W of the unit to be handled. Roller conveyors are manufactured completely inhouse. Components or Items which weigh more than 1 tons and having turns up to 90 degrees are also handled on Roller conveyors and we take pride in having designed and manufactured for such applications.



OVER HEAD CONVEYERS / INVERTED FLOOR CONVEYOR

Varieties of Conveyors fall under the category of Over head conveyors, Power & Free Conveyors, Monorail Conveyors, AEMS. Over Head conveyors are largely used for unit handling applications in Automobile Industry especially in a Car Assembly Unit, Paint Shops, Body Shop, etc.. Having a solid background in the same industry for a long period of time, the promoters and the design division of the company are very well versed with the technology that goes into the design and manufacturing of these conveyors. It is not only the strong manufacturing division but also electrical integration of these systems plays a vital role in reducing the production cost to the end user. Mechsol has rich experience in integration and automation of these conveyors.



CHAIN CONVEYER:-

A Drag Chain Conveyor is a conveyor in which the open links of a chain drag material along the bottom of a hard-faced MS or SS trough. The flights are fixed between two strands of chain, drags the material from feeding end to the discharge end in open or closed trough. These are available in different widths and lengths as per the site requirements and are also used for handling slightly sluggish, loose or lumpy hot material. Drag Chain Conveyors are designed for horizontal, inclined and vertical transport of sawdust, chips and other bulk goods.



PUGMILL:-

A pugmill is a machine in which Slag or other materials are mixed with water. Industry Served: - We supply Pug Mill to industries viz., Power plants, Steel plants, Cement, Mining, Aluminium Industry etc..

DIVERTERS



FLAP GATES: -

Flap Gate Diverter is ideal for diverting gravity flow of materials . Two Way Chutes, Three Way Chutes etc.. are used to divert along with Pneumatic or Electric actuator operated Flap. Flap Gates are normally used above the Belt Conveyor to Divert material from a falling hopper or from an other Conveyor on top. All the Flap Gate items are manufactured inhouse, Special type Liners are used for special materials in order to have a long life of Flaps and Chutes.



SLIDE GATE: -

Product Description: - Slide gates are used generally as maintenance gates ahead of feeders and other equipment. Due to their simple construction, can be relied on to operate after months of inactivity. This is especially important in powerhouse and industrial applications. Slide Gates are operated with varying operating devices. Rack and pinion system, Manual operated with chain and pulley, Pneumatically operated and Electric Motor Actuator. We have mastered to design and manufacture all kinds of systems thereby by providing cost effective and high efficient Slide Gates.



ROD GATES: -

Used for stopping or adjusting the flow of material such as ore, rock and minerals, Rod Gates are manufactured using high quality alloys. Rod gates, pin gates generally refer to gates that completely shut off material flow. Mechsol supplies standard and custom configurations to meet a variety of application needs. Ideal low cost solution for isolation of material flow, in large storage hoppers. All the Rod Gate items are manufactured inhouse, Special type of Rods are used for special materials in order to have a long life of rods.



SECTOR GATES : -

Located below material storage hoppers/ silos., for extraction of material in pre set/ controlled manner. Sector gates are manufactured with Pneumatic operated or Electric Actuator operated or sometimes even hand operated. We design, manufacture and supply all types of Sector Gates with good precision closing efficiency.



V-PLOUGHS: -

These kind of Diverters are used on Falt Belt Conveyor in lieu of a Travelling Tipper. V-ploughs Diverters are used on conveyors placed on top of bunkers where there are multiple discharge points exists. We have manufactured V-Ploughs for Belt Widths upto 2200mm. The Special liners are provided in order to avoid wearing of Belts. The Plough can be operated either by pneumatic cylinder or by an Electrical actuator depending on the applications and suitability.

WATER INTAKE SYSTEMS



STOP LOG GATES: -

Stoplogs are a hydraulic engineering control element that are used in floodgates to adjust the water level or flow rate in a river, canal, or reservoir. Stoplogs are modular in nature, giving the operator of a gated structure the ability to control the water level in a channel by adding or removing individual stoplogs. A gate may make use of one or more logs. Each log is lowered horizontally into a space or bay between two grooved piers. In larger gate structures, there will be multiple bays in which stoplogs can be placed to better control the flow rate through the structure.



SLUICE GATES: -

"Sluice gate" refers to a movable gate allowing water to flow under it. When a sluice is lowered, water may spill over the top, in which case the gate operates as a weir. Usually, a mechanism drives the sluice up or down. This may be a simple, hand-operated, chain pulled/lowered, worm drive or rack-and-pinion drive, or it may be electrically or hydraulically powered. Mechsol Has supplied Sluice gates for various applications and various sizes. We have achieved good sealing efficiency and also special materials were used in order to have durability in sea water applications. We have a good supplier base to produce castings based on our design and engineering. We have produced Sluice gates with hand operated and even Actuator operated.



SCREENS: -

Coarse manual screen consists of bars placed in the open channel. Placed that way, screen represents an obstacle to all floating solid waste that remains on the screen. Collected material is manually removed using rakes. Screens are used in all water reservoirs to avoid clogging of pumps or any other device in the process plants. Mechsol Has supplied Screens for various applications and various sizes. Special materials were used in order to have durability of Rakes in sea water applications. Our shop floor is equipped to handle big size Screens of each weighing upto 20 tons.



AIR RECIEVERS TANKS: -

An air receiver is essential to every compressed air system to act as a buffer and a storage medium between the compressor and the consumption system. Absolutely essential to any compressed air system, air receiver tanks not only serve as temporary storage, but they also allow your system to perform more efficiently. Because of the immense pressure they contain. High Pressure Air Reciever Tanks are produced inhouse. We have inhouse facility to do rolling, dish end pressings and also perform radiography welding. Also High volume Air Recievers upto size of 200m³ can be manufactured and shipped from our works.



STORAGE TANKS: -

As the name suggests the tanks are used for storing various fluids in industry, which range from Acids, water, Fuels etc.. High Pressure Storage Tanks are produced inhouse. We have inhouse facility to do rolling, dish end pressings and also perform radiography welding. Also High volume Storage Tanks upto size of 200m³ can be manufactured and shipped from our works.



DUCTS AND DUCTINGS: -

Industrial exhaust ducts are pipe systems that connect hoods to industrial chimneys through other components of exhaust systems like fan, collectors etc. Ducts are also used to convey fluids in a process flow industry. Ducts and ductings are manufactured at our works with various materials like GI, MS, SS etc.. of varying sizes and designs. We have experience in manufacturing ducts having bends, Transitions (square flange on top and round flange in bottom) and different shapes.



VENTILLATION SYSTEMS: -

Mechsol has all the capabilities to design, manufacture, supply and commission filters and filtration systems for various industrial applications. Both gaseous and liquid filters are offered to meet customers' specific needs. Cartridge filters, bag filters, Pressure sand filters, leaf filters are available to meet stringent requirements of processes. Filters for arresting dirt up to 0.1 micron can be supplied. Filtration systems involving pumps, pipe lines, valves, instrumentation and controls for specific applications can be built meeting customers' specific needs.



DAMPERS: -

A damper is a valve or plate that stops or regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment. Its operation can be manual or automatic. Manual dampers are turned by a handle on the outside of a duct. Automatic dampers are used to regulate air flow constantly and are operated by electric or pneumatic motors, in turn controlled by a thermostat or building automation system. Dampers are used to have a void and control the flow of air, fluid or material on other side of the plant during process. So the critical issue is to have the leakage efficiency, which we have achieved upto 99%.

EXHAUST SYSTEM



DUST EXTRACTION SYSTEM: -

A dust Extraction system is an air quality improvement system used in industrial and production shops to improve breathable air quality and safety by removing particulate matter from the air and environment. Dust collection systems work on the basic formula of capture, convey and collect.



INDUSTRIAL SILENCERS: -

We engineer and manufacture industrial grade silencers for noise control in the Steel, power generation market, and other industries needing dependable, long-lasting silencers.



STACKS/CHIMNEYS: -

Stack is a type of chimney, a vertical pipe, channel or similar structure through which combustion gases called are exhausted to the outside air. Mechsol has inhouse manufacturing facility for stacks upto 45mtrs in length and diameters upto 5 mtr. larger diameters and lengths stacks, rolling is performed and taken to the site for site Assembly.