

Air Pollution Control Equipment Material Handling Equipment



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About TRIMECH

TRIMECH has been designing and supplying custom **Air Pollution Control System** and **Bulk Material Handling Systems** for industries around the world. Whether you're looking for a single piece of equipment, or a complete system, we can offer you a customized solution tailored to your unique handling needs.

What sets TRIMECH apart from our competitors is not just the quality of craftsmanship, but the level of customization we offer. We look at our customers' unique needs, from facility layout, to material characteristics and process goals, in order to design a system that operates at optimal efficiency, and accomplishes exactly what the customer is looking for. Our familiarity with hundreds of materials allows us to provide you with the best handling solution possible.

Being a quality driven organization, we have laid our foundation in offering only high quality range of Air Pollution Control, Mechanical Conveying and Pneumatic Conveying Equipments. For this, we have developed a sophisticated quality management department, wherein several tests are conducted on our range to deliver defect free and high performing range to our clients.

Our quality control system coupled with efficient project management, ensures that the customer receives consistently high quality products. We ensure economical operation of our individual machines and systems working reliably under all conditions.



Bag Filter

Bag Filters have been our core product since our inception. We offer a wide variety of Process Bag Filters and Nuisance Filters to suit any flow rate and dust burden. Our Bag Filters offer the highest particulate removal efficiency on the market, far exceeding the most stringent emissions regulations worldwide.

Features

- Guaranteed dust concentrations
- Lower pressure drop across the unit
- Lower consumption of compressed air
- Longer filter bag life
- Lower noise level during operation
- Highly efficient effectively clean the bag.
- High flow rates
- Bag/Cartridge as filters
- Perfect for Dust Collection



There are different types of Bag Filters such as Shakers, Reverse Air and Pulse Jet type the most promising one of outstanding result.

Online Pulse Jet Type

In this type of Bag filter, bags are cleaned row by row, even when the dust laden gas is filtered.

The sequence of Filter cleaning is controlled automatically by a sequence control Timer; it gives signal to solenoid operated pulse valves which direct the High pressure air pulse to Filter Bags. It acts as a rapidly moving air bubble, traveling through the entire length of the bag and causing the bag surfaces to flex.



Centrifugal Blower

TRIMECH has built a brand reputation as a manufacturer of custom built industrial fans that solve a variety of problems in industrial plants.

The fans perform in variety of harsh conditions from dusty to high heat environments. We have track record of designing fans to serve variety of airflow requirements for industrial processes and air ventilation systems.



Our fans and blowers act as perfect equipment for fume, smoke, and dust, corrosive atmosphere in furnaces, boiler, ovens and cement plants. They are used for the purpose of pneumatic conveying, high air volume applications and exhaust processes in diverse industrial applications such as steel plants, cement plants, power plants, pulp and paper mills, sugar mills, waste water treatments, mines, process plants and others.

Features

- Impellers are Dynamically Balanced as per ISO standard.
- Customized Drive arrangement
- Forward curved, Backward curved, Radial Fan and Axial Fan Type
- High Efficiency, Easy Maintainability
- MOC offered in MS, SS.
- Coated impeller for special application

Dust Collector/Fume Extraction System

Industrial processes result in the release of dust and dirt particles. Therefore it is necessary to capture these particles to ensure that they are not released into the atmosphere.

TRIMECH India manufactures and supplies the best quality dust collector per industrial need. We promise to give industries complete support by curing a dust collector that will best suit their need.

The dust collector bag is made out of woven or non-woven material that separates the particulate matter.

The dust collector bag contains a filter cloth that will fit into the shaped designer bag while the hopper is at the end of the bag to collect these dust and dirt particles.



Bulk Material Handling Equipments

TRIMECH has been designing and supplying custom bulk material handling systems for industries around the world. We can offer you a customized solution, tailored to your handling needs.

TRIMECH provides the full range of services, from project studies, planning, engineering and design to fabrication, supply, erection and commissioning, technical assistance, service and after-sales service for plants, Systems and Equipment.

TRIMECH machines and systems for bulk handling are top quality products - providing you with benefits such as high output, high efficiency and high availability.

We have team of highly qualified engineers starting from sales to service to understand the customer need, analyze and provide solution, keeping customer satisfaction on priority.



TRIMECH's line-up of bulk material handling products includes.

- Belt Conveyors
- Screw Conveyors
- Bucket Elevators
- Drag Chain / En-masse Conveyors
- Apron Conveyor
- Pneumatic Conveying Systems
- Dust Collector/Fume Extraction System
- Ribbon Conveyor
- Skip Hoist Conveyor
- Bag Unloading / Bag Dumping Station
- Ash Conditioners / Pug Mill
- Lump Breaker
- Diverter Valve
- Slide Gate Valve
- Rotary Airlock Valves
- Fuel/ Ash Handling System
- Bulker Unloading System
- Bag Packing Station
- Automatic Bag Slitting Machine

Our quality assurance system, coupled with efficient project management, ensures that the customer receives consistently high quality, and not only for products manufactured in our own factories.

Applications

- Power Plants
- Pharmaceutical
- Petroleum
- Paper
- Food
- Chemical
- Cement
- Fertilizer Industries
- Foundry, steel & sponge iron
- Dyes, Pigments and paints
- Mineral and Mining
- Saw Pipe
- Tyre, rubber, pyrolysis
- Carbon black processing
- Glass
- Polishing, buffing and Gridding
- Boiler and Thermal fluid heater
- Ceramic

Belt Conveyor

TRIMECH is the leading provider of custom conveying systems. We offer heavy-duty belt conveyors for bulk handling applications. Belt conveyors from the **TRIMECH** are ideal for transporting bulk goods when large distances have to be covered quickly across rough terrain.

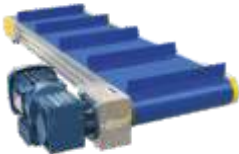
Belt conveyors are the most economical method of transporting bulk materials over long distances and are ideal for conveying bulk materials of large lump size since the bulk materials stay stationary on the belt.



Features

- Ideal for long distances
- High transport capacity
- Belt widths right from 500 mm upto 2400 mm.
- Angle of inclination up to 30°
- Ideal for granules and lump
- Highly economical with low investment costs.
- Low-wear construction with a lengthy service life
- Minimum maintenance cost

Available Configurations

Flat Belt Conveyor	Troughing Idler Belt Conveyors	Shuttle Conveyor
		
Cleated Belt Conveyors	Filter Press Belt Conveyor	
		

TRIMECH's belt conveyors dominates share in industries such as steel, cement, coal, fertilizers, metals & mining, chemicals, food grains, infrastructure and port trusts.

Screw Conveyor

TRIMECH manufacturer high quality Screw Conveyor according to CEMA Standard to any size constraint and most commercially offered Material. Screw Conveyors are one of the most consistent and cost effective way for conveying bulk materials that can handle wide range of dry, free-flowing material.

It is not suitable to transport materials that are easily deteriorating, have larger stickiness, and have higher moisture content.

Screw conveyors have proven to be a reliable and efficient way of conveying bulk materials over many years. With their ability to fully contain the product, screw conveyors are the perfect application for fine flowing, granular or coarse particles.



TRIMECH has been leading specialist in the design and manufacture of quality robust screw conveyors.

Available Configurations

Inclined Screw Conveyor



Live Bottom Screw Conveyor



TRIMECH considers all the specific design parameters during the screw conveyor design process.

A variety of flight configurations are available to meet specific customer requirements. Specific material abrasive or corrosive properties are considered when choosing flight material. If required we can apply specialist coatings or weld on hard facing to increase screw longevity.

Bucket Elevator

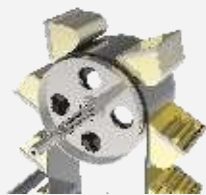
Bucket Elevator is most popular system in use today for elevating bulk materials. **TRIMECH** Bucket Elevator Systems are renowned for their quality and strength.

A Bucket Elevator consists of a series of buckets attached to a belt/chain with pulleys or sprockets located at the top and bottom of the unit. The buckets are located in a casing or housing to contain the material. Bulk materials are loaded into each bucket as the bucket moves past an inlet point.

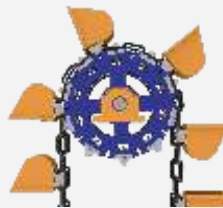
The Buckets are made from drawn steel seamless or fabricated of sufficient gauge and are attached to belt/chain by means of locking type bolts.

Centrifugal Bucket Elevator

Centrifugal bucket elevators are chosen when there is a need to move large amounts of material quickly. This elevator type can yield material degradation, and is therefore best fit for handling durable and abrasive materials like sand, gravel, woodchips, and other free-flowing bulk materials where fragility is not a concern.



Centrifugal Belt



Centrifugal Chain

Continuous Bucket Elevator

Continuous bucket elevators are primarily used when gentle handling is required. Direct loading of the material, combined with the slow speed of this elevator type avoids the “throwing” action associated with centrifugal-style elevators, making it ideal for use with fragile materials, or materials that are light and/or prone to aeration.

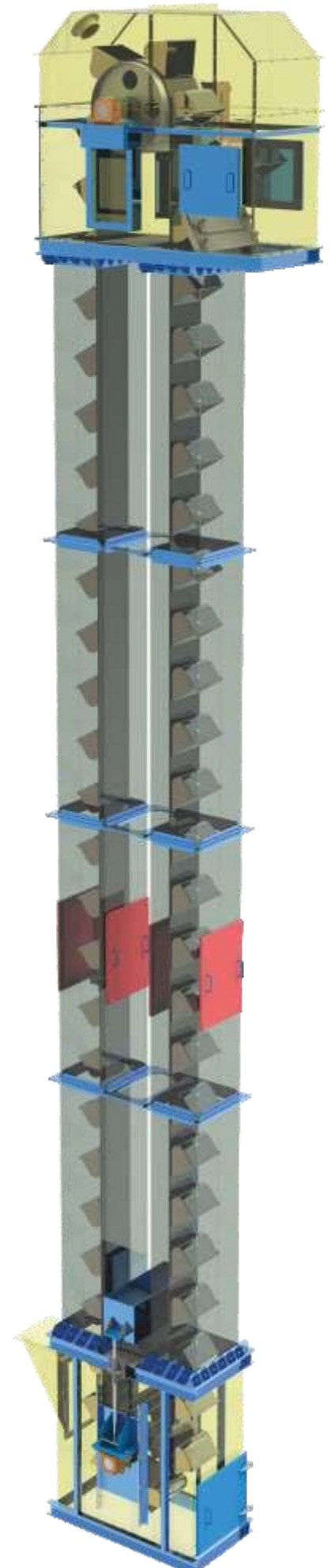
Buckets are designed to facilitate a gentle discharge; material pours out of the bucket and slides down the inverted bucket ahead into the discharge chute.



Continuous Belt



Continuous Chain



Drag Chain Conveyor

TRIMECH Drag Chain Conveyor or En-masse conveyors are designed ruggedly for dependable and continuous duty condition. They are envisaged to handle highly abrasive materials like coal, ash, limestone and other material at elevated temperature with use of special alloy material in construction of drag chain conveyors.

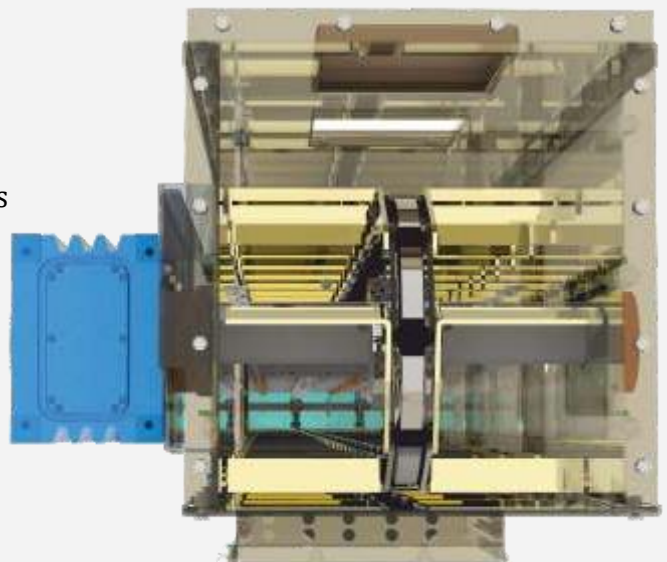
A Drag Chain Conveyor is a conveyor in which the open links of a chain drag material along the bottom of a hard or SS lined trough. The scrapers are fixed between chain in double strands or both side of chain in single strands, drags the material from feeding end to the discharge end in closed trough.

Drag chain conveyors can move a greater volume of material in a smaller housing, at slower speeds, and with less horsepower. Slower chain speed means less wear, and less horsepower equals lower energy requirements and operating costs.



Features

- Heavy Duty Construction
- Robust design and durable parts.
- Angle of inclination up to 35° in En-masse
- Ideal for hot materials and highly abrasive substances
- Dust-free and economical.
- Hardox, Sailhard or SS lining for abrasive material
- Hardened chain and sprockets for long life
- Occupies less space, Easier to install
- Lower energy consumption



Skip Hoist Conveyor

Skip Hoist is one type of material lifting equipment by which we can convey material to any height. This is equipment which in a less space can carry material to any height irrespective of material size, liquid or solid. [TRIMECH](#) Skip Hoist Conveyor is available in most affordable price range.

The Skip Hoist is powered by electric winches. During operation the Skip can be lifted to the certain height where the material is emptied.

The Skip Hoist is started by remote control and the winches drive the bucket to the end of the skip hoist and empties the material for the further process. After, the bucket returns to its starting position. And again, the front loader operator can supply again the material into the bucket and the process repeats.

Features

- Robustness and space saving
- Custom design for Skip (Bucket)
- Heavy-Duty Construction
- Low Horsepower, Energy- Efficient Motor
- Maintenance is cheaper since main maintenance part will be the rope replacement
- Automatic operations
- Can Handled any Shape or Size of material
- Use in Solids, Granules, Concrete, Coal, Rocks, Chemicals etc.



Ribbon Conveyor

In India, [TRIMECH](#) is a top supplier. We produce a wide variety of ribbon blenders for use as industrial mixers for various purposes. There are several models of these available, ranging from heavy-duty to lab model. These are the greatest for dry powder mixing, producing the best results at the lowest cost.

Depending on the needs of the industry, our blender is made with various grades of steel, including carbon, alloy, and stainless steel. Our product uses little electricity and requires little maintenance, making it environmentally friendly.

Our design can mix materials of small to large size with capacities for low, medium, large, and mega volumes. This has extremely sharp blades installed, which combine various soft to hard materials quickly.



Ash Conditioner / Pug Mill

The Pug mill/Ash conditioner is applicable to many industries. Where pollution control is a factor, the mill effectively blends dust recovered from such equipment as electrostatic precipitators, mechanical collectors and bag houses with various liquids, thus allowing transport without the particulate matter escaping into the air.

Ash conditioners provide uniform wetting of fly ash through an exclusive shaft and paddle configuration designed for consistent moisture content and reliable ash conditioning for transport. All Conditioners are of heavy duty design, of single or twin shaft formation, material of construction can be mild steel or stainless steel.



Built to last with a heavy duty container, mixing chamber and an entire unit enclosed Paddle design ensures maximum wetting of dry material. Reduced horsepower and low wear rates due to very low RPM. Easy installation with each complete unit ready for mounting on a prepared foundation.

The Pug Mill/Ash conditioner are designed to work on a continuous basis accepting a controlled feed of material from either a screw feeder, or rotary valve etc. Paddle blade formation is set to give the most efficient mixing action with water being added by an arrangement of spray nozzles. Throughput rates depend upon the type and properties of the product being handled.

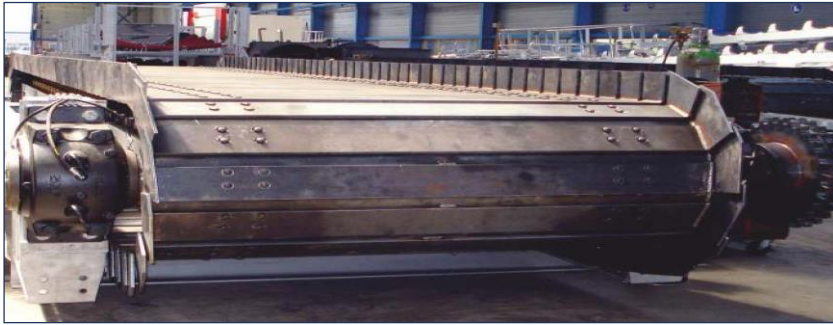
Features

- Heavy Duty Construction, Robust design and durable parts.
- Precise water control
- Regulated material feed
- Uniform, consistent forced wetting
- Continuous material flow
- Totally enclosed mechanism
- Entire unit enclosed to the discharge chute for long, dust free services
- Single Control

Apron Feeder

TRIMECH is an integrated solutions provider to the global mining, bulk material handling, minerals processing and beneficiation industries, offering innovative technological solutions.

TRIMECH Apron Feeders are designed for demanding material handling work in mineral, ore, coal and aggregate mining, as well as processing operations, combining robust, heavy-duty frames with standard chains and rugged pans to provide extremely long service life.



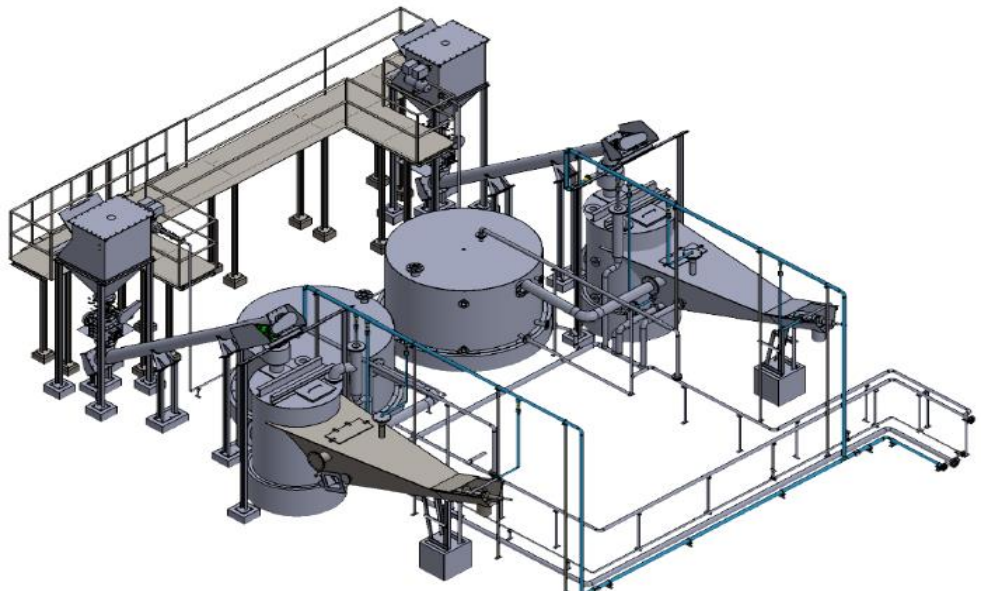
Apron Feeder can be installed below dump hoppers, material storage or transfer facilities from small to highest Capacities. Feed and discharge of big lump sizes, hard material, abrasive material, hot material or a Combination there of.

Features

- Robust Design - Heavy duty, robust design to handle heavy shock loads.
- Rugged welded construction frame to provide rigid support for intense loading conditions.
- Deep profile, cast manganese pans for high impact loading.
- Standard bearings and Plummer blocks on head and tail shafts
- Range of standard widths available in different lengths, as required.
- High impact carrying capability due to closely spaced rollers and impact rail
- Full guards, tail guards, zero speed Switch, pull-chord switch etc. are provided as standard.

Turnkey Projects (Bulk Material Handling)

TRIMECH is one of the best option in turnkey projects for material handling and conveying for solid powder materials.

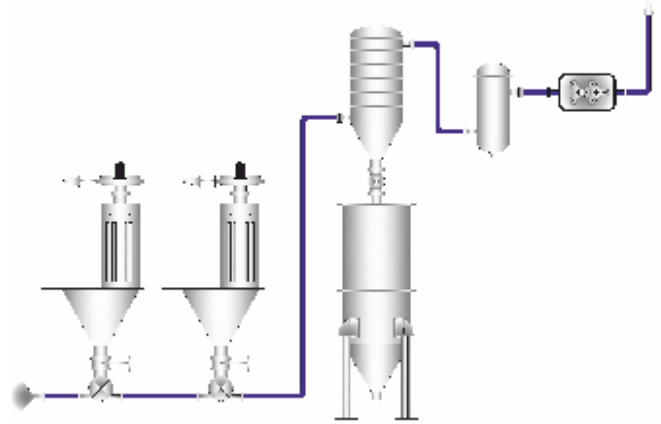


Pneumatic Conveying System

Negative Pressure (Vacuum) Dilute Phase

Negative pressure (vacuum) is generally used to convey material from multiple sources such as storage vessels, process equipment, trucks and rail cars, to individual or multiple destinations. Vacuum systems are excellent for multiple product inlets through the use of simple diverter valves. However, the advantage of this system is that it is dust-free and hygienic due to which these systems are popular. **TRIMECH** can offer nitrogen base close loop conveying for explosive or hazardous products.

The advantage of this system is that any leakage is inward due to which these systems are popular for conveying of explosive or hazardous products. As the system is operating below the atmospheric pressure the conveying velocities are generally higher than the pressure conveying.

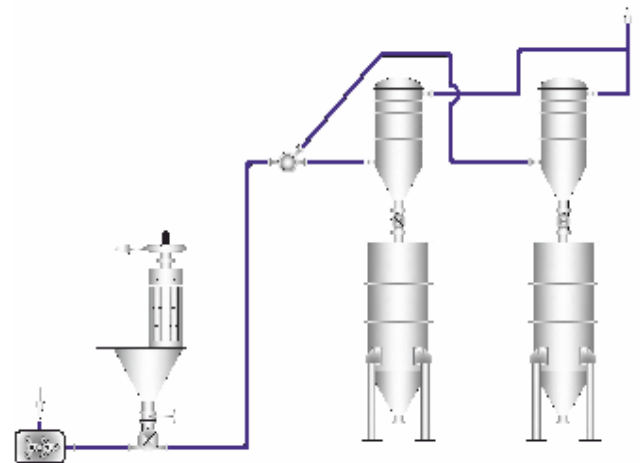


Positive Pressure Dilute Phase

Positive pressure systems operate above atmospheric pressure and are used to convey bulk materials from a single or multiple sources to one or multiple destinations, over medium distances and with greater capacity than possible using vacuum systems.

A typical positive pressure dilute phase system will consist of a rotary valve; pipe-work which would include long radius reinforced bends; a filter receiver or cyclone/filter arrangement; and positive displacement (roots type) air blowers.

Our lump breakers are the perfect solution for crushing materials that tend to form lumps. The lump crusher allows to break the lumps that form during the production or transportation process of friable materials. The fast rotation of specially shaped blades through a fixed mesh gives an efficient lump breaking action.



Dilute phase pressure conveying is particularly suitable for systems which convey materials at low to moderate capacities over medium distances, from single or multiple sources to single or multiple destinations.

Powder Transfer System (PTS)

TRIMECH Powder Transfer System (PTS) is an exceptionally effective and reliable method for transferring and dosing both dry and wet powders and granules.

PTS challenges convention, using both vacuum and pressure to move powders as if they were liquid, dispensing with the need for gravity charging, making multi floor processes a requirement of the past. The system is a significant enhancement to any process, providing total containment where necessary, but always speeding up production whilst improving safety and hygiene. Batch times can be substantially reduced and existing process steps can be linked to each other.

Features

- Empties or fills all process equipment (Including reactors, dryers and centrifuges)
- Transfers all powders (sticky, fine, non-free flowing, hygroscopic, humid, etc.) and Prevents dust creation
- Charges directly into closed vessels under vacuum or pressure
- No product retention, No Particle damages, No segregation.



Bag Packing Station

With our complete service bagging solutions, we at **TRIMECH** assist our customers satisfy their requirement for effective and affordable solutions. From systems and equipment for packaging to services, assistance, and instruction. We do complete packing unit for Jumbo Bags/50-20 Kg Bags.

Our clients are quite happy with our bagging solutions since they are compact, quick, and effective. View our evaluations in Proven Experts as well.



Bulker Unloading System

Bulker unloading for Powder / Bulk containers Solid Material Unloading is designed and produced by [TRIMECH](#). Our automatic bulk container loading and unloading system increases productivity while lowering expenses.

Our dependable bulk container unloading technology directly convey the material with the help of blowers and discharge directly to desired location.



Bag Unloading / Bag Dumping Station

[TRIMECH](#) manufactures Jumbo/Big bag unloading and 25-50KG Bag dumping systems which are specifically designed for unloading a large variety of products from different types of Big Bags. They eliminate dust emissions, product loss or product contamination.

Big bags were formerly used in a Many industries (agricultural, chemical, pharmaceutical, polyolefin, polymer and other bulk material handling industries), and even then, only in limited quantities.

The salient features and advantages of shifting to big bags is their flexibility of use, space- and cost-saving qualities, weight carrying capacities, and ability to withstand tough conditions



Jumbo Bag Unloading Station



Bag Dumping Station. (25-50KG Bags)

Features

- Heavy Duty Construction
- Dust-Free discharging system empties the Bags
- Bag cutting device can be provided
- Automated opening and emptying technology
- Capacity 25KG to 2000KG Bags
- Available in MS and SS material
- Bag Massager / Vibrator for free flowing operation
- Bag Dumping Station Available for manually feeding.

Automatic Bag Slitting Station

TRIMECH Bag Slitting Machine is an automatic slitter that is highly adaptable and gets its name from its capacity to cut through any kind of bag. It is perfect for the conditions in India, where bags of raw materials are not tightly sealed.

This involves impaling the bags onto a fast-cutting knife. The device essentially "drops" the bag onto the blade from a height of around one meter in order to impale it against the knife.

The material spills out as soon as the bag is cut. The chopped bag is then tipped into an inclined wire mesh drum, where it is continuously raised and lowered on its way to the exit.

The cut bag pieces end up in a bag compactor, while material drops through the mesh into a collection hopper. While the bags are being cut and tumbled, a built-in dust extraction system makes sure everything runs smoothly.



Lump Breaker

The lump crusher is ideal for making a crushing operation of material having a tendency to form lumps. The rapid rotation of the blades causes the fragmentation of clods.

TRIMECH Lump Breaker is designed for the simple DE agglomeration of compacted material into smaller particles. Lump breakers are capable of particle size reduction.



Our lump breakers are the perfect solution for Crushing materials that tend to form lumps. The lump crusher allows to break the lumps that form during the production or transportation process of friable materials. The fast rotation of specially shaped blades through a fixed mesh gives an efficient lump breaking action.

They reduce plant downtime, increase processing speed and improve product consistency. These units are precision manufactured and aligned for smooth operation with low vibration or noise.

Lump Breakers can handle wet, sticky, dry, hard or soft substances. They tear through chemicals, lumps, agglomerates, ore, filter cake, ash, sugar, food, plastics and more.

Lump Breaker is the ideal device for breaking up material lumps which have formed during handling or processing but are soft enough to be broken up. Quick rotation of special chopping knives through a fixed grid does the job. The presence of two rotor shafts results in high throughput rates.

Features

- Material: carbon steel, 304L, SS316L stainless steel
- Sturdy and compact.
- High wear materials available.
- Compact low-profile design
- Contains two rotor shafts equipped with chopping knives and a fixed grid to reduce clearance.
- Drive unit with fixed speed gear motor or variable speed drive, chain or gear transmission

Diverter Valve



TRIMECH Diverter Valves are simple compact in design, robust in structure, excellence in technology and easy to install. These valves are designed to handle bulk materials for all industrial applications both continuous and intermediate operation.

Single Blade type Diverter offers positive in-line product routing of granular and powdered bulk materials. The heavy duty plate construction and abrasion-resistant blade design provide long service life in even the most severe conditions.

Features

- Flap type diverter valve and tunnel type valve available
- **TRIMECH** Diverter Flap Valves have one inlet and two outlets for diversion of the flow of powder
- Multiple options of operation - Pneumatic and Motorized actuation.
- Compact Design, Minimum maintenance

Slide Gate Valve

TRIMECH Slide Gate Valve series is designed to provide a quick isolation valve unit that can be installed into bulk handling flow path to stop material flow. This is achieved through forcing the blade into the valve seat by cam rollers.

Slide gate valves are designed to shut off product flow from outlets of storage bins, silos, conveyors, and other discharge points handling dry bulk materials.



Features

- Economical, robust and reliable solution for bulk material handling.
- Fabricated construction available in MS and SS Materials.
- Multiple options of operation - Manual, Pneumatic and Motorized actuation.
- Configurations available-Square and Circular

Rotary Airlock Valve

TRIMECH'S Rotary Valves and Airlocks are designed to handle the various types of product & various application from metering duties, pneumatic conveying. TRIMECH offers Drop Through, Blow Through and Sidethrough Airlock Valves.

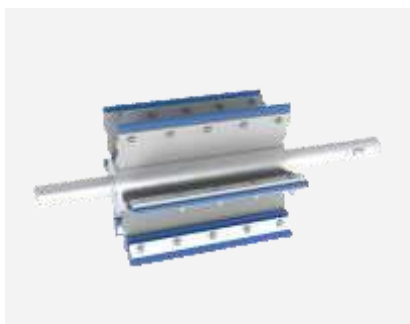
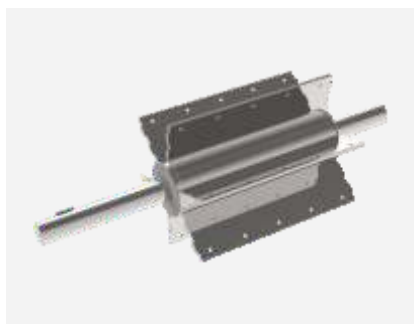


The function of the airlock is to hold pressure or vacuum in a pneumatic system, and also to feed products into conveying lines, or storage areas, (bins, tanks, hopper, etc.)

The Airlock rotor is precision machined to obtain the desired high degree of accuracy and close tolerance. Rotors may be supplied either with fixed or adjustable tips. The airlock rotor is mounted on bearings at each end of the rotor shaft. Rotor clearance is small to prevent excessive air leakage back to the product inlet.

Features

- Available in five sizes from 6" through 14".
- Round or square flange assures system compatibility.
- Oversize shaft diameters reduce deflection for maximum torque.
- Rugged cast iron construction and stainless steel provides maximum structural stability.
- Application specific options including speed switches, motors, drives and accessories.



Applications

- Dust Collection
- Regulator Feeding
- Cyclone Separator
- Pneumatic Conveying Systems



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