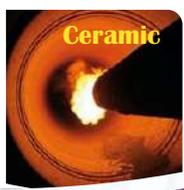




**KnitCon**  
Solutions Pvt. Ltd.

### Solutions and Products, we offer

- Pneumatic Conveying Systems for Bulk Solid
- PTS (Vacuum Unloaders)
- Silo Loading and Unloading Systems
- Grinding Systems
- Dust Collector and Scrubbers
- Liquid Handling Systems
- Blending and Mixing
- Weighing and Batching
- Rotary Valve and Diverter Valve
- Screw Conveyor
- Dome Valve



**Reliable Solution  
Partner**

## Our Valuable Presence





## About us

KnitCon Solutions Pvt. Ltd is established by 30 Years of experienced professionals from Solid Bulk Material Handling Industries with a vision to provide latest Automated Powder, Liquid Handling Solutions to the Food, Pharmaceuticals, Dairy, Chemical, Minerals and Power industries.

## Our Mission

- To build trustworthy, strong and long-lasting business relationships with our worldwide client base through delivering premium quality products & effective solutions and emerge as a 'Reliable Solution Partner' in sustainable business growth.

## Our Vision

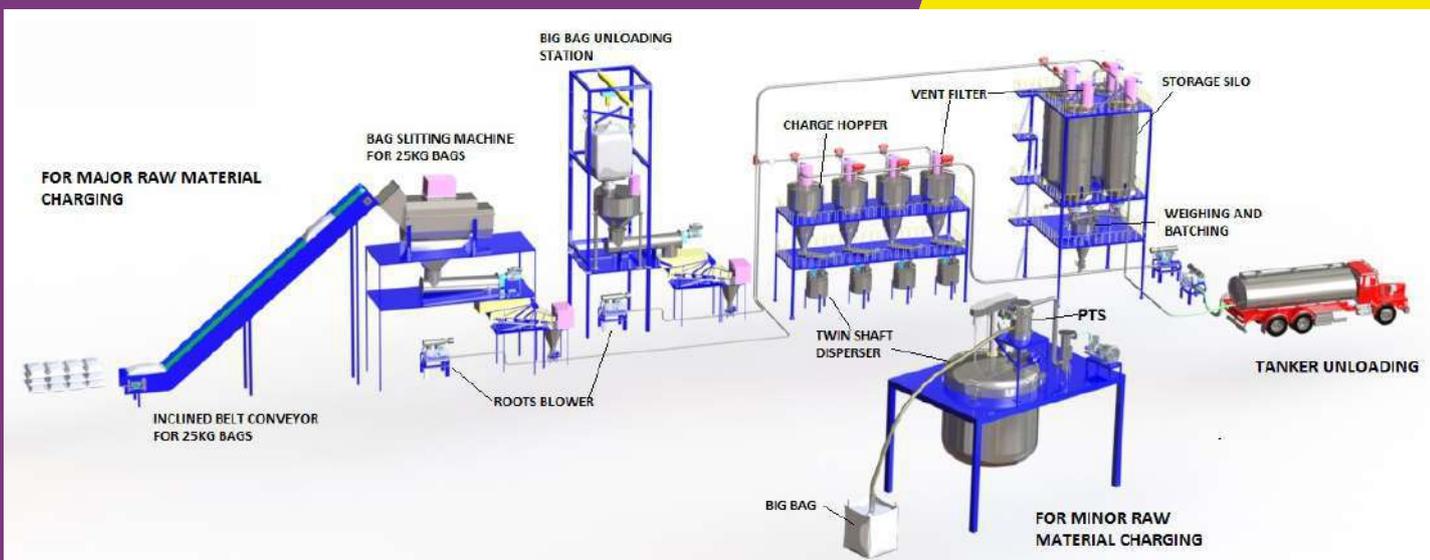
- Our focus is to provide Innovative Solutions and Quality products to fulfil customers requirement as per current market demand for improving Productivity and Hygiene.
- With three decades of experienced professionals, we believed in complete after sales support till Customer satisfaction
- We strive to constantly improve our Technology to design the State-of-the-Art Plants

## Our Values

- Customer Centric.....Ethical.....Expert

## Solutions and Products, we offer

1. Pneumatic Conveying Systems for Bulk Solid
2. PTS (Vacuum Unloaders)
3. Silo Loading and Unloading Systems
4. Grinding Systems
5. Dust Collector and Scrubbers
6. Liquid Handling Systems
7. Blending and Mixing
8. Weighing and Batching
9. Rotary Valve and Diverter Valve
10. Screw Conveyor
11. Dome Valve



## LEAN/DILUTE PHASE PNEUMATIC CONVEYING SYSTEM

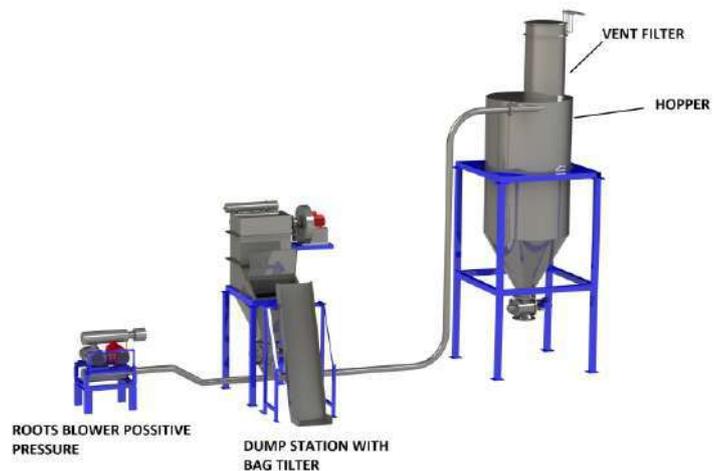
Lean/Dilute phase pneumatic conveying system is a low pressure, high velocity system that moves dry powdered or granular bulk materials through a pipeline. In dilute phase conveying particles are fully suspended in air and transported from one location to another. This system is ideal for conveying durable, non-abrasive.

There are two main types of dilute phase conveying Pressure conveying and Vacuum conveying.

### 1. Dilute-phase pressure conveying

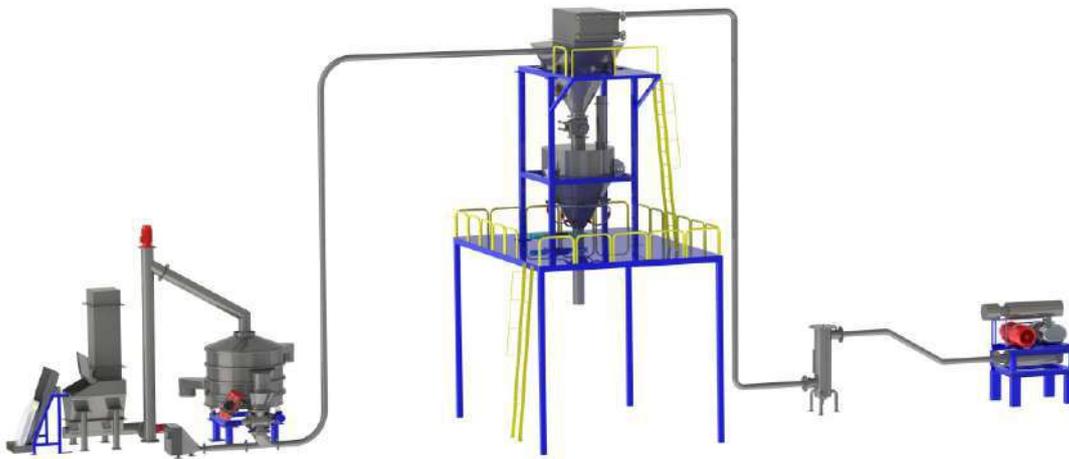
A positive displacement blower is fixed at the start of the system to supply a high velocity and low-pressure air. Placed next in line to the blower, is a feeder like a rotary air-lock valve/Venturi that feeds the material into the line. As the material enters the line, air stream supplied by the blower pushes and suspends the material from where they enter to another destination quickly.

Using the pressure conveyingsystem material can be conveyed from source to single or multiple destinations using diverter valve.



## 2. Dilute-phase vacuum conveying

This type of system uses vacuum Pump/Roots Blower/ID Fanto convey material from multiples sources to single destination. Feeder like a rotary air-lock valve/Venturi that feeds the material into the line and as the material enters the line, vacuum generated by the blower pushes and suspends the material from where they enter to another destination quickly.



### Key Benefits

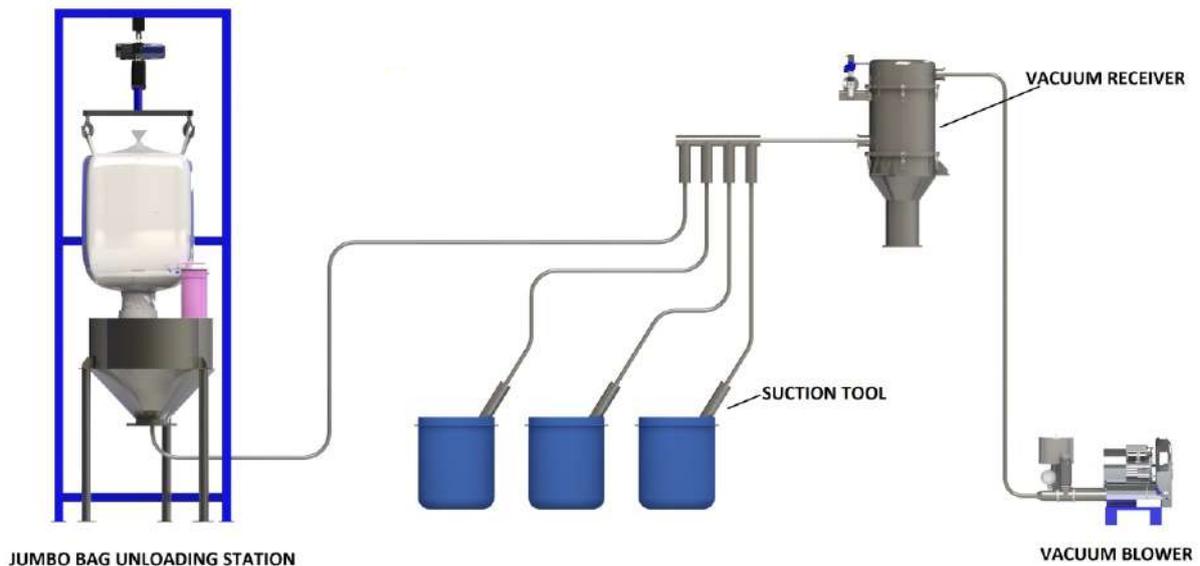
- Low Maintenance
- Reduced Product Degradation and Segregation
- Efficient and Effective Material Handling
- No Dust Emission
- Low Operating Cost as Air Consumption Is Low.

### Applications

**Chemicals, Minerals, Spices, Food and Spices, Fly Ash, Vegetable Waste, Dairy, Animal Feed, Grain and agriculture**

## VACUUM UNLOADER / UNLOADING SYSTEM / PTS

Powder transfer system (PTS) uses Vacuum Pump to convey material from multiple sources to single destination. We use suction tool arrangement to pick up the material and transfer it to the destination.



### Key Benefits

- Easy to Clean
- Small Footprint
- Efficient conveying method of powders transfer
- Very Easy to install
- Low Power Consumption
- Dust Free Transfer of Powder
- Cost effective solution

### Application

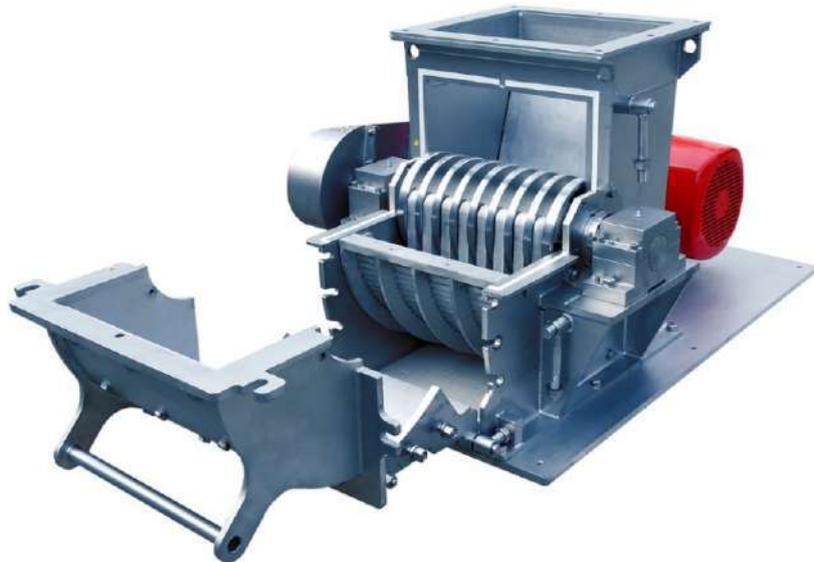
Can be used in Food, Pharmaceutical, Plastic and Grain Handling Industries

## PULVERISER MILL/ HAMMER MILL/IMPACT MILL

Our modern pulveriser mills and crushers are suitable for coarse, fine and ultra-fine size reduction of almost any material.

The wide selection of grinding tools and accessories not only ensures contamination- free preparation but also adaptation to the specific requirements of such different areas of application as foodstuffs, pharmaceuticals, spices, Agrochemical or environment.

Particle size reduction of solids or bulk materials is required when the particles are too coarse or the material is too inhomogeneous for subsequent processes such as analysis, division, mixing, packaging or further processing.



### Application

Can be used in Food, Pharmaceutical, Spice Industry, Agrochemical, Minerals and Grain Handling Industries

## AIR CLASSIFYING MILL/ACM

Air Classifying Mill operates on the principle of impact grinding and employs high rotor speeds with a striking edge velocity of up to 120 m/s. Size reduction takes place by the impact of material particles on the rotating grinding surfaces (hammers or pins) and on the fixed liner or grinding track.

Air Classifier Mills are designed for producing micro-fine particle size. High air, unique multi teeth rotor and serrated liners fitted in the air classifier mills create numerous air whirls, turbulence and progressive grinding.

The air classifier mills are designed to control the top cut size, great turbulence, and high air whirls to ensure minimum temperature increase to handle heat sensitive materials. The classifier retains coarser particles while suction fan discharges fine powder through cyclone separators and dust is collected in filter bag units. All air classifier mills are supplied with pneumatic conveying system.

## Application

Can be used in Food, Pharmaceutical, Spice Industry, Agrochemical, Minerals and Grain Handling Industries



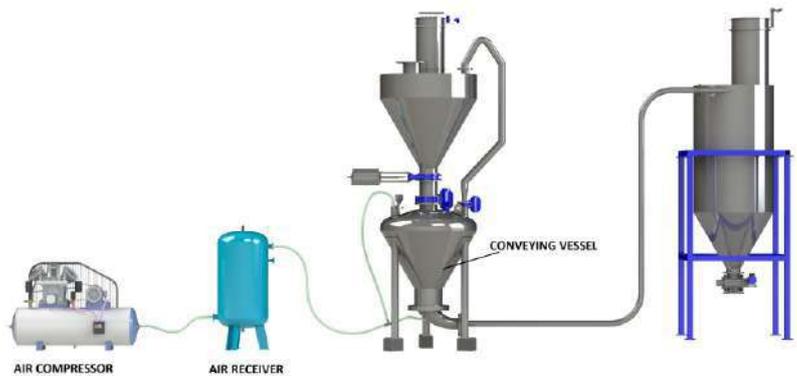
## DENSE PHASE PNEUMATIC CONVEYING SYSTEM

Dense phase pneumatic conveying system is a high pressure, low velocity system that moves fragile, abrasive or easily degradable dry material down the line gently and effectively. It pushes material in an enclosed pipe from single/multiple sources to single/multiple destination using a diverter valve.

Material conveyed by this method is loaded into a pressure vessel. When the vessel is full compressed air is metered into the vessel. The compressed air pushes the material from the pressure vessel into the conveying line and to the destination. Once the vessel is empty, the compressed air is turned off and the vessel is reloaded. The cycle continues until all the required material is transferred.

### Key Benefits

- Minimal Component Wear
- Low Maintenance
- Reduced Product Degradation and Segregation
- Efficient and Effective Material Handling
- No Dust Emission
- Low Operating Cost as Air Consumption Is Low



### Components

Pressure vessel, Dome Valve, Diverter Valve, Compressor

### Applications

Chemicals, Ready-mix Construction, Foundry, Minerals, Fly Ash, Power

## TANKER UNLOADING SYSTEM

These tanks have typically a size of 25 m<sup>3</sup>, sometimes more. Taking the example of Wheat flour, this allows in one operation to handle the equivalent of 960 bags or 30 Super sacks. Factories have thus a lot of interest to get their bulk materials in tankers, if they are equipped with silo to hold the discharge material, as it allows to convey in one time a lot of product, reduce drastically the needs for manual handling, and thus allows a higher factory throughput and efficiency.

Many bulk solids are handled in road silo tankers, such as flours, sugar, but also chemicals, Minerals or plastics. This kind of bulk solids tanker has to be discharged pneumatically in order to be able to empty the tank efficiently, discharge quickly enough, and send the product to a silo.



### Application

Cement, fly ash, mining minerals, calcium carbonate, pvc, plastic pellets, plastic powders, alumina, bentonite, bauxite, coal, cement clinker, gypsum, kaolin, limestone, marble powder, sodaash, quartz, urea, sodium sulphate, wheat, flour, animal feed, seed, corn, rice, sugar, salt and similar powdered and granular dry bulk solids.

## TANKER LOADING SYSTEM

Bulk tanker loading is used for dust free loading of powdered and granular bulk solids into bulk tanker trucks. Free flowing dry bulk solids in powder and granule form are easily transferred from silos, hoppers, containers and screw feeders to tanker trucks.

Loading is possible from different equipment like silo, hopper, screw feeder, conveyors etc. Dust free working region, prevention of dust pollution, ensure plant and environmental safety.



### Application

Cement, fly ash, mining minerals, calcium carbonate, pvc, plastic pellets, plastic powders, alumina, bentonite, bauxite, coal, cement clinker, gypsum, kaolin, limestone, marble powder, sodaash, quartz, urea, sodium sulphate, wheat, flour, animal feed, seed, corn, rice, sugar, salt and similar powdered and granular dry bulk solids.

## SILO SYSTEMS

In Powder Handling Solution, we specialize in properly designing and configuring storage silos and hoppers in different industries. Our Solid Bulk storage systems are designed to maximize space, efficiency, and sanitation, while minimizing cost and product contamination. With a wide range of options and professional expertise, we are able to provide the highest quality Powder Handling Solution to suit all of your plant's needs.

### Options available

- Stainless steel and Mild/carbonsteel
- Special interior and exterior linings and coatings
- Ladders, stairs, and other accessories
- Reverse Jet Filter/Bin vent filters and receivers
- Pressure Relief Valves.
- Explosion suppression and venting
- Load cell System for Scaling
- Level Devices (high and low).
- Custom inlets and outlets
- Vibratory bin dischargers, hopper fluidization, and multiple screw bottoms
- Transportation to the plant site



## BAG HOUSE / BAG FILTER / DUST COLLECTOR

Dust-laden gas or air enters the baghouse through hoppers and is directed into the baghouse compartment. The gas is drawn through the bags, either on the inside or the outside depending on cleaning method, and a layer of dust accumulates on the filter media surface until air can no longer move through it. When a sufficient pressure drop ( $\Delta P$ ) occurs, the cleaning process begins. Cleaning can take place while the baghouse is online (filtering) or is offline (in isolation). When the compartment is clean, normal filtering resumes. Most baghouses use long, cylindrical bags (or tubes) made of woven or felted fabric as a filter medium. For applications where there is relatively low dust loading and gas temperatures are 250°F (121°C) or less, pleated, nonwoven cartridges are sometimes used as filtering media instead of bags.

In reverse pulse-jet baghouses, individual bags are supported by a metal cage (filter cage), which is fastened onto a cell plate at the top of the baghouse. Dirty gas enters from the bottom of the baghouse and flows from outside to inside the bags. The metal cage prevents collapse of the bag. Bags are cleaned by a short burst of compressed air injected through a common manifold over a row of bags. The compressed air is accelerated by a venturi nozzle mounted at the reverse-jet baghouse top of the bag. Since the duration of the compressed-air burst is short (about 0.1 seconds), it acts as a rapidly moving air bubble, traveling through the entire length of the bag and causing the bag surfaces to flex. This flexing of the bags breaks the dust cake, and the dislodged dust falls into a storage hopper below. Reverse pulse-jet dust collectors can be operated continuously and cleaned without interruption of flow because the burst of compressed air is very small compared with the total volume of dusty air through the collector.



## CYCLONE SEPARATOR

Cyclonic separation is a method of removing particulates from an air, gas or liquid stream, without the use of filters, through vortex separation. When removing particulate matter from solid from gas, a gas cyclone is used. Rotational effects and gravity are used to separate mixtures of solids.

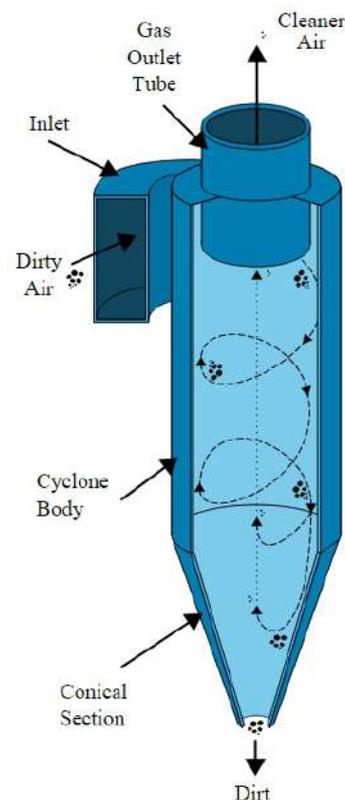
Particles larger than the cut point will be removed with a greater efficiency, and smaller particles with a lower efficiency as they separate with more difficulty or can be subject to re-entrainment when the air vortex reverses direction to move in the direction of the outlet.

### Key Benefits

- No moving parts hence low maintenance cost
- Occupy less space small footprint
- Can handle liquid mists and dry powder
- Easy disposal of dust as it handles solids.
- Better separation efficiencies for coarser products.
- Low capital cost.
- Ability to handle high temperatures.

### Application

- Various production plants collection and exhaust.
- Fine powders.
- Abrasive materials.
- Toxic media.
- Metal working.



## SCRUBBER

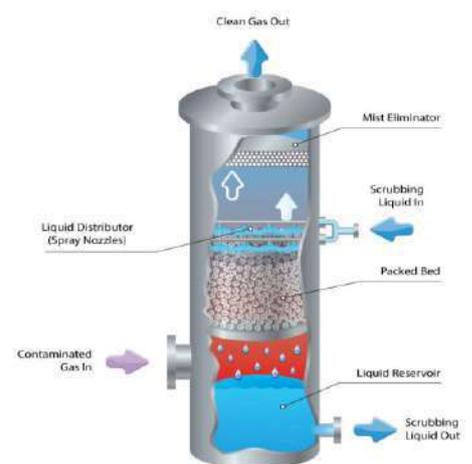
The exhaust gases of combustion may contain substances considered harmful to the environment, and the scrubber may remove or neutralize those. A scrubber is used for cleaning air, fuel gas or other gases of various pollutants and dust particles. Scrubbing works via the contact of target compounds or particulate matter with the scrubbing solution. Solutions may simply be water (for dust) or solutions of reagents that specifically target certain compounds. Process exhaust gas can also contain water-soluble toxic and/or corrosive gases like hydrochloric acid (HCl) or ammonia (NH<sub>3</sub>). These can be removed very well by a wet scrubber.

Removal efficiency of pollutants is improved by increasing residence time in the scrubber or by the increase of surface area of the scrubber solution by the use of a spray nozzle, packed towers or an aspirator. Wet scrubbers may increase the proportion of water in the gas, resulting in a visible stack plume, if the gas is sent to a stack.

### Key Benefits

- Wet scrubbers are highly useful because of its ability to handle high temperatures or moisture.
- Wet scrubbers can neutralize the corrosive gases also can Wet remove particulate matter or gases.
- Wet scrubbers can cool hot gases which results in smaller volumes and a smaller size of the system. These are safe in terms of fire or explosion hazards:

- The dry speculates of some types of dust are flammable. With the help of media of water, wet scrubbers reduce the possibility of explosions. The wet scrubbers reduce the temperature / volume of the unsaturated exhaust gases. Thus, fans and ducts are comparatively smaller than that of other similar equipment's

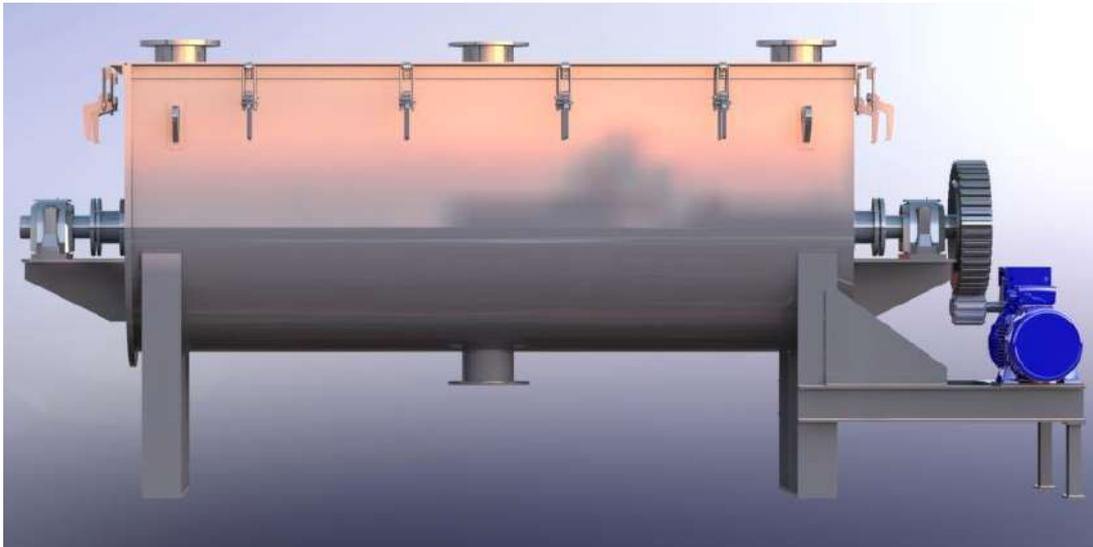


### Application

Chemical, Food / Pharma, Automobile, Steel, Mining, Fertilizer, Cement / Ceramic

## RIBBON BLENDER

A ribbon blender consists of a U-trough horizontal containing a double helical ribbon. The ribbons shaft is positioned in the centre of the trough. Which the helical ribbons consist of a set of inner and outer helical ribbons. The internal and external ribbons on the shaft located with the blender trough The ribbon shaft is powered by a drive system comprised of a motor, gearbox, and couplings. Ribbon blenders can be designed to operate in both batch and continuous modes. Its ability to perform heating, cooling, coating, and other processes make it a very popular blender.



### Key Benefits

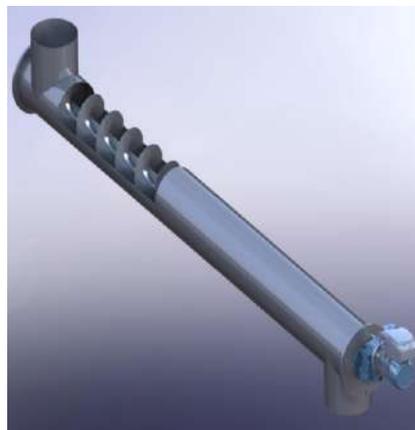
- Blending large volumes of dry solids.
- Dry powder to wet phase mixing.
- Mixing of bulk drugs ,chemicals, and cosmetic powders.
- Dry Blending of capsule formulations.
- Lubrication of dry granules in large quantity.
- Heating, cooling, and drying of materials.
- Coating solid particles with small amounts of liquids to produce formulations.

## SCREW CONVEYOR / SCREW FEEDER

Screw Conveyor or consist of a U-trough or pipe containing a spiral blade coiled around a shaft, driven at one end, and held at the other. The rate of volume transfer is proportional to the rotation rate of the shaft. In industrial control applications the device is often used as a variable rate feeder by varying the rotation rate of the shaft to deliver a measured rate or precise quantity of material into a process. We can position the Screw Conveyor as per customer requirement and site suitability.

### Type of Screw Conveyor

- ✓ Horizontal Screw Conveyor
- ✓ Inclined Screw Conveyor
- ✓ Vertical Screw Conveyor
- ✓ Reversible Screw Conveyor
- ✓ Flexible Screw Conveyor



### Key Benefits

1. Easy to Clean with maintenance door arrangement.
2. Can be Portable: on caster wheel design
3. Efficiently distributes bulk materials to various locations using multiple inlet and discharge points
4. Totally enclosed for dusty, corrosive, or hazardous environments

## BUCKET ELEVATOR

A bucket elevator is a mechanical conventional bulk material transfer solution which lift the material vertical up to the destination. We offer wide range of bucket elevators as per customer requirement and site suitability

A vertical elevator depends entirely on centrifugal force to get material to the discharge chute. This are continuous conveyor uses all kind of bulk materials. The bucket elevator has driven shaft and drive motor at the top. We can provide the dust free operation by providing Dust collector arrangement at Bucket elevator inlet and outlet.

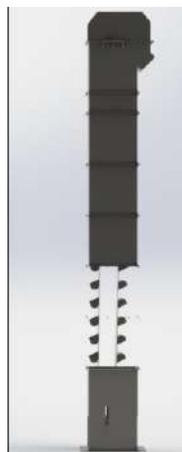
### Types of Bucket elevator

1. Traditional Vertical Bucket Elevator
2. Z Type Bucket Elevator/ Multiple Z Type Bucket Elevator

We can Offer Bucket elevator in different Material of Construction like MS, SS and PP

### Key Benefits

1. Can be used for high capacity requirement
2. Occupy less space
3. Efficiently distributes bulk materials to various locations using multiple inlet and discharge points
4. Totally enclosed for dusty, corrosive, or hazardous environments



Traditional Bucket Elevator



Z-Type Bucket Elevator

## ROTARY VALVE

The main function of a rotary air lock valve is to maintain the flow from one chamber to another while maintaining a good airlock condition. The product is mainly in dry powder or granular form. In Pneumatic conveying systems, rotary airlock valve helps to maintain the pressure or vacuum and gives a perfect sealing in gas or air by preventing air leakages in differing levels of vacuum or pressure systems.

### Key Benefits

- Available in fixed blade and adjustable / Replaceable blade type.
- Less clearance valves to ensure no powder leakages while discharging
- Can be used for High Capacities
- Available in Stainless steel, Carbon Steel, Cast Iron and Alloy Steel



### Application

- At the discharge of Silo's and Hoppers
- At discharge of Bag Filter, Cyclone and ESP's
- For Positive and Vacuum Conveying system

## DIVERTER VALVES

Diverter valves direct bulk solids into different destinations as part of a dilute or dense phase pneumatic conveying system and gravity discharge operation. Typically, they help convey material from one source to two destinations (or reverse).

### Types of Diverter valves:

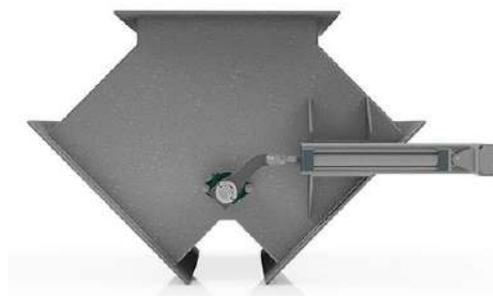
- Dual Tunnel Diverter Valves.
- Flap type diverter valves for gravity discharge. (Manual, Motorised and Pneumatic operated)

### Key Benefits

- Can divert material to multiple location through single pipeline
- Less clearance valves to ensure no powder leakages while discharging
- Can be used for High Capacities
- Available in Stainless steel, Carbon Steel.



Dual Tunnel Diverter Valve



Gravity Diverter Valve

### Application

- At the discharge of Silo's and Hoppers to divert material in different directions
- Dilute and Dense phase Conveying system

## DOME VALVE

Dome valves are high-pressure valves, usually used to control the flow of solid or abrasive materials. Dome valves have the advantages of tight pressure to open and close the valve.

### Key Benefits

- Loose flow without obstruction through the entire section
- Simple and reliable design
- Absolutely tight when closed
- Works with both static and dynamic substances.
- Pressure up to 30 bar
- Bulk temperature from -20oC to + 480oC
- High reliability and service life
- Up to 1,000,000 openings-closures between repairs



Dome Valve

### Application

- At the inlet and discharge of Silo's and Hoppers
- Can be used in Dilute and Dense phase Conveying system for diverting the material to different destinations

## Installation Pictures





## KnitCon Solutions Private Limited

Row House Number 3, Sai Residency,  
Balewadi, Pune 411045 Maharashtra IN  
+91 9960884174 | +91 8888881039 | +91 9422317308  
sales@knitcons.com  
www.knitcons.com