



www.skygrip.in

POWDER & BULK MATERIAL HANDLING CATLOGUE

Product Overview



About Us

SKYGRIP AUTOMATION is ISO 9001:2015 Certified Company, was Founded in 2017. Over 10 year's Experience in Material Handling Equipment. Skygrip Automation an independent systems integrator, has been successfully implementing turnkey Material Handling systems and it's Automation for our Clients. Skygrip Automation has been providing custom automation and material handling system since 2017 for nearly every industry & application possible

Market We Serve



Food , Bakery
and Grocery



Pharmaceuticals



Assembly Line



Beverage



Packing



Automotive



Warehousing

Why We?



Convention Machine
Mfg Setup



Parts Inspection
Instruments



Inhouse Detail
Design



Installation And
Commissioning



Qualified Team



After Sales Support

Big Bag Unloading System

The large bag containing bulk goods can be safely and effectively unloaded using a big bag unloader. Dry, granular or powdery material are commonly stored and transported in these bags in sectors like construction, chemicals, food processing & agriculture. Big bag unloading systems are widely used in industries handling ingredient in the form of powders and bulk solids. The availability of multiple models and options ensure the right customization to meet your exact needs.

Benefits of our bag unloading system:

- The efficient unloading: Save time & labor cost by expanding your unloading process in comparison to manual techniques.
- Enhance safety: Integrated dust collection & sealed discharge system reduce chance of dust exposition, contamination. Safety full guarding are also available.
- Versatility and flexibility: Customized design, adjustable frame & lifting mechanism as per bag sizes are available.
- Improve Material flow: Features like vibration, fluidizing , agitator ensure smooth discharge for sticky or clumpy material
- Automation & accuracy: Automated discharge control system provide accurate material handling and steady flow rate. solids. The availability of multiple models and options ensure the right customization to meet your exact needs.

Types of Big Bag Unloading system:

1. Bulk bag unloader –Forklift load
2. Bulk bag unloader- Electric Hoist and trolley load

Available in various material:

- Carbon steel
- 304 stainless steel
- 316 stainless steel

Application:

- Carbon steel
- Hopper charging
- Pneumatic conveying
- Weighing
- Bag Repacking from jumbo in to 25/50 kg bag



Jumbo bag unloading station (Fork lifted type)



Jumbo Bag Unloading Station (electric hoist operated type)



Lifting Tackle



Filter Bag for
Dust Collector



Jumbo Bag of
various sizes

Small Bag Dumping Station

The Manual bag dumping station an essential solution for safely & efficiently emptying dry bulk material such as powder and granules in your processing system. Our bag dumping station designed to manually discharge 20 kg to 100 kg bag. This station has an integrated dust collection device to keep the charging area dust free.

Salient features of our Bag Dumping Station:

- Perfect ergonomics for dumping small bag.
- Light weight access door with integrated gas spring.
- Removable safety grill are also available.
- Magnetic grill /Metal detector also be available with integrated system as per customer requirement.
- Inbuilt pulse jet Filter centrifugal fan efficiently eliminated dusting at charging area.
- Customized design as per bag sizes are available.
- Features like vibration, fluidizing, agitator ensure smooth discharge for sticky or clumpy material.



Bag Dumping Station

Our system available in fixed or mobile design including stainless steel or Carbon steel construction. Hopper can be customized for direct connection to pneumatic conveyor, Bulk storage bins or material processing equipment like Screw conveyor, Rotary valve, Blender, Mixer, manual feeding to silo etc.



Air Filter Bag

Benefits of bag dumping station:

- Dust control & worker safety: Equipped with dust collection insure the clean working environment & reduce health risk of worker.
- Enhanced productivity: Faster material unloading, minimizing material loss, prevent spillage & reduce waste.
- Customizability & Integration to existing system: These stations can be integrated with conveyors, hoppers or other downstream equipment to optimize the entire material handling process



Bag Dumping Station

Common Applications:

- Silo filling
- Mixture loading
- Production line powder feeding
- Packaging system
- Weighing, batching and dosing system

Commonly Used In below sectors:

- Food Processing: Unloading ingredients like flour, sugar or other food powder in to production line.
- Pharmaceuticals & Nutraceuticals: Unloading active Pharmaceutical ingredients or other fine powders under sanitary condition.
- Chemical: Handling chemicals, resins or powder for further processing.
- Plastics & Polymers: Adding materials like plastic pellets or powder in to processing line.
- Cement, Minerals & bulk solids: Dumping cements, sand or building materials in to mixing & batching line.

Powder Transfer System

The Pneumatic conveying system (mtransfer) moves bulk materials such as fine powders, granules, chemicals, pellets, etc. from place to place with the help of suction.

Components used in powder transfer system

- Powder feed hopper /suction lance.
- PTS Vessel with filter elements.
- Vacuum pump & control panel.
- Intermediate piping, hoses & fittings.

Top Features of our system:

- Powder feed hopper /suction lance.
- Ideal for conveying material like powder, granules, flacks & pellets in batch.
- Pickup Lance with flexible transparent hoses of PVC/PU materials for visibility of conveyed material.
- Available in different sizes (customized equipment are also available)
- Maintain filter efficiency with reverse-pulse filter cleaning system.
- Dust free operation with clean work environment & emissions within norms
- Safe transport of toxic & explosive material.
- Available in SS304 or SS316L stainless steel & Carbon steel etc.



Powder Transfer System



PTS Hopper With Instruments



Vacuum Pump

Model Standard Specifications.

PTS Model	PTS M-150	PTS M-200	PTS M-250	PTS M-300	PTS M-350	PTS M-400
Conveying Capacity (Ltr/hr.)	UP TO 900	UP TO 1700	UP TO 2000	UP TO 2600	UP TO 4000	UP TO 6800
Air consumption for filter cleaning (Nm ³ /hr.) at 5-6 kg/cm ² (g)	4-8	3-12	4-12	4-12	4-14	4-15
Conveying Pipe Size	40 NB	50 NB	50 NB	65 NB	80 NB	80 NB
Discharge Size	150 NB	200 NB	250 NB	300 NB	300 NB	300 NB
Noise level	<75 dB	<78 dB	<78 dB	<78 dB	<80 dB	<80 dB

Note: Actual values may vary based on application requirement. Capacity depends on BD, Moisture content, vacuum pressure, air flow etc....

Typically We Conveys:



Chemical Powder



Food Powder



Grains



Coffee powder



Pharmaceutical powder

Dense Phase pneumatic conveying system

A Dense phase pneumatic conveying transfer bulk materials at low velocity (2-10 m/s) and high pressure (1-6 bar (g)) using compressed air. The material moves in the form of plugs or dunes, ensuring controlled and gentle conveying. This method significantly reduces product degradation and minimizes pipeline wear, making it ideal for long distance transport of powders, granules and flakes especially for fragile or abrasive materials.

Key Features

- Low conveying velocity (2-10 m/sec).
- Minimal product breakage and segregation.
- Reduce pipeline erosion and maintenance cost.
- Energy efficient for large distance conveying.
- Dust free and environmentally friendly operation.
- Suitable for abrasive and fragile materials.

Advantages over lean phase

- Lower air consumption
- Low wear and tear
- Reduce pipeline erosion and maintenance cost.
- Better efficiency for difficult materials

Typical Technical specifications

- Conveying distance : Up to 500 mtr
- Capacity : 1 TPH to 80+ TPH
- Pressure range: 1 to 6 bar
- Pipeline size : 50 NB to 200 NB
- Mode : Batch / semi continuous

Optional Features

- Automatic batching and weighing system
- SCADA/PLC Automation
- Wear resistant pipeline(ceramic lined / hardened bends)
- Multi point feeding and discharge
- Fluidization system for difficult material

Applications of dense phase conveying

- Cement and fly ash handling.
- Food industry (flour, sugar starch).
- Chemical powder and granules
- Pharmaceuticals
- Minerals (lime , silica alumina).
- Plastic pellets and resins



Dense phase conveying pressure vessel

System components

- Pressure Vessel (dense phase vessel /blow tank/ fluidized).
- Air compressor /air receiver.
- Control valve and instrumentation.
- Pipeline with bend and fittings, air booster line (optional).
- PLC Based control panel (optional automation).



Special bends



Cast basalt bend

Why choose our system

- Customized design as per material characteristics.
- Robust and heavy duty construction.
- Advance automation and control.
- Strong after sales support.
- Energy efficient solution.

Lean Phase pneumatic conveying system



The Lean phase pneumatic conveying is a widely used method for transferring powders and granules at high velocity using a continuous flow of air. It is ideal for applications where material needs to be conveyed over long distances with consistent feed and minimal interruption.

In lean phase conveying, material is suspended in the air stream and transported through pipelines at high velocity (typically 15–30 m/s). The system operates under:

A) Positive Pressure (Blower) B) Negative Pressure (vacuum)

The material is fed into the pipeline via rotary airlock valves or venturi feeders and carried to the destination through airflow.

Key Features

- Continuous conveying operation
- Suitable for long-distance transfer
- Flexible pipeline routing
- Low initial investment cost
- Easy automation and control
- Compact system design

Typical Technical specifications

- Conveying velocity: 15–30 m/s
- Pressure range: 0.5 – 1 bar
- Capacity: Up to 50 TPH (depending on material)
- Distance: Up to 100 meters or more

System components

- Air blower / vacuum pump.
- Feeding device (Rotary Airlock Valve / Screw Feeder)
- Pipeline and bends
- Cyclone separator / Bag filter
- Control panel

Advantages of lean phase conveying

- Ideal for handling non-fragile materials
- Quick material transfer with high throughput
- Multiple pick-up and discharge points possible
- Low maintenance with simple components
- Dust-free and enclosed system

Comparison of lean phase and dense phase pneumatic conveying system

Parameter	Lean phase conveying system	Dense Phase Conveying system
Conveying Principle	Material suspended in high-velocity air stream	Material conveyed in plugs/slugs at low velocity
Air Velocity	High (15–30 m/s)	Low (2–10m/s)
Pressure Range	Low to medium (0.5–1.5 bar)	Medium to high (1–6 bar)
Material Flow	Dilute phase (air dominant)	Dense phase (material dominant)
Power Consumption	Higher	Lower (more efficient for long distance)
Capacity	Moderate to high	Moderate to very high
System Complexity	simplex	More complex
Initial Cost	Lower	Higher
Maintenance Cost	Moderate	Lower over long term

Material Storage: Hopper/Silo

Sky grip automation specialized in providing secure & reliable storage solutions for wide range of dry bulk materials including powder, pallets & granules.

Our silos are available in different size & capacity .we also customized our range as per client specifications. We offer these to chemical industry, pharmaceutical, textile foundry, pigment manufacturers, mineral processing, food processing pesticides manufacturer etc. These silo hoppers can be varying capacity ranging from few kilos to few hundred tons. They can be square, cylindrical or rectangular. We can manufacture silo in MS, 304 Stainless steel, 316 Stainless steel. These silo can be feed with pneumatic conveying, screw conveyor or manually.



Hopper with screw conveyor



Table feeder for hopper /silo



Fluidizer for hopper/silo

Skygrip Automation Advantage of hopper/silos:

- Pressure relief valve for higher capacity silos
- Air vent filter arrangement
- Level switches for accurate high & low level material indication
- Air Fluidizer & vibrator arrangements for hygroscopic material
- Explosion vent for flammable products
- Bin activators & electro pneumatic vibrators for smooth consistence material discharge
- Loadcell for precise weight measurement & reliable inventory monitors
- Also hopper are available with bridge breaker for lumpy materials

Screw conveyor

We design & manufacture screw conveyor to transport powder and granular material effectively & reliably at desired location. Our screw conveyor are available with 'o' type and 'U' type shape with spiral helical flight with Carbon steel, stainless steel material of constructions. Our screw conveyor are capable of handling a wide range of materials including grains, cement, chemical powder, food products, minerals and more.

Types of screw conveyor we manufacture:

- Horizontal Screw conveyor
- Incline screw conveyor
- Vertical screw conveyor
- Heating and cooling screw conveyor

Features of our screw conveyors:

- Customized design: Available in various sizes, lengths & material transfer rate as per customer requirement.
- Controlled material flow: It is perfect for dosing applications since it can be used to accurately control the rate of material flow through an adjustable speed.
- Easy to clean:-For easy cleaning feature are available with hinged cover & cleaning door.
- Effective Material Handling: our screw conveyor are capable of transferring variety of bulk material both in powder & granular form.
- Adaptability to various materials: Handling wide range of material including corrosive, abrasive & sensitive.
- Our screw conveyor capacity ranging from few kgs to 20 TPH As per customer requirement.



Screw Conveyor

Screw conveyors has following applications:

- Cement Industry: Cement, Dry & Damp Fly ashes' Dust
- Food industry: Flour, Sugar & other food powder etc.
- Chemical Industry : Soda ash, Stable Bleaching Powder
- Paint Industry: Sludge
- Steel Industry: Steel dust ,Burnt Lime, Calcited Lime etc.

Jumbo/Big Bag Filling System

We offer a wide range of bulk bag filling machine that provide high accuracy and ergonomic design. Several different solutions are available depending on required feature. We provide standard and customized solution for filling the bulk bag as per bag sizes from few kg to 2000 kg with filling accuracy of +/-100 grams & location of installation. These system is ideal for packaging various product like chemical powder, Detergent, sugar, salt, Fertilizer, Paint, Resins, Plastic, Minerals, Carbon Black etc.

Sygrip Automation Advantage:

- Rugged and Heavy duty frame design.
- Advance control system & Weighing System.
- Customized design & adjustable frame as per bag sizes are available
- Bag clamping available with pneumatic as well as inflatable type.
- Dust free loading with dust collection system.
- For settling material vibratory platform or massaging arrangement are also available.
- Integrated design like dust collection, magnetic separator, metal detector with rejection, slat conveyor, roller conveyor are also available.

Parameters/Specifications:

Specifications	Value
Model No.	BBFS-0500/BBFS-1000/BBFS-1500
Operation Mode	a)Semi-Automatic Gross Weight Filling System b) Semi-Automatic Net Weight Filling System
Bag Material	Woven/ Poly Propylene Bulk bag
Filling Capacity	4-12 bag / hr
Weighing Range	500-1500 kg
Filling accuracy	+/- 0.01%
Power Consumption	As per system
Air Supply	6 bar filter regulator air supply for Pneumatic instruments
Material of Construction	Carbon Steel/ SS304/SS316

Commonly use in Below Industries:

- Food Industry
- Pharmaceutical Industry
- Paint Industry
- Chemical Industry
- Cement industry



Jumbo bag filling System



Outfeed Roller Conveyor



Vibratory Platform



Out feed Slat conveyor

Small Bag Filling System

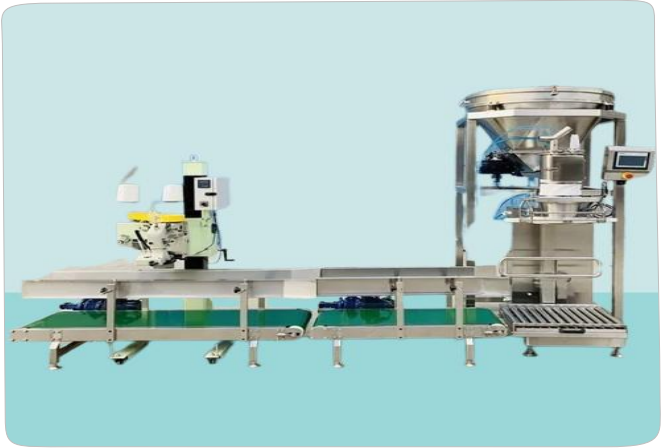
Our semi-automatic filling system is designed for precise weighing, filling, stitching, sealing of different bag size ranging from 20 kg to 100 kg with some manual Intervention. These system is ideal for packaging various product like chemical powder, Detergent, sugar, salt, Pet food, Fertilizer, Paint, Resins, Plastic, Ground Minerals, Carbon Black , zinc oxide etc.

Sygrip Automation Advantage:

- Precise filling via separate course and fine feeder also available with double control pneumatic feed valve.
- Advance control system & Weighing System.
- Bag clamping available with pneumatic as well as inflatable type.
- Dust free loading with dust collection system.
- For settling material vibratory platform are also available.
- Integrated design like dust collection, magnetic separator, metal detector with rejection, belt conveyor and roller conveyor are also available.

Technical Parameters/Specifications:

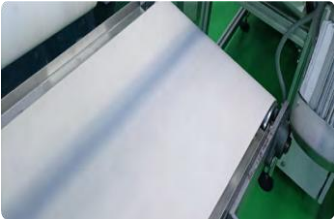
Specifications	Value
Model No.	SBFS-020/SBFS-025/SBFS-050/SBFS-100
Operation Mode	a)Semi-Automatic Gross Weight Filling System b) Semi-Automatic Net Weight Filling System
Bag Material	Woven/ Poly Propylene bag/Paper Bag(also Available with drum with linear filling machine)
Filling Capacity	40-120 bag / hr.
Weighing Range	20-100 kg
Filling accuracy	+/- 0.01%
Power Consumption	As per system
Air Supply	6 bar filter regulator air supply for Pneumatic instruments
Material of Construction	Carbon Steel/ SS304/SS316



Small Bag Filling System



Small Bag Filling System



Bag Clamping Arrangement Out feed Belt conveyor



Out feed Roller conveyor



Out feed Roller conveyor

Commonly use in Below Industries:

- Food Industry
 - Pharmaceutical Industry
- Chemical Industry
 - Paint Industry
- Cement Industry
 - Plastic & Resins Industry

Mixing equipment's- Ribbon Blender & Plough shear Mixer

A) RIBBON BLENDER

Ribbon blender are primarily used to obtain homogeneous mixing of two or more product in powder & granules form.

Our double helical U shaped ribbon blender designed for fast and efficient blending of dry powder, granules and vicious paste.

Types of Ribbon blender

- Horizontal ribbon blender
- Vertical ribbon blender.

Key features of our ribbon blender

- Mixing Mechanism –inner and outer helical ribbons that moves material in opposing direction radial and lateral ensuring homogeneous mixer.
- Ideal for solid solid blending, coating dry particle with liquid etc.
- Advanced flash bottom discharge valve located in center for quick, complete emptying.
- Available in multiple Working capacity from 50L to 12000L
- Often operate best at 40% to 65 % of total volume.
- Designed for atmospheric and vacuum operation
- Add ons- Liquid spray system can be added to top cover for coating.
- Material feeding system – Vacuum loader / manual /from process.

Optional Features

- Fluid coupling for smooth starts under load.
- Jacketed body for heating & cooling applications.
- Constructions in MS/SS304/SS316.
- Liquid spray system for coating powder to granules.
- Ribbon agitator for multiple discharge positions.
- Inspection and cleaning windows can be provided on body.
- Manual or pneumatic operated butterfly valve, slide gate valve etc. for discharge.

Applications of ribbon blender

- Pharmaceutical powders
- Chemical compound
- Pigments & dyes
- Pesticides & fertilizers
- Food powder and additives
- Cosmetics powders
- Herbal & Ayurvedic



Ribbon blender

B) PLOUGH SHAER MIXER

Plough Shear Mixer is horizontal mixer with cylindrical drum and horizontally installed mixing shaft. This mixer is designed for heavy duty blending of both dry and wet material.

Key features of our plough shear mixer

- Hygienic Design.
- Custom build to suit product specific requirements.
- Teflon coated internal for food and sticky material
- Jacketed construction for heating and cooling application.
- Can be operated under vacuum condition.



Plough shear mixer blade

Applications of plough shear mixer

- Quick and homogeneous mixing of paste, rubber and heavy plastic masses.
- Bulk Powder in dry/dry solid, dry waste paste and wet wet mass.
- Blending
- Solid –solid mixing
- Solid- liquid mixing

Our Clients



Asian Paints



Fleetguard filters
pvt. Ltd.



Soma Nutrition



CEAT Tyres



Patanjali



Tox Pressotechnik
India Pvt Ltd.



Innovation without Limitation
ISO 9001:2015



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