



PRECISION | RELIABILITY | INNOVATION



MATERIAL HANDLING EQUIPMENT

Committed To Engineering Better Tomorrow

About Us



Greetings from “Prio-Mech Engineers”

PRIO-MECH Engineers is a leading engineering-oriented organization providing design, engineering, manufacturing and supply of Material Handling Equipment and Bulk Material Handling Systems.

We provide Precision, Reliable, innovative and cost-effective solutions for material handling requirements, with a focus on High quality, timely delivery for process industries like power plants, cement plants, steel plants, mining, agriculture industries, Pharma industries, minerals, coal handling, fertilizer, chemical and other heavy engineering industries.

With our engineering knowledge, expert team, association with reliable manufacturing sources and as per ISO standard our aim to provide Customer Requirement Oriented Products with best quality, competitive pricing and best Sales support.

This catalogue Present our standard Products range of Materials Handling Equipments, with available configuration, Key Components, feature, typical application and Technical Specification of each Products.

OUR PRODUCTS

01 Screw Conveyor

02 Belt Conveyor

03 Coal Crusher

04 Vibro Shifter

05 Ribbon Blender

06 Bucket Elevator

07 Blowers

08 Bag Filter System

09 Scrubber System

10 Vessel with Accessories

11 Pneumatic Conveying System

12 Centrifuge

13 Filter Press

14 Other Products

01

SCREW CONVEYOR

A screw conveyor transports bulk material — powders, granules, or small lumps — using a rotating helical screw (flight) enclosed within a stationary trough or pipe. It is one of the most compact and cost-effective solutions for horizontal, inclined, or vertical conveying, mixing, and metered feeding.

Available Configurations

- Pipe (Closed) Type — fully enclosed circular casing; suited for dusty, fine, aerated, or hazardous materials requiring a dust-tight and weatherproof path.
- U-Trough (Open) Type — U-shaped open/covered trough; suited for general bulk materials, easy inspection, and easier maintenance access.

Salient Features

- Compact, dust-tight, and low-maintenance design
- Suitable for horizontal, inclined, and vertical conveying
- Can be used for conveying, mixing, cooling, or metered dosing
- Available in MS, SS304/SS316 construction

Key Components

- Helical screw / flight (shafted or shaftless)
- Pipe casing or U-trough with bolted cover
- End bearings & intermediate hanger bearings
- Inlet and outlet spouts / gates
- Drive unit — motor with gearbox / chain-sprocket drive
- Inspection hatches and safety guards

Typical Applications

- Cement & fly ash
- Chemicals & minerals
- Food grains, flour & feed
- Coal & ash handling in power plants

Typical Technical Specifications

Parameter	Typical Range	Parameter	Typical Range
Screw Diameter	100 – 500 mm	Inclination	0° – 45°
Conveying Length	Up to 30 m per section	Screw Speed	20 – 160 RPM
Capacity	1 – 200 TPH (material dependent)	Construction	MS / SS304 / SS316



**PIPE (CLOSED)
TYPE**



**U-TROUGH
(OPEN) TYPE**

02

BELT CONVEYOR

Belt conveyors are the most widely used equipment for continuous, high-capacity transport of bulk materials over short to long distances, horizontally or on an incline. An endless belt runs over a series of idler rollers and is driven by head and tail pulleys.

Key Components

- Conveyor belt (rubber / PVC / food-grade as required)
- Idler rollers — carrying and return sets
- Head, tail, bend & take-up pulleys
- Drive unit — motor, gearbox, and pulley lagging
- Belt take-up (screw or gravity type)
- Skirt boards, scrapers & belt cleaners

Salient Features

- High throughput over long distances at low power consumption
- Smooth, continuous, and gentle handling of material
- Configurable for horizontal or inclined layouts
- Optional troughing angle for higher carrying capacity

Typical Applications

- Coal, ore & aggregate handling
- Cement plants & mining
- Ports, stockyards & bulk terminals
- Inter-process transfer in bulk plants

Typical Technical Specifications

Parameter	Typical Range
Belt Width	300 – 2000 mm
Capacity	Up to 1000+ TPH
Max Incline Angle	Up to 18° (standard); higher with cleated belt

Parameter	Typical Range
Belt Speed	1 – 4 m/s
Conveying Length	Site-specific / modular



**BELT
CONVEYOR**

03

COAL CRUSHER

Coal crushers reduce run-of-mine coal or lump coal to a controlled product size suitable for downstream handling, firing, or processing. Ring granulator and hammer-mill type rotary crushers are commonly offered for reliable, continuous-duty operation.

Key Components

- ▶ Rotor assembly with hammers / rings
- ▶ Crushing chamber & wear-resistant liners
- ▶ Screen bars / grid for product sizing
- ▶ Heavy-duty housing and access doors
- ▶ Drive — motor with V-belt or direct coupling

Typical Applications

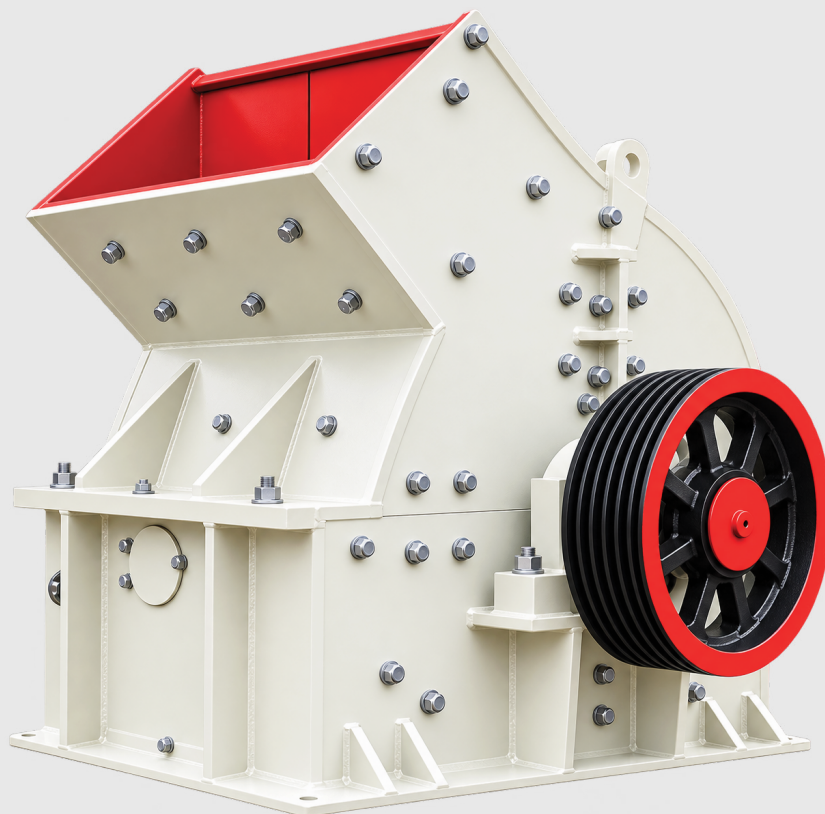
- ▶ Coal sizing for thermal power plants
- ▶ Cement & process plants
- ▶ Coal handling plants (CHP) — primary/secondary crushing

Salient Features

- ▶ Robust construction for continuous, heavy-duty operation
- ▶ Wear-resistant hammers/rings for extended service life
- ▶ Controlled, uniform product sizing
- ▶ Low fines generation on suitably selected models

Typical Technical Specifications

Parameter	Typical Range
Feed Size	Up to 300 mm
Product Size	13 – 25 mm (adjustable)
Capacity	50 – 1000 TPH
Drive Power	Application dependent



COAL
CRUSHER

04

VIBRO SHIFTER

A vibro shifter (vibrating screen separator) classifies, grades, or de-dusts powders and granules by passing material over a vibrating mesh screen. Vibration is generated by a top or bottom-mounted vibratory motor and is isolated from the base frame using

Key Components

- Screen mesh (single or multi-deck)
- Vibratory motor (top or bottom mounted)
- Support springs for vibration isolation
- Sieve frame with clamping ring
- Inlet, oversize & undersize outlets

Typical Applications

- Powder & granule classification
- Quality control screening / de-dusting
- Food, pharma, chemical & mineral processing

Salient Features

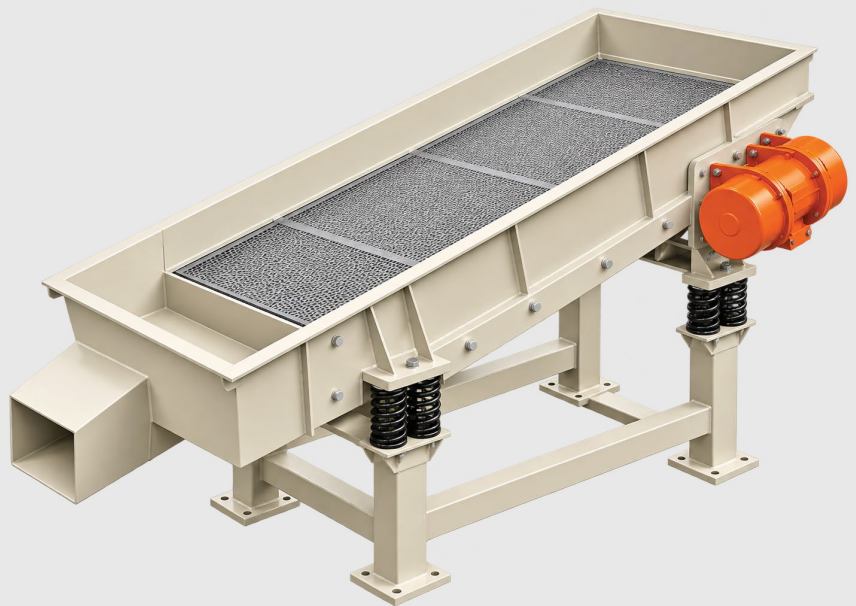
- High screening accuracy & throughput in a compact footprint
- Multi-deck option for simultaneous multi-fraction grading
- Dust-tight / enclosed design available
- Easy screen mesh replacement

Typical Technical Specifications

Parameter	Typical Range
Screen Diameter	300 – 1800 mm
Mesh Size Range	40 mesh – 500 micron
Number of Decks	1 – 4
Capacity	Material & mesh dependent



VIBRO
SHIFTER



VIBRO
SCREENER

05

RIBBON BLENDER

Ribbon blenders are horizontal, U-trough mixers used for efficient dry and semi-dry blending of powders, granules, and pastes. An inner and outer helical ribbon agitator moves material both axially and radially for fast, homogeneous mixing.

Key Components

- U-shaped mixing trough
- Inner & outer ribbon agitator on a central shaft
- Drive — motor with gearbox
- Bottom / end discharge valve
- Top cover with charging ports & safety interlock

Typical Applications

- Chemicals & dyes
- Food, feed & spice blending
- Detergents, fertilizers & minerals

Salient Features

- Fast, uniform mixing with minimal dead zones
- Suitable for dry, semi-dry & light paste blends
- Optional jacketed trough for heating/cooling
- Available in MS or SS304/SS316 construction

Typical Technical Specifications

Parameter	Typical Range
Working Capacity	50 – 10,000 litres
Mixing Time	5 – 15 minutes (typical)
Discharge	Bottom valve / manual tilting
Construction	MS / SS304 / SS316



HEXAGONAL BLENDER



RIBBON BLENDER

06

BUCKET ELEVATOR

Bucket elevators provide efficient vertical lifting of bulk materials using a series of buckets mounted on a belt or chain, running between head and tail pulleys/sprockets within an enclosed casing.

Key Components

- ▶ Buckets (steel / polymer, various profiles)
- ▶ Belt or chain with head & tail pulleys/sprockets
- ▶ Enclosed casing (boot, trunk & head sections)
- ▶ Drive unit with backstop / anti-run-back device
- ▶ Boot take-up for belt/chain tensioning

Salient Features

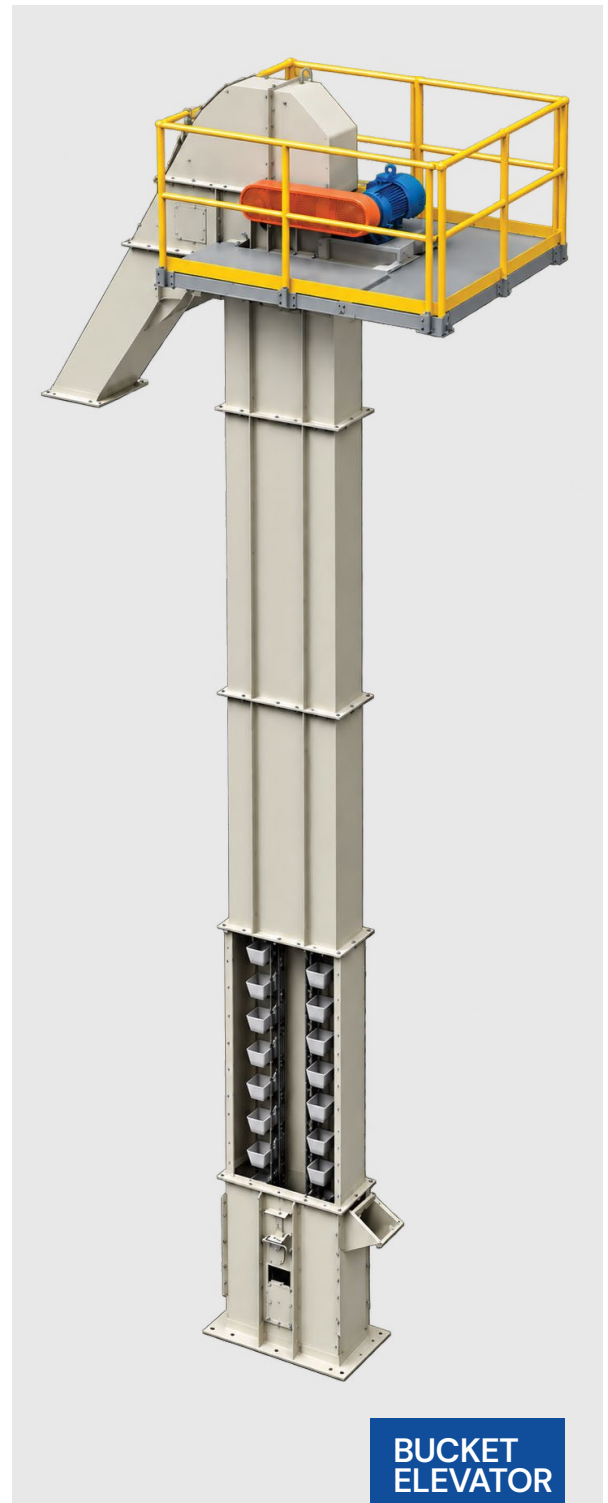
- ▶ Efficient vertical conveying with a small floor footprint
- ▶ Enclosed casing minimizes dust and spillage
- ▶ Centrifugal or continuous discharge options
- ▶ Suitable for fine powders to small lumps

Typical Applications

- ▶ Cement, fly ash & minerals
- ▶ Grain, feed & food processing
- ▶ Chemical & fertilizer plants

Typical Technical Specifications

Parameter	Typical Range
Capacity	5 – 500 TPH
Lift Height	Up to 40 m and above (modular casing)
Bucket Type	Centrifugal / Continuous discharge
Speed	Slow / Medium / Fast speed as per duty



BLOWERS

Blowers supply and move large volumes of air or gas at moderate pressure and are used across pneumatic conveying, aeration, cooling, ventilation, and combustion air supply duties.

Type of Blowers

- ▶ Direct Driven — impeller mounted directly on the motor shaft; compact footprint with no transmission losses.
- ▶ Belt Driven — motor coupled to the impeller via belt & pulley, allowing flexible speed/flow selection.
- ▶ FD Blower (Forced Draft) — supplies combustion/process air under positive pressure into a system.
- ▶ ID Blower (Induced Draft) — draws / extracts flue gas or air out of a system under negative (suction) pressure.

Key Components

- ▶ Impeller / lobes (centrifugal or roots type)
- ▶ Casing with inlet & outlet flanges
- ▶ Motor with drive (direct / belt driven)
- ▶ Silencers & pressure relief valve
- ▶ Base frame with vibration isolators

Typical Applications

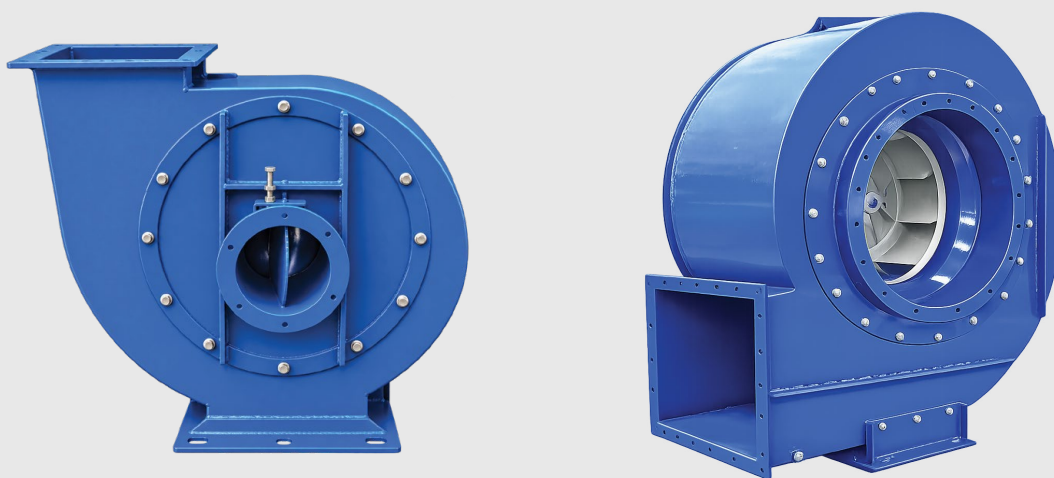
- ▶ Pneumatic conveying systems
- ▶ Aeration & fluidization of storage silos
- ▶ Combustion air & general ventilation

Salient Features

- ▶ Reliable continuous-duty air/gas delivery
- ▶ Available as centrifugal or positive-displacement (roots) type
- ▶ Low-noise enclosure and silencer options

Typical Technical Specifications

Parameter	Typical Range
Air Flow	Application dependent (m ³ /min)
Discharge Pressure	Low to medium pressure range
Type	Centrifugal / Roots (Positive Displacement)



BLOWERS

BAG FILTER SYSTEM

A bag filter system (fabric filter / dust collector) removes fine dust and particulate matter from a process air stream by passing it through a series of filter bags, delivering clean air discharge while capturing the dust for recovery or disposal.

Key Components

- Filter bags & cages (housing / compartments)
- Tube sheet & bag clamping arrangement
- Compressed-air cleaning system (pulse-jet) or reverse-air / shaker
- cleaning
- Hopper with rotary airlock / screw discharge
- Induced draft fan & ductwork
- Control panel with differential pressure monitoring

Salient Features

- High dust collection efficiency, even for very fine particulate
- Online / offline pulse-jet cleaning for continuous operation
- Modular compartment design for large air volumes
- Suitable for hot gas, abrasive, and corrosive dust applications with suitable bag media

Typical Applications

- Crusher house & material transfer point dust control
- Cement, power plant & mineral processing
- Silo venting & pneumatic conveying system exhaust

Typical Technical Specifications

Parameter	Typical Range
Air Flow Capacity	Application dependent (m ³ /hr)
Filtration Velocity (Air-to-Cloth Ratio)	0.6 – 1.2 m/min (typical)
Cleaning Mechanism	Pulse-Jet / Reverse-Air / Mechanical Shaker
Outlet Dust Emission	< 50 mg/Nm ³ (design dependent)



09

SCRUBBER SYSTEM

Scrubbers are air-pollution-control devices that remove dust, particulate matter, and gaseous pollutants from process exhaust air streams by contacting the gas stream with a scrubbing liquid (typically water) before release.

Key Components

- Scrubbing chamber (venturi / packed-bed / spray type)
- Spray nozzles & liquid distribution system
- Mist eliminator
- Recirculation pump & tank
- Induced draft fan

Salient Features

- High removal efficiency for dust & particulate matter
- Handles corrosive and high-temperature gas streams
- Compact design suitable for retrofitting

Typical Applications

- Dust & fume extraction systems
- Chemical process exhaust treatment
- Coal handling plant / crusher house emission control

Typical Technical Specifications

Parameter	Typical Range
Air Flow Capacity	Application dependent (m ³ /hr)
Removal Efficiency	Typically 90%+ (design dependent)
Construction	MS (rubber-lined / FRP-coated) or FRP / SS304 / SS316

SCRUBBER SYSTEM



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VESSEL WITH ACCESSORIES

Vessels are used for the storage, mixing, and reaction of liquids, slurries, and chemical solutions in process plants, complete with the accessories required for the intended duty — agitation, heating/cooling, or process instrumentation.

Type of Blowers

- ▼ Storage Tank — for bulk storage of liquids/chemicals, with level, inlet/outlet, and venting arrangements.
- ▼ Mixing Tank — fitted with agitator, baffles & drive for blending, dissolution, or suspension of liquids/slurries.
- ▼ Reaction Tank — designed for chemical reaction duty, with agitation, temperature control (jacket/coil), and process nozzles for controlled reaction conditions.

Key Components

- ▼ Cylindrical / conical-bottom shell
- ▼ Agitator with motor & gearbox (mixing & reaction vessels)
- ▼ Baffles for turbulence control
- ▼ Heating / cooling jacket or coil (reaction vessels)
- ▼ Manhole, nozzles, level, temperature & vent connections
- ▼ Support legs / saddle / skirt mounting

Typical Applications

- ▼ Chemical dosing, mixing & reaction systems
- ▼ Effluent & water treatment plants
- ▼ Bulk liquid / chemical storage

Salient Features

- ▼ Available in MS, MS rubber-lined, SS304/SS316, or FRP
- ▼ Customizable capacity, agitator design & mounting
- ▼ Optional heating/cooling jacket and process instrumentation

Typical Technical Specifications

Parameter	Typical Range
Capacity	500 L – 100 KL+ (custom range)
Construction	MS / SS304 / SS316 / FRP
Agitator Power	0.5 – 15 HP (duty dependent)
Mounting	Legs / Saddle / Skirt



MIXING TANK



STORAGE TANK

11

PNEUMATIC CONVEYING SYSTEM

Pneumatic conveying systems transport dry bulk powders and granules through an enclosed pipeline using a stream of air, providing a fully enclosed, dust-free, and flexible routing solution across horizontal, vertical, and multi-bend layouts.

Type of Blowers

- ▶ Dilute Phase (Positive Pressure) Conveying material suspended in a high-velocity air stream suited for long distances & multiple destinations.
- ▶ Dense Phase Conveying material moved in slugs/plugs at low velocity and high pressure; suited for abrasive or friable materials.
- ▶ Vacuum (Negative Pressure) Conveying material drawn under suction; suited for multi-source pick-up and dusty/fine materials.

Key Components

- ▶ Air mover — blower / compressor (as per system pressure)
- ▶ Rotary airlock valve / feeder
- ▶ Conveying pipeline, bends & diverter valves
- ▶ Receiver vessel / filter receiver at destination
- ▶ Control panel & process instrumentation

Salient Features

- ▶ Fully enclosed, dust-free material transfer
- ▶ Flexible routing — horizontal, vertical & multi-bend layouts
- ▶ Suitable for multiple pick-up / multiple discharge points
- ▶ Minimal manual handling & reduced material degradation (dense phase)

Typical Applications

- ▶ Cement, fly ash & mineral powders
- ▶ Chemicals & plastic granules
- ▶ Food ingredients & feed

Typical Technical Specifications

Parameter	Typical Range
Capacity	1 – 100 TPH
Conveying Distance	Up to 500 m (system dependent)
Conveying Type	Dilute Phase / Dense Phase / Vacuum
Pipeline Size	50 – 250 mm NB

PNEUMATIC CONVEYING SYSTEM



CENTRIFUGE

Centrifuges separate solids from liquids, or liquids of different densities, using high-speed rotation to generate centrifugal force. They are widely used for dewatering, clarification, and separation duties across process industries.

Key Components

- ▶ Rotating bowl / basket
- ▶ Drive motor & bearing assembly
- ▶ Casing with feed & discharge arrangement
- ▶ Solids discharge mechanism (manual / automatic)
- ▶ Vibration isolation base frame

Typical Applications

- ▶ Chemical & pharmaceutical processing
- ▶ Food processing
- ▶ Effluent / sludge dewatering

Salient Features

- ▶ High separation / dewatering efficiency
- ▶ Batch or continuous operation as per model
- ▶ Corrosion-resistant construction available for aggressive media

Typical Technical Specifications

Parameter	Typical Range
Bowl / Basket Diameter	300 – 1200 mm
Speed	1000 – 3000 RPM (model dependent)
Operation	Batch / Continuous
Construction	MS / SS304 / SS316



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FILTER PRESS

Filter presses separate solids from liquid slurries under pressure. Slurry is pumped into chambers formed between filter plates fitted with filter cloths; liquid passes through the cloth while solids build up as a filter cake within the chamber.

Key Components

- Filter plates & frames with filter cloths
- Hydraulic / manual plate closing mechanism
- Feed pump
- Cake discharge tray & drip trays
- Plate shifting mechanism (manual / automatic)

Salient Features

- High-capacity solid-liquid separation with dry, low-moisture cake
- Manual or automatic plate-shifting options
- Suitable for a wide range of slurry types and concentrations

Typical Applications

- Effluent treatment plants
- Chemical & pharmaceutical processing
- Mineral processing & sludge dewatering

Typical Technical Specifications

Parameter	Typical Range
Plate Size	470 – 1200 mm square
Number of Plates	20 – 100+ (customizable)
Operating Pressure	Up to 7 – 16 bar (typical)
Chamber Volume	Application dependent



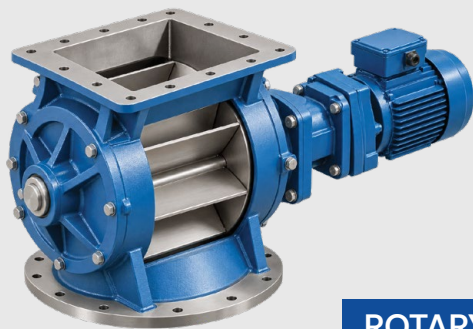
FILTER PRESS

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OTHER PRODUCTS

In addition to complete equipment and systems, we supply individual components, accessories, and wear parts used across material handling installations — either as part of a new system or as replacement spares for existing plant equipment.

Product	Description
Rotary Valve	Airlock feeder for controlled material discharge from silos, hoppers, cyclones & bag filters while maintaining a pressure/vacuum seal.
Industrial Valves	Butterfly, gate, diverter & slide-gate valves for flow control and material diversion in bulk handling and process lines.
Rollers	Carrying & return idler rollers for belt conveyors, in various diameters and troughing configurations.
Belts	Conveyor belting in rubber, PVC & food-grade construction for belt conveyor systems.
Pulley	Head, tail, bend & take-up pulleys for belt conveyors and bucket elevators, with lagging options.
Bucket	Elevator buckets in steel or polymer construction, in centrifugal & continuous-discharge profiles.
Other Spares	Bearings, gearboxes, screen meshes, wear liners & general spares for material handling equipment.



ROTARY VALVE



INDUSTRIAL VALVES



ROLLERS



BUCKET

NOTES

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