

CONTINUOUS BULK MATERIAL TRANSPORT ENGINEERED FOR RELIABILITY, SAFETY, AND LONG SERVICE LIFE

BELT CONVEYORS

(TRANSFER TOWERS, SUPPORT STRUCTURES,
WALKWAYS & ACCESS SYSTEMS)

Belt Conveyors form the core of continuous bulk material handling in process plants, stockyards, and material transfer corridors. Apexind designs and fabricates complete conveyor systems where the belt, drive arrangement, transfer points, and supporting structures function as a single engineered solution rather than isolated components.

The conveyor geometry, belt speed, loading conditions, and transfer interfaces are designed together with structural supports, galleries, walkways, and access systems. This integrated approach ensures stable belt tracking, reduced spillage, controlled material flow, and safe access for inspection and maintenance. By engineering the conveyor, transfer towers, and access structures as one package, Apexind minimizes site modifications, improves reliability, and enhances long-term operational safety.

APPLICATION

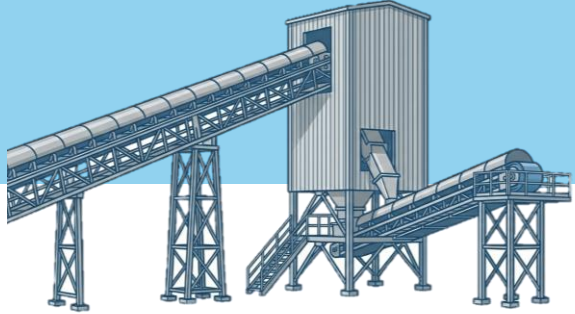
Bulk material conveying, inter-process transfer, stockyard handling, plant feeding and discharge systems.

MATERIALS OF CONSTRUCTION

Carbon steel, wear-resistant liners where required

TYPICAL CAPACITY RANGE

50 TPH to 1,500 TPH, depending on belt width and speed



DESIGN & CONSTRUCTION HIGHLIGHTS

- Troughed or flat belt configuration
- Drive, tail, and snub pulley assemblies
- Transfer chutes and impact zones
- Impact beds and belt cleaners
- Covered galleries
- Maintenance platforms at critical points
- Dust suppression at transfer points
- Online belt misalignment and speed monitoring
- Structural galleries, trestles, and transfer towers
- Walkways with handrails, toe guards, and ladders

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS standards for structural design
- IS/ CEMA guidelines for conveyor design
- Industrial safety norms for access structures
- Client-specific requirements



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ENGINEERED STORAGE SYSTEMS ENSURING CONTROLLED DISCHARGE AND CONSISTENT MATERIAL FLOW

HOPPERS, BINS & SILOS



Hoppers, bins, and silos are critical storage and flow-control elements in bulk material handling systems. Apexind designs these units to ensure consistent and predictable material discharge while addressing common flow issues such as arching, ratholing, segregation, and flooding.

Each system is engineered based on material flow characteristics, including bulk density, angle of repose, moisture content, and particle size distribution. Structural integrity, outlet geometry, and interface with feeders or conveyors are carefully considered to ensure smooth operation and long service life. Apexind storage systems are designed not only for capacity but also for reliability, maintainability, and safe operator access.

APPLICATION

Applied for storage and buffering of raw materials, intermediates, and finished products, used in batching systems, surge applications, and controlled discharge to feeders, conveyors, or process equipment.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, abrasion-resistant steel

TYPICAL CAPACITY RANGE

Hoppers / bins: 1 m^3 to 50 m^3
Silos: 20 m^3 to 500 m^3 (fabricated in sections)

DESIGN & CONSTRUCTION HIGHLIGHTS

- Conical, pyramidal, or mass-flow designs
- Optimized outlet geometry
- Inspection and access points
- Structural skirts and supports for full load
- Bin activators or flow aids
- Level switches and radar sensors
- Aeration pads for powders
- Inspection platforms and ladders
- Proper venting and overflow consideration
- Fabricated in transportable sections

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS structural and fabrication codes & standards
- Flow & discharge design aligned with industry best practices
- Safety norms for access and maintenance
- Client-specific storage & handling requirements



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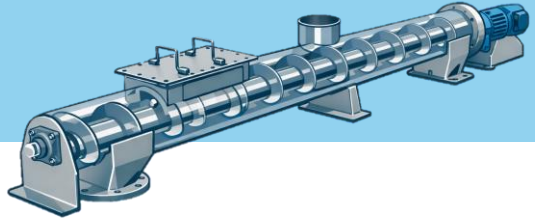
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ENCLOSED AND CONTROLLED CONVEYING FOR POWDERS, GRANULES, AND SEMI-SOLID MATERIALS

SCREW CONVEYORS



Screw Conveyors provide enclosed, controlled conveying of powders, granules, and semi-solid materials across short to medium distances. Apexind designs screw conveyors to deliver stable capacity while minimizing material degradation, power consumption, and wear.

The screw geometry, pitch, trough design, and drive selection are optimized based on material properties and conveying duty. Designs account for thermal expansion, bearing life, and ease of inspection. Apexind screw conveyors are suitable for continuous industrial operation where controlled material flow and dust containment are essential.

APPLICATION

Used for enclosed conveying of powders, granules, flakes, and semi-solid materials, suitable for feeding mixers, reactors, mills, filters, and for dust-free material transfer between process stages.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

5 TPH to 250 TPH

DESIGN & CONSTRUCTION HIGHLIGHTS

- Helical screw flighting
- Tubular or U-trough housing with dust-tight design
- Controlled inlet and discharge design
- End and intermediate bearing arrangements
- Instrumentation – Speed Switches, Load Monitoring
- Drive sized for starting and running torque
- Multiple inlet and discharge points
- Inspection and clean-out access
- Wear-resistant construction in contact zones
- CIP options

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS standards for structural design
- IS/ CEMA guidelines for conveyor design
- Enclosed construction meeting dust safety norms, guards and access per industrial practices
- Client-specific requirements



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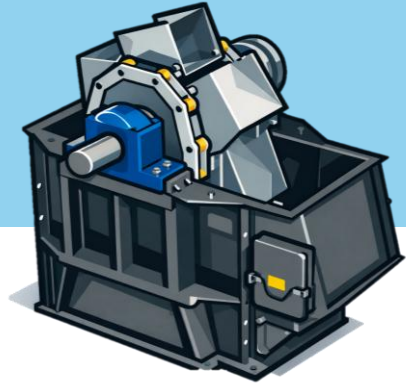
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EFFICIENT VERTICAL LIFTING SOLUTIONS WITH COMPACT FOOTPRINT AND DEPENDABLE OPERATION

BUCKET ELEVATORS



Bucket Elevators are used for vertical transportation of bulk materials where space constraints or process layout demand compact lifting solutions. Apexind designs bucket elevators to achieve smooth loading, controlled discharge, and minimal spillage while maintaining mechanical reliability.

The selection of belt or chain type, bucket geometry, casing design, and drive system is based on material characteristics, lift height, and operating conditions. Structural rigidity, alignment accuracy, and access for inspection are integral to the design, ensuring safe and efficient vertical conveying over long operating cycles.

APPLICATION

Applied for vertical lifting of bulk materials such as powders, granules, and pellets, commonly used in plants where space constraints require compact vertical conveying between different elevations.

MATERIALS OF CONSTRUCTION

MS, SS, wear-resistant materials for buckets

TYPICAL CAPACITY RANGE

10 TPH to 250 TPH

DESIGN & CONSTRUCTION HIGHLIGHTS

- Belt or chain construction selected based on duty
- Precision-aligned head, boot, and casing assemblies
- Rigid casings for vertical alignment
- Controlled loading zone to reduce spillage
- Optimized discharge geometry
- Access doors for inspection and maintenance
- Robust drive and take-up system
- Backstop
- Drive unit platform
- Speed and belt alignment sensors
- Safety guarding for rotating parts
- Explosion relief panels (if required)

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ intl. standards
- Alignment and access provisions for safe maintenance
- Industrial safety norms for access structures
- Client-specific requirements



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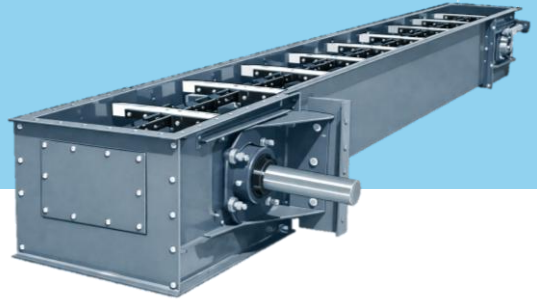
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ROBUST ENCLOSED CONVEYORS FOR ABRASIVE, DUSTY, AND DEMANDING MATERIAL HANDLING DUTIES

CHAIN / DRAG CONVEYORS



Chain and Drag Conveyors are designed for enclosed conveying of bulk materials where dust control, gentle handling, or abrasive material transport is required. Apexind systems use robust chain assemblies and wear-resistant flights to move material through a sealed casing with minimal exposure to the surrounding environment.

The conveyor design focuses on uniform material movement, reduced wear, and ease of maintenance. Chain selection, liner materials, and casing geometry are optimized for long service life under continuous or intermittent operation. These conveyors are particularly suited for demanding industrial environments where reliability and containment are critical.

APPLICATION

Enclosed horizontal conveying of abrasive, dusty, hot, or fragile materials, suitable for ash handling, grain transfer, clinker handling, and applications requiring minimal material degradation

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

10 TPH to 250 TPH

DESIGN & CONSTRUCTION HIGHLIGHTS

- Fully enclosed casing for dust control
- Wear-resistant drag flights & liners in contact zones
- Heavy-duty chain/ flight and sprockets
- Optimized chain tensioning arrangement
- Robust sprocket and drive system
- Replaceable liners
- Multiple discharge points
- Multiple Inspection and clean-out doors
- Designed for continuous operation

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- Designed as per applicable IS standards
- Enclosed design meeting dust control and safety norms
- Client-specific requirements



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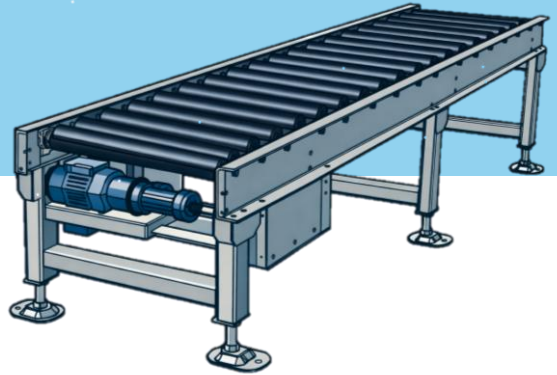
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FLEXIBLE UNIT HANDLING SYSTEMS DESIGNED FOR SMOOTH PRODUCT MOVEMENT AND THROUGHPUT

ROLLER CONVEYORS (POWERED / GRAVITY)



Roller Conveyors are used for unit material handling of cartons, pallets, components, and assemblies across production, packaging, and logistics areas. Apexind designs roller conveyor systems to match throughput requirements, load characteristics, and plant layout constraints.

Both gravity and powered roller conveyors are engineered with modular construction for easy integration and future expansion. Roller spacing, frame stiffness, and drive arrangement are selected to ensure smooth product transfer, minimal manual intervention, and safe operation in high-throughput environments.

APPLICATION

Used for unit material handling of cartons, boxes, pallets, and components, suitable for assembly lines, packaging sections, warehouses, and dispatch areas with manual or automated movement.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

30 kg to 1,500 kg per meter
Roller diameter: 50 mm to 114 mm

DESIGN & CONSTRUCTION HIGHLIGHTS

- Gravity or motorized rollers
- Modular frame construction for layout flexibility
- Rollers suitable for load rating, speed, & duty cycle
- Precision bearing-supported roller assemblies
- Smooth transfer between conveyor sections
- Accumulation zones
- Adjustable, rigid support frames with stability
- Smooth transition for uninterrupted product flow
- Guards and guides for safe and controlled handling
- Designed for manual or automated operation

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ intl. standards
- Safety guarding aligned with workplace safety norms
- Client-specific requirements



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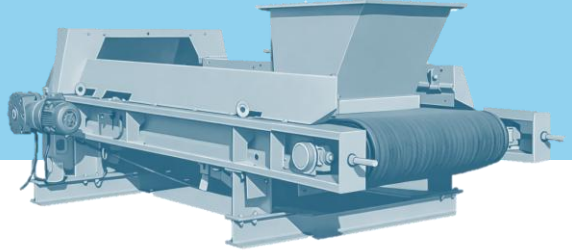
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ACCURATE AND STABLE MATERIAL FEEDING FOR BATCH AND CONTINUOUS PROCESSES

FEEDERS (SCREW / BELT / VIBRATORY)



Feeders are essential for regulating material flow from storage systems to downstream process equipment. Apexind designs feeders to deliver consistent, controllable feed rates while preventing surging, segregation, or uncontrolled discharge.

The feeder selection and design are based on material behavior, required accuracy, and interface requirements. Structural rigidity, drive control, and flow-conditioning features are incorporated to ensure stable operation under varying load conditions. Apexind feeders are suitable for both continuous and batch processing applications.

APPLICATION

Applied for controlled and uniform feeding of bulk materials from hoppers or silos to downstream equipment, used in batching, dosing, blending, and continuous process applications.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

1 TPH to 500 TPH
Accuracy (typical): Volumetric: $\pm 5\%$
Gravimetric (with weighing): $\pm 1\%$

DESIGN & CONSTRUCTION HIGHLIGHTS

- Uniform discharge & material extraction design to prevent surging and segregation
- Adjustable feed rate control
- Robust support frames for stable operation
- VFD-controlled drives for controlled feed rates
- Proper interface with hoppers and equipment
- Weighing integration
- Anti-bridging devices
- Easy access for inspection and maintenance
- Designed for continuous or batch operation

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

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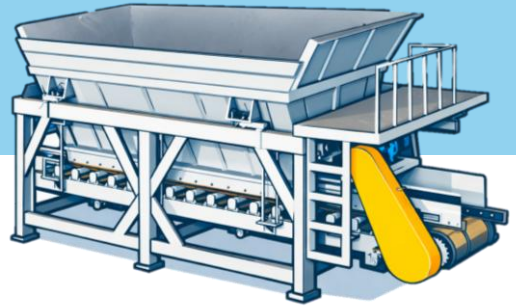
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PRECISION DOSING SYSTEMS FOR RELIABLE MATERIAL MEASUREMENT AND PROCESS CONTROL

WEIGH FEEDERS / BATCHING HOPPERS



Weigh Feeders and Batching Hoppers are designed for precise material dosing in continuous or batch processes. Apexind integrates mechanical design with reliable weighing systems to ensure accuracy, repeatability, and long-term stability.

Structural isolation, controlled discharge mechanisms, and load cell integration are carefully engineered to minimize external influences on weighing accuracy. These systems are commonly used where process consistency, formulation accuracy, and traceability are critical to product quality.

APPLICATION

Used for accurate material dosing and batching in continuous or batch processes, suitable for formulation systems, recipe-based production, and applications requiring precise material measurement.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

Continuous weigh feeders: 2 TPH to 200 TPH
Batch hoppers: 50 kg to 2,500 kg per batch
Accuracy (Conti: $\pm 0.5-1\%$, Batch: $\pm 0.25-0.5\%$)

DESIGN & CONSTRUCTION HIGHLIGHTS

- Load cell-based weighing system
- Structurally isolated weighing frame
- Controlled discharge for accurate dosing
- Stable structure minimizing vibration influence
- Uniform material flow over weighing zone
- Easy access for calibration and inspection
- Repeatable accuracy over long-term operation
- Integrated with process control systems

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ intl. standards
- Safety guarding aligned with workplace safety norms
- Client-specific requirements



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EFFICIENT SCREENING SOLUTIONS FOR MATERIAL CLASSIFICATION, SEPARATION, AND PROCESS PROTECTION

SCREENS (VIBRATORY AND ROTARY)

Screens are critical equipment used for separation, classification, and sizing of bulk materials in material handling and process plants. Apexind designs and fabricates both Vibratory Screens and Rotary Screens to handle a wide range of materials, capacities, and operating conditions. The equipment is engineered to ensure consistent screening efficiency, stable operation, and long service life. Design considerations include material characteristics, desired cut size, throughput, and integration with upstream and downstream equipment. Apexind screens are built for continuous industrial duty, offering reliable performance with minimal maintenance and easy access for inspection and screen media replacement.

APPLICATION

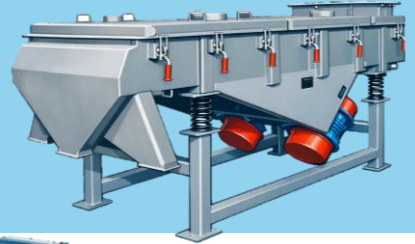
Used for screening and classification of bulk solids, removal of oversize or undersize material, protection of downstream equipment such as conveyors and feeders, and separation of fines in material handling, process, and utility systems.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Contact parts, screen decks & internals to suit abrasiveness.

TYPICAL CAPACITY RANGE

Vibratory Screens: 5 TPH to 500 TPH
Rotary Screens/ Trommels: 10 TPH to 300 TPH
Screening area & cut size customized based on application



DESIGN & CONSTRUCTION HIGHLIGHTS

- Robust screen body
- Screen deck or drum designed for material size & residence time
- Heavy-duty vibration motors or rotary drive system
- Proper isolation using springs or suspension
- Uniform material distribution across screen
- Easy-access covers and inspection doors
- Replaceable screen panels or perforated plates
- Rigid support frame ensuring operational stability

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ intl. standards
- Safety guarding aligned with workplace safety norms
- Client-specific requirements



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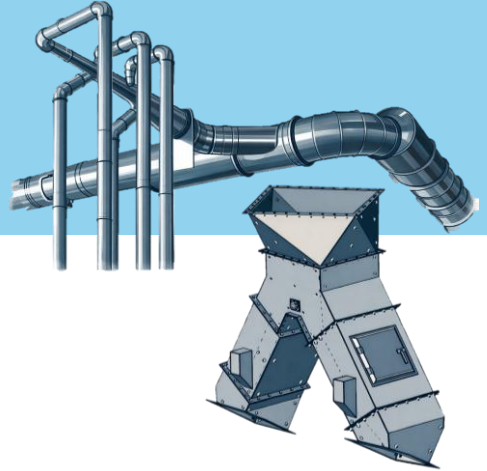
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ENGINEERED TRANSFER AND DUCTING SYSTEMS FOR CLEAN, SAFE, AND CONTROLLED MATERIAL FLOW

DUCTING & CHUTES



Dust Collection Ducting and Transfer Chutes play a vital role in maintaining a clean, safe, and compliant working environment in material handling plants. Apexind designs ducting and chute systems to control dust generation, reduce material degradation, and minimize wear at transfer points.

Flow geometry, liner selection, and access provisions are optimized to ensure smooth material movement and easy maintenance. These systems are designed to integrate seamlessly with conveyors, crushers, screens, and storage units while meeting environmental and safety requirements.

APPLICATION

Applied at material transfer points to control dust generation and guide material flow, used with conveyors, crushers, screens, hoppers, and silos to maintain clean and safe plant environments.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L. Internal surface finish as per process requirement

TYPICAL CAPACITY RANGE

Duct size: 150 mm to 1,200 mm diameter
Air volume: 500 to 50,000 m³/hr

DESIGN & CONSTRUCTION HIGHLIGHTS

- Flow-optimized chute and duct geometry
- Smooth internal surfaces for reduced buildup
- Wear liners at high-impact zones
- Flanged and bolted construction
- Inspection doors at critical locations
- Flexible connections for movement absorption
- Proper sealing to prevent dust leakage
- Integrated with material transfer points

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ intl. standards
- Dust control aligned with environmental and safety norms
- Safety guarding aligned with workplace safety norms
- Client-specific requirements



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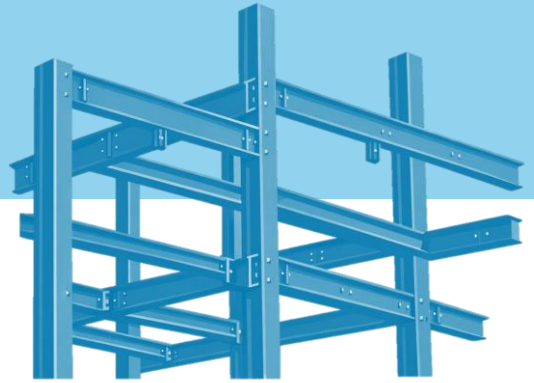
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ENGINEERED STEEL STRUCTURES SUPPORTING PROCESS EQUIPMENT, SYSTEMS, AND PLANT OPERATIONS

TECHNOLOGICAL STRUCTURES



Technological Structures are purpose-built steel frameworks designed to support process equipment, material handling systems, piping, & utilities within industrial plants. Apexind designs and fabricates these structures to integrate seamlessly with equipment layout, process flow, and maintenance requirements.

Each structure is engineered considering static and dynamic loads, operating conditions & access needs. The focus is on structural integrity, constructability, and safe operator access while ensuring compatibility with plant architecture & process interfaces. Apexind delivers technological structures as modular, shop-fabricated assemblies to reduce site work and improve installation efficiency.

APPLICATION

Support structures for reactors, mixers, conveyors, screens, pumps, heat exchangers, access platforms, equipment skids, and process modules across industrial plants.

MATERIALS OF CONSTRUCTION

Carbon steel (IS sections, plates), stainless steel for corrosive environments, galvanized or coated steel for outdoor installations.

TYPICAL CAPACITY RANGE

Designed for light to heavy equipment loads, multi-level structures, and modular spans, customized based on equipment weight, layout, and site conditions.

DESIGN & CONSTRUCTION HIGHLIGHTS

- Structural design based on equipment loads and operating conditions
- Integration with process equipment & access systems
- Multi-level platforms, walkways, staircases, & ladders
- Rigid framing with bolted and welded connections
- Provision for piping, cable trays, and utilities
- Shop-fabricated modules for fast site erection
- Designed for ease of maintenance and inspection
- Compliance with plant safety and access norms

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ international standards
- Client-specific requirements



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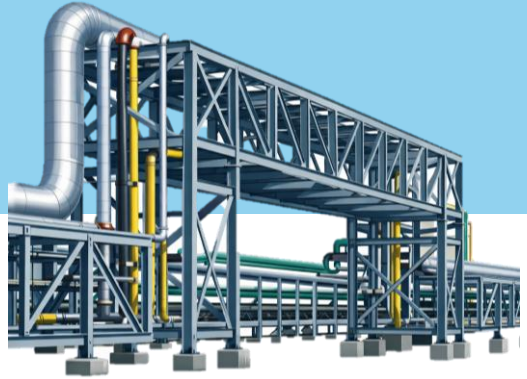
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ROBUST PIPE SUPPORT SYSTEMS FOR ORGANIZED, SAFE, AND EXPANDABLE PIPING LAYOUTS

PIPE RACKS



Pipe Racks form the backbone of plant piping infrastructure, providing organized routing and structural support for process, utility, and service pipelines. Apexind designs and fabricates pipe racks to accommodate current piping loads while allowing flexibility for future expansion.

The pipe rack design considers pipe sizes, operating temperatures, thermal expansion, maintenance access, and structural stability. Modular fabrication ensures dimensional accuracy and faster site assembly. Apexind pipe racks are engineered to integrate with process units, equipment foundations, and plant layouts while maintaining safe clearances and accessibility.

APPLICATION

Support of process pipelines, utility lines, steam, condensate, compressed air, cooling water, and fire-fighting systems in industrial plants.

MATERIALS OF CONSTRUCTION

Carbon steel structural sections, stainless steel (where required), hot-dip galvanized or painted steel for corrosion protection.

TYPICAL CAPACITY RANGE

Single- or multi-tier pipe racks, short spans to long corridors, designed for light to heavy piping loads as per project requirements.

DESIGN & CONSTRUCTION HIGHLIGHTS

- Structural design considering pipe loads and thermal effects
- Single-tier and multi-tier rack configurations
- Proper pipe spacing and maintenance clearances
- Modular framing for easy transport and erection
- Provision for future pipe additions
- Integrated walkways and access where required
- Anchor and expansion support considerations
- Compliance with plant layout and safety standards

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

Designed and fabricated in accordance with:

- IS/ international standards
- Client-specific requirements



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CUSTOM-FABRICATED LARGE-DIAMETER PIPING SOLUTIONS FOR COMPLEX ROUTING

PLATE-FABRICATED PIPES & MITRE BENDS

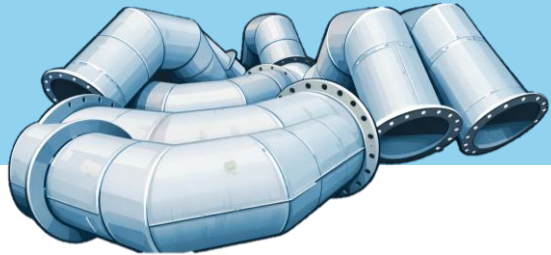


Plate-Fabricated Pipes and Mitre Bends are used where large diameters, special angles, or space constraints make standard piping impractical. Apexind fabricates these components using precision plate rolling, forming, and welding processes to achieve accurate geometry and smooth flow paths.

Each fabricated pipe or bend is produced to meet dimensional tolerances, pressure requirements, and site routing conditions. The fabrication approach ensures structural integrity, ease of installation, and compatibility with existing ducting or piping systems. These components are commonly used in bulk material handling, gas handling, and utility services.

APPLICATION

Gas and air handling systems, dust collection ducting, large-diameter utility lines, material transfer ducts, and special piping layouts.

MATERIALS OF CONSTRUCTION

Carbon steel, stainless steel (SS304 / SS316), abrasion-resistant steel for high-wear applications.

TYPICAL CAPACITY RANGE

Diameters typically from 300 mm to 1000 mm and above, thickness and configuration customized as per duty and routing requirements.

DESIGN & CONSTRUCTION HIGHLIGHTS

- Precision plate rolling and mitre fabrication
- Smooth internal geometry for controlled flow
- Full-penetration welding with quality inspection
- Flanged or welded end connections
- Reinforcement and stiffeners where required
- Fabrication in transportable sections
- Suitable for high-temperature or abrasive service
- Designed for easy site installation

INDUSTRIES SERVED

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COMPLIANCES

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ENGINEERED EXHAUST STRUCTURES FOR SAFE AND COMPLIANT GAS DISPERSION

STACKS / CHIMNEYS

Stacks and Chimneys are designed to safely discharge exhaust gases, fumes, or flue gases into the atmosphere while meeting environmental and safety requirements. Apexind designs and fabricates stacks considering gas properties, temperature, wind loads, seismic conditions, and statutory height requirements.

The stacks are engineered for structural stability, corrosion resistance, and long-term service under outdoor conditions. Fabrication is carried out in sections for ease of transportation and erection. Apexind stacks and chimneys are suitable for industrial plants requiring reliable and compliant exhaust systems.

APPLICATION

Exhaust systems for boilers, furnaces, dryers, reactors, DG sets, and process vents.

MATERIALS OF CONSTRUCTION

Carbon steel, stainless steel, alloy steel (for high-temperature service), corrosion-resistant coatings or linings as required.

TYPICAL CAPACITY RANGE

Heights typically from 10 m to 60 m and above, diameter and thickness designed based on flow rate and environmental conditions.



DESIGN & CONSTRUCTION HIGHLIGHTS

- Structural design for wind and seismic loads
- Single-wall or multi-wall construction
- Flanged or welded sectional fabrication
- Internal liners or insulation where required
- Access ladders, platforms, and safety cages
- Base plates and anchor bolt design
- Provision for expansion and thermal movement
- Designed to meet environmental compliance requirements

INDUSTRIES SERVED

Foundry, Refractory, Glass, Mining, Cement, Pharmaceuticals, Chemicals, Food, Agriculture, Specialty Materials, Construction

COMPLIANCES

- Designed and fabricated in accordance with:
- IS/ international standards
 - Client-specific requirements



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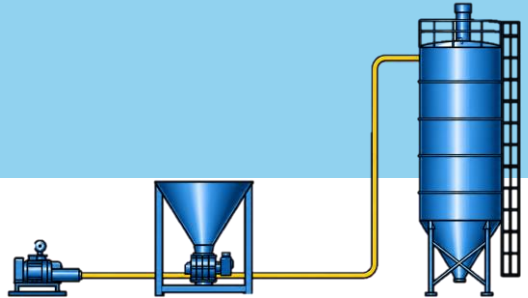
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HIGH-VELOCITY DILUTE-PHASE CONVEYING FOR DUST-FREE TRANSFER OF FREE-FLOWING POWDERS AND GRANULES

LEAN PHASE PNEUMATIC CONVEYING SYSTEM



Lean Phase Pneumatic Conveying Systems transport bulk materials in a dilute suspension through an enclosed pipeline using high-velocity air as the carrier medium. Apexind designs lean phase systems where the material is fully entrained in the airstream, enabling dust-free transfer between hoppers, silos, mixers, packing stations, and process equipment with minimal mechanical contact.

The system is engineered around material characteristics, conveying distance, capacity, and plant layout. Air mover selection, pipeline routing, feeder type, and receiver sizing are optimized to deliver stable conveying with minimal pressure variation. Lean phase systems are particularly suited for non-abrasive, free-flowing materials where flexibility, multiple pickup or discharge points, and dust-free operation are priorities.

APPLICATION

Horizontal & vertical transfer of free-flowing powders & granules between silos, day bins, mixers, reactors, weigh hoppers, and packing machines, suitable for short to medium distance conveying with single or multi-point feed and discharge.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316, SS316L for pipelines and components. Wear-resistant inserts at bends. Internal surface finish as per process requirement.

TYPICAL CAPACITY RANGE

1 to 50 TPH | Conveying distance up to 200 meters

DESIGN & CONSTRUCTION HIGHLIGHTS

- Positive pressure or vacuum duty-based configuration
- Air mover (blower) sized for system resistance
- Rotary airlock or venturi feeder for material induction
- Smooth-bore pipeline with long-radius bends
- Wear-resistant bend inserts at high-impact zones
- Cyclone separator or filter receiver at discharge
- Pulse jet bag filter for dust separation
- Diverter valves for multi-point discharge
- Pressure, flow, and temperature instrumentation
- PLC-based control with sequence interlocks
- Acoustic enclosures and silencers for noise control
- Earthing arrangement for static dissipation

INDUSTRIES SERVED

Foundry, Cement, Food, Plastics, Pharma, Chemicals, Fertilizer, Power, Specialty Materials

COMPLIANCES

Designed and fabricated in accordance with:

- IS/intl. standards for piping and components
- Dust and environmental safety norms
- Industrial safety norms for rotating and pressurized equipment
- ATEX or explosion-protection requirements (where applicable) Client-specific requirements



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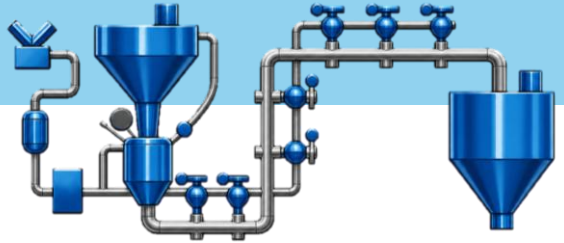
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LOW-VELOCITY HIGH-PRESSURE CONVEYING FOR FRAGILE, ABRASIVE, AND HEAVY MATERIALS WITH MINIMAL DEGRADATION

DENSE PHASE PNEUMATIC CONVEYING SYSTEM



Dense Phase Pneumatic Conveying Systems move bulk materials through a pipeline in concentrated slugs or plugs at low velocity using compressed air. Apexind designs dense phase systems around a pressure vessel transporter that pressurizes a measured batch of material and pushes it through the conveying line with controlled air injection, delivering gentle handling and reduced wear on both the pipeline and the product.

The system is suited for abrasive, fragile, hygroscopic, or heavy materials where high-velocity transport would cause breakage or pipeline erosion. Vessel sizing, air consumption, line diameter, boost air strategy, and valve selection are engineered around the material's conveying characteristics. Dense phase systems offer lower energy consumption per ton, longer pipeline life, and reliable performance over long conveying distances.

APPLICATION

Transfer of abrasive, fragile, friable, or hygroscopic materials such as fly ash, cement, alumina, sand, sugar, plastic pellets, & food granules between storage and process equipment over long distances.

MATERIALS OF CONSTRUCTION

Pressure vessel transporter in MS or SS as per design code. Pipeline in MS, SS304, SS316 with hardened bends or ceramic-lined elbows where required. Internal surface finish as per process requirement.

TYPICAL CAPACITY RANGE

1 to 100 TPH | Conveying distance up to 1,000 m

DESIGN & CONSTRUCTION HIGHLIGHTS

- Pressure vessel transporter designed to applicable pressure code
- Bottom-discharge transporter configuration
- Compressed air supply with receiver and air treatment unit
- Dome valves or pinch valves for material isolation
- Boost air injection nozzles along the pipeline
- Long-radius or abrasion-resistant special bends
- Receiver vessel with vent filter at discharge
- Level, pressure, and load sensors for sequence control
- Single or multi-point feed and discharge configuration
- Pressure relief and safety interlocks

INDUSTRIES SERVED

Foundry, Cement, Food, Plastics, Pharma, Chemicals, Fertilizer, Power, Specialty Materials

COMPLIANCES

Designed and fabricated in accordance with:

- ASME Section VIII or IS 2825 for pressure vessels (where applicable)/S/intl. standards for piping and components
- Industrial safety norms for compressed air systems
- Dust and explosion safety norms
- Client-specific requirements



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HIGH-EFFICIENCY DUST CAPTURE FOR CLEAN AIR DISCHARGE AND COMPLIANT PLANT EMISSIONS

DUST COLLECTOR SYSTEM (BAG FILTER)



Bag Filters are dry-type dust collection systems that separate suspended particulate matter from air or process gas streams using fabric filter media. Apexind designs pulse jet bag filters where dust-laden gas flows through a series of filter bags, collected dust is periodically dislodged by reverse-pulse compressed air, and the discharged dust is collected through a conical hopper at the base of the unit.

The filter is engineered around gas volume, dust loading, particle characteristics, operating temperature, and applicable emission norms. Filter area, bag selection, can velocity, cleaning cycle, and hopper geometry are optimized to deliver consistent collection efficiency with low pressure drop and long bag life. Apexind bag filters are deployed as standalone dust collection units and as integral components of pneumatic conveying, material handling, and process plants..

APPLICATION

capture of process and fugitive dust at transfer points, silo vents, packing stations, crushing and screening units, mixing systems, and pneumatic conveying receivers, suitable for ensuring clean air discharge in line with environmental norms.

MATERIALS OF CONSTRUCTION

MS, SS304, SS316 for housing and hopper. Filter media selected as per gas temperature and chemistry: polyester, polypropylene, PTFE-coated, aramid (Nomex), fiberglass, or PPS.

TYPICAL CAPACITY RANGE

500 m³/hr to 100,000 m³/hr air volume | Filtration area from 5 m² to 2,000 m²

DESIGN & CONSTRUCTION HIGHLIGHTS

- Modular housing with bolted or welded construction
- Top-bag removal or side-removal configuration
- Filter bags with venturi and support cages
- Precision tubesheet plate for leak-free bag mounting
- Pulse jet cleaning with solenoid valves and timer controller
- Compressed air manifold with diaphragm valves
- Inlet baffle or distribution plate for uniform gas flow
- Conical hopper with rotary airlock valve for dust discharge
- Differential pressure monitoring across filter media
- Insulation and cladding for hot gas applications
- Explosion vent panels (where required) Maintenance platforms, ladders, and inspection doors
- Pre-coating and bleed air provisions for sticky or hygroscopic dust

INDUSTRIES SERVED

Foundry, Cement, Food, Plastics, Pharma, Chemicals, Fertilizer, Power, Construction, Specialty Materials

COMPLIANCES

Designed and fabricated in accordance with:

- IS/intl. standards for structural and pressure design
- CPCB emission norms (and equivalent international standards)
- ATEX and explosion safety norms (where applicable)
- Industrial safety norms for access and maintenance
- Client-specific requirements



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