



DECON CONSULTING & PROJECT ENGINEERS



[Our Website](#)



# ADVANCED MATERIAL HANDLING SYSTEMS

Efficient Solution for Steel, Power, Cement and Mining Industries.



## □ Company Profile

Year of Establishment: **2005**

(Subsidiary of the Parent Company, “**Decon Consulting Engineers**” established in 2000)

We are an engineering consultancy and manufacturing organization specialized in **Material Handling Systems** and **Plant Utilities**, offering comprehensive solutions across **Air Pollution Control (APC)**, **Fire Fighting Systems**, **Gas Handling**, **Piping**, **Heat Recovery**, **HVAC**, and **Hydraulic Systems**.

We manufacture our products under the reputed brand name “**DECON**”, known for reliability, performance, and engineering excellence.

## □ Engineering Smart Movement of Materials

- Material handling systems form the backbone of modern industrial operations. We specialize in the **design, engineering, and automation of reliable material handling solutions** that ensure **continuous material flow, operational safety, and maximum efficiency** across industries such as **steel, cement, mining, power, chemicals, and bulk processing plants**.
- Our solutions are developed with a strong focus on **process optimization, structural durability, and long-term lifecycle performance**. Each system is engineered using a **data-driven and analysis-based approach**, ensuring dependable performance under real operating conditions.
- We are a **MSME-registered organization** and operate under an **ISO 9001:2015 certified quality management system**, ensuring consistency, traceability, and engineering excellence in every project. Our engineering capabilities include **advanced CAD design, detailed 3D modeling, structural FEA analysis, CFD analysis, and laboratory-supported testing and validation** to achieve **high precision, safety, and reliability**.

## □ Our Material Handling Solutions

➤ We offer end-to-end engineering for a wide range of material handling conveying equipment and systems:



**Belt Conveyor Flat**



**Drag Chain Conveyors**



**Air Slide**



**Belt Conveyor Troughed**



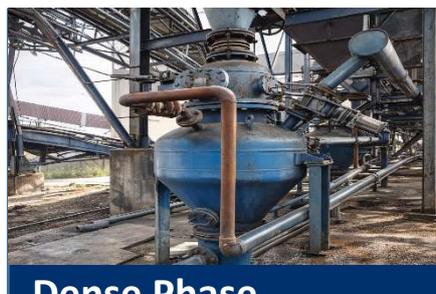
**Bucket Elevator**



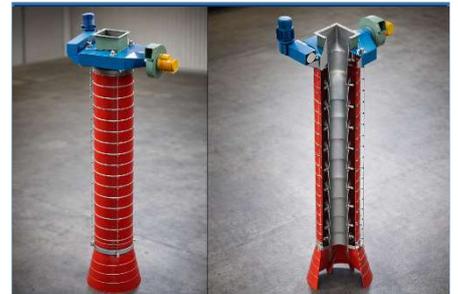
**Hybrid Bulk Receiving & Feeding Unit**



**P.D. Screw Pump with automatic Gland Greasing**



**Dense Phase Pneumatic Conveying**



**Telescopic Chute**



**Screw Conveyor**



**Dilute Phase Pneumatic Conveying**



**Muller Mixer**

## □ Our Material Handling Solutions

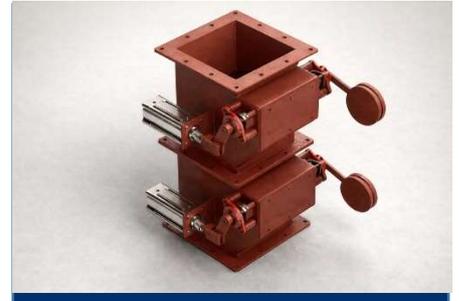
➤ We offer end-to-end engineering for a wide range of material handling valves:



**Rotary Air Lock Valve**



**Pneumatic Knife Gate**



**Double Dump Valve**



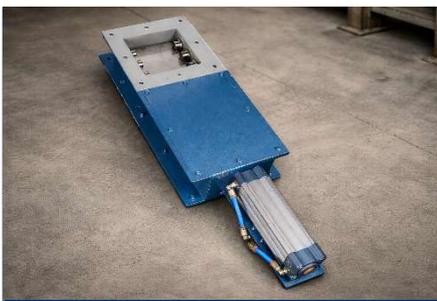
**Diverter Valve**



**Ball Mill**



**Butterfly Valve**



**Pneumatic Slide Gate**



**Dome Valve**



**Isolation Damper**



**Rotary Sector Gate**



**Rod Gate**



**Rack-Pinion Gate**

## □ Our Loss in Way Feeding Solutions

➤ We offer end-to-end engineering and manufacturing for different type of LIWF application :

**Loss-in-Weight (LIW) Feeding Systems for Pulverized Coal/ Powdered Material**, designed for accurate material dosing as well as continuous pneumatic feeding through a positive displacement screw pump to hood, kiln burners or other process applications.

### □ Major System Components

- ✓ Gravimetric weigh hopper with precision load cells
- ✓ Screw feeder designed for fine and abrasive pulverized coal
- ✓ Positive displacement screw pump for pneumatic conveying
- ✓ PLC-based control system with HMI
- ✓ Variable speed drives with closed-loop control
- ✓ Refill system with automatic transition logic
- ✓ Dust-tight, wear-resistant, and safe enclosure

### □ Key Features

- ✓ Accurate gravimetric coal dosing
- ✓ Stable pneumatic conveying over long distances
- ✓ Suitable for fine and low-density pulverized coal
- ✓ Continuous and disturbance-free operation
- ✓ Robust design for abrasive material handling
- ✓ Easy integration with burner and plant control systems



LIWF with Screw Feeder



LIWF with Paddle Feeder

## □ Our Gravimetric Belt Way Feeding Solutions

- We offer end-to-end engineering and manufacturing of Gravimetric Belt Weigh Feeding Systems designed for continuous, accurate, and reliable material dosing in industrial process applications. These systems provide real-time mass flow measurement and control, ensuring stable feed rates even with variations in material bulk density.

The Gravimetric Belt Weigh Feeder operates by measuring the material load on the belt and belt speed, calculating the actual mass flow rate (TPH) in real time. The control system automatically adjusts belt speed to maintain the desired feed rate, delivering precise and consistent material flow.

### □ Major System Components

- ✓ Belt feeder with load cells
- ✓ Precision weighing idler
- ✓ Belt speed sensor
- ✓ Drive system with variable frequency drive (VFD)
- ✓ PLC-based control panel with HMI
- ✓ Calibration and zeroing arrangement
- ✓ Dust-tight and robust structural frame

### □ Key Features

- ✓ Continuous gravimetric measurement
- ✓ High feeding accuracy and repeatability
- ✓ Stable operation for varying material characteristics
- ✓ Low maintenance and rugged design
- ✓ Easy calibration and system integration
- ✓ Suitable for heavy-duty industrial operation

### □ Applications

- ✓ Coal, coke, and pulverized fuel feeding
- ✓ Cement and raw material dosing
- ✓ Pellet plants and sinter plants
- ✓ Steel and metallurgical industries
- ✓ Chemical and bulk material handling plants



## □ Engineering & Design Capabilities

➤ Our engineering team delivers comprehensive design and validation solutions covering the complete lifecycle of material handling and process equipment—from concept development to detailed engineering and execution support.:

### ➤ Core Engineering Services

- Conceptual & Feasibility Engineering
- Process Design & Equipment Selection
- Layout Planning & System Integration
- Design Optimization for Performance & Cost
- Design for Manufacturability (DFM) & Assembly (DFA)

### ➤ CAD & 3D Modelling

- 2D Engineering Drawings (GA, Fabrication, Assembly)
- Advanced 3D CAD Modelling & Parametric Design
- Assembly & Interference Checks
- Digital Mock-ups & Virtual Prototyping
- Revision Control & Design Documentation

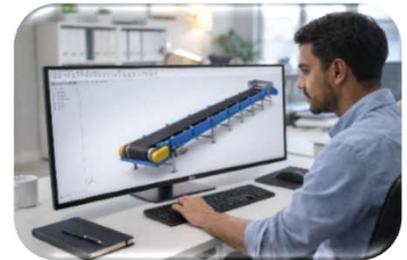


3D MODELING WITH



SOLIDWORKS

CATIA



Ansys

FEA ANALYSIS WITH



SOLIDWORKS

AUTODESK  
Inventor Nastran



2D DETAILED DRAWING WITH



## □ Engineering & Design Capabilities

### ➤ Testing & Validation

- Laboratory-supported testing & verification
- Design validation against operating conditions
- Performance and safety checks
- Compliance verification with applicable standards

### ➤ Standards & Quality Compliance

- ISO 9001:2015 Quality Management System
- IS / DIN / ISO / ASME Standards
- Industry-specific safety & environmental norms
- Client-specified design codes and guidelines

### ➤ Typical Engineering Deliverables

- Design Calculations & Technical Reports
- 2D & 3D Engineering Drawings
- Analysis Reports (FEA / CFD)
- Bill of Materials (BOM)
- Manufacturing & Installation Support Documents

### ➤ Design Philosophy

- ✓ Safety-first engineering
- ✓ Precision-driven design
- ✓ Performance-oriented solutions
- ✓ Lifecycle reliability
- ✓ Continuous improvement

## ❑ Automation & Control Systems

➤ Our automation solutions enhance safety and productivity through intelligent control:

### ➤ PLC & HMI System Design

- Conveyor Interlocking & Sequencing Logic
- VFD-based Speed Control
- Safety Interlocks & Emergency Systems
- Instrumentation Integration (Speed Switch, Pull Cord, Belt Sway, Level Sensors)



### ❑ **Why Choose Us**

- ✓ MSME Registered Organization
- ✓ ISO 9001:2015 Certified Quality Management System
- ✓ Analysis-Driven Engineering Approach
- ✓ Advanced CAD, 3D Modelling, FEA & CFD Expertise
- ✓ Precision Design with Laboratory-Supported Validation
- ✓ Industry-Compliant & Safety-Focused Solutions
- ✓ Reliable Engineering Support from Concept to Commissioning

### ❑ **Industries We Serve**

- Cement & Building Materials
- Steel & Metal Processing
- Power & Energy
- Mining & Bulk Material Handling
- Chemicals & Process Industries
- Manufacturing & Automation Plants

## Our Esteemed Customers



## Contact Us

### Engineering & Design Office

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