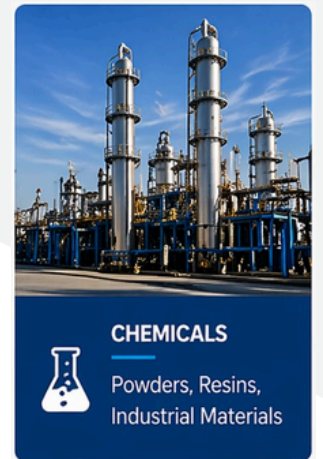
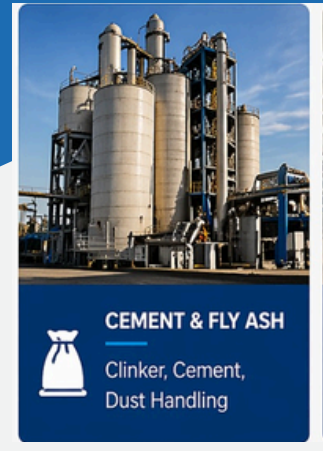
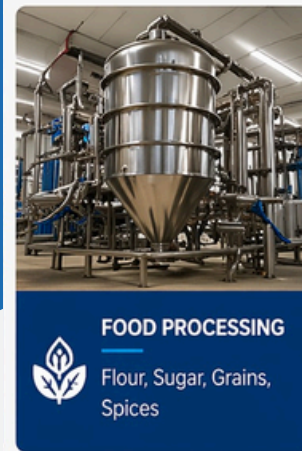


Unbalanced Motor Hopper Discharge System

Efficient, vibration-driven bulk material discharge for industrial applications



Product Overview

The Unbalanced Motor Hopper Discharge System (UM-HDS) is a high-performance solution designed to optimize the controlled discharge of bulk materials from hoppers and silos. Using strategically placed unbalanced motors, the system generates controlled vibration to prevent clogging, ensure smooth material flow, and improve operational efficiency across industries such as cement, mining, food processing, and chemicals.

APS SMART CONTROL PANEL

The APS control panel is designed to deliver precise control, protection, and monitoring of your hopper discharge system.



PLC-based control
(Delta / Coolmay)



HMI touchscreen
interface



Adjustable vibration
timing & intensity



Motor protection
& interlocking



Fault detection &
alarm management



Optional IoT
connectivity

Key Features

- Optimized material flow with reduced blockages
- Continuous discharge without manual intervention
- Energy-efficient operation with minimal maintenance
- Enhanced productivity through reduced downtime
- Safe and reliable alternative to manual handling
- Customizable vibration control for different materials
- Suitable for a wide range of industrial applications

Applications

- Cement & Fly Ash Handling
- Food Processing (Powders, Grains, Spices)
- Chemical Processing (Powders, Resins, Industrial Materials)
- Mining & Minerals (Ores, Aggregates, Bulk Solids)
- Vibratory Feeders, Screens, and Conveyors
- Storage & Hopper Discharge Systems



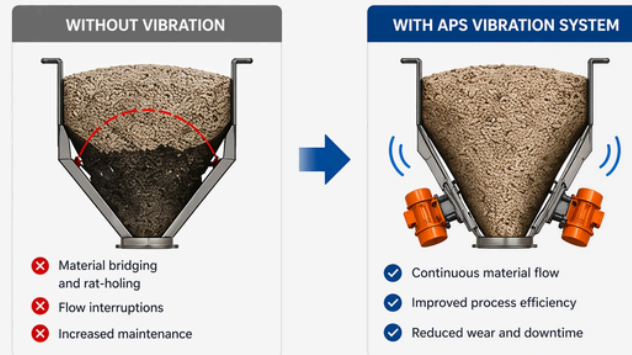
Technical Specifications

- Motor Type: Unbalanced Vibratory Motor
- Supply Voltage: 415V / 3 Phase
- Frequency: 50 Hz
- Vibration Force: 2 – 20 kN (Customizable)
- Mounting: Hopper side or base
- Operation Mode: Continuous / Intermittent
- Control System: PLC + HMI, VFD, Smart Energy monitoring.
- Power Class: 23 – 450 W single phase
- Excitation Force: 20 – 350 kg
- Protection Class: IP65
- Insulation Grade: F
- Cooling Mode: IC410
- Duty: Sequential Operation

HOW IT WORKS

Bulk materials often form bridges or rat holes inside hoppers, restricting flow and causing process interruptions.

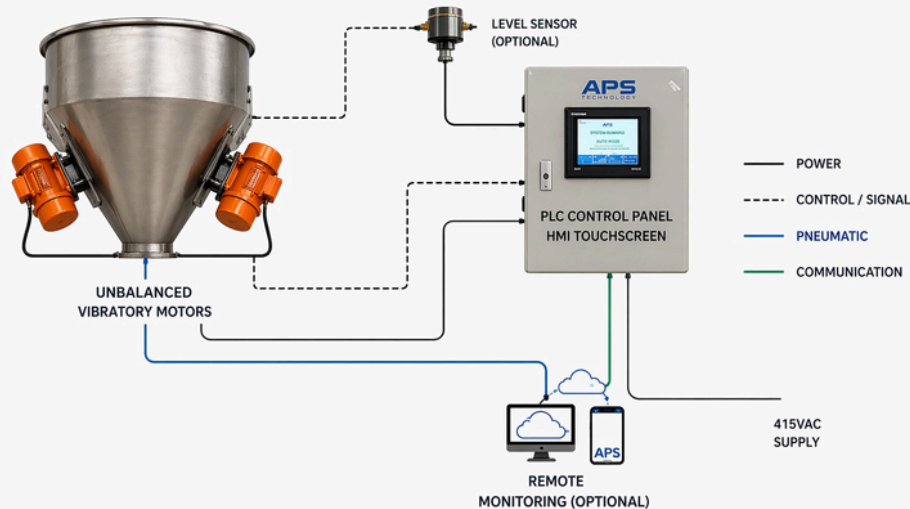
APS unbalanced motor systems generate controlled vibration at the hopper walls, breaking material bridges and ensuring continuous, uniform discharge.



Model Snapshot

INTEGRATED HOPPER FLOW CONTROL SYSTEM

APS systems go beyond simple vibration. We deliver a fully integrated solution combining mechanical, electrical, and control engineering.



Features:

- Energy-efficient operation
- Auto parameter tracking
- Clear indicators & controls
- Microcontroller-based sequencing
- VFD speed control for smooth start and stop
- Effective bulk dislodging
- Easy operation & maintenance
- Adjustable amplitude control
- Optional Remote monitoring (mobile/cloud)
- Data storage & analysis

Applications:

- Vibratory feeders & screens
- Conveyors & vibratory tables
- Bin and hopper discharge systems
- Bulk material handling industries

Advantages:

- Smooth, clog-free material flow
- Reduced downtime & manual handling
- Cost-efficient and low maintenance
- Improved operational safety
- Adjustable for different materials

Controller & Smart Control Panel:

- PLC-based control
- HMI touchscreen interface
- Adjustable vibration timing & intensity
- Motor protection & fault detection
- Alarm management
- Optional IoT connectivity



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