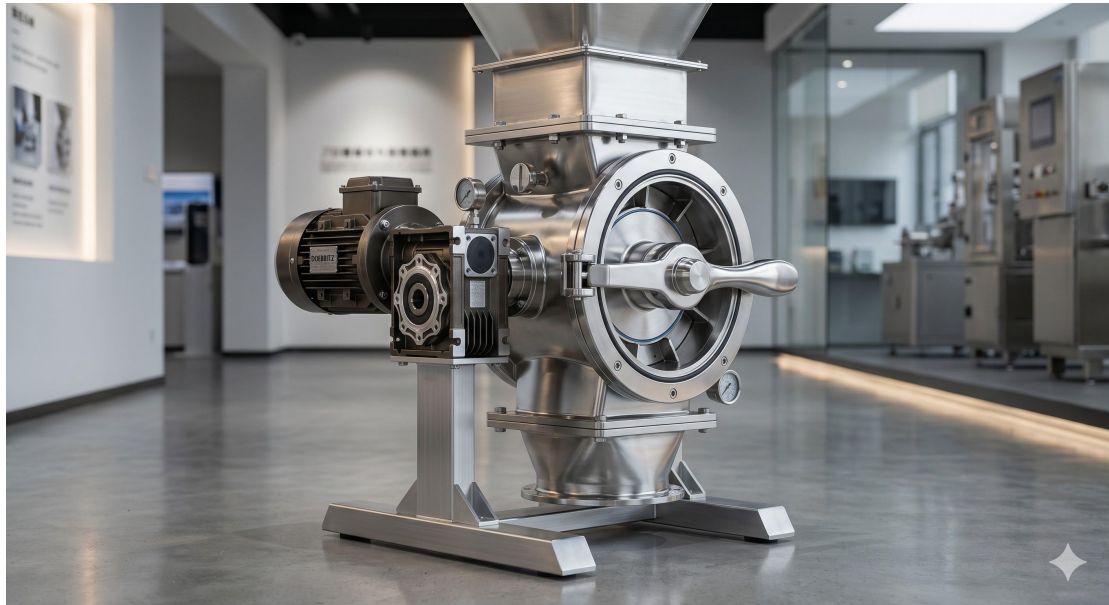


Doebritz Corn Flour Airlock Feeder - Official Technical Overview & Datasheet

PRODUCT IDENTIFICATION

Doebritz presents the DBR-1237 series Quick-release Rotary Valve, specifically configured as a dedicated Corn Flour Airlock Feeder. This equipment is a precision-engineered, heavy-duty star discharge valve designed for the reliable, hygienic, and explosion-safe handling of finely milled corn products in pneumatic conveying and gravity discharge systems. The DBR-1237 model embodies Doebritz's commitment to 'Efficient Discharge, Precision Air Sealing, and Quick-release Cleanability,' offering a robust solution for the food industry's most demanding bulk solid handling challenges. The unit serves as a critical interface between material storage and downstream processing, ensuring controlled volumetric feeding while maintaining system pressure integrity.



INTERNAL AIRLOCK TOPOLOGY

The DBR-1237 features a meticulously engineered rotor-to-housing interface, with radial clearances machined to a tolerance of 0.1-0.2mm. This precision is fundamental to the unit's superior airlock capability, significantly reducing air leakage across the valve, which is critical for maintaining stable pressure in pneumatic conveying lines and ensuring accurate, repeatable metering. The rotor is dynamically balanced to minimize vibration and wear, even under variable speed operation. The valve is available with a hygienic, quick-release clamping mechanism that allows for complete disassembly without specialized tools, facilitating thorough manual cleaning and visual inspection. For applications requiring automated sanitation, the design is fully compatible with CIP (Clean-in-Place) and WIP (Wash-in-Place) protocols, featuring optimized internal contours to eliminate dead zones and prevent material build-up,

thereby safeguarding against cross-contamination.

WEAR DEFENSE MECHANISMS

Processing corn flour presents significant abrasive challenges. To counter this, the Doebritz DBR-1237 offers a range of robust material and coating options. The base metallurgy can be specified as SUS304 or SUS316L stainless steel for superior corrosion resistance and hygiene. For highly abrasive conditions, the contact surfaces can be fortified with advanced wear-defense mechanisms including Tungsten Carbide (WC) coatings, Ceramic coatings, or high-performance PE/PTFE liners and components. The material selection is meticulously aligned with the application's specific process conditions. The drive end features a triple-lip seal with an air-purge connection, effectively preventing dust migration into the bearing housing and extending the operational lifespan of the drive components. This robust construction ensures long-term, maintenance-friendly service, minimizing unplanned downtime and maximizing plant productivity.

OPERATIONAL ADVANTAGES

- Feature 1: Precision Metering & Flow Control: The DBR-1237 is fully compatible with Variable Frequency Drives (VFD) and PLC-based automation,

enabling precise flow control for both continuous discharge and batch/recipe metering. This ensures consistent product quality and reduces material waste.

- Feature 2: Hygienic & Quick-Cleaning Design: The tool-less, quick-release disassembly allows for rapid access to the rotor and housing, facilitating superior cleaning (Manual, CIP, or WIP). This is essential for meeting stringent food safety standards and reducing product changeover time.

- Feature 3: Superior Airlock Sealing: The precisely controlled 0.1-0.2mm clearance between the rotor and housing minimizes air leakage, ensuring pneumatic conveying efficiency, reducing energy consumption, and preventing the escape of fine dust, which enhances workplace safety and cleanliness.

COMPLIANCE & SAFETY STANDARDS

The Doebritz DBR-1237 Corn Flour Airlock Feeder is engineered to meet the highest international standards for industrial safety and hygiene. The unit is certified with CE and TÜV marks, confirming its compliance with European health, safety, and environmental protection standards. For explosive environments, the valve can be configured to meet the rigorous requirements of ATEX (Zones 20/21/22) and is available with an integrated, flame-proof housing design certified for differential pressures up to 16 bar. The anti-static rotor and housing construction, combined with optional explosion-proof motors, ensure safe operation in potentially combustible dust atmospheres.

The equipment is suitable for deployment in classified cleanroom environments, meeting the criteria for Class W, 10W, 30W, C, and D cleanrooms as per GMP standards, ensuring product integrity in sensitive applications.

TECHNICAL SPECIFICATIONS

Parameter	Specification (DBR-1237 for Corn Flour)
Rotor Displacement (Volume per Revolution)	Customizable up to 100 Liters/rev (based on rotor diameter & length)
Flange Standard & Size	HG20592 (DN100, DN150, DN200, DN300, DN350)
Material of Construction (Base)	SUS304 / SUS316L Stainless Steel (standard), Carbon Steel Painted (optional)
Contact Surface Coating (Wear Defense)	Tungsten Carbide (WC), Ceramic, PE, PTFE, PA (optional)
Internal Surface Finish (Hygiene Grade)	Mirror Finish, Ra ≤ 0.4 μm / 0.8 μm / 1.6 μm (selectable)
Rotor-to-Housing Radial Clearance	0.1 mm - 0.2 mm (precision CNC machined)
Shaft Seal Type	Lip Seal with Air Purge (standard),

	Packing Seal (optional)
Drive Configuration	Direct Drive or Chain Drive with VFD
Temperature Range	Ambient: -15°C to 60°C, Material: 0°C to 120°C
Pressure Rating (Differential)	Up to 16 bar for Flame-proof/Explosion-proof design
Explosion Protection (ATEX)	Zone 20 / 21 / 22 (optional, with statement of conformity)
Hygiene / Cleanroom Compliance	Class W, 10W, 30W, C, D Cleanroom (compatible with CIP/WIP)
Cooling Option	Water-cooled jacket (available on request)
Certifications	CE, TÜV, ATEX Statement (as configured)

