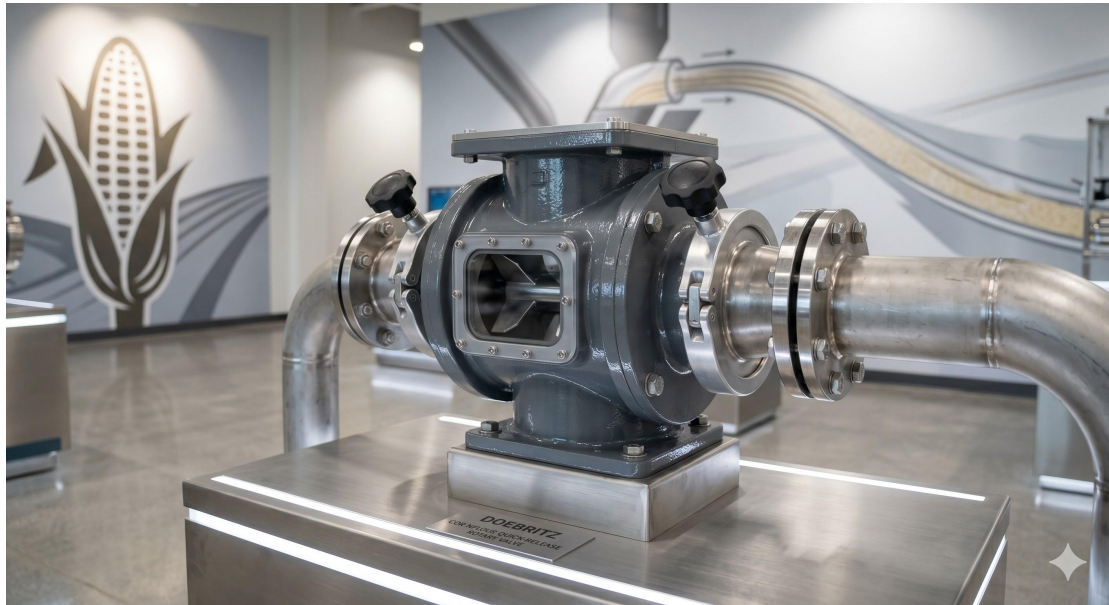


Doebritz Corn Flour Quick-release Rotary Valve - Official Technical Overview & Datasheet

EXECUTIVE SUMMARY

The Doebritz Quick-release Rotary Valve is engineered as a high-performance, precision-engineered airlock and metering device specifically optimized for the hygienic and gentle handling of corn flour and other finely milled food powders. This unit exemplifies the Doebritz commitment to superior engineering, combining rapid disassembly for cleaning with exceptional pressure sealing capabilities to ensure process integrity and operational efficiency.

Based on the DBR-1237 gravity-fed platform, this valve is purpose-built to address the unique challenges of food processing: preventing cross-contamination, ensuring accurate batch consistency, and maintaining high throughput in both gravity and pneumatic conveying systems. Its robust, all-stainless-steel construction and design flexibility make it a pivotal asset in any modern food production line.



HOUSING & ROTOR METALLURGY

The wetted parts of the Doebritz Corn Flour valve are meticulously manufactured to the highest standards of hygiene and durability. The primary material is AISI 316L (SUS316L) stainless steel, selected for its excellent corrosion resistance and compatibility with stringent food safety protocols. All internal surfaces are subject to a precision finishing process to a mirror polish, achieving an internal surface roughness of $Ra \leq 0.4 \mu m$. This superior finish prevents product adhesion, eliminates micro-bacterial growth sites, and ensures rapid, thorough cleaning.

KEY FEATURES

- Tool-less Quick-Release & Hygienic Design: The innovative quick-release

mechanism allows for complete disassembly and reassembly without the need for special tools, drastically reducing downtime for cleaning and maintenance. The design supports online CIP (Clean-in-Place) and WIP (Wash-in-Place) cleaning protocols, which is critical for maintaining sanitary conditions in high-production environments, as documented in the product core advantages.

- Precision Airtight Sealing: The rotor is machined to extremely tight tolerances, with a rotor-to-housing clearance of 0.1 – 0.2 mm. This precision creates an effective airlock, significantly reducing air leakage and pressure loss in pneumatic conveying systems, thereby stabilizing conveying conditions and minimizing energy consumption.

- ATEX-Ready & Safety Compliance: The valve is engineered to operate safely in potentially explosive dust atmospheres. It is available in configurations compliant with ATEX and NFPA standards for ZONE 20/21/22 hazardous areas. The standard construction includes a pressure-resistant housing up to 16 bar and features a specially designed rotor-to-housing gap to prevent heat and spark generation in the event of incidental contact.

- Gentle Product Handling & High Volumetric Efficiency: The rotor's precision geometry ensures consistent and gentle volumetric filling, minimizing the degradation of fragile corn flour particles. Its design ensures a smooth and consistent material flow, preventing clogging and maintaining a clean production environment.

- Rugged Construction & Service Life: Constructed from high-grade materials

and featuring outboard bearings to isolate the bearing housing from the product zone, the Doebritz valve guarantees a long, reliable service life with minimal maintenance, even in demanding high-volume applications.

COMPLIANCE & SAFETY STANDARDS

The Doebritz Quick-release Rotary Valve complies with the most rigorous international standards for industrial machinery, food safety, and explosion protection. Certifications include CE, TÜV, and Statement certification, confirming adherence to EU directives and global safety norms. Its design and material selection conform to FDA and EC 1935/2004 regulations for food contact, ensuring that the equipment is fully compliant for use with corn flour and other foodstuffs. The valve is also suitable for cleanroom applications up to Class 10W and C/D grade environments. This ensures that Doebritz valves are a globally accepted and trusted solution for hygienic powder handling.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Model Designation	DBR-1237 (Gravity-fed Platform)
Wetted Materials	AISI 316L (SUS316L) Stainless Steel, Mirror Polished (Ra ≤ 0.4 μm)

Non-Wetted Materials	AISI 304 (SUS304) Stainless Steel
Capacity / Volume	2.5 to 100 Liters/rev (depending on rotor size)
Flange Standard	HG20592, DN150 to DN350 (Custom interfaces available)
Pressure Rating	16 bar (Explosion-proof/Flameproof configurations)
Rotor-to-Housing Clearance	0.1 – 0.2 mm (Precision machined)
Shaft Sealing	Lip Seal with Air Purge (Optional Packing Seal)
Drive Configuration	VFD-Ready, Direct Drive or Chain Drive
Explosion Protection	Zone 20/21/22, ATEX & NFPA Compliant
Cleanability	Quick-release for manual cleaning, CIP/WIP compatible
Operating Temperature (Ambient)	-15°C to +60°C
Operating Temperature (Product)	0°C to +120°C
Certifications	CE, TÜV, Statement Certification
Coatings (Optional)	Tungsten Carbide, Ceramic, or Polymer Coating for abrasive materials



INDUSTRIAL DEPLOYMENT

The Doebritz Corn Flour Quick-release Rotary Valve is an indispensable component in diverse industrial processes. Its primary role is as a metering and feeding device for starch, flour, and other food ingredients into mixers, grinders, and conveyors. It is the recommended solution for controlled gravity discharge from hoppers, silos, and cyclones. The valve is also a critical airlock in pneumatic conveying systems (both positive and negative pressure), preventing air loss while ensuring reliable, plug-free product flow. All engineering parameters are derived directly from the provided technical datasheet, guaranteeing that this model is an ideal, ready-to-integrate solution for the food industry.