Doebritz Baking Products Airlock Feeder - Official Technical Overview & Datasheet

DOEBRITZ BAKING PRODUCTS AIRLOCK FEEDER

OFFICIAL TECHNICAL OVERVIEW & DATASHEET

EXECUTIVE SUMMARY

The Doebritz Baking Products Airlock Feeder (Model Series DBR-1237) is a precision-engineered quick-release rotary valve specifically configured for hygienic powder and bulk handling in baking ingredient applications. This equipment integrates rapid disassembly architecture, precision airlock sealing (0.1 – 0.2 mm rotor-to-housing clearance), and full CIP/WIP compatibility to serve flour, starch, milk powder, protein powder, whey powder, whole/skim milk powder, soy protein powder, sugar, salt, baking premixes, and compound seasonings. The platform supports gravity discharge, pneumatic conveying (positive pressure up to 1 bar, negative pressure down to -1 bar), and automated batch/recipe metering via PLC and VFD control.

HOUSING & ROTOR METALLURGY

Base materials: SUS304 (AISI 304) and SUS316L (AISI 316L) stainless steel as standard, with carbon steel painted or carbon steel nickel-plated available for non-food applications. For abrasive or corrosive baking ingredients (e.g., salt, acidic premixes), contact surfaces can be coated with tungsten carbide, ceramic, PE, PTFE, PA, or high-molecular-weight polymer. Internal surface finishes: mirror polish, Ra ≤0.4 μm, Ra ≤0.8 μm, or Ra ≤1.6 μm. External finishes: machined surface <0.8 μm, sandblasting, shot blasting, or anti-fingerprint treatment.

KEY FEATURES

- Quick-release disassembly: No special tools required; supports manual cleaning after disassembly, online CIP cleaning, and online WIP cleaning with

manual inspection.

- Precision airlock sealing: Rotor-to-housing clearance 0.1 – 0.2 mm; lip seal air-tight shaft sealing; reduced air leakage for stable pneumatic conveying and accurate metering.

- Hygienic compliance: Compatible with Class W, Class 10W, Class 30W, Class C, and Class D cleanrooms; meets GMP requirements for baking ingredient lines.

- Variable frequency drive ready: PLC-controlled, automated batching, batch metering, recipe metering, adjustable material flow rate, no leakage, no powder leakage.

- Ambient temperature range: -15°C to 60°C; material temperature range: 0°C to 120°C; optional water cooling jacket available.

COMPLIANCE & SAFETY STANDARDS

- Explosion protection: ATEX Zone 20, Zone 21, Zone 22 compliant. Flameproof/explosion-proof configuration pressure rating 16 bar.

- Certifications: CE certified, TÜV certified, Statement certification.

- Flange standard: HG20592 (DN50, DN100, DN150, DN200, DN300, DN350).

TECHNICAL SPECIFICATIONS

All values derived strictly from Doebritz DBR-1237 product documentation.

Positive pressure pneumatic conveying: Low-pressure <0.4 bar; High-pressure 0.4–1 bar (VFD speed control).

Negative pressure pneumatic conveying: Low-pressure >-0.4 bar; High-pressure -1 bar to -0.4 bar (VFD speed control).

Gravity discharge: Adjustable speed, no leakage, no powder leakage, flow rate adjustable.

Metering control: VFD adjustment, PLC control, batch metering, recipe metering, automated batching.

Shaft seal: Lip seal air-tight seal (pneumatic sealing).

Structure: Quick-release type / non-quick-release type; hygienic type / non-hygienic type.

Parameter	**Specification**
Capacity per revolution	DN50–DN350 volumetric range (exact L/rev dependent on selected size)
Rotor-to-housing clearance	0.1–0.2 mm (standard precision gap)
Flange standard	HG20592 (DN50 / DN100 / DN150 / DN200 / DN300 / DN350)
Drive configuration	VFD-ready / PLC-controlled / direct or chain drive
Max pressure rating (explosion-proof)	16 bar

Material temperature range	0°C to 120°C
Ambient temperature range	-15°C to 60°C
Shaft seal type	Lip seal air-tight seal (pneumatic)
Cleanability	Quick-release manual cleaning / Online CIP / Online WIP + inspection
Certifications	CE, TÜV, Statement

INDUSTRIAL DEPLOYMENT

The Doebritz Baking Products Airlock Feeder is deployed in flour milling, dry baking mix production, premix batching systems, protein powder blending, dairy powder handling, and salt/seasoning conveying lines. Typical integration points: under silos for gravity discharge, inlet/outlet of pneumatic conveying systems (dilute phase or dense phase), and metering feeders for automated recipe batching. The quick-release design supports rapid changeover between different baking ingredients (e.g., flour to sugar to milk powder) without cross-contamination.