



Libriker Technology for 100% Whole Wheat Flour

Libriker revolutionizes whole grain milling by offering a scalable, energy-efficient and quality-driven solution that bridges the gap between traditional stone mills and industrial roller mills.

Libriker, unlike conventional milling technologies:

- **Micronizes grain along natural anatomical boundaries with low shear**, producing ultrafine whole grain flours with superior nutritional and functional properties.
- **Preserves up to 5× more fibre and essential minerals** compared to refined flours, directly addressing the growing demand for whole grain nutrition.
- **Improves baking performance**, enabling bakers to produce whole grain products with texture, volume and sensory qualities comparable to products made from refined flour.
- **Minimizes waste** by maximizing utilization of all grain components, transforming low-value by-products (such as bran) into high-value nutritional ingredients.
- **Reduces water activity in the flour**, increasing storage stability and shelf life.

The Libriker Advantage

1. Enhanced Baking Performance

- Libriker-milled whole grain flours produce breads with texture and crumb structure comparable to conventional flours, overcoming the dense, dark crumb typically associated with whole grain products.
- A significantly higher proportion of ultrafine particles <50 µm (e.g. +100% for wheat, +78% for rye, +60% for oats versus extra-fine whole grain flour) allows better control of starch damage, improved dough handling and enhanced final product quality.

2. Nutritional Superiority

- Enables higher levels of dietary fibre and essential minerals in finished products while maintaining consumer-friendly texture and taste.
- Selectively detaches the aleurone layer, rich in protein, vitamins and minerals, from the pericarp without damaging it, supporting public health goals for increased whole grain consumption.

3. Sustainability

- Keeps bran and germ within the flour, reducing diversion to animal feed and lowering waste and environmental impact.
- An energy-efficient process with a lower carbon footprint compared to traditional milling technologies.



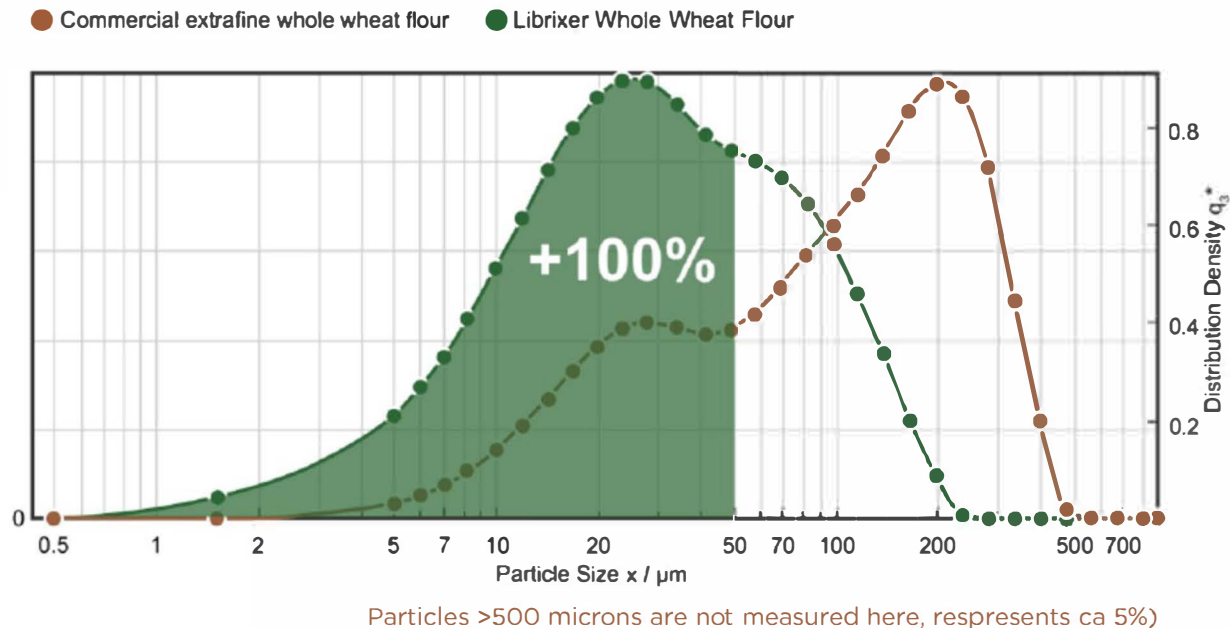
**A much finer
result than
multi-stage
roller milling**

4. Scalability and Flexibility

- Industrial semi-continuous process with a capacity of up to 1,200 kg/hour, suitable for integration into existing milling operations.
- Single-pass milling simplifies production, reduces operational complexity and cuts operating costs.

5. Market Potential

- Enables food manufacturers to meet regulatory and consumer demands for whole grain, clean-label and sustainable products.
- Supports and accelerates the market shift toward whole grain nutrition, challenging the long-standing dominance of white flour.



Case studies

Successful trials with wheat, rye and oats at 200 kg scale, demonstrating improved particle size distribution, baking performance and sensory attributes. Comparative data available on baking performance, nutritional content and energy efficiency.

Scientific validation

Collaboration with RISE Research Institutes of Sweden and Berte Qvarn AB in the GrainiXer project, funded by the Swedish innovation agency VINNOVA.

Paradigm Shift for the Industry

LibriXer is not just an innovation in milling – it is a paradigm shift for the flour and baking industries. By combining superior product quality, sustainability and scalability, LibriXer empowers producers to meet the demands of modern consumers and regulators while reducing waste and energy use.

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