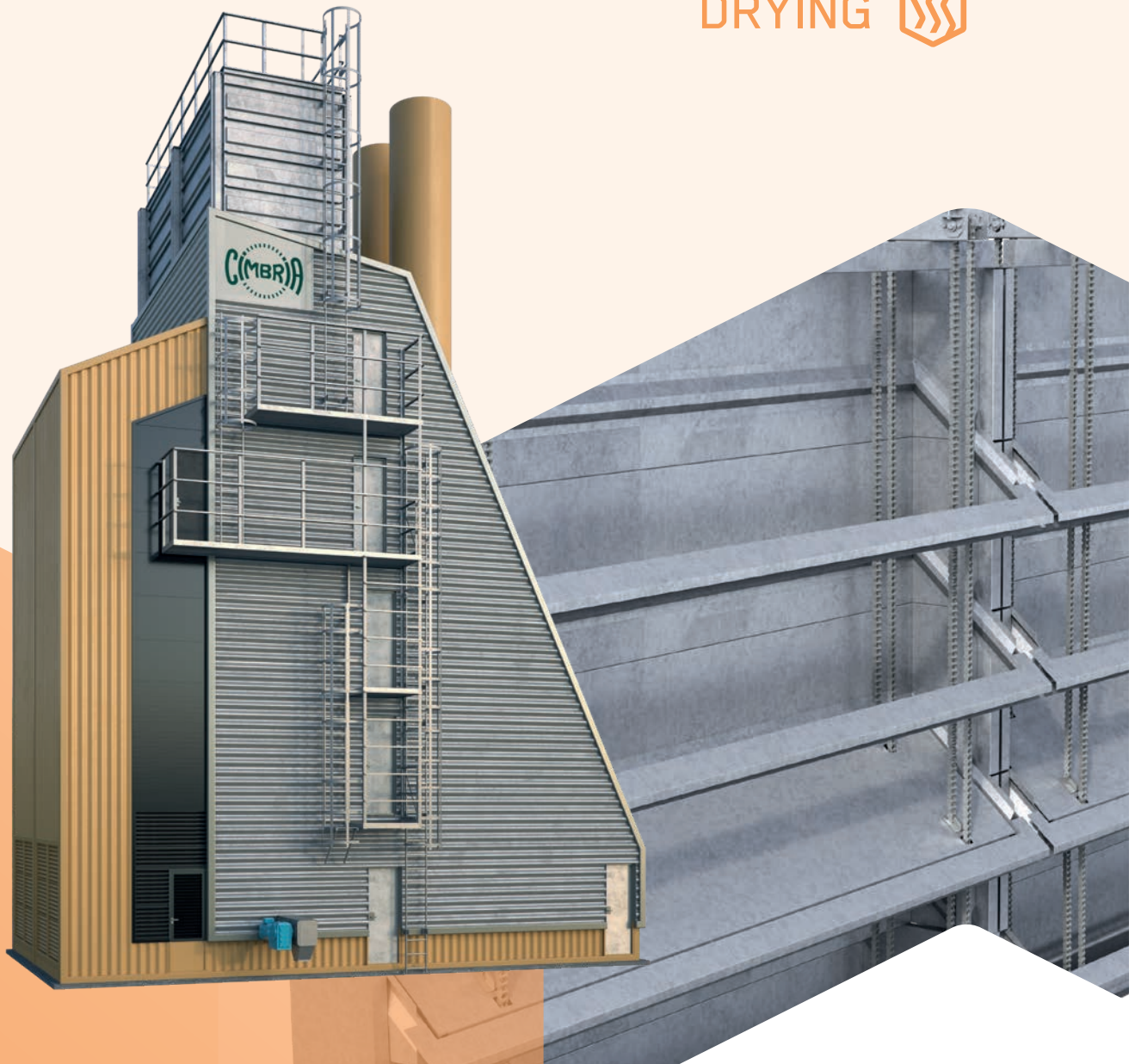


ECO-LOGIC™

DRYING 



ECO-LOGIC™ CONTINUOUS FLOW COLUMN DRYER

INTELLIGENT DRYING FOR HIGH PERFORMANCE AND OPTIMUM VALUE

For users of grain drying equipment, gentle and uniform drying with optimum energy consumption is essential, along with low dust emission and low noise levels. These requirements are augmented by demands for high reliability and availability, as the dryer has to operate without interruption during the harvest and drying season. The new dryer range from Cimbria is based on an efficient modular product architecture consisting of the ECO-Basic line which has a number of additional options that can be added if required. Cimbria offers the ECO-Logic range in case a highly automated solution with an intelligent drying control system and a more visually appealing industrial design is required.

LOW ENERGY CONSUMPTION

A prerequisite for achieving high dryer efficiency is to ensure that the humidity level of the exhaust air is as high as possible and the volume flow of the exhaust air is as low as possible. With the very even temperature distribution and accurate control of the dryer, the drying temperature can be increased, thus ensuring a high content of humidity in the exhaust air and a high efficiency. To reduce the volume flow of exhaust air and to utilize the fact that the exhaust air at the lowest drying sections is not fully saturated the number of recirculation sections has been optimized and are controlled by a sliding valve.

HOT AIR MIXER

An air mixer is placed above the burner to achieve a completely uniform mixing temperature when the recirculated air is mixed. The air mixer ensures a maximum +/- 5° C tolerance to guarantee even, accurate and gentle drying of the grain.



AIR GRAIN MIXER

Due to the nature of the grain flow through the dryer, the grain will flow through the dryer in a fixed path, which may lead to uneven drying of the grain closest to the warm air inlet ducts. The ECO-Logic grain mixing device has been designed to eliminate overheating of the kernels and to ensure even and consistent drying.



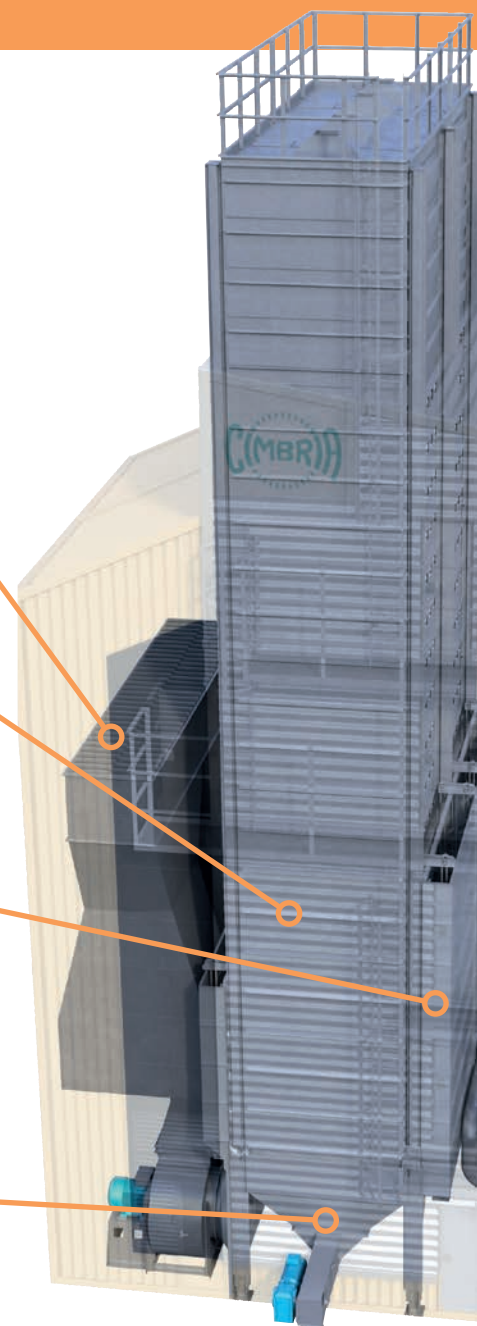
SLIDING VALVE

Well-conditioned grain is a prerequisite for safe long-time storage – The ECO-Logic is equipped with a newly developed automatically adjusted sliding valve that ensures efficient cooling by adjusting size of cooling zone as well as airflow through the grain thanks to an integrated throttle valve. Automated movement of the sliding valve is ensured by sturdy chain drive.



DISCHARGE DEVICE

The discharge device of the dryer column ensures an even discharge of the grain across the entire outlet area of the dryer. The discharge principle is based on Cimbria's well-known volumetric discharge system, which provides a very accurate indication of capacity, since each discharge has fixed volume.



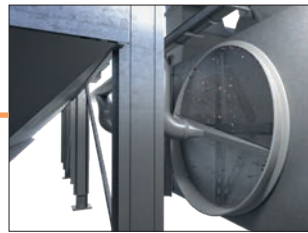
GRAIN CARE STARTS WITH YOUR DECISION

INTELLIGENT DRYING

An overall vision for the ECO-Logic™ dryer is to implement a control system incorporating Cimbria's process knowledge in grain drying. With the new developed control system, users are provided with an automatically controlled drying process, where changes in the operational parameters are made to comply with changes in the drying condition e.g. a higher moisture content of the incoming grain. This means that the users will have the possibility to operate the dryer virtually unattended.

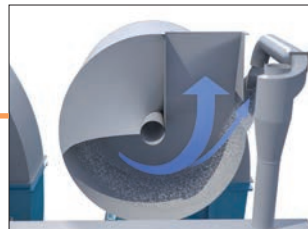
ECO-LOGIC ADDITIONAL FEATURES

- Cladding can be supplied in various colours as per customer request.
- The cladding profiles can be supplied with or without insulation.
- Steel structure complies with Eurocodes, and manufacture of the structural steel is carried out according to EN1090.
- Easy access to cleaning and inspection
- Industrial design
- Intensive use of CFD (Computational Fluid Dynamics) analyses provides a solid theoretical and practical foundation for best practice drying.



VACUUM CLEANER

A specific challenge is posed by the so-called "bee-wings" when drying of wet maize. As an option, a filter can be placed at the inlet of the exhaust fans. This filter is simply equipped with a mesh, providing efficient separation of the bee-wings. The mesh is effectively cleaned by means of a vacuum cleaner.



DUST GUARD

A newly developed Dust Guard is positioned at the pressure side of the centrifugal fans. The Dust Guard efficiently separates the majority of dust from the exhaust air. The design of the dust guard has been optimised by means of CFD analysis and the removal efficiency is as high as 95 %.

INTELLIGENT CONTROL SYSTEM FEATURES

- In-Line Moisture Control System
- Relative humidity sensors
- Different drying modes
- Fuel consumption measurement & logging
- Energy consumption/tonne dried grain, online & historical
- Remote operation via tablet or smartphone





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