CONTINUOUS FLOW
DRYING

CIMBRIA
An expert
at your side.

An Expert at your Side.

To find the right products for your business you need a partner you can rely on. One who understands your business and offers expert advice during selection, installation and beyond. Cimbria has been helping customers succeed for more than 75 years, with extensive know-how and technologically advanced grain drying solutions to optimize air volumes, temperatures, and passage rates for high performance and efficiency.

Performance, a Cimbria Promise.

Drying goes beyond moisture removal; it involves preserving the essence of grain and unlocking their nutritional value. At Cimbria , we understand how important this is to your operation and have developed cutting-edge solutions to maximize grain quality . Our continuous flow dryers deliver exceptional performance with minimal energy consumption. Airflow and temperature can be precisely controlled to ensure optimal drying for each product. Our monitoring and control systems provide excellent performance, ensuring that drying always takes place under the best conditions.

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The Power of Continuous Flow Drying.

TIME SAVING

Continuous flow drying allows for a constant, steady stream of material to be dried without interruption. This consistent throughput maximizes efficiency and eliminates the downtime required with batches for loading/unloading. This results in higher overall output.

ENERGY EFFICIENCY

Since the drying column remains full and heated at all times, less heat is lost through the walls of the column. This provides energy savings over batch drying's repetitive heating and cooling cycles.

CONSISTENT QUALITY

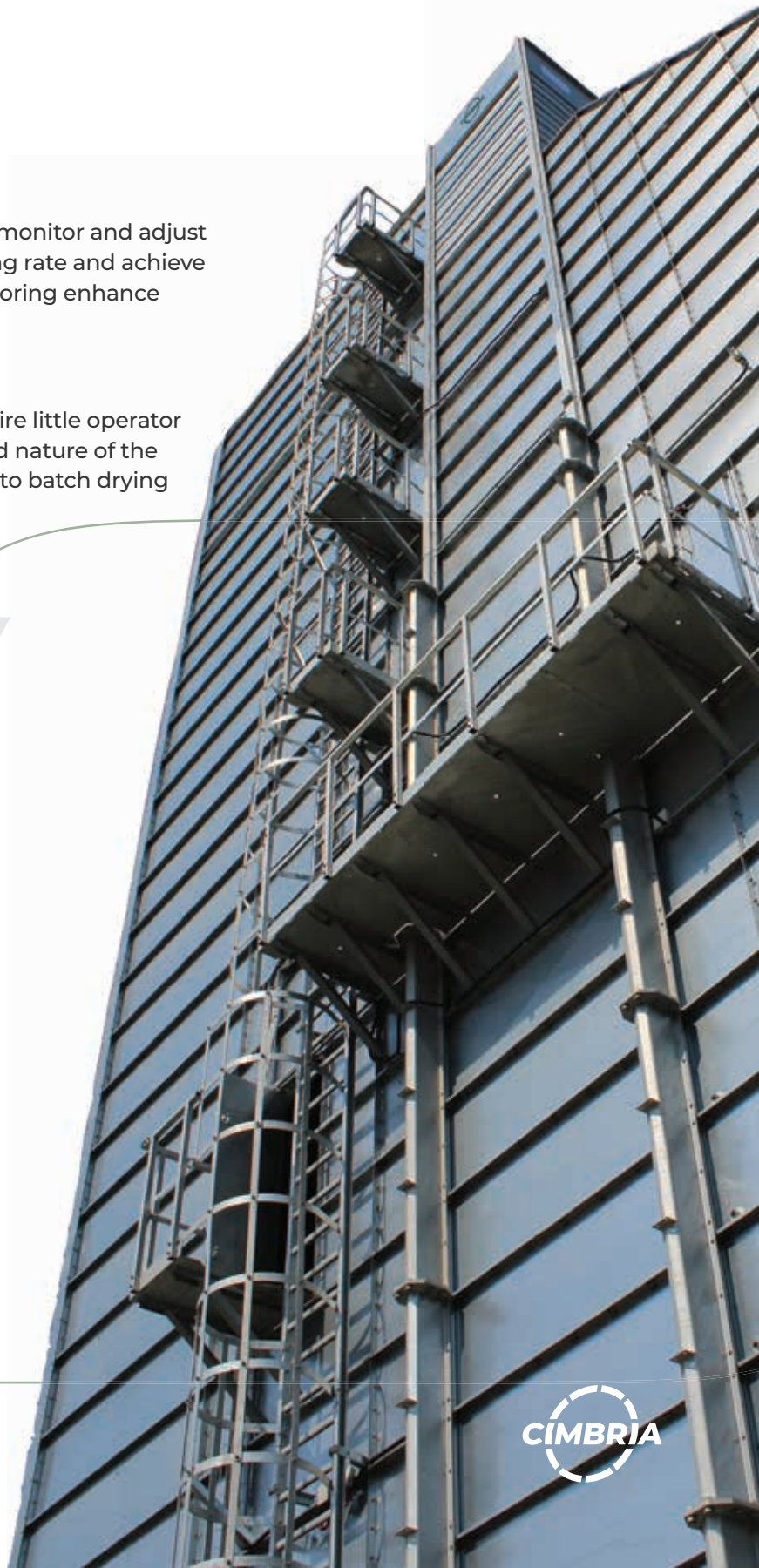
Drying conditions like temperature and residence time remain uniform throughout continuous operation. This provides stable, consistent quality with less chance for variability between batches.

CONTROL

Automated control systems can precisely monitor and adjust operating conditions to optimize the drying rate and achieve a consistent moisture content. Easy monitoring enhance finished product quality and reliability.

REDUCED LABOR

Once started, continuous flow dryers require little operator intervention and oversight. The automated nature of the process reduces laboring costs compared to batch drying methods.



A and B Series Dryers.

Cimbria's Continuous Flow Series Dryers are designed for continuous drying operations, where the grain is continuously fed into the dryer and dried as it moves through the drying column. These dryers offer high capacity and are suitable for medium to large scale drying requirements. They provide consistent and uniform drying results.

01. DRYING/COOLING SECTIONS

The drying sections are in galvanised 2 mm plate with inclined and tapered air ducts to ensure homogenous air and grain distribution. The A-section has a width of 3.4 m and the B-section is 2.2 m wide. Both types have a height of 0.63 m and a length of 2.0 m. The modular system accommodates a wide range of capacities.

02. AIR FLOW

The direction of the air determines how effectively and homogenously the grain is dried. Series A/B dryers are designed as mixed-flow dryers, widely recognized as the most versatile and efficient drying principle for free flowing crops. The alternating exposure to hot and cold air ensures gentle treatment and homogenous drying of the grain.

03. LINE GASBURNER

With integrated blower fans, it provides consistent drying air to the grain, while allowing for flexible control of the drying air temperature (modulation range 1 to 20). It also handles changes in ambient temperature seamlessly, maximizing dryer utilization and yielding a quicker return on investment.

04. ENVIRONMENT

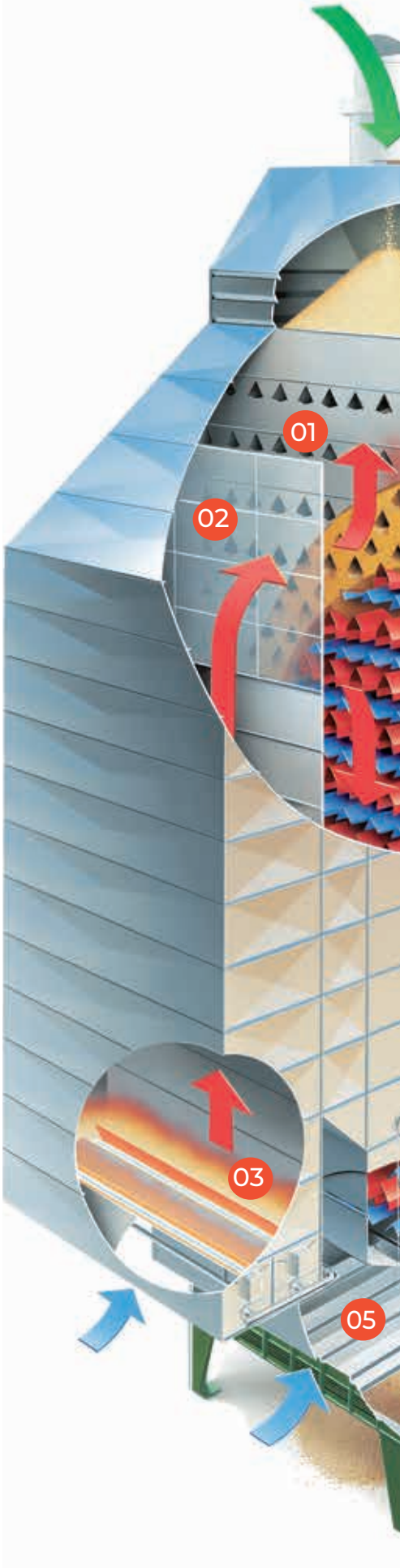
The system incorporates the negative pressure principle, in which the dryer is fully aspirated via the exhaust air fans. This principle offers the possibility of adding dust separation using Cimbria cyclofan technology.

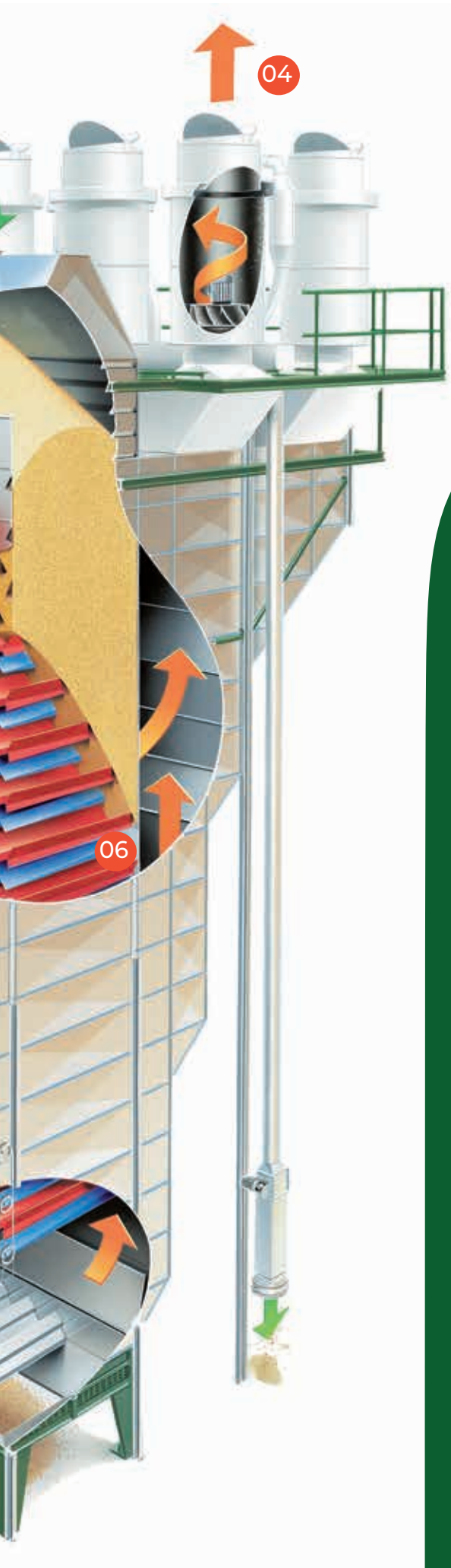
05. VOLUMETRIC DISCHARGE SECTION

The volumetric discharge section is designed with a series of sector valves. This discharge system gives a homogenous grain flow and helps reduce clogging by straw and foreign material, while at the same time providing precise throughput data to the operator.

06. OPTIMISED AIR FLOW

Air foils are placed in the opening of the exhaust channels to minimise turbulence and avoid small grains and light products from being sucked out by the exhaust fans. This makes it possible to use larger air volumes which result in optimal drying capacity in all crops.





SUPERIOR RESULTS

Through accurate sensors and automated controls that closely monitor conditions, our dryers guarantee top operational output, consistently meeting high volume drying demands while preserving germination rates through even, controlled drying that finishes grain at targeted moisture.

TAILORED OPERATIONS

Cimbria continuous dryers are mixed flow designs that gently circulate hot and cold air through grain in alternating cycles, thoroughly drying each kernel to the same moisture level for maximum quality and a homogenous, consistent final product.

MODULAR CONSTRUCTION

The range comprises standard sizes in 2 different widths, thus providing modular tailored solutions with a broad capacity span ranging from 10 - 100 TPH.
As standard, Cimbria's dryers are constructed in 2 mm galvanized plate. They can be manufactured in stainless steel or special harwearing DOCOL 1200 steel, for increased hard-wearing resistance.

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ECO Master Dryer.

Caring for nature's limited resources is of great importance to Cimbria. ECO-Master™ dryers optimize energy consumption while maintaining low dust emission levels with Cimbria Cyclofan technology, proven through decades of use. ECO-Master™ dryers are the future-proof alternative offering high-capacity drying with minimal environmental impact.

01. DRYING/COOLING SECTIONS

Drying/cooling sections are built as standard in galvanised 2 mm plate with inclined and tapered air ducts to ensure homogenous air & grain distribution.

02. FAN HOUSING

Fully enclosed fan housing with self-closing rain caps ensures low noise levels. Dust emission levels are exceptionally low - always depending, however, on the quality of the incoming grain.

03. LINE GASBURNER

A fully modulating sized for the ECO-Master™ dryer and equipped with integrated blower fans, ensures uniform drying air for the grain while maintaining flexibility in selecting drying air tempera-ture with a modulation range of 1 to 10.

04. DISCHARGE SECTION

The pneumatic operated discharge section is designed with sector valves with large opening areas that ensure fast and uniform product discharge, and with minimum number of moving parts.

05. DUST AUGER

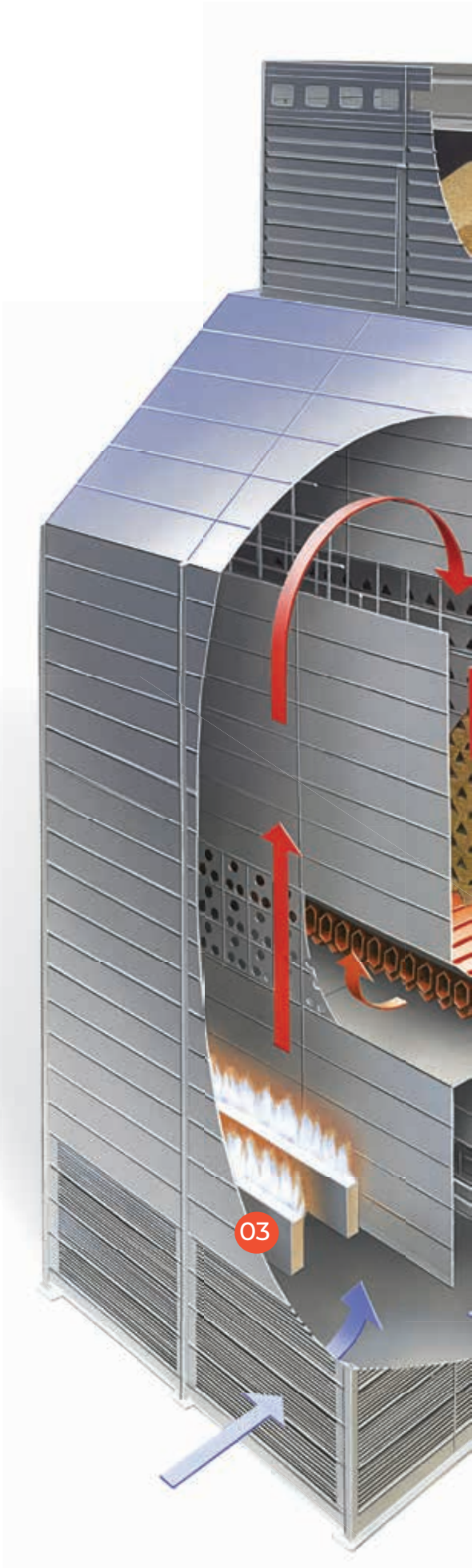
A dust auger ensures that any dust and light particles that may be aspirated from the drying column are automatically conveyed outside the dryer.

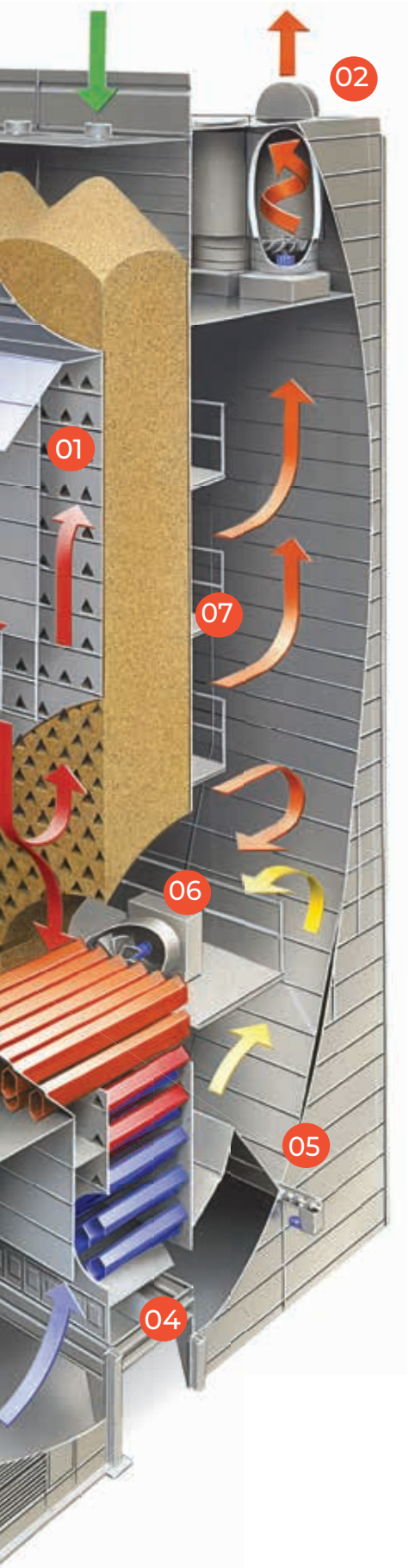
06. RECIRCULATION

Standard equipment includes axial fans that recirculate the drying air, taking air from the lower drying sections and blending it with the primary air stream produced by the gas burner. This recirculation system can result in heat energy savings of up to 15% and electrical power savings up to 45%.

07. INTERNAL PLATFORMS

The ECO-Master™ is equipped with platforms on each floor to ensure easy cleaning and maintenance.





ENVIRONMENTAL CARE

Environmental care is a vital design parameter in the ECO-Master™ range. Not only does Cimbria offer proven low dust emission levels, but the entire fan system is also completely enclosed and incorporated into the design, thereby ensuring low noise levels and fully operational fans even under difficult climatic conditions.

RELIABLE AND EFFICIENT OPERATIONS

The drying season is typically short and intensive, and a key factor is the smooth and trouble-free execution of various drying tasks. Ranging from the uniform and gentle drying of sensitive crops such as malting barley to the removal of large quantities of water during extreme climatic conditions, e.g. when drying maize, is a continuous flow dryer that offers a high degree of versatility combined with proven technology.

EASY TO BUILD AND MAINTAIN

ECO-Master™ is an easy-to-assemble solution. Designed with modular parts, every module is safely built on the ground, to be then lifted into place, for maximum people and machine protection.

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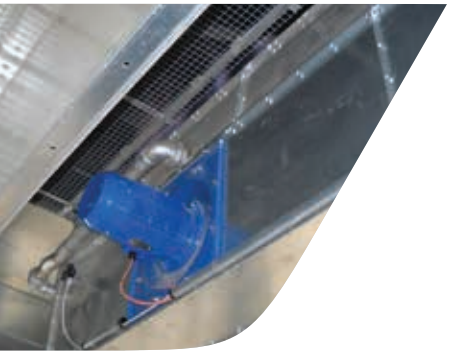
Heat Generation.

Efficiency is a crucial consideration in heat generation for grain dryers. To optimize energy usage, Cimbria's dryers incorporate advanced technologies such as modulating burners, heat recovery systems, and insulation. These features maximize heat transfer efficiency and minimize heat loss, resulting in reduced fuel consumption and operating costs.



Direct Heating.

With Gas.

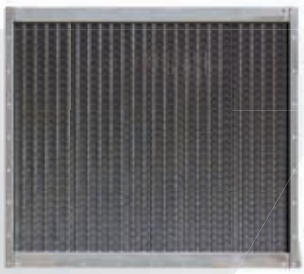
Direct gas heating is recognized as the most flexible solution for drying different crops with varying temperature requirements. Cimbria uses standardized solutions from top European suppliers, including fully modulating burners with a turn-down ratio of 1:10. Our line gas burners are mounted directly in the hot air channel for even distribution.

With Oil.

Cimbria provides two types of direct furnaces based on the dryer size. The VD-furnace is a stand-alone unit for smaller dryers, while the VDI furnace integrates with the hot air channel for larger models. Both furnace types feature temperature-resistant steel in their fire boxes and come with a mounting plate for easy oil burner fitting.

Indirect Heating.

In certain food processing drying applications, extra care and indirect heat treatment may be mandatory to meet legislation requirements. Cimbria provides energy-efficient indirect furnaces with booster-fans and recirculating air channels to ensure correct air volume to the dryer. These furnaces prevent flue gases from coming into contact with the product and require separate discharge via the chimney to comply with regulations.



With Water or Steam.

Cimbria offers heat exchangers designed for use with our continuous flow dryer, hot-dip galvanized for optimal performance even in dusty conditions. Our steam exchangers comply with EU pressurized equipment directives and can handle steam pressures up to 5.5 bar, making them attractive in plants with excess steam availability.

Electrical Heating.

Boilers running on farm waste typically produce hot water and steam for heat exchangers. Alternatively, electric heaters powered by hydropower, solar or wind electricity sustainably provide heat for processing.

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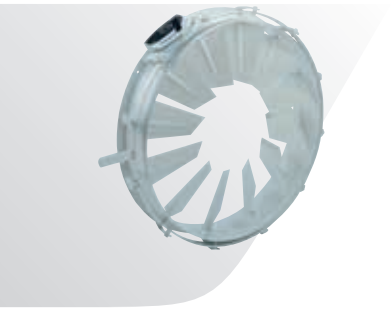
High Efficiency Fans.

Artificial grain drying in essence involves the heating of process air to be exposed to the grain to be dried.
Cimbria have developed a complete range of aspiration fans specifically targeted at keeping the continuous flow dryer in negative pressure while at the same time removing the saturated air from the drying process as effectively as possible.

Cyclofan.

The Cimbria Cyclofan is a compact and easy-to-install combination of a fan and a highly effective centrifugal separator. Results from the Biotechnological Institute demonstrate a dust-separating efficiency of over 98% for certain types of dust.



Air Control Varifan.

Cimbria's Varifan is installed on all of our fans, allowing for stepless adjustment of air volume and proportional reduction in energy consumption. This optimized utilization of the fans ensures economic profit while matching energy consumption with capacity at all times..

Super Cyclofan.

Cimbria's Super Cyclofan is designed to minimize dust emissions with a separation efficiency of over 99% for certain dust types, while providing increased energy efficiency compared to our Cyclofan. Its energy recovery system allows for approximately 20% more air volume compared to a Cyclofan with a motor of the same size.

Axial Fans.

Cimbria's Axial fan is a simple exhaust fan with the ability to regulate exhaust air volume using minimal energy consumption. By adjusting the air volume regulator, optimal air volume is achieved, resulting in energy savings.

Rain Caps.

Rain caps protect dryer inlet openings, preventing moisture and debris entry during inclement weather.

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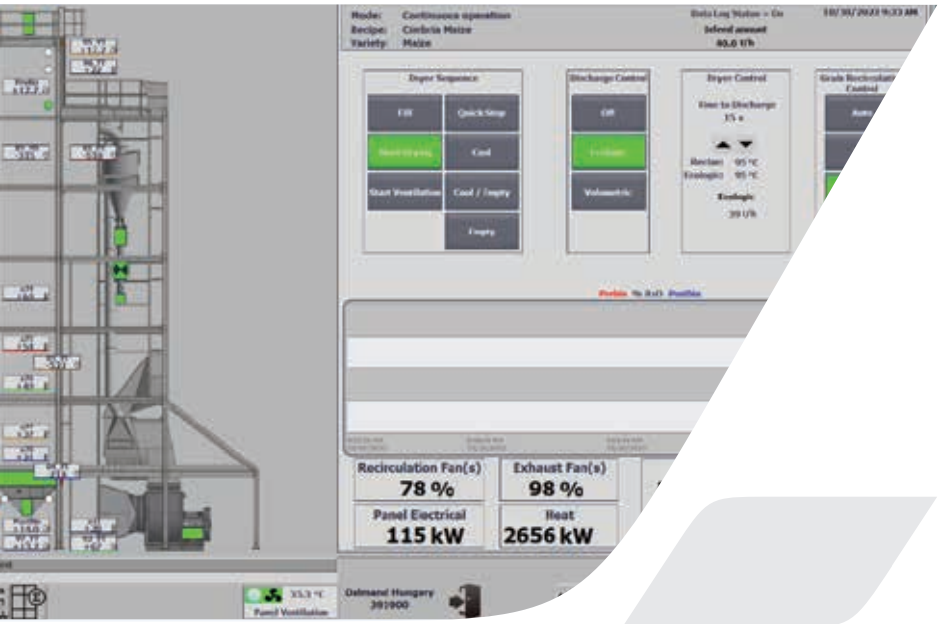
Monitoring and Control.



Dryers require precise monitoring and control for optimal performance. Sensors track temperature, humidity, and airflow, enabling automated controls to adjust heat and cycles. This ensures efficient drying, energy conservation, and product care, while preventing overheating and potential fire risks.

Cim Safe Guard System.

The CIM Safe infrared spark detection system secures at risk fire areas. A compact die cast sensor housing protects the infrared sensor from scratches. It connects to a control unit monitoring for sparks or fire, triggering alarms and shutting down equipment to prevent damage.

Service First.

CERTIFICATIONS

- CE conformity certificate
- 2006/42/CE on machinery safety
- 2014/30/CE on Electromagnetic Compatibility

DELIVERYING RELIABILITY AND DEPENDABILITY

At Cimbria, we take pride in delivering exceptional customer service.
Our business strategy centres around providing comprehensive support for all technical issues, orders, product selection, pricing inquiries, project engineering, and turnkey plant installation, ensuring your plant runs optimally at every level.

CONTACT US:

WWW.CIMBRIA.COM/EN/CONTACT/CONTACT-US.HTML

SPARE PARTS

Cimbria provides the highest performance, with original parts available for day-to-day delivery. Our extensive range of components meets strict quality requirements and thorough documentation, keeping your machines running at peak performance.

REGULAR MAINTENANCE

Our skilled staff regularly perform machinery maintenance, ensuring your equipment and products stay in perfect condition and minimise downtime or business interruptions. We offer training on-site during and after installation, allowing your team to learn in a familiar environment, saving them the time and expense of travelling from site to site.

Cimbria Financing.

Access to flexible and tailored financing solutions becomes a critical factor in securing a successful outcome. Cimbria creates tailored, customer-focused financing solutions to help you achieve success, offering attractive benefits like lower costs, better conditions than local options and a fast, low-documentation decision process. Relevant solutions provide financial relief to your business challenges, combining our technical expertise and financial support where necessary. We collaborate with national Export Credit Agencies (ECAs) to secure and develop national jobs by funding promising projects and solutions and offer financing solutions through Cimbria Leasing. Let us help you find the perfect financing solution for your business needs.

Cimbria Leasing

Leasing your equipment? We've got you covered with our flexible leasing solutions for optical sorting and small scale projects.

CIMBRIA Finance

We tailor financing solutions to your needs, supporting the growth of your business on large scale turnkey projects.

€ ECA Cover

First-class European Export credit Agencies support bigger projects with confidence.

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