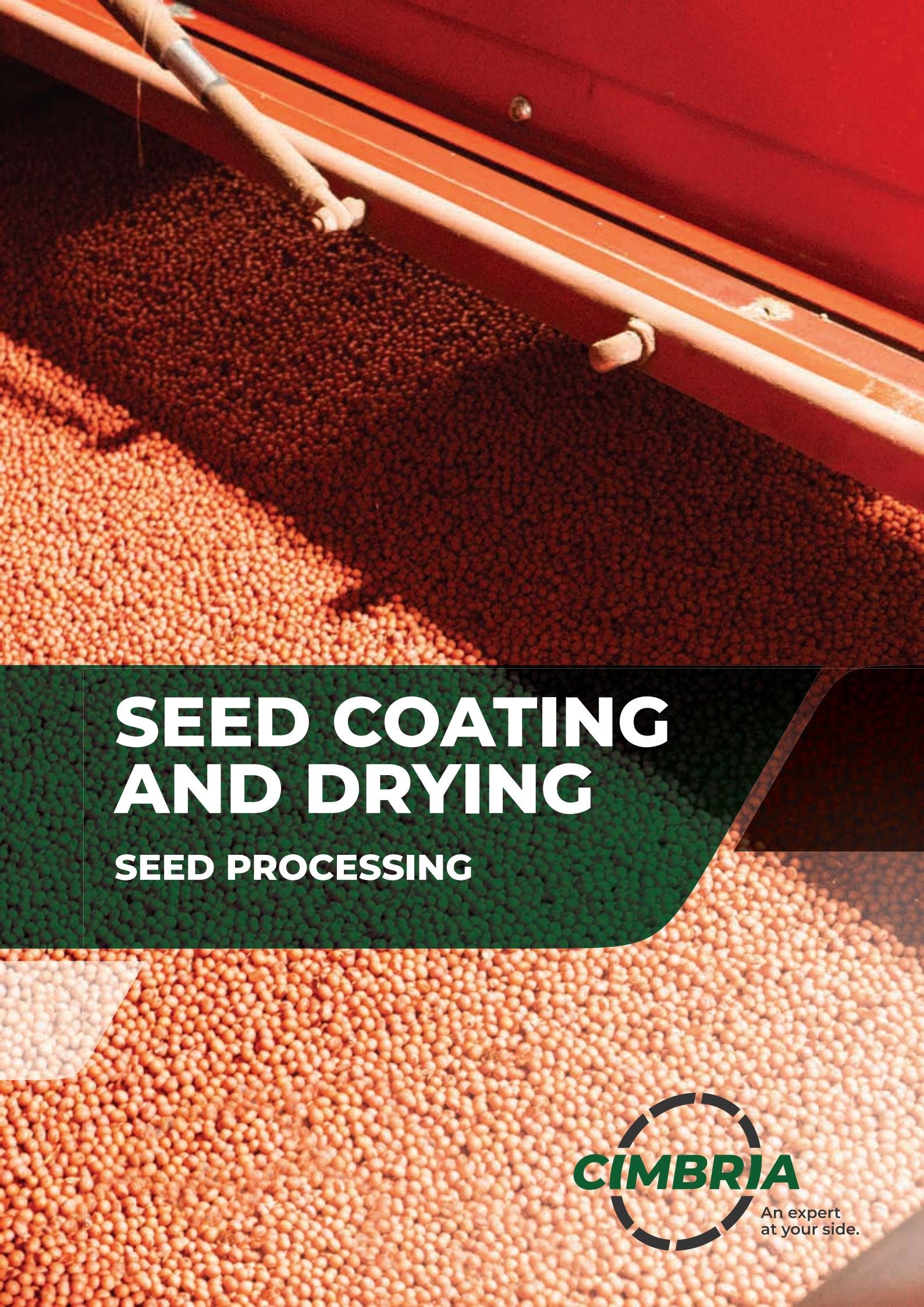

SEED COATING AND DRYING

SEED PROCESSING

CIMBRIA

An expert at your side.

CIMBRIA

An expert
at your side.

The Experts in Seed Processing.

To find the right machines for your business you need a partner you can rely on. One who understands your business and offers expert advice during selection, installation and after-sales. Cimbria has been helping customers succeed for more than 75 years, with extensive know-how and technologically advanced solutions for the entire process of cleaning grain, seed, and food commodities.

Making the Most from Your Seeds.

Maximize your seed's potential and your bottom line. Get uniform coverage and reduced downtime with the Cimbria Centricoater.
You will meet international standards for certified seed with the minimum amount of raw materials, while reducing impact on the environment.

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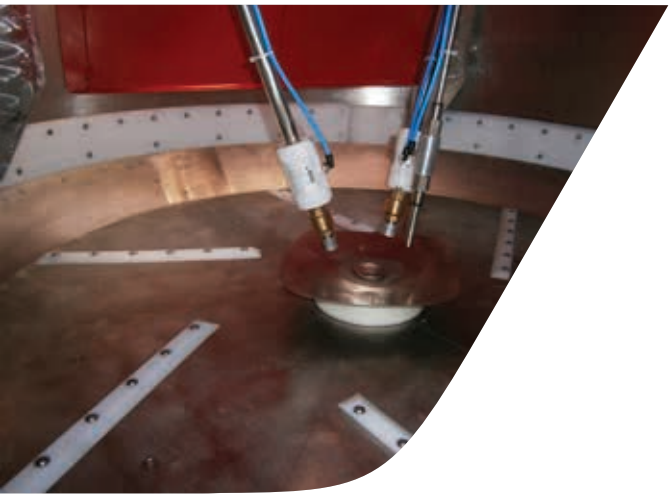
Cimbria Centricoaters are Advanced Batch Treaters.

A precise electronic scale prepares the needed amount of seed for the next cycle. After the scale has fed the prepared batch to the mixing drum, the rotating bottom of the drum accelerates the seed to force it to climb up the drum wall, and to be folded back to the drum middle by means of the built-in deflectors.

According to a preset recipe, including amounts and timing, all selected slurries and powders are now added to the mixing drum. Slurries are added onto a spinning disc in the middle, atomising the slurries and spraying uniformly onto the moving seed. Powder is added directly on top of the moving seed. This provides an intensive and highly uniform application of seed treatment materials on each kernel.

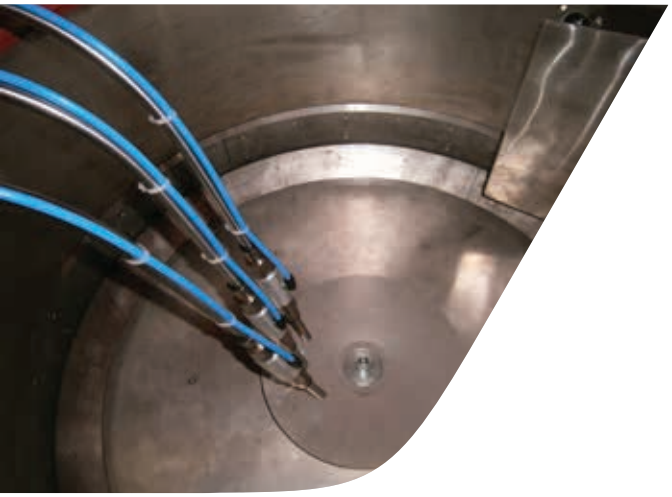


Film Coating.

Seed is covered with a thin slurry film layer.
The treatments can contain pesticides (fungicides, insecticides protecting the seed during storage and further in the first weeks growing on the field), micronutrients and bacteria (supporting seed health and growth in the field), polymers (for keeping the ingredients safely on the seed surface if planted), further identifying colorants and dyes.

Incrustation.

Powder can be added, mostly for supporting the drying of the liquid ingredients on the seed surface.
Powder in bigger amounts covers partly the seed surface.



Pelleting/ Weight Gaining.

When powder is added during coating, the shape and the general size of the raw seed can change into a round pill or pellet. This process adds weight to the seed kernel, so it is called weight gaining. The cycle time is increased up to 5-10 minutes and more, depending on the binder and powder used. Pelleting prepares especially small kernels to be used in an automated sowing machine on the field. Due to the high amount of needed liquid binder (for adding the powder onto the seed surface), a subsequent drying process is necessary, e.g. using Cimbria's jog conveyor dryer).

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Centricoater Automatic.

The “compact” Centricoater series is designed for easy installation at the customer’s site. Each Centricoater is pre-wired from the factory and delivered pre-tested. After connecting the grain pipes (for filling and discharging), main electric power supply, compressed air, dosing line piping and the prepared cables for each item – plug and play – the Centricoater is ready for operation.

Centricoater Semiautomatic.

The “semiautomatic” series allows an easy entry to batch coating technology. Available with two drum sizes, this type is equipped with a PLC operated electrical panel with touch display. Automated scale is not part of the hardware. All other hardware (mixing drum, dosing line) are fully automated, enabling the automated coating of single batches.

Centricoater Lab.

The standard lab-coaters are designed for the manual coating of small quantities of seeds in laboratories or breeding stations. All products and their quantities are prepared manually by the operator before filling into the lab-coater. The operator's timing, filling and discharging of the mixing drum is all done manually.

A Full Range of Sizes.

Model	Mixing Drum Size	Capacity (referred to wheat)
CC 10	10 Kg	max 1,6 th
CC 20	25 Kg	max 4,1 th
CC 50	50 Kg	max 8,1 th
CC 150	150 Kg	max 13,5 th
CC 250	250 Kg	max 22,5 th
CC 250 Duo	250 Kg x 2	max 45 th
CC 20/50 L	25/50 Kg	max 4,1 th max 8,1 th
CC Lab	2 Kg	-
CC 10 Lab	10 Kg	-
CC 10/20 - S	10/20 Kg	-

FOR MORE TECHNICAL INFORMATION PLEASE CHECK THE DATA SHEET AT THIS LINK.

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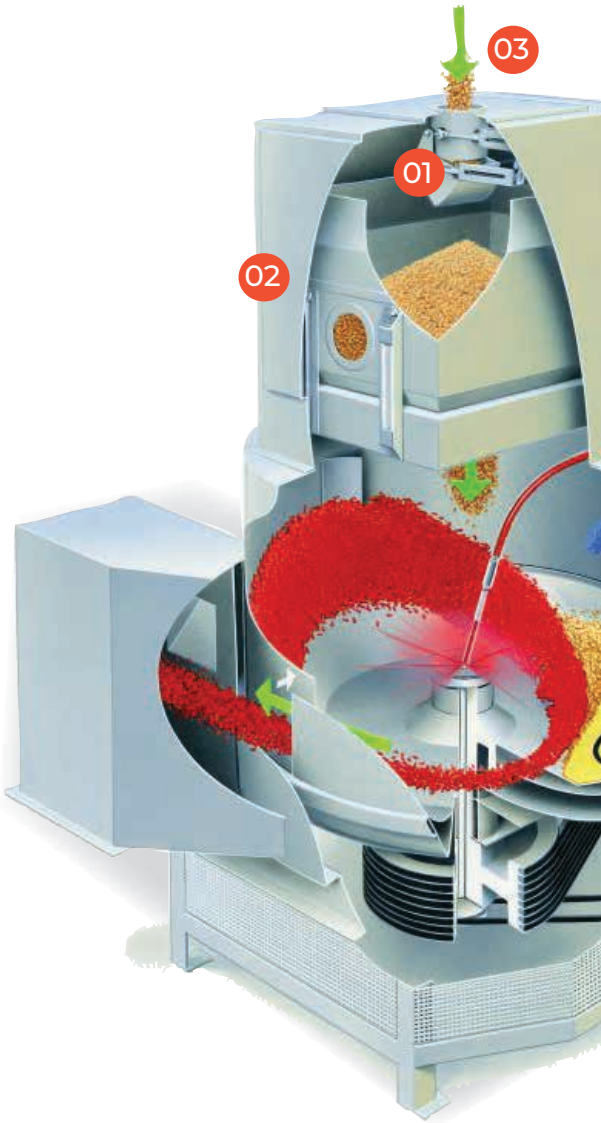
Construction and Function.

01. ELECTRONIC SCALE

From the pre-bin or pre-store silo above the Centricoater, the seed is fed into the electronic scale by means of a big and fine flow flap, thus allowing exact dosing of seed with an accuracy of ± 0.25%. As soon as the electronic load cells of the scale indicate sufficient filling, the bottom flap opens to gently drop the seed batch into the mixing chamber.

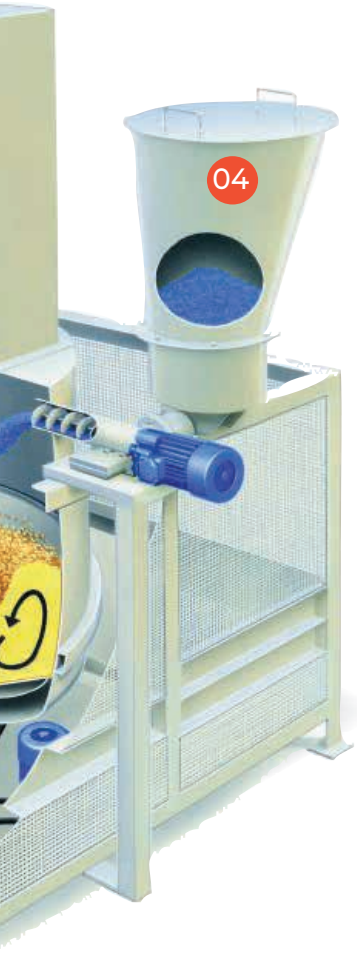


02. SLIDEABLE SCALE

To grant a generous access to the mixing chamber from the top, a slideable scale (for CC 10, CC 20 and CC 50) or respectively a slideable middle section (for CC 150 and CC 250) is available as an option. This feature significantly eases cleaning and maintenance work inside the mixing chamber. An integrated safety switch prevents the machine from starting during cleaning and maintenance.

03. BELT FEEDER

For heavily flowing or bridging products like grass seeds, the big and fine flow flap in the inlet can be replaced by a belt feeder with variable speed. Due to the large open area in the belt feeder's inlet, the danger of bridging is eliminated.



Additional features for dosing lines:

- Over- and under-pressure sensors
- Broken hose sensors
- Squeeze valves

04. POWDER FEEDER DOSING SYSTEM

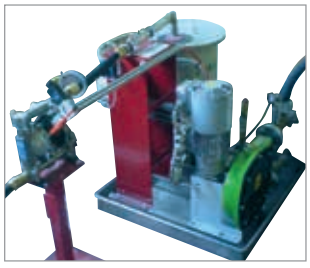
The powder feeder consists of a conical hopper with generous free cross-section and steep walls, as well as an internal stirrer and a discharge- screw to handle all kinds of powders available on the market, without any risk of bridging or clumping. Dosing of powder can either operate volumetrically or gravimetrically by means of optional electronic loadcells.

GLASS CYLINDER DOSING SYSTEM

The glass cylinder grants optical control of the liquid dosing process to the operator, using minimum, maximum and safety level electrodes to regulate the filling and discharging of the liquid. Changing of liquid amounts is done by simply shifting the electrodes manually. The filling of the glass cylinder can either be operated by vacuum, or by a pump.

FLOW METER AND MASS FLOW METER DOSING SYSTEM

Further to direct dosing lines, flow meters can be used as a high-end dosing solution. Depending on the liquids in use, the amount of liquid will either be measured volumetrically or gravimetrically, the latter even permanently controlling the density of liquid to check abnormal amount of air bubbles in the liquids, prevent risk of sedimentation or decomposition of the liquids.



LOSS IN WEIGHT DOSING SYSTEM

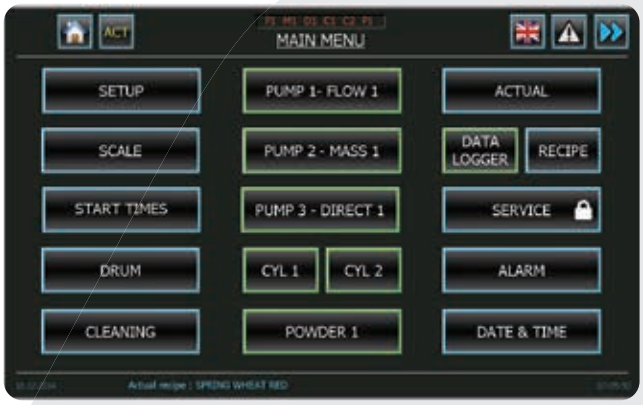
Alternatively to mass flow meter systems, Cimbria also offers loss in weight dosing lines. A tank mounted on load cells is connected to the dosing pump, which extracts the necessary amount of liquid for each batch automatically.

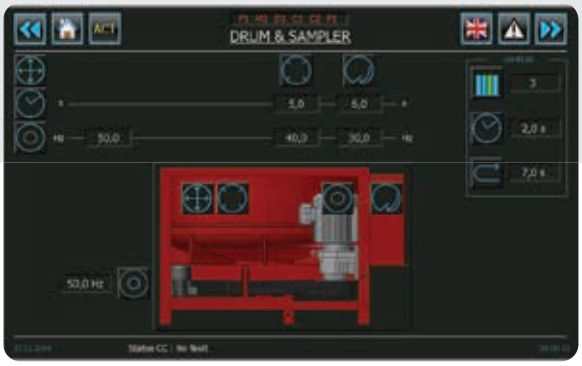
Delivery of Chemicals Just in Time.

Large hourly capacities and the use of wide varieties of different chemicals require the need for reliable and accurate delivery of required liquids just in time. Cimbria's automised mixing and pumping systems enable customers to buy and **store their chemicals separately** and independently from one another, mixing them in in the right ratio just before their final use.

The single ingredients, usually stored in IBC tanks, are pumped to the mixing tanks in the correct ratio, thus automatically finalizing the mixtures necessary for the coating process. Those final mixtures are then pumped to work tanks, where they are made available to the Centricoater's dosing systems. The work tanks are also equipped with **sophisticated stirring mechanisms to prevent any sedimentation** or demixing prior to use.

Manage the Process With Full Control.





The key to application accuracy and quality of the coated seed is based on using advanced technology, e.g. PLC, HMI generous touchscreen, electronic scale, VFD drives, flow meter systems. The **Centricoater is fully automised by means of its PLC control unit**. The latter controls and monitors the entire coating process from seed filling to application of all necessary chemicals, at the same time preventing malfunctions and serving reports to comply with quality standards following ISO 9002.

A high-level alarm and troubleshooting management system as well as the integrated remote maintenance feature significantly reduces downtimes as well as risk of malfunction. **Remote maintenance and full communication with the Centricoater's control unit are made possible through Cimbria's automation and control systems.**

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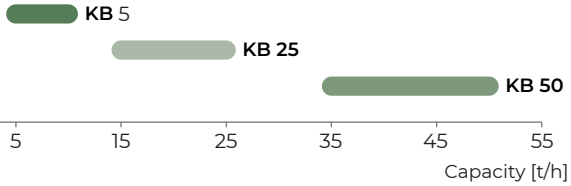
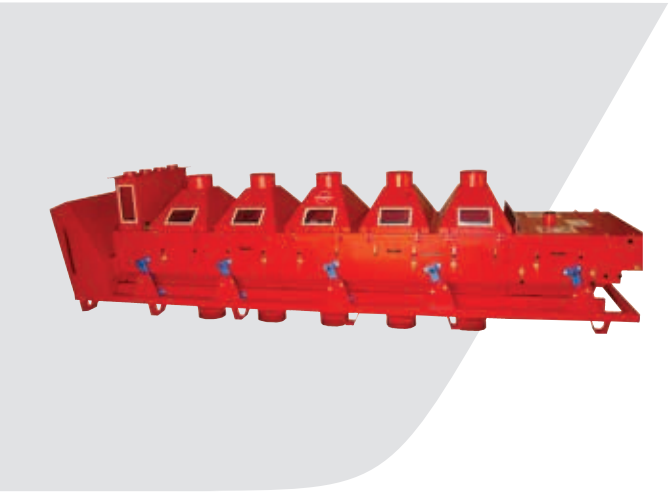
Continuous Treaters KB.

Built for continuous treating of seeds, continuous treaters are equipped with a **rotary feeder ensuring a continuous feeding** into the spraying chamber, where the seed is distributed by a dispersal cone. The treating liquid is simultaneously sprayed via a spinning disc onto the product. Afterwards a paddle screw ensures a continued mixing and moves the product to the outlet.





Jog Conveyor Dryer JCD.

Mainly used after the coating process to prevent wet kernels from clumping together during bagging off, jog conveyor dryers blow warm air through the product layer from underneath. The moist air is aspirated from the top and led to a de-dusting plant. Available in three different widths (625 mm, 1250 mm, 1800 mm), JCD are built as a **modular system with a flexible number of drying and screening sections**.

Series Production.

Series production with strict quality control along the entire production process ensures reliable and stable treatment process in your factory.

Batch Coating.

Batch operation is the base for the most precise coating technology. Product is coated in a closed drum and the same process is reproduced for every batch. Therefore, **each batch gets the correct amount of chemicals resulting in the most accurate and even distribution on each seed kernel.**

The batch operation also allows the flexibility for adding each slurry or powder separately, allowing parallel dosing of ingredients as well as time shifted dosing (resulting in building up different layers on the seed kernel). As it is a batch operation, there are no losses because of starting up or shutting down the Centricoater. Once the recipe is approved and tested, **all batches are coated in the same way with the same quality, from the first to the last batch**.

Benefits of the Batch Coater.

- **BEST COATING TECHNOLOGY AVAILABLE ON THE MARKET** > applicable for all types of seeds and slurries
- **BEST HOMOGENEITY** > most efficient application of expensive chemicals
- **UNIFORM DISTRIBUTION** > most uniform and long-lasting protection of the seeds on the field after planting
- **MOST UNIFORM FIELD PERFORMANCE** > reduction of costs for further fertilizing of the field
- **BEST REPRODUCIBILITY FROM BATCH TO BATCH** > continuing equal quality
- **SAVINGS IN SEED TREATMENT MATERIALS** > reduction of operating costs
- **BETTER VISUAL SEED APPEARANCE** > warranty for excellent seed quality
- **EASY MAINTENANCE AND OPERATION** > reduced labor costs

CIMBRIA

Testing Center.

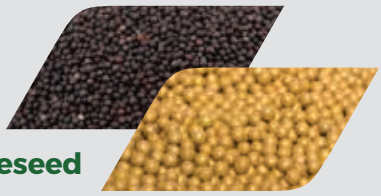
SCAN THE QR TO SET UP YOUR TRIAL

PUT US TO THE TEST

Send us your toughest sorting challenge. Cimbria's multiple testing centers are available for customizable lab trials worldwide. Let our experts recommend the best solution for your business.


Maize


Sugar Beet


Rapeseed


Wheat


Soya Beans


Grass Seed

Quality Control.

During the manufacturing process, each machine as well as its components must pass several strict quality controls to meet our customers' requirements at the highest level. Before dispatch, a final quality control process following a sophisticated checklist is carried out, rounded of by a 24-hour test run. We can thus guarantee that each machine is ready to operate at the customer's site very quickly and without any surprises.

Service First.

CERTIFICATIONS

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

DELIVERYING RELIABILITY AND DEPENDABILITY

You are committed to delivering the highest quality for your customers. Cimbria can help you deliver. With our customer service team and partners we offer exclusive after-sales service, for qualified assistance at all times.
Aftersales service not only includes spare parts service, but also regular maintenance services, plant check-ups and consulting services.

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

MACHINE TECHNICAL DATA

				CC-LAB	CC10LAB	CC10-20 S	CC20-50 L	CC20	CC50	CC150	CC250	CC250 DUO
Dimensions	Length		mm	750	900	1550	1550	1550	1600	2350	2500	4200
	Width (without PD)		mm	550	800	1200	950	1200	1100	2000	1900	2100
	Height (standard)		mm	750	1550	2150	2650	2150	2000	3350	3050	3100
Weight				100	230	450	900	450	900	2300	3150	5000
Recipes (depending on type of seed and quantity of slurry)	Dosing of slurries within		s	5-15	5-15	5-15	5-15	5-15	5-15	10-20	10-20	10-20
	Mixing after dosing within		s	5-10	5-10	5-10	5-10	5-10	5-10	10-15	10-15	10-15
	Discharging seed within		s	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10	5-10
Power supply (standard)	Main power supply (5m cord with plug)	N/PE		1/N/PE	3/N/PE	3/PE	3/N/PE	3/PE	3/PE	3/PE	3/PE	3/PE
		V-Hz		230-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50	400-50
		min A		10	16	16	25/32	16	32	63	63	125
	Air requirement	m^3/h		100	300	300	300	300	300	1000	1200	2500
	Pneumatic requirement	Nm^3/h		3	2	2	2	2	2	4	4	5
		bar nom.		6	6	6	6	6	6	6	6	6
Equipment	Glass Cylinder		l	–	–	–	–	0,5	1,0	1,5	–	–
	Pump D10/D15		l/h	–	–	–	35-130	35-130	35-230	–	–	–
	Pump D25		l/h	–	–	–	55-180	–	–	60-500	120-1.000	120-1.000
	Power feeder (diameter)		mm	–	–	–	36-48	36	48	60	75	75

CHECK CIMBRIA.COM FOR MORE TECHNICAL INFORMATION.

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CIMBRIA A/S
Faartoftvej 22
7700 Thisted
DENMARK
Phone: +45 96 17 90 00

Cimbria Heid GmbH
Heid-Werkstraße 4
2000 Stockerau
AUSTRIA
Phone +43 22 66 699

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