Romberger®-

Eco Star drying system

Extremely low operating costs because of patented thermal management and

TheRomberger® plus points:

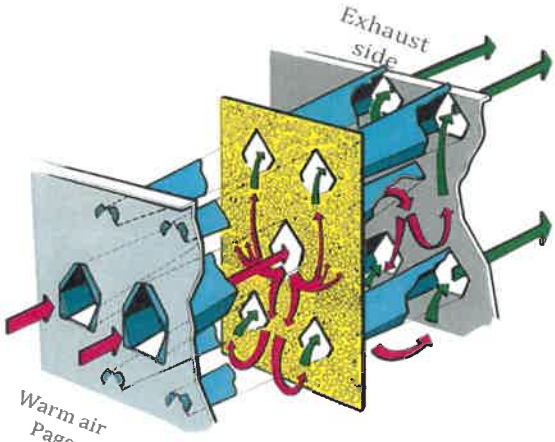
- stable, assembly and maintenance-friendly modular construction
- user-friendly, product-friendly and low-wear operation
- individual adaptation to customer requirements
- excellent service from our customer service (lifelong)
- all components are made of steel or stainless steel and therefore have a melting point three times higher than aluminum
- components in contact with the exhaust air in particular can be made entirely of stainless steel

Wir bewegen was® Romberger

Drying plants

Our patented Romberger® drying systems are built individually according to your requirements, tailored to your drying product and designed for the required capacities. We take into account all your requirements regarding emission limit values and space requirements. In order to save construction height, the different drying zones can be accommodated in two columns placed side by side. We install your dryer on the open field or in existing buildings. Later conversions or extensions are possible at any time due to the modular design. Our experience helps you with advice, planning, assembly, instruction, approval, commissioning and lifelong service.

Mode of action:
We dry your grain gently and effectively. The dryer is filled with the product from above in equal layers. The grain then glides through the shaft at intervals and arrives in an air flow that is introduced and discharged through conical air guiding roofs, which is washed around the grain from all sides and removes the moisture. The grain cascades through the various temperature zones without damage. The warm air temperature is always adjusted to the product moisture. In the lower compartments, the product is gently cooled back before it is cooled and left evenly dried by our special discharge device.



Airways inside the dryer

Types:
Continuous dryer and circulating dryer in one model.

Product to be dried:
Maize, all types of grain and oil seeds.

Power:
from 1 to 50 t / h. Other sizes on request.

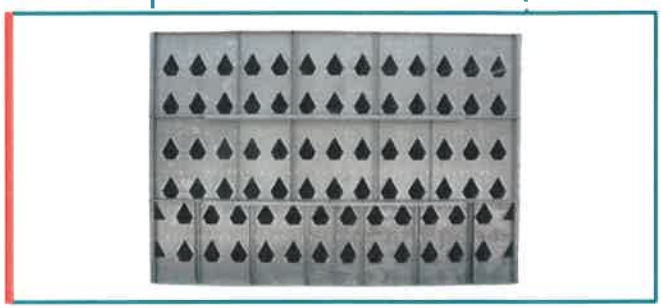

Storehouse Eichinger, Tann

Burner:
- Multi-stage or modulating brand burners with on-site service, for heating oil or gas
- Direct heating of the warm air or indirect heating of the warm air through heat exchangers for pollutant-free drying
- High efficiency
- alternatively gas surface burners

Discharge device:
- pneumatic flap discharge
- low dust emission
- Effective self-cleaning of the dryer column through powerful interval emptying and even discharge over the entire dryer cross-section

Discharge device

Other energetic design features:
- conical air channels and extremely large air exchange surfaces. Due to the optimally dimensioned product layers between the air ducts, the flow resistance drops enormously, the efficiency increases.
- double warm air duct with forced rear ventilation
- sweating zone (optional)



View of the cascades

Fan:
- High-performance axial turbine results in very large electrical energy savings due to its high efficiency
- Low-noise and low-dust suction process
- exactly adjusted air volume

turbine

Emission – dust:
- Standard version: residual dust below 30 mg / m^3 exhaust air (with pre-cleaning)
- Air flaps to interrupt the air flow during discharge prevent dust from developing
- low dust despite low power consumption
- optionally with energy-saving, noise-reduced centrifugal separator (cyclone)

damper

Romberger® drying system with Romberger® conveyor technology and silos Pöhlking Manor, Steinfeld Ortenburg

Emission – noice:

- Standard version always below the general, legal limit values
- In special cases, noise reduction through noise-reducing measures possible

Control technology:

- simple PLC technology
- All functions and settings are made from an operator terminal
- Control and regulation of filling, drying, protection monitoring, safety devices
- Logging of a detailed diary (optional)
- Maximized performance and quality through high automation and protection monitoring
- minimized process downtimes and personnel costs
- Recipe storage
- simple menu navigation
- Modem (optional). Setting of all parameters over the Internet.
- SMS alarm notification (optional)

Drying factory Leibi eG, Nersingen

Thomas Schug, Zeitlarn

Technical data and performance data:

Data of individual example plants. Other dryers on request:

Eco Star 2.0

Clear dryer width 2,164 mm, length 5,660 mm, two spare compartments, a sweating zone

Drying compartments	7	8	9	10	11	12	13	14
Dryer content (t) at 0.75 t / m3	18,7	20,4	22,1	23,8	25,5	27,2	28,9	30,6
Total air flow exhaust air (m3 / h)	18.000	22.500	27.000	27.000	31.500	36.000	36.000	40.500
Heating requirements (kW)	570-620	650-750	780-880	780-880	910-1010	910-1010	1040-1140	1040-1140
Wet maize output (t/h) from 35 % to 15 % *,1	2,8	3,2	3,6	4,1	4,5	4,9	5,3	5,7
Wet maize output (t/h) from 19 % to 14 % *,1	8,4	9,6	10,8	12,3	13,5	14,7	15,9	17,1
Total height with fan and frame (mm)	12.410	13.296	14.182	15.068	15.954	16.840	17.726	18.612
Total electrical energy requirement (kW)	14,6	18,1	18,1	20,1	20,1	20,1	23,6	27,6

Eco Star 3.0

Clear dryer width 3,164 mm, length 5,660 mm, two spare compartments, a sweating zone

Drying compartments	5	6	7	8	9	10	11	12	13	14
Dryer content (t) at 0.75 t / m3	20,8	23,3	25,9	28,5	31	33,6	36,1	38,7	41,2	43,8
Total air flow exhaust air (m3 / h)	20.000	27.000	27.000	33.750	40.000	40.000	47.250	54.000	54.000	60.000
Heating requirements (kW)	450-700	550-800	650-900	800-1050	850-1200	850-1300	900-1400	1100-1600	1250-1800	1500-2000
Wet maize output (t/h) from 35 % to 15 % *,1	3,0	3,6	4,2	4,8	5,4	6,0	6,6	7,2	7,8	8,4
Wet maize output (t/h) from 19 % to 14 % *,1	9,0	11	12,6	14,4	16,2	18,0	19,8	21,6	23,4	25,2
Total height with fan and frame (mm)	9.852	10.738	12.410	13.296	14.182	15.068	15.954	16.840	17.726	18.612
Total electrical energy requirement (kW)	16,6	20,1	20,1	20,1	24,1	27,6	27,6	30,6	30,6	30,6

Eco Star 4.0

Clear dryer width 3.910 mm, length 5,660 mm, two spare compartments, a sweating zone

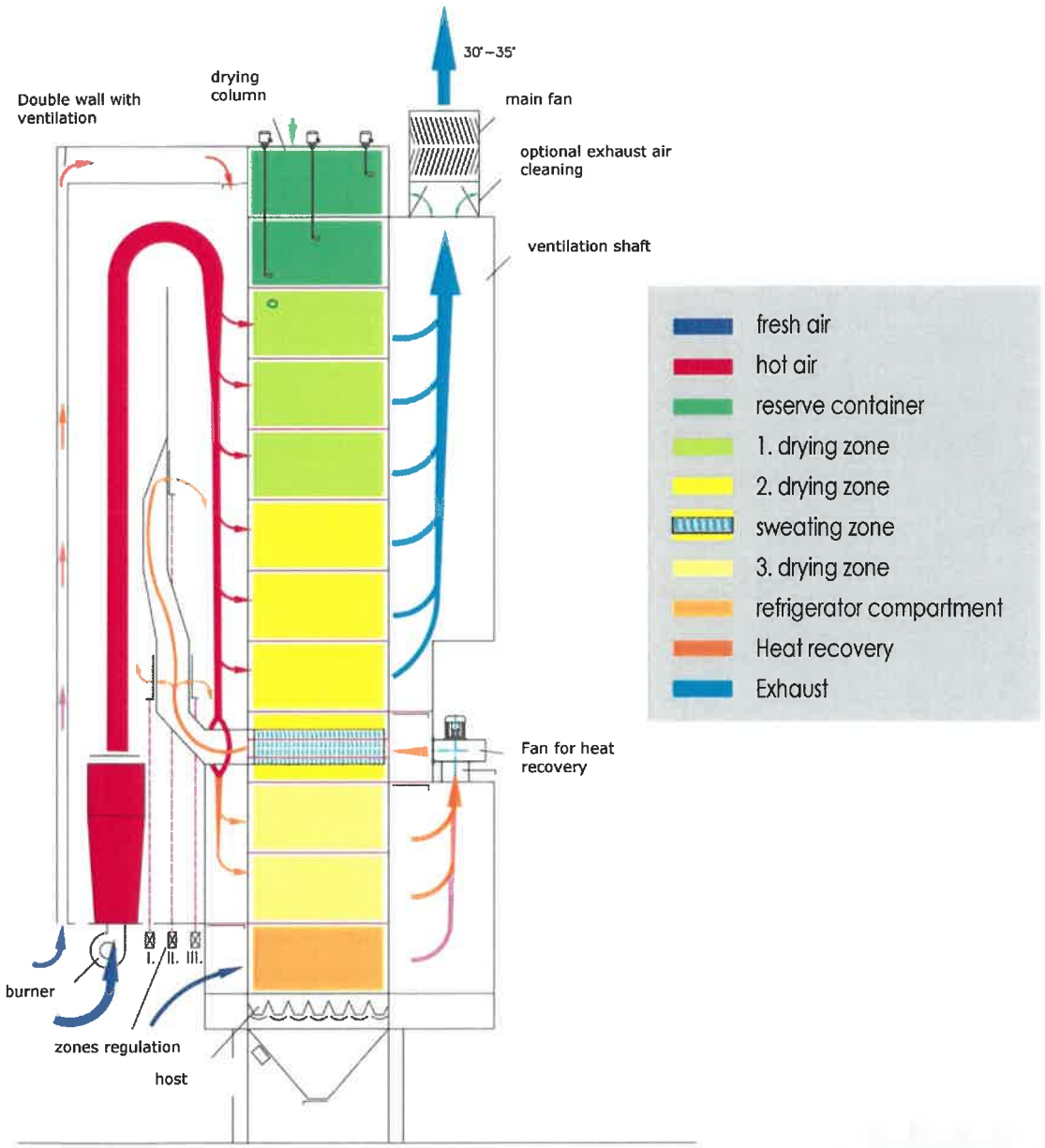
Drying compartments	7	8	9	10	11	12	13	14	15	16
Dryer content (t) at 0.75 t / m3	42	46	50	54	58	62	66	70	74	78
Total air flow exhaust air (m^3/h)	36.000	45.000	54.000	54.000	63.000	72.000	72.000	81.000	81.000	90.000
Heating requirements (kW)	1140-1240	1300-1500	1560-1760	1560-1760	1820-2020	1820-2020	2080-2280	2080-2280	2360-2540	2360-2540
Wet maize output (t/h) from 35 % to 15 % *,1	5,2	6,0	6,8	7,6	8,4	9,0	9,8	10,6	11,2	12,0
Wet maize output (t/h) from 19 % to 14 % *,1	17,5	20,0	22,5	25,0	27,5	30,0	32,5	35,0	37,8	40,0
Total height with fan and frame (mm)	12.410	13.296	14.182	15.068	15.954	16.840	17.726	18.612	19.498	20.384
Total electrical energy requirement (kW)	23,6	27,6	32,1	36,1	36,1	39,6	39,6	46,6	46,6	58,1

* With full equipment, 15 °C outside temperature, 80% rel. Humidity, tolerance ± 10%

1) Grain is cleaned, biologically mature, fresh, corn flat

Thermal management:

The special, patented construction of our Eco Star with its differently adjustable temperature zones and its sophisticated temperature management guarantees the exceptional performance values and the low operating costs. In contrast to conservative dryers, the supply and exhaust air temperatures of the individual zones can be measured and controlled with the Eco Star. An essential feature of the patented heat management is that the lower drying zone has an exhaust air duct that is separate from the other zones. A separate fan is used to extract air from this separate exhaust air duct. This makes it possible to almost completely return the already heated but unsaturated exhaust air from the lower zones to the process (corresponds to approximately 50% of the total air flow). Waste heat losses in the product or with the exhaust air are minimized.



Wir bewegen was®
Romberger
Maschinenfabrik GmbH
Trifterner Str. 54 · 84371 Anzenkirchen
Tel. 08562/208-0 · Fax 08562/208-11
E-Mail: Mail@Romberger.de
Internet: www.Romberger.de