PowerDry

Efficiency During the Drying Process

Kannegiesser®

PARTNER IN LAUNDRY TECHNOLOGY

BLUeCOMPETENCE Alliance Member

Partner of the Engineering Industry Sustainability Initiative

The Optimized Airflow Transfer Dryer

Optimized airflow within a dryer determines efficiency, performance and energy savings of a drying process

The construction of PowerDry, especially the intelligent air recirculation, the inner cylinder construction and efficient heating units determine the optimized airflow.

Due to new technologies, the specific energy consumption from up to 1,0 kWh/ltr. evaporated water could be achieved.

Radial air flow for high capacity

Through constant radial air circulation, the complete batch is dried within the shortest time period.

High air re-circulation for low energy consumption

During the continuing drying process, the amount of exhaust and inlet air decreases within the drying process. Depending on the drying level of the goods, the majority of the exhaust air is recirculated by a separate exhaust flap, achieving an optimum amount of air re-circulation. The already heated air stays within the process. The necessary heat demand created by the atmospheric burner is drastically reduced.

Ideal heat supply and airflow due to high constancy

A constant heat distribution throughout the entire burner assembly is accomplished by the geometry of the burner assembly and the adjustable exhaust flap. Through a large opening in the outer cylinder the constantly distributed heat is evenly spread over the entire load in the inner cylinder.

ECO_2power

Through the intelligent drying process the energy consumption is reduced 20% within the efficiency ECO_2Power concept.

High Capacity

Through Optimized Air Ducting

The PowerDry series contains a media supply unit with integrated heating and ventilation unit. High evaporating capacity is achieved through a high performance blower fan, large heating burner assembly and cylinders with oversized diameter.

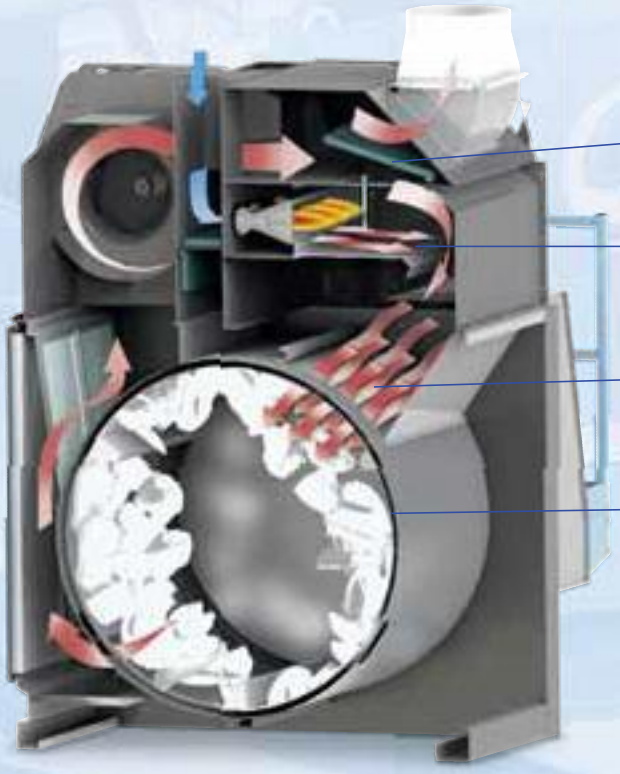
Optimum air circulation through radial air principle

All types of laundry items processed are tumbled and dried within a short period of time due to the radial air circulation over the entire cylinder width.

Ideal heat distribution through burners system and drying geometry

Due to the design of the atmospheric burner, even heat distribution is guaranteed throughout the entire cylinder area. Through the large dimensioned opening of the outer shell (cylinder) and special perforation pattern of the inner cylinder, a high volume of hot air is directed to the goods in the cylinder. The good are penetrated with a high air amount and an ideal drying environment is created.

Removable drum segments simplify cleaning and hence guarantee consistency of performance (teflon-coated innerdrum optionally available). Turned drum rings ensure smooth running and wear–resistance.



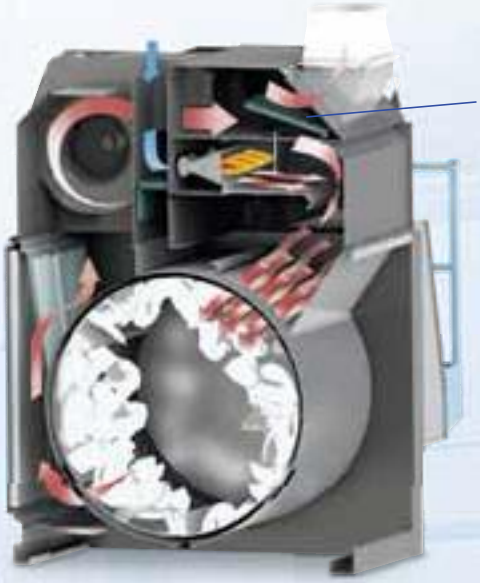
Even air penetration through the linen

Low Energy Consumption

Through Intelligent Air Circulation

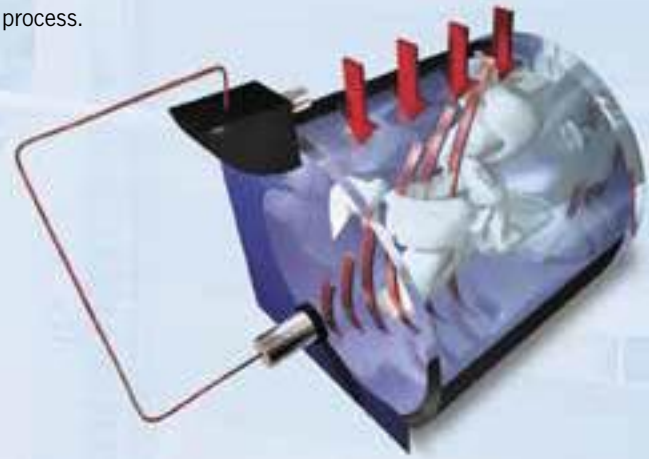
Eco Air Recirculation

The Eco Air Circulation heat recovery assures outstanding and proven energy savings while maintaining a high amount of drying capacity. Heated air normally exiting from the cylinder is being re-directed into the drying process by a large blower fan. As a result, the necessary energy supply is reduced, even though the drying capacity remains constant.



Infra-Touch-controlling

For the exact determination of linen temperature at each point in time utilizing infrared measuring in the inner cylinder. Furthermore the Kannegiesser developed control algorithm allows an accurate drying process.



Maximum Availability

Through Innovative Engineering

Anti Friction Coating

Due to a specific non-stick coating of the inner cylinder the accumulation of thermoplastic items at high heat supply is avoided.

- Continuous air circulation within the goods processed without capacity reduction
- Reduced cleaning and maintenance intervals, increasing continuous availability
- Gentle movement of goods during the drying process

Special coating

Without special coating

Redesigned drive unit construction

To assure a long durability and a quiet running drive, all drive unit elements are located outside of the hot air stream.
To further reduce mechanical impact, a variable speed frequency drive and shock-absorbing belt have been incorporated.

Drive unit PowerDry

Excellent accessibility for easy maintenance

All maintenance items are easily accessed. There is only a minor amount of manpower required to handle regular maintenance. The image shows the easy access to the swing-out blower.

Lint within the air stream normally causes deposits on the blower fan, but is now reduced significantly due to the innovative design of the PowerDry. This unique feature incorporates the automatic cleaning of the blower fan blades by dedicated air nozzles.

Swing-out Fan Design

Highest Flexibility

Universal Application Possibilities for a Wide Range of Items

The increasing amount of processed good is also creating an increased diversity of items and materials. The PowerDry covers this diversity with its high flexibility. Possible applications for the PowerDry series include cotton, blended fabrics, laminates and even micro fibre textiles.

Hotel laundry

Hospital laundry

Retirement and care homes

Laminate

Processing of different load sizes

The PowerDry is built in different sizes, allowing the processing of a diverse range of laundry items in a range of 40 kg (90 lbs) to 220 kg (485 lbs). To further reduce the demand of investment, energy and space within the laundry drying system, it is possible to use the dryers with a double batch load.

Different heating systems

The customers have the opportunity to choose between different heating systems such as steam or gas.

Numerous operating versions for a high planning flexibility

It is possible to realize all drying systems in even confined spaces due to different configurations, numerous base heights and space saving side-by-side designs.

ECO_2power

Combination of Low Energy Consumption and High Capacity

Innovative process control and heating management methods secure a low energy consumption of 1,1 kWh/ltr vaporized water, while shortening overall process times. This combination is the reason for the PowerDry being the most efficient batch dryer on the market.

Due to continuously measuring of linen temperature with InfraTouch, together with supply air and exhaust air temperature, the optimal process adjustment will be realized. The result is a maximum air circulation rate and an ideal distribution of the linen in the inner cylinder.

The higher the air recirculation in the process, the lower will be the demand for the heat demand supplied by the heating element (gas or steam).

The results are not only significant energy savings, but also an exact determination of the material temperature. Both lead to an exact drying process and accurate predetermined drying point.

Key features of ECO_2Power

- Low required energy supply
- High air circulation rate
- Optimal linen dropping curve
- Exact recognition of dry linen

1,1 kWh Energy consumption + shortest drying period

Measuring of:

Temperature of air supply

Temperature of exhaust air

Infra Touch temperature

Position of air circulation flap

Controlling of:

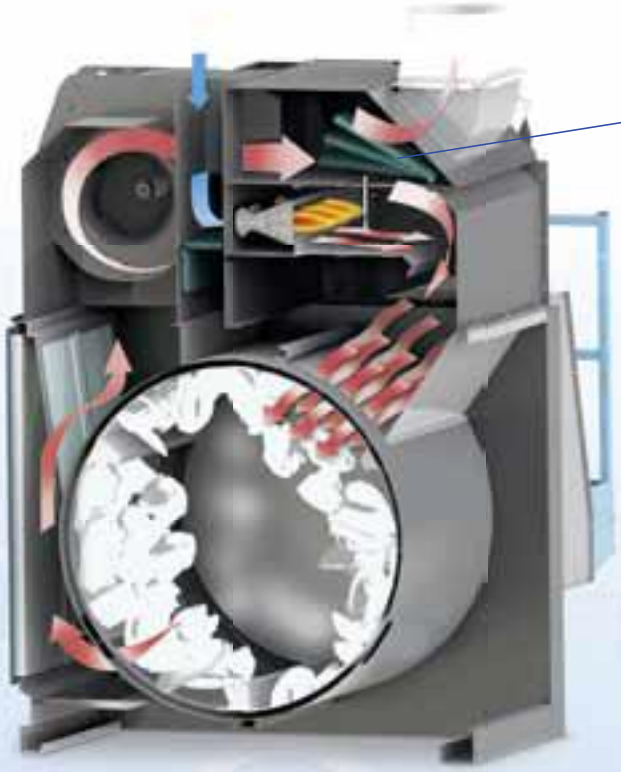
Heat supply

Air circulation rate

Linen dropping curve

EAC – Energy Air Control

Intelligent Air Circulation Control



Flap for controlling the air re-circulation

Automatic adjustment of the discharged air amount during the drying process

- During the drying period, the residual moisture decreases and the air re-circulation rate can be increased by controlling of the air re-circulation flap

Cool-Down

Improved Performance Through a Faster Cooldown Process

Direct air flow into cylinder

Even air distribution

During the cool down phase, fresh air is directed into the cylinder, bypassing the heating unit. This separate air guidance design assures only cool air ends up in the inner cylinder, accelerating the cooling process. An oversized inlet and high capacity fresh air flow circulation is speeding up the cooling process without cooling the heating unit.

Operation

Operation of the drying process

Standardized operation interface CTT 11.

A serial touch screen terminal for easy operation and visualisation of the drying process, diagnostic functions and error information increase the availability! A network access allows analyzing possibilities, such as remote troubleshooting and tele- coaching.

Service module

The service module is an additional feature, allowing the separate handling of basic functions of the drying process. This simplifies your technician's maintenance due to easy controlling.

Control panel CTT11

Automatic Lint Separation

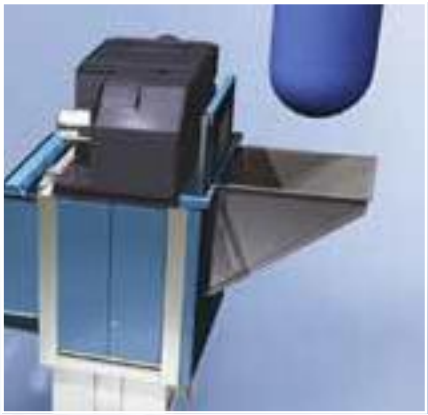
A feature is the automatic lint collection and separation by the feature PAF. Cleaning intervals are reduced drastically and operated automatically according to lint accumulation. Continuous high volume airflow and constant high performance is guaranteed. Lint is being blown to a bag underneath each dryer or (optional) to a central lint collection box.

PowerDry

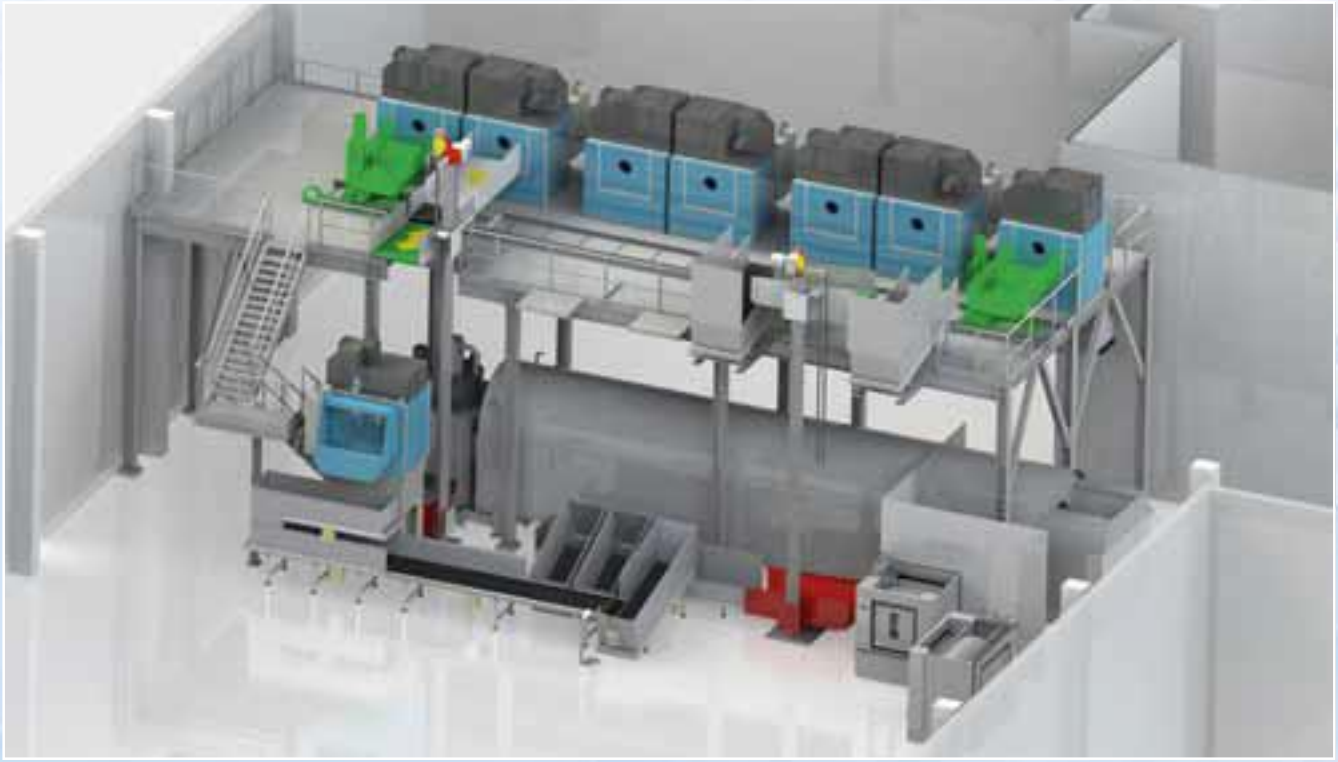
Variety of System Integration

Vacuum loading

Tilt unloading



Monorail technology



System solution washing area

Technical data

	D.II-40 WU	D.II-60 WU	D.II-85 WU	D.II-120 WU	D.II-175 WU	D.II-220 WU
Loading capacity (kg) at ratio 1:25 (dry cotton)	40 [1]	60	85	120	175	220
Drum diameter (mm/inch)	1270	1270	1515	1515	1710	1710
Drum volume (ltr.)	1556	1556	2214	3025	4595	5490
Heating	steam, gas, hot oil					

1) Loading ratio 1 : 38

Subject to changes by development
Brochure shows optional equipment

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Herbert Kannegiesser GmbH • Kannegiesserring 8 • D-32602 Vlotho
Telephone +49 (0) 57 33/12-0 • Telefax +49 (0) 57 33/12-82 04 • www.kannegiesser.com • E-Mail info@kannegiesser.de

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