PowerTrans PLUS

The Volume Maximizer

Kannegiesser®

PARTNER IN LAUNDRY TECHNOLOGY

BLUeCOMPETENCE
Alliance Member
Partner of the Engineering Industry Sustainability Initiative

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PowerTrans PLUS

Workflow Deliverer of the Laundry

Markets are changing and consequently textile service providers have to meet new challenges. Today a laundry is confronted with challenges resulting from social developments of globalization, individualization of the customers, demographic changes and shortage of natural resources.

New textiles, energy costs, hygiene, individualization, pricing pressure – the diversity of topics is enormous and demands a well-rounded and integrative approach in the optimization of the complete laundry system.

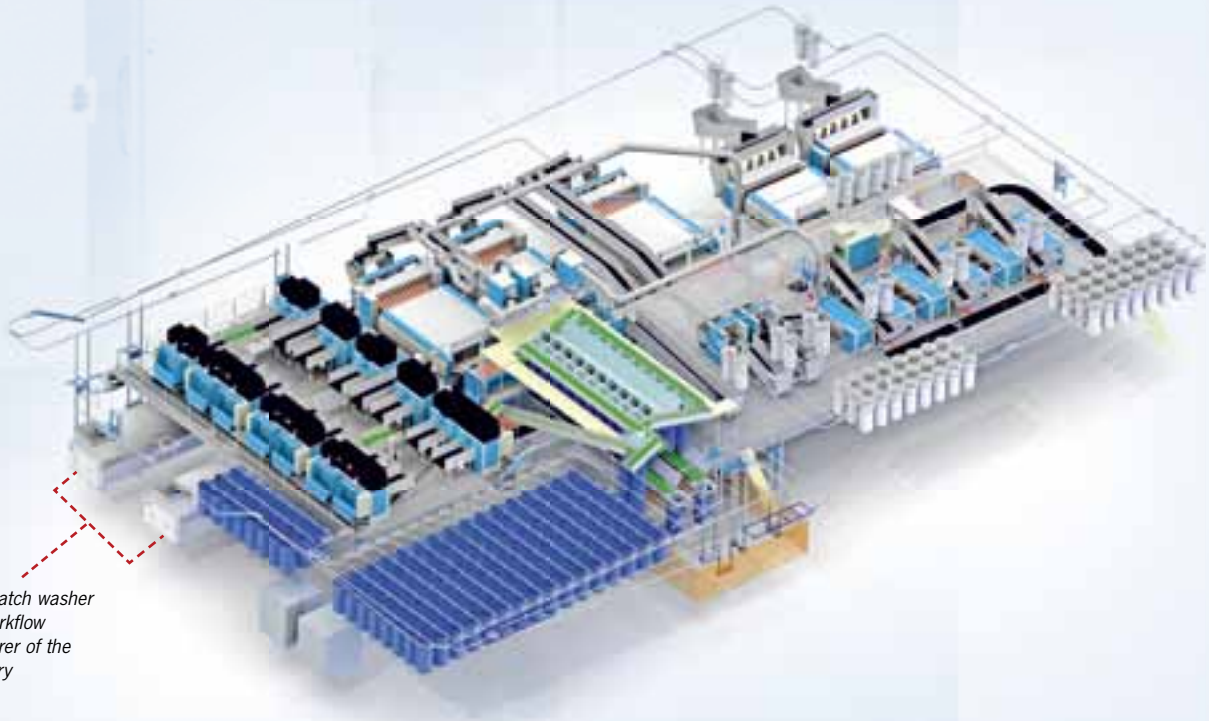
The PowerTrans PLUS as workflow deliverer of the overall process in the laundry

The PowerTrans PLUS is a modern batch washer which combines flexibility, performance and the lowest consumption figures.

The overall amounts of linen to produce are increasing, as well as the diversity of articles, materials, finishing processes, customer demands and costs for energy, water and the textiles.

A reliable and overload-safe batch washer which covers both conventional and individual requirements and works with lowest consumption values is demanded.

No longer the high performance machine for large linen volumes on the one hand and the highly flexible special machine for individual applications on the other hand, but a machine that is ‘Designed for all purposes’.



The batch washer as workflow deliverer of the laundry

The Volume Maximizer

The maximum usage of machine volume is a decisive factor for both output and wash quality. It is not just a question of just the geometric volume of the drum (cylinder diameter and length) but more important is the effective usage of the cylinder space.

The drum design of the PowerTrans PLUS – especially the drum panels and the transfer chute – is the base for optimum wash mechanics with high overload safety and intelligent textile care.

The performance efficiency reached by the optimum usage of the complete drum volume enables a maximum output within the available space

Maximum usage of drum volume

During the washing action, the transport chute is located in an upper position so that the linen can fully use the drum volume optimally. The PowerTrans PLUS is not constrained by the center core of an Archimedean screw or the oversized transport chute of a central-top transfer design.

Advanced dynamic pick-up and gravity drop technology ensures effective bath penetration through the laundry

The drum volume is optimally used to guarantee the perfect mechanical action for the batch.

The linen is effectively picked-up and dropped back in the wash liquor by the large ribs. The effective bath penetration within the fibers protects the linen.

Thanks to the highly advanced mechanical action technology, constantly high wash quality and rinse results can be achieved even at varied loading ratios.

No roping or entangling of laundry items

The maximum usage of the drum volume has additional advantages: The linen has full space to move freely and tend to virtually eliminate roping or entangling of the items.

Safe batch transfer without danger of blockage even without free wash liquor

The drum design of the PowerTrans PLUS proves its superiority at the transfer:

The batch is transferred in the next compartment with an ideal transfer angle – No danger of blockage even with over-sized batches. Depending on the application, even without free wash liquor!

Washing

Transport chute in upper position insures ➜ highest possible drum volume for the washing process

Straight drum side panels provide ➜ free drop movement of linen guarantees optimum mechanical action

Drum perforations over the complete width allows for ➜ quick drainage, filling and heating, thus enabling very short non-productive times

Transfer

Transfer chute in lower position

Ideal transfer angle guarantees ➜ overload safety

Safe linen transport even without free wash liquor ➜ Minimized danger of blockages ➜ DryTransfer (pat.) reduces fresh water consumption in the rinsing zone

The Profits of this Design

- Maximized performance
- Minimized consumption (water, energy, chemicals)
- Highest user flexibility
- Superior wash and rinse performance
- Intelligent textile care

Maximized Performance

Highest Possible Output

With the PowerTrans PLUS you can achieve a performance volume that enables the highest possible output on the available space.

High overload safety

The principle of the straight drum panels and 'chute instead of screw' enables high loading ratios and overload safety without any restrictions on quality

Reduction in empty compartments

With the option ‘Drainage of residual wash liquor during criteria change’, the number of empty compartments between different washing programs is significantly reduced and the hourly performance of the batch washer increases.

When this function is activated, the residual wash liquor from the sump box, the outer drum and the lint filters is drained during the transfer process and the sump box is cleaned by means of automatic cleaning nozzles. A dilution of wash liquors with following batches cannot occur.

Cycle time tuning

With the automatic cycle time tuning (optionally) the proceeded and the remaining wash and disinfection time of each batch is observed. The control calculates the optimum cycle time for each batch on this basis, so that the total washing time can be kept exactly as long as requested.

Operational interruptions do not automatically lead to extended cycle times and resultant loss of output.

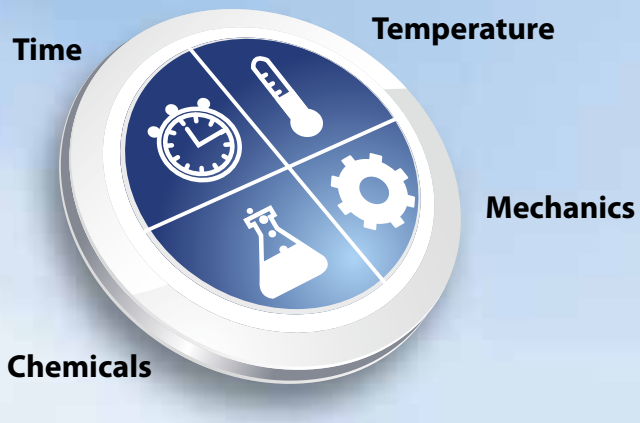
High overload safety, reduction in empty compartments

Minimal Utility Consumption

The worldwide shortage of natural resources tightens the cost pressure of laundries – the efficient usage of these resources becomes more and more a critical success factor.

Water, heat energy, chemicals and electricity – the PowerTrans PLUS sets the benchmark for minimization of utility consumption.

- Highly efficient wash mechanics enable excellent washing results even with lower chemical and temperature settings
- Fully insulated drums minimizes radiation loss in the main wash zone and optionally in the pre-wash and rinse zones
- Usage of water and chemicals – precise, reproducible and ratio-metric controlled depending on weight
- Innovative rinsing processes reduce fresh water consumption
- Recovery systems designed for specific applications – Re-use of the valuable wash liquor with all its chemicals and heat energy several times
- Intelligent, frequency controlled drive drastically reduces the average and peak consumption of electricity. The positive chain drive enables high power transmission without friction loss



Influencing factors of the wash process

Highest User Flexibility

The variety and volume of articles, textiles and processes continue to increase.

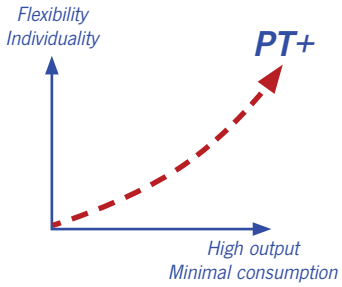
The PowerTrans PLUS offers flexibility comparable to that of washer extractors, whereby the hourly performance is as high and the consumption as low as it can be expected from a modern high-performance batch washer. The load mix and sequence can optimally be adjusted to the logistic chain and the requirements of the laundry.

You define the batch sequence – not the machine

Optimized drum design, precise manufacturing methods and intelligent controls enable operational flexibility. An incompatible batch mix does not consequently lead to empty compartments and loss of performance.

You define the batch size – not the machine

The pick-up and drop mechanics of the PowerTrans PLUS leads to a consistent wash and rinse result, reproducible and independent from the batch size. This has been confirmed by the Hohenstein Institute after detailed examinations in the field.



High output with low consumption, but yet a flexibility known so far from washer extractors only

Hospitals

Hotel and Restaurants

Workwear Garments

Retirement and Care Homes

Superior Wash and Rinse Performance

Enthuse your customers with first-class quality

The PowerTrans PLUS sets the benchmark regarding washing and rinsing. High wash and rinse quality, high performance and low consumption are the result of detailed developments and examinations in intensive collaboration with textile, hygiene and laundry research institutes.

The pick-up and drop mechanics of the PowerTrans PLUS allows wash liquors to go deep into the fibres. The chemicals were adsorbed quickly and can efficiently work in the linen. In the same manner the chemicals were quickly and efficiently rinsed. Combined with innovative process technology and intelligent controls, you achieve a high and reproducible quality.

Your advantages in practice are

- Excellent wash and rinse results with lowest consumption
- Appreciable less rewash, the basis for smooth workflow through the laundry
- Enthusiastic customers

Intelligent Textile Care

Cost Reduction · Gentle Processes with High Mechanical Action

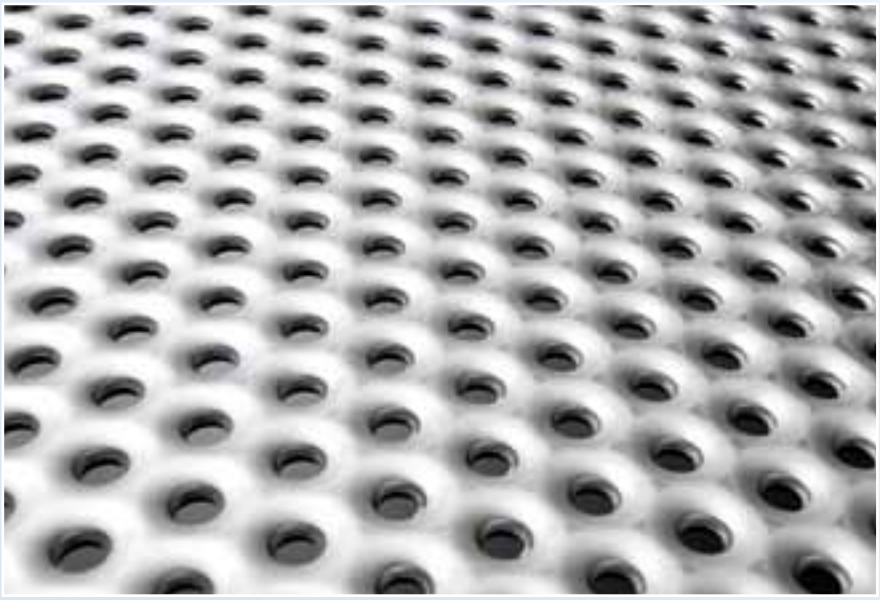
The textile costs are an important cost factor in the laundry. Exploding cotton prices lead to higher textile replacement costs – for the laundry as well as for the end customer.

With the intelligent wash mechanics of the PowerTrans PLUS you can directly influence these costs.

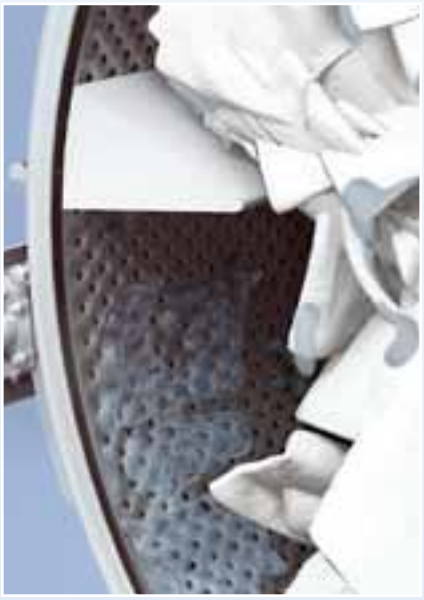
Preserving the effect of protective clothing, or carefully treating retirement home linen – the PowerTrans PLUS enables the protection of textiles that could only be achieved with washer extractors until now – with highly efficient and consumption reducing wash mechanics.

In the PowerTrans PLUS the batch is picked-up and dropped back into the liquor again and again and the textiles are thus compressed and allow the wash liquors to flow through efficiently – a harmonized process that effects deep into the fibres. The textile surface damage is minimized as well as the tangling and twisting of linen.

Additionally with the highly efficient wash mechanics of the PowerTrans PLUS you reduce the influence of temperature, chemicals and time as illustrated by the 'Influencing factors to the wash process' shown on page 8. Advantage: Sensitive processes, reduced mechanical and chemical damage of fibres, longer linen life time.



The 'Carewash' drum perforation is gentle to the textile surface



Large wall-to-wall ribs for optimized pick-up, compression and flow mechanics, less friction on the textiles, less tangling

Innovative Rinse Technology

Counter Flow Rinsing · Standing Bath Rinsing · JET Rinsing

A reduction of fresh water consumption has to accompany the optimization of the rinse process. Otherwise the water savings are offset in the wash with a poor rinse quality and possible problems in the finish processes.

During the development stages of our batch washers, we always concentrated on the improvement of the rinse process. Consequently we continued this tradition with the PowerTrans PLUS.

The PowerTrans PLUS is available with different rinse technologies, always depending on your specific application and definitely fully developed for rinse performances that could not be achieved until now:

- PowerTrans PLUS CFR with Counter Flow Rinsing
- PowerTrans PLUS SBR with Standing Bath Rinsing
- PowerTrans PLUS JET-p and PowerTrans PLUS JET-c with rinsing in the extraction press or spin

Counter Flow Rinsing

Universal Application – Technically Highly Developed and Optimized in Detail

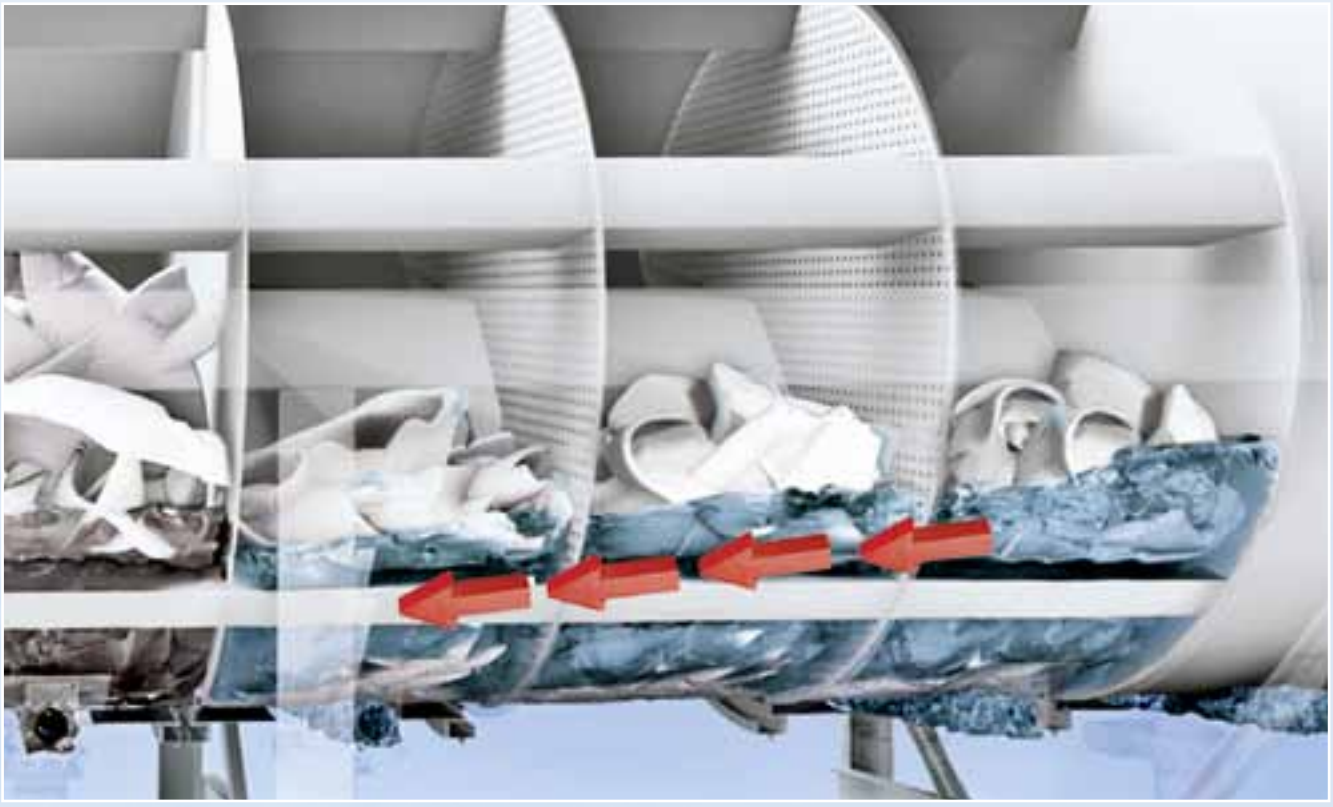
Counter Flow rinsing is the classic application for a mainly compatible linen mix. It enables a simple and clear machine design with the lowest possible number of components, and as such less pumps and valves.

The inner drum design with its large ribs, the high perforation area of counter flow drum walls and the forced rinse flow without bypass possibility, guarantees an optimum flow through the textiles. The amount of rinse water is measured precisely and depending on weight and program via inductive-type flow meters.

But the real special feature happens before the rinse process: With its brilliant simple drum design, the PowerTrans PLUS can realize the **DryTransfer** – unique in batch washer technology.

After the main wash process, the linen is not conventionally transported into the rinse zone together with the free wash liquor. The wash liquor is already drained off in the last main wash compartment and the batch is transferred safely into the rinse zone without free liquor – independent from that contained within the linen mix.

Draining from the first rinse compartment is no longer necessary. A recontamination of the rinsed batch is excluded and the fresh water saving is tremendous.



Counter Flow rinsing with the PowerTrans PLUS CFR

Standing Bath Rinsing

For highest user flexibility

The low non-productive times of the PowerTrans PLUS enable quick batch exchanges. Therefore it is available in SBR design performing standing bath rinsing.

Here the rinsing is not done in counter flow but by one or several drainages and fillings of the rinse compartments comparable to washer extractors.

The advantages are obvious: As the batches are strictly separated in the pre and main wash zone anyway, a counter flow zone is no longer needed within the entire batch washer.

Empty compartments can drastically be reduced or are completely needless even with an incompatible linen mix, which leads to performance density and increased output!

Each batch is individually treated depending on weight. Standing bath rinsing enables precise rinse and finish processes without average determination and independent from the batch size. This guarantees a high degree of replication for following processes such as ironing, finishing or sterilization.

Bath exchange rinsing with the PowerTrans PLUS SBR

JET Rinsing

Washing, Rinsing and Extracting in One Unit

Formerly unachievable rinse quality and water savings by mechanic pre-extraction in the wash liquor and before the rinsing (patented).

The integration of washing, rinsing and extracting in one unit saves expensive resources.

In the moisture extraction unit, the main wash liquor is either pressed (JET-press) or spun (JET-centrifuge) from the textile. Comparable to a squeezed sponge, the extracted textile will absorb the fresh water in the following rinse process extremely fast. In most cases 3 litres fresh water per kg of linen (0.36 US gallons of fresh water per lb) is sufficient to rinse the remaining absorbed main wash liquor. This dilution is a clear improvement on conventional rinse processes!

JET rinsing is possible with an integrated moisture extraction press as well as with an integrated centrifuge

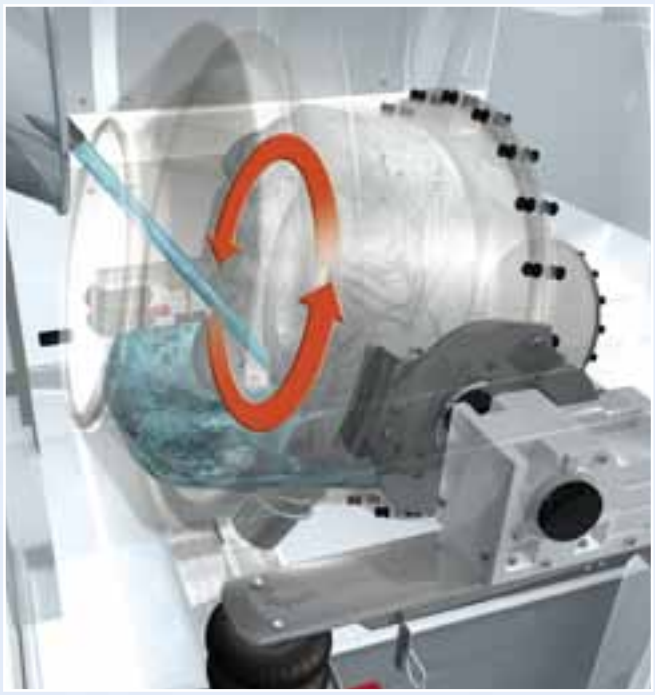
- During the rinsing in the press, the fresh water is pressed through the load from above (forced rinsing)
- Rinsing in the centrifuge is executed in a freely programmable reverse rotation movement, similar to a washer extractor

At the end of the rinse process the extraction starts – freely programmable in the press with up to 56 bar or in the centrifuge with up to 800 G.

The recovered main wash liquor includes many washing active substances and can be used for following main wash processes – energetically optimal with high temperatures. The collected rinse water is clearly cooler and can ideally be used for the pre-wash zone.

The result: Reduction of energy, water and chemical consumption. The rinse result more than fulfils all quality standards, which is proven by intensive long-term examinations and measures in practice.

Rinsing in the press with the PowerTrans PLUS JET-p



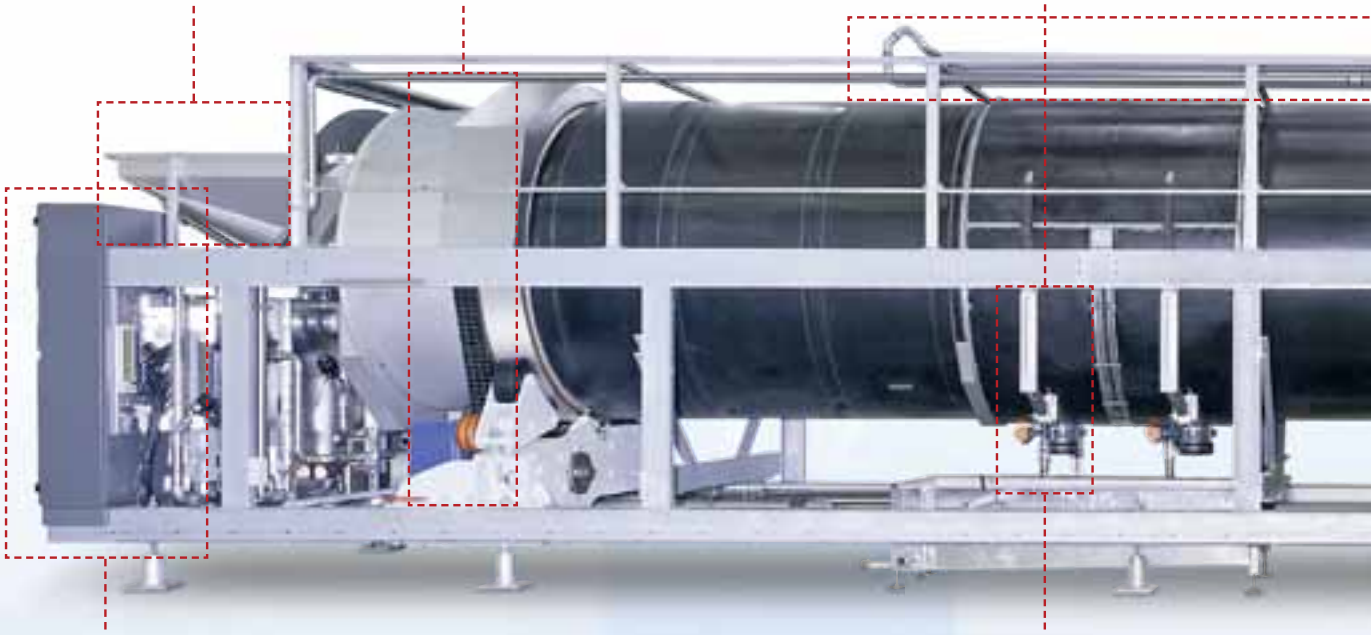
Rinsing in the centrifuge with the PowerTrans PLUS JET-c

The PowerTrans PLUS in Detail

Core Components

Loading chute with large opening

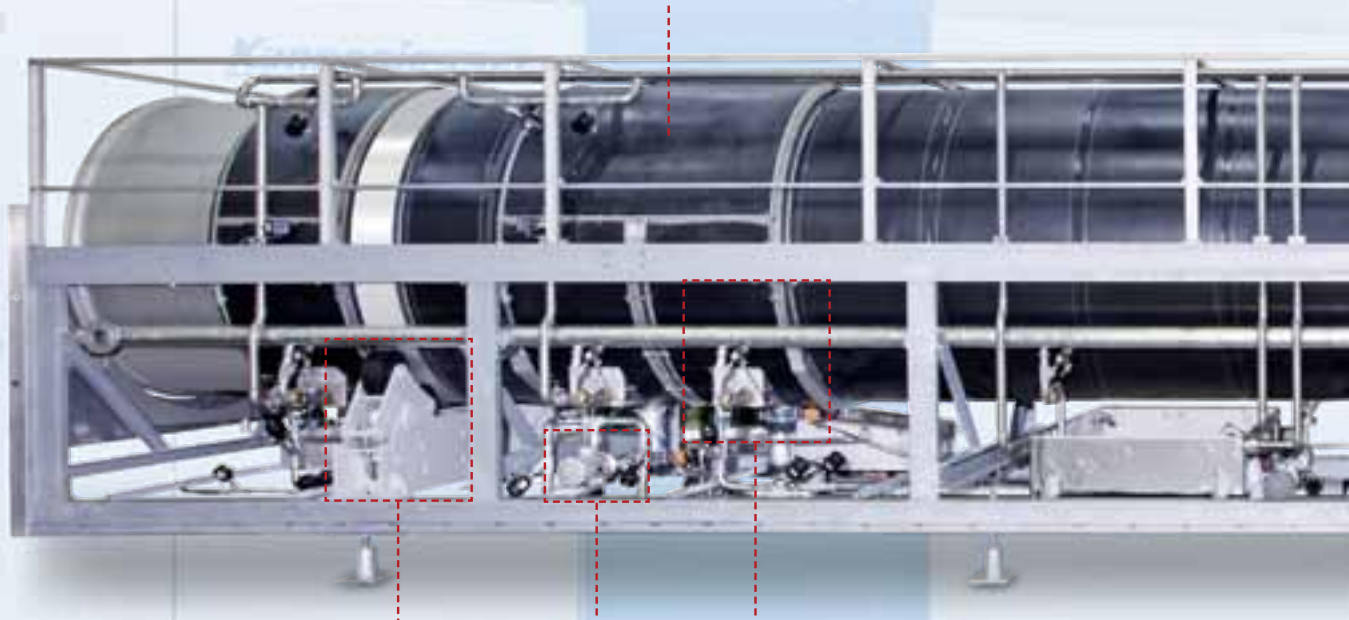
Strong chain drive with automatic chain tensioning



Cockpit with control cabinets and space-saving arrangement of water recovery tanks

High quality drum insulation foam for the main wash compartments (for the entire drum as an option)

Modified small sump box with sight glass and industrial type drain valves



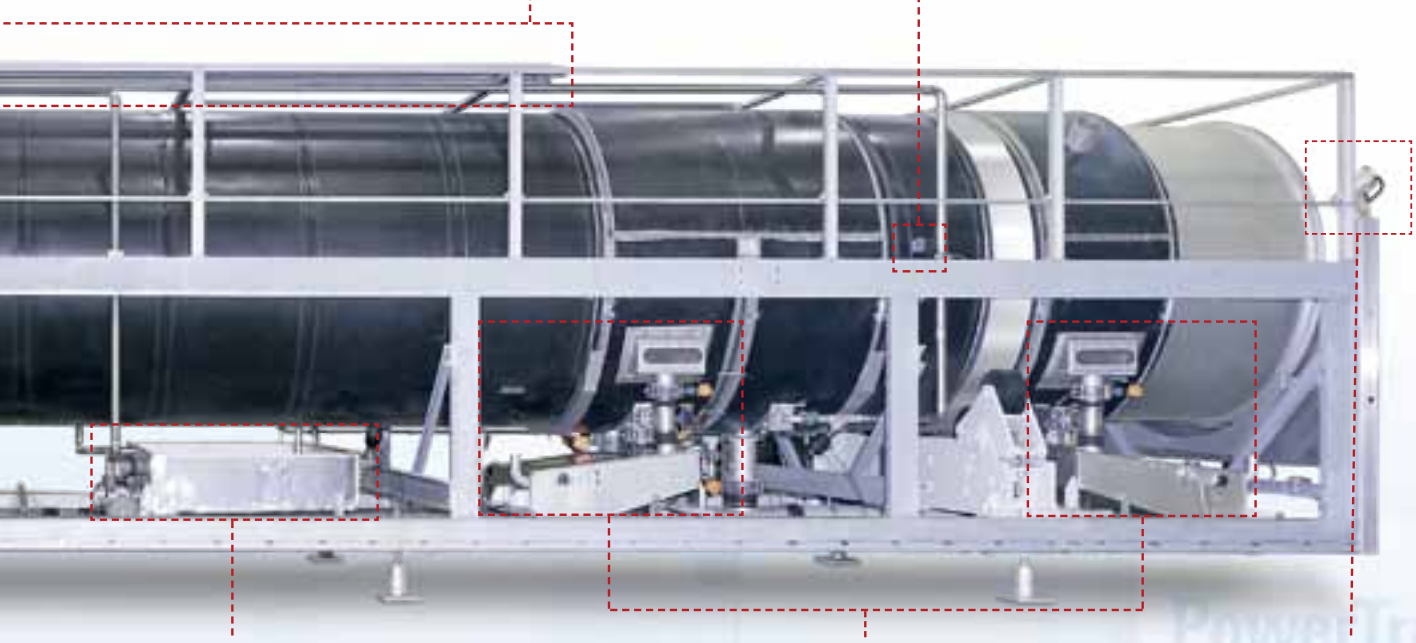
Sturdy and low maintenance drum bearings on movable lay-up cranks (from 37 kW drive)

High performance stainless steel water pumps

Stainless steel steam pipe and valves, innovative steam entry without additional air

Tube-in-tube waste water heat exchanger

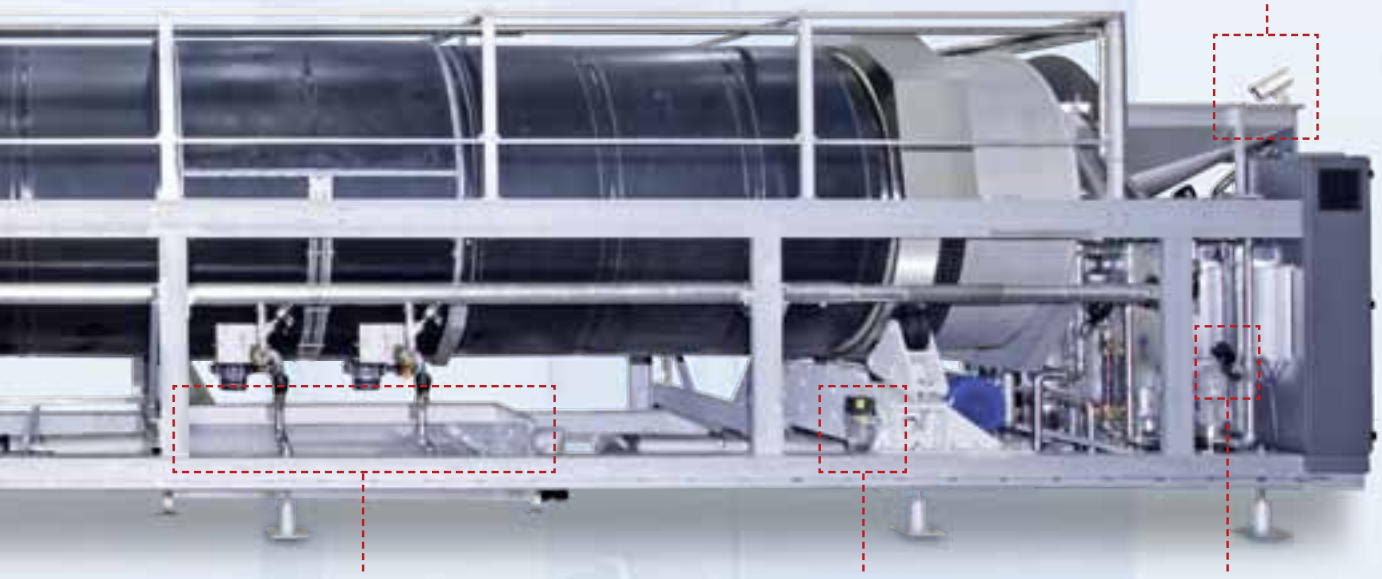
Exact water supplies with inductive-type flowmeters



Warm water tank for the waste water heat exchanger

Lint filter at both the last main wash and rinse compartment, each connected to the foam overflow and to the sump box

Camera tracking at loading and unloading end



Waste water tank for the waste water heat exchanger

Automatic chain lubrication

Stainless steel water valves allowing infinitely variable flow control

Pictures show optional equipment

Outer Drum

Designed for Universal Applications

The drum is the heart of a batch washer – here, where the washing takes place, the course for optimum washing results with lowest consumption, highest textile care and reproducible hygienic safety is set.

The technical base is the precise combination of inner and outer drum.

Advantages of the outer drum in detail

- Small sump box and minimized free space between inner and outer drum
  ➜ Less residual wash liquor, less wash liquor carry over to following batches, less empty compartments, increase of output and process safety

- Flexible connections
  ➜ Universal for the future changes / additions

- Central drain collector for fast draining
  ➜ Reduced non-productive times

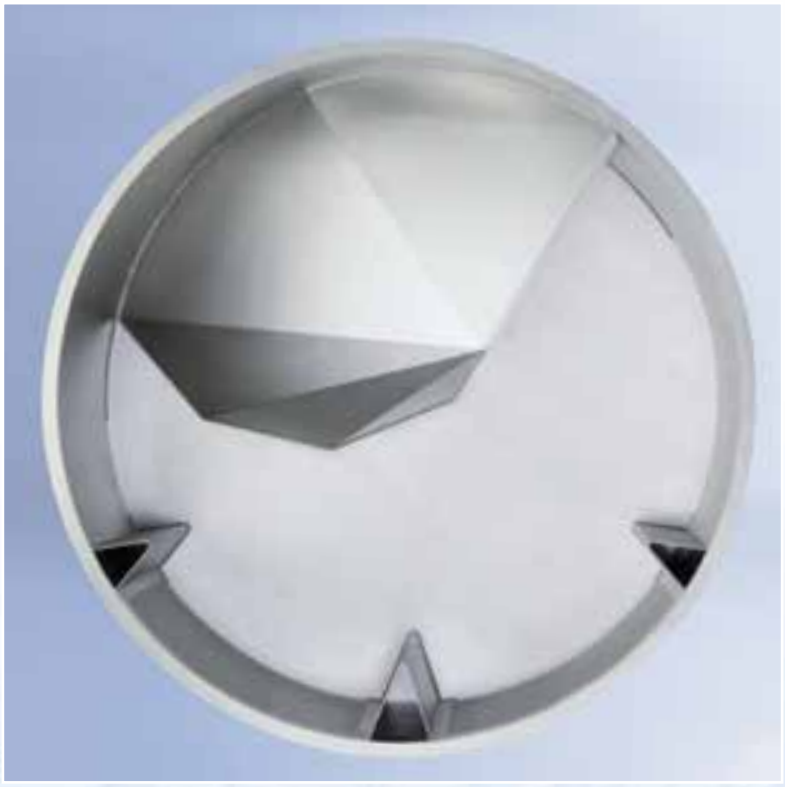
- Divided outer drum with detachable upper shell
  ➜ Accessibility

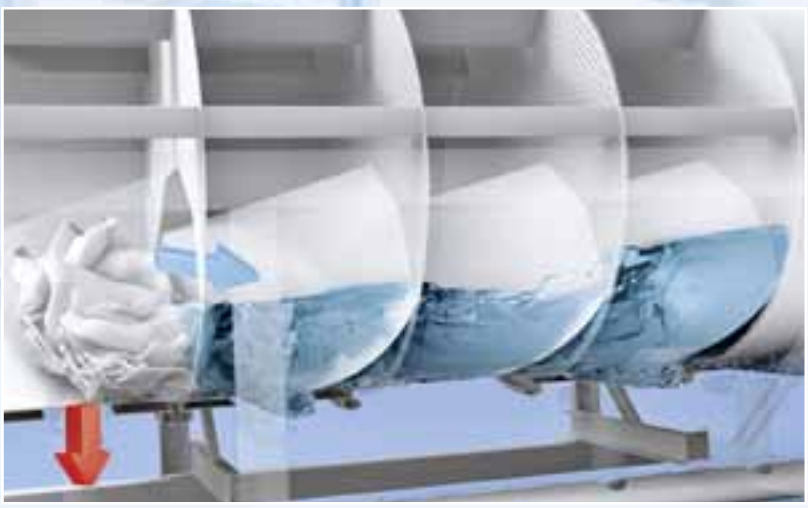
Inner Drum

Optimize all Mechanical Actions in the Washing Process

Advantages of the inner drum in detail

- Straight drum walls and 'chute instead of screw' for overload safety without hazard of blockings
- Large drum diameter, high loading ratios, high g-factors for optimum washing mechanics
- Large wall-to-wall ribs for optimized pick-up, compression and flow mechanics, less tangling, improved linen separation
- Carewash perforation for textile care, high perforation ratio for fast bath exchanges
- Insulated drum panels for process safety and energy savings (optional)





DryTransfer

DryTransfer (patented)

The innovative drum design enables a batch transfer without free liquor.

Due to this patented principle named 'DryTransfer', clearly less soil and chemicals remain in the rinse zone, which leads to a considerable reduction of rinse water consumption. The PowerTrans is the only batch washer that can execute the transfer without free liquor in the World – a feature existing from the first PowerTrans model in 1998 until today!

Drive

Robust – Powerful – Energy Saving

The large shaft-mounted gear motor combined with a high performance standard roller chain, low friction support rollers and frequency inverter are the centrepieces of the drive concept.

- Hard rollers enable low friction resistance and improved drive performance. The rollers run on forged, precisely lathed and grinded races.
- Automatic chain lubrication for reduced friction loss and a long life time of the high performance chain.
- The automatic chain tensioning guarantees optimum power transmission even after many operation hours.
- Frequency inverter limits starting currents and peak torques
  ➜ Reduction of energy costs!
- Encoder-controlled rotational movement enables exactly reproducible rotation angles and transfer movements independent from loading or drum weight
  ➜ Basis for highly efficient wash mechanics!

Cockpit and Water Recovery Tanks

Giving High Energy and Water Saving Potential

The process water used in the wash processes is valuable – not only because of the costs for water and waste water treatment, but mainly because of the included heat energy and active washing substances. High saving of cost potential is delivered with intelligent water management!

Up to 2 recovery tanks are installed as standard, utilizing a space-saving location underneath the loading chute.

Advantages

- Small base area
  ➜ Larger utilizable volume
- Ideal silo tank design for heavily soiled process water (cleaning nozzles available optionally)
- Fully insulated tanks are standard
- Straight piping, easier maintenance access and a neater arrangement of the mechanical and electrical components of the batch washer

Additionally individual silo tank solutions become more and more important, either as extension for a single batch washer or as a central water management system for the complete laundry.

Intelligent Control

With Intuitive, User Friendly Menu Navigation

The control concept

More than just a control of washing processes – a modern future-proof control integrates the PowerTrans PLUS in the complete laundry system. It offers a range of functions that increase performance and flexibility of your batch washer at the same time. Start the turbo!

- Modern software with 22" touch screen control panel
- User-friendly, interactive programming
- User authentication via RFID
- Individually designable dashboard, display of i.e. consumption, counter readings, machine status, signals
- Integration in the complete system incl. operating condition and alarm signals for the complete washing line or more than one batch washers
- Control enables new, innovative functions:
  - Drainage of residual liquor during transfer for reduction of empty compartments during colour changes
  - Division of wash cycles in half-cycles and third-cycles with individually programmable bath exchanges, temperatures and dosing
- Integration in enhanced Management Information Systems

Camera tracking at loading and unloading end (optional)

Intelligent – yet always simple

First and foremost a batch washer should function in work at the highest level of reliability. As with an auto pilot, the intelligence of the PowerTrans PLUS reacts on environmental changes immediately and permanently “holds its course”.

Therefore the PowerTrans PLUS is a robust batch washer, which actively controls its process parameters during operation and helps itself in case of defaults as good as possible. Increase your output and reliability!

Self-optimizing (examples)

Adaptive control of process times and temperatures – a move away from fix process parameters to active process control.

➜ Increased output
➜ Energy savings
➜ Process safety

Intelligent tank control for fresh water reduction – adaptive levelling between compatible water types.

➜ Water and energy savings

Self-helping (examples)

The intelligent Control System manages its responses within itself, as far as possible, before signalling fault status on the control panel.

Automatic chute flooding after activation of unloading sensor.

Automatic extension of cycle times i.e. if the steam pressure is not sufficient in the morning or when the dryers are occupied.

Automatic Lint Separation and Filter

Lint is dirt

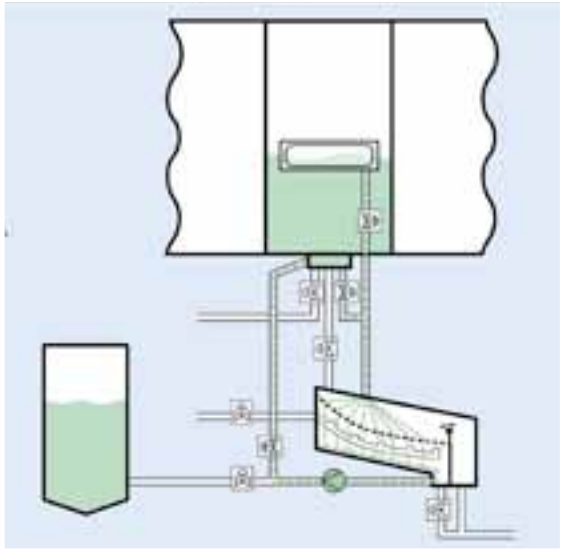
The removal of lint, hair and other solids is a special challenge in the washing process. Lint is 'undesirable material' and consequently soil that has no place in the rinse zone! Therefore the lint separation of the PowerTrans PLUS already starts in the wash zone. The circulating filtration of the active wash liquor during the whole cycle time enables maximum efficiency. Lint is separated and the liquor is constantly recycled to the washing process.

Previous filter systems had one principal weakness: The filtration is only available at one particular point - either in the rinse flow or at the foam overflow or in the tank. For the first time in batch washer design, the PowerTrans PLUS enables multi-stage lint separation and transport to drain:

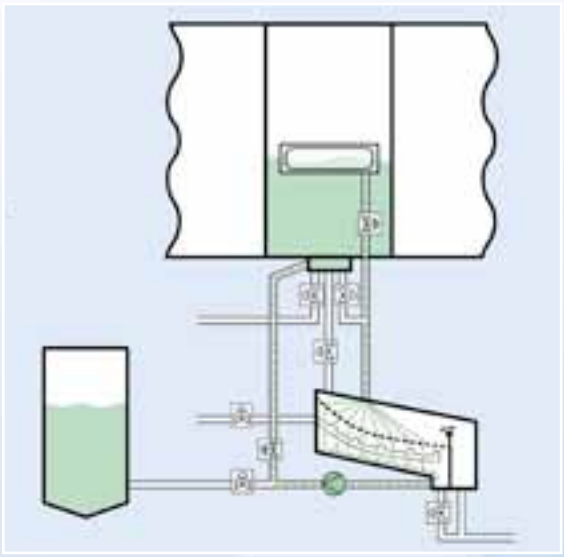
- Lint in the foam is separated and disposed of at the foam overflow.
- Particles settled at the bottom are separated and carried from the sump box.
- During the draining, all the liquor is filtered before it is returned to the recovery systems.

In addition the filter can be used ‘Inline’ between the moisture extraction unit and the recovery tank. Automatic filter back flushing is controlled by the status of the washing program. This clearly defined design feature makes the filter ‘cleaning-friendly’ and easy to maintain.

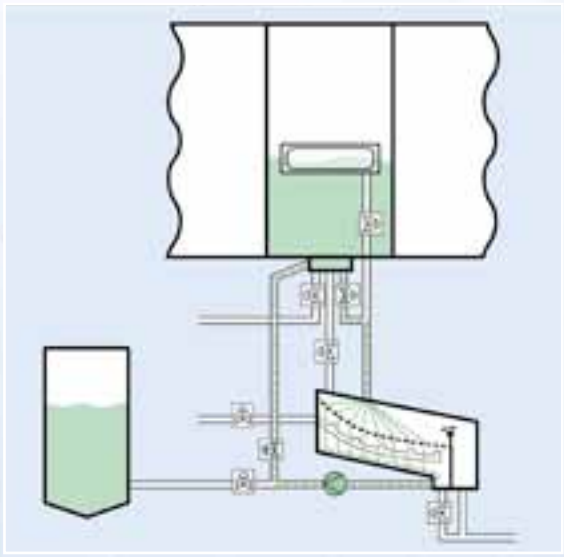
Intelligent lint separation in practice



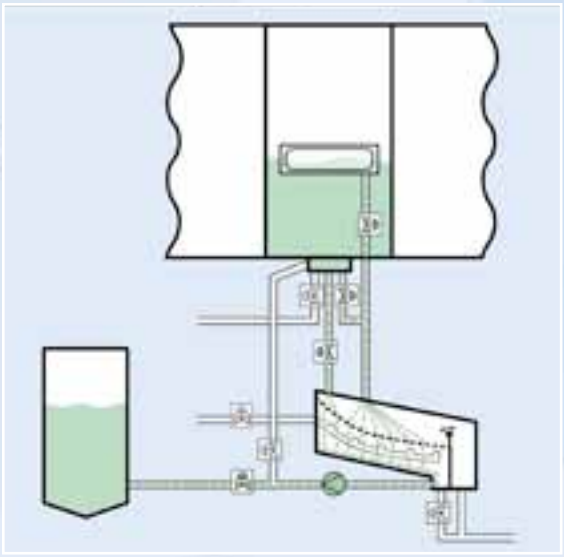
High efficient combination
- *Particles are separated and removed via the foam overflow and from the sump box*
- *Cleaned liquor is led back to the washing process*



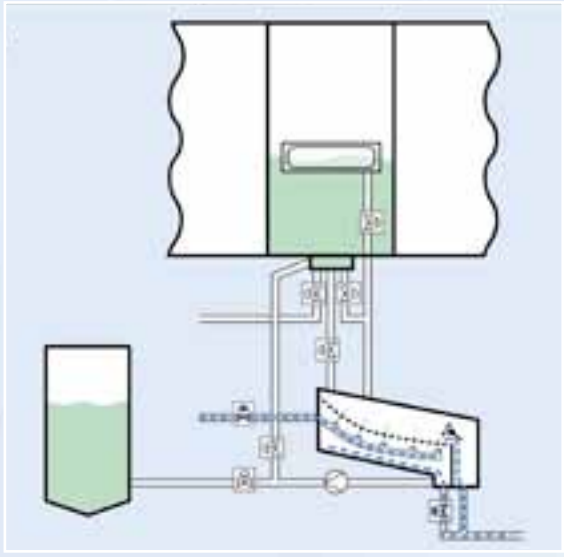
From the foam overflow
- *Lint in the foam is separated and removed via the foam overflow*
- *Cleaned liquor is led back to the washing process*



From the sump box
- *Particles settled at the bottom are separated and removed from the sump box*
- *Cleaned liquor is led back to the washing process*



During the drainage
- *The liquor is filtered during the complete draining of a bath exchange or DryTransfer*
- *Filtered, cleaned liquor is led to recovery systems for following processes*



Automatic backflushing
- *Filter cleaning with fresh water*
- *Parameterable cleaning intervals depending on the washing program*

Cleaning Nozzles

Fitted for Hygienic Cleanliness

The PowerTrans PLUS is exactly designed for extreme soiling on the one hand and highly challenging hygienic applications on the other. This implies the avoidance, by design, of ‘unused space’ in the inner and outer drums, tanks and piping, where soiling and microorganisms can permanently settle.

As options, additionally critical zones can be equipped with automatic cleaning nozzles:

Cleaning nozzles for universal sump box at outer drum

The inclined bottom of the sump box already provides a fast self-cleaning and complete drainage of wash liquor during the total draining of the washing compartment. With automatic cleaning nozzles, you can achieve additional process safety even for heavy soiled applications (i.e. mats with sand) and the possibility of criteria change without empty compartments.

Cleaning nozzles for the upper cover of the outer drum

During the washing process, the upper cover of the outer drum is permanently exposed to water splashes and steam. With the automatic cleaning nozzles, you can permanently keep this critical area free from deposits.

Cleaning nozzles for cockpit recovery tanks

Controlled, automatic cleaning with rotating cleaning nozzles, helps to keep the cockpit tank clean and hygienic.

Rotating cleaning nozzle in cockpit recovery tank

Waste Water Heat Exchanger

Warm Rinse Temperatures – Lower Waste Water Temperatures – Lower Costs

The waste water heat exchanger of the PowerTrans PLUS heats the fresh water and cools down the waste water at the same time. The specifically adjusted tube-in-tube system is space-saving and integrated in the control of the batch washer.

- Warm fresh water temperatures enable warm rinsing without additional energy
  ➜ Improved rinse results, warmer recovered water, lower residual moistures
- Rinse temperature depending on washing program (warm/cool-mixed)
- Reduction of waste water temperatures
  ➜ Lower waste water costs
  (depending on country and region)

Integration in a Superior Energy Management System EMS

Introduces Completely New Energy Saving Potentials

Basic layout of the EMS

Besides the optimization of single processes, further energy saving potentials can be achieved by energetic combination of different process steps in the laundry. The energetic exhaust air from ironers and tunnel finishers cannot be re-used in the finish areas. With the installation of an energy management system EMS you can use this energy for the washing process. The central chain link here is the self-cleaning condensation heat exchanger.

Innovative Extraction

The Ideal Interaction of Wash and Moisture Extraction Units

The process optimization does not end at the unloading chute of the PowerTrans PLUS – the extraction unit is an integral part of the batch washer system! The PowerTrans PLUS functions as an operational unit with the Kannegiesser extraction press PowerPress or the centrifuge PowerSpin.

With an adapted signal exchange, non-productive times at the moisture extraction unit can be reduced and the active extraction performance increases.

Example: “Unloading at cycle time zero”. Here the inner drum is always in the correct drum position for the following unloading process at the end of a cycle. Batch for batch you gain valuable seconds usable for output increase or additional moisture extraction time.

A lower residual moisture after the extraction leads to important energy savings in the vaporization processes. With each percentage point of additional residual moisture reduction by mechanical extraction, you save time and energy in your drying, ironing and finishing areas.

The 4 Components of Moisture Extraction Technology

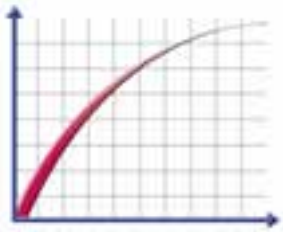
One of the most important development objectives of moisture extraction technology is optimum performance with all types of textiles, including those with very short wash cycles and delicate materials. On this, Kannegiesser sets the standard with its PowerPress extractor and PowerSpin PLUS centrifugal extractor.

With the PowerPress and the PowerSpin PLUS we achieve a perfect interaction of the "4 components of moisture extraction technology". Together with the PowerTrans PLUS, the moisture extraction units form an intelligent combination for high output and energy savings in the entire process chain.

Power

In the high pressure version the PowerPress extracts with up to 56 bar. The PowerSpin PLUS reaches a maximum centrifugal speed of 800 G.

Despite the 800 G, the PowerSpin PLUS exerts only a very gentle extraction force on the textiles, equivalent to not more than 3 bar pressure!



Speed

With the extraction technology from Kannegiesser, the non-productive times are drastically reduced by our optimized processes.

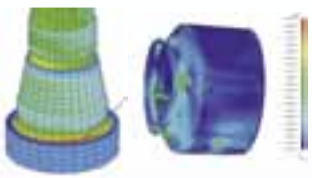
For instance, with a total cycle time of 90 seconds only the PowerPress Turbo achieves a full high pressure time of 30 seconds. The PowerSpin PLUS Turbo fulfils 30 seconds at maximum speed within a 120 seconds wash cycle, a performance which has been unreachable thus far for centrifugal extractors.

Water drainage

Optimizing power and speed remains useless if the extracted water is not drained from the textiles in a fast and effective manner. The PowerPress includes a special, web-like full polymer conveyor belt running over a simple, large drainage plate, directing the water to a large, easy-to-clean collection tank.

The PowerSpin PLUS extracts from the electrolytic polished inner drum through 3 mm drilled holes.

The large inner drum diameter results in a very thin layer of the distributed linen, which is essential for high extraction performance with the equivalent 3 bar pressure on the textiles.

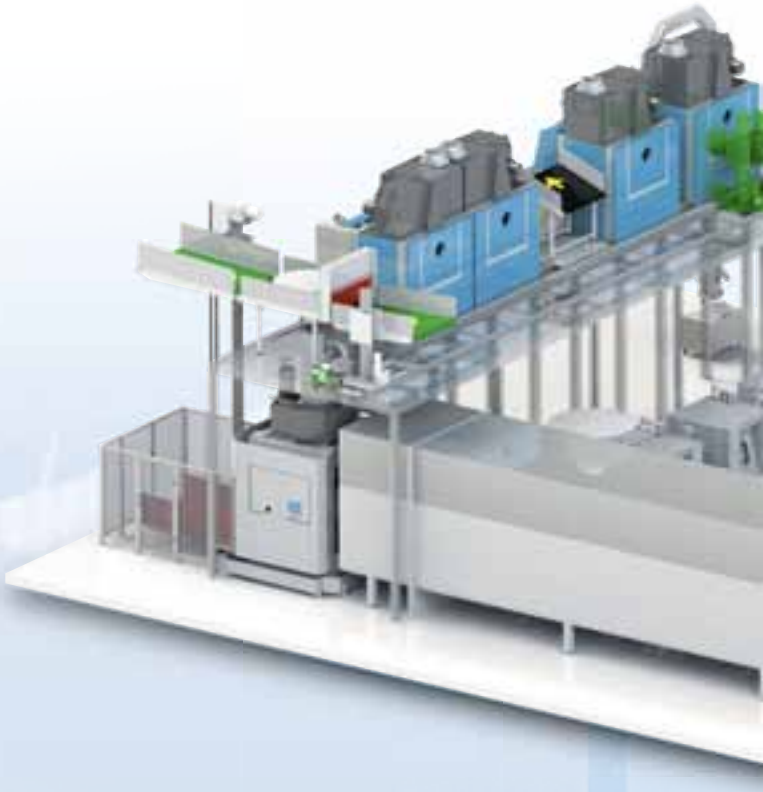


Fatigue strength

The components of the PowerPress and PowerSpin PLUS are designed for highest operational demands and dynamical strains. The fatigue strength calculations are compliant to the strict FKM guidelines, which is the governing body in Germany for arithmetical strength determination of machine components.

Therefore, with Kannegiesser you get enduring reliability and operating safety – the base for high availability and low life-cycle costs!

Batch Washer Systems from One Source



Besides single high performance machines, a coherent complete system is very important

From mere loading of soiled linen to different sorting and storage systems, we offer you a solution that optimally adapts to your linen and customer structure and your building.

After the washing, the Kannegiesser moisture extraction units in combination with pre-dryers and fully-dryers provide a most economic extraction and a fast linen distribution to following processes.

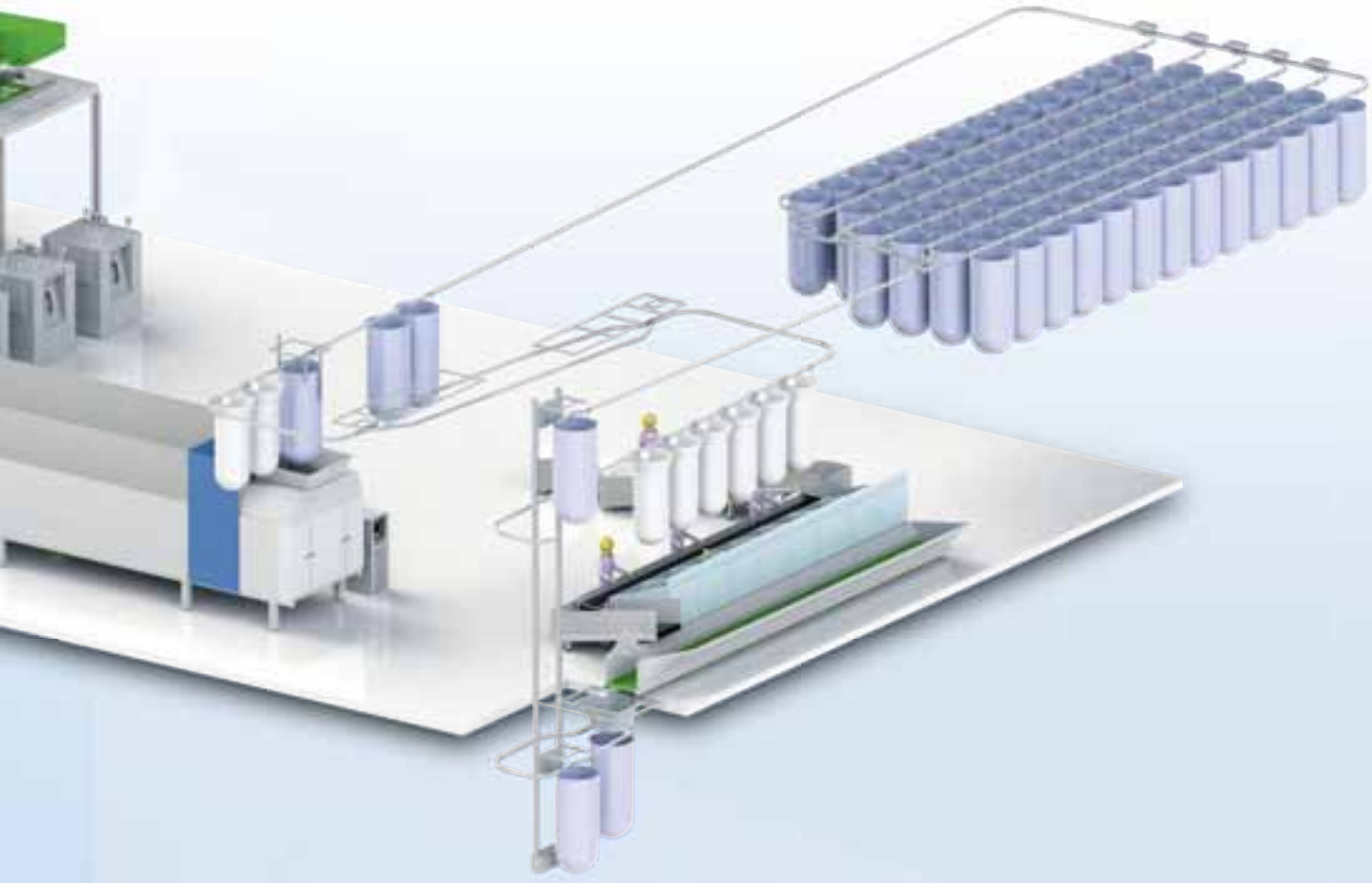
No matter if the sorting is executed at the soiled linen entrance or after the pre-drying, we have an optimum solution for every application.

Sorting

Press

Centrifuge

Dryer



The modular Kannegiesser control concept creates pre-conditions

Would you like to start your process with a pocket loading conveyor or a space-saving lift conveyor on the soiled side whilst retaining the possibility of planning for additional expansion or upgrade options in the future?

These choices present Kannegiesser with no difficulty as a laundry machinery supplier offering a comprehensive range of equipment. All Kannegiesser single unit machinery solutions are equipped with the latest B+R Control System. With highly sophisticated network connections between all Kannegiesser machines, future modifications are easily installed and all will provide significant cost saving after commissioning.

Compact planning for smallest spaces

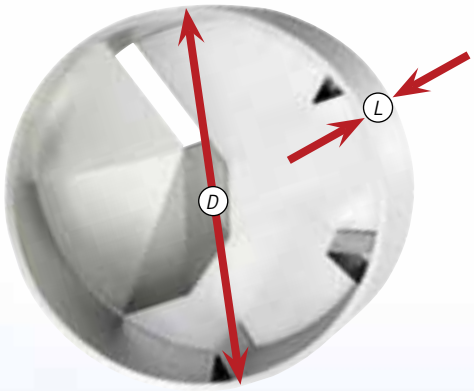
Occasionally a potential customer may think that their existing plant design offers too little 'free space' for a particular machine installation. A potential customer thinking that there is too little space for a world class, high performance and economic processing solution, is another issue which we at Kannegiesser frequently have to resolve.

We produce all our own processing solutions in our own design and manufacturing units and we have a deep and thorough knowledge of how to achieve high output in the smallest of spaces. We create the space that your employees and your plant logistics need.

PowerTrans plus

Real filling ratio

Practical and correct detection of filling ratio via drum diameter and drum length. A fictive radius for an eccentric drum axle is not taken into account for the calculation. Furthermore, the PowerTrans system does not require a centric or eccentric drum axle as this area is entirely used for the large volume transport chutes.



Technical Data

	Inner drum diameter (mm)	Length of chamber 1 (mm)	Length from chamber 2 (mm)	Nominal loading (kg)	Maximum loading +10% (kg)
PT+ 40	1635	854	604	40	44
PT+ 50	1635	994	704	50	55
PT+ 60	1907	854	604	60	66
PT+ 85	1907	1104	854	85	94
PT+ 110	1907	1404	1104	110	121
PT+ 130	1907	1504	1304	130	143

Loading values are related to cotton sheets with a fabric weight of 150 to 250 grams per square meter, new linen excepted

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Subject to changes by development
Brochure shows optional equipment

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