

*Kannegiesser*

*POWERTRANS*

*Continuous Batch Washer*

*Kannegiesser*

***Kannegiesser***<sup>®</sup>

*New. Strong. Innovative.*



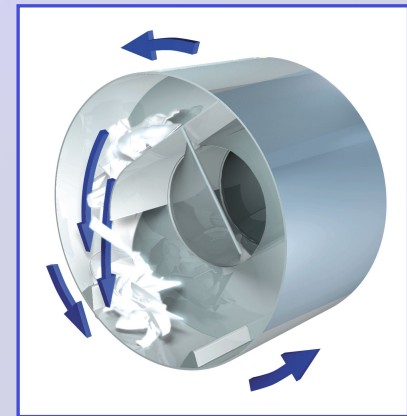
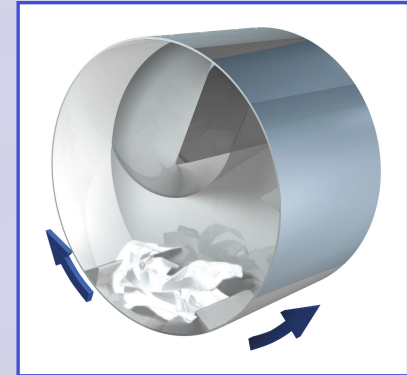
**PowerTrans**

***Kannegiesser***<sup>®</sup>

**The customer today expects :**

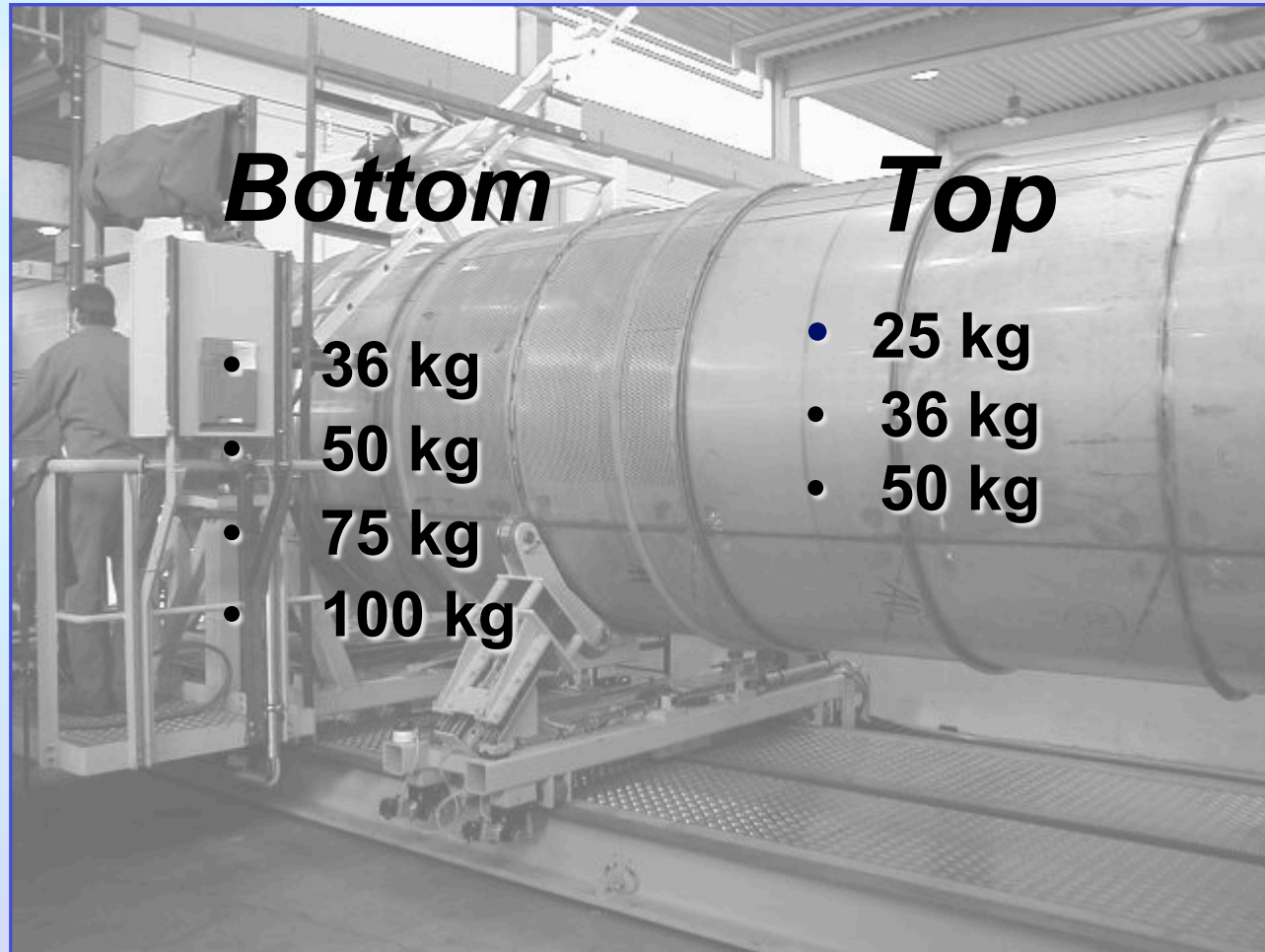
- **Maximum running performance.**
- **Lowest service requirements.**
- **Lowest possible textile wear.**
- **Washing quality for a wide and continuously growing range of textiles**
- **Reduced consumption rates.**

## The Solution : *PowerTrans Bottom*, *PowerTrans Top*

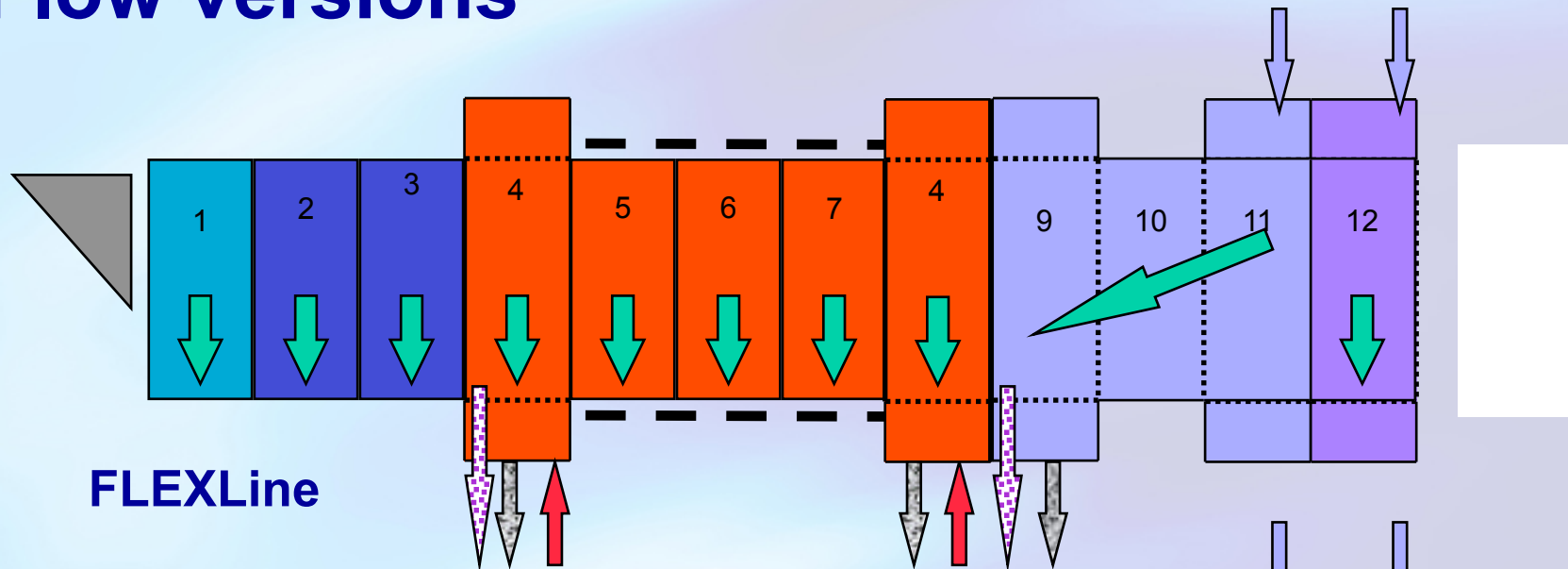


**Kannegiesser®**

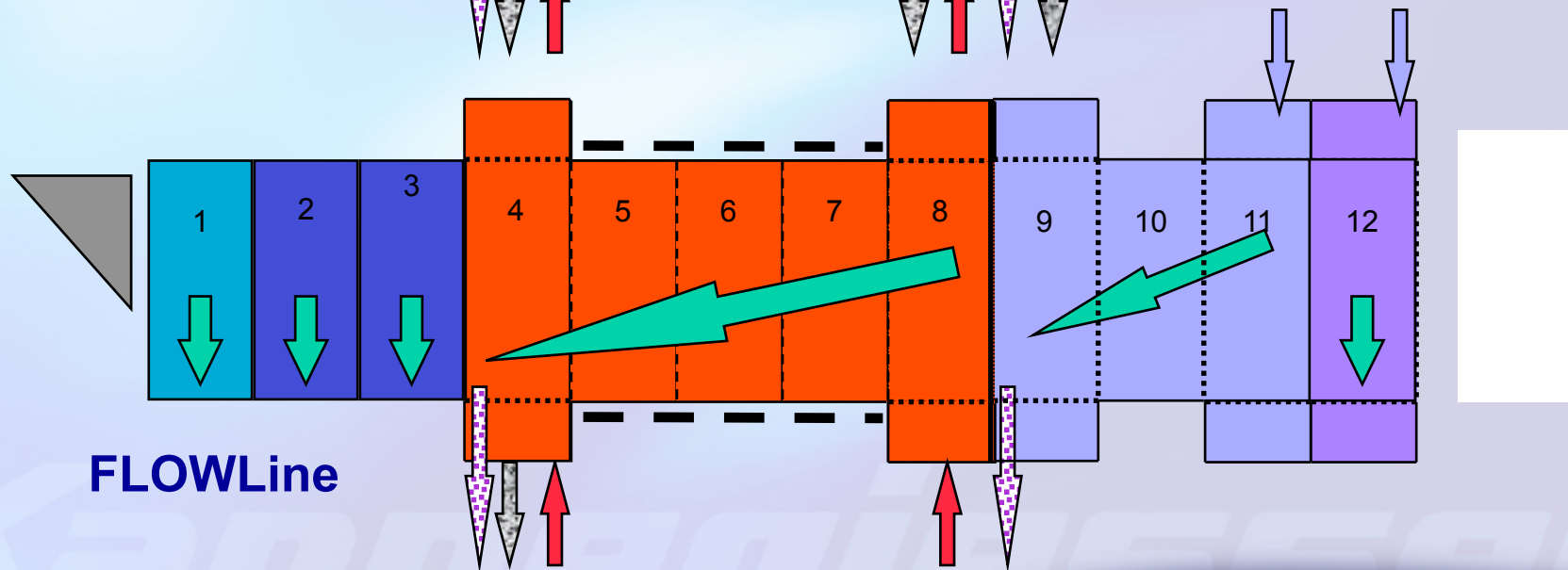
# The range



# Flow versions

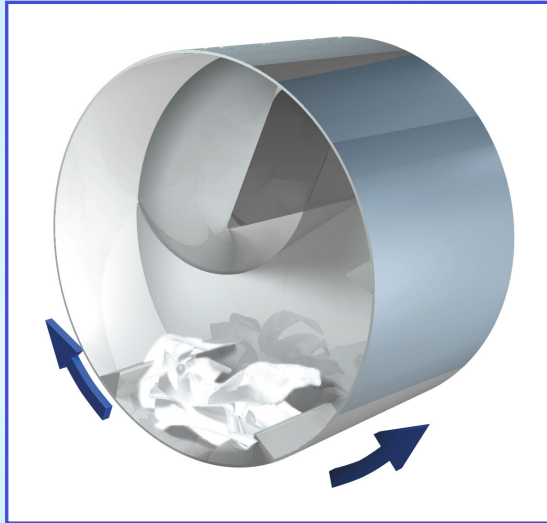


FLEXLine

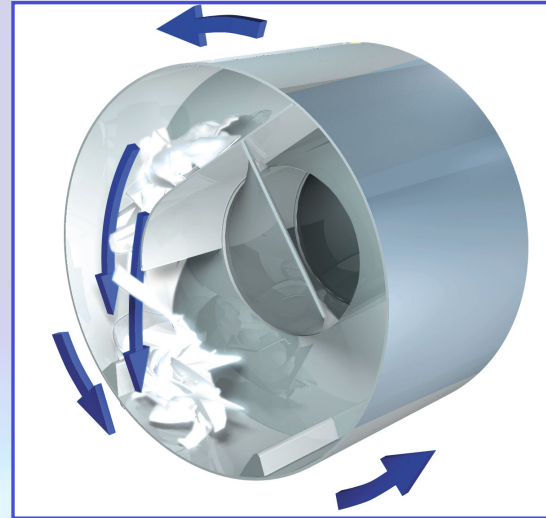


FLOWLine

## Different executions



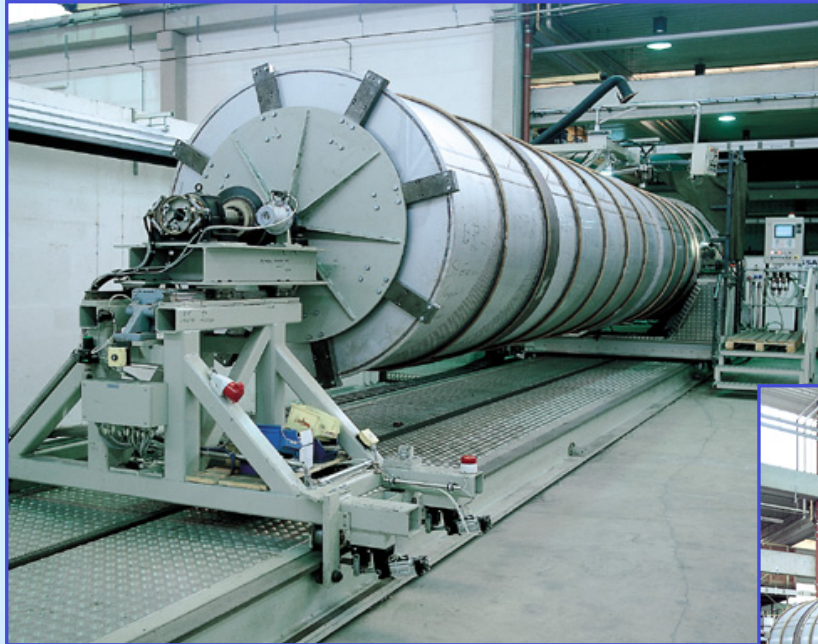
**Bottom**



**Top**

- Bottom-and Top Transfer m/c based on one common outer drum-design.
- Variable located outerdrums.
- FLEXLine or FLOWLine.
- 2 drum diameters fit all sizes.

# Reliability



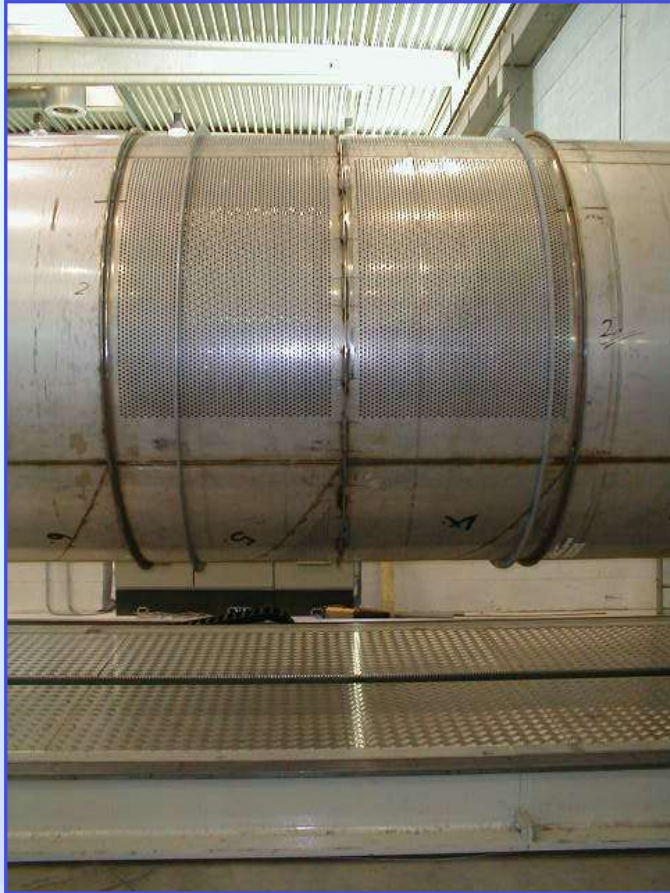
## Automated Production.

- Exact drum alignment
- Extended drum life
- Reduced stress to components.





# Reliability



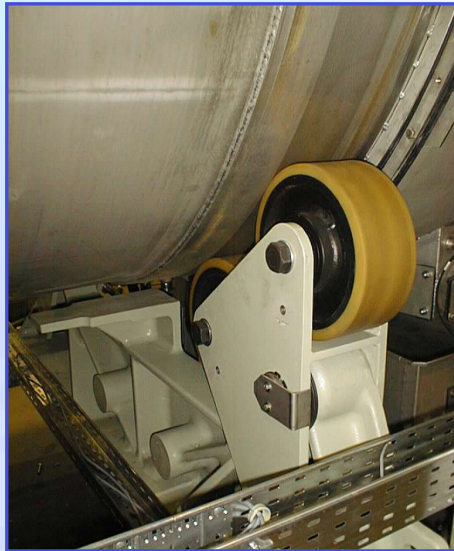
## 4 mm innerdrum

- Top welding quality.
- Constant high-level production quality.

## 3 mm outerdrum

- **NEW** : Outside of innerdrum machine-tooled, to prevent lint collection.

## Reliability

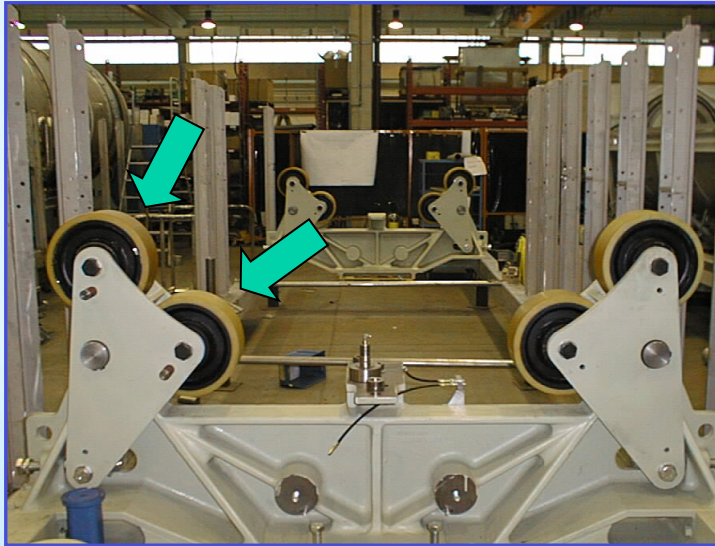


### **Drum support rings made of stainless steel :**

- **Designed with Finite Element Analysis.**
- **Perfectly matching combination of S/S drum and S/S support rings.**
- **Safe and life-time combination.**
- **No risk of cracks as experienced with S/S drum and mild-steel support rings.**

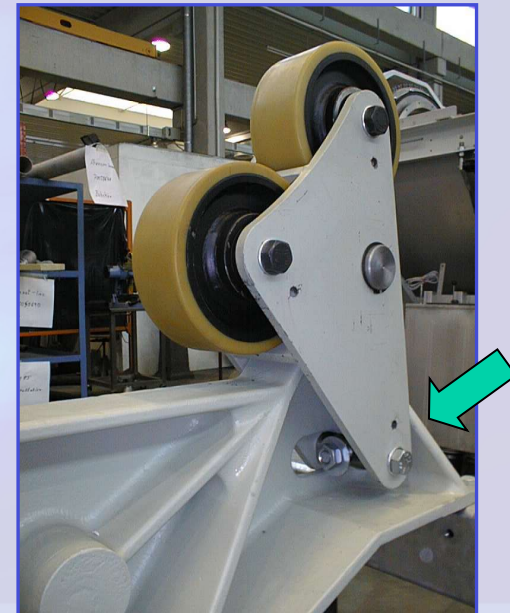
# Reliability

## Drum support



- Dry, outside wet zone.  
2 drum points, balanced system.
- 2 roller-pairs each side.

- Rollers mounted on a swivel base.
- Sturdy support base made of cast iron
- Easy access.
- Roller service does not stop machine.
- Rollers equipped with long lasting bearings.



# Washing Performance



## Standard :

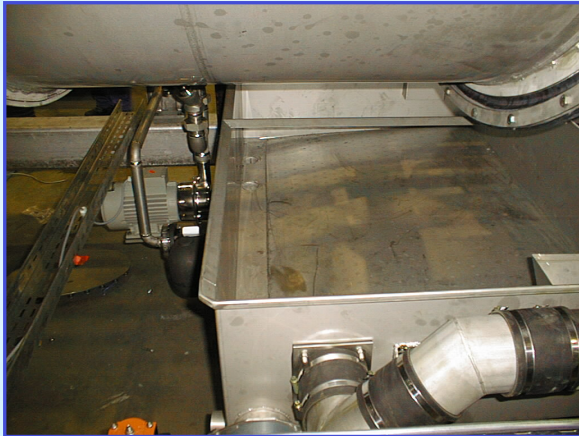
- Quick-drain valves ( PT75, 8 sec.)
- S/S water and drain pipework.
- S/S central drain pipework.



## Standard :

- Double drum units with sloping bottom
- fast and complete dumping of all water

# Washing Performance



## Standard:

- Large water recovery tanks ( PT 50/75 = 175 gal each ) with hydrostatic pressure switch and PT100 temperature probe

## Optional:

- Recirculation reuse of treatment water
- Recovery tanks with temperature mix
- Split recovery tanks for different water qualities ( i.e. colored / white )

## Standard :

- multiple possibilities to connect steam, detergents, fresh water, recovered water

# Washing Performance



## Standard :

- Innerdrum machine-tooled also on outside surface.
- Hygienically safe, preventing lint or other residue accumulation.



## NEW :

- Highly efficient recirculation lint filter (optional, exclusively offered by Kannegiesser).

# Washing Performance



## Standard :

- Hydrostatic pressure sensors.
- Engineered to record actual volume of compartments and tanks.
- No wear.



## Standard :

- Infinitely variable wash speed.
- Infinitely variable angle of rotation
- Wide range of g-factors.

## Standard Features



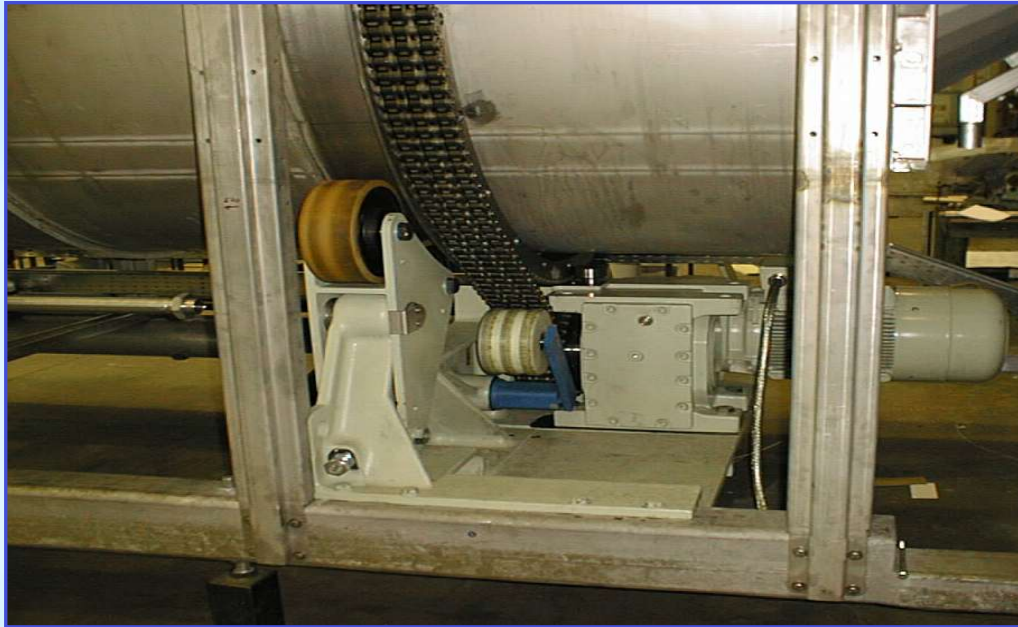
**Designed and built  
to the highest  
industry standards.**

- **Base frame galvanized**
- **Stainless steel water pipework**
- **Stainless steel drain pipework**
- **High-grade, large diameter drain valves.**
- **Hydrostatic pressure sensors for tanks and compartments.**

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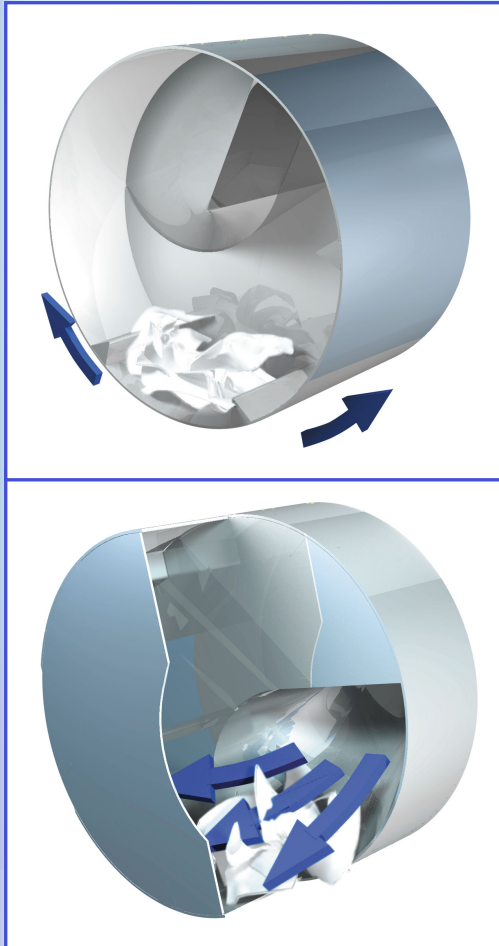


## Standard Features



- Drive with frequency inverter, fully programmable.
- „ of the shelf“ chain
- Automatic tensioning and greasing of the chain
- PC operation based on Windows NT Standard.
- Standard with easy-to-use control terminal.
- Pneumatic valves located in front panel.

## Bottom - the classic CBW



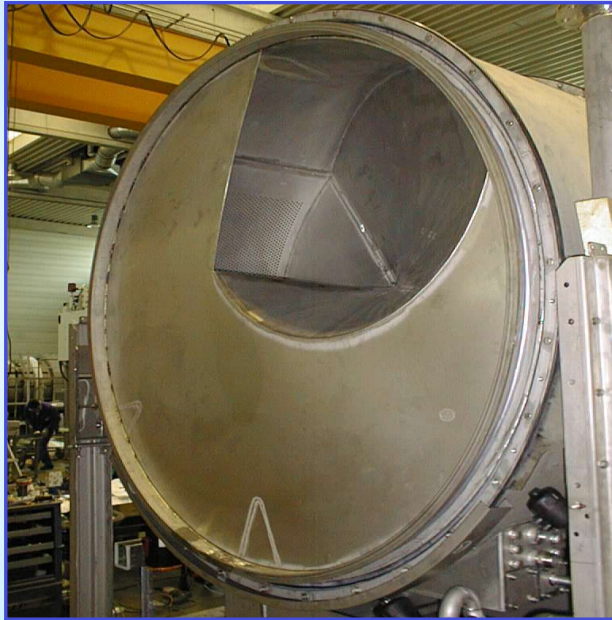
### Common :

- Transfer at the bottom of the drum
- Swivelling washing operation like all other Bottom Transfer washers.

### However :

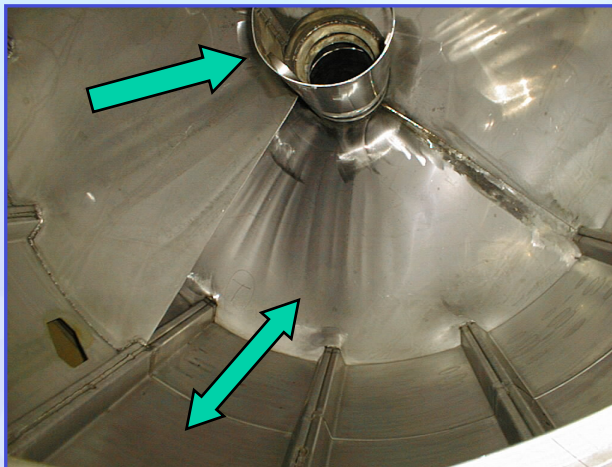
- Innovative scoop guarantees safe transport
- Linen can be transported without „free“ water
- Programmable speed
- Programmable angle of oscillation

## Bottom



### PT Transport Scoop :

- No drum axle. Extremely safe transfer, even with overloaded batches.
- Full bath separation, no axial movement with double-drums next to each other.
- Even „floating“ textiles remain in the same compartment.

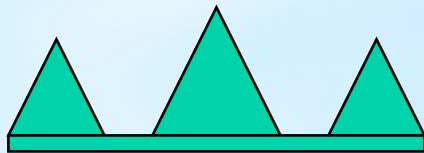


### Archimedian screw ( like Senking P, Lavatec LT, Voss Archimedia) :

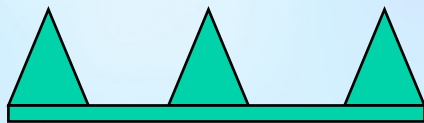
- Drum axle required.
- Batch is moving forward and backwards.

## Bottom - the classic CBW

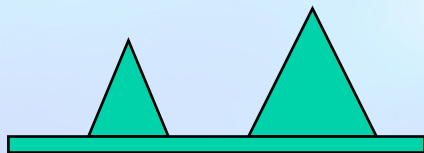
### Intelligent design and position of ribs



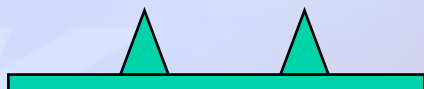
- **Pre-Wash** - heavy mechanical action is required:  
1 large and 2 smaller ribs



- **Main-Wash** - reduced mechanical action, otherwise too much turbulence:  
3 smaller ribs

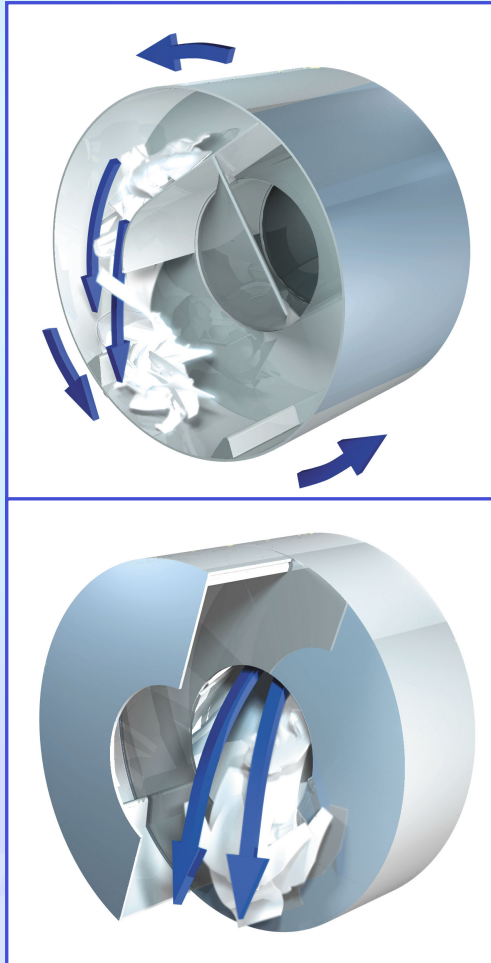


- **Rinsing** - lower mechanical action, but more squeezing necessary:  
1 large and 1 small rib



- **Neutralisation**- very low mechanical action:  
2 very small ribs

## Top - the 360° CBW



### Generally accepted :

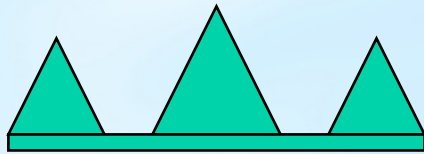
- Top Transfer

### The PowerTrans TOP now adds :

- Washing with constant 360 degree rotation and free fall of linen
- Mechanical action by squeezing the linen
- 2 different speeds programmable within one rotation

## Top - the 360° CBW

### Intelligent design and position of ribs



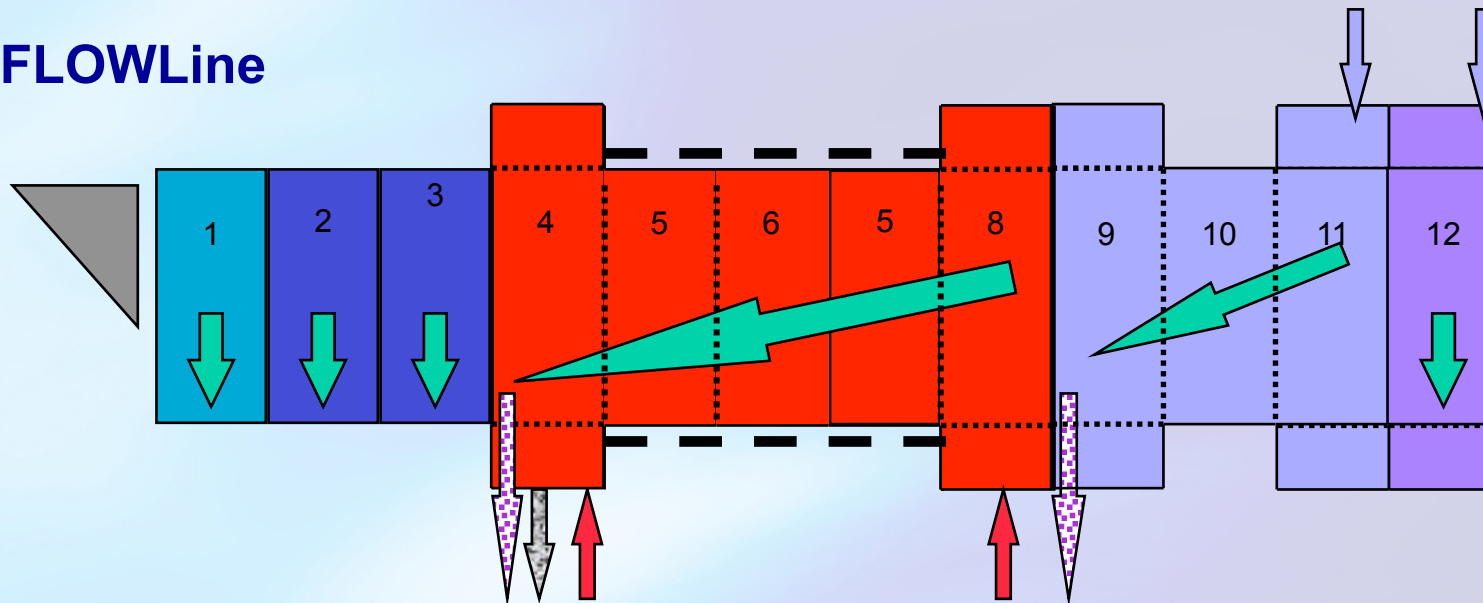
- Pre-Wash - heavy mechanical action is required:  
1 large and 2 smaller ribs



- Main-Wash  
Rinsing  
Neutralisation - reduced mechanical action, huge squeezing effect, due to large drum diameter:  
no ribs at all

# Washing Performance

## FLOWLine



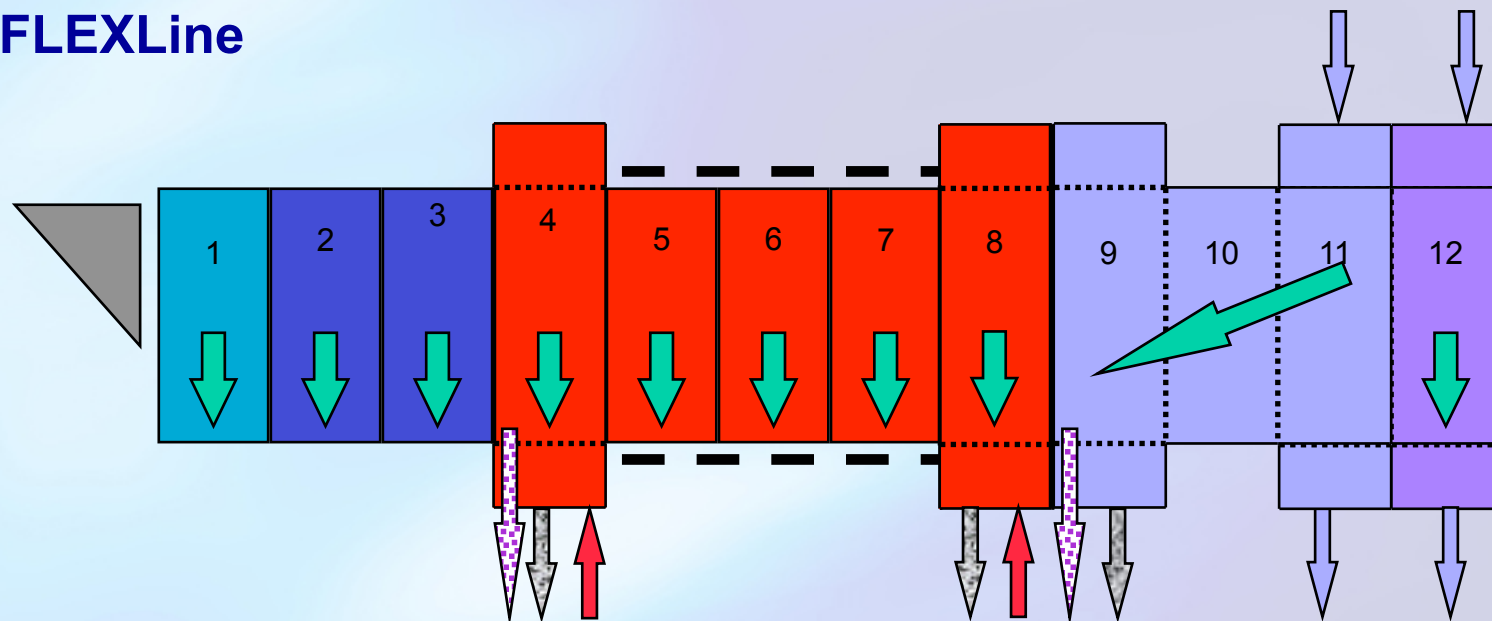
**Designed for use with constant linen classifications:**

**The classic tunnel washer, with all well-known advantages and disadvantages !**

**Prewash with standing baths, Mainwash with counterflow, Rinsing with counterflow, Neutralisation with standing bath.**

# Washing Performance

## FLEXLine



### Designed for universal use :

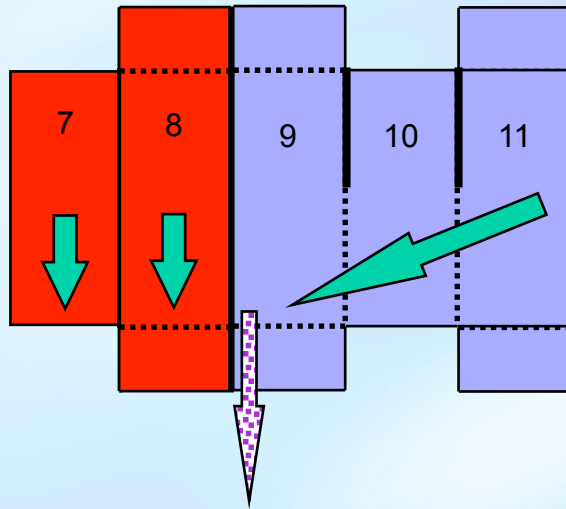
The new innovative design combines the operation of the classic counterflow-CBW, with advantages of washer-extractor process !!

Prewash and Mainwash with standing baths, Rinsing with counterflow, Neutralisation with standing bath.



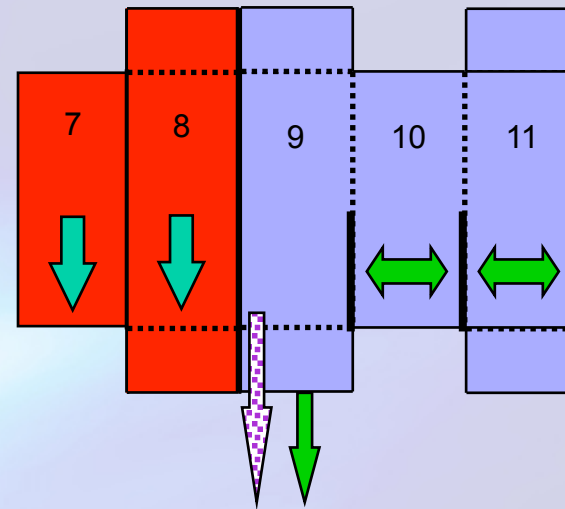
# Washing Performance

FLEXLine *Bottom* and FLEXLine *Top* - The Interrupted Counterflow  
**Improved rinsing quality !**



## Classic counterflow

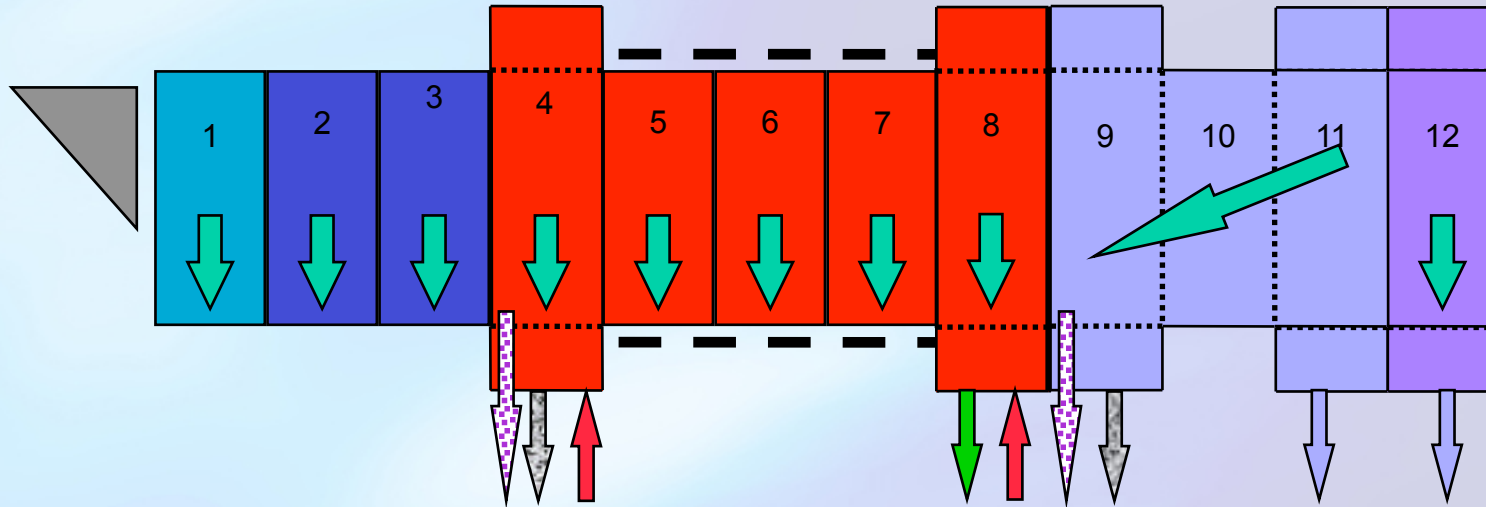
Linen and liquor are transported from comp. 8 to comp. 9 .  
Fresh water is flowing from comp. 11 to comp. 9 .



## Interrupted counterflow

Linen and liquor are transported from comp. 8 to comp. 9 . Special drum position with wall-perforation on upper side. Fast dumping of dirty water. Drum is then moved into normal position.  
Fresh water is flowing from comp. 11 to comp. 9 .

**FLEXLine Bottom** - The unique combination of Tunnel-washer and W/E washing ! **Outstanding washing and rinsing quality !**



**Prewash -**  
standing bath  
comp.1- 3 =  
7,5 min

**Mainwash -**  
standing bath  
comp. 4- 8 =  
12,5 min

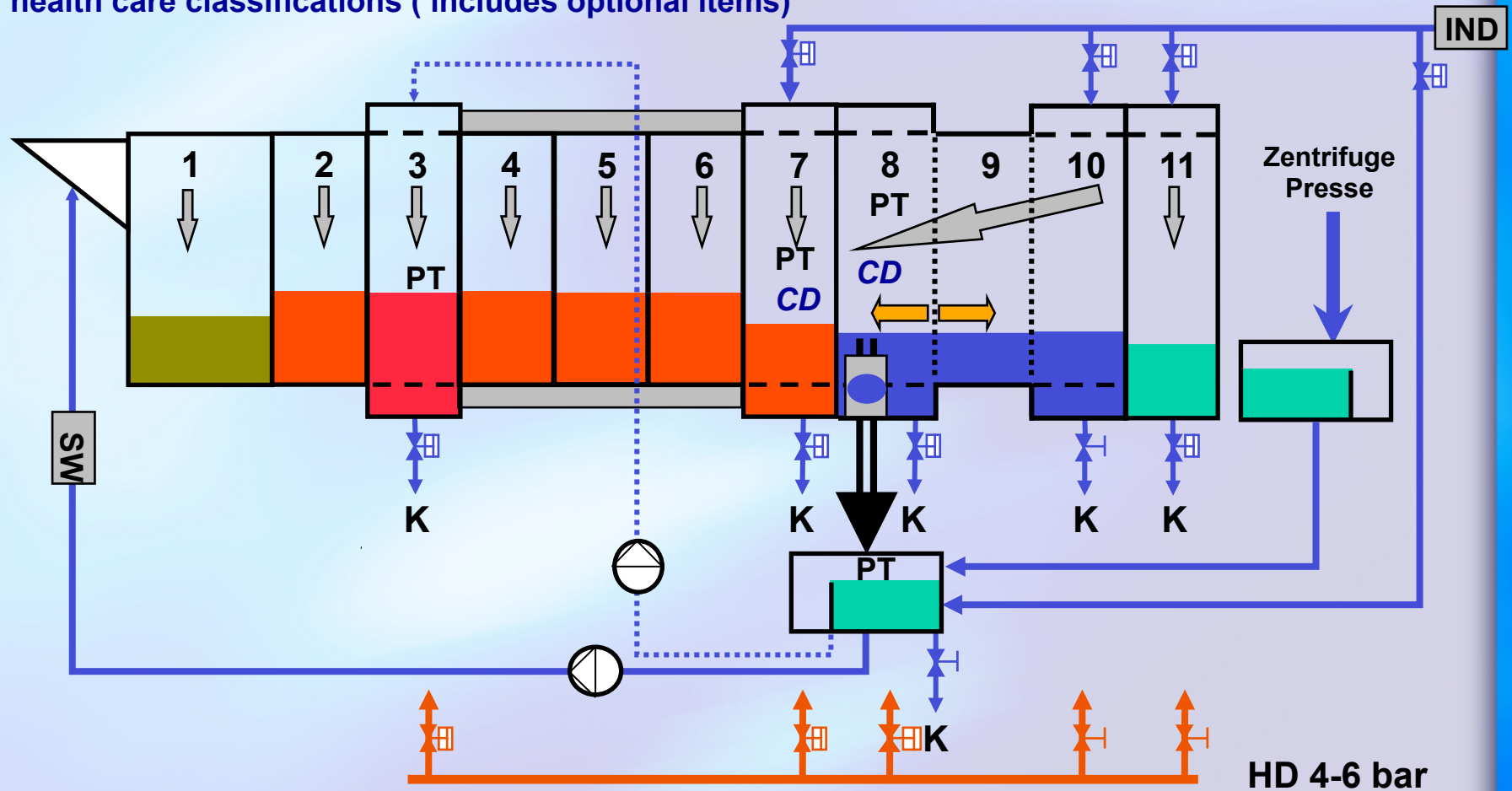
**Extraction -**  
draining of dirty  
water in comp.8 /  
drum rotation with  
open dump-valve  
approx. 20-30 sec.

**Rinsing**  
Counterflow  
comp. 9-11 =  
7,5 min

**Neutralisation**  
Standing bath  
comp. 12 =  
2,5 min

Example: cycle time 2,5 min for towels/sheets

Example of a PowerTrans FLEXline, 11 compartments for health care classifications ( includes optional items)



	Pumpe		Überlauf mit Fenster	<b>PT</b>	Temperatursensor
	Spülstromunterbrechung		Isolierung	<b>SW</b>	Strömungswächter
	Handventil	<b>IND</b>	Wasseruhr, induktiv	<b>T</b>	Thermometer
	Autom. Ventil	<b>K</b>	Kanal		

# The Optimized Washing Process (Sinner's Circle).

- Wide range of g-factors
- Programmable speed
- Programmable angle
- Drum diameter 1635 / 1907 mm.
- Large drum volume

Mechanical action

- No center core
- Fast heating (PT 75 in 45 sec from 35 to 90 degree).
- 60mm/ 40mm insulation standard

Temperature

Time

Chemicals

- Fast dumping (PT 50 / 6 sec).
- Fast heating
- Fast refilling

- FLEXLine strict bath separation
- Innovative lint filter
- Intelligent saving packages

**Kannegiesser**<sup>®</sup>

# Windows Based PC Controller, Machine Diagram

**Basisbild der Kannegiesser - Passat - Waschstraße**

Basis Parameter Produktion Technik Hilfe

1	2	3	4	<-Station (Beladung)
15	15	15	15	<-Programm
888	888	888	888	<-Kunde
51	51	49	50	<-Gewicht

HB	T1	T2	T3	T4	T5	T6	EB
0	0	0	0	0	0	0	15
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

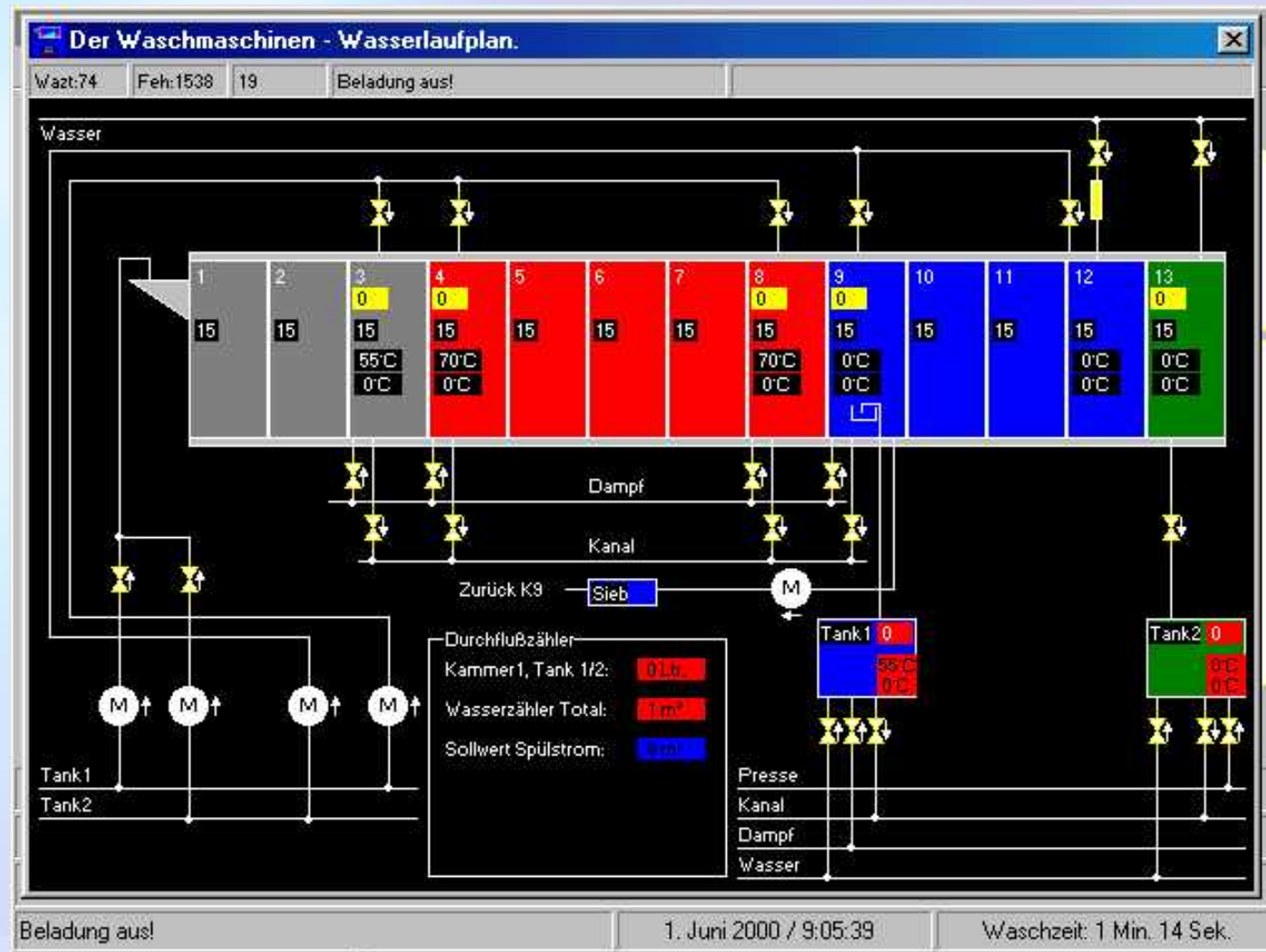
1	2	3	4	5	6	7	8	9	10	11	12	13	P	<-Station
15	15	15	15	15	15	15	15	15	15	15	15	15	15	<-Programm
888	888	888	888	888	888	888	888	888	888	888	888	888	888	<-Kunde
49	50	49	49	49	50	49	48	49	50	50	48	49	15	<-Gewicht

Kam03	Kam04	Kam08	Kam09	Kam12	Kam13	Tank1	Tank2					Ka.:01	Spülen
55°C	70°C	70°C	0°C	0°C	0°C	55°C	0°C	0°C	0°C	0°C	0°C		
0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0°C	0 Ltr	1,0 m³

Trockner1	Trockner2	Trockner3	Trockner4	Trockner5	Trockner6
0	0	0	0	0	0

Takte: 68	Gewicht(Kg): 3151	Aktivzeit: 0 Std. 0 Min. 0 Sek.
Betriebsstunden: 82		Stopzeit: 0 Std. 25 Min. 38 Sek.
Beladung aus!		
1. Juni 2000 / 9:03:32		Waschzeit: 1 Min. 14 Sek.

# Windows Based PC Controller, Flow Diagram



# Windows Based PC Controller, Statistical Data

Basic Parameter Produktion Technik Hilfe

**Tabelle der Waschzeit und Temperaturen**

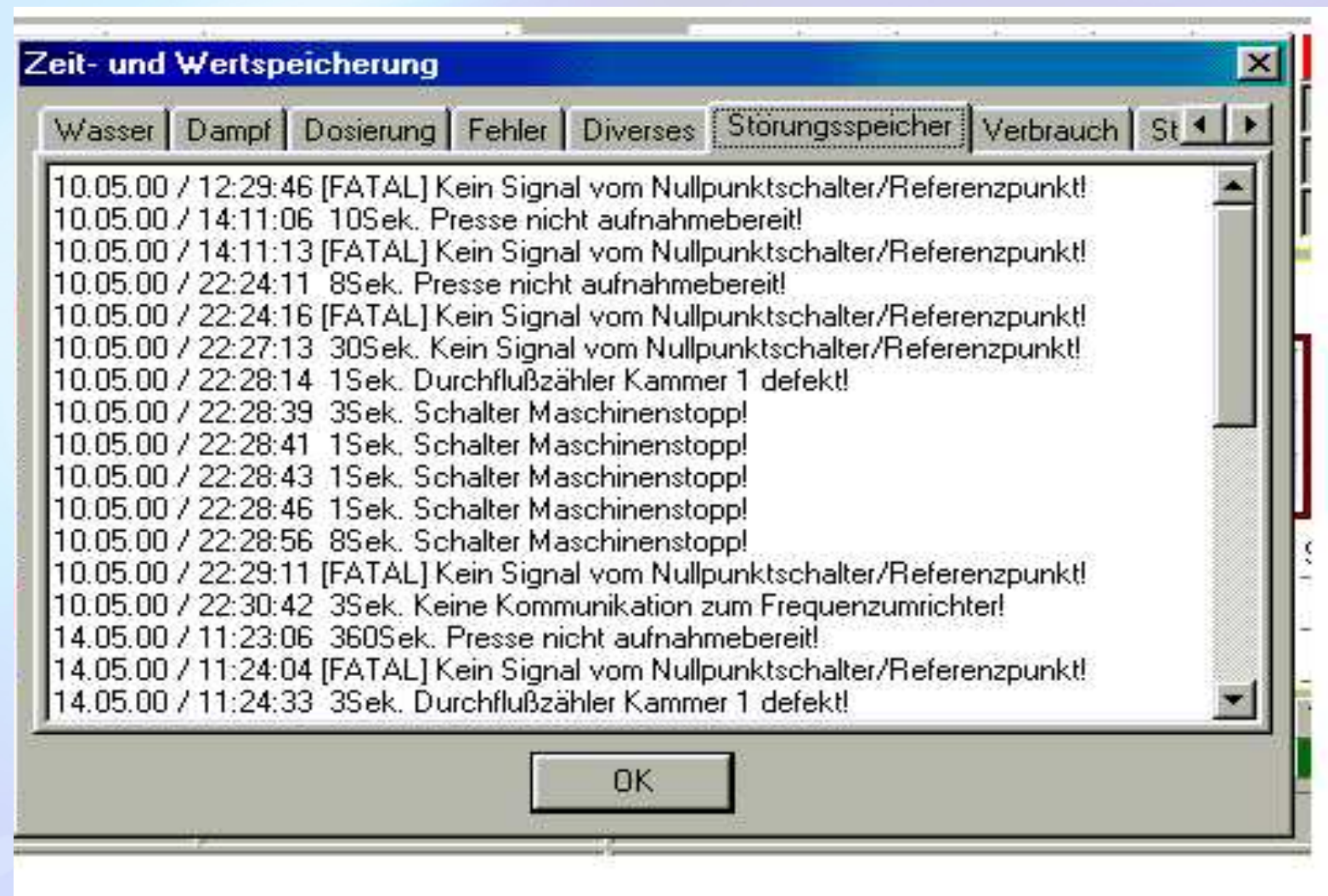
Bearbeiten

	WASZT	TEMP3	TEMP4	TEMP8	COOL2	TEP12	TEP13	TETK1	TPTK2	-10--	-11--
Kammer->	3	3	4	8	9	12	13	0	0	4	0
Vz/Par:	1	0	0	0	0	0	0	0	0	0	0
Wprg: 0	110	35	35	35	0	0	0	35	0	0	0
Wprg: 1	110	55	85	85	0	0	0	55	0	0	0
Wprg: 2	110	55	85	85	0	0	0	55	0	0	0
Wprg: 3	110	55	85	85	0	0	0	55	0	0	0
Wprg: 4	110	55	85	85	0	0	0	55	0	0	0
Wprg: 5	110	55	85	85	0	0	0	55	0	0	0
Wprg: 6	110	55	70	70	0	0	0	55	0	0	0
Wprg: 7	110	55	70	70	0	0	0	55	0	0	0
Wprg: 8	110	55	70	70	0	0	0	55	0	0	0
Wprg: 9	110	55	85	85	0	0	0	55	0	0	0
Wprg: 10	110	55	85	85	0	0	0	55	0	0	0

TEMP8 --> Cool down oder Heizfunktion, Eingabe > 40°=Heizung

\* 3/3

## Windows Based PC Controller, Time Parameters





# Windows Based PC Controller, Basic Machine Parameters

Tabelle der Maschinenparameter

Optionen Hilfe

2. Maximale Waschzeit,Kontrollfunktion:	700
3. Verzögerung Wäscheabruf,Hängeförderer/Beladeband	0
4. Füllen Frischwasser Tank2,Eingabe Sekunden vor Transfer:	30
5.	0
6. Entladesignal für Presse/Zentrifuge,Sekunden vor Transfer:	45
7. Waage, Endzustand, [20mA = xx Kg]	100
8. Abfrage Lichtschranke Trichter,Sekunden vor Transfer:	4
9. Füllhöhe Tank1,Eingabe in mm:	300
10. Füllhöhe Tank2,Eingabe in mm:	300
11	300

Index: 0 \*

# Windows Based PC Controller, Inverter Data

**Parameter für den Frequenzumrichter**

Lageregelung!  
 Zeit!

Parameter laden

Reversierung:  
 Schwenken  
 Drehen

<input type="text" value="70"/>	Maximale Frequenz [50Hz]
<input type="text" value="2"/>	Transportfrequenz [50Hz]
<input type="text" value="40"/>	Reversierzeit RECHTS [in mSek*10!]
<input type="text" value="40"/>	Reversierzeit LINKS [in mSek*10!]
<input type="text" value="10"/>	Max. Reversierzeit [Sek.]
<input type="text" value="25"/>	Max. Transportzeit [Sek.]
<input type="text" value="120"/>	Startwinkel Drehzahlreduzierung
<input type="text" value="360"/>	Endwinkel Drehzahlreduzierung
<input type="text" value="2"/>	Frequenz Drehzahlreduzierung
<input type="text" value="12"/>	Zeit, Schwenken Beladung, Sekunden

OK      Schließen      Hilfe

## Operation, Controls, M.I.S.

- **PC with Windows NT® for complete visualisation and control.**
- **New B+R SPS controller for all machinery functions.**
- **Standard with separate, easy-to-use display at loading point.**
- **Standard with performance records to DIN ISO 9000.**
- **Industrial type PC, compatible to office PC.**
- **Optional Additional Management Information System package available.**

## How to reduce consumptions :

### ▶▶ **Rotating washing action of the PowerTrans TOP.**

▶▶ Effective “squeeze” motion saves detergents.

### ▶▶ **Extremely variable g-factor of the PowerTrans Bottom.**

▶▶ Infinitely variable mechanical action saves detergents.

### ▶▶ **Interrupted counterflow**

▶▶ Bath exchange without loss of rinse water.

### ▶▶ **Prewash with programmable temperature range.**

▶▶ Intelligent hydrostatic sensors use tank volumes and temperatures.

## How to reduce consumptions :

### ▶▶ **Exact fresh water use.**

▶▶ Standard with inductive type flow meters.

### ▶▶ **Steam saving insulation.**

▶▶ Standard with 60 mm drum insulation in the main wash section.

### ▶▶ **Steam injection without air injection.**

▶▶ New injector design for faster, but more quiet heating.

## How to achieve performance :

▶▶ **Extremely sturdy base design, high-quality components.**

▶▶ Extended life-time.

▶▶ **Large drum volume, large drum diameter.**

▶▶ Minimized overload and blockage problems.

▶▶ **Drum support with swivel-type rollers.**

▶▶ Even and minimized loading to all components for fast service access without machine down times

▶▶ **On-screen manual and trouble-shooting.**

▶▶ Complete Windows-based manual for fast help.

## How to reduce maintenance costs :

- ▶▶ **New, hydro-resistant rollers.**
- ▶▶ **Service access for rollers without special supports**
- ▶▶ **Rollers with high quality bearings.**
- ▶▶ **Chain with automatic lubrication and tensioning.**
- ▶▶ **No level-sensors.**
- ▶▶ **Pneumatic valves integrated in front panel.**
- ▶▶ **Self cleaning drain valves.**
- ▶▶ **Outer drums with slopping bottom.**
- ▶▶ **Recovery Tanks with slopping bottom.**
- ▶▶ **Plug-in pumps.**
- ▶▶ **Frequency inverter instead of soft-starter.**
- ▶▶ **Extended 20000 h oil service for main drive.**
- ▶▶ **Automatic software service instructions.**

# Tunnel Washer Manufacturing



The plant in Sarstedt -  
presently 5-6 units per month

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