

30
YEARS

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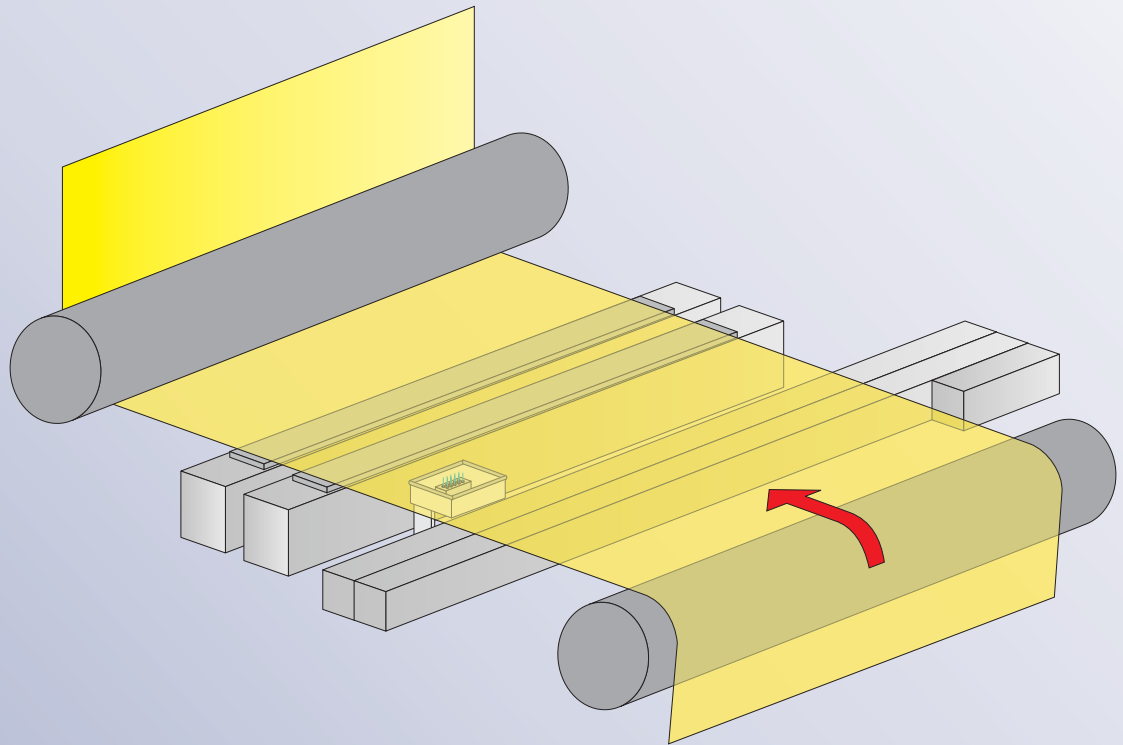


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ROBO PAPER PRESS FELT CLEANING DEVICES

FULL PM-WIDTH TRAVERSING PRESS-FELT CLEANING
DEVICE
UTILIZING
HIGH PRESSURE WATER & COMPRESSED AIR

PF CLEANER



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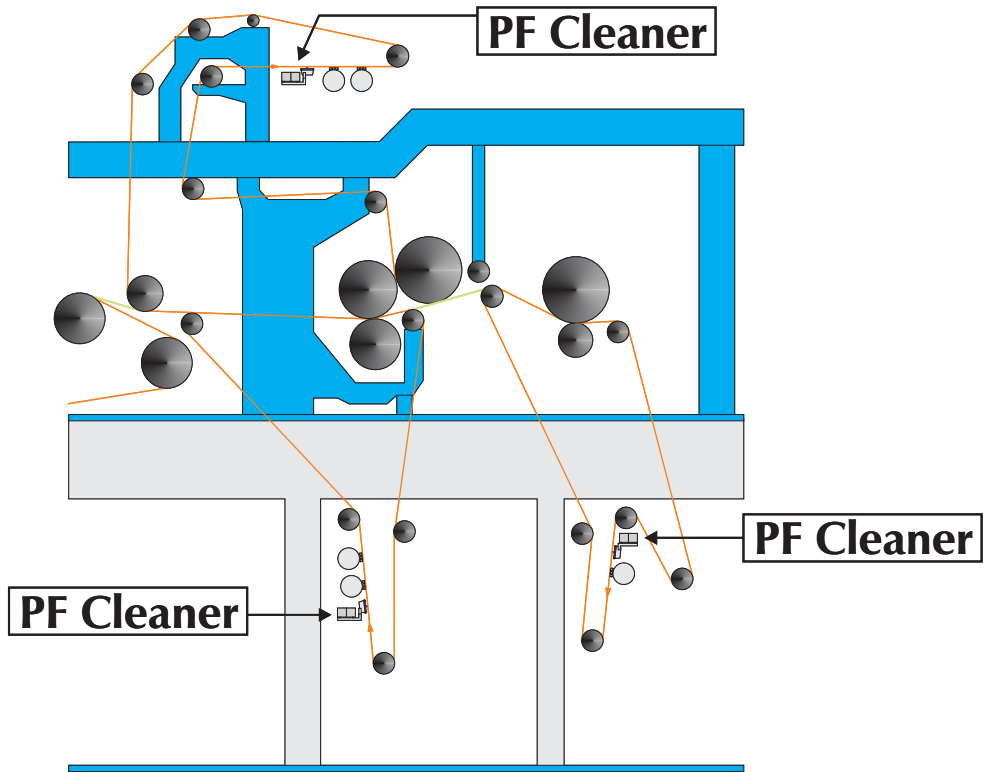
The smartness of innovation



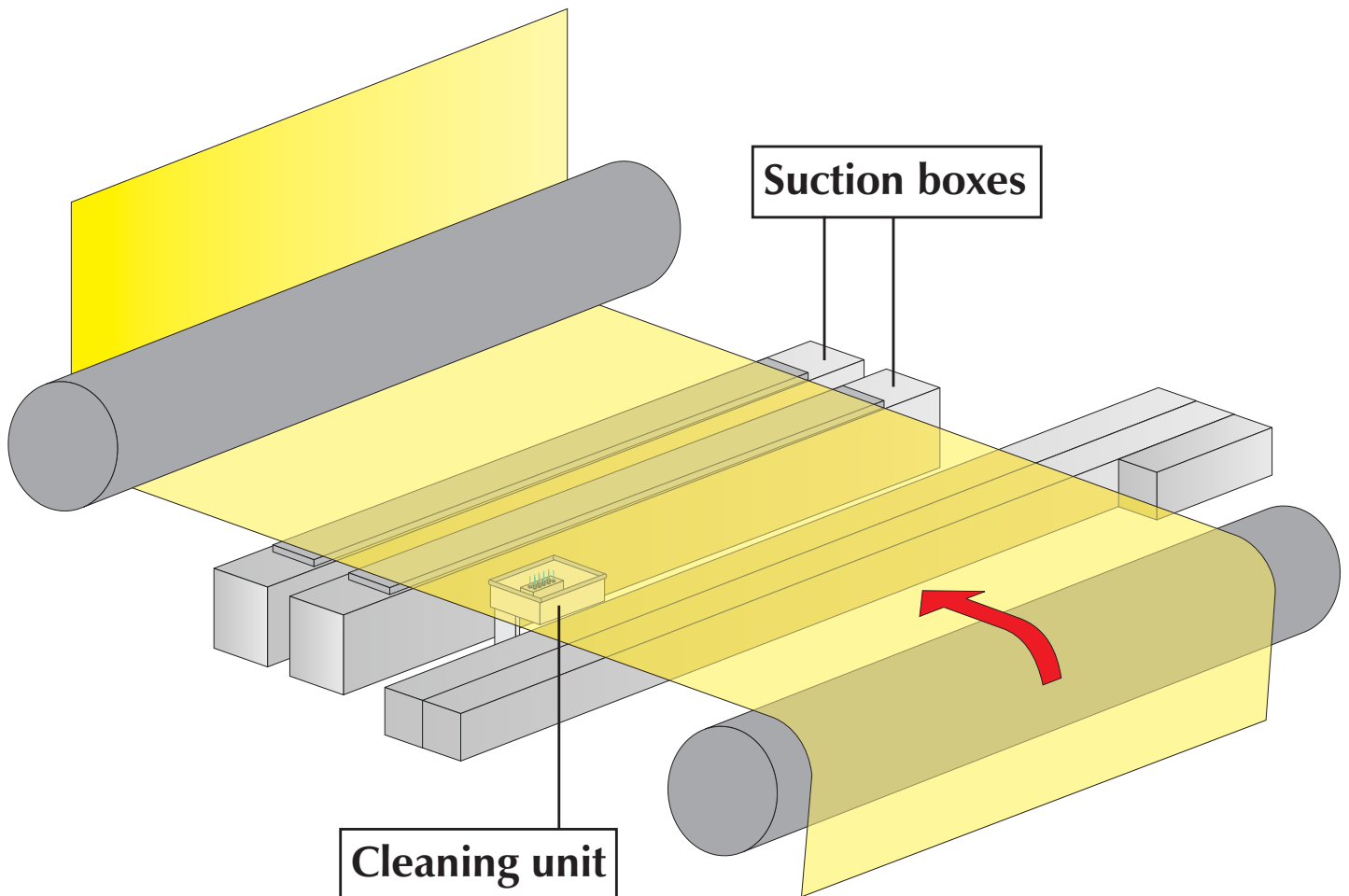
PF CLEANER

THE OPTIMUM CLEANER FOR PRESS FELT

APPLICATIONS



CLEANING DEVICES



CONTINUOUS PRESS FELT CLEANING DURING PRODUCTION WITH PF CLEANER

R(ETURN) O(F) I(NVESTMENT) ROBO PF CLEANER

1. Decreasing waterconsumption

1.1 Example regarding oscillating shower:

Press felt width	: 6200 mm
Number of nozzles	: 62 pcs. ($\phi - \phi = 100$ mm)
Orifice of each nozzle	: \emptyset 1 mm
Waterpressure	: 20 bar
Waterconsumption	: $62 \times 2,2 = 136,4$ ltr/min

1.2 Example regarding PF Cleaner:

Number of nozzles installed in the traversing cleaningblock	: 12 pcs.
Orifice of each nozzle	: \emptyset 0,8 mm
Waterpressure	: 25 bar
Waterconsumption	: $12 \times 1,45 = 17,4$ ltr/min
Watersaving:	$136,4 - 17,4 = 119$ ltr/min
At a year base:	$119 \times 60 \times 24 \times 360 = 61.689.600$ ltr = 61.689,6 m ³

Remark:

If only one conventional oscillating shower will be exchanged against one PF Cleaner, than the existing HP waterpump will be maintained.

But if all the existing oscillating showers will be exchanged than the existing HP waterpump has to much overcapacity and will be exchanged by a new pump.

This new pump will have a watercapacity for all the PF Cleaners, by which the electric power will be decreased.

2. Decreasing electric power

2.1 Example regarding electric power

If 3 (three) press sections, than are installed 6 (six) oscillating showers.

* Waterconsumption for 6 (six) oscillating showers:

$$6 \times 136,4 \text{ ltr/min} = 918,4 \text{ ltr/min.}$$

* Electric power for this HP waterpump is: 55 kW.

2.2 Electric power for HP waterpump if all these 3 (three) press sections are provided with PF Cleaners:

* Waterconsumption for 6 (six) PF Cleaners: $6 \times 17,4 \text{ ltr/min} = 104,4 \text{ ltr/min.}$

* Electric power for this HP waterpump: 5,5 kW.

3. Increasing equal cleaning over the total press felt width.

3.1 No stripes in the felt.

3.2 Additional cleaning for the edges to increase the compressibility.

4. Increasing lifetime of the press felt.

5. Optimising the moisture cross profile of the felt.

6. Optimising the water permeability of the felt.

7. Increasing the dewatering capacity of the felt.

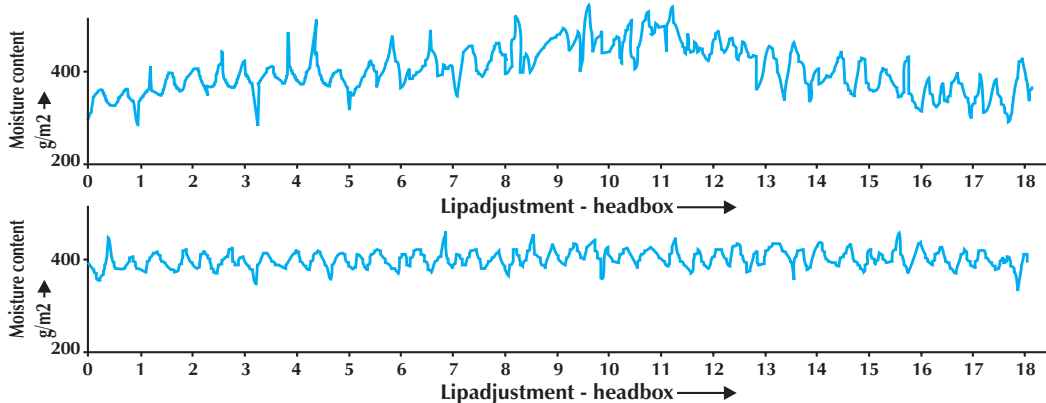
8. 100% mistfree cleaning during production.

9. Decreasing at least 20% chemical consumption.

10. Decreasing vacuum capacity from the existing suction boxes, which means less electric power as well as less wear for the press felt.

PF Cleaner comparing to Oscillating Shower

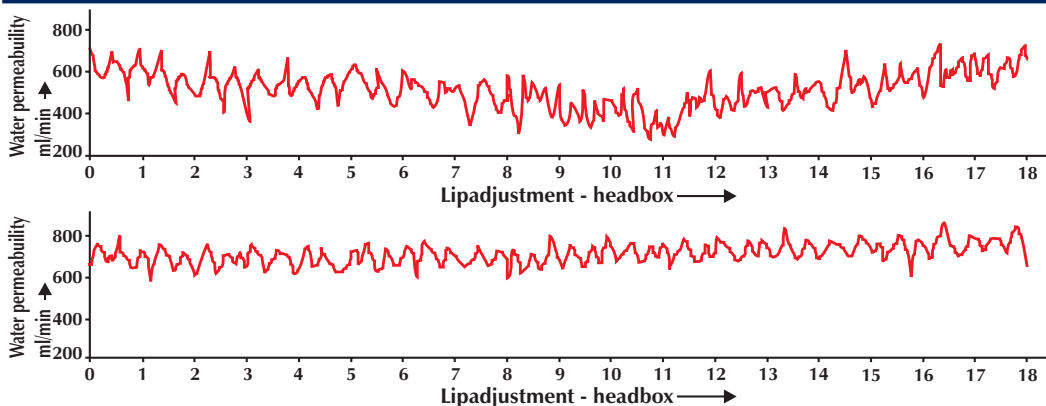
CD - Moisture profile press felt



Moisture profile conventional oscillating shower

Moisture profile Robo P(res) F(elt) Cleaner measured by moisturesensor Smart Cleaner

CD - Water permeability press felt



Water permeability profile conventional oscillating shower

Water permeability profile Robo P(res) F(elt) Cleaner measured by Permeabilitysensor Smart Cleaner

Dewatering capacity press felt

Installed cleaning unit:		PF Cleaner		Oscillating shower		Oscillating shower		Oscillating shower	
		FS	BS	FS	BS	FS	BS	FS	BS
Stretch stroke:	m	0,35		0,25		0,40		-	
	m	0,25		0,35		0,35			
Total stretch stroke:	m	0,60		0,60		0,75			
Felt-thickness FS:	mm	2,10		2,20		2,10		2,50	
Felt-thickness BS:	mm	2,10		2,20		2,10		2,50	
Felt-thickness Ra:	mm	3,70		2,80		2,40		3,70	
Felt-thickness new:	mm	4,70		-		-		-	
Felt-tension:	bar	1,25		1,50		1,35		1,50	
	Direction	FS to				BS close to			
Line pressure:		Pickup		2.Press		SDP - top		SDP - bottom	
		FS	BS	FS	BS	FS	BS	FS	BS
1. Press	KN/m	93	93						
-	KN/m								
2. Press	KN/m			85	85				
HP-Press	KN/m					300	290	300	290
Pickup roll (PUZ)	mbar	-530							
Vacuum box 1	mbar	-300		-380		-500		-380	
Airspeed	m/s	7,2		6,3		3,8		not achieved	
HP - shower	bar	20,0		19,0		22,0		21,0	
Edge FS/BS		closed		BS open		closed		-	
LP - shower		open		closed		closed		closed	
Nip water	l/min	-		-		-		-	
Vacuum box water	l/min	-		-		-		-	
Total	l/min	#VALUE!		#VALUE!		#VALUE!		#VALUE!	
Dewatering capacity									
Press entering	g/m²	-		-		-		-	
Press leaving	g/m²								
Difference	g/m²	#VALUE!		#VALUE!		#VALUE!		#VALUE!	
Before vacuum box	g/m²	750		620		552		625	
After vacuum box	g/m²	670		597		540		610	
Difference	g/m²	-80		-23		-12		-15	
Vacuum box data	Amount	1		1		1		1	
Vacuum box 1	Type	1	20	1	20	1	20	1	20
		ZigZag	mm	ZigZag	mm	ZigZag	mm	ZigZag	mm