



**lantier**

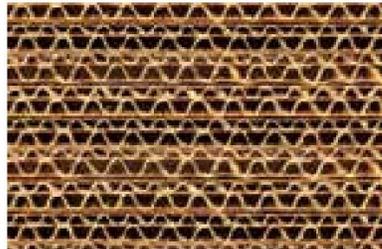
Solutions inside

# INTRODUCTION TO LANTIER SOLUTIONS

Pulp



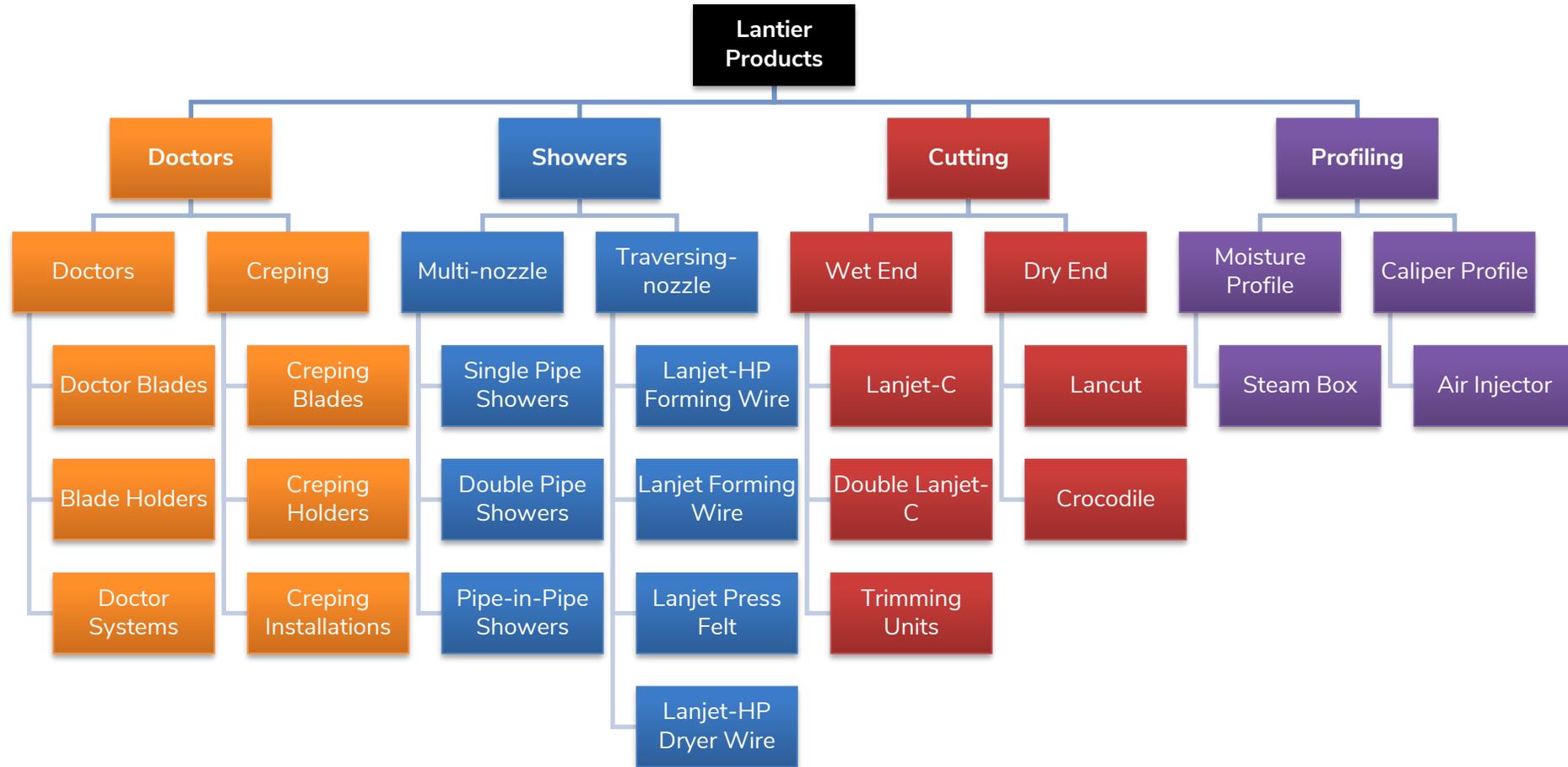
Paper

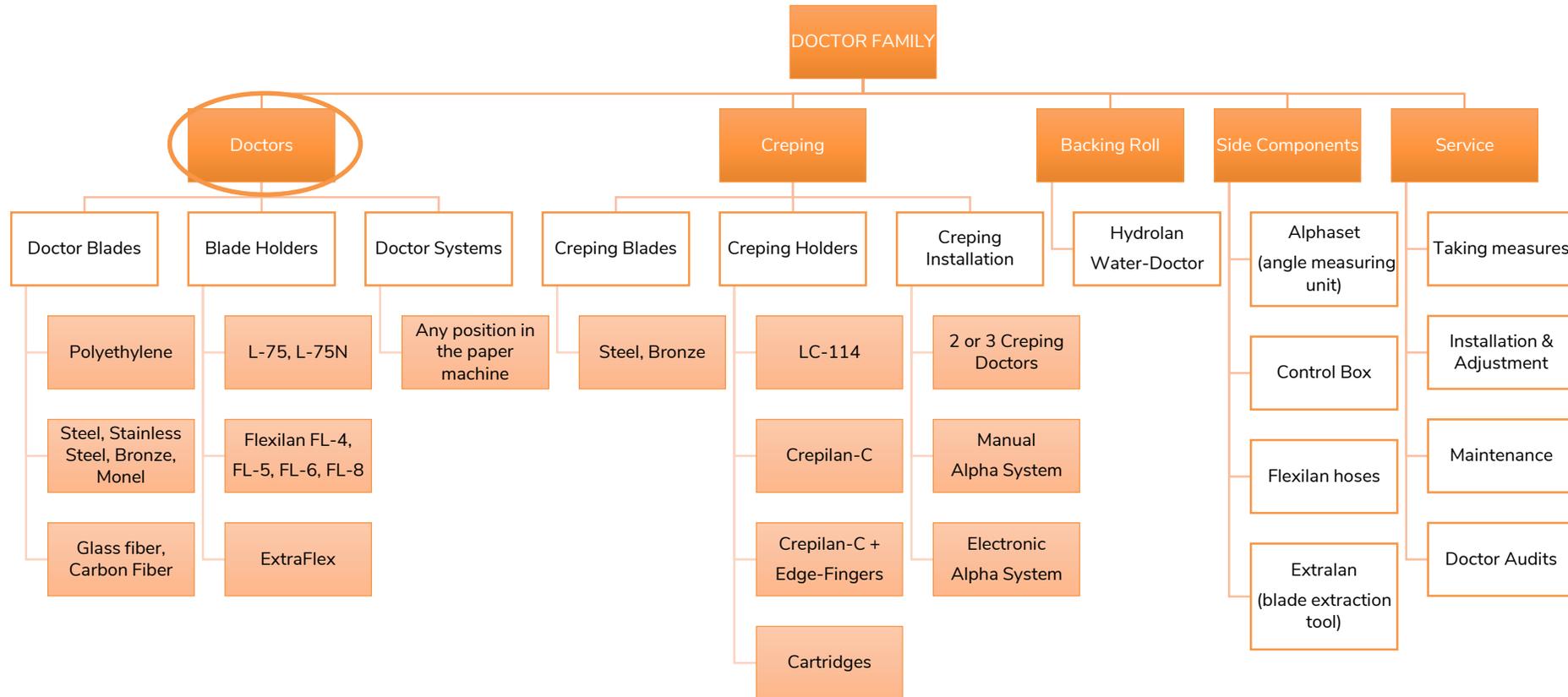


Board

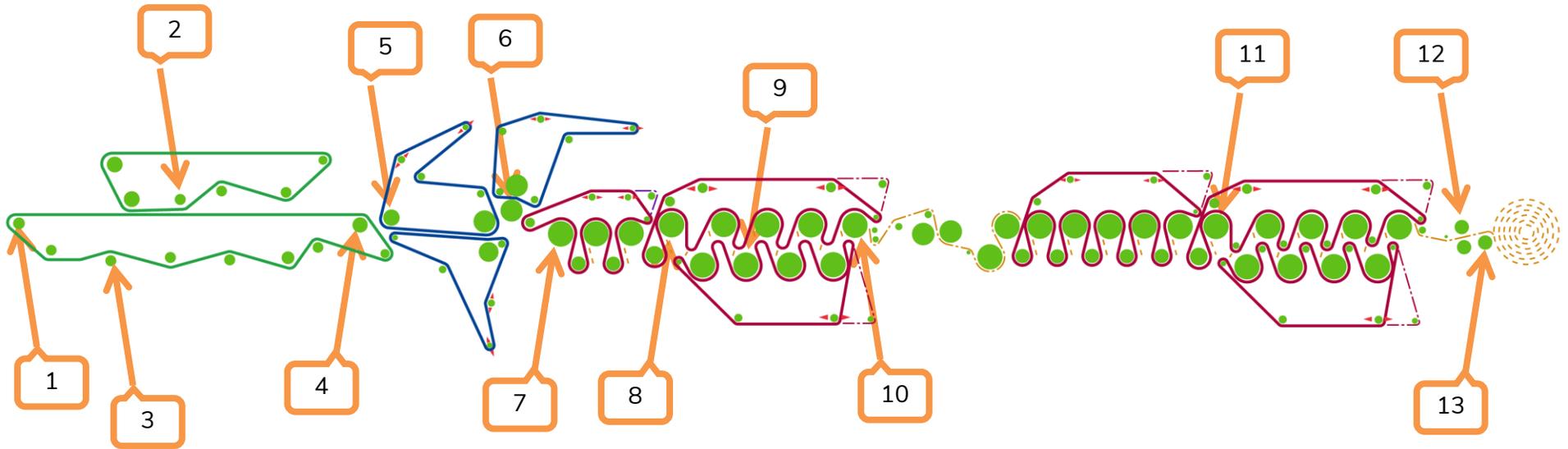


Tissue

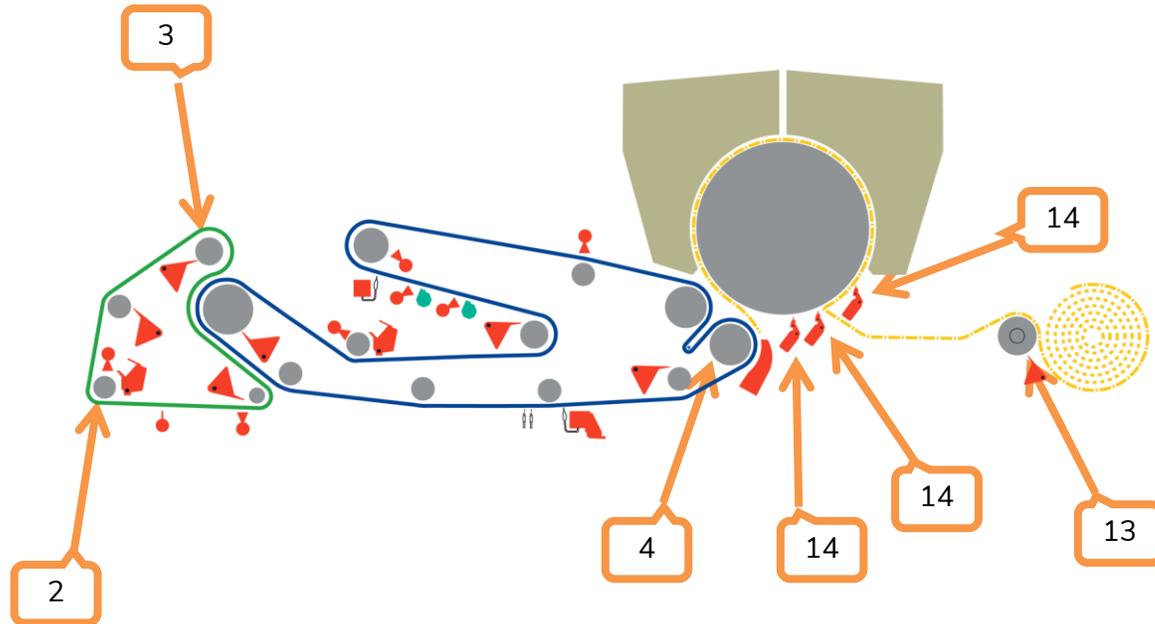




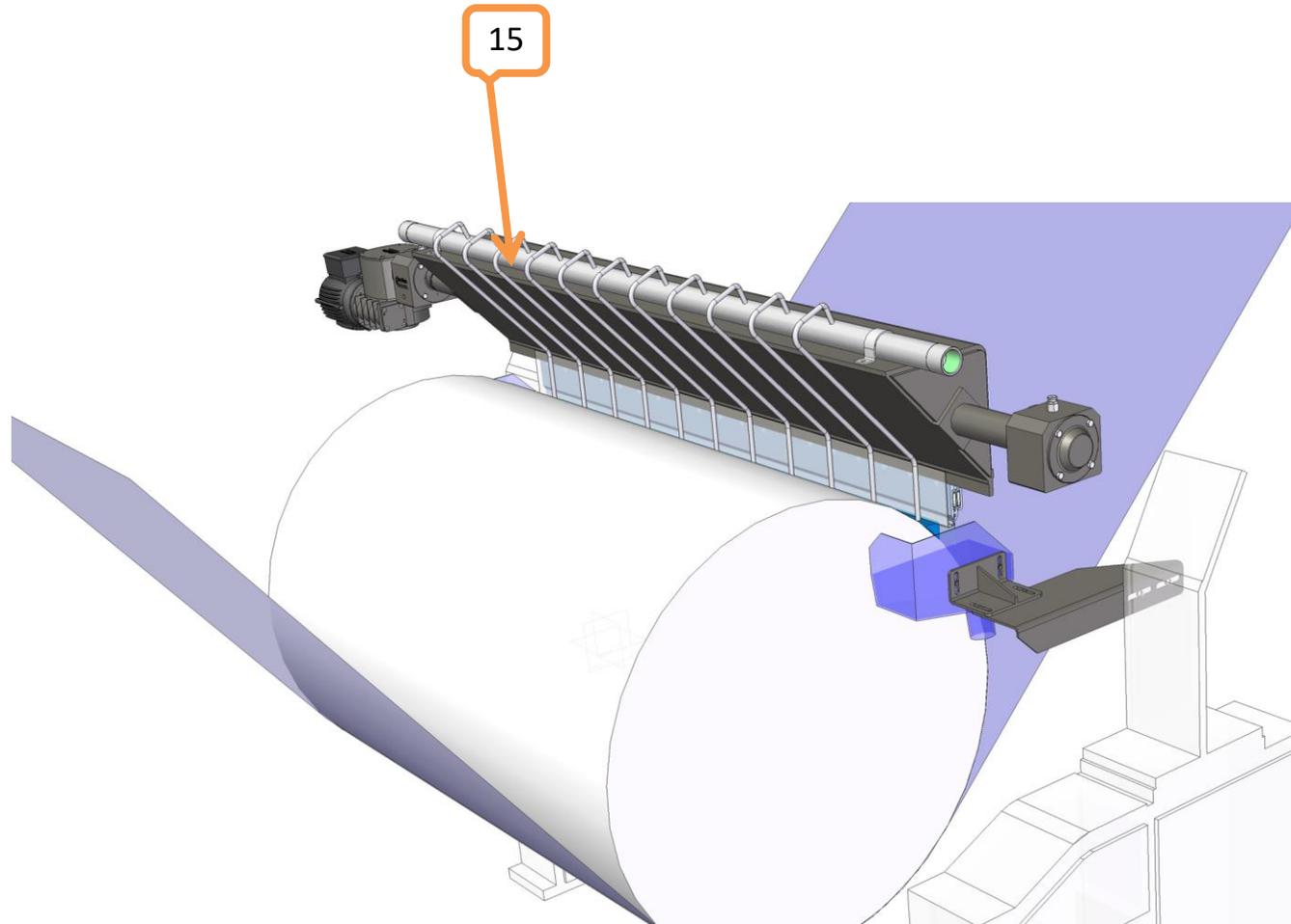
## Lantier doctors in the paper machine



## Lantier doctors in the tissue machine



## Lantier doctor in the coating machine



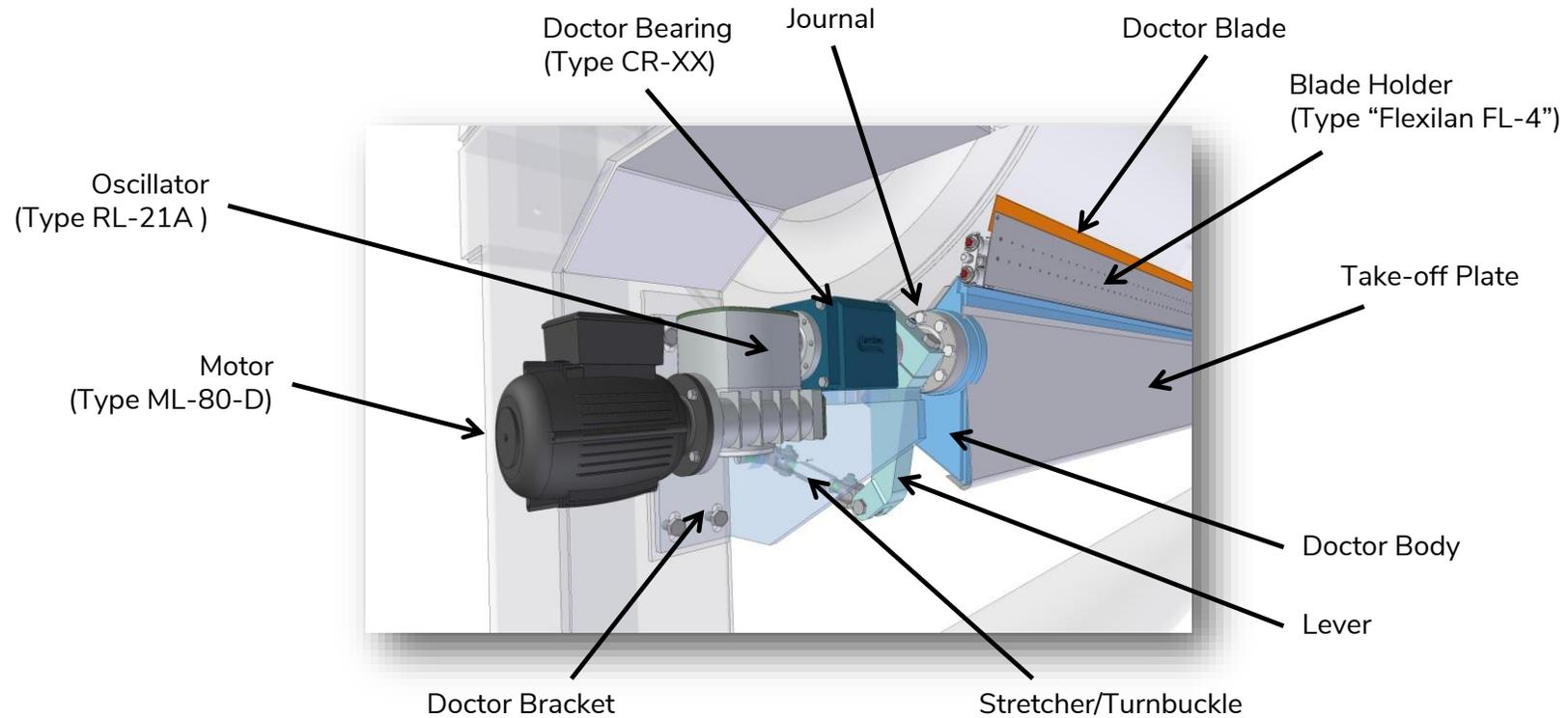
## Lantier doctors (I)

- 1) Breast Roll Doctor
- 2) Wire Inside Roll Doctor
- 3) Wire/Felt Outside Roll Doctor
- 4) Aqualan Double Doctor on Couch Roll
- 5) Aqualan Double Doctor on Pick-up/Suction Press Roll
- 6) Tandem Double Doctor on Central Press Roll
- 7) Take Off Doctor on First Dryer
- 8) Air Blowing/Suction Doctor on Dryer
- 9) Dust Suction Doctor on Dryer
- 10) Take Off Doctor on Last Dryer
- 11) Tail Transfer Doctor on Dryer
- 12) Calender Doctor
- 13) Reel Doctor

## Features of Lantier blade holders

- All Lantier Blade Holders use 75 mm wide blades (3")
- Blades can be changed side wise or front wise in all Lantier Blade Holders
- All Lantier Blade Holders include a profiling regulation system (manual or self-profiling)
- Specific designs of Blade Holders adapted to specific requirements
- Lantier Blade Holders are built in phosphatized carbon steel, different stainless-steel grades and partly or completely in carbon fiber depending on their particular use

## Main Lantier doctor components

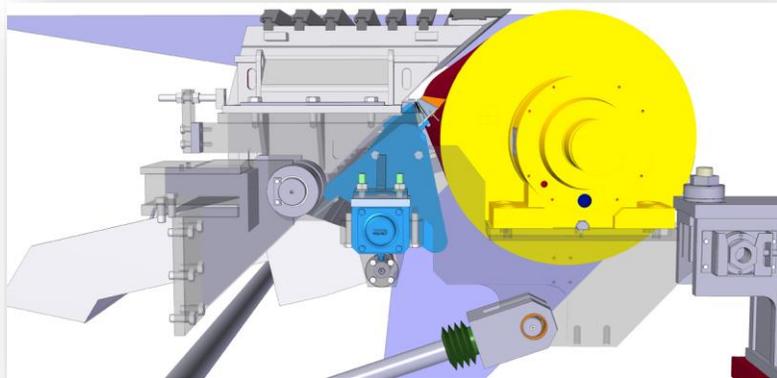


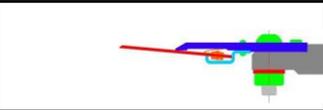
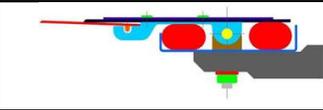
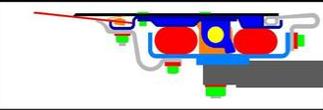
# 1) Breast Roll Doctor

- Cleaning of the roll surface
- Removal of the water to the water collection try
- Very limited access to the Doctor:
  - No option for regulation of the micrometric adjustment screws



- Adjustment only when maintenance is made in the Suction Box



Alternative Blade Holders	
L-75N	
Flexilan FL-5	
Flexilan FL-4	

- Recommendation of installing Flexilan FL-4 or Flexilan FL-5 Blade Holder (self adjusting)

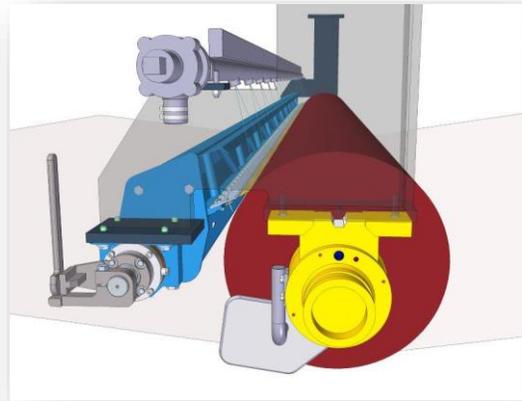


- No need to wait for Suction Box maintenance

<b>BENEFITS</b>	Improve Sheet Formation
	Improve sheet profile
	Reduce Sheet breaks
	Improve Wire efficiency
	 Increase Machine efficiency
	Increase life of the roll

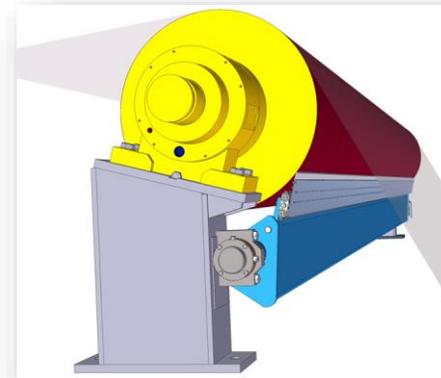
## 2) Wire Inside Roll Doctor

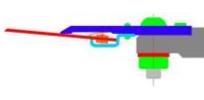
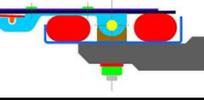
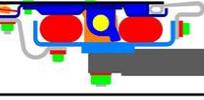
- Cleaning of the roll surface
- Removal of the water to the water collection try
- Special Tray design for collecting the water from the roll and evacuating the water out from the Doctor



## 3) Wire/Felt Outside Roll Doctor

- Cleaning of the roll surface
- Removal of the water to the water collection try
- Special Box design for evacuating the water to the water collection tray



Alternative Blade Holders	
L-75N	
Flexilan FL-5	
Flexilan FL-4	

<b>BENEFITS</b>	Improve Sheet Formation
	Improve sheet profile
	Reduce Sheet breaks
	Improve Wire efficiency
	↓
	Increase Machine efficiency
Increase life of the roll	

## 4) Aqualan Double Doctor on Couch Roll

Water extraction and perfect cleaning of suction rolls.

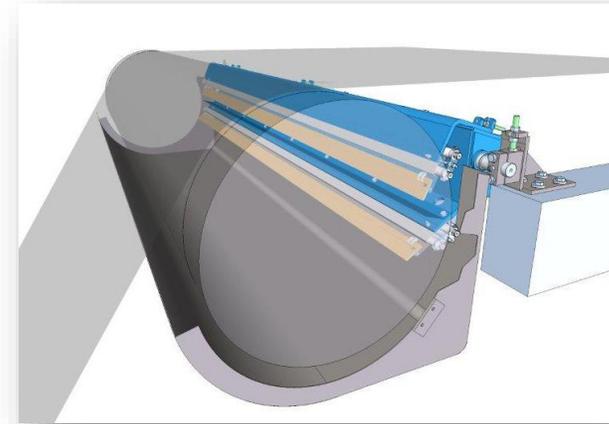
Design adapted to any new or existing paper machine.

In case it is needed, Lantier can rebuild the suction roll save-all or build a completely new one.

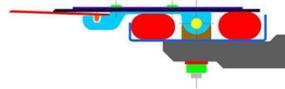
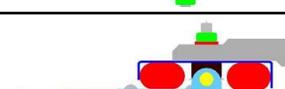
The Aqualan Double Doctor is designed to eliminate the problems, that the water film around the suction cylinder creates:

- Limited suction capacity on the suction cylinder.
- Uncontrolled water projection below the wire, that generates sheet formation problems.
- Sheet breaks.

The Aqualan Double Doctor takes off and conducts this water, cleaning and drying el suction cylinder and its orifices and so avoiding rewetting the sheet and its consequences.



### Alternative Blade Holders

Flexilan FL-5	
Flexilan FL-4	
Flexilan FL-6	

### BENEFITS

Improve suction roll efficiency



Improve dryness



Increase Machine efficiency

Energy save / Increase production

Improve sheet formation

Improve sheet profile

Reduce paper breaks

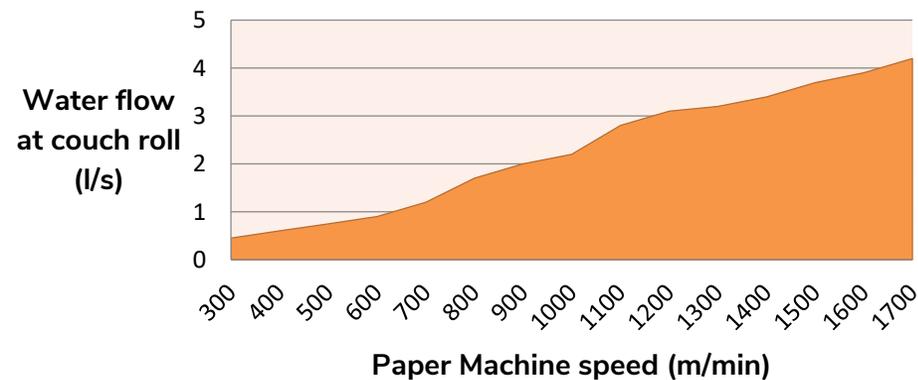
Increase period between maintenance



Increase Machine efficiency

## Benefits of the Lantier Aqualan double doctor

- Dryness increase 1,5 – 2 %
- Sheet break reduction 50 %
- Less steam consumption 2 – 3 %
- Better sheet formation / eliminate spray to underside of the fabric
- Improved CMD moisture profile
- Reduce water streaks 50 %
- Easy maintenance for Doctor
- Reduce suction roll maintenance
- Improved suction roll efficiency



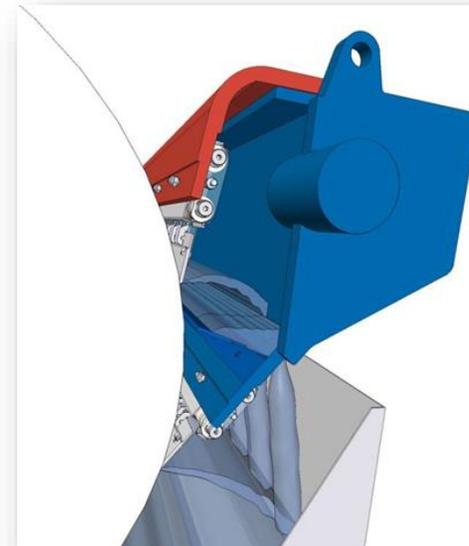
### OPERATING PRINCIPLE

The water dynamic can be described as follows:

A – a part is deflected by doctoring

B – what remains sucked from the holes by vacuum effect  
and centrifugal force

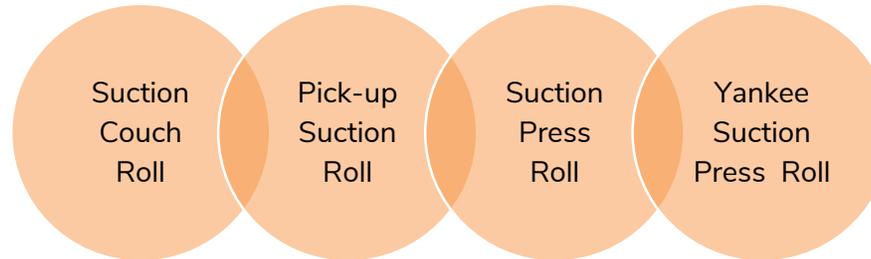
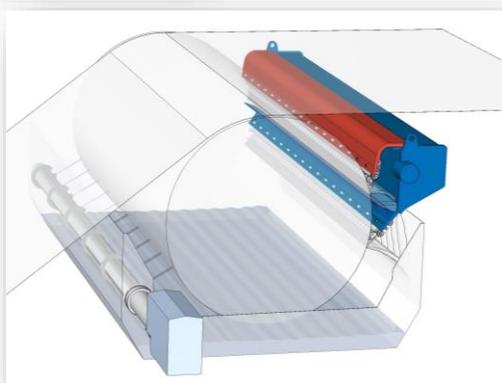
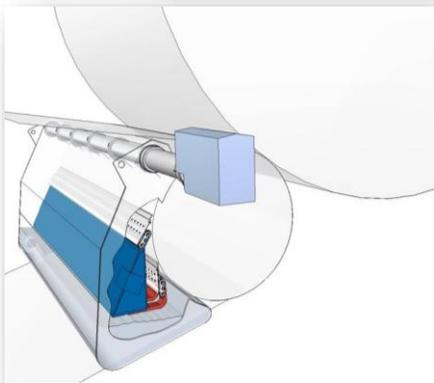
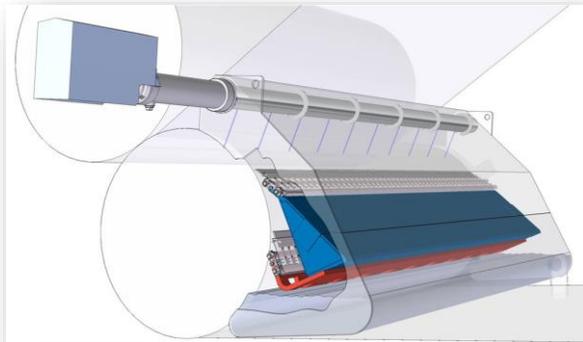
C – the rest is deflected by doctoring

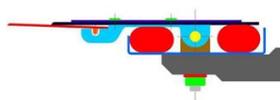
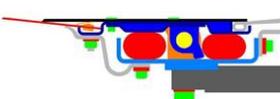
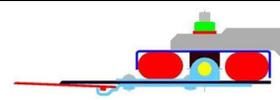


Source: Lantier

## 5) Aqualan Double Doctor on Pick-up/Suction Press Roll

The design of the Aqualan Double Doctor can be adapted to Suction Couch Roll, Pick-up and Suction Press (also Yankee Suction Press).

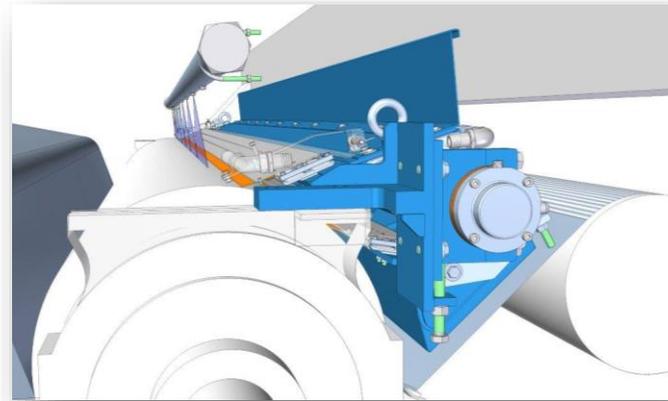


Alternative Blade Holders	
Flexilan FL-5	
Flexilan FL-4	
Flexilan FL-6	

<b>BENEFITS</b>	Improve suction roll efficiency
	↓
	Improve dryness
	↓
	Increase Machine efficiency
	Energy save / Increase production
	Improve sheet formation
	Improve sheet profile
Reduce paper breaks	
Increase period between maintenance	
↓	
Increase Machine efficiency	

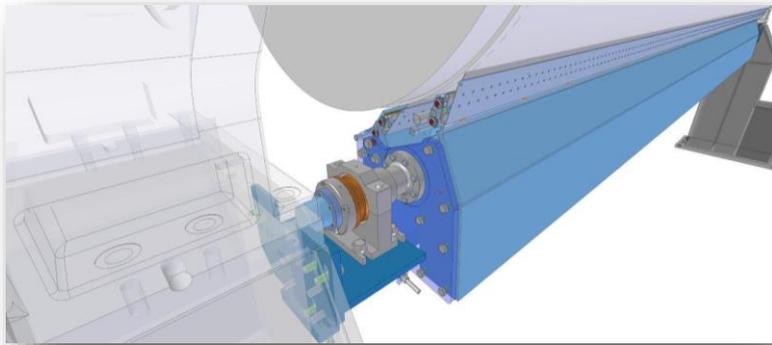
## 6) Tandem Double Doctor on Central Press Roll

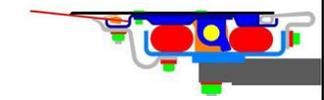
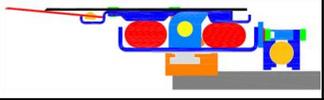
- Double “Tandem” Doctor
- Perfect angle adjustment in both blades
- Sheet take off in any situation and perfect cleaning of the press
- Strongly built in stainless steel
- No vibration
- Design adapted to any new or existing paper machine
- Also available as single Doctor body



The key to the good performance of a Tandem Doctor is a very precise design and a manufacturing according to the tightest tolerances. This way, vibration problems, paper passing, press roll damages, etc. can be avoided.

Lantier guarantees this.

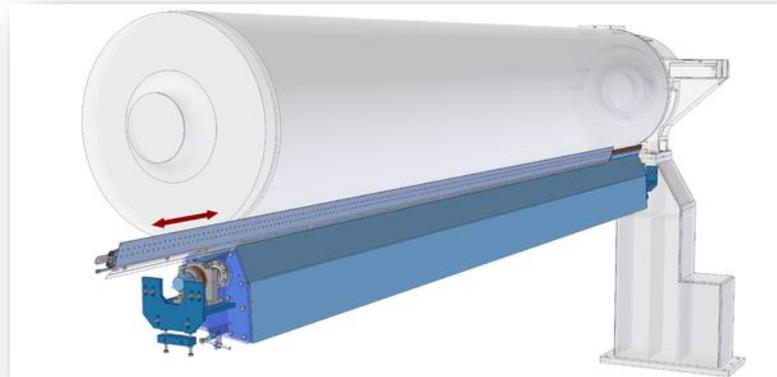
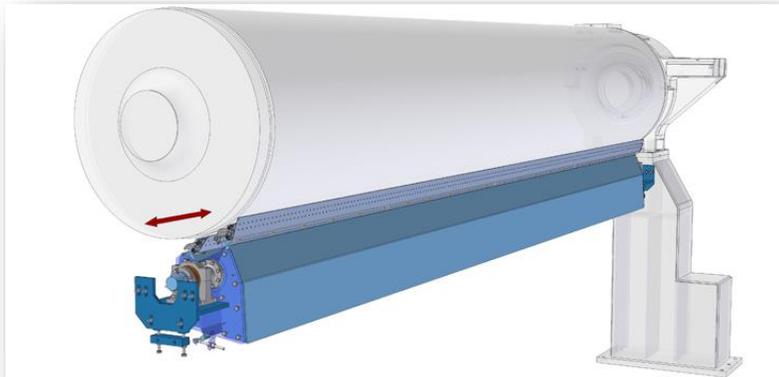
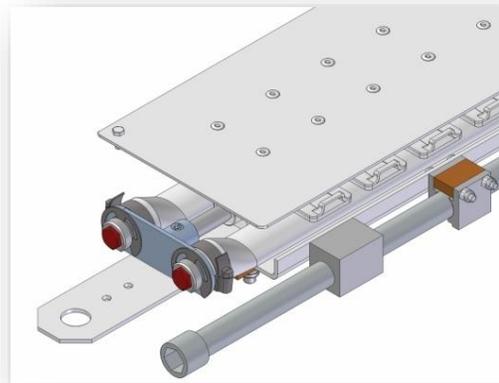


Alternative Blade Holders	
Flexilan FL-4	
Flexilan FL-4 ExtraFlex	

<b>BENEFITS</b>	Improve Press Section efficiency
	Reduce Sheet breaks
	↓
	Increase Machine efficiency
	Increase Press Cover lifetime
	Increase Felts efficiency
↓	
Increase Machine efficiency	

## Tandem Double Doctor with Flexilan FL-4 ExtraFlex Blade Holder

- Doctor with fast removal blade holder for positions with dirt accumulation and difficult maintenance
- Adaptable to any doctor in the paper machine
- For use in dryer section, press section, single or double doctors, etc.
- Strongly built in stainless steel or mild steel depending on the zone of the paper machine
- Vibration free
- The “Extraflex” feature can be adapted to any doctor new or existing



### BENEFITS

Optimize Blade Holder operation

Improve Press Section efficiency

Reduce Sheet breaks



Increase Machine efficiency

Increase Press Cover lifetime

Increase Felts efficiency



Increase Machine efficiency

Reduce Machine maintenance time

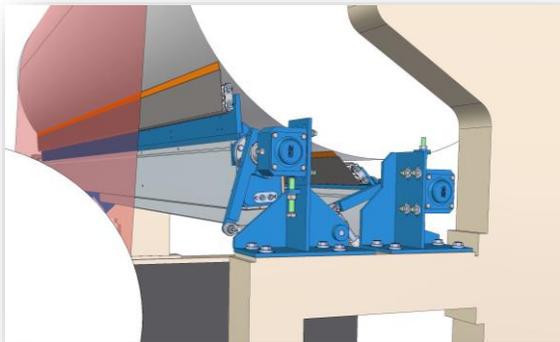


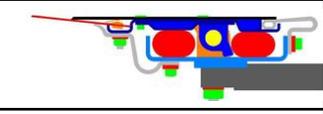
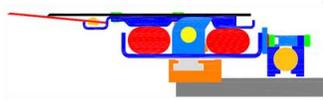
Increase Machine efficiency

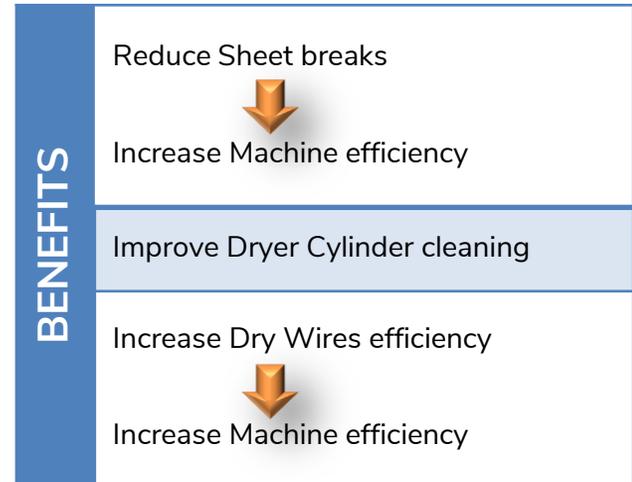
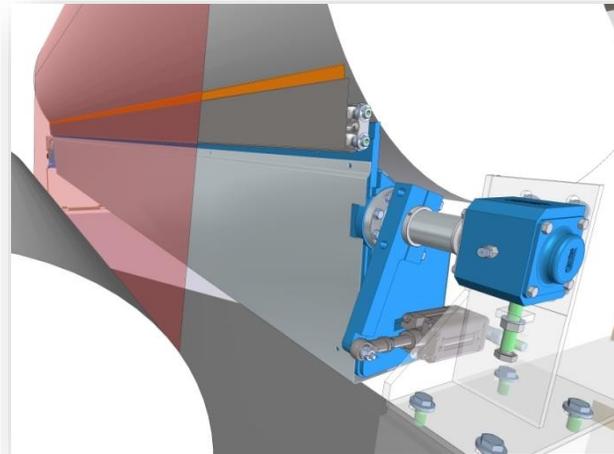
Improve Machine operator security

## 7) Take Off Doctor on First Dryer

- Take Off Single Doctor
- Perfect angle adjustment in both blades
- Sheet take off in any situation and perfect cleaning of the Dryer Cylinder
- Strongly built in stainless steel
- Covered by heat reflector for avoiding any deformation due to heat difference
- No vibration
- Design adapted to any new or existing paper machine
- Also available in steel with heat reflector
- Also available with 2x Doctors if there is space available

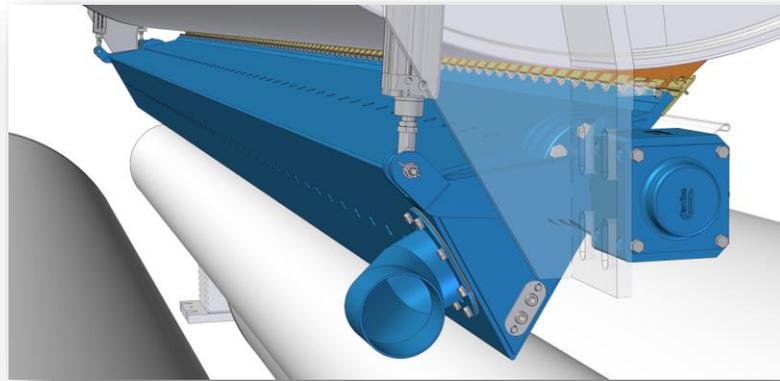


Alternative Blade Holders	
Flexilan FL-4	
Flexilan FL-4 ExtraFlex	



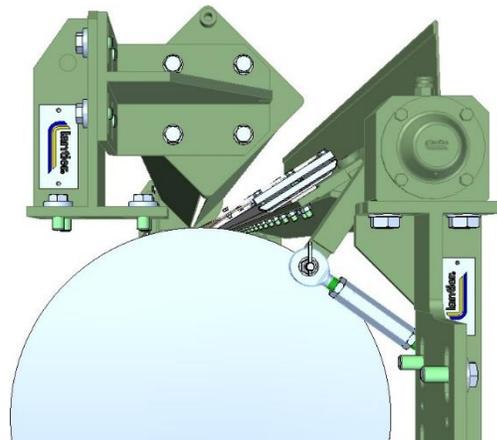
## 8) Air Blowing/Suction Doctor on Dryer

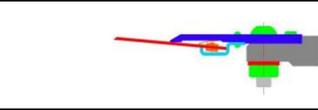
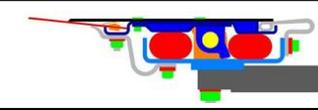
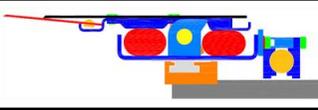
- Pocket ventilation
- Avoid sheet movements
- Reduce risk of sheet breaks
- Renovation of air
- Increase stabilizer box effectiveness



## 9) Dust Suction Doctor on Dryer

- Eliminate dust
- Reduce risk of fire
- Reduce cost of cleaning
- Increase doctor blade life



Alternative Blade Holders	
L-75N	
Flexilan FL-4	
Flexilan FL-4 ExtraFlex	

### BENEFITS

Reduce Sheet breaks



Increase Machine efficiency

Improve Dryer Cylinder cleaning

Increase Dryer Hood efficiency



Increase Machine efficiency

### BENEFITS

Dust Removal

Reduce Fire risk

Reduce Sheet breaks



Increase Machine efficiency

Improve Dryer Cylinder cleaning

Increase Dry Wires efficiency

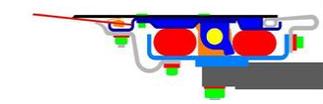
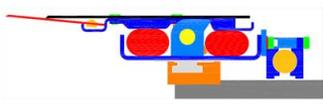


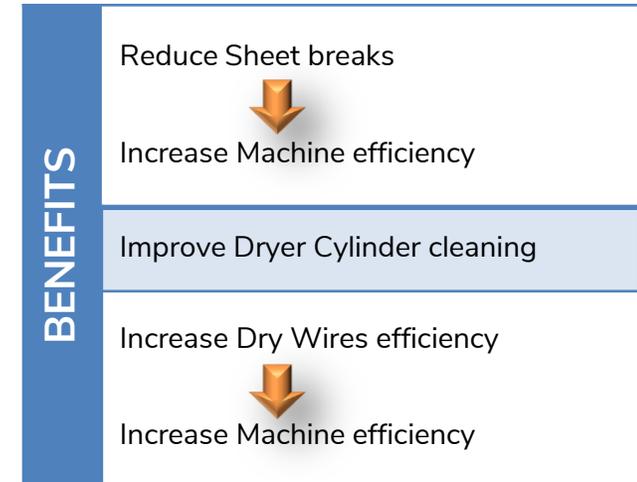
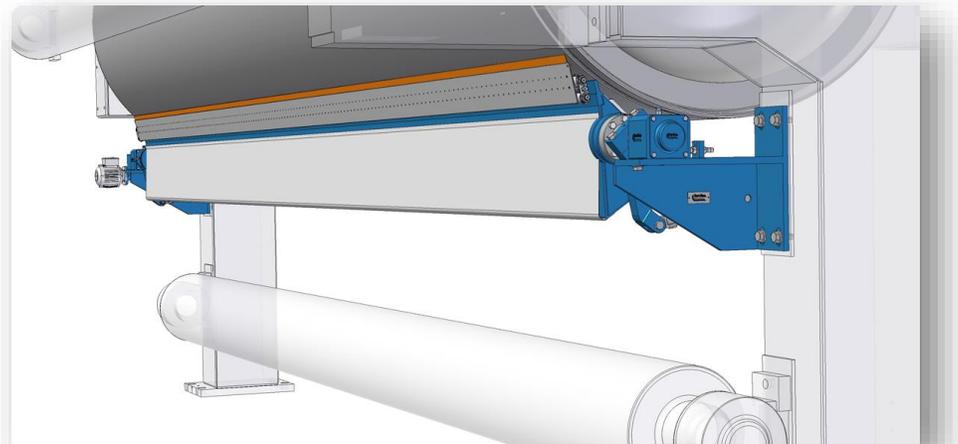
Increase Machine efficiency

Improve Machine operator security

## 10) Take Off Doctor on Last Dryer

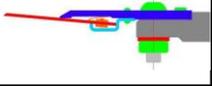
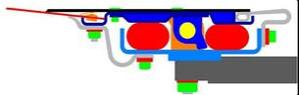
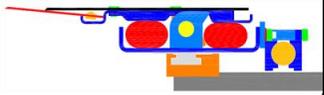
- Take Off Single Doctor
- Perfect angle adjustment in both blades
- Sheet take off in any situation and perfect cleaning of the Dryer Cylinder
- Strongly built in steel
- Covered by heat reflector for avoiding any deformation due to heat difference
- No vibration
- Design adapted to any new or existing paper machine
- Also available in stainless steel

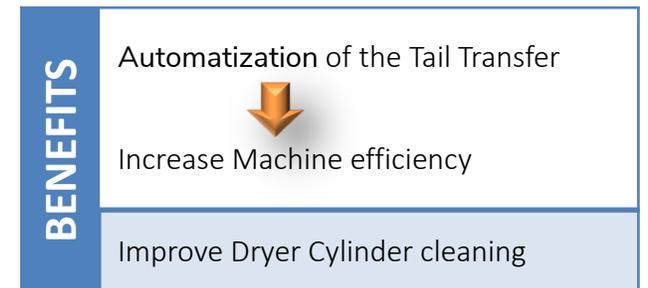
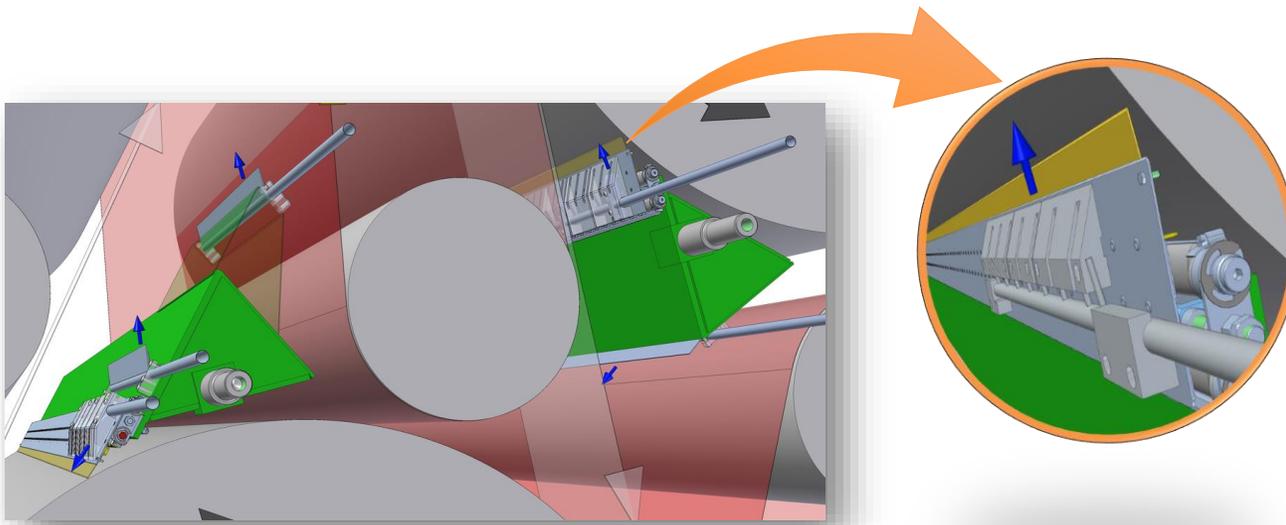
Alternative Blade Holders	
Flexilan FL-4	
Flexilan FL-4 ExtraFlex	



## 11) Tail Transfer Doctor on Dryer

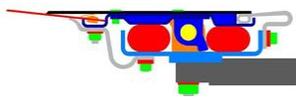
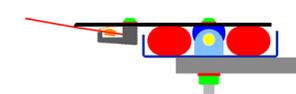
- Blowing pipes and deflector wedge.
- The fixing is adapted to the rivets in the blade holder.
- Air connections are made at the outer side of the paper machine frame.
- The design of the air connections is adapted at the space available.
- The blowing pipes are provided with adjustable fixing pieces to set the blowing direction near the paper machine frame.
- The blowing pipes are fixed in the inner machine side of the blade holder by insertion supports.
- All fixing pieces and the deflector wedge are rounded so that no obstacles are created for the flowing paper.

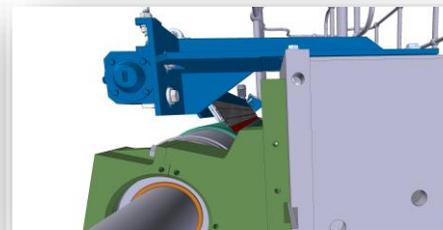
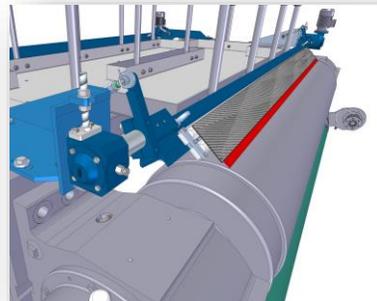
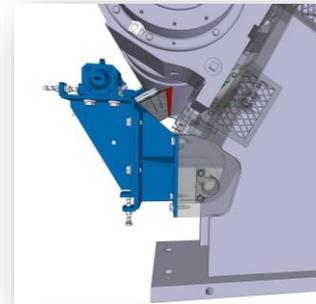
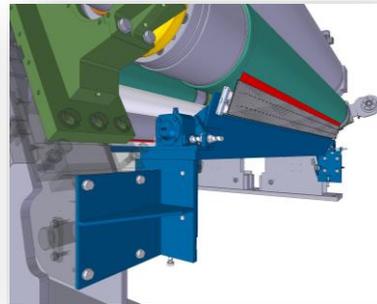
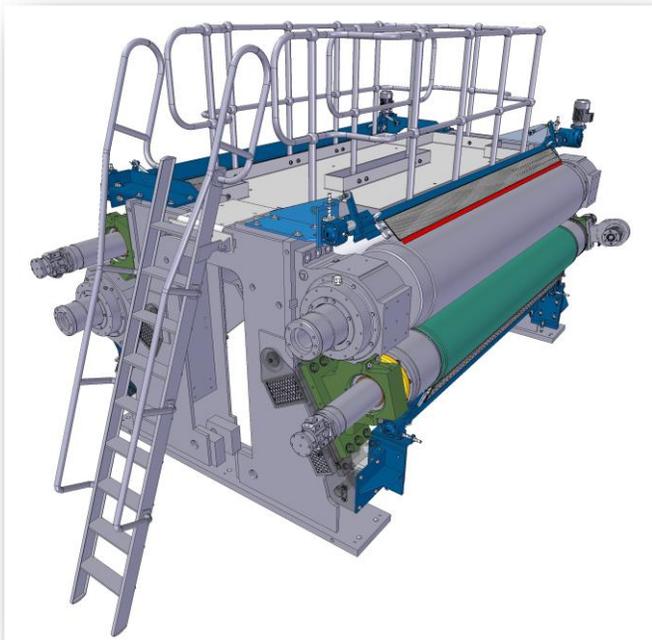
Alternative Blade Holders	
L-75N	
Flexilan FL-4	
Flexilan FL-4 ExtraFlex	



## 12) Calander Doctor

- Cleaning of the roll surface in Calenders
- Special design for any type of Calender roll:
  - Flexilan FL-8 Blade Holders for Soft Rolls
  - Flexilan FL-4 Blade Holders for Hard Rolls
- Design adapted to any new or existing paper machine

Alternative Blade Holders	
Flexilan FL-4	
Flexilan FL-8	



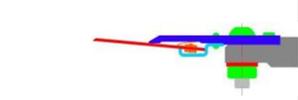
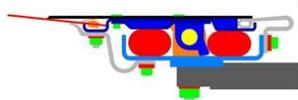
### BENEFITS

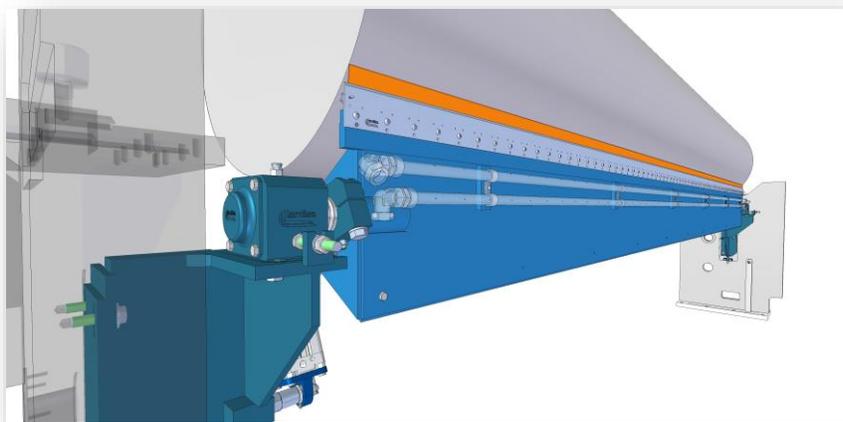
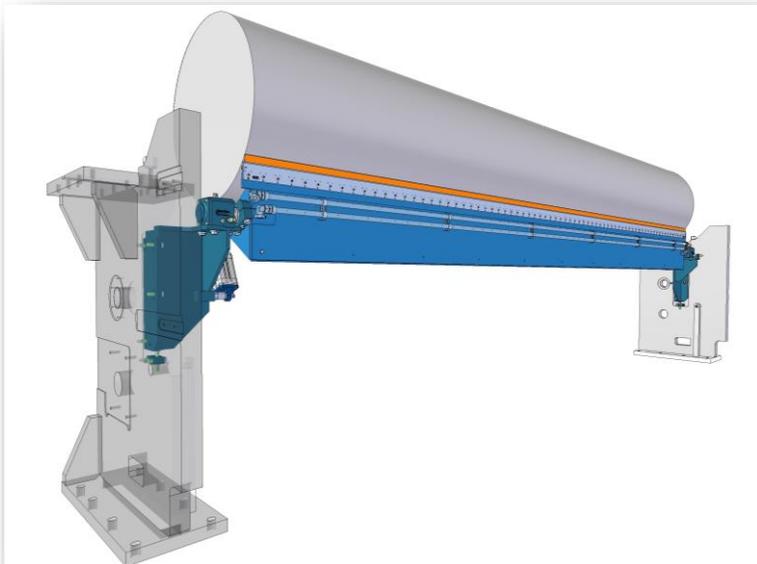
Avoid marks in the sheet

Increase paper quality

### 13) Reel Doctor

- Optimal Cleaning of the Reel Drum surface
- Special design of blowing pipe for taking off better the sheet
- Design adapted to any new or existing paper machine
- Blade Holders adapted for Front removal of the Doctor Blade
- Option of Fixed or Oscillating Doctor

Alternative Blade Holders	
L-75N	
Flexilan FL-4	

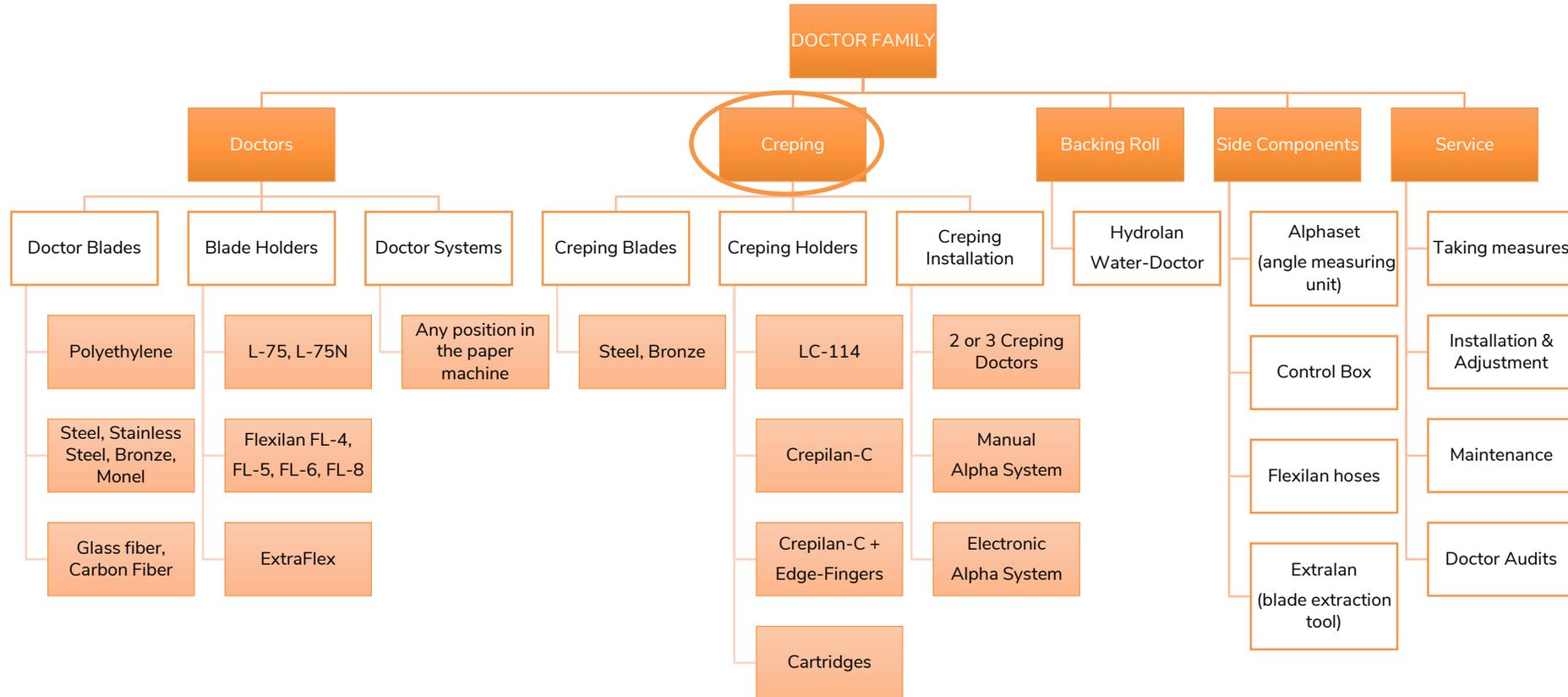


**BENEFITS**

Increase Reel efficiency



Increase Machine efficiency



## Lantier creping doctors

- 14) Cutting, Creping and Cleaning Doctor on Yankee
  - a) Classical Creping Installation
  - b) Creping Installation with Manual Alpha System
  - c) Creping Installation with Automatic Alpha System

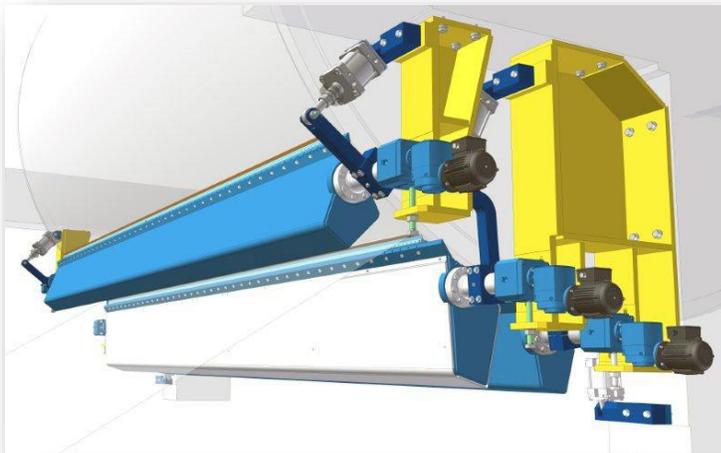
## Features of Lantier creping holders

- All Lantier Creping Holders are designed for 114 mm blades (4 ½")
- Blade wear compensation in endless user defined steps 75-127 mm
- Blade stick-out can be tailor designed to fit any production requirements
- Self-profiling as well as manual profile adjustment screws
- Edge relief/loading fingers allow for extra loading correction and adjustment a edge zones
- High precision blade pressure uniformity
- Lower linear load than competitor's holders for reduced blade wear and longer Yankee life
- Open and segmented design to decrease dust accumulation
- Cartridges allow easy cleaning and easy blade change
- Strongly built in stainless steel

## 14) Cutting, Creping and Cleaning Doctor on Yankee

### a) Classical Creping Installation

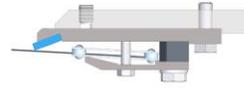
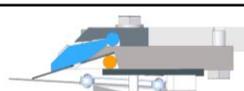
- Traditional angle adjustment mechanism by means of regulation screws
- Adjustment range tailor designed to fit any need (typically +/- 6 degrees)
- Air blowing self-cleaning system for all Lantier blade holders
- Built in painted steel or stainless steel to fit customer requirements



### OPTIONAL FEATURES

- Blade presence sensor (can be connected to electronically controlled loading/lifting pneumatic system)
- Vibration detection (accelerometers in doctor body)
- Blade temperature detection (several thermocouples)
- Electronic control of pressure adjustment, loading and lifting, oscillation, etc.

### Alternative Creping Holders

LC-114	
Crepilan-C	
Crepilan-C + Edge Fingers	

### BENEFITS

Increase Machine efficiency

Reduce Sheet breaks



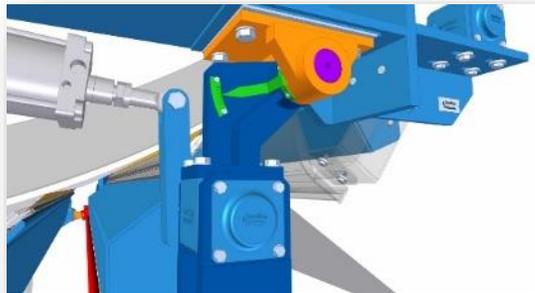
Increase Machine efficiency

Increase Yankee Dryer Lifetime

Increase paper quality

## b) Manual “Alpha System”

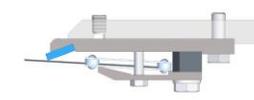
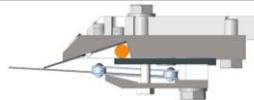
- Quick angle adjustment mechanism for the creping blade
- Adjustment range tailor designed to fit any need (typically +/- 6 degrees)
- Independent adjustment of creping application angle. No need to change linear load, blade stick-out, or bevel angle
- Fairly quick paper grade changes
- Designed to be adjusted while not in production
- Movement at TS and DS by two users or synchronized by shaft with movement only at TS
- Removable ratchet for angle adjustment, requires very little space
- Air blowing self-cleaning system for all Lantier blade holders



### OPTIONAL FEATURES

- Blade presence sensor (can be connected to electronically controlled loading/lifting pneumatic system)
- Vibration detection (accelerometers in doctor body)
- Blade temperature detection (several thermocouples)
- Electronic control of pressure adjustment, loading and lifting, oscillation, etc.

### Alternative Creping Holders

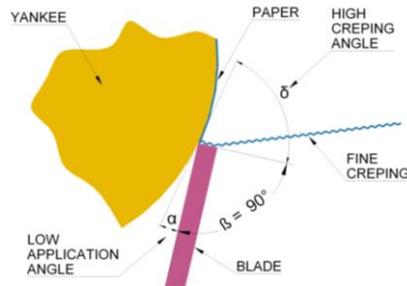
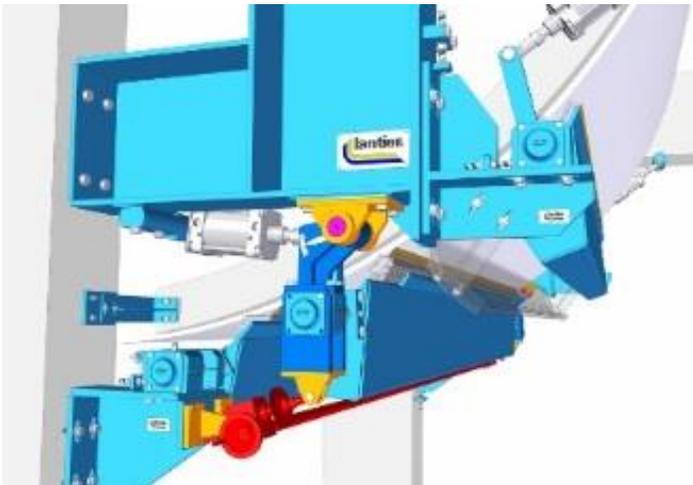
LC-114	
Crepilan-C	
Crepilan-C + Edge Fingers	

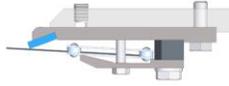
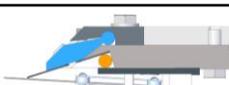
### BENEFITS

- Increase Machine polyvalence
- Reduce Machine downtime
- Increase Yankee Dryer Lifetime
- Increase paper quality

### c) Automatic “Alpha System”

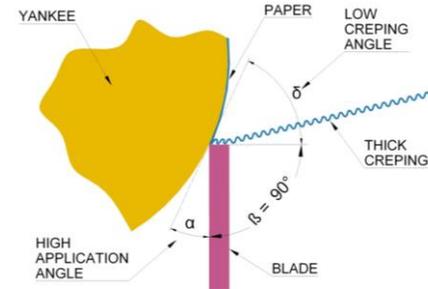
- Quick angle adjustment mechanism for the creping blade that can be operated during production
- Adjustment range tailor designed to fit any need (typically +/- 6 degrees)
- Independent adjustment of creping application angle. No need to change linear load, blade stick-out, or bevel angle
- Fast paper grade changes
- Synchronizing TS/DS can be made electronically or by synchronizing-shaft to ensure perfect parallelism
- Electronic control touch screen for angle and pressure adjustment, loading and lifting, oscillation, etc.
- Air blowing self-cleaning system for all Lantier blade holders



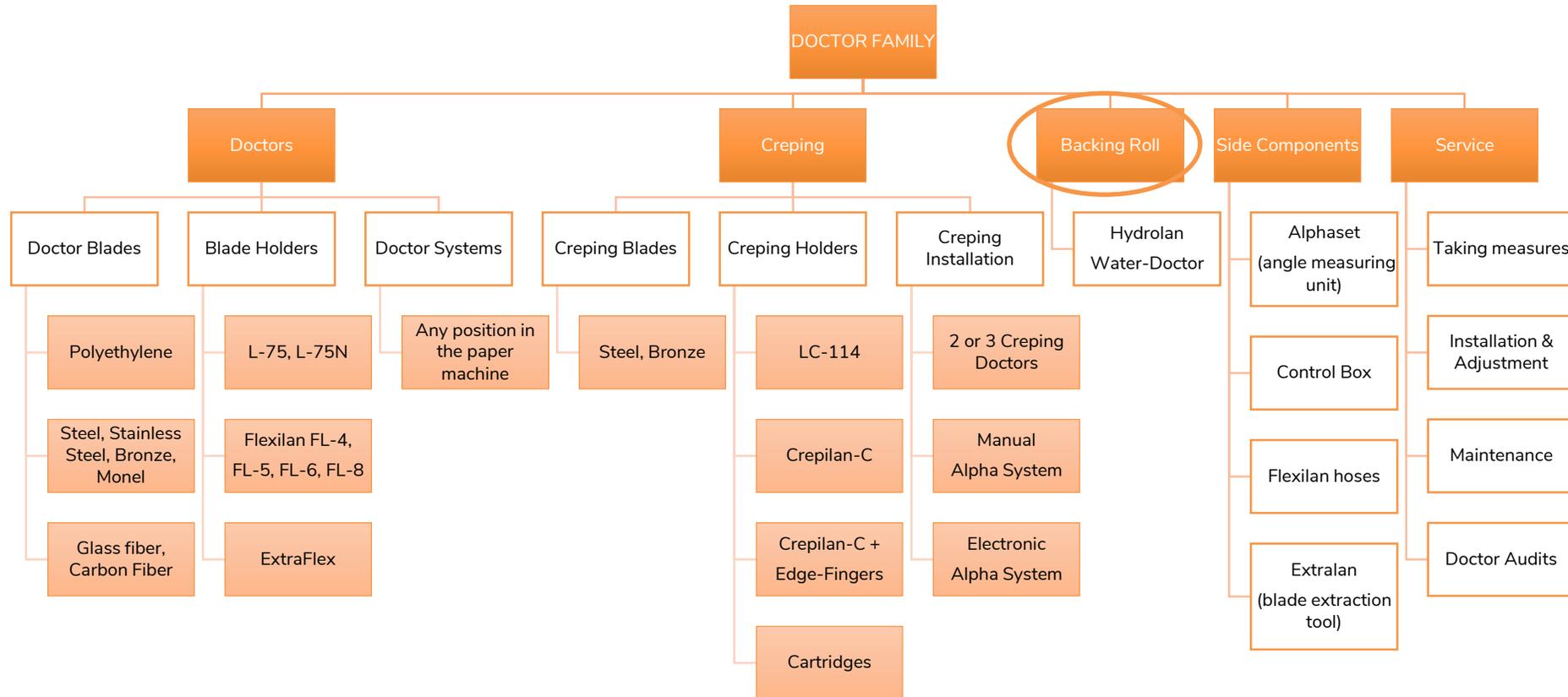
Alternative Creping Holders	
LC-114	
Crepilan-C	
Crepilan-C + Edge Fingers	

#### OPTIONAL FEATURES

- Blade presence sensor (coordinated with Alpha-System control)
- Vibration detection (accelerometers in doctor body)
- Blade temperature detection (several thermocouples)

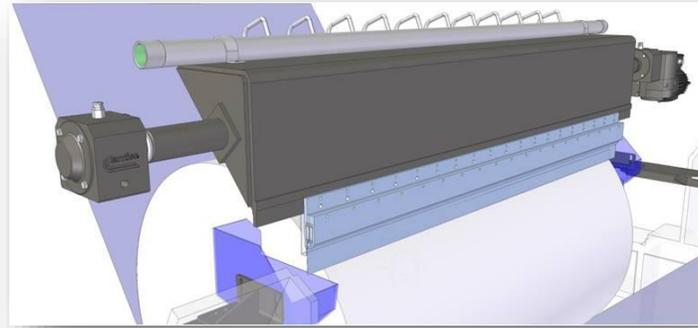


<b>BENEFITS</b>	Increase Machine polyvalence
	Reduce Machine downtime
	Increase Yankee Dryer Lifetime
	Increase paper quality



## 15) Hydrolan Water-Doctor on Coater Backing Roll

- Eliminate deposits of the backing roll
- Improve coating quality
- Reduce sheet breaks
- Increase coating blade life

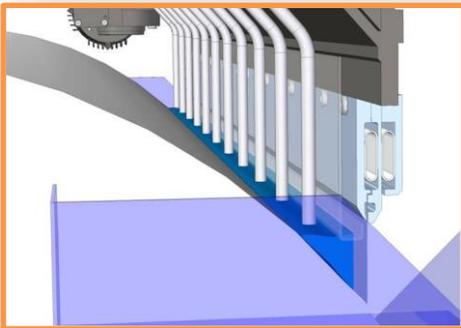


### BENEFITS

Avoid water marks in the sheet

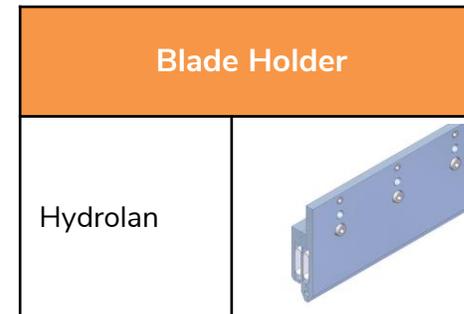
Increase paper quality

Increase Backing Roll lifetime

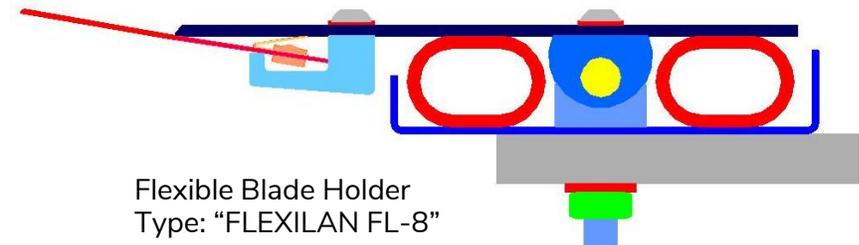
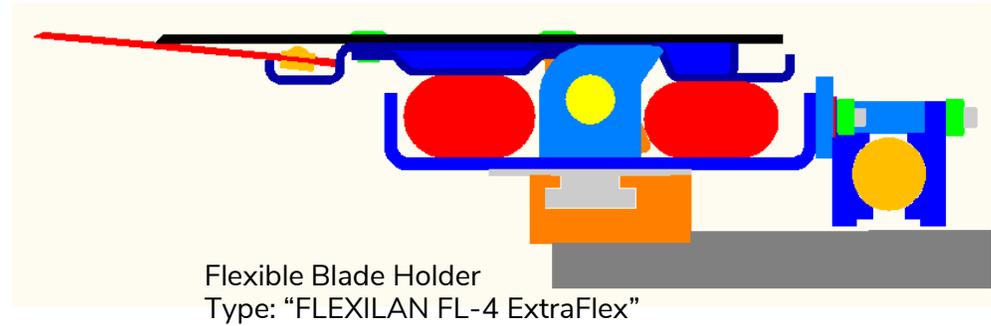
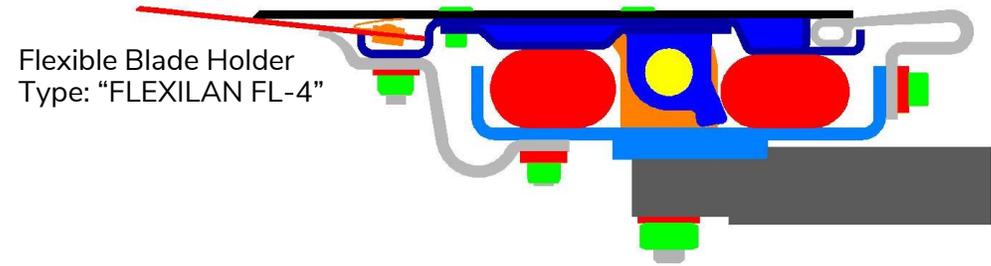
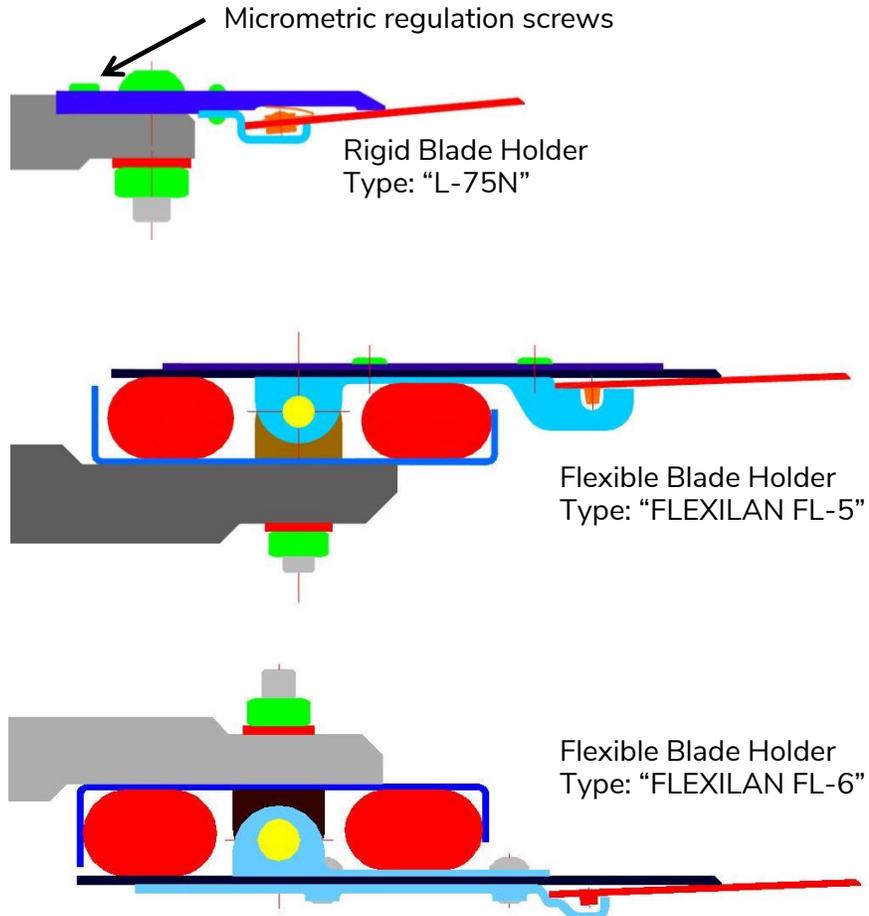


### Features of the Hydrolan blade holder

- Hydrolan Blade Holder uses 75-80 mm wide blades (3")
- Any sort or coating blades can be fitted in the Hydrolan Blade Holder
- Pneumatic system for opening and closing the Blade's housing
- Blade Holder with micrometric regulation screws for profiling
- Strongly built in stainless steel

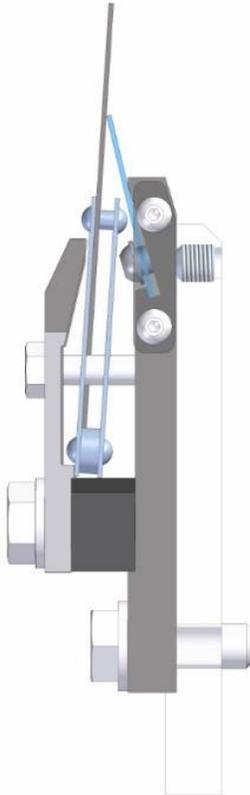


## 1) Blade Holders

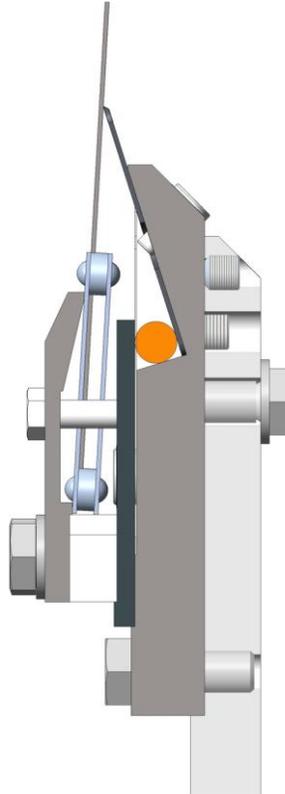


## 2) Creping Holders

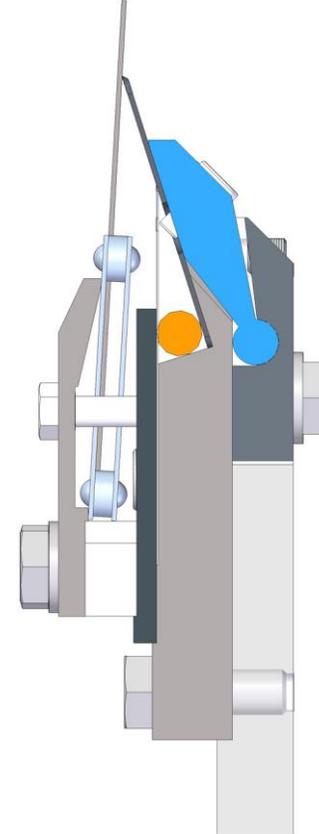
Rigid Creping Holder  
Type: "LC-114"



Semi-flexible Creping Holder  
Type: "CREPILAN-C"



Semi-flexible Creping Holder  
Type: "CREPILAN-C + EDGE-FINGERS"



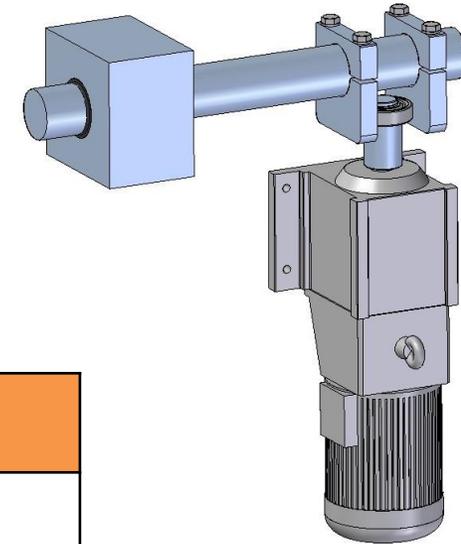
### 3) Oscillators



Electro-Mechanical Oscillator  
Type: "RL-21.A"

- Directly fixed to the support
- Always aligned with the Doctor although the doctor's position change
- The eccentric and the yoke are in a closed room
- Lantier Electric motors available for wet and dry section
- Option for manufacturing the oscillator in stainless steel and steel

- Need of supplementary brackets for fixing the oscillator
- Need to be re-aligned whenever the doctor's position changes
- The eccentric and yoke are not protected



Competitors' Oscillator

Alternative Oscillators	
HL-3 Hydraulic	
OLN-11000 Pneumatic	