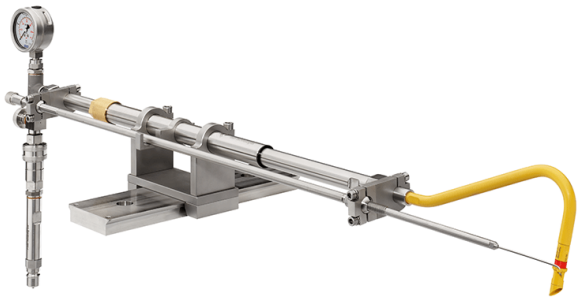
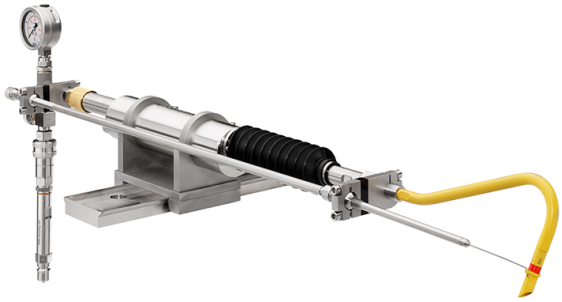
ProJet B.V.

Professional high pressure water jet technology

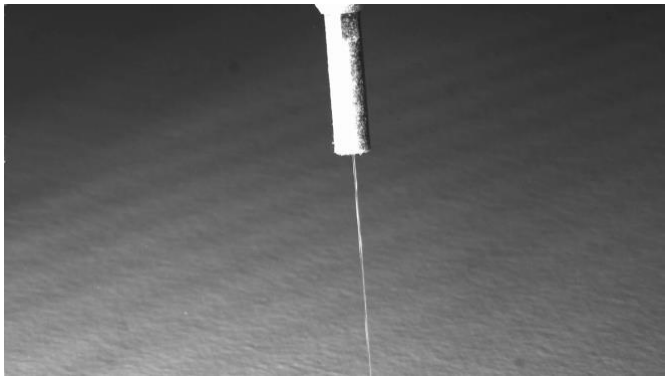
Trim Squirts & Nozzles





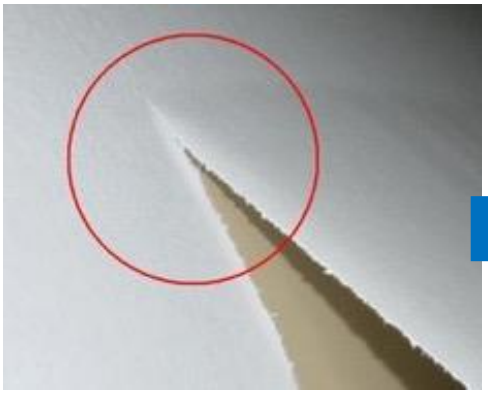
- **Wet End Trim Squirts**
- **Nozzles**
- **Tail & Deckle Cutters**
- **Pumps**

Trim Squirts & Nozzles



Nozzles:

- Only ruby inserts will provide laminar jet
- Perfect jet laminarity
- Highly reliable design
- Straight cut
- No fiber bridging
- Extreme long lifetime



Fiber bridging

Sheet break

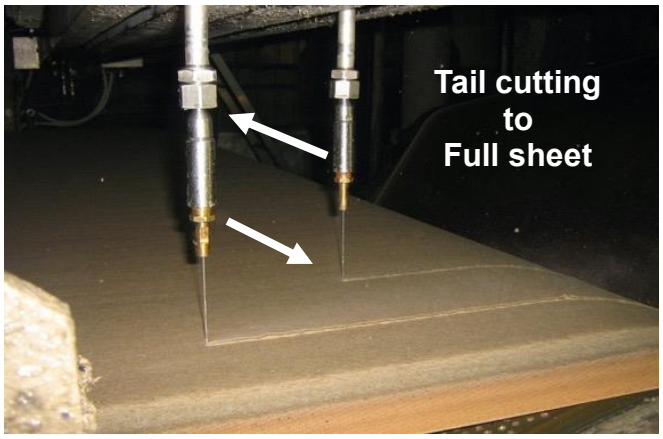
Tail Cutter & Trim Squirts:

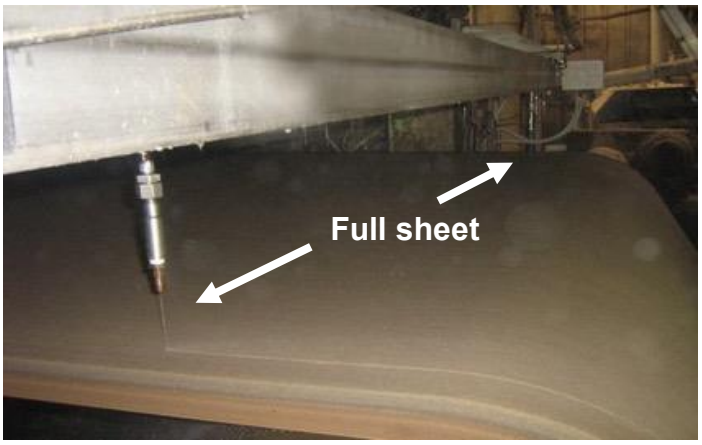
- Tail Cutter used while threading
- Trim Squirts cut format/ deckle during production
- Fully automatic or manual Trim Squirts
- Ruby nozzles, single / double or triple
- Right nozzle, water quality and pressure provide good cut
- Poor cut leads to fiber bridging and

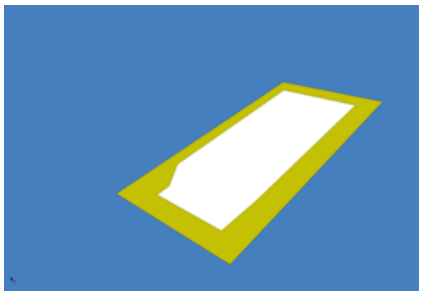
Tail & Deckle Cutter

Dual Tail Cutter:

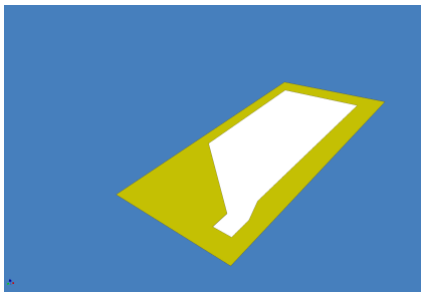
- Automated Trim removal
- Automatic deckle changes
- Minimize unproductive time between production runs
- Reduce broke to a minimum
- Optimize Tail Width & Position
- Fine tune width and position during production
- Adjust paper width to cross directional shrink > minimize paper loss on reel



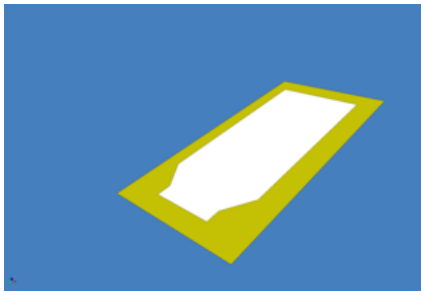




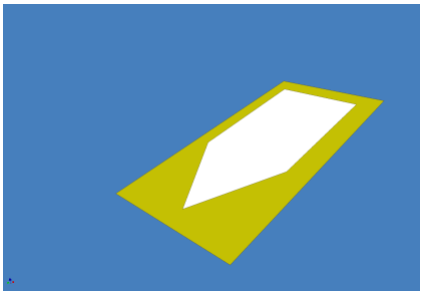
Fine tuning



From Tail to Full Sheet



Automatic deckle changes



Cut off

Pump - Services

Pump(s), control cabinet, control panels, HMI:

- Customized for each required flow
- Redundant design
- Dual filtration integrated
- All components pre-assembled
- Highly reliable and highest safety standards
- ProJet can comply with your mill standards

Services:

- Kick-off meetings & measure up visits
- Engineering (3D design)
- Installation supervision
- Commissioning
- Training on operation, safety & maintenance
- Worldwide service visits / local service
- Local warehouses for spare parts

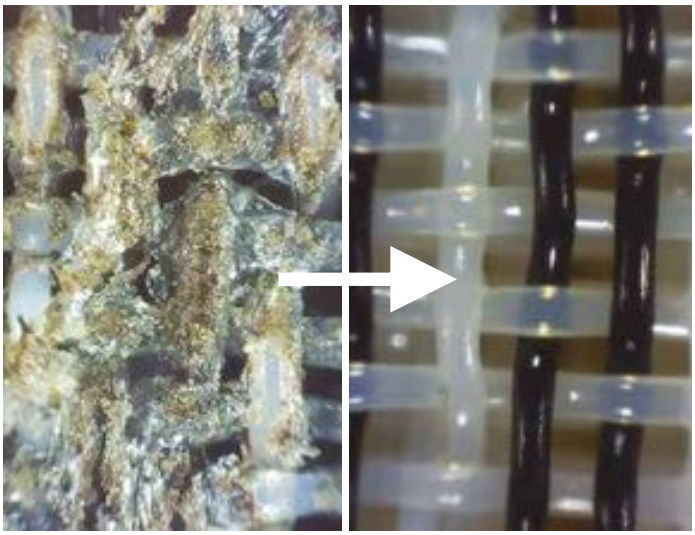
ProJet B.V.

Professional high pressure water jet technology

Power Cleaner

Continuous high pressure shower for:

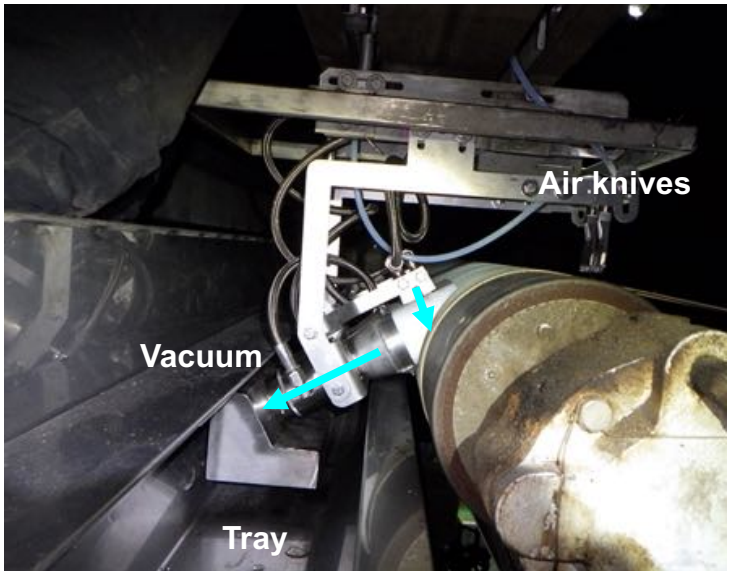
- **Forming Fabrics**
- **Press Felts**
- **Dryer Fabrics**

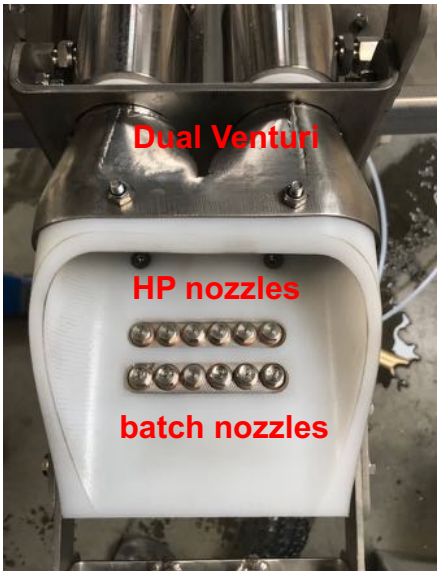


Dryer Fabrics

24 / 7 cleaning:

A clean dryer fabric, with consistently high air permeability, delivers important productivity and performance advantages for dryer section applications. The desired end result, of a clean dryer fabric, is a substantial improvement in available dryer capacity. The ProJet system consumes very little water, compressed air, or electrical energy. This innovative cleaning system is being applied successfully to very low basis weight product as well as heavy weight paper board applications.





Continuous cleaning mode:

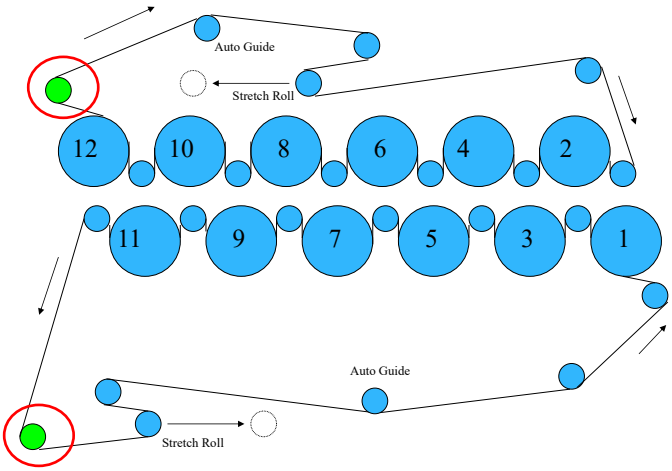
- Max. 500 bar – 7,500 psi
- Per nozzle: 0,5 ltr/min – 0.12 gpm
- Air: 0.5 m^3/min – 18 cfm

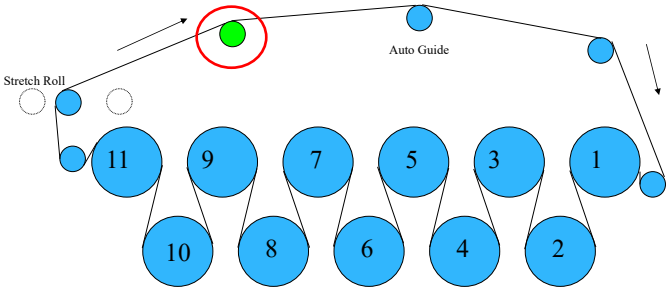
Batch cleaning mode:

- Max. 80 bar – 1,200 psi
- Total: 15,0 ltr/min – 2.5 gpm

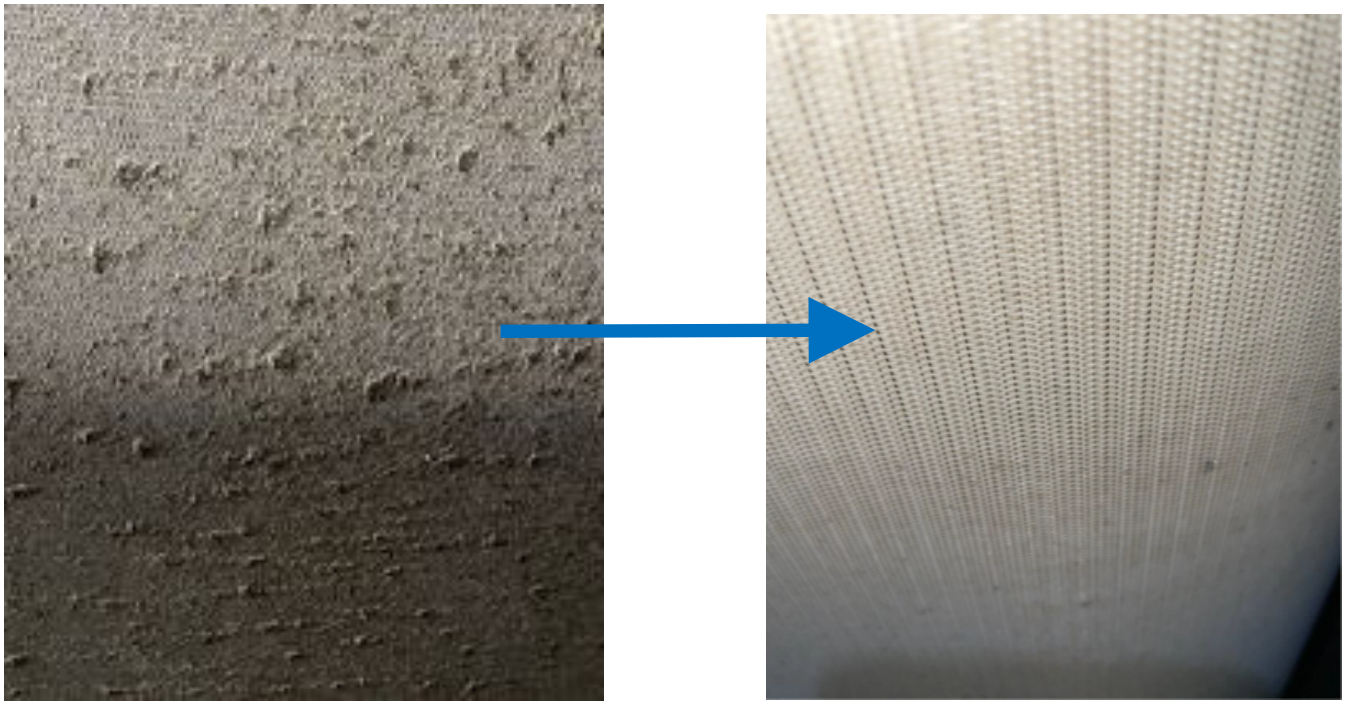
Dryer Fabrics

Typical installation positions





Highest cleaning efficiency



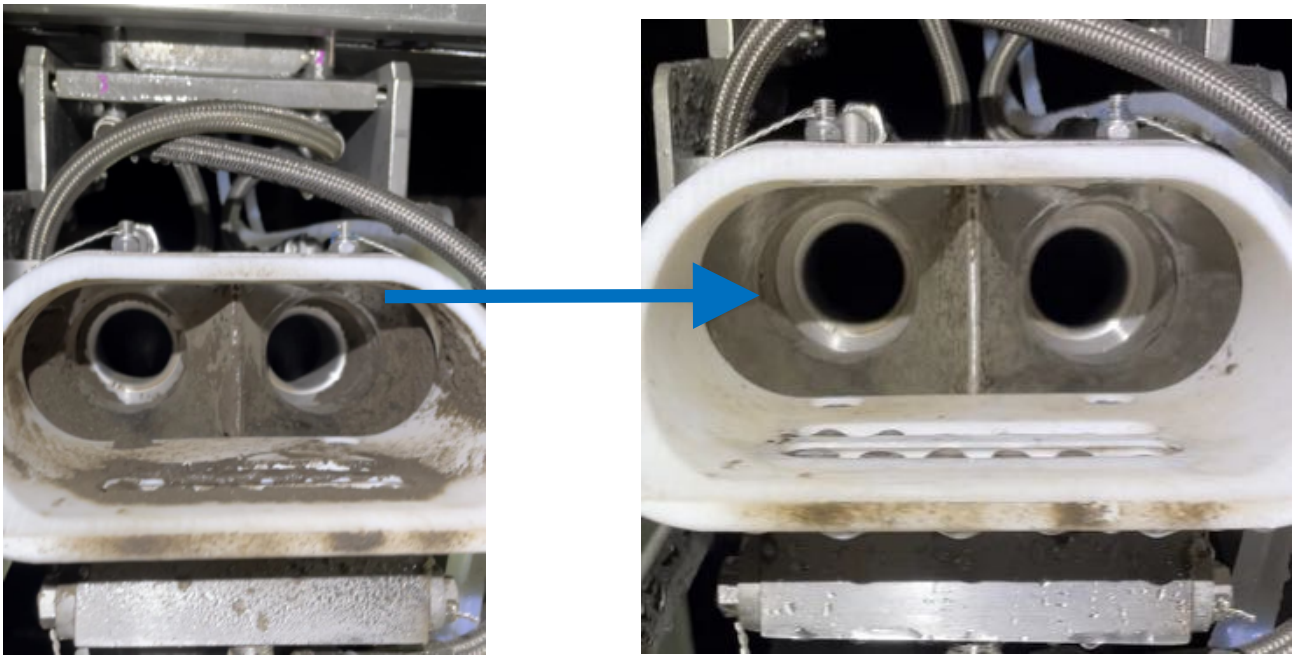
*Clean a dirty dryer fabric **within 12-24 hours** and then maintain this cleanliness 24 / 7*

Dryer Fabrics

Automatic self cleaning station outside dryer hood

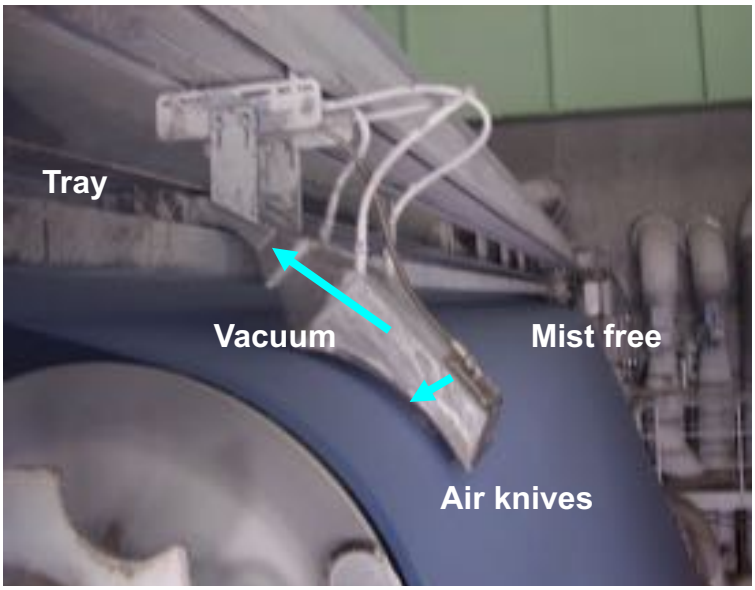
- Outside dryer hood: easy access
- Maintenance position
- Fully enclosed
- Fully automatic cycle
- 3 stage flushing: outside – inside – venturi flush

Three stage auto-cleaning



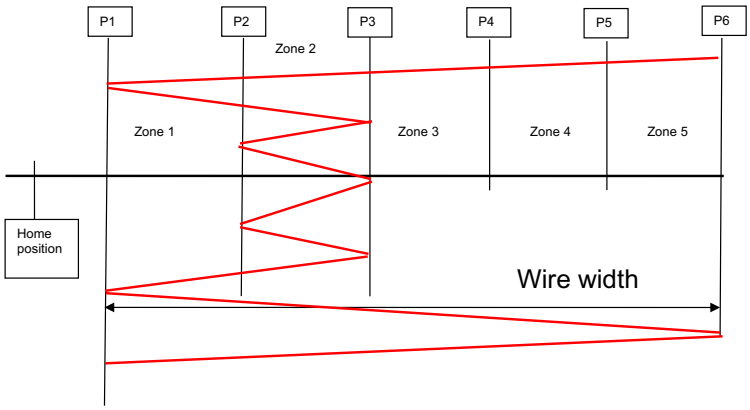
Vacuum stays clean & open > optimum vacuum performance & no manual intervening required

Forming Fabrics



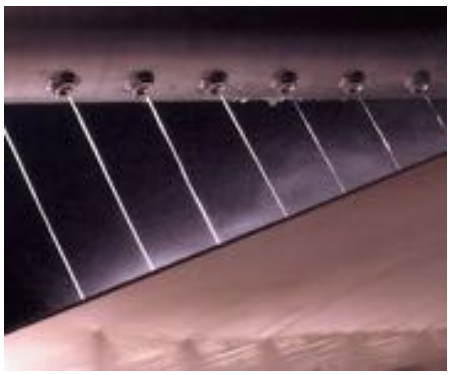
Benefits:

- Mist free
- Up to 95% reduction of water consumption
- Strip- & Zone cleaning
- Discharge of contamination and stickies
- Park Position outside forming wire area
- Different cleaning angles
- Automatic self cleaning station
- Also for Tissue machines



Strip- & Zone cleaning

Park position outside machine



Conventional showers use extreme amounts of water

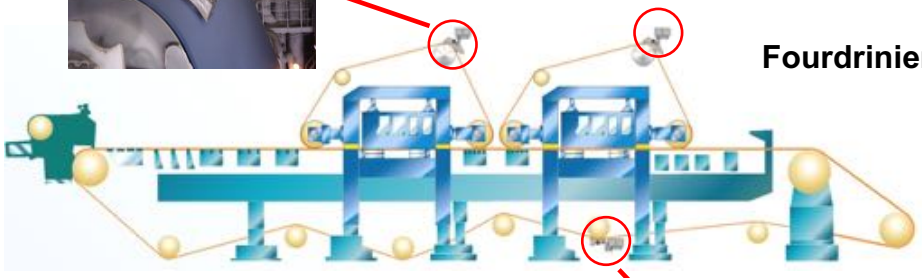
ProJet Cleaner:

- Max. 220 bar – 3,500 psi
- Total 5,0 ltr/min – 1.2 gpm
- Air: 0.8 m^3/min – 25 cfm

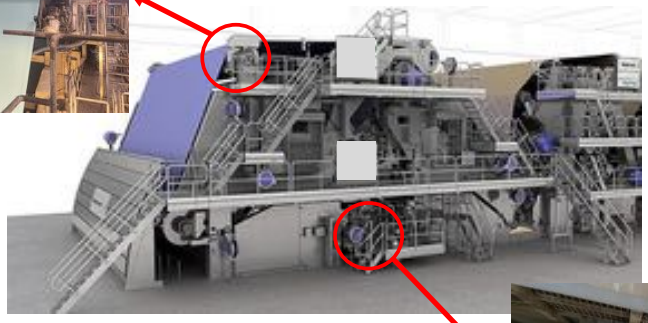
Up to 95% savings in water consumption

Forming Fabrics

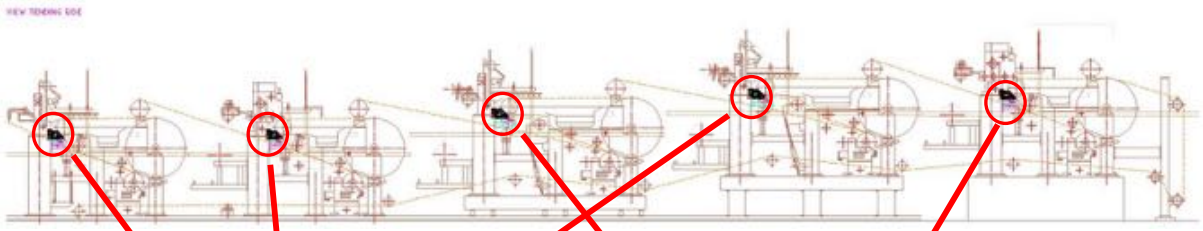
Typical layouts on Former Sections



Fourdrinier Former



BelBond / Double Former



Former 5 **Former 4** **Former 3** **Former 2** **Former 1**

Cylinder Board Former

Press Felts

Benefits:

- Mist free
- Up to 85% reduction of water consumption
- Strip- & Zone cleaning
- Discharge of contamination and stickies
- Park Position outside forming felt area
- Different cleaning angles
- Automatic self cleaning station
- Maintain high dewatering ability throughout lifetime

Park position outside machine

For Tissue felts

ProJet Cleaner:

- Max. 50 bar – 750 psi
- Total 4,0 ltr/min – 1.0 gpm
- Air: 0.5 m^3/min – 18 cfm

Up to 85% savings in water consumption

System layout & services

Pump(s), control cabinet, control panels, HMI:

- Can all be sized for multiple Cleaners
- Filtration integrated
- Local and remote control panels
- Integration in or feedback to DCS
- ProJet can comply with your mill standards

Services:

- Kick-off meetings & measure up visits
- Engineering (3D design)
- Installation supervision
- Commissioning
- Training on operation, safety & maintenance
- Worldwide service visits / local service
- Local warehouses for spare parts

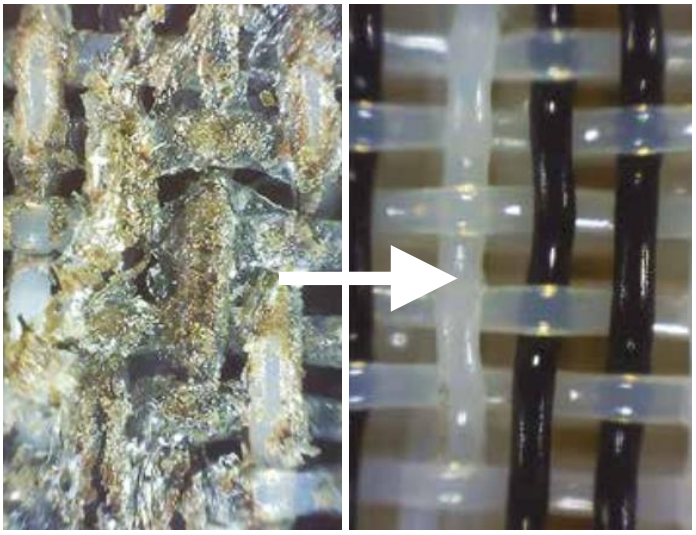
ProJet B.V.

Professional high pressure water jet technology

Power Cleaners for Tissue

Continuous high pressure shower for:

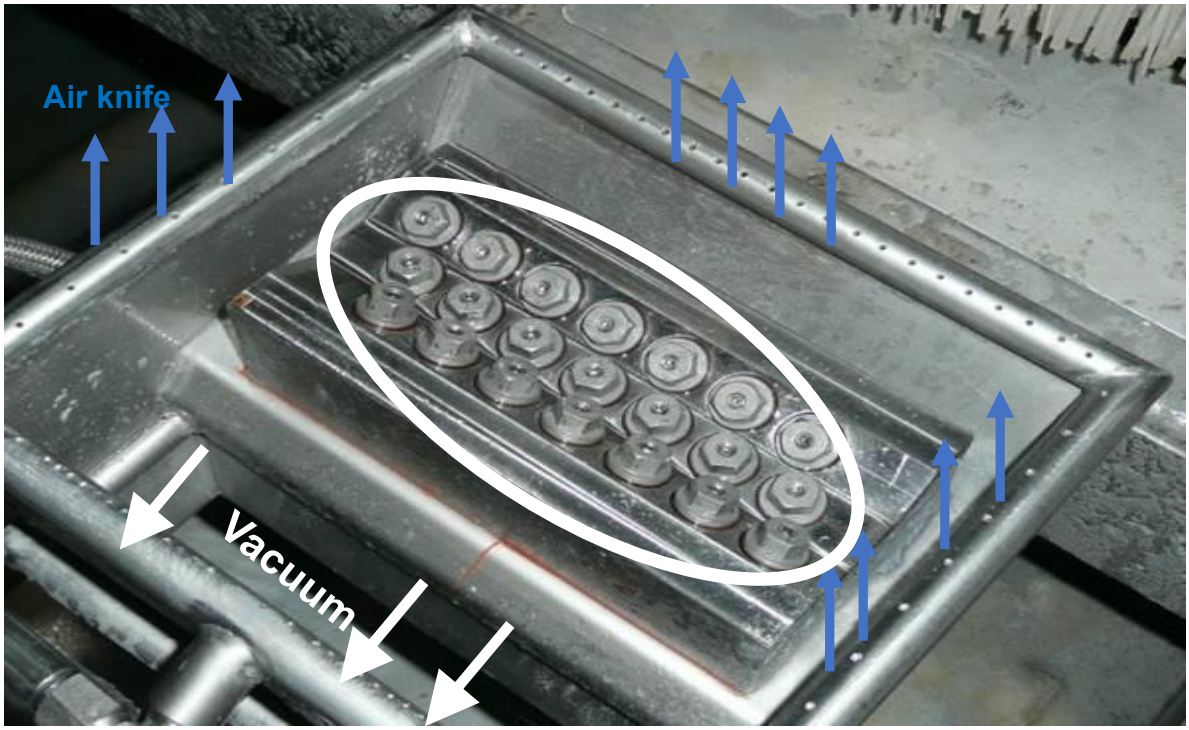
- **Forming Fabrics**
- **Transfer Felts**
- **TAD Fabrics**



Forming Fabrics

24 / 7 cleaning:

Clean forming fabrics and felts, with consistently high permeability, deliver important productivity and performance advantages. It is a substantial improvement in available dewatering capacity. The ProJet system consumes very little water, compressed air, or electrical energy. This innovative cleaning system is being applied successfully to very low basis weight product as well as ultra-high speed applications.



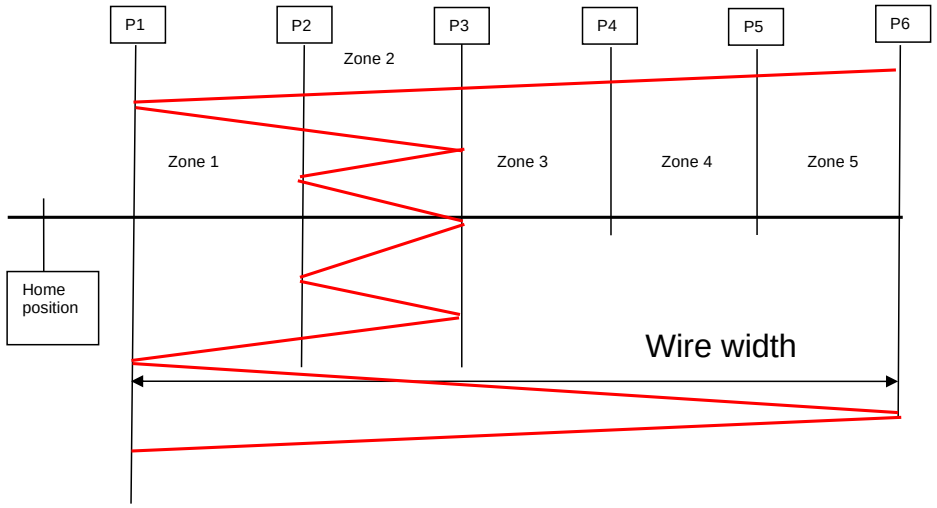
ProJet Cleaner:

- Max. 220 bar – 3,500 psi
- Total 5,0 ltr/min – 1.2 gpm
- Air: 0.8 m^3/min – 25 cfm

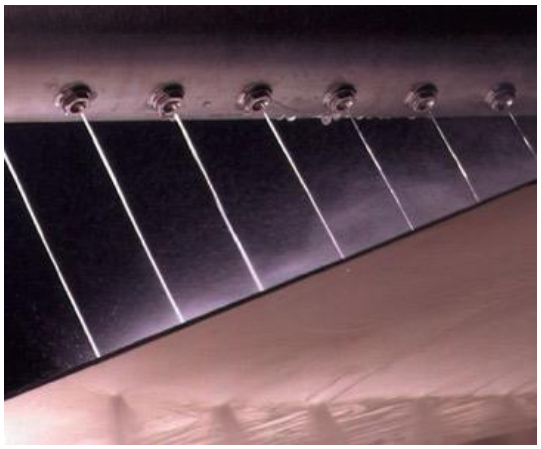
Forming Fabrics & Felts

Benefits:

- Mist free
- Up to 95% reduction of water consumption
- Strip- & Zone cleaning
- Discharge of contamination and stickies
- Park Position outside forming wire area
- Different cleaning angles
- Automatic self cleaning station



Strip- & Zone cleaning

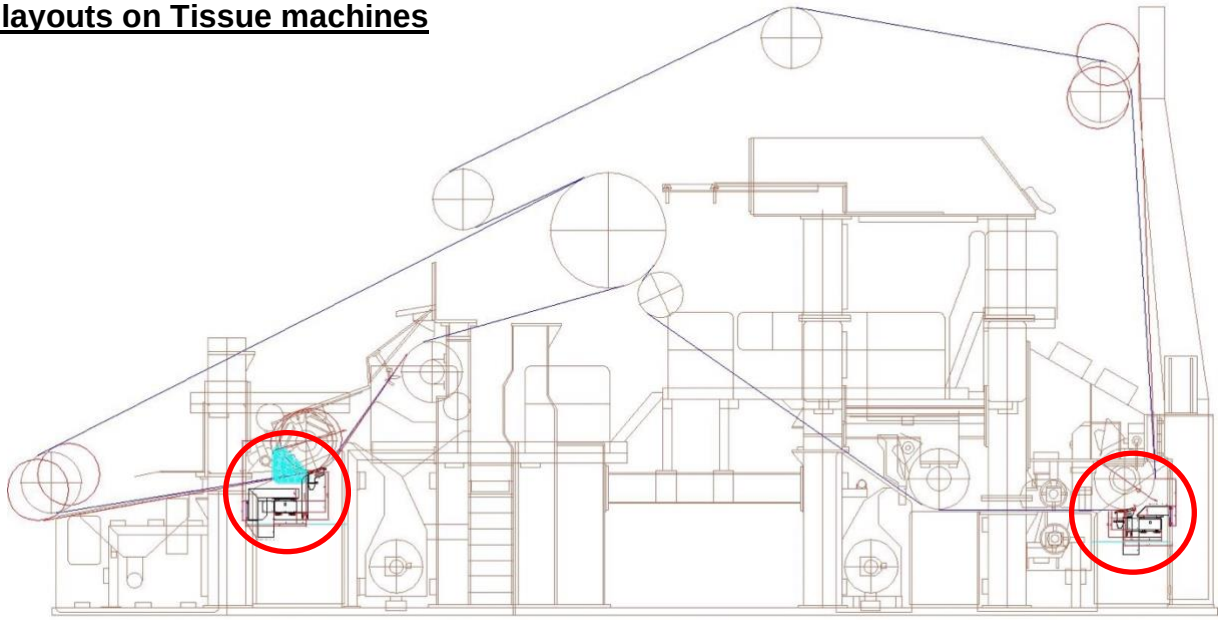


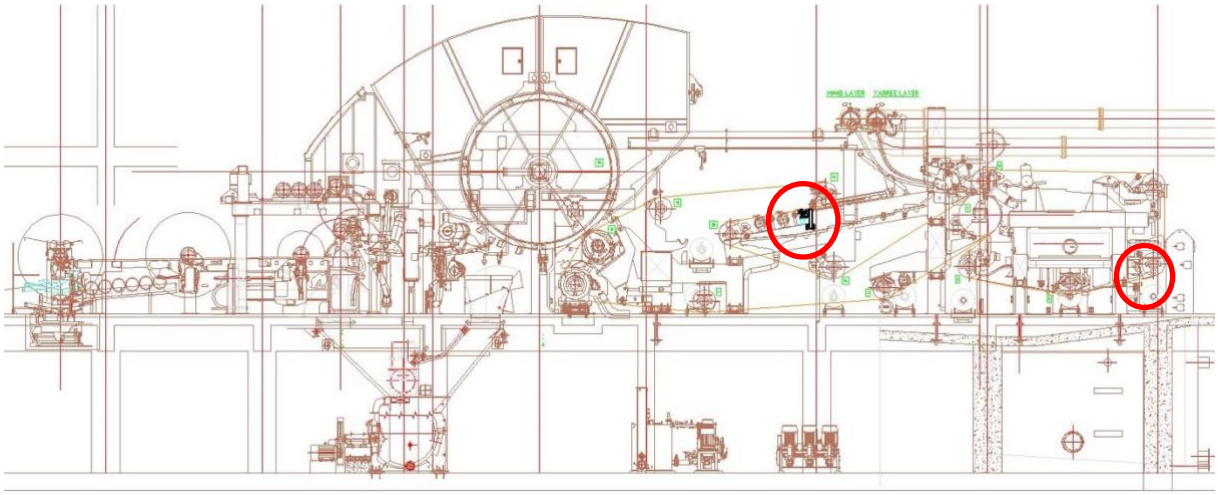
Conventional showers use extreme amounts of water

Up to 95% savings in water consumption

Forming Fabrics & Felts

Typical layouts on Tissue machines





Park Position outside machine

Felts

Benefits:

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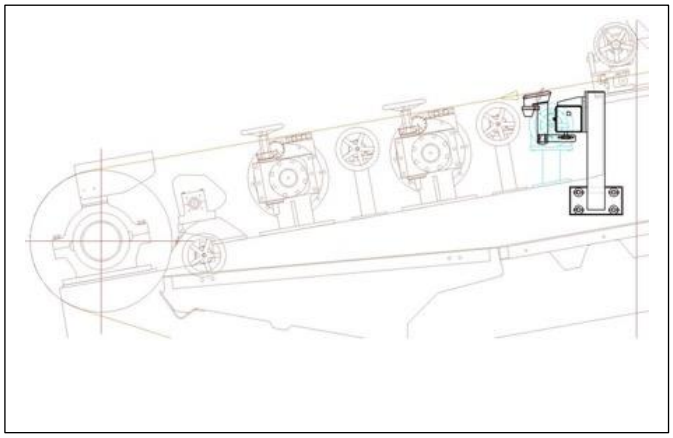
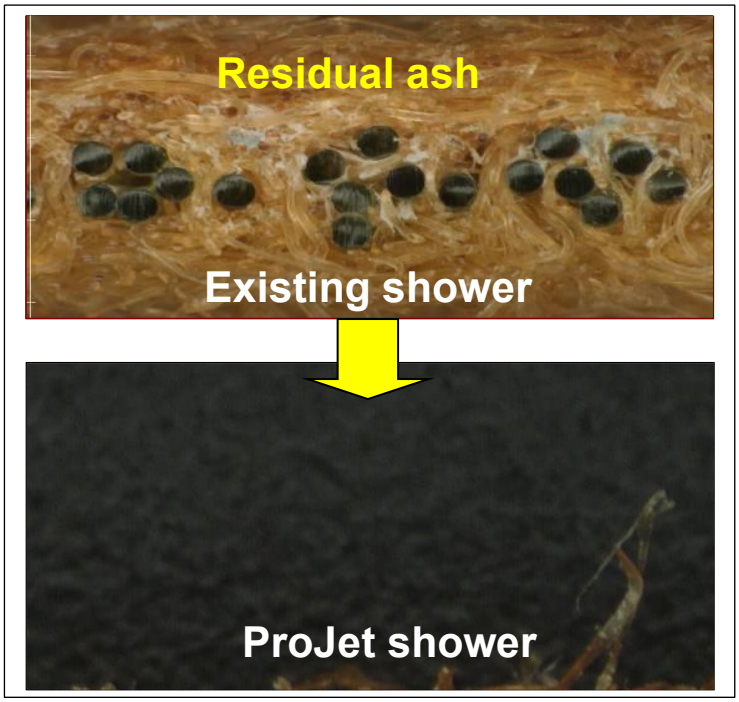
- Different cleaning angles
- Automatic self cleaning station
- Maintain high dewatering ability throughout lifetime



Installation position



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- Total 4,0 ltr/min – 1.0 gpm
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Up to 85% savings in water consumption

System layout & services

Services:

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- Installation supervision
- Commissioning
- Training on operation, safety & maintenance
- Worldwide service visits / local service
- Local warehouses for spare parts