



UMV 

INVENTING FOR COATING & SIZING

ABC™ Coater

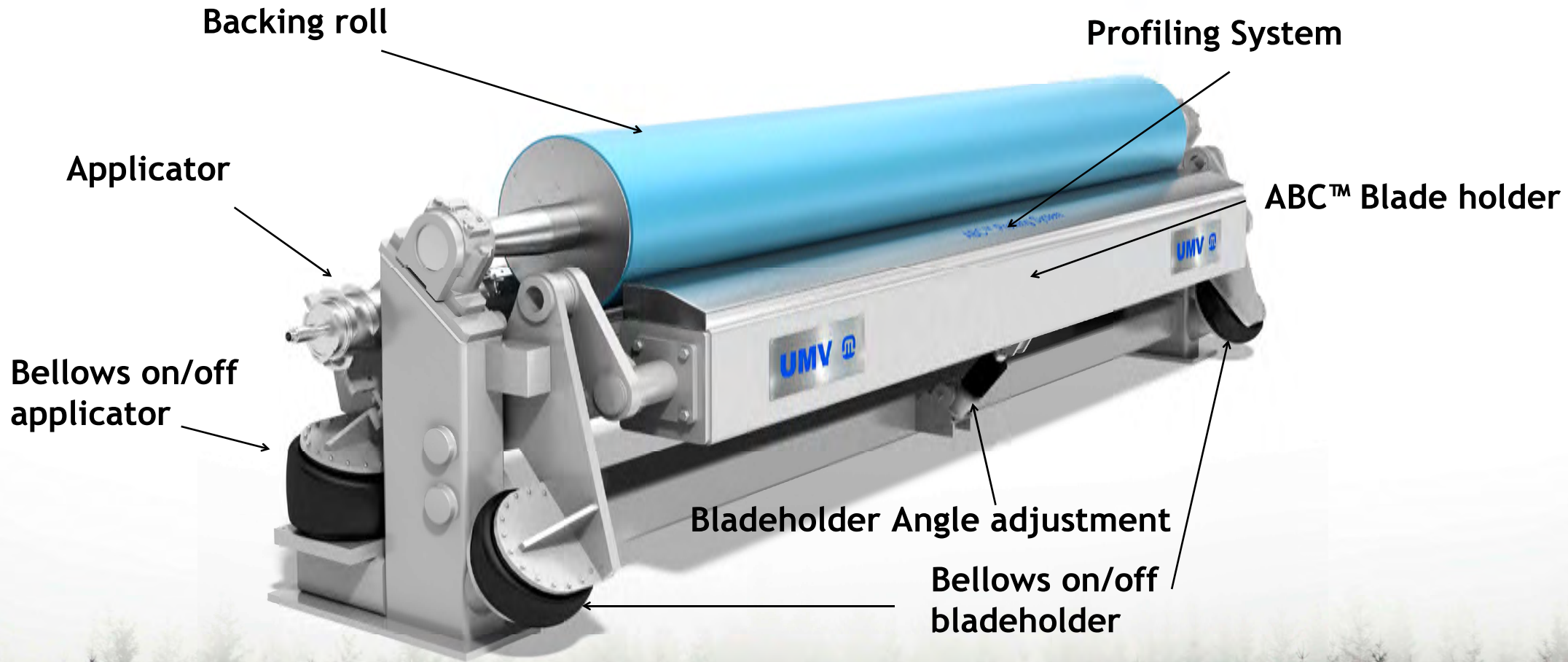


ABC™ Coater

- UMV has delivered Blade Coaters since the 1960's.
- More than 200 installations world wide, the majority are “stand alone” coating rebuilds or replacements
- UMV coaters features:
 - High technology level and innovative design
 - High operation performance
 - Easy Operation



ABC™ Coater - Main components



Technology level of ABC™ Coater

Application methods:

- Flooded nip roll applicator - INVO® Roll
- Jet applicator - INVO® Jet

Profiling:

- Conventional profiling mode
- ABC™ system in Manual mode
- ABC™ system in Automatic mode

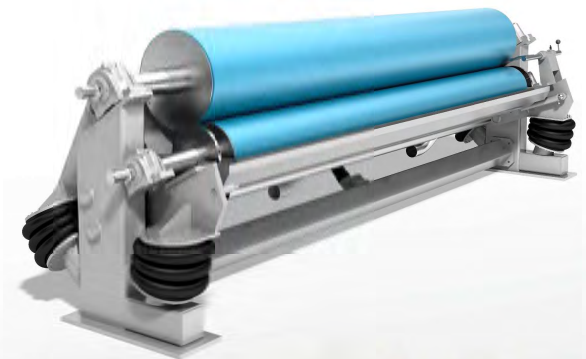
Metering methods:

- Blade coating (stiff and bent)
- Rod coating
- Resilient tip - INVO® Tip



Jet applicator - INVO® Jet

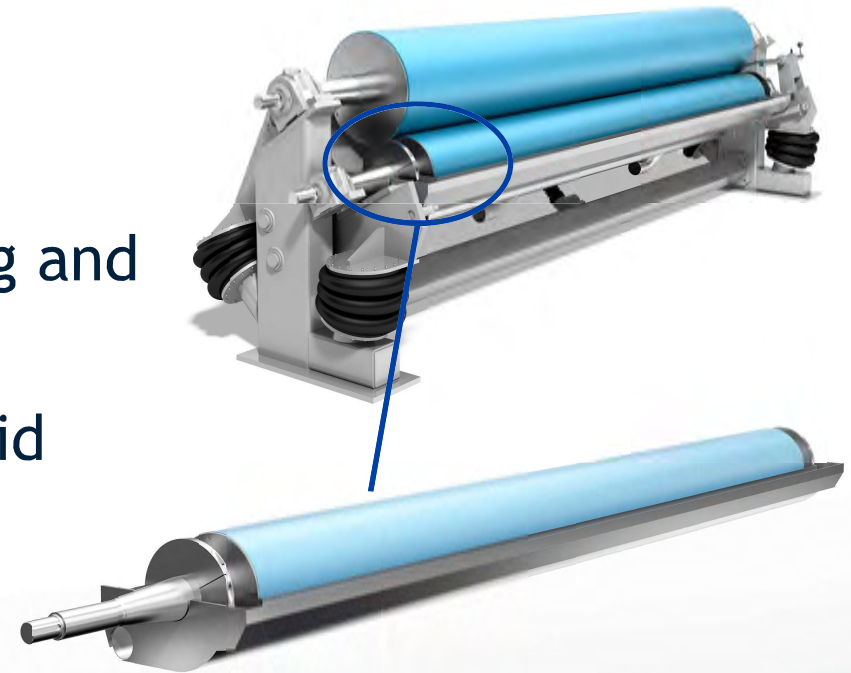
Flooded nip roll applicator



ABC™ Coater with Roll applicator

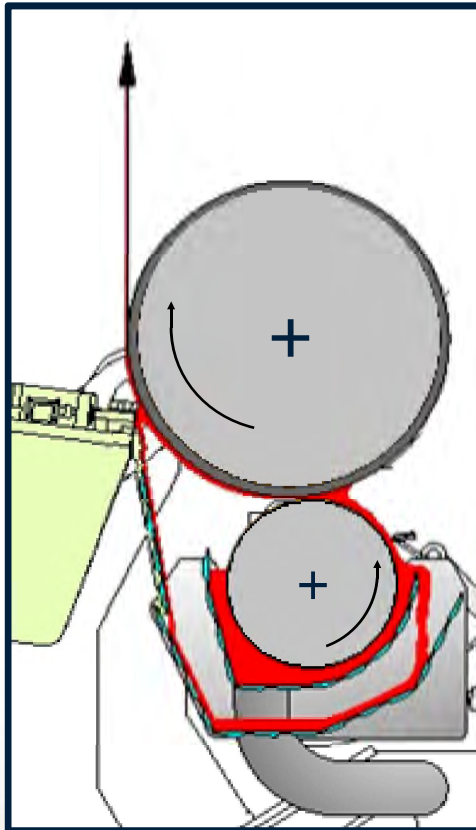
- Uniform application in MD and CD
- Secured cooling throughout the whole pan
- Large opening and easy access for cleaning and maintenance
- Splash shield on metering roll shaft to avoid leakage
- Applicable for speeds up to 900 m/min

Flooded nip roll applicator

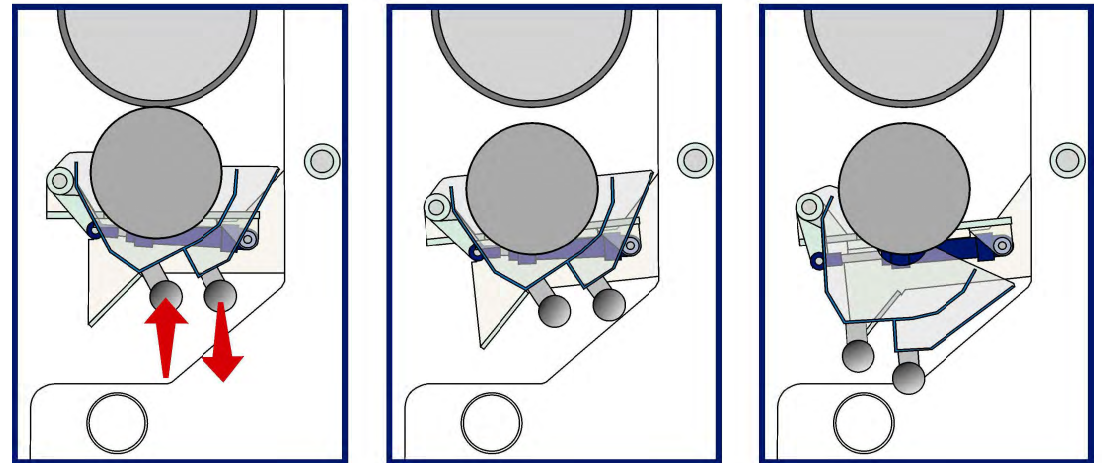


ABC™ Coater with Roll applicator

Operation principle flooded nip



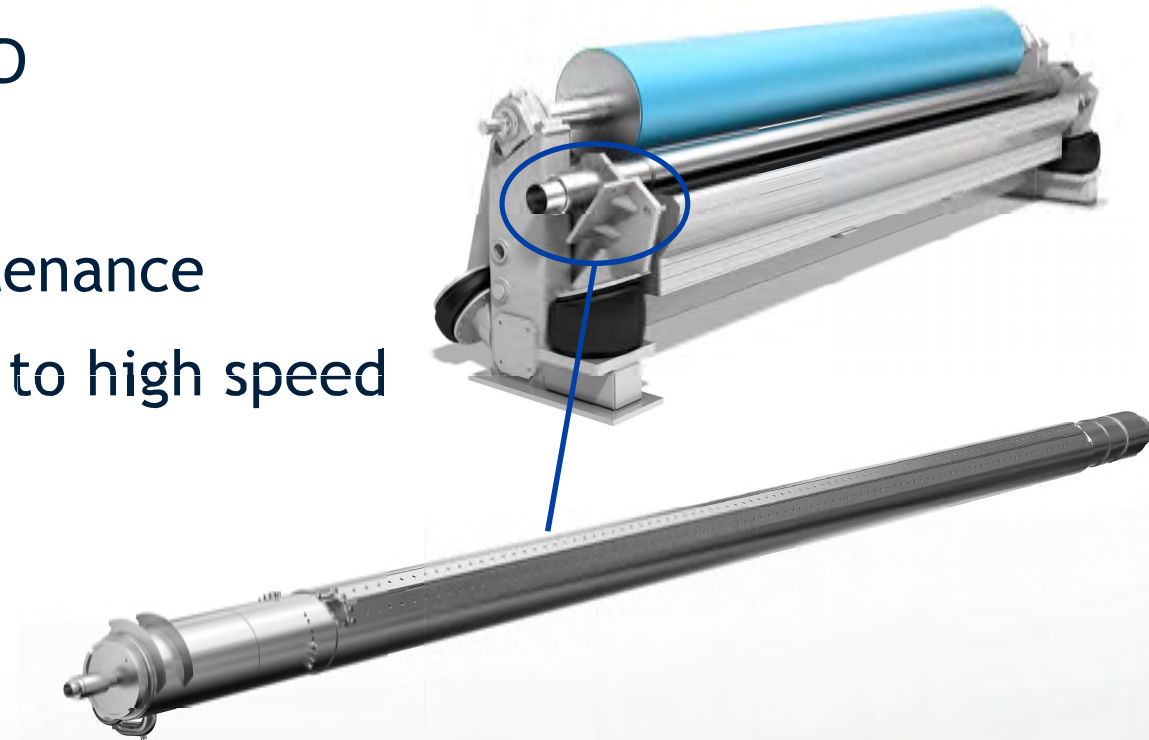
Movement of the pan and applicator



ABC™ Coater with INVO® Jet

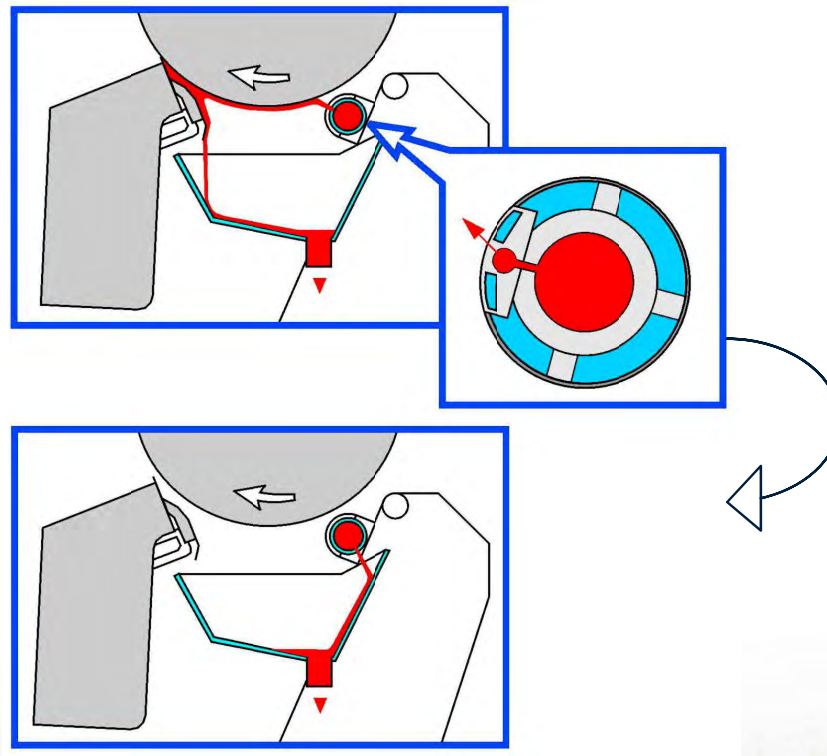
- Uniform application in MD and CD
- No clogging of the slice
- Easy cleaning and minimal maintenance
- Excellent performance from low to high speed machines

Jet applicator - INVO® Jet



INVO® Jet applicaton

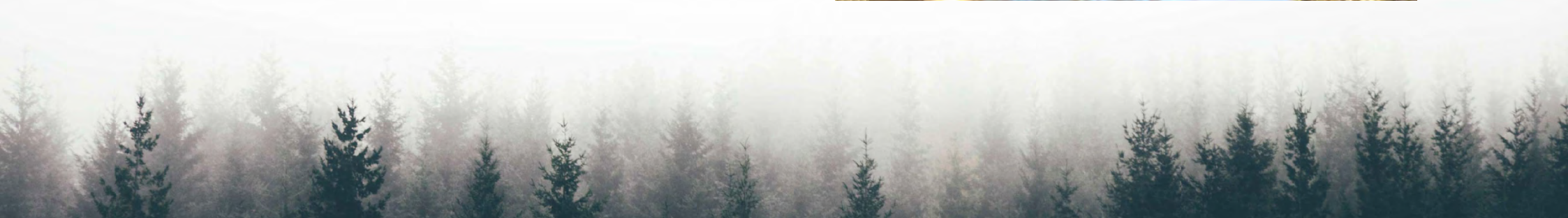
Start & Stop Sequence for INVO® Jet



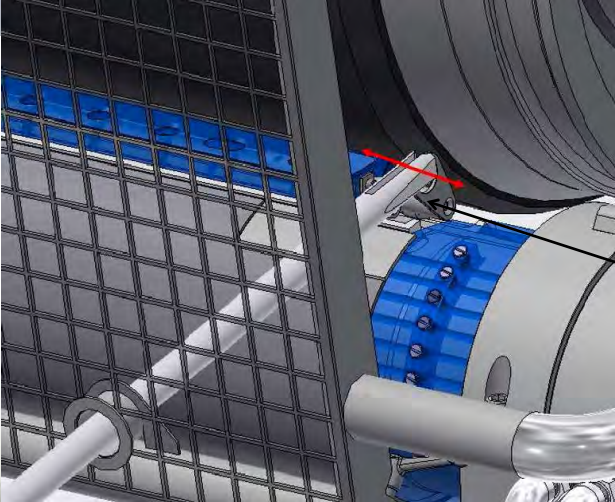
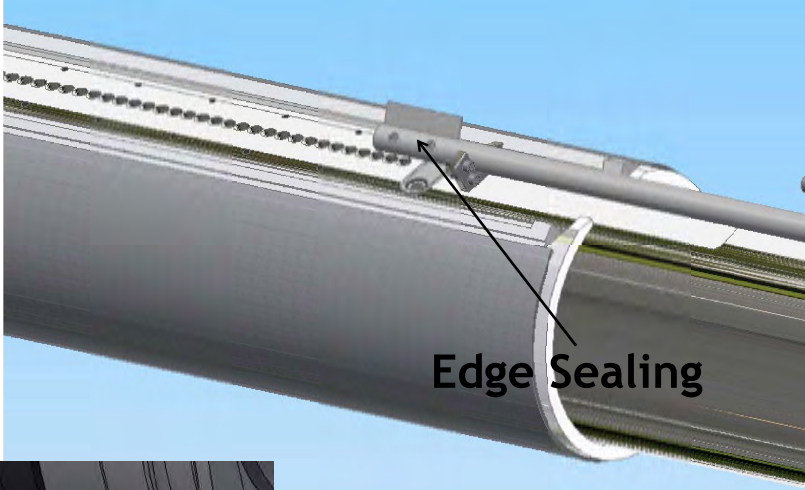
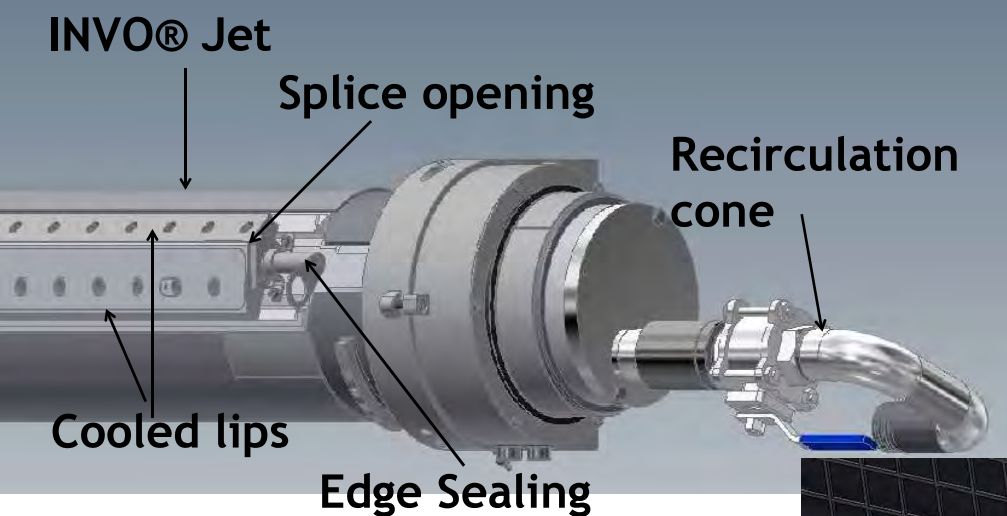
Automatic rotation of INVO
Jet by start and stop
coating, within 1 second.

INVO® Jet applicaton

Start & Stop Sequence for INVO® Jet - example 7m wide machine



INVO® Jet applicaton



Control of coated width

Technology level of ABC™ Coater

Application methods:

- Flooded nip roll applicator - INVO® Roll
- Jet applicator - INVO® Jet

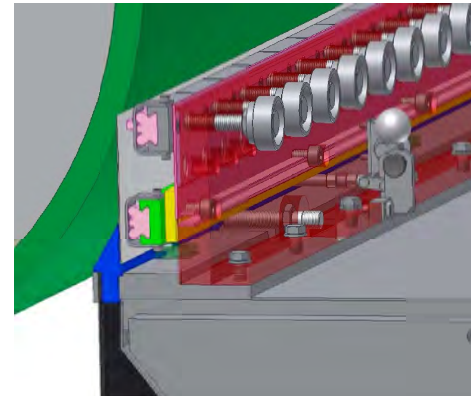
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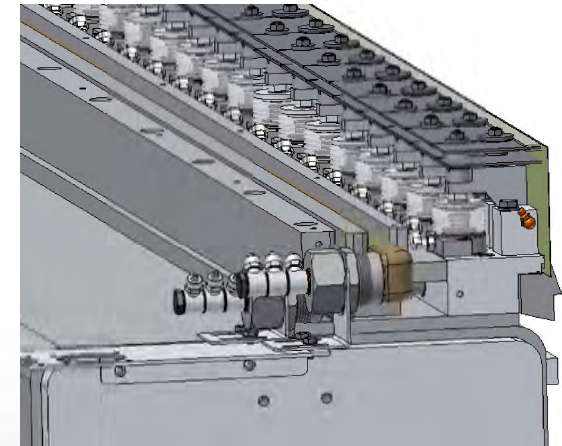
Metering methods:

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- Rod coating
- Resilient tip - INVO® Tip

Conventional profiling mode

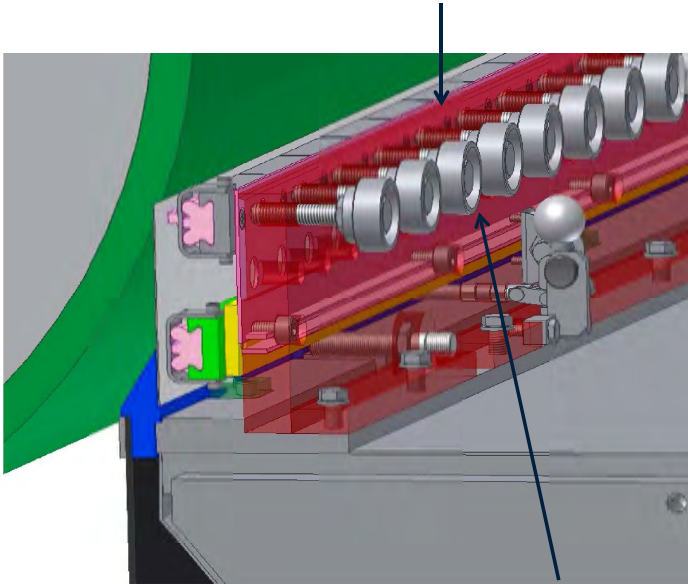


ABC™ Profiling System



Conventional profiling mode

Pneumatic profiling hose

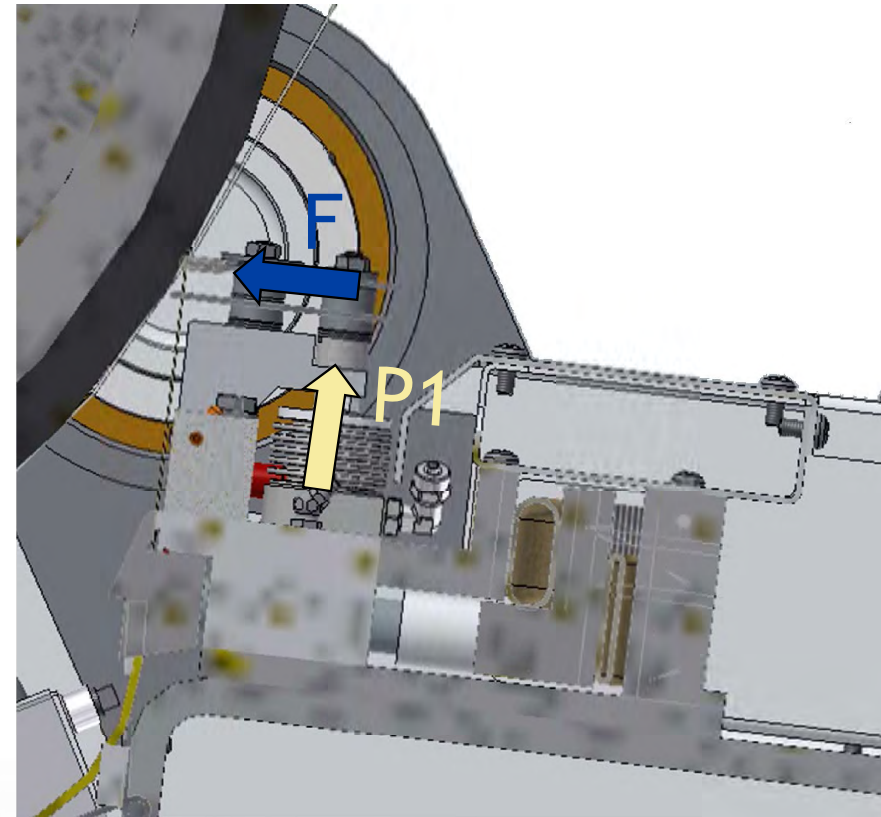


Mechanical Setscrews



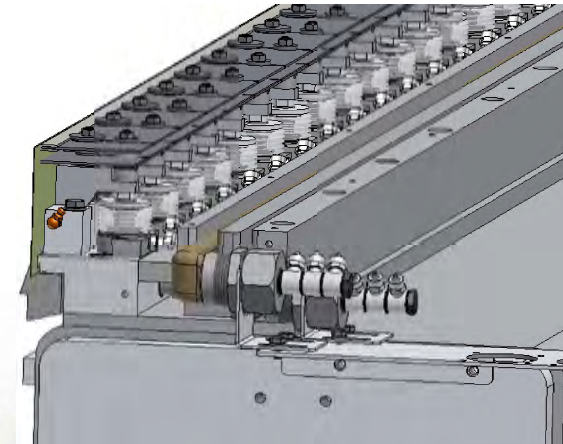
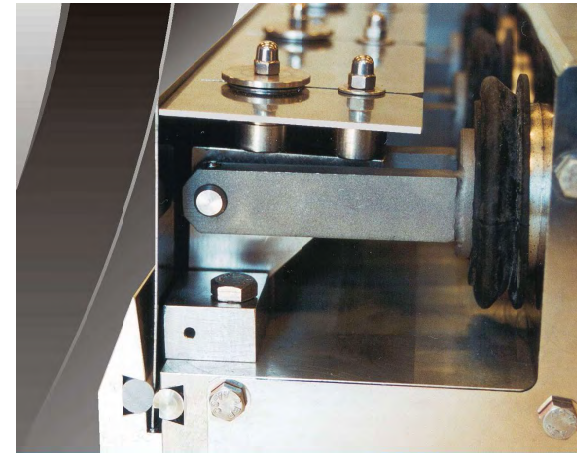
ABC™ Profiling principle

- The pneumatic actuator has one bellow. Which has a pressure contains a pressure. Pressure is controlled by control system
- The chamber gives the loading pressure = P
Through the lever arm the force is going to the blade loading force. Where the coat weight is controlled. Meaning; the pressure controls the coat weight
- The backing roll is the reference



ABC™ Profiling principle

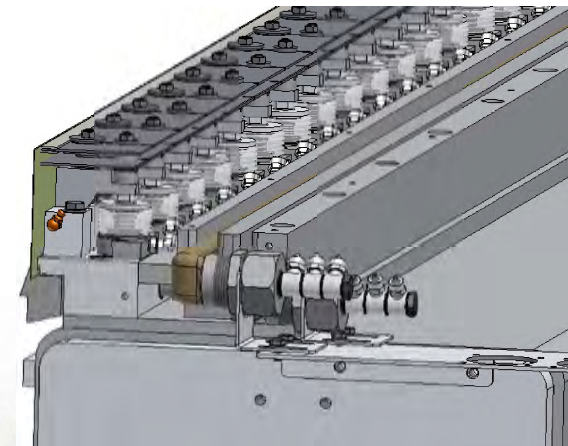
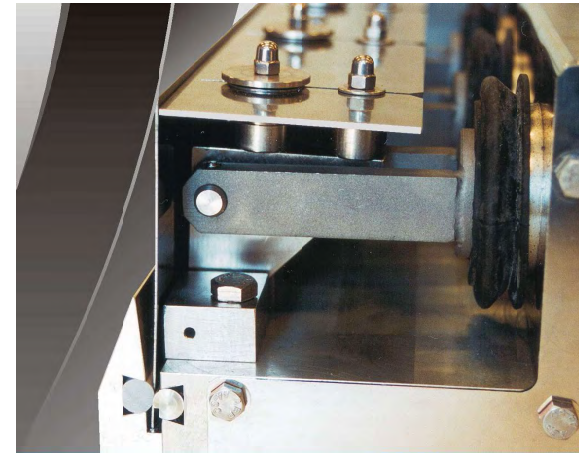
- Pneumatic actuators
- No electric components for coat weight control on holder
- Acid-proof stainless steel design



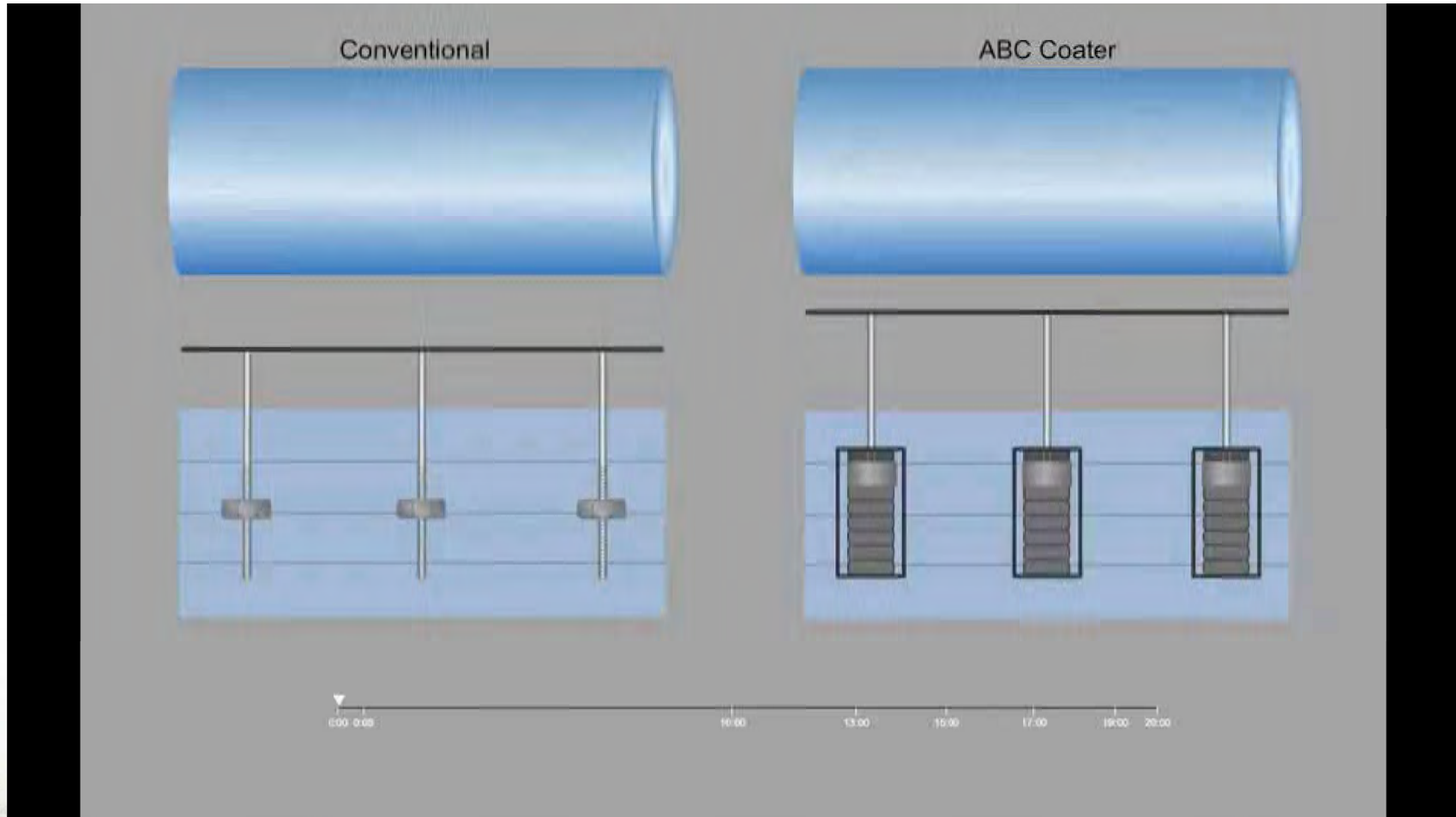
ABC™ Profiling principle

Benefits with ABC™ profiling

- Instantaneous flat Cross Direction profiles
- Repeatable and uniform quality
- Allows for quick grade changes
- Large coat weight range with uniform profiles

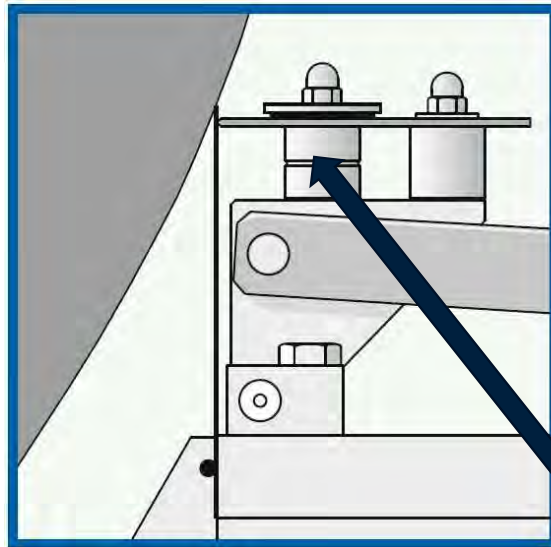


ABC™ Profiling principle

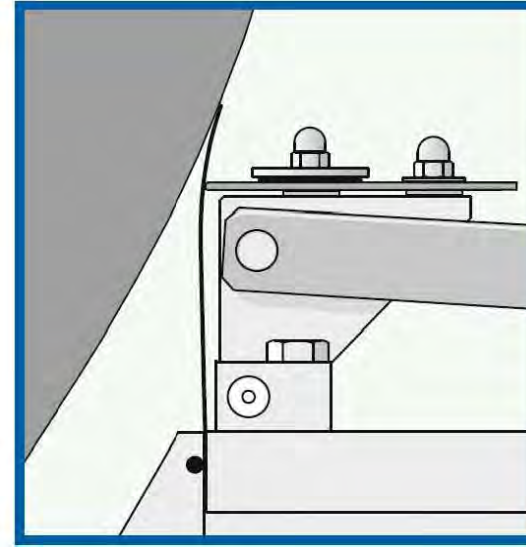


ABC™ Profiling - possibilities

Stiff blade mode

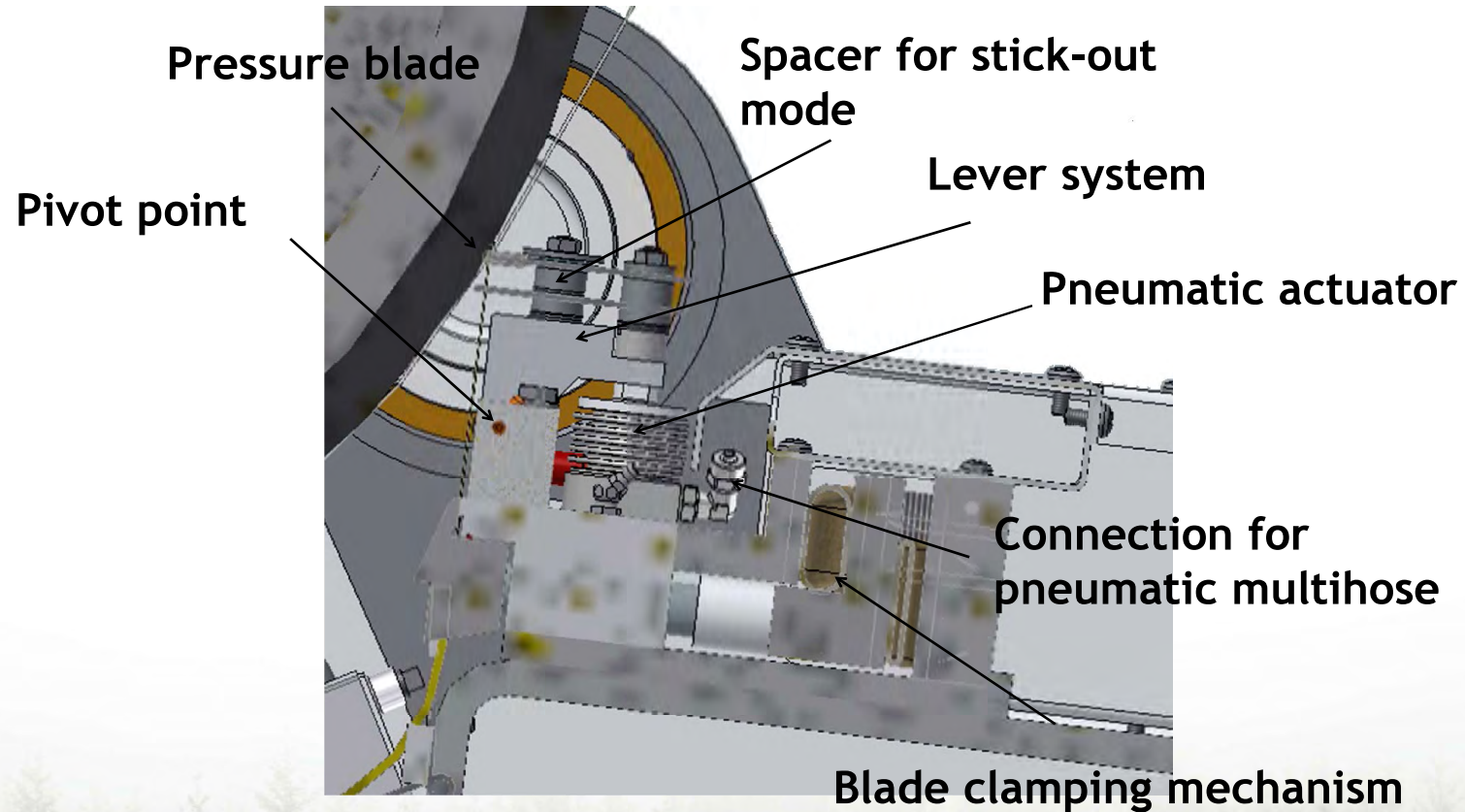


Bent blade mode

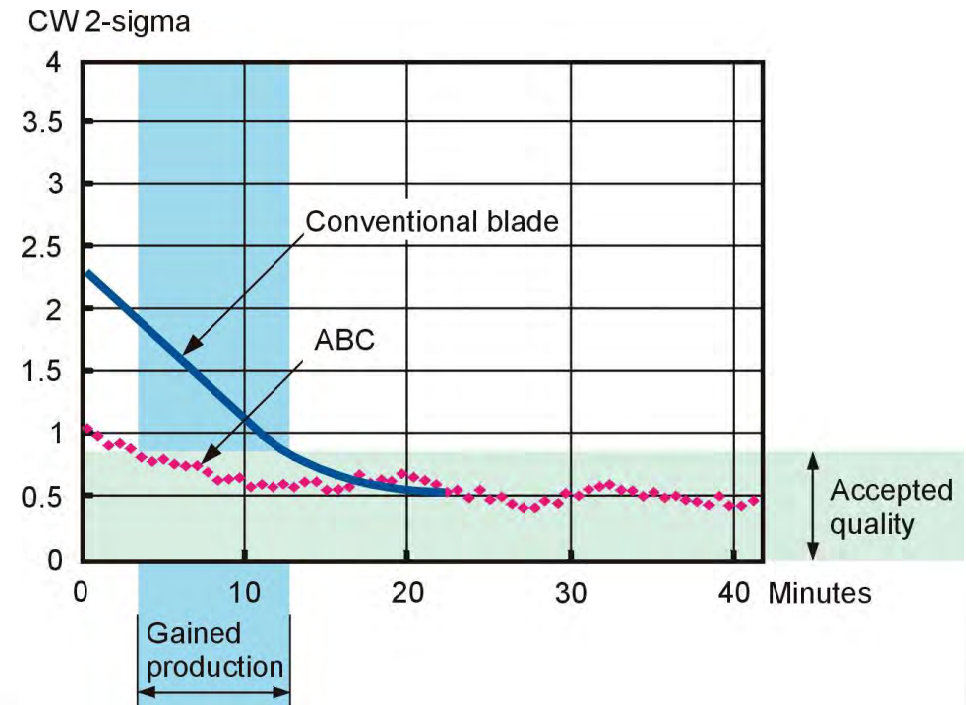
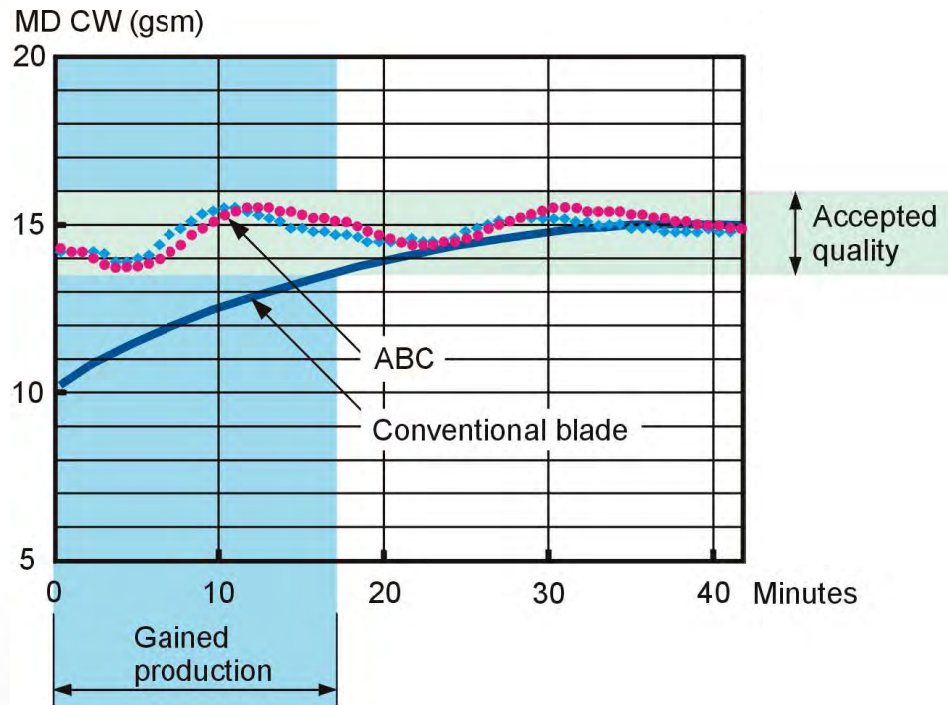


Remove spacers

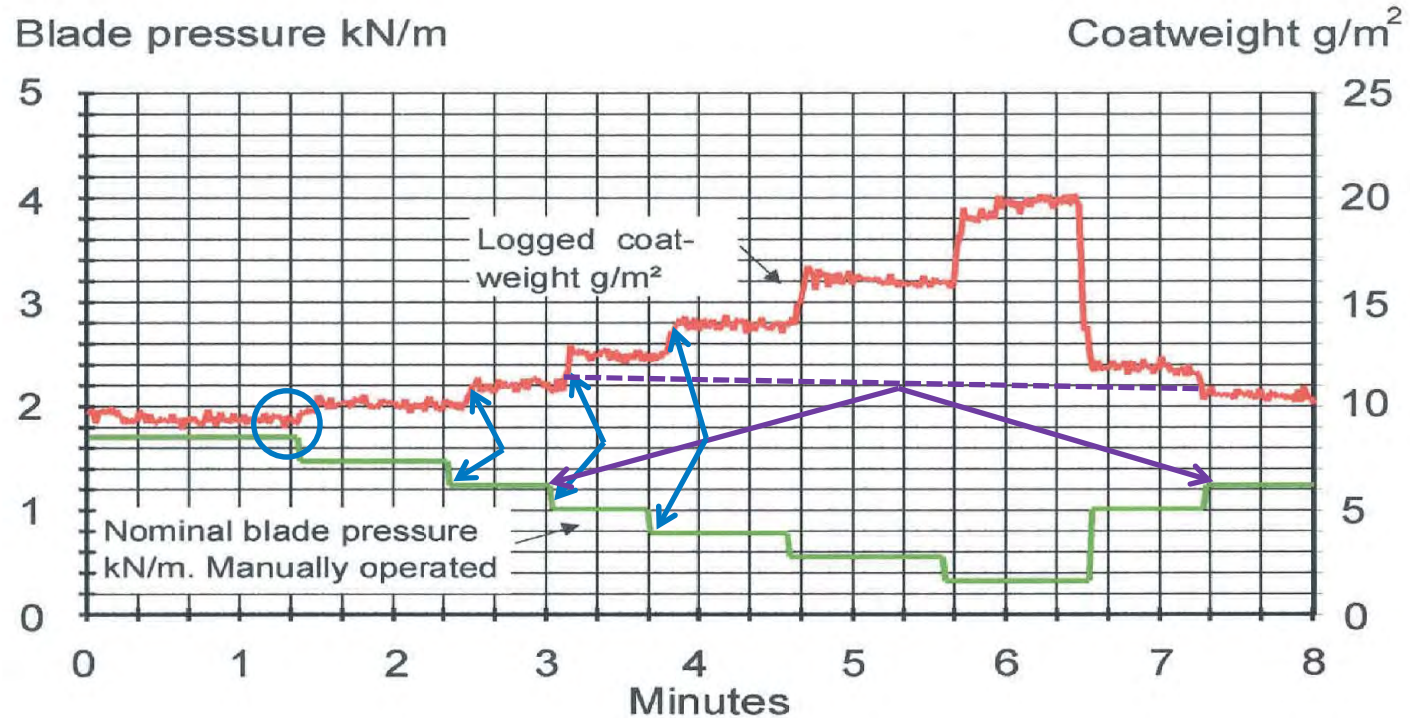
ABC™ Profiling system - main components



ABC™ Profiling system - mill references

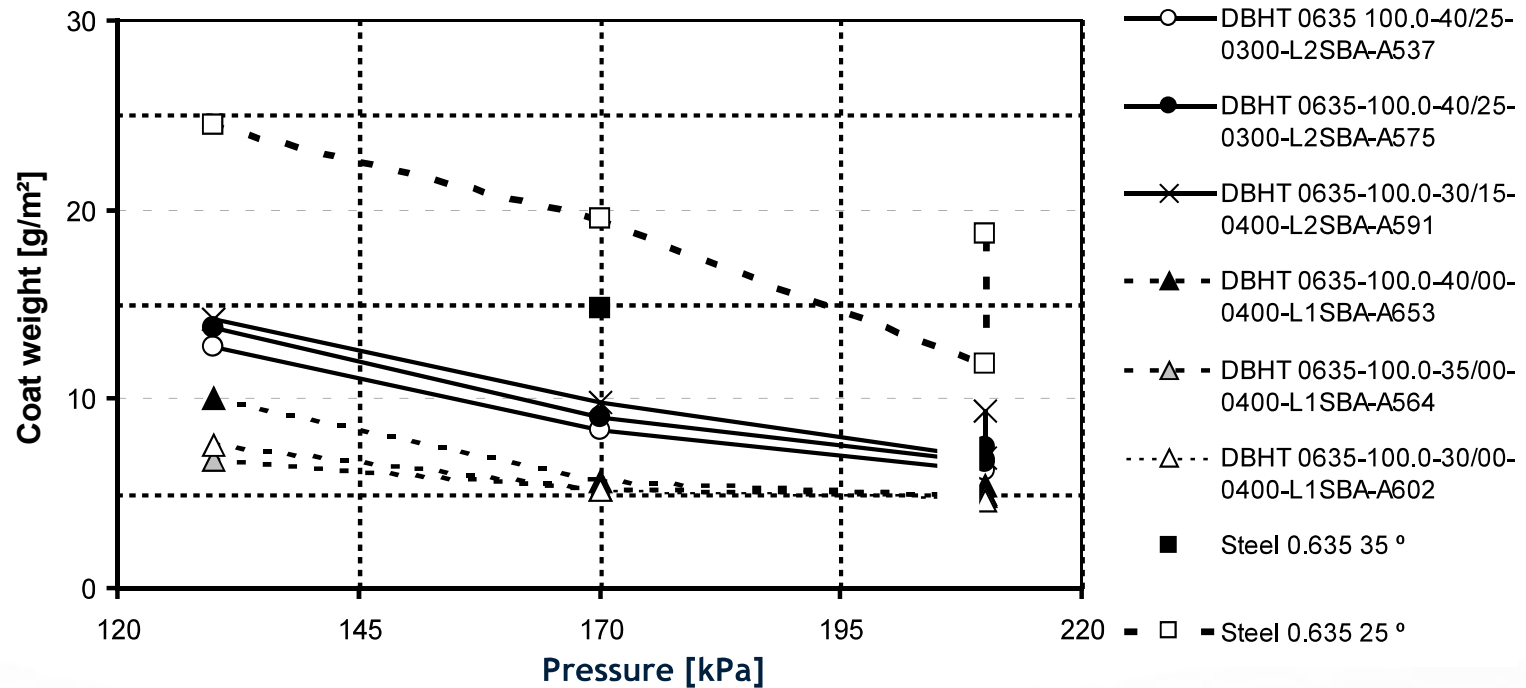


Coat weight control in ABC™ stiff-mode



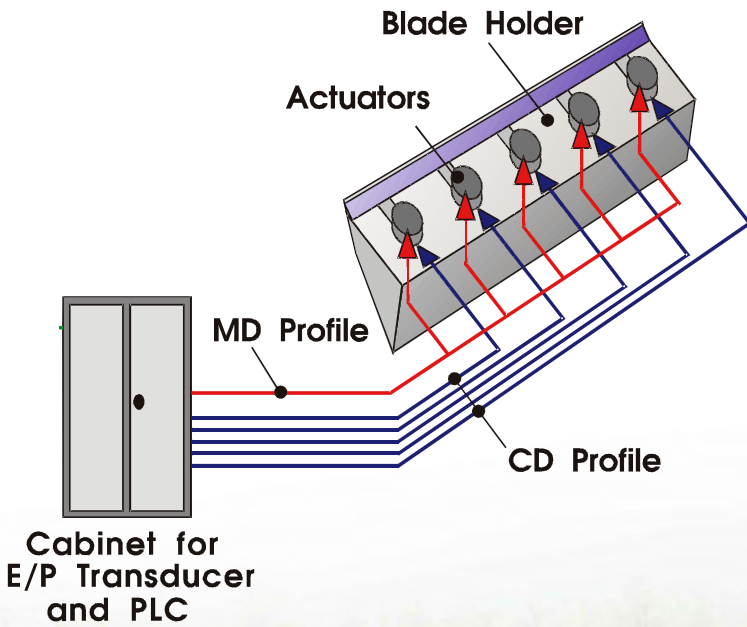
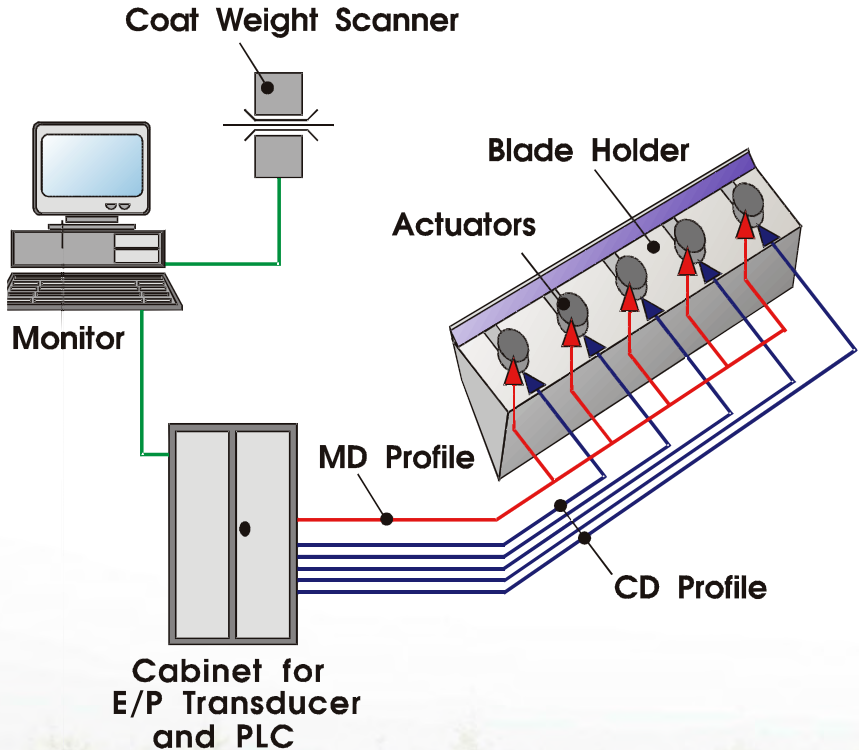
- Reduced blade pressure (= reduced pressure in actuator)
→ increased coat weight
- Same blade pressure gives the same coat weight - Good repeatability

Example: Coat weight as a function of Pressure for different blade tip designs in ABC stiff blade mode



Automatic coatweight control - with QCS link

Remote coatweight control - without QCS link



Technology level of ABC™ Coater

Application methods:

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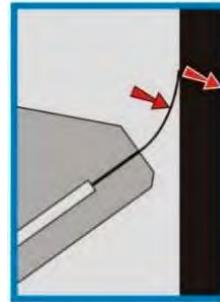
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Blade



Smooth Rod

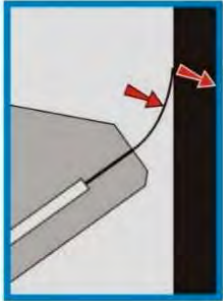


INVO® Tip



Metering technology

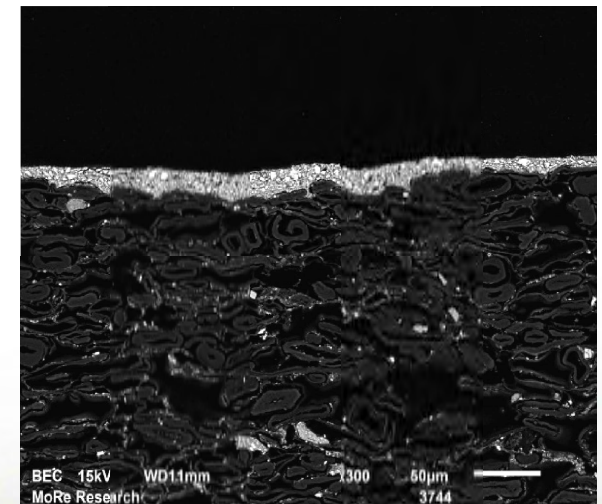
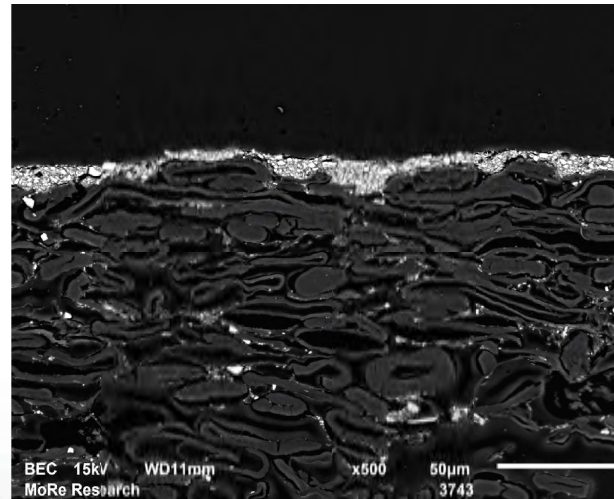
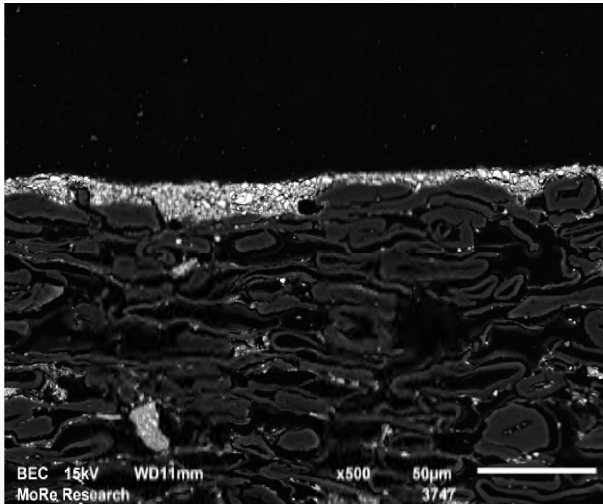
Blade



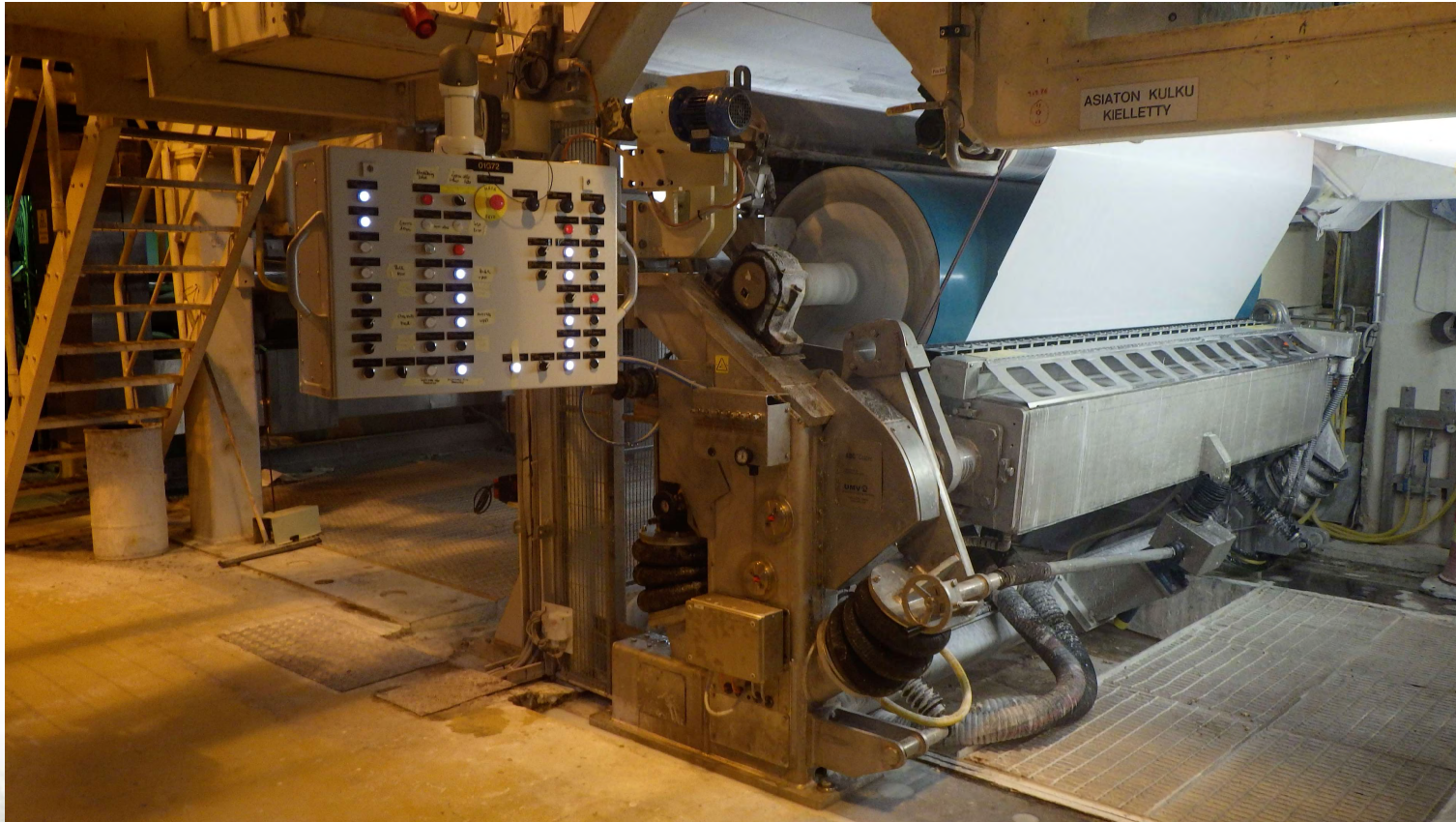
Smooth Rod



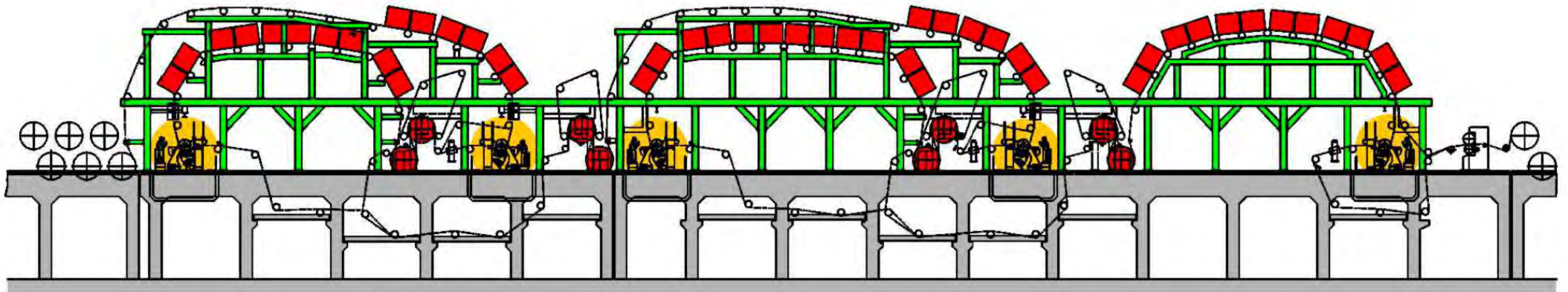
INVO® Tip



Reference - ABC™ Coater, installed June 2018 Confidential Europe



Example - Board Coating, Confidential China



5 ABC Rod/Blade Coaters.
Three on topside, Two on reverse side

Example - Board Coating, Confidential China

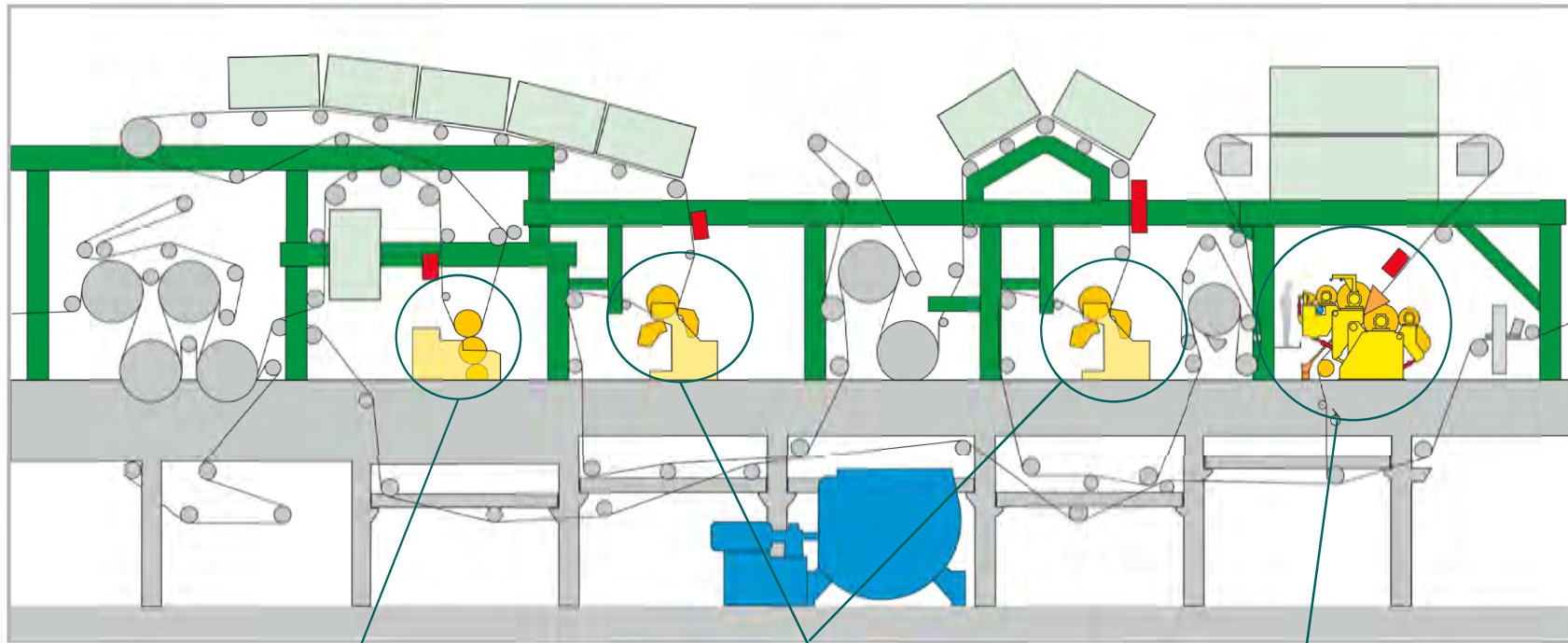




Frövi KM5

Webwidth: 6850 mm

Operation Speed: ->800 m/min



LAS™ Decurler

ABC™ Coater

TWIN™ Sizer, Gravure