BW Papersystems
MarquipWardUnited

Corrugator

BW Papersystems Curved Infusion Hot Plate for Singlefacer Medium

Challenges of using a variety of medium paper during production

CHALLENGES

- Excessive heat equals dry or flute fracturing for light weight papers; or not enough heat for heavier papers for poor flute formation.
- Inefficient moisture transfer causes dry paper, and flute cracking
- Excess moisture causes wet paper, delamination, blisters; inadequate flute formation and bonding for SC medium papers
- Too much paper tension causes paper fractures
- Increased roll pressures in the Single Facer

CONSEQUENCES

- Quality issues for internal team members & customer claims
- Reduced operational performance.
- Lower production speed (corrugator, converting)
- Can not accept customer orders requiring special papers
- Increased operational cost: material waste, and labor; premature wear of the Singlefacer components

CURVED INFUSION HOT PLATES - A solution for ANY corrugator

Features

Standard (Internal & External Mounting)

- Gun Drilled Technology for Higher Surface Temperature
- Two Steam Systems incorporated in one Infusion Plate
  - Closed System Saturated Steam for Heating by Conduction
  - Open System Overheated Dry Steam (Infusion Steam) for direct heating
- Infusion ON / OFF, Normal / Intensive Control
- Thermocouple allows Infusion Steam ON when Plate at Working Temperature
- Line Speed related Infusion Steam ON / OFF control
- CE Certified Working Environment

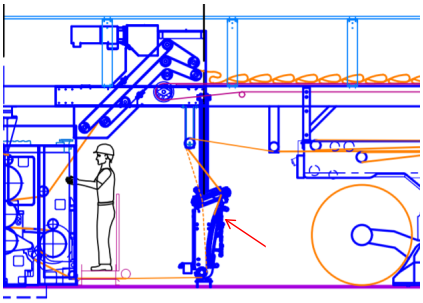
Optional (External Mounting)

- Multiple Infusion Sections depending on paper width dependant Narrow / Medium / Wide selection mode
- Adjustable Paper Wrap over the plate from 0 to maximum wrap
- Connection to Wet End Controller for Automatic Control

Optional (Internal & External Mounting)

- Complete Steam and Condensate Package with Pressure Control Valve

External Mounting



Curved Plate for Medium

Advantages

- Paper preconditioning for all grades
- No dry paper
- No wet paper
- Softened fibers for easier flute formation
- Operational flexibility
- Compact design
- 1 weekend installation, easy start-up

Benefits

- Higher quality & corrugator output
- Reduced glue consumption
- De-lamination excluded
- Reduced Single Facer roll pressures
- Used for all liner papers
- Fits into a tight space
- No downtime, immediate benefit

Testimonials

Most of the users of this Infusion Technology Application reported

- 20% - 30% increase for SC papers and other heavier grades (>140 gsm)
- Controlled preconditioning for lighter papers (< 105 gsm)
- Reduced glue consumption due to no dry paper
- Less corrugating roll pressure applied in the Singlefacer

More Testimonials available upon request

Internal Mounting

Summary

1. Production challenges continue without INFUSION Application
2. Increase productivity WITH BWP's INFUSION Application
3. Increase internal and external customer satisfaction with INFUSION Application

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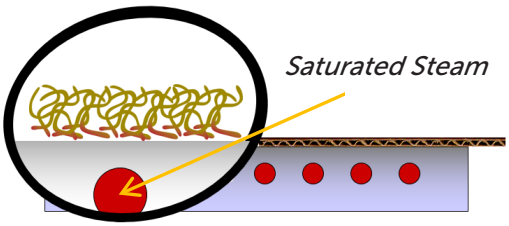
BW Papersystems INFUSION TECHNOLOGY

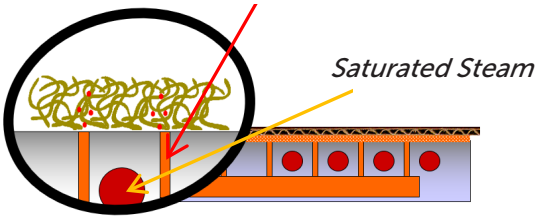
Customers have said Infusion Technology is the most efficient way to properly precondition medium and liner paper; and to cure glue faster than any other heating plate, drum with or without steam showers.

PAPER PRECONDITIONING COMPARISON



CONVENTIONAL PRECONDITIONING

Infusion Steam = Overheated Dry Steam



PRECONDITIONING WITH INFUSION TECHNOLOGY

Features:

- Heating by Conduction (Indirect heating)
- Paper dries as heated by conduction
- Pressure needed to increase Heat Transfer Efficiency.

Disadvantages:

- Takes time to heat medium and heavy GSM papers
- Lower production speeds for heavier papers, and board
- Dry paper tends to fracture
- Dry paper tends to warp
- Dry paper tends to delaminate
- Excess of glue is used to compensate for loss of moisture
- Higher operating pressure increases paper tension
- Higher operating pressure leads to component wear
- Uneven paper tension causes blisters
- Components out of parallel cause uneven heating and warp
- Uneven moisture across the paper causes warp
- Saturated steam showers are less efficient because of surface condensation
- Steam showers are installed to compensate for loss of moisture

Features:

- Heating by Conduction + Infusion Steam (Indirect + Direct)
- Heating without drying. Moisture balance in the paper/board
- Contact pressure less important.

Advantages:

- Faster and more efficient heating saturated steam
- Infusion steam penetrates deep into the paper fibers.
- Higher production speeds for heavier papers, and board
- Heat & moisture applied at the same time:
  - Improves glue bonding
  - Reduces or eliminates paper fracture
  - Reduces or eliminates warp
  - Reduces glue consumption
- Less operating pressure=less tension build up in the paper
- Less wear due to reduced operating pressures
- Reduced blisters due to direct heating
- Infusion steam can compensate for temporary alignment issues
- Even moisture distribution reduces the tendency to warp
- Heat & moisture applied at the same time is more efficient

BW Papersystems Infusion Steam Technology Applications

Singlefacer		Glue Machine		Double Facer		Laminator
Line Paper	*Medium Paper*	*Top Web*	*Bottom Liner*	*Liner*	Hot Plate	*Open Web*
Curved Plate	Curved Plate & Infusion Drum	Curved Plate	Curved Plate	Curved Plate		Curved Plate
	Internal / External					

ROI FOR ANY APPLICATION IS WITHIN ONE FISCAL YEAR*

*Depending on the scope of supply and production data ROI is typically between 3 to 12 months

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