



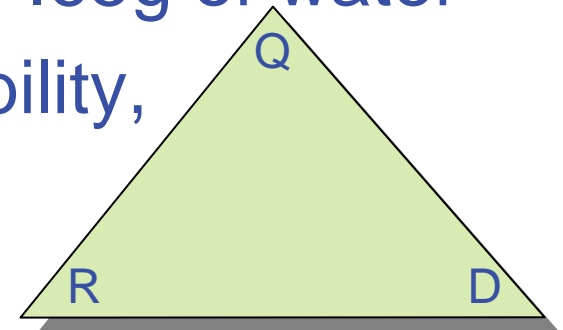
High Speed Aqueous Ink Jet Drying

Technology Briefing

A large graphic on the left side of the slide. It features a blue gradient background. In the center, there is a high-speed photograph of a water droplet hitting a surface, creating a series of concentric ripples. The droplet is captured in mid-air, just above the point of impact. The overall aesthetic is clean and technical.

Problem – Ink Jet Drying

- Aqueous ink jet inks are 95+% volatiles
- Printed A4 sheet contains up to .65g of water
- Trade off between drying, reliability, and quality – can't improve one without hurting the others
- Printhead speed is progressing dramatically - delivering ink much faster than the water can be removed
- Conventional drying alternatives not effective

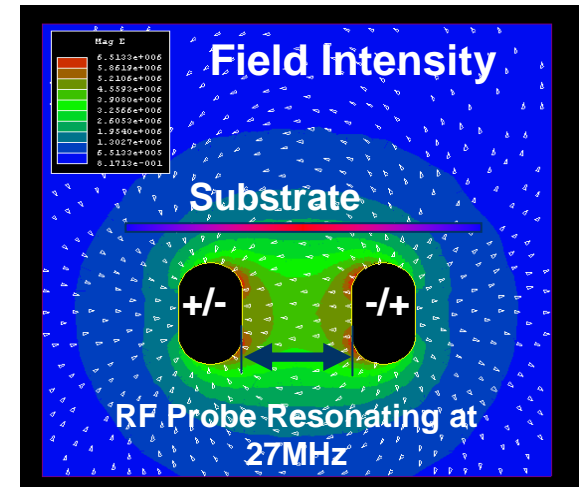


Solution – High Efficiency RF Drying

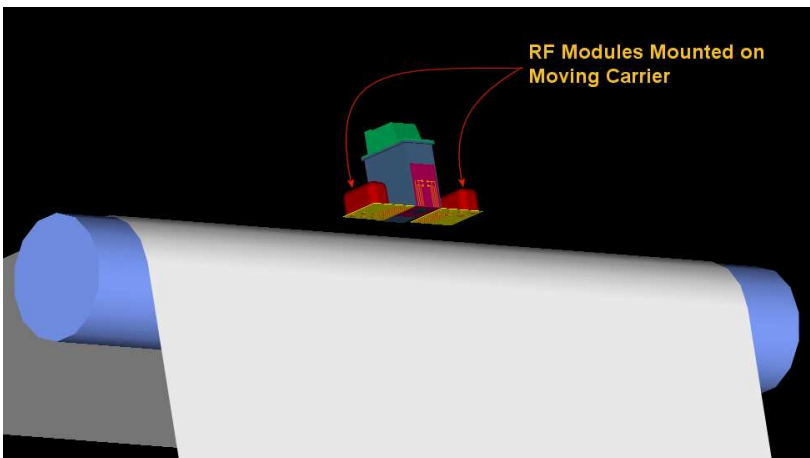
- Highly efficient - direct coupling of RF (Radio Frequency) drying energy into the ink
- Targeted - only heats the ink not the paper or surroundings
- Nearly instantaneous - heating to 100°C
- Safe - self limiting as water disappears
- Fast – demonstrated 60 pages per minute, limited only by printhead design and power
- High quality – improved color intensity, reduced smudging, less penetration and strike-through
- Substrate friendly – even for duplexing. Dimensional stability of sheet improves with immediate drying

Patented RF Drying Technology

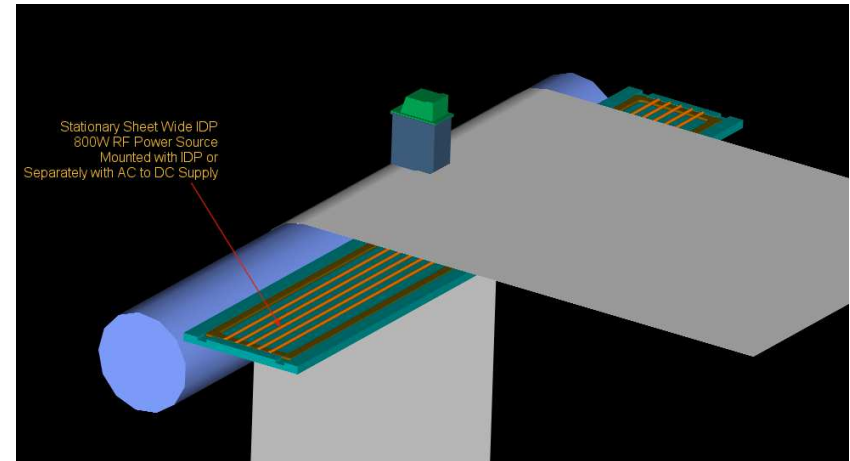
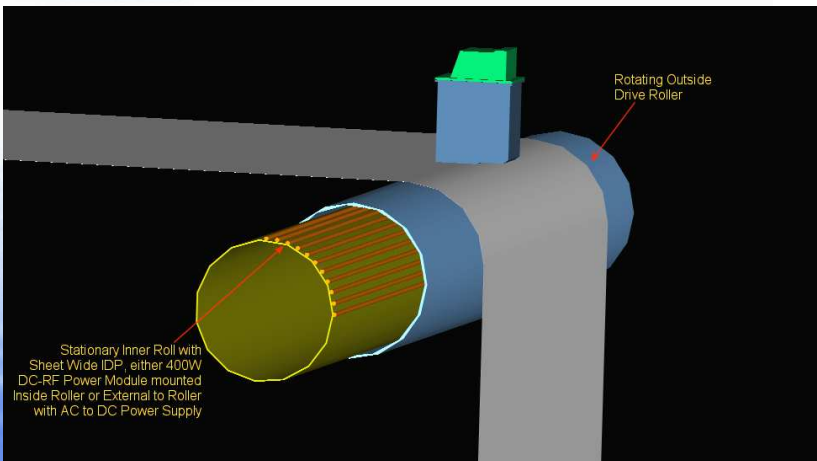
- RF energy delivered on safe and accepted 27MHz ISM band
- Unique stray field RF allows energy transfer from either side of sheet
- Compact RF drying system can be integrated into the printer design
- Efficiency can reach 80% with capacitance matching of inks and resonating RF probe system.
- Water-based ionomeric additives are highly compatible
 - Piezo or thermal printhead
 - Dye or pigment based systems



RF Equipment Configuration



Flexible design possibilities for all ink jet applications from consumer to grand format web



Potential Markets

- Networked office printers
- Digital office copiers to compete with toner
- Duplex printers
- Photo finishing
 - Desktop
 - Retail kiosk
- Commercial/Industrial
 - Labels
 - Signage
 - Packaging
 - Publishing & Brochure
 - Textile

Next Steps

For information on how you can include the CODACO RF Drying Technology in your product plans, please contact:

Mike Dalton

Global Business Director, Johnson Polymer

President – Codaco

465 Paul Rd, Unit 6

Rochester, NY 14624

+1 262 631-4251

Mike.Dalton@JWP.com

www.CODACO.com