New UV/EB Press Technologies

Don Duncan
Tony Bean
Trends: what brand owners want

- Lower cost

- Shorter runs and faster turn-around times
  - Expanded targeting and personalization of packaging
  - Volume – but many smaller versions
  - Shorter shelf life and time to market
  - Respond to marketing opportunities

- Higher print quality
  - Brand differentiation
  - More sophisticated graphics

- More “green”
  - Substrates
  - Production processes
The Uteco Onyx 810 EB CI Flexo Press

- A central impression drum flexo press with EB curing
- Flexo printing with no interstation drying/curing
- Sleeved aniloxes with Thermilox® temperature control
- Thermowash® inking and automatic washing
- Specialized chambered doctor blade aniloxes
- Targeted for flexible packaging printers
Sleeved aniloxes with ThermiloX® temp. control

- Patented system – Pre-conditions ink temperature
- Keeps ink viscosity constant through temperature control
- Keeps plate temperature constant during long runs
- Optimized for UV and EB inks

Specialized chambered doctor blade aniloxes

- Newly optimized for UV/EB inks
- Patented system allows automated variable ink outlet geometry for chamber
- Guarantees proper ink flow and pressure in chamber
The Comexi CI8 Offset Press

- A central impression drum lithographic press
- Full litho ink and dampening roller trains
- Sleeved cylinder technology
- Targeted for flexible packaging printers
A central impression drum lithographic press

- CI drum allows use of extensible substrates
- Smaller footprint than in-line presses
- Some printing units can be flexo (whites/coatings)
- Familiar look and feel to current flexible packaging printers

Full litho ink and dampening roller trains

- Front/Back roller trains move as a unit
- Gives easy access for plate washing
Servo Drive Technology

- Fast and accurate register & Auto job set-up

High Degree of Automation

- Auto ink key setting (CIP3 ink profile)
- Auto ink water balance (Combined ink & water curves)
- Auto pre-inking
- Auto roller washing
The Komori–Chambon OR Offset Press

- Offset printing with EB curing after the coating unit
- Sleeved cylinder technology
- Can integrate offset, gravure and flexo units
- Fully automated control
- Targeted for folding carton and flexible packaging printers
An in-line litho web press with EB curing

- Web widths from 520 to 1220 mm
- Speeds up to 350 m/min.
- Substrates include paper, paperboard and laminates
- Highly automated control systems
- Proven technology, running at multiple printers
- EB inks wet-trap and cure at the end of the press
Sleeved Cylinder Technology

- Patented sleeve lock-up system
- Light weight but demandingly rigid aluminum sleeves
- Infinitely variable repeat size

Can integrate litho, gravure and flexo units

- All three printing technologies available on the same press
- Allows specialized printing not available on single-technology machines
The Sheetfed Press & UV
Past, Present, and Integrated
Current Speedmaster XL 105 – Designed for UV

- UV air extraction
- Ink Agitator
- Ink mist extraction
- UV Inking and dampening rollers, UV-Prepared Cylinders
- Cold air slide-in unit
- EOP 3 200W/cm
- Interdeck Dryers 200W/cm
- Steel Gripper
- Wash-up device
- Foil Package
- Efficient URS reflectors
- Additional Dryer Extraction
Reduction of energy consumption – with DryStar UV

UV: ¾” closer to the sheet = 25 % less energy needed
- Upper sheet guide, feeder, coated
- Roller holder on the suction-belt feed table
- Flat sheet guiding rollers, feeder (rubber)
- Sheet travel monitoring for each transfer drum
- Mechanical board guiding system
- Modification to Infeed (sheet guiding rollers, air-blast, front lays, polished head stops)
- Antistatic equipment from KERSTEN - special version for plastic foils feeder/ Infeed/delivery
- Incl. additional compressor
In Line Corona Treatment System

- Apply a static charge to substrate to change Dyne level of substrate
- Solves ink adhesion problems
- Rapida 106, and the Rapida 145
Anilox Loader for Coating Unit 106

- 3 Anilox rollers in one unit
- Fully automatic change over
- No tools required
- Parallel process within the make ready
Komori HUV Technology
Komori HUV

- HUV is defined as “High Efficiency UV”, created by Komori

- HUV is a **NEW** unique curing system that is extremely efficient consisting of revolutionary lamp, ink and coating technology

- HUV is not...
  - Traditional UV
  - LED
  - “Hybrid” UV (blended ink)
Komori HUV

- HUV efficiency results in full curing of 400% ink coverage...plus varnish...plus coating with a SINGLE bulb

- If special effects requiring dry traps are needed, interdeck HUV lamps can put anywhere necessary
  - They are not needed for layered curing
Komori HUV

- **HUV characteristics:**
  - No ozone generated
  - Low energy cost
    - Lamps and cooling
    - Lower than UV and lower than IR
  - Tremendously reduced heat to the sheet
    - Great for plastics
  - Ink gloss – without coating – rivals oil based ink
  - No ink dry-back or coating gloss reduction over heavy solids
  - Very fast make-readies
    - Blanket packing does not need to be adjusted with sheet size when using HUV
Packaging and Converting: New Options and New Opportunities
Goss Sunday Vpak – new offset opportunities

- Wider formats
- Higher productivity
- Premium print quality
- Short-run agility
- Lower cost
- Lower waste
- Industrial reliability
Two Sunday Vpak platforms

Sunday Vpak 3000
1120-1905 mm width
457 meters/minute

Sunday Vpak 500
520-1051 mm width
365 meters/minute
Advanced Goss Sunday press features

- Gapless blankets
- 3-Form inker
- Servo-drives
- Presetting
- Closed loop
  - Tension
  - Register
  - Color
- Digital workflow
- Auxiliary integration
VSOP – Variable Sleeve Offset Printing

- 2 web widths: 520 and 850 mm (20 ½” and 33 ½”)
- Complete format range: 381 mm – 762 mm (15 – 30”)
- Very wide substrate range: from 12 micron packaging film to 30 pt. folding carton
- Infinitely variable printing sizes by exchanging low cost sleeves
- Tool-less sleeve change technology
Purpose Built Hybrid Presses

- Each press is individually designed and built for application
- Offers a combination of print technologies to get the best from each
  - Offset for high resolution, low plate cost and process control
  - Flexo for excellent coatings, adhesives and opaque whites
  - Rotogravure for metallics
- End Use Possibilities
  - Roll-to-roll
  - Roll-to-die-cut/sheet
  - In-line lamination
- Ink curing choices
  - UV/EB for the inks
  - Water or Solvent for the coatings, adhesives and metallics
Sleeves for Offset Printing

- Sleeves are made of aluminium or composites and are available from multiple suppliers around the world.

- Infinitely variable repeat size is modified by changing the diameter of the sleeve.

- Bridge sleeve systems are available where the economics justify (i.e. large number of repeats required).
Fit for profitability

For more information contact:
Doug Weiss
Business Development Manager – Packaging
973-570-7326
doug.weiss@us.mullermartini.com
Thank You