VELOX®

Velox IDS-NC™ Series

Mass production direct-to-shape digital decoration
for necked beverage cans

- Unprecedented Decoration **Quality**
- Full Operational **Flexibility**
- Low **Total Cost of Ownership**
- Built-In **Sustainability**

Velox IDS-NC™ Series

Direct-to-shape digital decoration solutions for mass production

The Velox IDS-NC series is an advanced digital decoration solution for the mass production of necked beverage cans. It delivers high-quality printing with utmost operational agility, while maintaining a low total cost of ownership and enhancing sustainability. Offering a replacement for mass-production shrink sleeves and labels, the Velox IDS-NC series meets the high-end requirements of fillers, breweries and packaging wholesalers.

Benefits

Unprecedented Decoration Quality

Superior decoration features

- Photorealistic image quality
- Wide color gamut
- Accurate color matching
- Smooth gradients and halftones
- Sharp texts

Unique enhancements

- Highly opaque white for selective or full coverage
- Selective digital embellishments
- Seamless 360° decoration
- Printing on the chime and necked area

High-end appearance

- Eliminates typical sleeving artifacts and plastic feel
- Printing on bright or white-coated aluminum beverage cans
- Excellent printing properties – High adhesion and abrasion resistance

Full Operational Flexibility

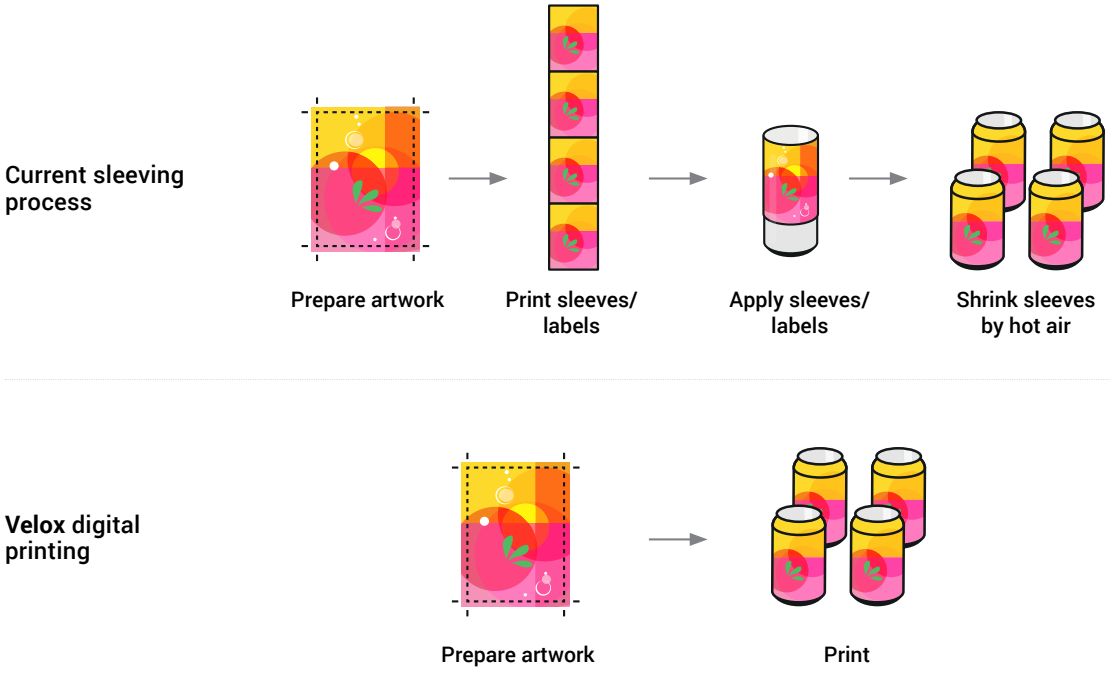
- Near-zero setup time
- Extremely high decoration speed
- Any run length – No minimum required
- Process simplification – Eliminates converting and application stations
- Short changeover between jobs
- Automated processes – No print expertise needed
- Full repeatability

Low Total Cost of Ownership (TCO)

- Removes sleeves/labels raw materials and costs
- Capacity increase – Due to high system speed and reduced setup time
- Decoration on demand – Eliminates overproduction and inventory costs
- Eliminates production waste and setup time

Built-in Sustainability

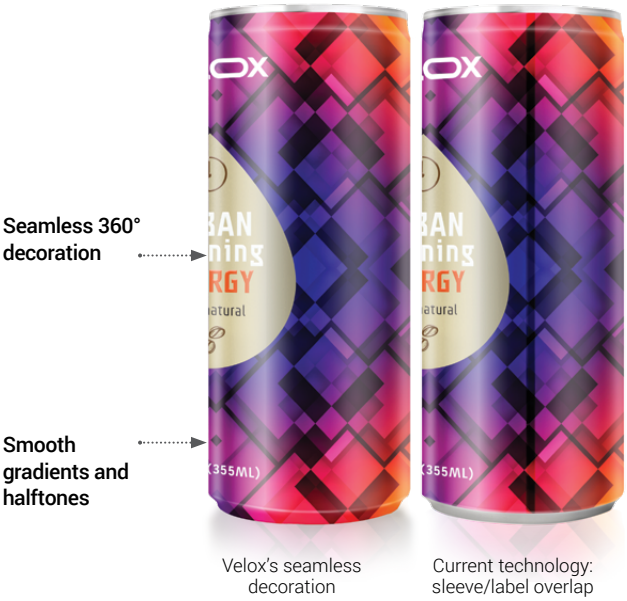
- Plastic savings – Eliminates shrink sleeves and labels
- Reduced waste – No shrink sleeves/labels production scrap
- Less overproduction, shipping and inventory



Unprecedented Decoration Quality

The Velox IDS-NC series provides superior decoration on aluminum beverage cans, whether bright or white-coated. Offering a wide color gamut, photorealistic image quality and digital embellishments, Velox's technology takes beverage can decoration to the next level.

High-resolution print and up to 14 process colors always available on the systems ensure high color matching, smooth gradients, halftones and sharp texts. Velox's opaque white ink can be applied as full cover or selectively, allowing printing of Pantone® colors on white-based areas, while achieving colorful metallic effects on other areas where Velox's translucent colors are printed directly on the metallic substrate. The Velox IDS-NC series eliminates typical sleeving artifacts, such as seam distortion, "flowering", wrinkling and the "wet T-shirt" effect, and also allows seamless 360° decoration, including on the chime and necked area.



Full Operational Flexibility

Velox's advanced digital decoration systems deliver mass production speed of up to 500 cpm (containers per minute) and operational flexibility that is attainable only with digital technology. The unparalleled speed and near-zero setup time between jobs allow on-demand printing, short time to market and easy transition between jobs, with no restrictions on run length.

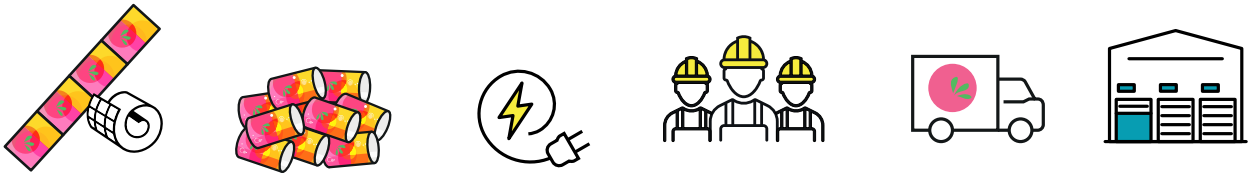
Velox's direct-to-shape digital decoration greatly simplifies the printing process by eliminating sleeve and label converting and application stations such as slitting and hot air tunnels. The seamless connectivity of the Velox IDS-NC series to depalletizer, palletizer and peripheral conveying systems enables a modern, fully automated production floor. Diameter changeover is short, maximizing system utilization, while supporting multiple can sizes and lengths, as well as frequent job changes.

Designed for utmost efficiency, the Velox solution includes automated processes like prepress and job preparation software (with support for web2print connectivity), calibration, on-the-fly inspection and easy operation that requires no print expertise. High print quality and consistency are maintained throughout each job and across repeated jobs, with no compromise on speed.

Low Total Cost of Ownership (TCO)

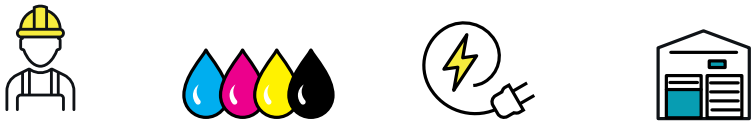
Today's sleeves and labels material and application are costly. In addition to removing those costs, the Velox IDS-NC series eliminates sleeves and labels production waste and job setup time. Overall production capacity is increased thanks to the high system speed and the time saved on setup and on sleeve/label handling and application – making it ideal for mass production of beverage cans. Moving toward decoration on demand, overproduction is eliminated, and inventory waste and costs are reduced. All this together translates to significantly lower OPEX and fast return on investment.

Decoration costs using shrink sleeves or labels



Printed labels/ film substrate | **Sleeve/label production waste** | **Electricity** | **Labor** | **Logistics/ transportation** | **Inventory**

Decoration costs using Velox's digital printing



Labor | **Ink** | **Electricity** | **Inventory**

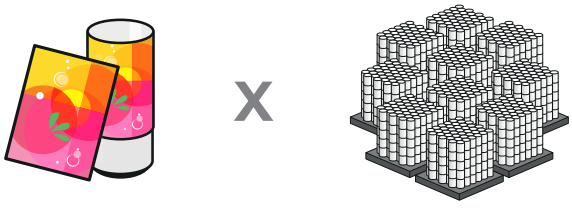
Built-in Sustainability

Velox's direct-to-shape digital decoration introduces an eco-friendly solution for today's demanding environmental requirements, using a significantly more sustainable process.

By eliminating the need for plastic shrink sleeves, labels, label liners and adhesives, as well as sleeves and labels production scrap, it dramatically cuts waste. Less equipment is needed throughout the decoration process, lowering energy consumption.

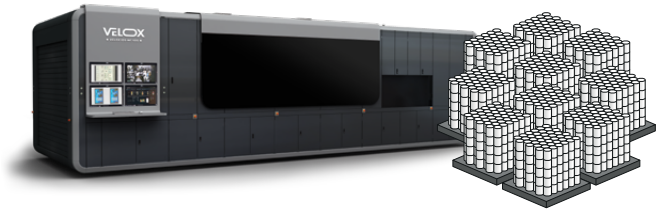
In addition, shifting to print on demand, enabled by the Velox IDS-NC series, reduces overproduction, shipping, inventory storage and risk of obsolescence.

Printing shrink sleeves and labels



HUNDREDS OF TONS OF PLASTIC USAGE

Printing with Velox's digital printer



GREAT PLASTIC SAVINGS

Major sustainability enhancements reducing environmental footprint across the entire decoration process and beyond

Cutting-Edge Core Technology

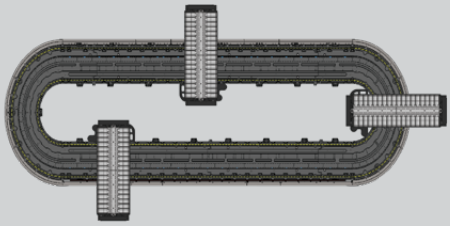
Velox's proprietary direct-to-shape digital technology consists of two core technology elements – the ink and the system architecture – both developed specifically to deliver unparalleled digital printing performance.

This end-to-end approach is essential to achieving a meaningful performance leap, reaching far beyond any other direct-to-shape digital printing technology. In addition to providing superior decoration quality and capabilities at high-volume production, Velox's technology enables a highly efficient and flexible production process and a significantly lower total cost of ownership (TCO) than any other direct-to-shape digital printing technology.

Adaptive Deposition Architecture™ (ADA) Technology

Robust system architecture enables utmost precision and flexibility, with inherent scale and expansion capabilities.

- System scalability – Extremely efficient hardware utilization, with easy optional field upgrades to support higher production speeds and additional colors
- Process optimization – The autonomous carriage mechanism decouples the dependency between print stations and allows a nonstop process regardless of the time required at each station
- Accurate ink-drop deposition registration – Improves image sharpness and color matching

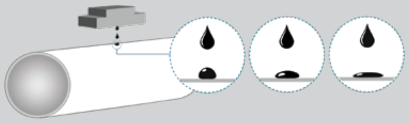


Dependency-free process

Variable Viscosity Ink™ (VVI) Technology

Specially developed and formulated Velox digital UV inks enable high-quality decoration and excellent print properties.

- Per-pixel drop shape control – Provides high ink-coverage efficiency without compromising on print quality
- Wide color gamut – Exceptionally vivid and intense process colors
- Superb functional properties – High adhesion and abrasion resistance
- Substrate and surface-agnostic – Outstanding printing performance on virtually any aluminum beverage can



Per-pixel drop shape control

Velox IDS-NC™ Series
Specifications

Parameters	Velox IDS-NC 125[1]	Velox IDS-NC 250[1]	Velox IDS-NC 500
Speed (up to) (containers per minute)	125 cpm	250 cpm	500 cpm
Resolution	Up to 900 dpi	Up to 900 dpi	Up to 900 dpi
Colors & embellishments (simultaneous)	Up to 14	Up to 14	Up to 10
	White, CMYK, Light Cyan, Light Magenta, Light Black, Orange, Green, Violet, Matte, Gloss, Tactile Embossing		

[1] The Velox IDS-NC Series platform is fully scalable. Field upgrade from one model to another is a cost option.

Key modules and subsystems

- Loader/Unloader
- Surface treatment
- Print engine
- Curing station
- Automated contactless printhead wiping
- Inspection and ejection (optional)
- Auto calibration
- Automated workflow application
- Job preparation computer station including preprint RIP software

Mechanical interface	
Inlet	Dual-line single-file conveyor linking to a depalletizer
Outlet	Dual-line single-file conveyor linking to a palletizer

Applicable substrates and coatings	
Substrates	Aluminum, both bright (silver bullets) and white-based cans

Decoration properties	
Haptic effects	Soft touch, textured

Can dimensions (for print)	
Diameter	53 mm - 66.3 mm (2.08 in - 2.61 in)
Length	112 mm - 170 mm (4.41 in - 6.69 in) (full-length decoration)
Typical can sizes	250 ml - 500 ml 8.4 oz slim, 12 oz sleek, 12 oz - 16 oz standard

Dimensions	
Width	11.5 m (37.72 ft)
Depth	3.72 m (12.2 ft)
Height	3.24 m (10.62 ft)

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