

Cox Target Media



Pushing the “Blue” Envelope

Every year Cox Target Media mails over 500 million of the familiar blue, #10 Valpak envelopes containing more than 19 billion coupons. Faced with rising variable costs and looming capacity constraints, Cox managers could see a rapidly approaching day when the company’s growth would overtake its production capacity.

“Ultimately our business started to grow in such a way that the more we grew, the more inefficient we became,” says David Fox, vice president of manufacturing for the Largo, Fla.-based company. Coupons had to be manually handled and moved up to a dozen times before they left the plant. “Every time we added volume, we added people to offset the volume.”

In 2003 Fox joined a small, internal team that took on the task of reinventing how the company produced the blue, coupon-filled envelopes. The development team scoured the world for the equipment and technology that would best meet their needs. Following several years of planning and construction, equipment installation and commissioning,

Daifuku Solution

Print Roll Buffer: Twin GH-200 AS/RS

- Maximum load size: 23.7 x 86.7 x 102.4 in.
- Maximum weight: 2,646 lbs.
- Rack size: 2 rows, 71 bays, 2 tiers
- Storage locations: 175
- Maximum horizontal speed: 410 ft./min.
- Maximum vertical speed: 131 ft./min.

Mail Tray Buffer: M-200 Mini Load AS/RS

- Maximum load size: 13.2 x 30 x 6 in.
- Maximum weight: 40 lbs.
- Rack Size: 34 rows, 12 bays, 22 tiers
- Storage locations: 8,976
- Maximum horizontal speed: 328 ft./min.
- Maximum vertical speed: 164 ft./min.

Full Pallet Buffer: HG-700 Unit Load AS/RS

- Maximum load size: 44 x 52 x 61.5 in.
- Maximum weight: 3,000 lbs.
- Rack Size: 8 rows, 43 bays, 12 tiers
- Storage locations: 8,252
- Maximum horizontal speed: 656 ft./min.
- Maximum vertical speed: 206 ft./min.



Cox officially began producing live product in the second half of 2007 and will be fully moved to its brand-new, \$224-million facility in early 2008.

Situated on the I-275 corridor leading into St. Petersburg, Fla., the 470,000-sq. ft. plant is built around several core manufacturing processes: digital transfer printing technology, printing coupon signatures instead of individual coupons, and wrapping the envelopes around the coupons rather than inserting them. To automate the material flow between each of these processes and the buffer storage areas, Cox called on the expertise of Daifuku America Corp.'s Factory and Distribution Automation division in Salt Lake City.

Starting at the facility's two giant four-color, web printing presses, each of which stretches almost the length of a football field, the coupons are printed and folded into the signatures, which are then wound onto rolls. Each signature targets a specific neighborhood trade area (NTA) of 10,300 consumers. The presses run six days a week, 24 hours a day, with minimal downtime for setups.

The rolls of signatures move from a Daifuku-designed AS/RS (or automated storage and retrieval system) buffer storage system to collation, where they are cut into individual coupons, combined with coupons supplied by customers, wrapped in the blue envelopes and packaged into mail trays. The mail trays are sent to high density storage (HDS) via elevators and conveyors until they are ready to be palletized. The HDS mini load AS/RS system also holds customer-supplied inserts.

Beauty from Afar

When a sufficient number of mail trays for a particular zip code have accumulated, conveyors transfer them out to be palletized by a robot. Destined for postal distribution hubs across the country, sorting transfer vehicles (STVs) carry the completed pallets into another buffer storage system before being aggregated for shipment. This 400-ft.-long by 80-ft.-high unit load system utilizes four robotic cranes moving on rails in 50 in.-wide aisles. Rising out of the roof of the facility, one end of the automated storage and retrieval system (AS/RS) is sheathed in translucent panels.

"Daifuku was the primary contributor to architecting and designing our warehousing solution. They were outstanding in coming up with ideas and concepts to make it as efficient as possible," Fox recalls.

When it's fully operational, the St. Petersburg facility will double Valpak's maximum printing capacity from 20 billion to 54 billion coupons per year. Not only that, the redesigned production processes will slash manufacturing cycle time from coupon printing to being ready for shipment from four days down to just four hours. Such capabilities will support Cox Target Media's annual growth for years to come.