

Automated VRC System For Retail Backroom

Autoquip Innovative VRC Solutions



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Challenge:

One of our largest retail customers wanted to implement an automation system as part of their local store fulfillment strategy. They are converting their retail backroom to manage inventory storage and distribution to fulfill order demand created from their multi-channel buying options. As part of this new local fulfillment process, they are incorporating a fully automated system including robotic assistance, automated guided vehicles (AGV's) and (7) Vertical Reciprocating Conveyors to expedite processes in the backroom. The system will serve as a prototype – logistic model at an existing store and then rollout to other locations.

Growth & Impact



Custom
VRC
Solutions



Advanced
Technology
in
Automation



Improved
Inventory
Flow

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Inventory movement of product flows much more efficient .



Our VRCs are working in tandem with the other automated systems and equipment to transfer the pallets to the storage areas in rapid time.

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Solutions:

Because of our experience working with the customer in the past with other successful VRC installations, they contacted us to work with them on implementing VRCs into their system. (5) VRCs are part of the AGV Rack & Track System and 2 VRCs will be part of the Conveyor Loading Dock.

The VRCs work within the system as follows:

Conveyor Load Dock VRCs:

There is a robot at each station and the robot is designed to pick up a wooden board, sit it on conveyor that goes into VRC system. There are 2 size boards (small & large) based on the size of the pallets they are putting on the system. These boards are called "Slip Sheets". The pallets ride the board.

Forklift loads pallets/product onto conveyor with board pre-loaded by robot.

Product moves along roller conveyor and then transferred by chain driven conveyor to VRC Platform where there is another on-carriage roller conveyor. Product remains on board and raises to upper storage system levels where product is conveyed off.

AGV VRCs:

AGV – Rack & Track System to position pallets. 12 AGVs – boards in pallet. VRC – tracks Pin AGV.

Once product is transferred to upper level, system conveys the loads with product onto station for AGV to put in pallet rack system. The boards are returned to the dock stations where they are accumulated by robots when empty.

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