## **NEWS**



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New Product Application Information

## NEW CREFORM SUPER NSI AGV COMBINES WITH EXISTING SYSTEM TO DELIVER HEAVY CARTS JUST IN TIME

An automotive parts integrator has been using Creform AGVs with a traffic control system in its plant for a variety of operations. The plant is located next to an OEM assembly plant, simplifying just-in-time delivery. A new application with larger and heavier trailers presented some delivery challenges. The two facilities are connected by a delivery tunnel so intermodal transportation is not an issue. However, there are floor space constraints in the supplier facility. The company has been using a Creform AGV system for internal material handling, but the units do not have the capacity to handle the new heavier trailers for larger parts.

After analyzing the situation, Creform engineers provided a solution that not only provides a more robust system, but takes advantage of the existing Creform traffic control system. The system employs four new Creform Super NSI AGV models, each with a 2000 lb load capacity, 50-course programming via HMI touch screen and built in RFID for traffic control. Each unit tugs two steel platform carts that have FIFO racks, built using the Creform pipe & joint system.

Once in tow, each platform cart's custom FIFO rack is loaded with pre-ordered parts from the auto plant then delivered on a JIT basis. An AGV with carts travels over a 300 foot loop, making three stops for parts loading then travels an additional 200 feet for cart drop off at the tunnel.

## **NEW CREFORM SUPER NSI AGV...2**/

There are space constraints which are minimized by the Creform Super NSI AGV's reversing feature. It allows the AGV to spin and then back up and engage the custom hitch located on the rear to the hitch tongue of a platform cart. A proximity sensor in the hitch mechanism verifies that the AGV is in position to properly engage the cart's towing tongue.

Like all Creform AGVs, the Super NSI follows a magnetic tape guidepath. However, a unique feature of this model allows it to reverse its direction and/or rotate in place in space restricted locations. This unit can travel limited distances off its magnetic tape guidepath and spins either right or left by course programming allowing it to back into space restricted locations and pick up empty carts. The maximum turning rotation is 240 degrees.

Creform's proprietary traffic management system integrates the supplier's existing Creform AGVs with the new Super NSI models providing user-friendly traffic control. During the loading process, special operator control stations at each loop stop allow associates to release an AGV with carts and move to the next station. In addition, each unit has an additional front pedestal control panel mounted at a comfortable height with frequently used buttons for convenient user interface.

In addition to 2000 lb load capacity, 50-course programming via PLC and HMI touch screen and built in RFID functionality for command and traffic control, the Super NSI AGVs have a category 2 safety rating with obstacle sensor, non-contact laser bumper, e-stop, audible warning and flashing light. Since the plant operates 24/7 it also utilizes an optional opportunity charging system that eliminates the need for battery changing after each shift.

The units are powered by (2) 12V high capacity TPPL batteries. When an AGV moves into an integrated opportunity charging station along the guidepath, it lowers its charging probes to make contact with the conductor plate embedded in the floor, and a verification sensor confirms and the unit is charging. This feature maintains the battery charge level without human intervention.

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**NEW CREFORM SUPER NSI AGV...3**/ with photo and caption *Embedded photo is for reference only. Hi-res photo is attached as separate file.* 

The Creform System is used to create an array of material handling and efficiency enhancing devices and is a proven component in continuous improvement and Lean Manufacturing programs. The company partners with customers in developing and implementing these programs.

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Caption CRE-528: New Creform Super NSI AGV model