Prepared For :

Parker Hannifin

ASE systems

Case Study

PICK AND PLACE COILS OF HOSE WEIGHING UP TO 125 LBS

Load Specifications

- Load Type: High pressure coils of hose

Application Analysis

Lifting coils to be placed in packaging boxes, then lift and carry the box and placed on a platform truck stacked up to 48” high.

- Load: High pressure coils of hose
- Weight: Up to 125-lbs
- Size: 20” diameter x 8” wide

Handling Issues

After assembly and testing is completed, the high-pressure hoses are moved to the packaging and shipping station. These hoses can weigh up to 125-lbs with dimensions of approximately 20” diameter x up to an 8” wide coil. Each coil is placed in a corrugated box, sealed then placed on an outgoing platform tuck stacked up to 48” high. This was all being done manually causing back problems and a slow down in production. In many cases multiple operators were needed to lift the coils and place them in the boxes and then lift the boxes and place them on the platform truck.

The Solution

For this handling application, ASE Systems specified two workstation jib cranes, one outfitted with a DCM hoist based lifting device with “gripper hook” tooling to help the operator easily place the coils inside the corrugated box and the other workstation jib crane equipped with a vacuum tube lifter designed to lift the corrugated box, rotate it 90° and place it horizontally on the platform truck. Each workstation jib crane was set up like an assembly line: the coils were carted in within reach of the 1st workstation jib crane, the operator grasping the inline controller maneuvered the large mouth load hook over to the coil laying on the cart in the horizontal position. As the hook engaged the coil and lifted, the coil automatically rotated to vertical allowing the operator to easily place it down into the corrugated box. The box was then sealed and lifted by the 2nd workstation crane with the vacuum tube lifter and stacked onto the platform truck. Where four well-conditioned people were needed to accomplish these handling tasks, now only two are needed, even ones with back or shoulder issues can be highly productive with this technology. Each jib crane consists of “enclosed track technology” which allows the trolley to move with the greatest of ease, one pound of force exerted by the operator will move a 100-lb load; this coupled with the DCM hoist based lifting device and the vacuum tube provided Parker with an effortless high-speed handling solution.

Key Technologies

KEY TECHNOLOGIES:

Workstation Jib Cranes:
https://asesystems.com/workstation-cranes/jib-cranes/

DCM hoist based lifting device with “gripper hook” tooling
https://asesystems.com/lift-assist-devices/

Vacuum Tube Lifter
https://asesystems.com/vacuum-lifters/vacuum-tube-lifter/