

CASE STUDY

ELECTROLIFT OFFERS CUSTOM ENGINEERED SOLUTIONS FOR ALL MANUFACTURING APPLICATIONS WHERE QUALITY AND RELIABILITY ARE CRITICAL TO SUCCESS.

OUR TEAM'S ABILITY TO IDENTIFY PROBLEMS AND DEVELOP INNOVATIVE SOLUTIONS ELEVATED THIS CUSTOMER'S SUPPLY CHAIN PROCESS.

Product: Electrolift Furnace Charging Hoist



CHALLENGE

A customer came to us looking to replace their furnace charging hoist, which was subjected to both heat from a furnace and exposure to freezing temperatures outside. The customer had concerns about mechanical and electrical components being vulnerable to high heat, as the existing hoist saw an ambient temperature above the furnace of 150 degrees.



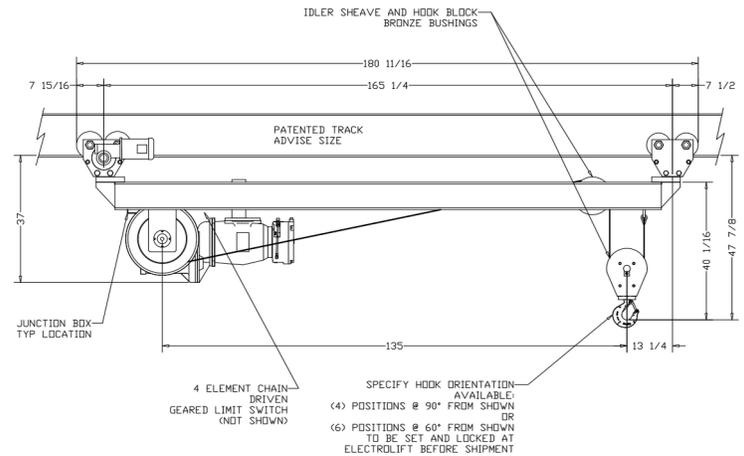
SOLUTION

To combat heat exposure, our engineering team implemented a series of custom features addressing the customer's needs and concerns.

We were able to supply a hoist that moved the entire driveline and electrical components away from the open furnace. Only the hook block and directional sheave were exposed to the direct heat.

Additionally, we were able to simplify and reduce the overall system length by providing a motorized drive trolley instead of idler trolleys with a tractor and tow bar, which their old hoist operated with. This drive trolley was mounted to keep it far away from the open furnace. Because the customer was also concerned about using roller bearings, we replaced our standard sheave and hook block ball bearings with bronze bushings that could easily be inspected, lubricated, and maintained.

An encoder was also provided to communicate with the customer's control package. It was imperative this device was distanced from the open furnace as well.



ELECTROLIFT'S WORM GEAR ADVANTAGE

WORM GEARS HAVE AN INHERENT DESIGN ADVANTAGE OVER OTHER GEAR SETS: THE WORM CAN EASILY TURN THE GEAR, BUT THE GEAR CANNOT TURN THE WORM. IN LIFTING APPLICATIONS, THIS FEATURE ACTS AS A SECONDARY BRAKE DUE TO LIMITED BACK DRIVABILITY.

- ✓ SUPPORT CONSTANT LOAD ON THE LOAD BLOCK WITHOUT CAUSING OVERHEATING.
- ✓ SUPPORT LONG LIFTS AND FASTER LIFTING SPEEDS – WORM GEARS ARE **NOT** NEGATIVELY IMPACTED BY THE LONG LIFTS OR FASTER LIFTING SPEEDS THAT CAUSE LOAD BRAKES TO OVERHEAT AND PREMATURELY FAIL.
- ✓ INHERENTLY SAFE AND LOW MAINTENANCE – WORM DRIVES DO **NOT** NEED CONTROLS OR HIGH MAINTENANCE MECHANISMS TO ENSURE SAFE LIFTS AND HAVE FEWER MOVING PARTS THAN GEARBOXES THAT REQUIRE COMPLEX LOAD BRAKE MECHANISMS.

THE IMPACT

WORKING WITH EXPERTS WHO KNOW INDUSTRY REQUIREMENTS AND HOIST MANUFACTURING GUIDELINES IS ESSENTIAL FOR THE SAFETY OF PERSONNEL AND THE LONGEVITY OF YOUR EQUIPMENT.

ELECTROLIFT'S 90+ YEARS OF EXPERIENCE MANUFACTURING FOR MULTIPLE INDUSTRIES ENSURES WE KNOW ALL THE FEATURES NEEDED TO SUPPORT YOUR OPERATION.

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