



RAISING THE STANDARD SINCE 1932

CUSTOM ENGINEERED SOLUTIONS

Electrolift offers custom engineered solutions for all manufacturing applications where quality and reliability are critical to success.

Illinois Electric Works contacted the Electrolift team to help them find a solution to this lifting challenge.

The Challenge: This application had a Shepard Niles hoist installed for many years that provided unreliable service because it was misapplied. The old hoist had a mechanical load brake that was failing at least once a year but the end-user couldn't afford the cost of a new hoist.

The application is a clamshell that is used to lift trash, debris, and driftwood that floats against a grate on the way into a power plant intake channel. The hoist lifts the load and carries it about 100 feet down river and dumps the load.

Because the clamshell is not physically lowered, leaving a constant load on the hook, a mechanical load brake should never be used for this type of application. For a mechanical load brake to release properly, the load must be lowered to a zero tare weight. Otherwise, it "thinks" the load is still in the clamshell. They struggled with thousands of dollars in repair bills because of the improper application of the mechanical load brake, and obstructions resulting from having three lifting cables traveling so closely to each other.



Left: Two independent hoists in a common frame. Right: Gearboxes mounted at different elevations to allow for better cable management.

The Solution: By using an Electrolift hoist with the Electrolift Worm Gear Advantage, lowering the load isn't necessary. Both hoists operate in tandem to raise and lower the clamshell bucket, while one of the hoists opens and closes the bucket.

Having three lifting cables traveling so closely together required precise placement of the directional sheaves to avoid any interferences. Additionally, the gearboxes were mounted at different elevations to allow for better cable management.

The application required a very fast lifting speed of 82 feet per minute. To avoid impact issues and excessive brake wear, we supplied variable frequency drives to ramp up to the ultimate speed. The VFD's also were programmed to synchronize the speed of the two hoists.

The new hoist has been in service since December 2019 without a single failure. This hoist will pay for itself in about 5 years based on the cost of the repairs that were made on the old Shepard Niles unit.

SEE OUR HOIST IN ACTION:

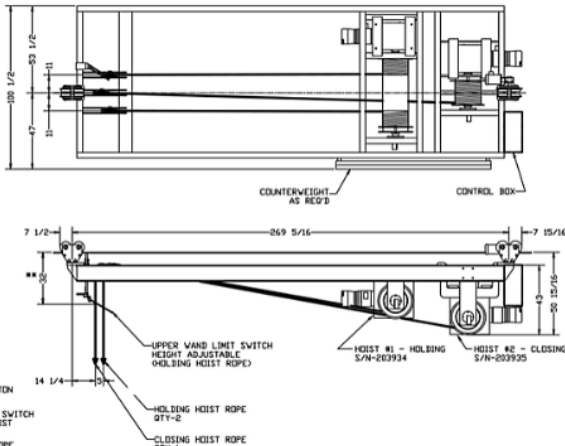


CLAMSHELL HOIST | CUSTOM ENGINEERED SOLUTIONS



CLAMSHELL HOIST
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CAPACITY – HOIST #1 – 2000 LBS
HOIST #2 – 2000 LBS
LIFT SPEED – 82 FPM
LIFT – HOIST #1 – 72 FT
HOIST #2 – 86 FT
REEVING – HOIST #1 – 1 PS x 2
HOIST #2 – 1 PS
PRIMARY VOLTAGE – 460/3/Ø
SECONDARY VOLTAGE – 115/1/Ø



Contact us to discuss your unique wire rope hoist application needs.

