



Product

Custom Heavy-Duty Gear Drive

Application

Moveable Bridge

Highlights

- Custom-designed enclosed reducer
- 295,000 in.lb. torque rating
- 1.86:1 reduction ratio
- Fabricated steel housing
- One unit shipped

The Arsenal (Government) bridge spans the Mississippi River connecting Davenport, Iowa and Rock Island, Illinois. The bridge is positioned adjacent to Lock and Dam No. 15 and the Rock Island Arsenal which is an active US Army facility located on a 946-acre island. Today, the arsenal manufactures gun mounts, artillery carriages and other combat equipment.

Originally built in 1896, the Arsenal bridge was the first project engineered by world famous bridge designer, Ralph Modjeski. The bridge features a swing section that pivots 360 degrees allowing for passage of barge/boat river traffic (only one of two like it in the world). The twin-deck bridge accommodates two rail lines on the top level and road traffic on the lower level.

In 2011, the United States Army, Department of Defense completed an extensive rehabilitation of the bridge. Nuttall Gear worked closely with Modjeski & Masters engineers during the design/concept phase of the project to provide the custom gear drive for the bridge's 360 ft., 1,250 ton swing span. The unique Nuttall enclosed reducer, which replaced original open gearsets, features a fabricated steel housing, input rating of 30 HP @ 17.8 RPM, reduction ratio of 1.86:1 and output torque rating of 295,000 in.lbs.

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