

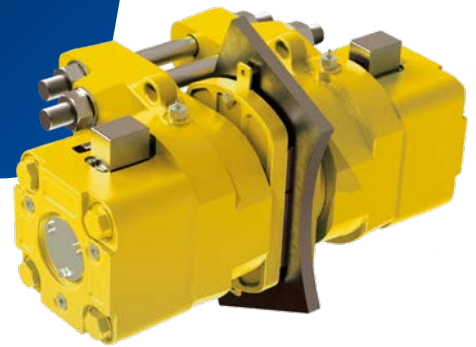
# Powerful brakes elevate the potential of world's tallest ship lift

## PROBLEM

The Goupitan Dam in China, rising 763 ft. (232.5 m) above the Wujiang River, required a highly reliable braking solution for its complex three-stage ship lift system. Designed to manage heavy river traffic, the system includes one lift on the upper side of the dam and two lifts in series on the lower side. Each lift must safely raise vessels weighing up to 1,800 tonnes at speeds of approximately 8 m/sec, reaching a height of 79 meters in just 10 minutes. This demanding setup presented several engineering challenges, including managing high dynamic loads during vessel movement, ensuring precise synchronization across multiple hoist cable drums, providing fail-safe emergency braking, and maintaining durability in harsh environmental conditions.

## SOLUTION

To address these challenges, Stromag supplied its Model SH32 hydraulic caliper brakes, specifically engineered for high-load, high-speed applications. These spring-applied, hydraulically released brakes deliver a dynamic braking force of up to 334 kN and are designed to provide fail-safe emergency braking under severe operating conditions. The brakes were pedestal-mounted on either side of the large-diameter hoist drum brake discs across all three lifts. Stromag also provided custom hydraulic power packs, each equipped with touchscreen control interfaces, designed and manufactured in-house to ensure seamless integration and precise control.



## HIGHLIGHTS

### Stromag SH Series Brakes

- Three-stage ship lift system at Goupitan Dam
- Stromag SH32 caliper brakes
- Spring-applied, hydraulically released design
- 334 kN dynamic braking force
- Fail-safe emergency braking functionality
- Custom hydraulic power packs with touchscreen interfaces



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