



## Product

## VMS-2 Brakes

## Application

## Shiplift Braking Systems

## Highlights

- 24 VMS-2 brakes installed on 1560 tonne shiplift to arrest the hoist in smooth and efficient manner
- 4 VCS mk-III brakes assist in stopping the hoist
- Superior technology and experience in shiplift industry

Twiflex is chosen to supply braking systems to multiple shiplifts in the Asia Pacific region because of its superior technology and experience in the industry. A recent application involves the Gaobazhou Hydroelectric Dam shiplift located 12km from the convergence of the Qing Yangtze Rivers.

The total capacity of the Gaobazhou power station is 252MW and the yearly output of electricity is 898 million Kw. h. The dam is 435.9m wide by 83m tall. The shiplift at Gaobazhou is designed to lift ships weighing up to 300 tonnes and is the only means of navigating the power station dam.

Ships sail directly into a large water tank. Water gates then seal the tank at each end and a 300kW hoist lifts the tank (with ship inside) 40.3m to the upper level. The gates then open and the ship sails on up river. The whole exercise takes less than 12 minutes; considerably faster than a conventional lock gate arrangement.

Four 75kW motors drive a total of eight hoists. The total lift is 1560t but a counter balance of 1024t brings the out of balance load to just 536t. A total brake torque of 1840kNm is required to arrest the hoist under emergency conditions. The 4 VCS mk-III working brakes assist in stopping the hoist and the 24 VMS-2 safety brakes come on at full torque in order to “park” the system. The VMS-2 brakes come in on a “step-by-step” method to arrest the hoist in a smooth and efficient manner.

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