Twiflex®
Altra Industrial Motion

Application Profile

Product — VKSD-FL Spring-Applied Brakes

Application — **Vessel Towing Winches**

Highlights

- Spring-applied, hydraulically-released stopping and parking brake
- Non-asbestos lining materials with large pad areas for maximum heat dissipation
- Nominal 119 kN braking force
- Capable of up to 2 million cycles (spring fatigue life) depending on rating
- Unique 'parked-off' feature

Twiflex Ltd., along with their local distribution partner Intertech b.v., recently supplied brakes to a major offshore winch manufacturer based in the Netherlands for use on ship-to-ship towing winches. The brakes are used to limit tension in the towing cable and are required to slip briefly if the peak loading condition is exceeded.

Twiflex VKSD-FL (floating) spring-applied, hydraulically-released brakes were supplied, each rated at a nominal 119 KN braking force for a 2mm pad air gap. Depending on the settings, the brake design is capable of over 2 million cycles (spring fatigue life) and features a unique 'parked-off' system (a maintenance condition under which no hydraulic pressure is present in the brake, and the spring pack is fully relaxed; the unit may be set, adjusted and maintained with no stored energy present).

During towing operations, if the tow cable tension exceeds 30 tons, due to the action of the waves between the two vessels, the brakes slip to protect the winch and cable. If the load is below 30 tons the cable is reeled in. The operation repeats itself (in bad weather) several times until the ship is alongside.

Each of the two onboard winches utilize VKSD-FL brakes acting on a 1500mm dia. x 40mm thick extended drum flange (stainless steel) with a total braking capacity available of 234 kNm. The brakes are actively controlled and monitored by the customer's hydraulic system which regulates back pressure to ensure the desired torque is achieved.

All equipment was supplied fully prepared for marine use (EN plate) with external surfaces painted to ISO 12944-5 : 2007 – C5M in signal red RAL3001 to meet the customer's specification.