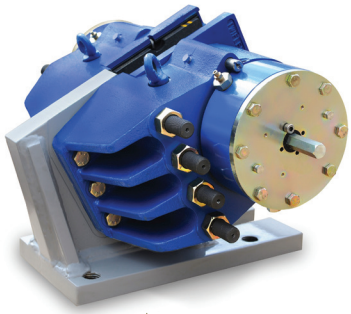
Twiflex®
Altra Industrial Motion

Application Profile



Product VKSD Disc Brakes

Application **Boom Hoists**

Highlights

- Two spring applied, hydraulically released type VKSD disc brakes installed on boom hoist
- Capable of generating brake force of 119kN
- Lock and hold a maximum load of 70 tonnes

An industry leading designer and manufacturer of cranes chose Twiflex VKSD disc brakes to be used on its boom hoists. Each spring applied brake is rated at a nominal braking force (the tangential force acting on the disc) of 119 kN.

In the event of a power loss or failure of the transmission drive from the gearbox to the boom hoist drum, two spring applied, hydraulically released type VKSD disc brakes act directly on the flange of the drum. They stop and hold a maximum load of 70 tonnes up to 90 metres above the dockside.

Hydraulic pressure is provided by a dedicated power pack consisting of a 1.1kW motor close-coupled to a positive displacement pump. This discharges its flow through a check valve to an accumulator and is automatically switched off when the system pressure is reached. Two solenoid valves are employed; one on the flow line into the brake and one on the discharge side.

Under normal hoisting, with the drive motors energized, the valve on the discharge side is closed and the input flow valve is open. This maintains the pressure required in the hydraulic cylinder to keep the spring pack compressed and the brakes released. The operating solenoids for both valves are connected to the hoist drive motor circuitry and, when it is de-energized, opens the discharge valve and closes the input flow valve. This immediately allows the oil in the brake to return to the tank, removing pressure on the spring pack, and causes the brakes to apply.

UK
+44 (0) 20 8894 1161
twiflex.com

Germany
+49 (0) 6221 304719
twiflex.de

For a complete list of our global sales offices visit:
altramotion.com/contactus

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