



Photo courtesy of ThyssenKrupp



Product

Twiflex VKSD Spring-Applied, Hydraulically-Released Caliper Brakes

Application

High Performance Elevator Drives

Highlights

- 2 units each provide up to 150 kN clamping force
- Dual function: emergency stop and parking brake
- Monitoring sensors included for brake on/off and pad adjustment
- Hydraulic power pack enables fine control of the braking time

A major elevator OEM specifies Twiflex VKSD disc brakes for use on high-performance elevator drives installed in skyscrapers. The dual function brakes hold the elevator cars precisely at the correct floor level and also decelerate the cars in an emergency (such as a malfunction). Two separate brake caliper assemblies are used on each elevator drive to provide the required redundant safety.

Unlike electromagnetically operated brakes found in conventional elevators, the VKSD brakes are spring applied and hydraulically released, due to the high clamping forces involved. A dedicated dual-circuit hydraulic unit generates the necessary oil pressure for operation and control of both brake calipers.

The brake system is designed to dissipate the large amount of energy (which may exceed 2 kWh) generated by this high rise elevator application. Brake disc surface temperature can rise by more than 100K during an emergency stop.

The Twiflex VKSD disc brake caliper range is available in a standard configuration comprising two spring modules acting on each side of the disc or, as shown above, as a 'floating' brake. The minimum disc thickness is 20 mm, minimum disc diameter is 1000 mm. Nominal braking force for the range extends from 28 kN to 119 kN.

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