CASE STORY

STENA LINE CATAMARAN FERRY

CUSTOMER
Stena Rederi AB, Sweden

BACKGROUND
Stena’s HSS Carisma catamaran ferry was put into regular service between Gothenburg and Frederikshamn in summer 1997 and has a capacity of 150 cars, 10 buses and 900 passengers.

The Carisma is powered by two 17 MW (22,800 hp) gas turbine engines, which provide a top speed of 40 knots.

The brakes stop and hold the waterjet during the 30 minutes’ docking period. This prevents erosion of the harbour wall and churning of the harbour bottom. The gas turbine engines generate 480 kW (640 hp) of power while running at idle speed during the short docking period.

APPLICATION
Each of the two drive shafts is equipped with eight Dellner SKD 80 hydraulically applied disc brakes and a 1,150 mm (45.3 in) diameter brake disc. Together, the eight brakes produce a total torque of 153 kNm (1,354,000 lbf-in).

The brake pressure is provided by pneumatic to hydraulic pressure intensifiers – pneumatic pressure of 7 bar (101.5 psi) is increased to approximately 90 bar (1,300 psi) hydraulic pressure.