

# M/V FIDELIO



The LCTC (Large Car Truck Carrier) m/v FIDELIO has a capacity of 8,000 cars or a combination of 3,484 cars and 468 buses. With her 227.8 metres this capacity makes m/v FIDELIO and her sistership m/v FAUST the largest registered car carriers in Sweden.

The vessel is built to the highest class of Lloyd's Register of Shipping with the following designations: +100 A1 Vehicle Carrier, movable decks, deck No. 1, 3, 5 and 8 strengthened for Roll on Roll off cargo + LMC, UMS and IWS.

## TECHNICAL SPECIFICATIONS

Length over all	227.8 m	Capacity deck area	67,300 m <sup>2</sup>
Beam, moulded	32.26 m	Capacity of car units*	8,000
Air draft	51.98 m	Capacity of cars/buses	3,484/468
Height to upperdeck	34.7 m	Engine	B&W 7S60MC-C
Draft, design/max	9.5/11.3 m	Basic complement	15
Deadweight at maximum draft	30,137 t	Built	2007, Daewoo Shipbuilding & Marine Engineering, DSME, Korea
Gross Tonnage	71,583	Call sign	SLKR
Net Tonnage	33,546	IMO Number	9332937
Stern ramp width	9.5 m	Flag	Swedish
Stern ramp height	6.5 m	Owner	Wallenius Lines AB, Sweden
Stern ramp capacity	240 t	Operator	Wallenius Wilhelmsen Logistics
Number of car decks	13 (of which 5 are hoistable)		

\* RT 43 units (one RT43 unit = 7.40 m<sup>2</sup>)

### Deck and Ramp system

Heavy units are loaded on the strengthened 1st, 3rd, 5th and 8th decks. Deck No. 2, 4, 6, 7 and 9 are divided into hoistable sections. These sections are hoisted/lowered by means of mobile lift-cars.

The 5th deck is the normal entrance deck, but the 6th may also be used for the outside midship's ramp if the height of the quay requires it.

The two loading ramps are located on the starboard side. The stern quarter ramp is arranged at a 27 degree angle to the center line to enable loading/discharging of long vehicles. The midship ramp is arranged at a 90 degree angle to the centre line.

### Anchoring/Winches

The deck machinery consists of two combined anchor/mooring winches and six conventional mooring winches, two of which are placed on the forecastle and four on the poop deck. There is a crane on upper deck with a capacity of five tons for bringing supplies and spare parts.

### Cargo Ventilation

Fans evenly distributed throughout the vessel on upper deck create good ventilation during loading/discharging. In the main holds air is changed at least 25 times an hour and even up to 50 times an hour in the smaller holds.

### Machinery

The main engine is a B&W, type 7S60MC-C marine diesel with constant pressure supercharging and a maximum output of 21,490 BHP at 105 RPM. The engine is directly reversible and attached to a fixed propeller with remote control from the bridge or engine control room.

For the electrical power supply there are two STX-MAN-B&W diesel engines, type SL21/31, each attached to a 3 x 450 V, 60 Hz, 1,700 kW AC-generator installed in a separate room and a shaft generator with a capacity of 1000 kW. There is an emergency diesel generator with a capacity of 215 kW.

The machinery meets the requirements for Unattended Machinery Space (UMS).

### Navigational Equipment/Bridge

The Bridge has a 360° outlook and is totally enclosed and air-conditioned. The outfit is ergonomically shaped and the equipment fulfills the requirement for "Sole Look Out" at sea and it is also designed for Pilot/Co-pilot system of working in high traffic areas.

The Navigation System is mainly integrated by means of an Integrated Navigational Console, INC, installation. The INC is of the "ANTS" (Automated Navigation and Track keeping System) type. AVDR (Voyage Data Recorder) has also been installed. The radar equipment has anti-collision computers (ARPA) with free selection of picture, synthehtical chart picture etc.

The vessel has an electronic sea chart-system (EC) which gives a range of options to steer the vessel, including among others an automatic one.

To calculate the vessel's position there are two DGPS-navigators and when in coastal waters, there is a "fixed radar target" positioning system.

The radio equipment is fitted with satellite communication (B+C), GSM etc and is fulfilling the Global Maritime Distress and Safety Systems rules (GMDSS).

The vessel is equipped with a highly effective Flap Rudder with twisted leading edge to assist in steering the vessel. The lateral control of the bow is controlled by a 2,000 kW bow thruster by about 30.6 tons thrust.

### Interior

All accommodation areas are located on upper deck and bridge deck, far away from the engine room. They have a very high quality and a unique design with a two store atrium with a top sky light. The ship also has a messroom, TV-room/library, gymnasium, an outdoor swimming pool and a sauna.

There is a cabin with its own entrance from the bridge deck for the Canal staff and service personnel. Tally-men have their own office on the entrance deck (deck 5).

### Safety arrangements

For fire extinguishing, the cargo holds, engine room and interior have a permanent installed water fire post system and portable fire extinguishers. Cargo holds and engine room also have CO<sub>2</sub>-equipment of "total flooding type", some parts of the engine room is also covered by a High Fog water mist extinguishing system.

The vessel has a free-falling life boat capable of carrying 38 passengers and a 7.5 m water jet driven Rescue Boat. In addition to this there are four life rafts with a carrying capacity of 16 passengers each. Each crew member has his/her own survival-suit.

### Environmental performance

Reduced emissions by about 15 per cent per transported unit is achieved by increased effectiveness. A twisted leading edge rudder has reduced resistance with about 4 per cent. The State of the Art Ballast Water Treatment system, Pure Ballast, fulfilling the IMO convention on Ballast Water Treatment, is installed. Engines with improved combustion have resulted in very low NO<sub>x</sub> emissions, main engine as low as 11 g/kWh and auxiliary engines as low as 7.3 g/kWh. The vessel has an effective Marinfloc Bilge Water Flocculant Plant system fulfilling MARPOL 73/78 Annex 1 including White Box for computerised logging.

A Green Passport, as described in the IMO "Guidelines on Ship Recycling" in 2003, is issued by Lloyds Register providing information on all materials and substances known to be potentially hazardous. Biodegradable oil is used in all hydraulic systems and in the sterntube seal. Systems for waste sorting and recycling are implemented. The use of chemicals has been reduced to a minimum, and the chemicals used are approved according to the strict requirements in our "white list".

Electronically controlled cylinder oil lubricators have reduced the use of cylinder oil to a minimum.