FULLY AUTOMATIC AND FLEXIBLE LNG BUNKERING FACILITY

The zero-emission LNG bunkering facility makes it possible to fuel a ferry for a whole day’s operation in less than 30 minutes, all handling activities included. The bunkering facility is fully automatic and requires no permanent staff on shore. With its modular design, the LNG bunkering facility can be dismantled and moved to another location in less than a week.

Simple and safe operation

Approx. 15 minutes before the ferry arrives to the facility by the quay, a signal is sent from the ferry to the control system of the bunkering plant. This activates the system and the LNG road tanker controls to start the pre-cooling sequence of the transfer pump.

As the ferry leaves, the remaining liquid in the lines will be vaporized and displaced to the road tanker through the vapour line due to thermal expansion and lower pressure in the road tanker. Finally, all valves are closed, putting the system ‘to sleep’ under vapour pressure. During ‘sleep’, the pressure in the system is kept on a constant level, thereby preventing any emission to the atmosphere.

Kosan Crisplant’s complete turnkey solution includes the following main items:
- Cryogenic transfer pump unit built into a 20 feet container
- Piping system incl. specially designed LNG dry couplings
- 2 specially designed LNG road tankers
- Parking ramp for road tanker
- Control system incl. safety system
- HMI control panels
- Power installation
- Theft-proof electrical panel placed outside Eex zone 1
- Compressed air installation placed outside Eex zone 1
- Fire and gas alarm system
- Fire fighting equipment
- Fencing, outdoor lighting and lighting in container
- All necessary approvals from the Danish Safety Technology Authority and the Danish Maritime Authority

Patent pending
FULLY AUTOMATIC AND FLEXIBLE LNG BUNKERING FACILITY

Technical facts
Max. bunkering time ........................................... 30 minutes
Pumping time during bunkering process .................. 15 minutes
Container size .................................................. 20 feet
Fuel consumption (ferry) .................................. Min. 10 m³ LNG per day
Required pump capacity .................................. 48 m³/hour (800 litres/minute)
Volume of LNG road tanker (geometric/operational) .... 56 m³/44.5 m³
Necessary connections .................................. 3 x 380 V power supply and compressed air installation
Power consumption ...................................... 20 kW

The Kosan Crisplant Group

The Kosan Crisplant Group is a project-oriented corporation that supplies equipment, plants and systems for filling and maintenance of LP gas cylinders and offers after-sales and engineering services, facility management, and supply of components for the gas industry.

Since 1951, the group has supplied 2650 plants in 129 countries all over the world. The group has members in Algeria, Angola, Brazil, Cameroon, Denmark, France, India, Indonesia, Italy, Malaysia, Mexico, Portugal, Saudi Arabia, Sri Lanka, UK and USA and is the world-leading corporation within its field.