2.1 General Description of Ship System

a) Ship in general

This vessel is designed and constructed to carry, loading, and discharging intended cargoes as below for worldwide trading under following Classification symbols.

+A1(E), “Oil Carrier”, SH, SHCM, +AMS, +ACCU, RW, with the descriptive notes of ESP, UWILD.

- Cargo handling system is designed based on the conventional pump room solution and is designed capable of loading or discharging three grades of cargo simultaneously, concurrently with ballasting or deballasting.

- The cargo oil system and its associated system shall be designed to be capable of loading the cargo through three (3) cargo manifold with a design rate of approx. 20,500 M3/H in total, when two (2) cargo oil tanks are engaged in each segregation (i.e., approx. 6,840 M3/H per each segregation and approx. 3,420 M3/H per each cargo oil tank)

- Vapour emission control system on board this ship is designed to fulfil the requirements of USCG including lightering operation under Letter Of Compliance issued by Classification Society.

- Maximum vapour/air density of loadable cargoes on this ship is 3.0 kg/M3.

- Intended cargoes (CARGO LIST - See the following pages on Cargo Information) are as follows. H. 5268: crude oil.

- Smaller size of G/A plan is attached in the Appendix of this manual and ordinary scale of drawing is retained separately on board.

- This vessel is designed and constructed under the intention of no restriction to carry out lightering operation as per demand from USCG.

Cargo Information – Only Reference

Crude Oil

Country	Crude Name	Specific Gravity	Remark
Algeria	Saharan Blend	44.0 (API 60)	
Angola	Cabinda	31.7 (API 60)	
Brunei	Champion Export	23.9 (API 60)	
Colombia	Cano Limon	0.8718	
Egypt	East Zeit	0.829 1	
	Gulf Suez Mix	0.8660	
	Ras Kharib	0.9040	
Ecuador	Oriente	0.8805	
Indonesia	Lalang	0.8251	
	Sumatran Heavy	0.9273	
	Sumatran light	34.5 (API 60)	
Iran	Iranian Heavy	0.8707	
	Iranian Light	0.8560	
Iraq	Basrah Heavy	0.9059	
	Kirkuk Blend	0.8493	
Kuwait	Burgan	0.9141	
	Kuwait Export	0.8686	
Libya	Brega	0.8251	
	High Pour	0.8449	
	Zueitina	0.8189	
Malaysia	Miri Light	0.8423	
Mexico	Isthmus	0.8509	
Nigeria	Bony Light	0.8413	
	Bony Medium	0.9030	
	Escravos	0.8438	
	Brass River	0.8208	
Norway	Ekofisk	0.8090	
	Statfjord	0.8328	
Oman	Oman Export	0.8433	
Saudi Arabia	Arabian Heavy	0.8905	
	Arabian Light	0.8581	
	Arabian Medium	0.8844	
	Arabian Extra Light	0.8388	
	Burgan	0.9141	
	Khafji	0.8844	

Crude Oil

Country	Crude Name	Specific Gravity	Remark
U.K.	Brent	0.8343	
	Cormorant	0.8504	
	Niniom Blend	0.8468	
USA	Alaska North Slope	0.8899	
Venezuela	Boscan	0.9993	
	Ceuta	0.8665	
	Laguna	0.9923	
	Mesa	0.8762	
	Tijnana Light	0.8649	
	Tijnana Pesado	0.9854	

2.2 Ship's Main Particulars
Refer to 13.1 "GENERAL ARRANGEMENT" for the tank arrangement.

Table 2.2 Ship's main Particulars

Ship's Name	KHK Vision
Length (L.B.P)	320.0 M
Breadth (MLD)	58.0 M
Depth (MLD)	31.2 M
Design draft	20.8 M
Scanting draft	22.4 M
Deadweight	306,000 MT (Design)
Cargo Tank Capacity (including SLOP TANK)	352,231.7 M3
Water Ballast Capacity (including Peak tanks)	100,465.7 M3
Fuel Oil Tank Capacity	7,823.3 M3
Diesel Oil Tank Capacity	459.4 M3

2.3 Particulars of Pumps

Table 2.3 Particulars of Pumps

Cargo Oil Pump	Vertical Centrifugal 5,000 m3/h x 150 mTH (-5m) x 3 Sets
Automatic Unloading system	AUS 454-3 x 1 Set (SHINKO LTD.)
Cargo Oil Stripping Pump	Steam driven vertical double stroke 350 m3/h x 150 mTH x 1 set
Water Ballast Pump	Vertical Centrifugal Single stage 3,000 m3/h x 35 mTH x 2 set
Water Ballast Stripping Eductor	Water driven 300 m3/h x 2 set
Cargo Stripping Eductor	Driving from Cargo Pump 850 m3/h x 2 set

2.4 Particulars of Cargo and Ballast Relating Equipments

Table 2.4 Particulars of Cargo and Ballast Relating Equipments

1. Main Cargo Oil Piping	
In tank (Suction)	3 - lines of 750 mm dia.
In tank (Disch)	3 - lines of 650 mm dia.
2. Cargo Oil Stripping Piping	
In tank (Suction)	Not provided for exclusive use, but stripping branches to be branched from the main line.
In tank (Disch)	1 - line of 200 mm dia.
3. Ballast Water Piping	
In tank	2 - line of 600 mm dia.
4. Ballast Stripping Piping	
In tank	Not provided for exclusive use, but stripping branches to be branched from the main line.
5. Cargo Oil Valve Operation	All valves in tanks, main valves in pump room are hydraulically operated from cargo control console and local control box. Other valves are operated by manual at valve side. For detail information, refer to “Plan Drawing of Cargo/Ballast System” in Appendix 13.2 and 13.3.
6. Tank Level Gauge System	All cargo oil tanks are equipped with Radar beam type level transmitter. Water ballast tanks including fore peak tanks and aft peak tank are equipped with electric-Pneumatic sensing type level gauge system (Sounding indication).