

ARABELLA – Product/chemical tanker



Shipbuilder:..... **Icdas Celik Enerji Tersane ve Ulasim Sanayi AS**
Vessel's name:..... **Arabella**
Owner/Operator:..... **GEFO Gesellschaft für Oeltransporte mbH**
Country:..... **Germany**
Designer:..... **Delta Marine Engineering and Computer Co.**
Country:..... **Turkey**
Model test establishment used:..... **Analysed by Delta Marine with CFD**
Flag:..... **Cyprus**
IMO number:..... **9909247**
Total number of sister ships still on order: **Nil**

Superficially a sister ship to the 2018-built *Gioconda*, *Arabella* was delivered to German chemical tanker operator GEFO in September 2021. The vessel is currently the largest and newest vessel in the GEFO fleet. *Arabella* and her sister were built by Icdas Celik Enerji Tersane in Turkey to a design by Turkish designer Delta Marine.

At 110m in length and 18m in beam and with a deadweight of 7,703tonnes, *Arabella* shares the same dimensions as its elder sister. The difference between them is that *Arabella* reflects GEFO's shift to favouring LNG as a fuel rather than HFO. The company has several ships on order with Chinese yards and one of these became the first to run on LNG when delivered last year.

Whilst *Gioconda* was equipped with a MAN 6L32/44CR four-stroke engine, the newer vessel has been equipped with a 6L34DF engine from Wärtsilä that produces 3,000kW of power and also has a main engine driven alternator with an output of 1,000kW. The engine drives a 4.5m controllable pitch propeller through a Wärtsilä SCV105 gearbox for a service speed of 13knots. The vessel was delivered LNG ready with space for two fuel tanks to be installed on deck aft of the deck-mounted slop tanks.

The vessel is equipped with 16 cargo tanks of which 12 are large fitted with Framo 200m³/h hydraulic deepwell pumps and four are smaller with 100m³/h pumps.

Efficiency of the vessel is rated at 11.3g CO₂ per tonne/mile against a required EEDI rating for the ship of 15.1.

TECHNICAL PARTICULARS

Length oa:.....110.00m
Length bp:.....107.49m
Breadth moulded:.....18.00m
Depth moulded
to main deck:.....9.20m
Width of double skin
side:.....1,230mm
bottom:.....1,200mm
Draught
scantling:.....7.10m

design:.....6.95m
Gross:.....5,582t
Displacement:.....10,830t
Lightweight:.....3,127t
Deadweight
scantling:.....7,703t
design:.....7,446t
Block co-efficient:.....0.76 (at 7.10m)
Speed, service:.....13.0knots (90% MCR, 15% sea margin, 200kW S/G included)
Cargo capacity (m³)
Liquid volume:.....8,562m³:
Bunkers (m³)
Heavy oil:.....VLSFO: 358m³
Diesel oil:.....MGO: 105m³
Water ballast (m³):
Tankers:.....2,702m³
Daily fuel consumption:
Main engine only:.....11.92t/day@13knots

Classification society and notations:.....DNV
* 1A Tanker for chemicals Tanker for oil BIS
BWM(T) Clean COAT-PSPC(B) EO ESP Ice(1A)
NAUT(NAV) TMON(oil lubricated) VCS(2)
% high-tensile steel used in construction: ...100%

Propulsion
Main engine(s)
Model:.....6L34DF
Manufacturer:.....Wärtsilä
Number:.....1
Type of fuel:.....MGO, VLSFO & LNG
Output of each engine:.....3,000kW
Is this a diesel-electric or hybrid?:.....Hybrid
Gearbox(es)
Make:.....Siemens/Wärtsilä
Model:.....SCV105
Number:.....1
Output speed:.....120rpm

Propeller(s)
Material:.....CuNiAl
Designer/Manufacturer:.....Wärtsilä
Number:.....1
Fixed/Controllable pitch:.....CPP
Diameter:.....4,500mm
Speed:.....120rpm

Main-engine driven alternators
Number:.....1
Make/type:.....Wärtsilä
Output/speed of each set:.....1,000kW @1,800rpm (800kW boost with PTI)

Diesel-driven alternators
Number:.....3
Engine make/type:.....MAN D2862LE328
Type of fuel:.....MGO
Alternator make/type:.....Leroy Somer / LSAM
Output/speed of each set:.....700kW@1,800rpm
Exhaust-gas scrubbing equipment:.....(provided for SCR system)

Boilers
Number:.....2
Type:.....Horizontal execution, Oil-fired thermal oil heaters
Make:.....GESAB
Output, each boiler:.....2,000kW

Bow thruster(s)
Make:.....Schottel
Number:.....1
Output (each):.....Fixed pitch, 550kW

Deck machinery
Cargo cranes/cargo gear
Number:.....1
Make:.....Gurdesan
Type:.....Electro-hydraulic, Hose handling crane
Performance:.....5t, 17m outreach
Other cranes
Number:.....1
Make:.....Gurdesan
Type:.....Electro-hydraulic
Tasks:.....
Provision & Rescue Boat
Performance:.....2t, 8m outreach
Mooring equipment
Number:.....2 x Combined Windlass & Mooring Winch; 2 x Aft Mooring Winch
Make:.....Gurdesan
Type:.....Electro-hydraulic driven

Special lifesaving equipment
Number of each and capacity:.....20 Persons
Make:.....GEPA G-FFF-2
Type:.....Free-fall Lifeboat
Cargo tanks
Number:.....16 cargo tanks (6 pairs of big, 2 pairs of small tanks); 2 Slop tanks on main deck
Product range:.....Oil Products, IMO II type chemical cargoes (acc. to IBC Code)
Stainless steel – structure/piping:.....Structure, Piping, Outfitting

Cargo pumps
Number:.....12 tanks with SD125, 4 tanks with SD100, 2 slop tanks with TK80
Type:.....Hydraulic driven deepwell
Make:.....Framo
Stainless steel:.....316L
Capacity (each):.....12 pcs: 200m³, 4 pcs: 100m³, 2 pcs: 70m³

Cargo control system
Make:.....BESI
Type:.....4-3602-6.2C

Ballast control system
Make:.....BESI
Type:.....4-3602-6.1A

Ballast water treatment system
Make:.....Alfa Laval, PureBallast 3.2 300
Capacity:.....300m³/h

Complement
Officers:.....7
Crew:.....8

Integrated bridge system:.....N
Radars
Number:.....2
Make:.....JRC
Model(s):.....X-band: JMR-9225-6XN S-band: JMR-9282-SN

Fire detection system
Make:.....Consilium
Type:.....COMBO- 6022 Addressable

Fire extinguishing systems
Engine room:
- Make/Type:.....Minimax MX1230

Waste disposal plant
Waste compactor
- Make:.....Evac / Model: UBP-30S

Sewage plant
- Make:.....Detegasa / Model: STPN 420, 4200 L/DAY

Efficiency
- Attained EEDI value:.....11.3 (g – CO₂/ton * mile)
- Required EEDI value:.....15.1 (g – CO₂/ton * mile)
- Installed Fuel Meters:.....Volume Type
- Other installed monitoring tools:.....Torque Meter: Wärtsilä, Sea State: Weather Fax JRC Jax 9b, Napa Ship Loading Software
- Energy Saving Technologies:.....Rudder bulb, twisted rudder
- Hull coatings:.....Antifouling Paint: Hempel's Antifouling Dynamic 8000, Impressed Current Antifouling System: MME

Contract date:.....30 May 2016
Launch/float-out date:.....23 April 2021
Delivery date:.....17 September 2021

