

AURORA SPIRIT: Shuttle tanker

Shipbuilder: Samsung Heavy Industrie Vessel's name:	rit re da es ea ng in
IMO number: 98371 Total number of sister ships already completed (excluding ship presented):	69 I III

Described by its owner Teekay Offshore as one the most environmentally friendly shuttle tankers ever built, *Aurora Spirit* was launched in March 2019 as the first of a four-ship series. Two further ships in the E-Shuttle series – *Rainbow Spirit* and *Tide Spirit* – have also been launched with a fourth under construction at Samsung's Geoje yard.

With a deadweight of 128,800tonnes and a length oa of 277m, *Aurora Spirit* falls approximately in the middle of Teekay Offshore's fleet in terms of size. But it's the ship's power and propulsion systems which are its claim to significance. The ship has a hybrid propulsion system with Corvus batteries and a diesel-electric power plant configured around Wärtsilä 34DF engines. The propulsion system comprises four Wärtsilä electric motors each rated at 3,800kW connected in twos through a pair of Brunvoll reduction gearboxes to twin Brunvoll thrusters for a service speed of 14.5knots.

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It is planned to run the engines mostly on LNG, however, the ships will also utilise Wärtsilä's innovative VOC recovery and liquefaction system, which will mix the VOCs with the LNG to be used as fuel. It is anticipated that CO₂ equivalents are cut by more than 40%, compared to conventional shuttle tankers. NOx emissions will be cut by more than 80%, SOx emissions will be virtually nil and particulate emissions will be reduced by more than 95%.

TECHNICAL PARTICULARS

Length oa:	Approx. 277m
Length bp:	
Breadth moulded:	46.0m
Depth moulded	
to upper deck:	23.4m
Width of double skin	
side:	3.0m
bottom:	3.0m
Draught	
scantling:	15.4m
design:	
Displacement:	156,300t
Lightweight:	32.000t
Deadweight	
scantling:	128.800t
design:	
Block co-efficient:0	
Speed, service (%MCR c	
-p,	

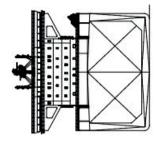
Incl. 15% power margin (91% of MPP) Cargo capacity
Liquid volume:
LNG Fuel:
Classification society and notations:DNV GL X1A, Tanker for oil, ESP, CSR, E0, BIS, TMON, DYNPOS(AUTR), BWM(E[s], T), Clean(Design), NAUT(AW), Bow loading, VCS(2B, 3), F(A,M,C), Plus, CSA(FLS2), COMF(V-3, C-3), CCO, ESV(DP, HIL-IS), ECA(SOX-A), COAT-PSPC(B, C), RP(2, 50), Recyclable, SPM(except for 4.2.2 regarding the distance of fairlead), HMON(A1, B, C1, G4), LCS, HELDK(S, H, CAA-N), Battery(Safety), Gas fuelled, BMON
% high-tensile steel used in construction:
Propulsion Design: El. motor propulsion Model: MDH-08008B-J088F Manufacturer: Wärtsilä Number: 4 Type of fuel: Electric power Output of each propulsion motor: 3,800kW Is a diesel-electric or hybrid?: No
Gearbox(es) Make: Brunvoll Model: AG TS 1400 Number: 2
Output speed:
Material: Ni-Al-Bronze Designer/Manufacturer: Brunvoll Number: 2
Fixed/Controllable pitch:
Alternator make/type:
Output/speed of each set: 2 x 4,611kVA + 2 x 6,144kVA / 720rpm
Boilers Number: 2 Type: OL Make: Aalborg Output, each boiler: 25,000kg/h
Stern appendages/rudders: Full spade rudder Bow thruster(s)

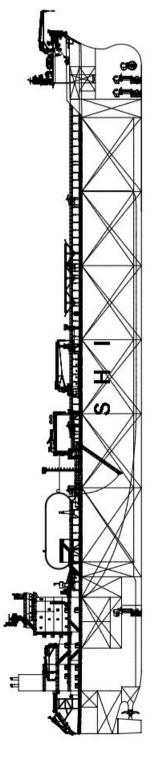
Make: Brunvoll Number: 1 azimuth Output (each): 2,200kW
Deck machinery Cargo cranes/cargo gear
Number:
Make:SSII Type:High pressure, electro-hydraulic self-contained, single jib type Performance:15.0t SWL, each
Other cranes
Number:
Type:High pressure, electro-hydraulic self-contained, single jib type Tasks:Engine room equipment handling
Performance:8.0tons SWL, each Mooring equipment
Number:Two (2) - 1 C/L + 2 M/D + 1 W/H, each, Six (6) - 2 M/D + 1 W/H, each
Make: MacGregor
Type: High pressure, electro-hydraulic driven
Special lifesaving equipment Number of each and capacity:1x 36 persons Make:Norsafe
Type:Totally enclosed free-fall type Cargo tanks
Number:
Grades of cargo carried:2 segregations
Product range:
A/C according to PSPC
Cargo pumps Number:4
Type:Centrifugal, electric motor driven
Make: Wärtsilä
Capacity (each): 3,000m³/h x 135m at S.G 1.025
Cargo control system Make:
Type: Hydraulic type valve remote control
Ballast control system Make:
Type: Hydraulic type valve remote control
Ballast water treatment system
Make:
Make:
Make: Alfa Laval Capacity: 3,000m³/h x 2 sets Complement 17 persons Officers: 17 persons Crew: 13 persons
Make: Alfa Laval Capacity: 3,000m³/h x 2 sets Complement Officers: 17 persons Crew: 13 persons Suez/Repair Crew: 6 persons
Make:
Make: Alfa Laval Capacity: 3,000m³/h x 2 sets Complement Officers: 17 persons Crew: 13 persons Suez/Repair Crew: 6 persons Single/double/other rooms: 30 cabins (single), 3 cabins (1 double) Bridge control system
Make:

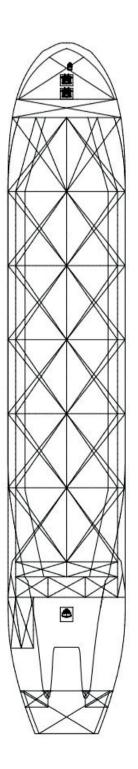
6 SIGNIFICANT SHIPS OF 2019

Stern thruster(s)

AURORA SPIRIT







SIGNIFICANT SHIPS OF 2019