



NAVIS-1: River/sea dry cargo ship

Shipbuilder:JCS Okskaya Sudoverf
 Vessel's name:*Navis-1*
 Owner/Operator: State Transport Leasing Company
 CompanyPJSC
 Country:Russia
 Designer:Marine Engineering Bureau
 Country:Ukraine
 Flag:Russian Federation
 IMO number:9868730
 Total number of sister ships already completed (excluding ship presented):7
 Total number of sister ships still on order:Nil

Navis-1 is the first of a new generation of river/sea dry cargo ships designed for use in the river and canal systems of Russia and its neighbouring countries, as well as for short sea operation.

Navis-1 is the first of the RSD32M type designed by Marine Engineering Bureau of Ukraine and built by Okskaya Sudoverf at Navashino on the Oka River. The design is a development of the RSD32 type and is intended to replace veteran vessels of the Sormovskiy and Volgo-Balt series that are familiar in much of Northern Europe.

Designed as multipurpose ships, *Navis-1* and its seven sisters that were ordered in late 2017 have hull dimensions of 123.2m loa, beam of 16.75m and a maximum 4.745m draught. Its deadweight in rivers on a 3.6m draught is 3,883tonnes. In the Caspian and Azov Seas, the draught is 4.2m and deadweight 5,157tonnes and in open seas, its deadweight is 6,221tonnes on the maximum draught.

The designer refers to the type as an Azov 5000, referring to its ability to transport batches of 5,000tonnes of grain from Azov and Caspian Sea ports. The ship has three box holds with a combined capacity of 8,804m³ and three large hatches. It can carry most general and bulk cargoes, including containers with 180TEU in the holds and 60TEU on deck.

Vessels of this type need to be highly manoeuvrable and for *Navis-1* this is achieved using a combination of twin engines and propulsion equipment. The two main engines are medium-speed Yanmar 6EY22AW models, each producing 1,100kW at 1,000rpm and connected through gearboxes to a pair of fully azimuthing Schottel SRP 340FP rudder propellers. This arrangement gives a 10knots service speed. Manoeuvring is further aided by a Schottel STT170FP bow thruster.

TECHNICAL PARTICULARS

Length oa:123.17m
 Length bp:116.82m
 Breadth moulded:16.50m
 Depth moulded
 to main deck:5.50m
 Width of double skin
 side:1.90m
 bottom:1.00m

Draught
 scantling:4.745m (at sea)
 design:3.60m (in the river)
 Gross:4,982gt
 Displacement:8,594t
 Lightweight:2,266t
 Deadweight
 scantling:6,328t
 design:3,940t
 Block co-efficient:0.887 (at draught 4.745m)
 Speed, service (75%MCR output):11.1knots
 Cargo capacity (m³)
 Bale:8,805
 Grain:8,805
 Bunkers (m³)
 Diesel oil:300
 Water ballast (m³):2,420
 Classification society and notations:Russian Maritime Register of Shipping (RS)
 KM (★)Ice1 R2 AUT1-ICS BWM(T) CONT(deck, cargo holds Nos.1,2,3) DG(bulk, pack)
 % high-tensile steel used in construction: ... 80% approx. (hull – 100 %)
 Roll-stabilisation equipment:Bilge keels
 Propulsion
 Main engine(s)
 Design:Diesel engine
 Model:6EY22AW
 Manufacturer:Yanmar
 Number:2
 Type of fuel:MDO
 Output of each engine:1,100kW
 Is this a diesel-electric or hybrid?:No
 Gearbox(es)
 Output speed:900rpm
 Propeller(s)
 Material:GS-CuAl10Fe5Ni5-C
 Designer/Manufacturer:Rudder-propeller/Schöttel SRP 340FP
 Number:2
 Fixed/Controllable pitch:Fixed
 Diameter:2,000mm
 Speed:283rpm
 Special adaptations:In nozzles
 Diesel-driven alternators
 Number:3
 Engine make/type:Volvo Penta / D9 MG KC (D9A2A)
 Type of fuel:MDO
 Alternator make/type: .. Stamford / HCM534C-1
 Output/speed of each set: ...160kW / 1,500rpm
 Bow thruster(s)
 Make:Schöttel / STT170FP
 Number:1
 Output (each):120kW
 Other cranes
 Number:1
 Make:Gürdesan
 Type:Gantry crane

Tasks:For hatch covers of cargo holds
 Mooring equipment
 Number:2 bow anchor-mooring winches, 1 stern anchor-mooring winch
 Make:Gürdesan
 Type:Electric
 Special lifesaving equipment
 Number of each and capacity:1 x 16 pers.
 Make:China
 Type:Free-fall lifeboat YZ49FC
 Hatch covers
 Design:Marine Engineering Bureau
 Manufacturer:JCS "Okskaya Sudoverf"
 Type (upper deck/other decks): ...Of lift-away type with gantry crane
 Containers
 Lengths:20'/40'
 Heights:9.5'
 Total TEU capacity:240
 On deck:60
 In holds:180
 Homogeneously loaded to 14tonnes:240
 Tiers/rows (maximum)
 On deck:12 / 1
 In holds:12 / 3
 Ballast control system
 Make:Valcom
 Type:TSS/Control
 Ballast water treatment system
 Make:Alfa Laval / PureBallast 3.1
 500 Compact Flex
 Capacity:500m³/h
 Complement
 Officers:.....5
 Crew:6
 Supernumeraries/Spare:3
 Single/double/other rooms:11 (3 with spare berth) / pilot
 Navigation and other equipment
 Bridge control system
 Is bridge fitted for one-man operation?No
 Integrated bridge system:.....No
 Radars
 Number:2
 Make:Furuno
 Model(s):FAR-2127 (X-Band)
 Fire detection system
 Make:MRS Electronics (fire alarm), Safetec (smoke detection system for cargo holds)
 Type:PS-220-5A, SDS-48
 Fire extinguishing systems
 Cargo holds:CO₂
 Engine room:CO₂
 Efficiency
 Attained EEDI value:15.7
 Required EEDI value:15.8
 Contract date:30 November 2017
 Launch/float-out date: 22 May/12 December 2018
 Delivery date:29 May 2019

