FURETANK VINGA VESSEL SERIES
– THE WORLD’S MOST ENVIRONMENTALLY FRIENDLY TANKERS
Furetank provides full technical and commercial management with focus on environment and efficiency. Since each vessel we build will be operated for the coming 20 years, we have made significant investments in the best possible technologies that can be adopted today.

Together with our partners, we have designed the VINGA vessel series for maximum efficiency, reduced fuel consumption and minimal environmental impact. Every system has been optimized. Each new building being added to our fleet drastically reduces emissions to air and negative impact on climate change and human health.

The two sister vessels FURE VINGA and FURE VITEN are best in class globally in meeting the IMO climate goals for shipping. At their delivery, the average carbon dioxide emissions from Furetank’s intermediate fleet were decreased by 50% compared to 2008. This means that already today the vessel series fulfills its part of the IMO’s total emission target for the world fleet: to halve emissions up to year 2050.

To achieve all this, everyone within Furetank strives to cooperate closely within our organization. We learn from each other and we are constantly evolving. We not only want to follow the development – we want to be part of creating it.

This way we make sure to reach our goals, and that is why we are ‘not a giant but a leader’.

Lars Höglund
Managing Director

A report from the Swedish Environmental Research Institute IVL, has calculated that harmful emissions from the VINGA vessels have been drastically reduced thanks to LNG propulsion and energy-saving systems.

Many positive effects follow. While CO₂ is a greenhouse gas, NOₓ causes eutrophication and SO₂ acidifies lakes and forests. Particles severely affect human health, causing millions of premature deaths around the world yearly. Thus, these reductions have a great positive impact near and far; from the atmosphere to individuals living close to shipping fairways.

Calculations are based on the comparison with a same-size vessel built in 2006, running on conventional fuel.

**VINGA series emission reductions**

40% FUEL REDUCTION

*When running on LNG/LBG. With LBG, liquefied biogas, CO₂ emissions are eliminated.

55% CO₂ REDUCTION*

86% NOₓ REDUCTION

99% SO₂ REDUCTION

99% PARTICLES REDUCTION

73-85% NOISE REDUCTION

**EEDI SCORE:** 4.64

Best in class globally. The UN International Maritime Organization IMO regulates emissions for new vessels through the EEDI energy efficiency design index, where a lower value means less emissions. For 2021, the requirement for intermediate tankers was to reach below 9.37 points. FURE VITEN and FURE VINGA received values as low as 4.65 and 4.64 points: the best results achieved in the size segment so far.
These are the technical features that make the VINGA vessel series the most energy efficient, low-emission intermediate tankers in the world.

**TIER III COMPLIANCE**
International Maritime Organization (IMO) highest emission classification.

**LNG/LBG AS FUEL AT SEA AND IN PORT**
Main engine used for power production during discharge operations.

**SCR ON AUXILIARY ENGINES**
Selective Catalytic Reactors (SCR) are installed, reducing NOx emissions.

**INERT GAS POWERED BY LNG/LBG**
Inert gas generator can be operated on LNG for lowered emissions.

**FOSS**
Fuel gas supply system are designed to eliminate methane slip as all vents from system are connected to tanks.

**HIGH EFFICIENCY TWISTED LEAD RUDDER WITH PROPELLER BULB**
High efficiency twisted lead flap rudder. A highly sophisticated rudder design for minimum drag and high steering efficiency.

**FREQUENCY CONTROLLED STEERING GEAR**
A more efficient way to operate the actuation of the rudder.

**PROPeller NOZZLE MINIMIZES REQUIRED ENGINE OUTPUT - ICE CLASS 1A**
With a propeller nozzle fitted the propeller will deliver approximately 25% more pull.

**PROPeller NOZZLE REDUCES NOISE LEVEL**
Propeller nozzle will also reduce the underwater noise emitted from the propeller.

**CLASS NOTE AVM-APS ALTERNATIVE PROPULSION SYSTEM**
AVM-APS is a classification notation for redundant propulsion.

**ENERGY CLASS ELECTRICAL MOTORS**
All electric motors on board are of the highest possible energy efficiency class.

**ENERGY EFFICIENT VENTILATIONS**
All ventilation systems are designed to consume a minimum amount of energy.

**EAL OIL IN ALL EQUIPMENT ON OPEN DECK**
Environmentally Acceptable Lubricants (EAL) are biodegradable.

**VFD PRESSURE CONTROLLED ENGINE ROOM FANS**
The engine room fans are automatically controlled in order to minimize energy consumption.

**FLOATING FREQUENCY FOR PROPeller EFFICIENCY**
Technical solution enables running the propeller at variable speed, resulting in reduced energy consumption.

**UPS BACKUP ON ALL PROPULSION AND NAVIGATION**
The electrical system has a battery backup that minimizes the risk of a blackout, resulting in improved safety.

**CHEMICAL FREE BALLAST WATER TREATMENT**
Ballast water treatment using UV light instead of chemical additives.

**ULTRASONIC ICAF**
Anti fouling system uses ultrasonic sound waves to deter organisms from growing inside the box coolers.

**VGP COMPLIANCE FOR ALL OIL TO WATER INTERFACES**
All systems containing oil that could leak into the sea are filled with biodegradable oils.

**LED LIGHTS FOR LOW ENERGY CONSUMPTION**
All lights on board where possible are of LED type.

**REMOTE ANCHORING FROM BRIDGE**
Anchors can be released from the bridge for safe navigation.

**ACTIVE LOAD CURVE AND PITCH ADJUSTMENT SAVES ENERGY**
A way to optimize the propeller RPM and pitch depending on cargo condition.

**ELECTRIC CARGO PUMPS**
Lower power consumption and reduction of noise pollution at port.

**PREPARED FOR ST LAWRENCE**
Vessel is fully equipped and ready for trading at St Lawrence seaways.

**LOW ENERGY COMPRESSORS**
Variable RPM compressors run smoother and are more energy efficient.

**HEAT RECOVERY**
Steam boilers with exhaust heat recovery from ME and all AUX engines. Heat recovery from cooling water for heating of LNG Vaporizers, accommodation and stores, technical and domestic fresh water.

**NEW LOW DRAG HULL DESIGN AND LOW FRICTION ANTI FOULING**
Minimum water resistance.

**STRONG FOCUS ON WORKING ENVIRONMENT**
Spacious cabins and accommodation of highest standard, large fully equipped gymnasium with sauna, engine room separated into different spaces for noise reduction and fire integrity, covered working area on forecastle, all equipment on deck covered by pipe tunnel. Good environmental standard.
PROPPELLER NOZZLE AND FLOATING FREQUENCY
A ducted propeller increases thrust and minimizes the required engine output. Fitted with a nozzle, the propeller delivers approximately 25% more pull than a conventional open propeller solution while maintaining the highest ice class. The less powerful main engine can be used to generate electric power running cargo pumps in port, bringing down emissions even further since it runs on LNG/LBG.

The main engine and shaft generator use variable frequency, making it possible to run the propeller at variable speed with the shaft generator connected. This enables achieving the optimal balance between propeller rotation and engine power at any given vessel speed. Propeller efficiency is optimized and fuel consumption reduced by 20% in all of the vessels.

SECURING BIOGAS SUPPLY
Liquefied biogas is one of the keys to fossil-free shipping. Furetank aims to operate the VINGA fleet with zero CO₂ emissions and is in the process of securing the supply of larger quantities of biogas through exclusive agreements with suppliers.

A letter of intent has been signed with Eskilstuna Biogas AB, enabling the development of a new biogas plant producing around 5,000 tonnes of LBG annually. Furetank commits to buying at least 75% of the produced fuel for 10 years. The gas will be extracted from manure and food waste and upgraded to 100% waste-based, fossil-free and renewable biofuel.

FIRST IN EUROPE WITH FULL SHORE POWER
FURE VITEN and FURE VINGA are the very first tankers in Europe fully equipped to operate the energy-demanding cargo pumps with electricity supplied from shore at full rate - 6.6 kV and 1,450 kVA. This will reduce emissions substantially as soon as ports offer the opportunity.

The solution is being developed in collaboration with the ports of Gothenburg and Rotterdam, currently in the process of developing the full capacity power connection required to operate the pumps. An important effort, as emissions in port can account for up to 20% of the total emissions from a tanker, in an environment that is often even more sensitive to pollution and noise than at sea.

OPTIMIZING TRADING PATTERNS
An often overlooked factor affecting emissions is how well we optimize the movements of the fleet. Furetank runs our own chartering department operating more than 20 intermediate tankers for Furetank and eight partner companies. This critical mass of vessels means we can always provide the right sized vessel in the right position at the requested time.

By combining different voyages and cargoes we reduce the time in ballast way below the average in our trade. Furetank’s ratio laden vs ballast is 66/34, compared to the average of 47/50. This drastically reduces the emissions per transported ton and also brings economic efficiency; a prerequisite for Furetank’s large investments in innovation, optimization and climate-efficient technology when developing new vessels.
CLASS
Bureau Veritas (BV), Dual Fuel (LNG), +Hull, +Mach, Oil Tanker, Chemical Tanker, ESP, Unrestricted Navigation, Ice Class 1A, AUT-IMS, SYS-IBS-1, MON-SHAFT, VCS, Inwater Survey, Clean Ship, EWCT, BWT, AVM-APS, IG

DESIGN
FKAB Marine Design, Low Drag Hull Design

SERVICE SPEED
12 Knots

FUEL CONSUMPTION
8,2 ton LM
With shaft generator connected

PARTICULARS
Overall length 149,9 M
Breadth 22,8 M
Depth 12,1 M
Draft design 8,9 M
Draft summer 9,4 M
Keel to top of mast 40,3 M

TANK COATING
Sigma Phenguard 930/935 /940 EN
Hot Cured

TONNAGE
DWT design 16,300 T
DWT summer 17,999 T
GRT 12770 T
NRT 5838 T

TANK CAPACITY
Cargo 98 % 19,850 m³
Ballast 7500 m³
LM (Liquid Methane) 620 m³
HFO 520 m³
DO 150 m³
Fresh water 40/300 m³

CARGO HEATING
Heat exchanger
Steam boilers 9,5 Steam ton/h

CARGO PUMP
Electric deep well pumps
Cargo pumps 12x300 m³/h

Slop pumps 300 m³/h
Ballast pumps 2x500 m³/h
Discharge Cap @12BAR 1800 m³/h

MAIN ENGINE
Wärtsilä 9L34DF 4500 KW
Shaft generator 1500 KW

AUXILIARY ENGINES
Wärtsilä 688W4L20 685 KW
Wärtsilä 1600W9L20 1600 KW

AVM-APS
Alternative propulsion 1800 KW

BOW THRUSTER
Brunvoll/Kongsberg 850 KW

INERT GAS SYSTEM
Fuel LM/Diesel
Capacity 2250 m³/h

BALLAST WATER TREATMENT
Alfa Laval Pure Ballast

FURETANK.rederi, Korsholmebacke 1, SE-430 82 Donsö, Sweden | FURETANK_SE