



power from within

# MARINE

## Introduction

The marine shipping industry has grown tremendously in the last few decades as global trading activities become more and more demanding. Across the sea, there are several types of marine vessels such as container vessels which serve as one of the most popular mode of transportation due to its low cost, high load carrying capacity, and reliable solution. To ensure the highest durability and performance of marine vessels, **essenza** has developed a wide range of marine lubricants to cater for the operational requirements of marine vessels operating under the most severe marine environments.

A high output marine engine is the heart of any marine vessel and is the main driving force in getting the vessel to its destination. Marine engine oils act as the life blood of marine vessels and are designed to protect and enhance the performance of four-stroke 'trunk piston' engines and two-stroke 'cross-head' engines which are working in the toughest conditions. Trunk piston engines are the main component of light to medium weight ocean-going vessels while cross-head engines are much larger and are used in cargo vessels, container ships and super tankers.

Apart from marine engine cylinder and crankcase oil, **essenza** also provides a series of premium quality industrial lubricants, including high viscosity index hydraulic oils, Extreme Pressure (EP) gear oils, compressor oils, turbine oils, and multipurpose greases.

By utilizing the advanced formulation technology, **essenza** products offer both cost-effective solutions and protection for all types of marine equipment. Proper lubrication of marine equipment and oil change at the manufacturer recommended interval will avoid premature failure and reduce frequent maintenance needs. This further avoids unscheduled downtime and lastly delivers the most promising marine shipping operation from day to day.

## MARINE DCL series

Two stroke engines which is also known as crosshead engines make use of cylinder oil to feed through a number of injection points for lubrication and cooling of the piston-liner coupling. Cylinder oils are defined as total loss lubricants and thus exhibits a short life cycle. Not only requiring high lubricating oil film strength, they must also neutralise acidic components formed during heavy fuel combustion. Engine development is moving toward higher power output, larger inertial masses, reduced engine size, low speeds and higher thermal stress therefore the selection of engine oil plays a critical role which relates to the engine performance. **essenza MARINE DCL series**, a high Alkalinity cylinder oil, is the best candidate to provide protection and neutralization of the acid to keep wear and tear under control.

**essenza MARINE DCL series** displays a high natural viscosity index and is able to prevent viscosity loss due to continuous operation, maintaining optimum lubricating oil film for all moving surfaces across wide temperature ranges, meanwhile greatly promoting the maximum performance of additives.

It exhibits excellent oxidation stability and reduces degradation of oil molecules. It keeps the cylinder and pistons clean. Coupled with good detergent-dispersant properties, it prevents the formation of lacquer, sludge and deposits and results in a smooth operation.

**essenza MARINE DCL series** is equipped with outstanding neutralisation power (up to 70 TBN) and effectively resists the formation of acidic compounds from the combustion of high sulfur fuel oils. This characteristic also helps to lower liner temperature which prevents the condensation of sulfuric acid, thus achieving better oil consumption saving.

Marine engines normally operate under a humid environment and the water might affect the operation of the engine and cause rust/corrosion. **essenza MARINE DCL series** offers very good antifoam properties that prevent the formation and entrainment of air bubbles and ensures a perfect oil film continuity. Boosted with superior antiwear, antitrust, and anticorrosion properties, it protects components against heavy and shock loads even under high moisture environment, leading to longer engine service life.



100L



200L

### Available SAE grades and specifications

SAE Grade 40, 50  
TBN level 60, 70

## MARINE TPEO series

Four-stroke engines which are known as trunk piston engines, is similar to a normal diesel engine but they are built on a much larger scale. Most engines are designed to operate on heavy fuel oil. High quality marine oils in the **essenza MARINE TPEO series** is recommended for use as it is available in a wide range of viscosity and different levels of TBN (Total Base number) which is important to counter highly aggressive sulfuric compounds formed from combustion of the high sulfur content of fuel oil in the presence of moisture.

**essenza MARINE TPEO series** is a range of modern marine engine oils meant for use in the latest four-stroke diesel engines operating with high-sulphur fuels which calls for high performance lubricants, especially those with "anti-black sludge" properties. This lubricant provides superior deposit control in the hottest parts of the engine, namely in the piston cooling gallery.

With the use of high polarity basestock, **essenza MARINE TPEO series** is able to tenaciously adhere to the metallic surfaces and provides superior protection against seawater and corrosion. Together with the high performance TBN additives (up to 40), it greatly minimises the effect of acidic compounds from combustion and prevent corrosive wear.

**essenza MARINE TPEO series** is formulated with high quality base stock and thus display improved oxidation stability, keeps rings free and pistons clean because of its good detergent-dispersant properties and it prevents the formation of lacquer, sludge and deposits.

As the size of marine engines increase, it experiences high wear and frequent vibration throughout the operation. **essenza MARINE TPEO series** offers superior antiwear properties, making this product suitable for the lubrication of the main engine unit which operates in the most severe conditions. Ultimately, a better protection to the engine is achieved resulting in an extended engine service life.

### Available SAE grades and specifications

SAE Grade 30, 40, 50  
TBN level 5 to 50  
API CF



100L



200L

## Super MD series

Diesel engines are also widely used in various marine applications, ranging from the emergency power supply of diesel generator sets, lifeboat engines, to other auxiliary equipment such as forklifts. **essenza powerful Super MD Series** is a line of multigrade diesel engine oil and suitable for use in high speed, four-stroke diesel engines. These are API CF-4 oils which exceed the requirements of the CE category, providing improved control of oil consumption and piston deposits. It is suitable for use in gasoline engines as well.

Formulated with excellent anti-rust, antiwear and anticorrosion properties, **essenza powerful Super MD Series** offers superior protection for all components and keeps the engine in the best possible condition.

These oils also display excellent detergent-dispersant properties, keeps pistons clean and contains the solid products of combustion in the suspension until the next oil change. This prevents the formation of dangerous deposits in the sump, leading to longer engine life.

### Available SAE grades and specifications

SAE 15W-40, 20W-50 grades  
API CF-4/SH



100L



200L



20L



20L



## HYDROe HV series

In marine applications, the hydraulic equipment continuously experience temperature fluctuations. **essenza HYDROe HV Series** is a superior quality hydraulic oil, developed particularly for use in all types of hydraulic systems and equipment which require a product with an extremely high Viscosity Index (VI) and a very low pour point for the required operation. For example, high pressure hydraulic cranes and winches are extensively used in modern vessels for low to moderate lifting operation.

The high VI properties reduce the change of viscosity at high temperatures which ensures that maximum hydraulic performance is achieved. The oils are formulated from selected paraffinic "Highly Treated Base Stocks" for its improved thermal, oxidative and hydrolytic stability properties.

Its extremely good oxidation resistance and stability even when subjected to unusually high thermal stresses, allow these oils to minimize the formation of sludge and deposits. This prevents blocking of ports, valves and controls, while guaranteeing that the oil remains properly fluid. Reduced maintenance costs and extended service life of the oil is realised.

**essenza HYDROe HV Series** display superior antiwear properties that protect all moving components against heavy and shock loads thus reducing frequent maintenance or servicing.

### Available ISO viscosity grades and specifications

ISO VG 15, 22, 32, 46, 68, 100  
DIN 51524-3 HVLP, AFNOR NF E 48-603 HV, ISO 11158 HV, ASTM D 6158 HV, Denison HF-0/HF-1/HF-2, Cincinnati Machine P-69/P-70, Eaton Brochure 694 for 35VQ25A, GM LS-2



200L



20L

## GEARBOXe LL series

Gearboxes is another crucial, yet important component as it harvests and transfers power from marine engines to the targeted applications. **essenza GEARBOXe LL series** is a range of high performance industrial Extreme Pressure (EP) gear oil with long-life lubrication characteristics. Its special basestock and additives offer outstanding protection for gears operating under severe service conditions, where high, shock loads and low speed are expected. It satisfies a wide range of industrial service requirements, for example gears involved in severe duty operation (ISO 12925-1 CKD).

**essenza GEARBOXe LL series** displays outstanding antiwear and EP protection which greatly reduces undesirable wear and scuffing caused by high and shock loads during operation.

With high oxidation stability, the oils are able to minimise viscosity increase, effectively maintaining optimal viscosity oil film strength in the long term. Coupled with superior demulsibility, rust and corrosion resistance, it helps to protect lubricated parts even when moisture or external contaminants are present.

**essenza GEARBOXe LL series** is designed to cater for the most severe operational requirements of gears and bearings in various heavy duty industries.

### Available ISO viscosity grades and specifications

ISO VG 68, 100, 150, 220, 320, 460, 680  
ISO 12925-1 (CKD), DIN 51517 PART3 (2011), AGMA 9005-E02, AIST 224, GB 5903-2011, JIS K2219 :2006, DAVID BROWN S1.53.101 E



200L



20L

## COMPRESSORe SLL series

**essenza COMPRESSORe SLL series** is a range of lubricants developed for the lubrication of rotary and reciprocating air compressors. They are formulated using group II base stocks together with the advanced Ester technology and ashless additives with proven performance, anti-oxidation and anti-corrosion properties. Thanks to the natural high polarity of Ester compounds, this oil offers superior adherence ability with metallic surface and thus leads to complete oil film coverage for long-lasting protection.

**essenza COMPRESSORe SLL series** is available in a wide viscosity range from ISO VG 32, 46, to 68 which are generally recommended for screw type compressors while, ISO VG 68 or 100 are generally used for reciprocating compressors. It offers good compatibility with most industrial gaskets.

The special formulation of **essenza COMPRESSORe SLL series** provides a long service life, particularly in rotary (screw and vane) compressors, as the specially selected raw materials help to keep the oil stable at high temperatures hence minimizing the tendency of the oil to form carbons, sludge and deposits.

With high protection from corrosion and wear, **essenza COMPRESSORe SLL series** has the ability to protect the internal parts in good condition and results in high compression efficiency as well as maintenance cost savings.

### Available ISO viscosity grades and specifications

ISO VG 32, 46, 68, 100  
DIN 51506 VDL, ISO-L-DAB, ISO-L-DAH



200L



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## TURBINE series

**essenza TURBINE series** is a high performance turbine oil formulated with carefully selected "High Treated Base stock" and additive package for its very high thermal and oxidative stability. It satisfies the most severe operation requirements for various high output steam, gas, and water turbines. With the advanced Ashless-additive technology, this product offers low carbonisation performance, reducing filter clogging issue and leads to a clean, smooth operation.

**essenza TURBINE series** showcase superior oxidation resistance and stability even when subjected to unusually high thermal stresses which minimize sludge and deposit formation. This prevents blocking of ports, valves and controls, while guaranteeing that the oil remains suitably fluid.

High level of anticorrosion and antifrost properties which prevents the oxidation of the equipment's internal surfaces thus preventing operating problems and breakdown of the oil, caused by metallic oxides that would otherwise form within the machinery.

**essenza TURBINE series** delivers excellent demulsibility and antifoaming properties, greatly promotes continuity and homogeneity of lubricating oil film and ensures maximum lubrication power under high moisture environments. Reduced maintenance costs and extended equipment service life is realised.

### Available ISO viscosity grades and specifications

ISO VG 32, 46, 68, 100  
BS 489: 1999, DIN 51515-1 L-TD, Siemens TLV 9013 04, General Electric GEK 46506D, Alstom HTGD 90117



200L



20L

## GREASE Multi EP series

**essenza GREASE Multi EP series** is a line of multipurpose, lithium thickened lubricating grease that contains antioxidants, corrosion inhibitors and EP/AW additives. It offers good mechanical stability and load carrying capacity, making it suitable for heavily loaded bearings in both marine and industrial applications.

**essenza GREASE Multi EP series** is suitable for use in a wide range of plain and rolling bearings and heavily loaded bearings, such as pump bearings, pulleys, racks and pinions, and other low to medium loaded and sliding mechanisms.

**essenza GREASE Multi EP series** offers EP (Extreme Pressure) performance features that are important for reducing wear rates and achieving a high load-carrying capability, even under conditions of high sliding and moderate shock loading.

With the excellent corrosion protection and structural stability, **essenza GREASE Multi EP series** performs well in a wide range of applications, thereby promotes rationalization of inventory holding.

### Available NLGI grades (recommended operating temperature range)

NLGI 00 (-35°C to 100°C, max 120°C)  
NLGI 0, 1, 2 (-30°C to 120°C, max 130°C)  
NLGI 3 (-20°C to 120°C, max 130°C)



200L



20L

## GREASE HLT WR series

Bearings in marine equipment often face more stringent operation than typical bearings used in factories as they might encounter high water washout, salt water exposure, and heavy loads. Without proper sealing and lubrication, the service life of bearings will be severely shortened and cause unscheduled production downtime.

**essenza GREASE HLT WR series** is a range of high quality calcium sulfonate complex lubricating grease specially designed for bearing applications involving heavy loads and wet environments. It offers excellent load carrying capacity, antifrost, and anticorrosion protection, leading to extended equipment service life.

**essenza GREASE HLT WR series** exhibits excellent load carrying capacity and helps to protect all moving surfaces against heavy and shock loads. With its inherent outstanding water resistant properties, this grease showcases good sealing protection for mechanical components exposed to high moisture or seawater environment, thus promoting efficient lubrication.

**essenza GREASE HLT WR series** provides superior water resistance and makes it the best candidate for application under wet conditions.

### Available NLGI grades (recommended operating temperature range)

NLGI 2 (-30°C to 150°C, max 180°C)  
NLGI 1.5 (-20°C to 140°C, max 180°C)



200L



20L

## About essenza

essenza, conceptualised by Italian designers and brought to life by an international network of lubricant specialists, is a versatile brand that symbolise energy, efficiency, excellence and evolution.

essenza is a comprehensive range of premium lubricating oils, greases and related products, positioned at the global lubricants market. Our international technical team bring with them decades of experience in product development and formulations. Therefore, our strength lies in selecting the latest technology available to meet market expectations while our adaptation strategy assures customisation in local markets.

Our carefully selected range is available from ISO 9001 plants in Singapore and Europe and is available in an array of packaging options, to cater for our diverse market demands.

for more information, visit us at  
[www.essenzalubricants.it](http://www.essenzalubricants.it)

Distributor's Stamp