



# MARINE

## NAUTILUS HEAVY XT 140



### DESCRIPTION

NAUTILUS HEAVY XT 140 is a top-tier, highly alkaline cylinder oil formulated for low-speed crosshead engines operating on high sulfur heavy fuel oils (HSHFO). It is made using premium hydrotreated base oils and cutting-edge additive technology. This oil offers superior protection against cold corrosion, safeguarding against ring wear and liner surface corrosion. It also promotes exceptional engine cleanliness, helping to extend the engine's life cycle and overall performance.

### APPLICATIONS

NAUTILUS HEAVY XT 140 is designed for cylinder lubrication in large, super long-stroke, low-speed marine diesel engines using residual medium and heavy fuels with sulfur content above 1.5%. It is particularly well-suited for engines operating under slow steaming conditions, characterized by high stress, long strokes, and low loads. Specifically formulated to combat cold corrosion, it is compatible with 2011 Tier II powertrains and vessels equipped with exhaust gas after-treatment systems. Usage should follow OEM guidelines. NAUTILUS HEAVY XT 140 also meets the standards set by MAN Energy Solutions and WinGD.

### CHARACTERISTICS-BENEFITS

| CHARACTERISTICS  | BENEFITS   |
|--|--|
| Superior boundary lubrication properties, offering enhanced protection against wear.                               | Prevents scuffing and minimizes liner and ring wear, facilitating longer overhaul intervals.                 |
| Excellent neutralization of acids produced during fuel combustion.   | Superior deposit control, enabling operation at optimized feed rates.  |
| Exceptional thermal and oxidation stability, combined with excellent detergency.                                   | Excellent engine cleanliness, almost zero deposits on piston, piston rings, ring grooves and cylinder ports. |
| Remarkable detergent properties that protect the oil system in the event of accidental residue leakage combustion. | Reduced maintenance costs, prolonged engine life due to minimal corrosive wear.                              |

### PHYSICAL-CHEMICAL CHARACTERISTICS

| NAUTILUS                                      | METHOD     | HEAVY XT 140 |
|---|------------|--------------|
| SAE   |            | 50           |
| Density at 15°C, g/cm <sup>3</sup>            | ASTM D1298 | 0.935        |
| Viscosity, Kinematic (cSt) 40 <sup>0</sup> C  | ASTM D445  | 221.0        |
| Viscosity, Kinematic (cSt) 100 <sup>0</sup> C | ASTM D445  | 20.0         |
| Viscosity index                               | ASTM D2270 | 104          |
| Pour point, °C                                | ASTM D97   | -15          |
| TBN, mgKOH/g                                  | ASTM D2896 | 140          |
| Flash point, COC, °C                          | ASTM D92   | 248          |

The abovementioned characteristics represent mean values.

### SPECIFICATIONS

MAN ES, WinGD, Mitsubishi

### APPROVALS

MAN ES (NOL)