



# MARINE ENGINES

Building a more sustainable future with alternative fuel options



## SIMPLY CLEAN

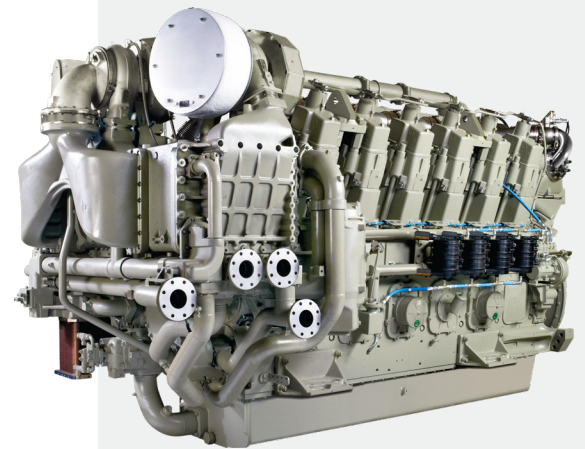
Wabtec's marine engines are certified to the stringent EPA Tier 4 emission standard for nitrogen oxides and particulates (NO<sub>x</sub> and PM) without the need for SCR and urea exhaust aftertreatment. This enables vessel owners/operators to obtain the ABS LEV(US) notation for their vessel.

Additionally, our engines in conjunction with a diesel particulate filter (DPF) can go beyond US EPA Tier 4 and IMO Tier III emission limits to achieve EU Stage V emissions levels and obtain ABS LEV (EU) or BV ULEV vessel notations.

## ALTERNATIVE FUELS FOR A DECARBONIZED FUTURE

Wabtec is committed to offering alternative fuel solutions across its 250 engine series. Our 250 engine family has over a decade of dual fuel operation with diesel fuel and LNG. The engines are designed with features that allow for minimally invasive engine adaptations (top deck and fuel system) when transitioning to low carbon/no carbon fuels when our customers' operations support the introduction of such fuels.

For additional information on our engines current and future capabilities, please contact us at [MSDProducts@wabtec.com](mailto:MSDProducts@wabtec.com)



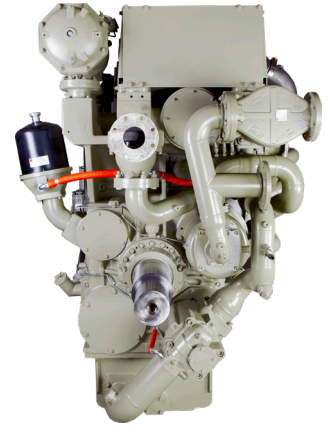
- EPA Tier 4/IMO III without exhaust aftertreatment
- No soot on deck
- Carbon mitigating solutions
- Class leading OPEX
- Biofuels in-service since 2011
- Lower system weight, space, and installation cost
- Supported by world-wide service partner network

[WabtecCorp.com/marine-solutions](http://WabtecCorp.com/marine-solutions)

## COMMITTED TO SUSTAINABLE TRANSPORTATION

At Wabtec, we have a longstanding commitment to tackling the world's biggest transportation challenges. Clean energy and sustainable transportation are undoubtedly among these and increasingly at the center of conversations with rail, marine and industrial customers who are working hard to drastically reduce carbon-based fuel consumption and greenhouse gas emissions, cut down pollutants, and eliminate waste.

Doing our part to address climate change in the transportation sector is at the center of our business strategy. We are carefully balancing where the world is going and where we must lead. Our mission is performance that drives progress and creating transportation solutions that move and improve the world.



## LEADING IN ALTERNATIVE FUELS

Wabtec is developing alternative fuel solutions and power technologies to provide customers with the cleanest and most commercially viable options to meet their power needs. For marine customers, Wabtec currently offers low carbon bio and renewable fuel use and is investing in alternative fuel technologies to support hydrogen, methanol, and ammonia fuel use.

### Currently available

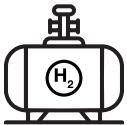
#### Renewable Diesel (HDRD/HVO) & Biodiesel (FAME)



- Operation on renewable fuels up to R100
- Up to B30 operation, B50 design compatibility
- Reducing life-cycle carbon emissions
- Enabling operators to obtain "SUSTAIN-2" notation

### In development

#### Hydrogen



- Enabling low carbon intensity & low pollutant shipping
- Projected substitution of 30-90%+
- Retrofittable to EPA Tier 3/4 and IMO II/III compliant engines

#### Methanol/Ammonia



- Enabling low carbon intensity & low pollutant shipping
- Dual fuel operation with diesel/bio-based fuels
- Retrofittable to EPA Tier 4 and IMO III compliant engines

## OUR SUSTAINABILITY PRINCIPLES

### Innovating with purpose

Developing responsible and sustainable products that minimize the impact on the planet.

### Driving responsible operations

Providing safe work environments and products that enable productive and efficient use of resources.

### Empowering people and communities

Driving an inclusive culture grounded in integrity, committed to the development of and investment in the communities where our teams live and work.

## CONTACT

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