



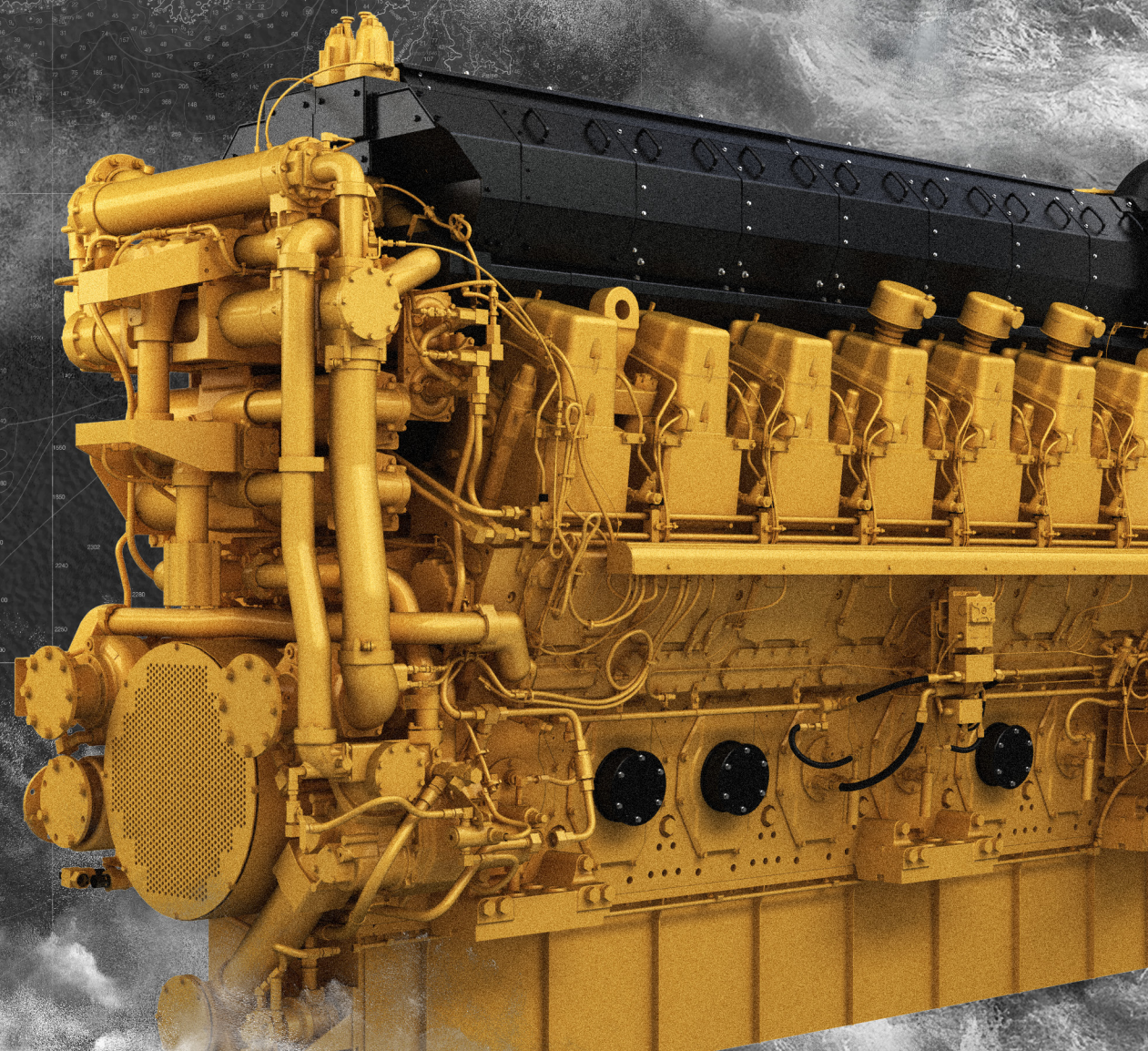
**SUCCESSFUL
MISSIONS
START HERE.**

**EMBARK ON
CONFIDENCE.**

INTRODUCING THE UPGRADED
CAT® C280 ENGINE SERIES



**CONNECT WITH
THE EXPERTS**



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B E R I N G S E A

N O R T H P A C I F I C O C E A N

THE CONFIDENCE EACH MISSION REQUIRES.

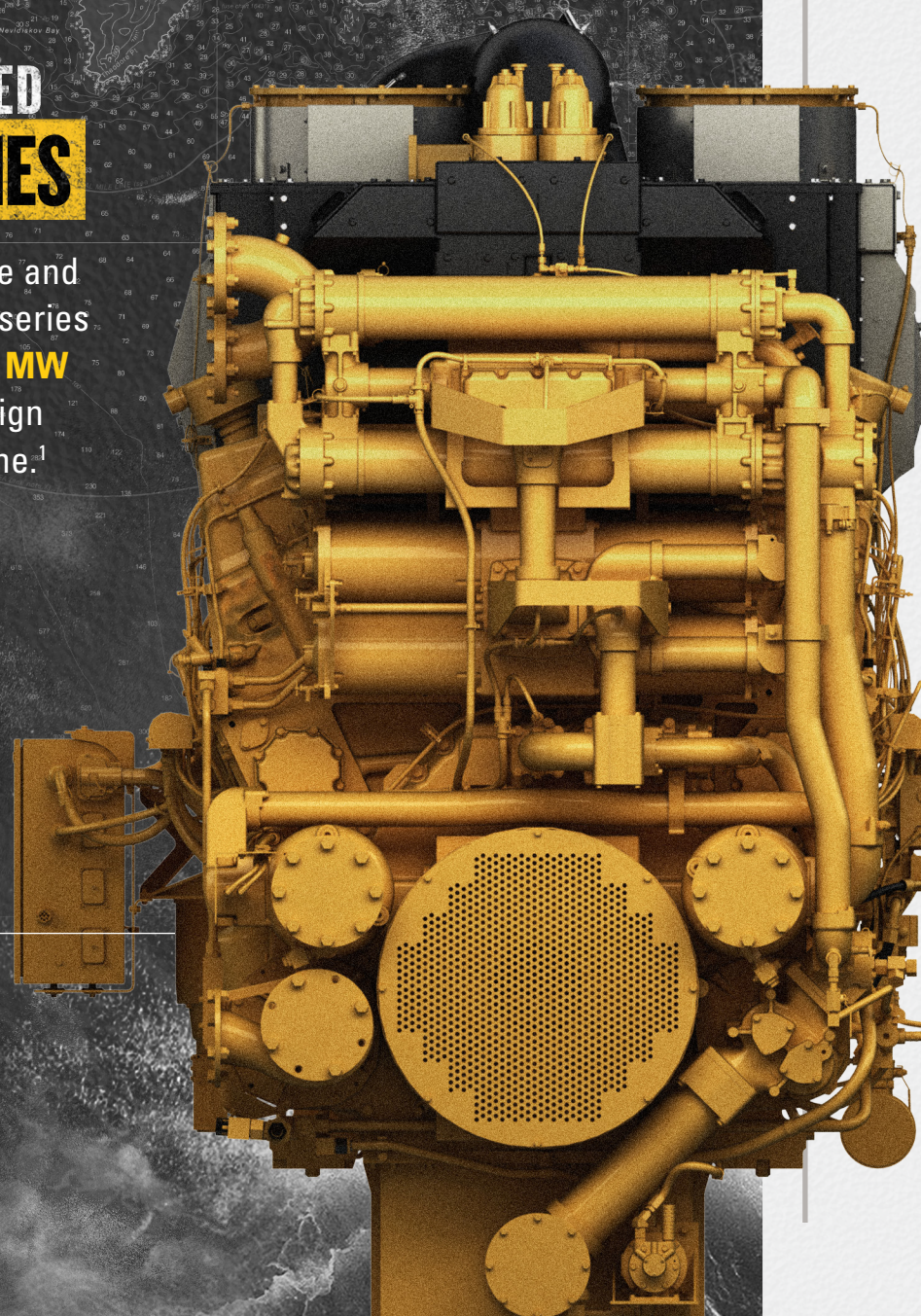
INTRODUCING THE UPGRADED CAT® C280 ENGINE SERIES

Successful missions start with confidence and reliability. The updated Cat® C280 engine series features various **power nodes from 3 to 8 MW** and offers a more powerful, compact design for added safety and even improved uptime.¹

“ We are excited to introduce the new generation of C280 - built on decades of proven experience we have increased power-per-cylinder while staying true to the core values of this platform: reliability and ease of maintenance. ”

Sydney Bachmann
Marine Product Strategy
Caterpillar Marine

¹ compared to previous C280 models



PROVEN, RELIABLE, AND READY FOR WHAT'S NEXT.

WITH 30+ YEARS OF PROVEN PERFORMANCE ON THE BOOKS, the Cat C280 series has helped crews operate with confidence in all seven seas. Listening to our customers' feedback we strive to build engines able to deliver the tough, proven and tested performance demanded by the most respected navies and coast guards around the world. That is why we developed the updated power nodes of 8 MW, adding to the existing lineup.

THE ENHANCED
C280 SERIES BUILDS
ON A LEGACY OF
PERFORMANCE IN
WATERS ACROSS
THE WORLD.

850+

ACTIVE MARINE UNITS

46M+

RUNNING HOURS

READY. SET. EMBARK.

THE ENHANCED C280 SERIES PACKS RELIABILITY AND DURABILITY INTO ITS MORE POWER-DENSE FRAME.¹ That means there are more ways than ever for the engine to serve a critical role for naval capabilities.

OPTIMIZED POWER TO WEIGHT

The C280 series delivers a competitive weight-to-power ratio² – allowing for more weight and space allocation for additional ordnance.

- Our 8MW 16-cylinder configuration maintains power while coming in 20% lighter than competitors.³

DESIGNED FOR MISSION READINESS

The more you can trust your engine, the more you can focus on the task at hand. That's why navies around the world rely on the C280 engine series to meet their power requirements.

- The C280 series has been proven to deliver 99% inherent availability.

EASE OF MAINTENANCE

An engine's capability only matters as long as it's kept up and running. That's why the updated C280 engine series delivers more power with the same durability and serviceability you have relied on since 1986.

- Thanks to the data from the 16+ million running hours, we can determine proven service intervals according to the operational profile of the vessel.
- Wherever your next mission will lead you, the Caterpillar Dealers' Network is ready to support.

¹ compared to previous C280 models

² based on a comparison conducted in July 2024

³ Figures based on comparative study made in June 2024 against 16V engines at 7280 kW MTU 8000 series and MAN V28/33D STC

⁴ or up to 20% with Selective Catalytic Reduction (SCR) aftertreatment

MADE FOR
THE NAVIES
OF TOMORROW

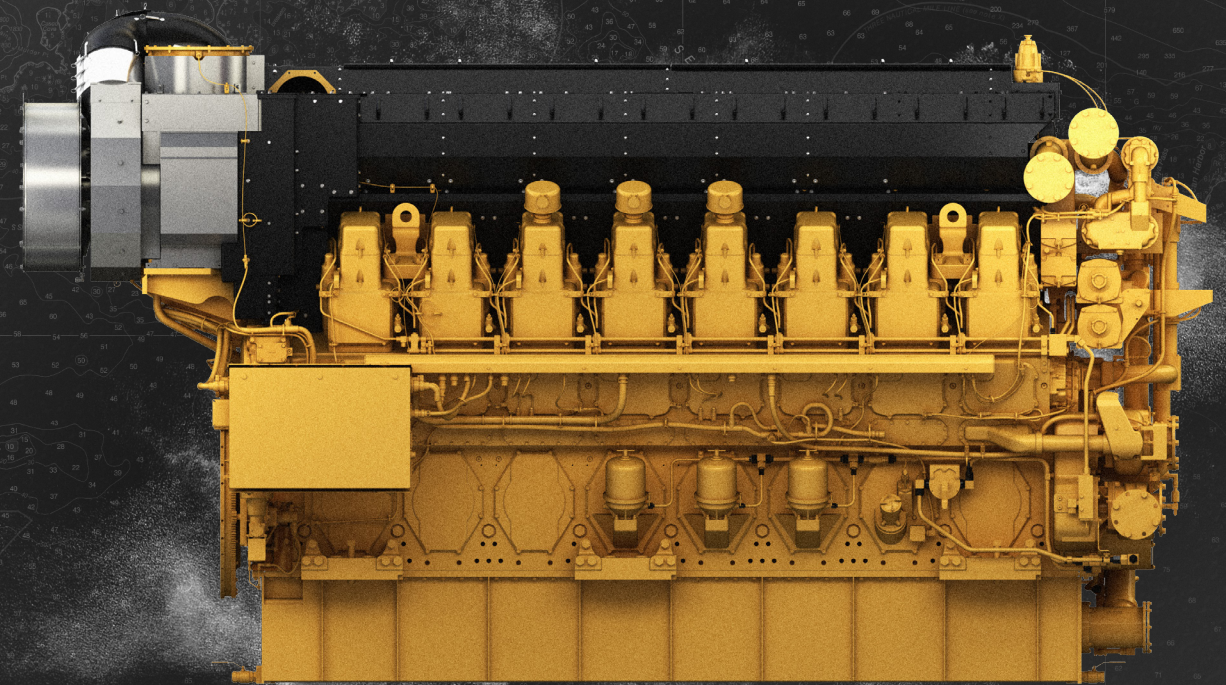
MEETS ALL INDUSTRY REQUIREMENTS

BIOFUEL CAPABLE – OPTIMIZED TO RUN ON B100 OR 100% BIOFUEL, UNMODIFIED⁴

AVAILABLE SCR SOLUTIONS MEET TIER 4 OR IMO 3 STANDARDS

READY WHEN DUTY CALLS.

THE C280 ENGINE SERIES IS PURPOSE-BUILT TO DELIVER SAFE AND EFFICIENT PERFORMANCE IN THE FACE OF NAVAL DEMANDS.



LOAD ACCEPTANCE

Maneuver with confidence knowing that when you need to intervene fast, your engine's **increased performance** is ready to handle the load and help you speed ahead.

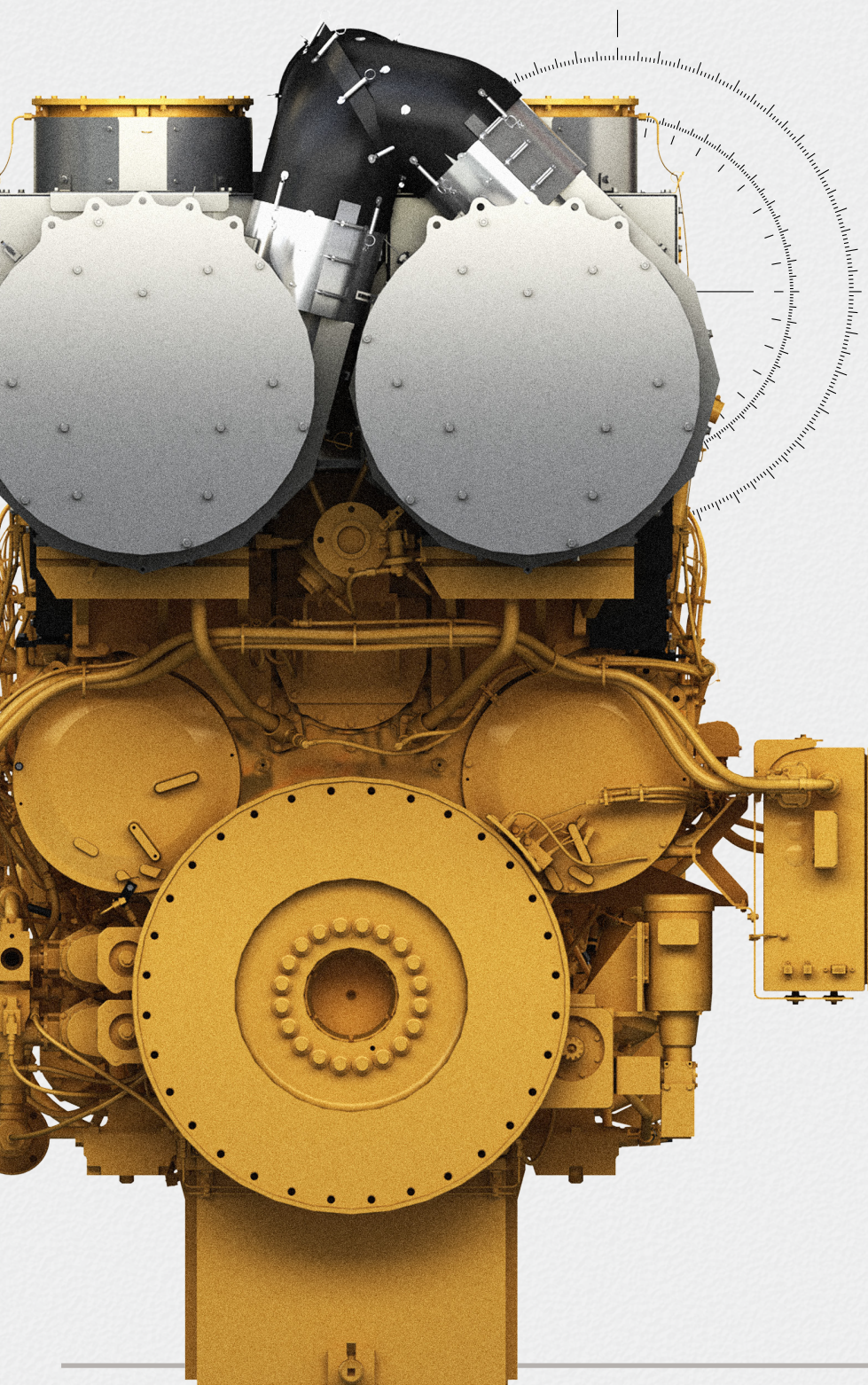
FUEL FLEXIBILITY

Greater fuel flexibility means the C280 series is capable to run on diesel, hydrotreated vegetable oil (HVO), and biofuel diesels – helping you deliver your mission whatever the requirements and reducing lifecycle CO₂.¹

¹ These fuels reduce lifecycle GHG emissions in the fuel value chain; exhaust stack GHG emissions are essentially the same as with traditional fuels.

BUILT TO TACKLE WHAT'S NEXT.

ADVANCED HARDWARE AND SOFTWARE WORK TOGETHER TO DELIVER FULL-SAIL PERFORMANCE THAT DOESN'T LET UP.



THERMAL MANAGEMENT SHIELD

Lower heat rejection into engine room with an updated, dual-layer heat shield design – leveraging a base layer to reduce convection heating effects and a modular carbon steel outer layer to simplify assembly and service access.

TURBOCHARGERS

Achieve **better load response** through upgraded turbochargers that optimize air intake.

UPGRADED COMBUSTION SYSTEM

Operate at higher temperatures associated with the increased power needs of large vessels through an optimized piston crown and skirt geometry, along with a higher-flow electronically controlled fuel injector.

UPGRADED HEAD DESIGN

Achieve **higher power** with an updated head design, while maintaining the durability and reliability Caterpillar is known for.

ELECTRONIC CONTROL MODULE ADEM6

Get **more control and protection** while your engine is running with the latest CAT technology onboard – providing real-time engine condition data that's accessible through remote monitoring.

FLEXIBLE DESIGN. CONSISTENT PERFORMANCE.

C280 ENGINE SERIES REFERENCE CARD

16 CYL

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	4600-4920	900-1000	IMO II/ IMO III/T4	4600-4920	900-1000	IMO II/ IMO III/T4
MC	5060-5420	900-1000	IMO II	5060-5420	900-1000	IMO II/ IMO III/T4
MC/ FCV	5650-6000	1000	IMO II			
**	6500	1000	IMO II			
FCVR	7280	1000	IMO II			
Navy*	8000	1000	IMO II			

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	4600-4920	900-1000	IMO II/ IMO III/T4	4600-4920	900-1000	IMO II/ IMO III/T4
MC	5060-5420	900-1000	IMO II	5060-5420	900-1000	IMO II/ IMO III/T4
MC/ FCV	5650-6000	1000	IMO II			
**	6500	1000	IMO II			
FCVR	7280	1000	IMO II			
Navy*	8000	1000	IMO II			

* Navy Rating: This rating is used for vessel applications that involve varying loads, with limited time at powers greater than 90%. ICFN – ISO standard fuel stop power. Estimated annual usage 3000-5000 hours per year.

** Special rating request only. For applications with CPP optimized to 85% of rated power. Please consult A&I team for details.

ENGINE DIMENSIONS & WEIGHT

6-8 MW

Length	224 in / 5690 mm
Height	134 in / 3404 mm
Width	80 in / 2032 mm

Dry Weight	68343 lb / 31000 kg
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12 CYL

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	3460-3700	900-1000	IMO II/ IMO III/T4	3460-3700	900-1000	IMO II/ IMO III/T4
MC	3800-4060	900-1000	IMO II/ IMO III/T4	3800-4060	900-1000	IMO II/ IMO III/T4
MC/ FCV	4500	1000	IMO II			

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	3460-3700	900-1000	IMO II/ IMO III/T4	3460-3700	900-1000	IMO II/ IMO III/T4
MC	3800-4060	900-1000	IMO II/ IMO III/T4	3800-4060	900-1000	IMO II/ IMO III/T4
MC/ FCV	4500	1000	IMO II			

8 CYL

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	2300-2460	900-1000	IMO II/ IMO III/T4	2300-2460	900-1000	IMO II/ IMO III/T4
MC	2530-3000	900-1000	IMO II/ IMO III/T4	2530-2710	900-1000	IMO II/IMO III/T4

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	2300-2460	900-1000	IMO II/ IMO III/T4	2300-2460	900-1000	IMO II/ IMO III/T4
MC	2530-3000	900-1000	IMO II/ IMO III/T4	2530-2710	900-1000	IMO II/IMO III/T4

6 CYL

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	1730-1850	900-1000	IMO II	1730-1850	900-1000	IMO II
MC	1900-2030	900-1000	IMO II	1900-2030	900-1000	IMO II

	PROPULSION			AUXILIARY		
	bkW	rpm	emissions	bkW	rpm	emissions
CS	1730-1850	900-1000	IMO II	1730-1850	900-1000	IMO II
MC	1900-2030	900-1000	IMO II	1900-2030	900-1000	IMO II

Refer to the governmental guide or specs on cat.com for the latest specs.