GOVERNMENTAL & DEFENSE SOLUTIONS

EDITION 2023 (AUGUST)





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PRODUCT LINE

HA

GOVERNMENTAL & DEFENSE MARINE PROPULSION ENGINES



Cat[®] C280 Series 1.7 - 8 MW / 2,325 - 10,880 HP

Cat[®] 3500 Series 1 - 3 MW / 1,304 - 4,023 HP



Cat[®] C32, C32B 1.2 - 1.8 MW / 1,599 - 2,413 HP



Cat[®] C18, C13D, C9.3, C7.1 *298 - 847 bkW*

MARINE GENERATOR SETS



Cat[®] C280, 3500, C32, C18, C9.3, C7.1, C4.4 Series 38 - 4,840 ekW

WELCOME FROM LEIF GROSS Caterpillar Marine Global Segment Manager, Governmental



Your Missions, Our Power & Support

Welcome to our new *Governmental Marine Power Solutions Guide*, especially dedicated to the most demanding naval and defense applications around the globe.

Governments must be able to protect their shores and ensure territorial integrity. In a

world of growing political, economic and ecological uncertainties, they need brave crews and ever mission-ready platforms to secure their boundaries—despite how tough the conditions or how serious the threat.

We owe them only our very best solutions, helping to ensure that they can fulfill their duties under severe conditions and return safely.

Caterpillar is renowned when it comes to reliability, durability and serviceability. All this is foundational to ensure the highest uptime and mission readiness. Now, we have added another attribute to our solutions: Increased performance.

In this overview, you will find products and solutions that are truly industry leading with respect to power density, capability and efficiency, which ultimately translates into endurance. They are tailored around the needs of military platforms, and they come with a second-to-none global support network provided by Caterpillar and Cat[®] dealers.

This is why we are proud to be **Tougher than Ever for Governmental** and Defense.

In appreciation,

leit pour

WE ARE CATERPILLAR

CATERPILLAR IS A \$60 BILLION **DOLLAR COMPANY.**





THE CAT® DEALER NETWORK IS THE LARGEST IN THE INDUSTRY & COVERS OVER 190 COUNTRIES. THERE ARE 156 DEALERS SERVING **192 COUNTRIES WORLDWIDE.**

CATERPILLAR IS INVOLVED IN 18 DIFFERENT INDUSTRIES GLOBALLY.

- DEFENSE
- MARINE
- AGRICULTURE
- SNOW REMOVAL
- GOVERNMENTAL LOCAL/STATE
 LANDSCAPING
- 01L & GAS
- PAVING
- WASTE SOLUTIONS
- CONSTRUCTION

- DEMOLITION
- ELECTRIC POWER
- FORESTRY
- INDUSTRIAL POWER
- MINING
- OEM SOLUTIONS
- OUARRY & AGGREGATES
- SCBAP BECYCLING

LET'S DO THE WORK."



YOUR REQUIREMENTS DRIVE OUR PURPOSE And Inspire Our Solutions

Naval operations, coast guards and armed forces have trusted the strength, durability and reliability of Caterpillar Marine for decades to power their vessels and ensure safer, dependable missions shore to shore. Caterpillar recently invested heavily in research and development (R&D) to create a range of power solutions that meet and exceed the requirements of navies and coast guards around the world.

Our engines deliver high power density, long-term durability and high fuel efficiency, reducing downtime or increasing mission readiness. Our products are also backed by the Cat dealer network, which holds the standard for keeping vessel engines and gensets in top-notch condition with parts and services you can count on.



Caterpillar Marine monitors current and historical events worldwide to ensure awareness of global and national threats that demand military reinforcement and natural disasters that compel humanitarian aid. **We understand the escalating requirements of naval and coast guard operations**. In response, we have elevated our engineering efforts and commitment to deliver powerful products and services to support those operations in even more robust ways.

UPTIME

Your operations are a matter of critical importance, so **equipment availability is not optional. With your missions, every minute matters,** and we're here for you, offering reliable power solutions and technology to support the call.

- Dependable power products
- Accessible service
- Digital services support



YOUR MISSION-READINESS IS OUR MISSION

Whether for planned operations or emergency recon on suspicious vessels traveling too fast along your coastlines, we ensure you have the right services at the right time and place so your vessels can go the distance and speed you need.

- Powerful, stealth-equipped engines and gensets
- Global parts and service availability
- Digital equipment monitoring

AT YOUR SERVICE—AROUND-THE-CLOCK, AROUND THE GLOBE

Offshore or dockside, during peacetime or combat, in any waters around the world, **Cat Marine dealers are there to service your vessels**.

- · Robust dealer network that's as tough as our engines
- Accessible, on-demand parts and service
- Comprehensive service agreements



DIGITAL SOLUTIONS TO STRENGTHEN YOUR FLEET

Your missions require next-level readiness and endurance. It's non-negotiable. Cat Marine digital tools and solutions help you automate, digitize and streamline operations for optimizing power performance.

- Real-time engine performance monitoring
- Planned maintenance (PM) schedules
- Asset tracking and location monitoring
- Integrated Cyber Analysis System (ICAS)-approved equipment

TOUGHÉR THAN EVER. For governmental & defense

Designed for Mission Readiness Engineered for Power Density & Performance Lower Signature Best Serviceability



YOUR VESSELS, OUR POWER For the Toughest Military Operations

Caterpillar Marine understands what governmental customers value and how your operations demand reliable uptime and power and faultless operation as a matter of safety and protection from internal subversion, foreign aggression and terrorism.

We consistently test shock, strength, noise, vibration, power and more to ensure that **our propulsion and auxiliary engines and gensets have the survivability, high-power density, low weight, compact design and mechanical and thermal stability you need** to extend the performance and life of your vessels and allow you to focus on your critical tasks at sea.



We have engines operating successfully in naval and defense platforms worldwide. So, no matter how critical your requirements, we can supply you with a complete, fully integrated propulsion system covering a **broad power range from 300 kW to 8 MW (and growing)** to specifically accommodate your operations.

COMBAT VESSELS

- Surface combatants with military-tough design characteristics
- Frigates, destroyers, corvettes and landing platform dock (LPD) ships
- Built for speed and maneuverability
- Used in scouting threats, escorting other vessels and patrolling borders
- Require high-powered performance and mil shock capability
- Recommendation:
 - Cat C280 propulsion engines

OFFSHORE PATROL VESSELS (OPVs)

- Fast-attack craft, inshore patrol craft, with patrolling and sprint modes
- Used in search and rescue, surveillance and environmental monitoring
- Require flexible engine load profile, with quick, high-power response and endurance
- Recommendation:
 - Cat C32B propulsion engines
 - Cat 3516E propulsion engines

AUXILIARY VESSELS

- Replenishment vessels, attack transport ships, repair ships, harbor support ships, tracking ships, research vessels and hospital ships
- Built for endurance, reliability and performance
- Used to support other vessels and for specific missions, e.g., exploration and medical
- Recommendation:
 - Cat 3516E propulsion engines
 - Cat C280 propulsion engines
 - Cat C32B gensets

SUBMARINES

- Recommendation:
 - Cat 3500-series gensets
 - Cat 3512 diesel electric gensets*
 - Cat 3516 diesel electric gensets*

*Design to order (DTO) product

UNMANNED/AUTONOMOUS VESSELS

- Recommendation:
 - All Cat diesel gensets
 - All Cat propulsion engines

Solar Turbines

A Caterpillar Company

GAS TURBINE FAMILY Power Range: 1 - 38 MW

Saturn 20 [1.2 MW]

Centaur 40/50 [3.5-4.6 MW]

Mercury 50 [4.6 MW]

Taurus 60 [5.7 MW]

Taurus 65 [6.5 MW] Taurus 70 [8.2 MW]

Mars 100 [11.3 MW]

Titan 130 [16.5 MW]

Titan 250

Titan 350 <mark>[34-38 MW]</mark>

TURBO-CHARGED WITH SOLAR TURBINES For Cleaner Power & Greater Performance

In addition to diesel engines and gensets, Caterpillar Marine offers turbo power from Solar Turbines (a Caterpillar company) for governmental operations to further maximize availability, reliability and value throughout the life of your vessel's propulsion system.

- Available for all military vessels and sizes.
- Provides safer, cleaner, quieter marine turbo-power solutions.
- Fueled by environmentally friendly liquified natural gas (LNG).

With these solutions, you'll generate cleaner, more compact turbo power with quieter operation and lower cost.

Solar Turbines solutions pack a powerful punch, with outputs ranging from 2 MW to 30 MW.





To contact Solar Turbines, scan this QR code or click here.

CATERPILLAR NAVAL DESIGN & APPLICATION CAPABILITIES A Service for Success

The complexities of shipbuilding—from concept phase all the way to delivery—can be a tough and challenging process. Avoid the stress of determining the right power solutions, system integration and engineering requirements by calling on **Caterpillar Marine's Naval Design & Application (ND&A) services. We're here to help,** with reinforcement.

We will assist you in navigating through concept, preliminary design, detailed design, construction and delivery. Our team offers decades of experience supporting naval ship programs worldwide, providing consulting expertise to shipyards in the most specific and technical matters and across all phases of construction. Count on us every step of the way.

Our comprehensive ND&A services will help you capture and manage information in your shipbuilding projects, applying a proactive approach that supports next-generation capabilities for surface ships, submarines and unmanned platforms.

- Technical engineering support
- Design integration and interface support
- Custom design to order (DTO)
- Advanced data analytics
- Operational Failure Mode & Effects Analysis (FMEA)
- Root cause failure analysis

Caterpillar Marine ND&A services routinely consult on military projects and programs related to No Manning Required Ships (NOMARS), Large Unmanned Service Vessels (LUSVs) and other government-specific initiatives.



For more information on Caterpillar Marine ND&A services, contact Leif Gross at Leif.Gross@cat.com.

MARINE PROPULSION ENGINES GOVERNMENTAL & DEFENSE PRODUCT LINE



CAT PROPULSION ENGINES Built to Perform, Built to Endure

CAT HIGH-SPEED & MEDIUM-SPEED SOLUTIONS: PROPULSION ENGINE SPEC SHEETS



Cat Marine propulsion engines meet your rigorous standards, with high-speed and mediumspeed solutions, allowing you to face the roughest, most critical missions.



We offer a complete range of conventional and electronic propulsion solutions to support naval and defense applications, with **power ranging from 300 kW** (400 mhp) to 8 MW (10700 mhp).

Count on our products and solutions for reliability, durability, power and efficiency, adding peace of mind to every mission.



C280-16*

PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

| | bhp | bkW | | U.S. g/h | g/bkW/hr | IMO | U.S. EPA | | China |
|-------|-------|------|------|----------|----------|-----|----------|----|-------|
| 8158 | 8046 | 6000 | 1000 | - | - | Ш | NC | NC | NC |
| 9789 | 9655 | 7200 | 1000 | - | - | Ш | NC | NC | NC |
| 10877 | 10728 | 8000 | 900 | - | - | Ш | NC | NC | NC |

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | |
|---|----------------|-----------------|--|--|--|--|--|--|
| Aspiration TTA | | | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | | |
| Displacement | 18,062 cu in | 296 liter | | | | | | |
| Rotation (from flywheel end) | Clockwise or C | ounterclockwise | | | | | | |
| Engine dry weight (approx.) 77,000 lb 35,000 kg | | | | | | | | |
| Base frame weight 17,565 lb | | | | | | | | |

DIMENSIONS

| | | LE | | |
|-------|------|----------------|----------------|---------------|
| Gen 2 | min. | 232 in/5892 mm | 148 in/3756 mm | 98 in/2479 mm |
| 6eMW | max. | 236 in/6005 mm | 141 in/3587 mm | 76 in/1934 mm |

*Approximated ratings, fuel consumption, specifications and dimensions.

C280-16 PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

IMO II

| | mhp | bhp | bkW | rpm | U.S.g/h | g/bkW-hr | IM0 | U.S. EPA | EU | China |
|--------|------|------|------|------|---------|----------|-----|----------|----|-------|
| CS | 6255 | 6169 | 4600 | 900 | 302 | 209.9 | Ш | NC | NC | NC |
| CS | 6690 | 6598 | 4920 | 1000 | 340 | 220.6 | Ш | NC | NC | NC |
| MC | 6879 | 6785 | 5060 | 900 | 333 | 210.0 | Ш | NC | NC | NC |
| MC | 7369 | 7268 | 5420 | 1000 | 371 | 218.7 | Ш | NC | NC | NC |
| MC/FCV | 7682 | 7577 | 5650 | 1000 | 366 | 207.0 | Ш | NC | NC | NC |
| MC/FCV | 8158 | 8046 | 6000 | 1000 | 389 | 207.2 | Ш | NC | NC | NC |
| MC** | 8834 | 8713 | 6500 | 1000 | 431 | 212 | Ш | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|-----|------|------|------|-----|----------|----------|---|----------|----|-------|
| CS* | 6255 | 6169 | 4600 | 900 | 282 | 195.4 | Ш | T4C | NC | NC |

C280 fuel rate is at full load on the prop curve, BSFC is at full power condition. Arrangements are available with front mounted turbochargers or rear mounted turbochargers FMT requires remote mounted (Shipped Loose) heat exchanger for the Oil Cooler. FMT duplex Oil filters are ship loose and require remote mounting and plumbing. Single circuit cooling system is not available with FMT configuration.

* 4600 bkW IMO III rating available with E2 cycle for CPP applications only.

** MCR for Naval applications. Please consult A&I team with application details.

(continued)

C280-16 PROPULSION ENGINE

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|----------------------------------|--------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | | |
| Displacement | 18,062 cu in | 296 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | | |
| Engine dry weight (approx) | 68,343 lb | 31,000 kg | | | | | | |

| | LE | | |
|------|----------------|----------------|---------------|
| min. | 224 in/5690 mm | 134 in/3404 mm | 80 in/2032 mm |
| max. | 224 in/5690 mm | 134 in/3404 mm | 80 in/2032 mm |

C280-12 PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

IMO II

| | | bhp | bkW | | U.S.g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|--------|------|------|------|------|---------|----------|-----|----------|----|-------|
| CS | 4704 | 4640 | 3460 | 900 | 208 | 193.8 | Ш | NC | NC | NC |
| CS | 5031 | 4962 | 3700 | 1000 | 239 | 206.6 | Ш | NC | NC | NC |
| МС | 5167 | 5096 | 3800 | 900 | 214 | 194.0 | Ш | NC | NC | NC |
| MC | 5520 | 5444 | 4060 | 1000 | 261 | 205.4 | Ш | NC | NC | NC |
| MC/FCV | 6118 | 6035 | 4500 | 1000 | 292 | 207.0 | II | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----|------|------|------|------|----------|----------|-----|----------|----|-------|
| CS | 5031 | 4962 | 3700 | 1000 | 233 | 201.1 | Ш | T4C | NC | NC |
| MC | 5520 | 5444 | 4060 | 1000 | 255 | 200.4 | Ш | T4C | NC | NC |

C280 fuel rate is at full load on the prop curve, BSFC is at full power condition.

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|----------------------------------|--------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | | |
| Displacement | 13,546 cu in | 222 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | | |
| Engine dry weight (approx) | 57,276 lb | 25,980 kg | | | | | | |

| | LE | Н | WE |
|------|----------------|----------------|---------------|
| min. | 182 in/4623 mm | 134 in/3404 mm | 80 in/2032 mm |
| max. | 182 in/4623 mm | 134 in/3404 mm | 80 in/2032 mm |

C280-8 PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

IMO II

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----|------|------|------|------|----------|----------|-----|----------|----|-------|
| CS | 3127 | 3084 | 2300 | 900 | 151 | 209.9 | Ш | NC | NC | NC |
| CS | 3345 | 3299 | 2460 | 1000 | 170 | 221.0 | Ш | NC | NC | NC |
| MC | 3440 | 3393 | 2530 | 900 | 166 | 210.0 | Ш | NC | NC | NC |
| MC | 3684 | 3634 | 2710 | 1000 | 186 | 219.0 | Ш | NC | NC | NC |
| MC | 4078 | 4023 | 3000 | 1000 | 195 | 207.2 | Ш | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----|------|------|------|------|----------|----------|-----|----------|----|-------|
| CS | 3345 | 3299 | 2460 | 1000 | 152 | 197.5 | Ш | T4C | NC | NC |
| MC | 3684 | 3634 | 2710 | 1000 | 168 | 198.4 | III | T4C | NC | NC |

C280 fuel rate is at full load on the prop curve, BSFC is at full power condition.

SPECIFICATIONS

| In-line 8, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|----------------------------------|--------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | |
| Displacement | 9031 cu in | 148 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | |
| Engine dry weight (approx) | 41,800 lb | 19,000 kg | | | | | |

| | LE | Н | WE | | |
|------|----------------|----------------|---------------|--|--|
| min. | 195 in/4953 mm | 104 in/2642 mm | 71 in/1803 mm | | |
| max. | 195 in/4953 mm | 104 in/2642 mm | 71 in/1803 mm | | |

C280-6 PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----|------|------|------|------|----------|----------|-----|----------|----|-------|
| CS | 2352 | 2320 | 1730 | 900 | 110 | 203.5 | Ш | NC | NC | NC |
| CS | 2515 | 2481 | 1850 | 1000 | 120 | 206.6 | Ш | NC | NC | NC |
| MC | 2583 | 2548 | 1900 | 900 | 121 | 204.0 | Ш | NC | NC | NC |
| MC | 2760 | 2722 | 2030 | 1000 | 131 | 205.4 | Ш | NC | NC | NC |

C280 fuel rate is at full load on the prop curve, BSFC is at full power condition.

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|----------------------------------|--------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | |
| Displacement | 6773 cu in | 111 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | |
| Engine dry weight (approx) | 34,496 lb | 15,680 kg | | | | | |

| | LE | Н | WE |
|------|----------------|----------------|---------------|
| min. | 158 in/4013 mm | 108 in/2743 mm | 71 in/1803 mm |
| max. | 158 in/4013 mm | 108 in/2743 mm | 71 in/1803 mm |

3516E

PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IM0 | U.S. EPA | | China |
|---|------|------|------|------|----------|----------|-----|----------|----|-------|
| D | 3196 | 3151 | 2350 | 1800 | 154.1 | 211.1 | Ш | NC | NC | NC |
| D | 3807 | 3755 | 2800 | 1800 | 179.7 | 206.5 | Ш | NC | NC | NC |
| D | 4079 | 4023 | 3000 | 1800 | 193.1 | 207.1 | Ш | NC | NC | NC |

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|--|--------------|--|--|--|--|--|--|
| Aspiration | Sequential Turbocharged- Aftercooled | | | | | | | |
| Bore x Stroke | 6.69 x 8.46 in | 170 x 215 mm | | | | | | |
| Displacement | 4765 cu in | 78.1 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | | |
| Engine dry weight (approx) | 24,250 lb | 11,000 kg | | | | | | |

| | LE | | WE | | |
|------|------------------|-----------------|-----------------|--|--|
| min. | 177.8 in/4515 mm | 97.6 in/2478 mm | 72.6 in/1845 mm | | |
| max. | 177.8 in/4515 mm | 97.6 in/2478 mm | 72.6 in/1845 mm | | |

3516E PROPULSION ENGINE

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----|------|------|------|------|----------|----------|--------|----------|----|-------|
| Α | 2536 | 2501 | 1865 | 1600 | 114.6 | 197.7 | 11/111 | T4C | NC | NC |
| Α | 2720 | 2682 | 2000 | 1600 | 122.7 | 197.4 | 11/111 | T4C | NC | NC |
| Α | 3046 | 3004 | 2240 | 1800 | 140.7 | 202.2 | 11/111 | T4C | NC | NC |
| В | 2855 | 2816 | 2100 | 1600 | 128.9 | 197.6 | 11/111 | T4C | NC | NC |
| В | 3195 | 3151 | 2350 | 1800 | 146.4 | 200.4 | 11/111 | T4C | NC | NC |
| C | 2991 | 2950 | 2200 | 1600 | 135.5 | 198.1 | 11/111 | T4C | NC | NC |
| C | 3433 | 3386 | 2525 | 1800 | 157.0 | 200.1 | Ш | T4C | NC | NC |
| D* | 3433 | 3386 | 2525 | 1800 | 157.0 | 200.1 | Ш | NC | NC | NC |
| D | 3549 | 3500 | 2610 | 1800 | 162.3 | 200.1 | Ш | T4C | NC | NC |

RATINGS AND FUEL CONSUMPTION

All ratings are high displacement.

All ratings, except 2610 bkW, can be configured as an IMO II engine without aftertreatment.

* IMO II 2525 bkW must comply with D-Tier rated duty cycle when operated with Aftertreatment not installed or disabled.

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 6.69 x 8.46 in | 170 x 215 mm | | | | | | |
| Displacement | 4765 cu in | 78 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 21,164 lb | 9600 kg | | | | | | |

| | LE | Н | WE |
|------|------------------|-----------------|-----------------|
| min. | 125.7 in/3192 mm | 87.6 in/2225 mm | 89.9 in/2284 mm |
| max. | 125.7 in/3192 mm | 87.6 in/2225 mm | 89.9 in/2284 mm |

3516C PROPULSION ENGINE

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----------------------|------|------|------|------|----------|----------|-----|----------|----|-------|
| Α | 2028 | 2000 | 1491 | 1600 | 92.2 | 198.9 | Ш | NC | NC | NC |
| A ¹ | 2162 | 2132 | 1590 | 1600 | 100.3 | 203.0 | NC | NC | NC | C-II |
| A ¹ | 2292 | 2260 | 1685 | 1600 | 104.1 | 198.6 | Ш | NC | NC | NC |
| A ¹ | 2482 | 2448 | 1825 | 1600 | 111.2 | 196.1 | Ш | NC | NC | C-II |
| В | 2130 | 2100 | 1566 | 1600 | 96.3 | 198.0 | Ш | NC | NC | NC |
| B1 | 2271 | 2240 | 1670 | 1600 | 104.9 | 202.1 | NC | NC | NC | C-II |
| B1 | 2407 | 2375 | 1771 | 1600 | 108.4 | 196.9 | Ш | NC | NC | NC |
| B1 | 2611 | 2575 | 1920 | 1600 | 116.3 | 194.9 | Ш | NC | NC | C-II |
| B1 | 3046 | 3005 | 2240 | 1800 | 143.6 | 206.3 | Ш | NC | NC | C-II |
| C | 2231 | 2200 | 1640 | 1600 | 101.0 | 198.1 | Ш | NC | NC | NC |
| C ¹ | 2380 | 2347 | 1750 | 1600 | 110.4 | 203.1 | NC | NC | NC | C-II |
| C1 | 2534 | 2500 | 1864 | 1600 | 113.3 | 195.5 | Ш | NC | NC | NC |
| C1 | 2712 | 2675 | 1995 | 1600 | 125.0 | 201.6 | NC | NC | NC | C-II |
| C ¹ | 2720 | 2682 | 2000 | 1600 | 121.0 | 194.7 | Ш | NC | NC | NC |
| C1 | 3196 | 3150 | 2350 | 1800 | 149.9 | 205.3 | Ш | NC | NC | C-II |
| \mathbf{D}^1 | 2855 | 2816 | 2100 | 1600 | 127.4 | 195.2 | Ш | NC | NC | NC |
| \mathbf{D}^1 | 3434 | 3385 | 2525 | 1800 | 159.9 | 203.7 | Ш | NC | NC | NC |

RATINGS AND FUEL CONSUMPTION

¹ High displacement engine (HD)

(continued)

3516C PROPULSION ENGINE

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|----------------------------------|----------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 6.69 x 7.48 in | 170 x 190 mm | | | | | | |
| Bore x Stroke ¹ | 6.69 x 8.46 in | 170 x 215 mm | | | | | | |
| Displacement | 4211 cu in | 69 liter | | | | | | |
| Displacement ¹ | 4765 cu in | 78 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | | |
| Engine dry weight (approx) | 17,550 - 19,025 lb | 7964 - 8629 kg | | | | | | |

¹ High displacement engine (HD)

| | LE | | WE | | |
|------|------------------|-----------------|-----------------|--|--|
| min. | 143.1 in/3637 mm | 77.4 in/1967 mm | 80.2 in/2037 mm | | |
| max. | 148.0 in/3761 mm | 84.6 in/2150 mm | 84.3 in/2142 mm | | |

3512E PROPULSION ENGINE

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|---|------|------|------|------|----------|----------|---------|----------|-----|-------|
| A | 1360 | 1341 | 1000 | 1600 | 61.0 | 196.4 | 11/111 | T4C | EUV | NC |
| A | 1523 | 1502 | 1120 | 1600 | 67.7 | 194.6 | 11/111 | T4C | EUV | NC |
| A | 1523 | 1502 | 1120 | 1800 | 71.0 | 204.1 | 11/111 | T4C | NC | NC |
| A | 1724 | 1700 | 1268 | 1600 | 76.3 | 193.7 | 11/111 | T4C | EUV | NC |
| A | 1835 | 1810 | 1350 | 1600 | 81.3 | 193.9 | 11/111 | T4C | EUV | NC |
| A | 2028 | 2000 | 1491 | 1600 | 90.1 | 194.4 | 11/1111 | T4C | NC | NC |
| A | 2282 | 2250 | 1678 | 1800 | 104.9 | 201.2 | 11/111 | T4C | NC | NC |
| В | 1598 | 1576 | 1175 | 1800 | 73.9 | 202.4 | 11/111 | T4C | NC | NC |
| В | 2142 | 2112 | 1575 | 1600 | 95.4 | 194.8 | 11/111 | T4C | NC | NC |
| В | 2408 | 2375 | 1771 | 1800 | 110.9 | 201.5 | 11/111 | T4C | NC | NC |
| C | 1673 | 1650 | 1230 | 1800 | 77.0 | 201.5 | 11/111 | T4C | NC | NC |
| C | 2244 | 2213 | 1650 | 1600 | 100.1 | 195.2 | 11/111 | T4C | NC | NC |
| C | 2585 | 2250 | 1901 | 1800 | 118.3 | 200.3 | 11/111 | T4C | NC | NC |

RATINGS AND FUEL CONSUMPTION

All high displacement engines (HD).

All ratings can be configured as an IMO II engine without aftertreatment.

(continued)

(continued)

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 6.69 x 8.46 in | 170 x 215 mm | | | | | | |
| Displacement | 3574 cu in | 58.6 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 16,508 lb | 7488 kg | | | | | | |

| | LE | | |
|------|------------------|-------------------|-----------------|
| min. | 104.2 in/2624 mm | 87.5 in/2222.6 mm | 80.2 in/2037 mm |
| max. | 104.2 in/2624 mm | 87.5 in/2222.6 mm | 80.2 in/2037 mm |

3512C PROPULSION ENGINE

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----------------------|------|------|------|------|----------|----------|-----|----------|----|-------|
| Α | 1298 | 1280 | 954 | 1600 | 59.4 | 200.1 | Ш | NC | NC | NC |
| Α | 1318 | 1300 | 969 | 1200 | 62.3 | 206.6 | Ш | NC | NC | NC |
| Α | 1420 | 1400 | 1044 | 1600 | 64.5 | 198.7 | Ш | NC | NC | NC |
| Α | 1520 | 1500 | 1119 | 1800 | 68.2 | 196.3 | Ш | NC | NC | NC |
| A1 | 1521 | 1500 | 1118 | 1200 | 69.2 | 199.1 | Ш | NC | NC | NC |
| A ¹ | 1699 | 1675 | 1249 | 1600 | 77.2 | 198.7 | Ш | NC | NC | NC |
| A ¹ | 1836 | 1810 | 1350 | 1600 | 82.1 | 195.7 | Ш | NC | NC | C-II |
| В | 1378 | 1360 | 1014 | 1600 | 62.7 | 199.1 | Ш | NC | NC | NC |
| В | 1420 | 1400 | 1044 | 1200 | 66.9 | 206.1 | Ш | NC | NC | NC |
| В | 1521 | 1500 | 1119 | 1600 | 68.8 | 198.0 | Ш | NC | NC | NC |
| В | 1597 | 1575 | 1174 | 1800 | 71.6 | 196.0 | Ш | NC | NC | NC |
| B1 | 1622 | 1600 | 1193 | 1200 | 73.7 | 198.9 | Ш | NC | NC | NC |
| B1 | 1774 | 1749 | 1305 | 1600 | 79.9 | 196.9 | Ш | NC | NC | NC |
| B ¹ | 1938 | 1911 | 1425 | 1600 | 86.2 | 194.7 | Ш | NC | NC | C-II |
| B1 | 2282 | 2250 | 1678 | 1800 | 110.6 | 212.1 | Ш | NC | NC | C-II |
| C | 1429 | 1410 | 1051 | 1600 | 64.9 | 198.6 | Ш | NC | NC | NC |
| C | 1521 | 1500 | 1118 | 1200 | 71.7 | 206.3 | Ш | NC | NC | NC |
| C | 1622 | 1600 | 1193 | 1600 | 73.4 | 197.8 | Ш | NC | NC | NC |
| C | 1673 | 1650 | 1230 | 1600 | 78.3 | 204.8 | NC | NC | NC | C-II |
| C | 1673 | 1650 | 1230 | 1800 | 74.9 | 195.7 | Ш | NC | NC | C-II |
| C1 | 1723 | 1700 | 1267 | 1200 | 78.9 | 200.1 | Ш | NC | NC | NC |
| C ¹ | 1876 | 1850 | 1379 | 1600 | 83.7 | 195.2 | Ш | NC | NC | NC |
| C1 | 2040 | 2012 | 1500 | 1600 | 90.7 | 194.6 | Ш | NC | NC | NC |
| C ¹ | 2400 | 2365 | 1765 | 1800 | 115.8 | 211.1 | Ш | NC | NC | C-II |
| D1 | 2587 | 2551 | 1903 | 1800 | 124.6 | 210.9 | Ш | NC | NC | NC |

RATINGS AND FUEL CONSUMPTION

¹ High displacement engine (HD)

(continued)

(continued)

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | |
|-------------------------------|----------------------------------|----------------|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | |
| Bore x Stroke | 6.69 x 7.48 in | 170 x 190 mm | | | | | | |
| Bore x Stroke ¹ | 6.69 x 8.46 in | 170 x 215 mm | | | | | | |
| Displacement | 3161 cu in | 51.8 liter | | | | | | |
| Displacement ¹ | 3574 cu in | 58.6 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise or clockwise | | | | | | | |
| Engine dry weight (approx) | 14,400 - 16,340 lb | 6532 - 7411 kg | | | | | | |

¹ High displacement engine (HD)

| | LE | | |
|------|------------------|-----------------|-----------------|
| min. | 102.0 in/2590 mm | 75.0 in/1904 mm | 80.2 in/2037 mm |
| max. | 105.1 in/2669 mm | 88.3 in/2242 mm | 87.9 in/2232 mm |

C32B For governmental & defense

Designed for Mission Readiness Engineered for Power Density & Performance Quieter for Stealth Mode Application Best Serviceability

POWER RANGE: 1.3 - 1.7 MW INSHORE PATROL CRAFT | FAST INTERCEPTORS



C32B

PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

IMO II/III and U.S. EPA Tier 3

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---|------|------|------|------|----------|----------|-----|----------|-----|-------|
| Е | 2025 | 2000 | 1491 | 2300 | 105.0 | 226.4 | Ш | T3R | RCD | C-II |

China II certification expected mid-2023. Contact your local dealer for availability.

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | |
|-------------------------------|----------------|--------------|--|--|--|--|
| Aspiration | TA | TA | | | | |
| Bore x Stroke | 5.71 x 6.38 in | 145 x 162 mm | | | | |
| Displacement | 1959 cu in | 32.1 liter | | | | |
| Rotation (from flywheel end) | CCW | CCW | | | | |
| Engine dry weight (approx) | 6934 lb | 3145 kg | | | | |

DIMENSIONS

| | LE | | WE |
|------|-----------------|-----------------|-----------------|
| min. | 82.9 in/2106 mm | 59.9 in/1445 mm | 57.8 in/1469 mm |
| max. | 82.9 in/2106 mm | 59.9 in/1445 mm | 57.8 in/1469 mm |

(continued)

C32B

PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

IMO II/III and U.S. EPA Tier 3

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|---|------|------|------|------|----------|----------|--------|----------|-----|-------|
| D | 1825 | 1800 | 1342 | 2300 | 93.5 | 224.5 | 11/111 | T3R | RCD | C-II |
| D | 2025 | 2000 | 1491 | 2300 | 104 | 223.5 | 11/111 | T3R | RCD | C-II |
| Е | 2230 | 2200 | 1641 | 2300 | 114 | 223.1 | 11/111 | T3R | RCD | C-II |
| Е | 2433 | 2400 | 1790 | 2300 | 123 | 220.5 | 11/111 | T3R | RCD | C-II |

China II certification expected mid-2023. Contact your local dealer for availability.

IMO II Only*

(continued)

| | mhp | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|---|------|------|------|------|----------|----------|-----|----------|----|-------|
| D | 1825 | 1800 | 1342 | 2300 | 90.0 | 216 | Ш | - | - | - |
| D | 2025 | 2000 | 1491 | 2300 | 100 | 216.1 | П | - | - | - |
| Е | 2230 | 2200 | 1641 | 2300 | 114 | 223.1 | Ш | - | - | - |
| Е | 2433 | 2400 | 1790 | 2300 | 123 | 220.5 | Ш | - | - | - |

*Up to 10% lower fuel consumption at part load & cruising speed vs. EPA Tier3

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | |
|-------------------------------|----------------|--------------|--|--|--|--|
| Aspiration | TA | | | | | |
| Bore x Stroke | 5.71 x 6.38 in | 145 x 162 mm | | | | |
| Displacement | 1959 cu in | 32.1 liter | | | | |
| Rotation (from flywheel end) | CCW | | | | | |
| Engine dry weight (approx) | 7736 lb | 3509 kg | | | | |

| | LE | Н | WE |
|------|-----------------|-----------------|-----------------|
| min. | 87.8 in/2231 mm | 58.1 in/1478 mm | 58.0 in/1474 mm |
| max. | 87.8 in/2231 mm | 58.1 in/1478 mm | 58.0 in/1474 mm |

C32PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

IMO II/III and U.S. EPA Tier 3

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---|------|------|------|------|----------|----------|--------|----------|-----|-------|
| D | 1622 | 1600 | 1193 | 2300 | 83.5 | 225.3 | Ш | T3R | RCD | C-II |
| D | 1622 | 1600 | 1193 | 2300 | 83.5 | 225.3 | 11/111 | NC | NC | NC |
| Ε | 1724 | 1700 | 1268 | 2300 | 88.2 | 224 | П | T3R | RCD | C-II |
| Ε | 1825 | 1800 | 1342 | 2300 | 92.3 | 221.4 | П | T3R | RCD | C-II |
| E | 1925 | 1900 | 1418 | 2300 | 97.7 | 221.8 | П | T3R | RCD | C-II |

China II certification expected mid-2023. Contact your local dealer for availability.

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|
| Aspiration | TTA | | | | | | |
| Bore x Stroke | 5.71 x 6.38 in | 145 x 162 mm | | | | | |
| Displacement | 1959 cu in | 32.1 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Engine dry weight (approx) | 6780 lb | 3075 kg | | | | | |

DIMENSIONS

| | LE | | WE |
|------|-----------------|-----------------|-----------------|
| min. | 82.9 in/2106 mm | 56.9 in/1445 mm | 58.3 in/1482 mm |
| max. | 82.9 in/2106 mm | 56.9 in/1445 mm | 58.3 in/1482 mm |

(continued)
C32 PROPULSION ENGINE (Commercial Applications)

RATINGS AND FUEL CONSUMPTION

IMO II/IMO III

(continued)

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-------------------------|------|------|------|-----------|----------|----------|--------|----------|----|-------|
| \mathbf{A}^1 | 669 | 660 | 492 | 1600-1800 | 31.3 | 204.4 | Ш | NC | NC | NC* |
| A ¹ | 760 | 750 | 559 | 1600-1800 | 35.1 | 201.9 | Ш | NC | NC | NC* |
| A ¹ | 760 | 750 | 559 | 1600-1800 | 36.3 | 209.1 | 11/111 | NC | NC | NC |
| A ¹ | 862 | 850 | 634 | 1600-1800 | 39.7 | 201.4 | Ш | NC | NC | NC* |
| Α | 964 | 950 | 709 | 1600 | 43.8 | 198.8 | Ш | NC | NC | NC* |
| A ¹ | 1014 | 1000 | 746 | 1600-1800 | 46.6 | 201.0 | Ш | NC | NC | NC* |
| A ¹ | 1014 | 1000 | 746 | 1600-1800 | 48.2 | 208.1 | 11/111 | NC | NC | NC |
| B1 | 1217 | 1200 | 895 | 1800-2000 | 57.4 | 206.5 | Ш | NC | NC | NC* |
| B1 | 1217 | 1200 | 895 | 1800-2000 | 57.4 | 206.5 | 11/111 | NC | NC | NC |
| В | 1319 | 1300 | 970 | 2100 | 62.5 | 207.2 | Ш | NC | NC | NC* |
| В | 1319 | 1300 | 970 | 2100 | 62.5 | 207.2 | 11/111 | NC | NC | NC |
| C | 1319 | 1300 | 970 | 1800 | 60.5 | 200.7 | Ш | NC | NC | NC* |
| C | 1319 | 1300 | 970 | 1800 | 60.5 | 200.7 | 11/111 | NC | NC | NC |
| C | 1319 | 1300 | 970 | 1800-2100 | 65.9 | 218.5 | Ш | NC | NC | NC* |
| C1 | 1470 | 1450 | 1081 | 2000-2300 | 74.8 | 222.5 | Ш | NC | NC | NC* |
| C1 | 1470 | 1450 | 1081 | 2000-2300 | 74.8 | 222.5 | 11/111 | NC | NC | NC |
| D ^{1,2} | 1622 | 1600 | 1193 | 2000-2300 | 79.4 | 214.0 | Ш | NC | NC | NC* |

¹ Wide Operating Speed Range (WOSR)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

² Sea Water Aftercooled

* China II certification to be available mid-2023. Contact your local dealer for availability.

PROPULSION ENGINE (Commercial Applications)

(continued) RATINGS AND FUEL CONSUMPTION

IMO II and U.S. EPA Tier 3

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------------|-----|-----|-----|-----------|----------|----------|-----|----------|----|-------|
| \mathbf{A}^1 | 760 | 750 | 559 | 1600-1800 | 36.3 | 209.1 | Ш | T3C | NC | C-II* |
| A ¹ | 811 | 800 | 597 | 1600-1800 | 39.1 | 210.5 | Ш | T3C | NC | C-II* |

* China II certification expected mid-2023. Check with your local dealer for availability.

IMO III, U.S. EPA Tier 4 Final and EU Stage V

| | mhp | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----------------------|------|------|------|-----------|----------|----------|-----|----------|-----|-------|
| Α | 1014 | 1000 | 746 | 1600-1800 | 48.0 | 207.2 | Ш | T4C | EUV | NC |
| \mathbf{A}^1 | 1014 | 1000 | 746 | 1600-1800 | 48.0 | 206.9 | Ш | T4C | EUV | NC |
| В | 1217 | 1200 | 895 | 1800-2100 | 57.9 | 208.1 | III | T4C | EUV | NC |
| B1 | 1217 | 1200 | 895 | 1800-2100 | 57.3 | 205.8 | Ш | T4C | EUV | NC |
| C | 1319 | 1300 | 970 | 1800-2100 | 63.3 | 210.1 | Ш | T4C | EUV | NC |
| C1 | 1319 | 1300 | 970 | 1800-2100 | 62.3 | 206.6 | III | T4C | EUV | NC |
| C ¹ | 1470 | 1450 | 1081 | 2050-2150 | 71.1 | 211.5 | III | T4C | NC | NC |

¹ Wide Operating Speed Range (WOSR)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

PROPULSION ENGINE (Commercial Applications)

(continued)

C32

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | | |
|-------------------------------|------------------|----------------|--|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | | |
| Bore x Stroke | 5.71 x 6.38 in | 145 x 162 mm | | | | | | | |
| Displacement | 1659 cu in | 32.1 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 6950 - 7160 lb | 3152 - 3248 kg | | | | | | | |

| | LE | | |
|------|-----------------|-----------------|------------------|
| min. | 83.5 in/2121 mm | 60.9 in/1547 mm | 60.17 in/1528 mm |
| max. | 89.9 in/2284 mm | 62.5 in/1587 mm | 60.17 in/1528 mm |

C18

PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

IMO II and U.S. EPA Tier 3

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---|------|------|-----|------|----------|----------|-----|----------|-----|-------|
| Е | 1015 | 1001 | 747 | 2300 | 52.1 | 224.5 | Ш | T3R | RCD | C-II |
| Ε | 1150 | 1136 | 847 | 2300 | 56.5 | 214.5 | Ш | T3R | RCD | NC |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | | | |
|----------------------------------|------------------|----------------|--|--|--|--|--|--|--|--|
| Aspiration | TA, TTA | | | | | | | | | |
| Bore x Stroke | 5.7 x 7.2 in | 145 x 183 mm | | | | | | | | |
| Displacement | 1106 cu in | 18.1 liter | | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | | |
| Engine dry weight (approx) | 4000 - 4299 lb | 1814 - 1950 kg | | | | | | | | |

DIMENSIONS

| | LE | | WE |
|------|-----------------|-----------------|-----------------|
| min. | 73.0 in/1854 mm | 47.2 in/1198 mm | 44.6 in/1134 mm |
| max. | 76.0 in/1931 mm | 51.2 in/1300 mm | 47.4 in/1204 mm |

C18 PROPULSION ENGINE (Commercial Applications)

RATINGS AND FUEL CONSUMPTION

(continued)

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------------|-----|-----|-----|------|----------|----------|-----|----------|----|-------|
| A | 460 | 454 | 339 | 1800 | 21.9 | 208 | Ш | NC | NC | NC |
| A | 485 | 479 | 357 | 1800 | 23 | 207.3 | Ш | NC | NC | NC |
| A | 608 | 600 | 447 | 1800 | 29.1 | 209.1 | Ш | NC | NC | NC |
| В | 560 | 553 | 412 | 2100 | 27.8 | 217.1 | Ш | NC | NC | NC |
| В | 680 | 670 | 500 | 2100 | 34.1 | 219.6 | Ш | NC | NC | NC |
| C | 725 | 715 | 533 | 2100 | 36.4 | 219.6 | Ш | NC | NC | NC |
| D ² | 885 | 873 | 651 | 2200 | 43.7 | 216 | Ш | NC | NC | NC |

IMO II and U.S. EPA Tier 3

| | mhp | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-----------------------|-----|-----|-----|-----------|----------|----------|-----|----------|-----|-------|
| A | 475 | 469 | 350 | 1800 | 23.1 | 212.3 | Ш | T3C | RCD | C-II |
| A | 608 | 600 | 447 | 1800 | 29.2 | 210.2 | Ш | T3C | RCD | C-II |
| B1 | 680 | 670 | 500 | 1800-2100 | 33.6 | 216.1 | Ш | T3C | RCD | C-II |
| C ¹ | 725 | 715 | 533 | 1800-2100 | 36 | 217.5 | Ш | T3C | RCD | C-II |
| D | 814 | 803 | 599 | 2100 | 41.1 | 220.8 | Ш | T3C | RCD | C-II |

¹ Wide Operating Speed Range (WOSR)

Heat Exchanger (32° C Sea Water Temp), Keel Cooled (52° C SCAC Temp)

² Sea Water Aftercooled

Electronic Control System

C18

PROPULSION ENGINE (Commercial Applications)

(continued)

EU Stage V

| | mhp | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------------|-----|-----|-----|-----------|----------|----------|-----|----------|-----|-------|
| A | 591 | 583 | 435 | 1800 | 29.0 | 214.5 | NC | NC | EUV | NC |
| B ¹ | 680 | 670 | 500 | 1800-2100 | 34.1 | 219.7 | NC | NC | EUV | NC |
| D | 814 | 803 | 599 | 2100 | 40.8 | 223.3 | NC | NC | EUV | NC |

¹ Wide Operating Speed Range (WOSR)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | | | |
|----------------------------------|------------------|----------------|--|--|--|--|--|--|--|--|
| Aspiration | TA, TTA | | | | | | | | | |
| Bore x Stroke | 5.7 x 7.2 in | 145 x 183 mm | | | | | | | | |
| Displacement | 1106 cu in | 18.1 liter | | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | | |
| Engine dry weight (approx) | 4000 - 4299 lb | 1814 - 1950 kg | | | | | | | | |

| | LE | Н | WE |
|------|-----------------|-----------------|-----------------|
| min. | 73.0 in/1854 mm | 47.2 in/1198 mm | 44.6 in/1134 mm |
| max. | 76.0 in/1931 mm | 51.2 in/1300 mm | 47.4 in/1204 mm |

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COMING SOON

DESIGNED FOR MISSION READINESS ENGINEERED FOR POWER DENSITY EFFICIENCY AS THE STANDARD



3406C PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---|-----|-----|-----|------|----------|----------|-----|----------|----|-------|
| A | 370 | 365 | 272 | 1800 | 17.2 | 203.2 | NC | NC | NC | NC |
| В | 406 | 400 | 298 | 1800 | 18.9 | 204 | NC | NC | NC | NC |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|------------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 5.4 x 6.5 in | 137.2 x 165.1 mm | | | | | | |
| Displacement | 891 cu in | 14.6 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 2921 lb | 1325 kg | | | | | | |

| | LE | Н | WE |
|------|-------------------|-------------------|------------------|
| min. | 57.3 in/1454.2 mm | 50.3 in/1278.5 mm | 36.0 in/913.5 mm |
| max. | 57.3 in/1454.2 mm | 50.3 in/1278.5 mm | 36.0 in/913.5 mm |

C12 PROPULSION ENGINE

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|---|-----|-----|-----|------|----------|----------|-----|----------|----|-------|
| A | 345 | 340 | 254 | 1800 | 16.1 | 204.4 | Ш | NC | NC | NC |
| В | 390 | 385 | 287 | 1800 | 18.0 | 201.9 | Ш | NC | NC | NC |
| C | 460 | 454 | 339 | 2100 | 21.3 | 202.2 | Ш | NC | NC | NC |
| C | 497 | 490 | 366 | 2300 | 23.3 | 205 | - I | NC | NC | NC |
| D | 578 | 570 | 425 | 2300 | 27.1 | 204.9 | - I | NC | NC | NC |
| Е | 609 | 600 | 448 | 2300 | 28.4 | 204 | 1 | NC | NC | NC |
| Е | 669 | 660 | 492 | 2300 | 33.0 | 215.6 | Ш | NC | NC | NC |
| Е | 715 | 705 | 526 | 2300 | 35.0 | 214 | Ш | NC | NC | NC |

RATINGS AND FUEL CONSUMPTION

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 5.1 x 5.9 in | 130 x 150 mm | | | | | | |
| Displacement | 732 cu in | 12 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 2588 lb | 1174 kg | | | | | | |

| | LE | | WE |
|------|-----------------|-----------------|----------------|
| min. | 62.0 in/1574 mm | 39.5 in/1005 mm | 38.1 in/969 mm |
| max. | 62.0 in/1574 mm | 39.5 in/1005 mm | 38.1 in/969 mm |

C9.3 PROPULSION ENGINE

RATINGS AND FUEL CONSUMPTION

| | | bhp | bkW | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|---|-----|-----|-----|------|----------|----------|---|----------|-----|-------|
| В | 381 | 375 | 280 | 1800 | 18.7 | 214.9 | Ш | T3C | RCD | C-II |
| C | 421 | 416 | 310 | 2100 | 21.2 | 216.2 | Ш | T3C | RCD | C-II |
| D | 483 | 476 | 355 | 2300 | 24.1 | 218.1 | Ш | T3C | RCD | C-II |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|---------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 4.53 x 5.87 in | 115 x 149 mm | | | | | | |
| Displacement | 568 cu in | 9.3 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 2083 - 2474 lb | 945 - 1122 kg | | | | | | |

| | LE | | WE |
|------|-----------------|-----------------|----------------|
| min. | 57.2 in/1452 mm | 43.0 in/1093 mm | 38.5 in/978 mm |
| max. | 57.2 in/1452 mm | 43.0 in/1093 mm | 38.5 in/978 mm |

C7.1 PROPULSION ENGINE (Commercial Applications)

RATINGS AND FUEL CONSUMPTION

| | mhp | | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---|-----|-----|-----|------|----------|----------|-----|----------|-----|-------|
| В | 284 | 280 | 209 | 2300 | 14.9 | 215.1 | Ш | T3C | RCD | C-II |
| C | 355 | 350 | 261 | 2500 | 18.3 | 211.5 | Ш | T3C | RCD | C-II |
| D | 406 | 400 | 298 | 2600 | 20.3 | 206.1 | Ш | T3C | RCD | C-II |
| D | 431 | 425 | 317 | 2700 | 22.9 | 215.6 | Ш | T3C | RCD | C-II |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 4.13 x 5.31 in | 105 x 135 mm | | | | | | |
| Displacement | 428 cu in | 7.01 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 1676 lb | 760 kg | | | | | | |

| | LE | | |
|------|-----------------|----------------|----------------|
| min. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |
| max. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |



Electronic Control System C7.1 PROPULSION ENGINE (High Performance Applications)

RATINGS AND FUEL CONSUMPTION

| | mhp | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|---|-----|-----|-----|------|----------|----------|-----|----------|-----|-------|
| Е | 406 | 400 | 298 | 2900 | 21.8 | 220.5 | Ш | T3R | RCD | C-II |
| Е | 456 | 450 | 336 | 2900 | 24.4 | 219.9 | Ш | T3R | RCD | C-II |
| Е | 507 | 500 | 373 | 2900 | 27.3 | 221.0 | Ш | T3R | RCD | C-II |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 4.13 x 5.31 in | 105 x 135 mm | | | | | | |
| Displacement | 428 cu in | 7.01 L | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 1676 lb | 760 kg | | | | | | |

DIMENSIONS

| | LE | Н | WE |
|------|-----------------|----------------|----------------|
| min. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |
| max. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |

DEP DIESEL ELECTRIC PROPULSION - 50 HZ

RATINGS AND FUEL CONSUMPTION

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|------------------|-------|-------|------|----------|----------|--------|----------|-----|-------|
| C4.41 | 95.3 | 71.1 | 1500 | 5.3 | 258.6 | NST | T3C | EUV | NC |
| C4.41 | 116.4 | 86.8 | 1500 | 6.2 | 227.5 | NST | T3C | EUV | C-II |
| C4.41 | 145.6 | 108.6 | 1500 | 7.4 | 217.9 | NST | T3C | EUV | C-II |
| C7.1 | 146.5 | 109.3 | 1500 | 7.9 | 229.6 | NST | T3C | EUV | C-II |
| C7.1 | 172.9 | 129 | 1500 | 9.2 | 227.5 | NST | T3C | EUV | C-II |
| C7.1 | 219.8 | 164 | 1500 | 11.2 | 216.5 | 11/111 | T3C | NC | C-II |
| C9.3 | 292 | 218 | 1500 | 13.5 | 198.7 | Ш | NC | NC | C-II |
| C9.3 | 282 | 210 | 1500 | 13.4 | 204.7 | 11/111 | NC | NC | NC |
| C9.3 | 362 | 270 | 1500 | 16.6 | 198.3 | Ш | NC | NC | C-II |
| C9.3 | 351 | 262 | 1500 | 16.9 | 206.9 | 11/111 | NC | NC | NC |
| C18 | 404 | 301 | 1500 | 19.2 | 205.6 | Ш | NC | NC | NC |
| C18 | 514 | 383 | 1500 | 24.4 | 205.0 | Ш | NC | NC | NC |
| C18 ² | 514 | 383 | 1500 | 24.9 | 206.6 | 11/111 | NC | NC | NC |
| C18 | 514 | 383 | 1500 | 23.7 | 198.9 | NC | NC | EUV | NC |
| C18 | 587 | 438 | 1500 | 28.7 | 208.2 | Ш | NC | NC | NC |
| C18 | 587 | 438 | 1500 | 28.2 | 204.8 | 11/111 | NC | NC | NC |
| C18 | 617 | 460 | 1500 | 28.2 | 197.3 | NC | NC | EUV | NC |
| C18 | 660 | 492 | 1500 | 31.3 | 204.7 | Ш | NC | NC | NC |
| C18 | 660 | 492 | 1500 | 31.1 | 203.8 | 11/111 | NC | NC | NC |
| C32 | 791 | 590 | 1500 | 36.7 | 200 | Ш | NC | NC | C-I |
| C32 | 923 | 688 | 1500 | 42.6 | 199.1 | Ш | NC | NC | C-I |
| C32 | 1172 | 874 | 1500 | 53.8 | 198.2 | Ш | NC | NC | NC |
| C32 | 1172 | 874 | 1500 | 55.2 | 203.1 | 11/111 | NC | NC | NC |
| C32 | 1172 | 874 | 1500 | 55.4 | 204 | NC | NC | EUV | NC |

¹C4.4 electronic.

² Only available via DTO. Fuel sulfur restrictions apply.

DEP DIESEL ELECTRIC PROPULSION - 50 HZ

| RATINGS | AND | FUEL | CONSU | IMPTION |
|---------|-----|------|-------|---------|
|---------|-----|------|-------|---------|

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|--------------------|------|------|------|----------|----------|--------|----------|----|-------|
| 3512B | 1686 | 1257 | 1500 | 77.4 | 195.7 | Ш | NC | NC | NC |
| 3512C | 1826 | 1362 | 1500 | 84.7 | 197.5 | Ш | NC | NC | NC |
| 3512E ³ | 1694 | 1263 | 1500 | 77 | 194 | 11/111 | NC | NC | NC |
| 3516C | 2303 | 1717 | 1500 | 110.3 | 203.9 | Ш | NC | NC | NC |
| 3516C | 2600 | 1940 | 1500 | 122.6 | 200.8 | Ш | NC | NC | NC |
| 3516E ³ | 2301 | 1716 | 1500 | 106 | 197.5 | 11/111 | NC | NC | NC |
| 3516E ³ | 2598 | 1937 | 1500 | 120 | 197 | 11/111 | NC | NC | NC |
| C280-6 | 2481 | 1850 | 1000 | 118.9 | 193.6 | Ш | NC | NC | NC |
| C280-6 | 2722 | 2030 | 1000 | 129.0 | 197.0 | Ш | NC | NC | NC |
| C280-8 | 3299 | 2460 | 1000 | 170.0 | 220.6 | Ш | NC | NC | NC |
| C280-8 | 3634 | 2710 | 1000 | 186.0 | 218.7 | Ш | NC | NC | NC |
| C280-12 | 4962 | 3700 | 1000 | 239.0 | 206.6 | Ш | NC | NC | NC |
| C280-12 | 5445 | 4060 | 1000 | 261.0 | 205.4 | Ш | NC | NC | NC |
| C280-16 | 6598 | 4920 | 1000 | 307.0 | 197.9 | Ш | NC | NC | NC |
| C280-16 | 7268 | 5420 | 1000 | 340.0 | 199.7 | Ш | NC | NC | NC |

C280 fuel rate at rated power, BSFC is at full power condition. ³ High displacement engine (HD)

DEP DIESEL ELECTRIC PROPULSION - 60 HZ

RATINGS AND FUEL CONSUMPTION

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-------|-------|-------|------|----------|----------|--------|----------|-----|-------|
| C4.41 | 95.3 | 71.1 | 1800 | 5.5 | 247.1 | NST | T3C | EUV | NC |
| C4.41 | 109.2 | 81.5 | 1800 | 5.9 | 222.8 | NST | T3C | EUV | C-II |
| C4.41 | 145.6 | 108.6 | 1800 | 7.5 | 217.5 | NST | T3C | EUV | C-II |
| C4.41 | 172.9 | 129 | 1800 | 8.3 | 211.0 | NST | T3C | EUV | C-II |
| C7.1 | 172.9 | 129 | 1800 | 9.5 | 221.2 | NST | T3C | EUV | C-II |
| C7.1 | 219.7 | 163.9 | 1800 | 11.3 | 212.6 | 11/111 | T3C | NC | C-II |
| C7.1 | 256.4 | 191.3 | 1800 | 13.2 | 208.6 | 11/111 | T3C | NC | C-II |
| C7.1 | 293.0 | 218.6 | 1800 | 14.9 | 207.1 | 11/111 | T3C | NC | C-II |
| C9.3 | 369 | 275 | 1800 | 18.0 | 211.0 | Ш | T3C | NC | C-II |
| C9.3 | 363 | 271 | 1800 | 17.9 | 212.7 | 11/111 | NC | NC | NC |
| C9.3 | 436 | 325 | 1800 | 21.1 | 208.7 | Ш | T3C | NC | C-II |
| C18 | 499 | 372 | 1800 | 24.6 | 212.5 | Ш | NC | NC | C-I |
| C18 | 624 | 465 | 1800 | 30.5 | 211.0 | Ш | NC | NC | NC |
| C18 | 624 | 465 | 1800 | 31.2 | 216 | Ш | T3C | NC | C-II |
| C18 | 624 | 465 | 1800 | 31.1 | 215.1 | NC | NC | EUV | NC |
| C18 | 803 | 599 | 1800 | 39.1 | 209.9 | Ш | T3C | NC | NC |
| C18 | 803 | 599 | 1800 | 39.9 | 214.1 | 11/111 | T3C | NC | NC |
| C18 | 803 | 599 | 1800 | 39.2 | 210.6 | NC | NC | EUV | NC |
| C32 | 916 | 683 | 1800 | 43.9 | 206.8 | Ш | NC | NC | C-I |
| C32 | 1047 | 781 | 1800 | 50.1 | 206.4 | Ш | NC | NC | C-I |
| C32 | 1047 | 781 | 1800 | 52.6 | 216.6 | 11/111 | NC | NC | NC |
| C32 | 1333 | 994 | 1800 | 62.8 | 203.3 | 11/111 | NC | NC | C-I |
| C32 | 1333 | 994 | 1800 | 62.0 | 200.5 | Ш | T4C | NC | NC |
| C32 | 1333 | 994 | 1800 | 63.8 | 206.5 | NC | NC | EUV | NC |

¹C4.4 electronic

² High displacement engine (HD)

DEP

DIESEL ELECTRIC PROPULSION - 60 HZ

RATINGS AND FUEL CONSUMPTION (continued) 3512C 91.9 NC NC NC 1920 1431 1800 204.0 Ш 25120 2102 1620 1000 110.2 215 1 п NC NC NC

| | | 1020 | 1000 | 110.2 | 210.1 | | 110 | 110 | 110 |
|--------------------|------|------|------|-------|-------|--------|-----|-----|-----|
| 3512C | 2400 | 1790 | 1800 | 119.7 | 212.4 | Ш | NC | NC | NC |
| 3512E ² | 2188 | 1632 | 1800 | 104.0 | 202.4 | 11/111 | T4C | NC | NC |
| 3512E ² | 2400 | 1789 | 1800 | 113.2 | 200.9 | 11/111 | T4C | NC | NC |
| 3516C | 2575 | 1920 | 1800 | 120.6 | 202.0 | Ш | NC | NC | NC |
| 3516C | 2809 | 2095 | 1800 | 132.0 | 200.2 | Ш | NC | NC | NC |
| 3516C | 2984 | 2225 | 1800 | 140.6 | 200.1 | Ш | NC | NC | NC |
| 3516C | 3151 | 2350 | 1800 | 148.9 | 201.4 | Ш | NC | NC | NC |
| 3516E ² | 2576 | 1921 | 1800 | 122.7 | 202.9 | 11/111 | T4C | NC | NC |
| 3516E ² | 2823 | 2105 | 1800 | 135.1 | 203.7 | 11/111 | T4C | NC | NC |
| 3516E ² | 3175 | 2368 | 1800 | 152.4 | 204.3 | 11/111 | T4C | NC | NC |
| C280-6 | 2320 | 1730 | 900 | 102.0 | 197.7 | Ш | NC | NC | NC |
| C280-6 | 2548 | 1900 | 900 | 118.0 | 193.6 | Ш | NC | NC | NC |
| C280-8 | 3084 | 2300 | 900 | 142.0 | 197.7 | Ш | T4C | NC | NC |
| C280-8 | 3084 | 2300 | 900 | 144.0 | 199.5 | Ш | NC | NC | NC |
| C280-8 | 3393 | 2530 | 900 | 154.0 | 193.6 | Ш | T4C | NC | NC |
| C280-8 | 3393 | 2530 | 900 | 156.0 | 197.0 | Ш | NC | NC | NC |
| C280-12 | 4640 | 3460 | 900 | 216.0 | 199.6 | Ш | T4C | NC | NC |
| C280-12 | 4640 | 3460 | 900 | 205.0 | 188.7 | Ш | NC | NC | NC |
| C280-12 | 5096 | 3800 | 900 | 237.0 | 198.3 | Ш | T4C | NC | NC |
| C280-12 | 5096 | 3800 | 900 | 237.0 | 199.0 | Ш | NC | NC | NC |
| C280-16 | 6169 | 4600 | 900 | 279.0 | 192.6 | Ш | T4C | NC | NC |
| C280-16 | 6169 | 4600 | 900 | 304.7 | 202.0 | Ш | NC | NC | NC |
| C280-16 | 6786 | 5060 | 900 | 312.0 | 197.0 | Ш | T4C | NC | NC |
| C280-16 | 6786 | 5060 | 900 | 318.0 | 200.8 | II | NC | NC | NC |

² High displacement engine (HD)

C280 fuel rate at rated power, BSFC is at full power condition.

MARINE AUXILIARY ENGINES & GENERATOR SETS GOVERNMENTAL & DEFENSE PRODUCT LINE

CAT

10

CAT AUXILIARY ENGINES & GENERATOR SETS (GENSETS) Backup Power to Boost Peace of Mind

CAT AUXILIARY ENGINE & GENSET SPEC SHEETS









With more than 80 years of marine power experience, we support your rigorous naval and defense operations with a wide array of genset power—from 18 ekW to 6.5 ekW—and auxiliary engine power—from 71.1 bkW to 5420 bkW.

These Cat Marine power solutions combine proven design and manufacturing methods with the latest technology, such as advanced control for more power and efficiency, and enhanced monitoring that ensures your greatest uptime and productivity.

C280 SERIES

RATINGS AND FUEL CONSUMPTION

| | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|---------|------|------|------|----------|----------|-----|----------|----|-------|
| C280-6 | 2320 | 1730 | 900 | 102.0 | 197.7 | Ш | NC | NC | NC |
| C280-6 | 2481 | 1850 | 1000 | 119.0 | 199.5 | Ш | NC | NC | NC |
| C280-6 | 2548 | 1900 | 900 | 118.0 | 193.6 | Ш | NC | NC | NC |
| C280-6 | 2722 | 2030 | 1000 | 129.0 | 197.0 | Ш | NC | NC | NC |
| C280-8 | 3084 | 2300 | 900 | 142.0 | 142.4 | Ш | T4C | NC | NC |
| C280-8 | 3084 | 2300 | 900 | 144.0 | 199.5 | Ш | NC | NC | NC |
| C280-8 | 3299 | 2460 | 1000 | 170.0 | 197.0 | Ш | NC | NC | NC |
| C280-8 | 3393 | 2530 | 900 | 153.0 | 193.6 | Ш | T4C | NC | NC |
| C280-8 | 3393 | 2530 | 900 | 156.0 | 197.0 | Ш | NC | NC | NC |
| C280-8 | 3634 | 2710 | 1000 | 186.0 | 218.7 | Ш | NC | NC | NC |
| C280-12 | 4640 | 3460 | 900 | 216.0 | 199.6 | Ш | T4C | NC | NC |
| C280-12 | 4640 | 3460 | 900 | 205.0 | 188.7 | 11 | NC | NC | NC |
| C280-12 | 4962 | 3700 | 1000 | 239.0 | 199.0 | Ш | NC | NC | NC |
| C280-12 | 5096 | 3800 | 900 | 236.0 | 198.3 | Ш | T4C | NC | NC |
| C280-12 | 5096 | 3800 | 900 | 237.0 | 199.0 | 11 | NC | NC | NC |
| C280-12 | 5444 | 4060 | 1000 | 261.0 | 205.4 | 11 | NC | NC | NC |
| C280-16 | 6169 | 4600 | 900 | 278.0 | 192.6 | Ш | T4C | NC | NC |
| C280-16 | 6169 | 4600 | 900 | 304.7 | 202.0 | 11 | NC | NC | NC |
| C280-16 | 6598 | 4920 | 1000 | 307.0 | 197.9 | Ш | NC | NC | NC |
| C280-16 | 6785 | 5060 | 900 | 312.0 | 197.0 | Ш | T4C | NC | NC |
| C280-16 | 6785 | 5060 | 900 | 318.0 | 200.8 | Ш | NC | NC | NC |
| C280-16 | 7268 | 5420 | 1000 | 340.0 | 199.7 | Ш | NC | NC | NC |

C280 fuel rate is at rated power, BSFC is at full power condition.

Custom package solutions available via DTO, contact your local dealer for more information.

C280 SERIES

(continued)

SPECIFICATIONS

| In-line 6, In-lin | In-line 6, In-line 8, Vee 12, Vee 16, 4-Stroke-Cycle Diesel | | | | | | | |
|-----------------------------|---|----------------|--------------|--|--|--|--|--|
| Aspiration | | TA | | | | | | |
| Bore x Stroke | | 11.0 x 11.8 in | 280 x 300 mm | | | | | |
| | C280-6 | 6773 cu in | 111 liter | | | | | |
| Dianlagoment | C280-8 | 9031 cu in | 148 liter | | | | | |
| Displacement | C280-12 | 13,546 cu in | 222 liter | | | | | |
| | C280-16 | 18,062 cu in | 296 liter | | | | | |
| | C280-6 | 34,496 lb | 15,680 kg | | | | | |
| Fusing day weight (support) | C280-8 | 41,800 lb | 19,000 kg | | | | | |
| Engine ary weight (approx) | C280-12 | 57,276 lb | 25,980 kg | | | | | |
| | C280-16 | 62,832 lb | 28,500 kg | | | | | |

| | | | LE | | |
|---------|------|----------------|----------------|----------------|---------------|
| C280 6 | min. | 168 in/4276 mm | 145 in/3691 mm | 108 in/2733 mm | 68 in/1722 mm |
| 0200-0 | max. | 168 in/4276 mm | 145 in/3691 mm | 108 in/2733 mm | 68 in/1722 mm |
| C200 0 | min. | 219 in/5561 mm | 178 in/4511 mm | 104 in/2641 mm | 68 in/1722 mm |
| UZ0U-0 | max. | 219 in/5561 mm | 178 in/4511 mm | 104 in/2641 mm | 68 in/1722 mm |
| C200 12 | min. | 191 in/4861 mm | 161 in/4087 mm | 140 in/3550 mm | 69 in/1741 mm |
| 6200-12 | max. | 191 in/4861 mm | 161 in/4087 mm | 140 in/3550 mm | 69 in/1741 mm |
| C280-16 | min. | 216 in/5482 mm | 197 in/5007 mm | 125 in/3171 mm | 67 in/1704 mm |
| | max. | 216 in/5482 mm | 197 in/5007 mm | 125 in/3171 mm | 67 in/1704 mm |

3500 series

AUXILIARY/DIESEL ELECTRIC PROPULSION

RATINGS AND FUEL CONSUMPTION

DEP - 50 HZ

| | bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-------|------|------|------|----------|----------|-----|----------|----|-------|
| 3512B | 1686 | 1257 | 1500 | 74.9 | 191.8 | Ш | NC | NC | NC |
| 3512C | 1826 | 1362 | 1500 | 82.0 | 193.7 | Ш | NC | NC | NC |
| 3516C | 2303 | 1717 | 1500 | 106.8 | 197.5 | Ш | NC | NC | NC |
| 3516C | 2602 | 1940 | 1500 | 118.7 | 195.6 | Ш | NC | NC | NC |

DEP - 60 HZ

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----------------------|------|------|------|----------|----------|--------|----------|----|-------|
| 3512C | 1920 | 1431 | 1800 | 88.9 | 199.8 | Ш | NC | NC | NC |
| 3512C | 2183 | 1628 | 1800 | 106.7 | 210.6 | Ш | NC | NC | NC |
| 3512C | 2394 | 1786 | 1800 | 115.9 | 208.3 | Ш | NC | NC | NC |
| 3516C | 2575 | 1920 | 1800 | 118.3 | 198.2 | Ш | NC | NC | NC |
| 3516C | 3151 | 2350 | 1800 | 144.2 | 197.4 | Ш | NC | NC | NC |
| 3512E ² | 2188 | 1632 | 1800 | 100.7 | 197 | III | T4C | NC | NC |
| 3512E ² | 2400 | 1789 | 1800 | 109.6 | 197 | Ш | T4C | NC | NC |
| 3516E ² | 2576 | 1921 | 1800 | 118.3 | 198.1 | III | T4C | NC | NC |
| 3516E ² | 2822 | 2105 | 1800 | 130.1 | 198.9 | Ш | T4C | NC | NC |
| 3516E ² | 3176 | 2368 | 1800 | 146.8 | 199.4 | Ш | T4C | NC | NC |
| 3516E ^{2, 3} | 3004 | 2240 | 1800 | * | * | 11/111 | NC | NC | NC |

* Contact your local dealer for technical specifications.

² High displacement engine (HD).

³ Only available via DTO.

3500 series

AUXILIARY/DIESEL ELECTRIC PROPULSION

(continued)

RATINGS AND FUEL CONSUMPTION

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|--------------------|------|------|------|----------|----------|--------|----------|----|-------|
| 3512C | 1920 | 1432 | 1800 | 88.9 | 199.7 | Ш | NC | NC | NC |
| 3512C1 | 2183 | 1628 | 1800 | 99.0 | 195.2 | Ш | NC | NC | NC |
| 3512C1 | 2394 | 1786 | 1800 | 108.9 | 196.4 | Ш | NC | NC | NC |
| 3516C1 | 3151 | 2350 | 1800 | 143.6 | 196.5 | Ш | NC | NC | NC |
| 3512E ¹ | 2188 | 1632 | 1800 | 100.7 | 197.0 | 11/111 | T4C | NC | NC |
| 3512E1 | 2400 | 1789 | 1800 | 109.6 | 197.0 | 11/111 | T4C | NC | NC |
| 3516E ¹ | 2576 | 1921 | 1800 | 118.3 | 198.1 | 11/111 | T4C | NC | NC |
| 3516E ¹ | 2822 | 2105 | 1800 | 130.1 | 198.9 | 11/111 | T4C | NC | NC |
| 3516E ¹ | 3176 | 2368 | 1800 | 146.8 | 199.4 | 11/111 | T4C | NC | NC |
| 3512E ¹ | 1694 | 1263 | 1500 | 74.6 | 190.0 | 11/111 | NC | NC | NC |
| 3516E1 | 2301 | 1716 | 1500 | 107 | 200.5 | 11/111 | NC | NC | NC |
| 3516E ¹ | 2595 | 1937 | 1500 | 118.7 | 197.2 | 11/111 | NC | NC | NC |

¹ Ratings are high displacement (HD).

* ekW is based on a 95% generator efficiency. Contact dealer for design-to-order generator set solutions.

3500 series

AUXILIARY/DIESEL ELECTRIC PROPULSION

(continued)

RATINGS AND FUEL CONSUMPTION

Variable Speed DEP

| | bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IM0 | U.S. EPA | EU | China |
|----------------------|------|------|------|----------|----------|--------|----------|----|-------|
| 3512C1 | 1810 | 1350 | 1600 | | | NC | NC | NC | C-II |
| 3512C ² | 1911 | 1425 | 1600 | * | * | Ш | NC | NC | NC |
| 3512C1 | 2365 | 1678 | 1600 | | | NC | NC | NC | C-II |
| 3512C ² | 2319 | 1729 | 1800 | * | * | Ш | NC | NC | NC |
| 3512C ² | 2367 | 1765 | 1800 | * | * | Ш | NC | NC | NC |
| 3516C1 | 2346 | 1750 | 1600 | | | NC | NC | NC | C-II |
| 3516C ² | 2375 | 1771 | 1600 | * | × | Ш | NC | NC | NC |
| 3516C ² | 2561 | 1910 | 1800 | * | * | Ш | NC | NC | NC |
| 3516C ² | 3005 | 2240 | 1800 | * | * | Ш | NC | NC | C-II |
| 3516C ² | 3151 | 2350 | 1800 | * | × | Ш | NC | NC | NC |
| 3512E ^{1,2} | 1700 | 1268 | 1600 | * | * | 11/111 | T4C | NC | NC |
| 3512E ^{1,2} | 1810 | 1350 | 1600 | * | × | 11/111 | T4C | NC | NC |
| 3512E1 | 2400 | 1789 | 1800 | 119.7 | 199.9 | 11/111 | T4C | NC | NC |
| 3516E ¹ | 2576 | 1921 | 1800 | 122.7 | 202.9 | 11/111 | T4C | NC | NC |
| 3516E ¹ | 3176 | 2368 | 1800 | 152.3 | 204.3 | / | T4C | NC | NC |

* Contact your local dealer for technical specifications.

¹ High displacement engine (HD).

² Only available via DTO.

AUXILIARY/DIESEL ELECTRIC PROPULSION

(continued)

SPECIFICATIONS

| | 2, Vee 16, | 4-Stroke-Cycle Diesel | |
|----------------------------|------------|-----------------------|--------------|
| Aspiration | | TA | |
| Bore x Stroke | | 6.7 x 8.5 in | 170 x 215 mm |
| Dianlagoment | 3512E | 3576 cu in | 58.6 liter |
| Displacement | 3516E | 4766 cu in | 78.1 liter |
| Engine day weight (engrey) | 3512E | 19,103 lb | 8665 kg |
| Engine ary weight (approx) | 3516E | 22,408 lb | 10,164 kg |

| | | LE | | | | |
|-------|------|------------------|-----------------|-----------------|--|--|
| 25125 | min. | 127.2 in/3232 mm | 86.8 in/2205 mm | 85.0 in/2160 mm | | |
| 3512E | max. | 127.2 in/3232 mm | 86.8 in/2205 mm | 85.0 in/2160 mm | | |
| 2516E | min. | 148.5 in/3773 mm | 87.6 in/2224 mm | 89.9 in/2284 mm | | |
| 3516E | max. | 148.5 in/3773 mm | 87.6 in/2224 mm | 89.9 in/2284 mm | | |

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Designed for Mission Readiness Engineered for Power Density Greater Acceleration for Fast Intervention Best Serviceability

C32 GENERATOR SET ENGINE/AUXILIARY

RATINGS AND FUEL CONSUMPTION

IMO II/IMO III

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|------|-----|------|----------|----------|--------|----------|----|-------|
| 791 | 590 | 1500 | 36.7 | 199.9 | Ш | NC | NC | NC* |
| 923 | 688 | 1500 | 42.6 | 199.1 | Ш | NC | NC | NC* |
| 1172 | 874 | 1500 | 55.2 | 203.1 | Ш | NC | NC | NC* |
| 1172 | 874 | 1500 | 55.2 | 203.1 | 11/111 | NC | NC | NC |
| 916 | 683 | 1800 | 43.9 | 206.8 | Ш | NC | NC | NC* |
| 1047 | 781 | 1800 | 50.1 | 206.4 | Ш | NC | NC | NC* |
| 1047 | 781 | 1800 | 52.6 | 216.6 | 11/111 | NC | NC | NC |
| 1333 | 994 | 1800 | 62.8 | 203.3 | Ш | NC | NC | NC* |
| 1333 | 994 | 1800 | 62.8 | 203.3 | 11/111 | NC | NC | NC |

* China II certification expected mid-2023. Check with your local dealer for availability.

IMO III and U.S. EPA Tier 4 Final

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|------|-----|------|----------|----------|-----|----------|-----|-------|
| 1172 | 874 | 1500 | 53.9 | 198.3 | | NC | EUV | NC |
| 1333 | 994 | 1800 | 61.9 | 200.5 | | T4C | EUV | NC |

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | | |
|-------------------------------|------------------|----------------|--|--|--|--|--|--|--|
| Aspiration | TTA | | | | | | | | |
| Bore x Stroke | 5.7 x 6.4 in | 145 x 162 mm | | | | | | | |
| Displacement | 1959 cu in | 32.1 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 6950 - 7160 lb | 3152 - 3248 kg | | | | | | | |

| | LE | | |
|------|-----------------|-----------------|-----------------|
| min. | 83.5 in/2121 mm | 60.9 in/1547 mm | 60.2 in/1528 mm |
| max. | 89.9 in/2284 mm | 62.5 in/1587 mm | 60.2 in/1528 mm |

C18 GENERATOR SET ENGINE/AUXILIARY

RATINGS AND FUEL CONSUMPTION

IMO II

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|------------------|-----|------|----------|----------|-----|----------|----|-------|
| 404 | 301 | 1500 | 19.2 | 205.6 | | NC | NC | NC |
| 514 | 383 | 1500 | 24.4 | 205 | II | NC | NC | NC |
| 514 ¹ | 383 | 1500 | 24.1 | 202.7 | / | NC | NC | NC |
| 587 | 438 | 1500 | 27.9 | 205 | | NC | NC | NC |
| 587 | 438 | 1500 | 27.5 | 201.9 | / | NC | NC | NC |
| 660 | 492 | 1500 | 31.3 | 204.7 | II | NC | NC | NC |
| 660 | 492 | 1500 | 31.1 | 203.8 | / | NC | NC | NC |
| 499 | 372 | 1800 | 24.6 | 212.5 | II | NC | NC | NC |
| 624 | 465 | 1800 | 30.5 | 211 | II | NC | NC | NC |
| 803 | 599 | 1800 | 39.1 | 209.9 | II | NC | NC | NC |
| 803 | 599 | 1800 | 39.9 | 214.1 | / | NC | NC | NC |

¹ Only available via DTO. Fuel sulfur restrictions apply.

IMO II and U.S. EPA Tier 3

| bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-----|-----|------|----------|----------|--------|----------|----|-------|
| 624 | 465 | 1800 | 31.2 | 216 | Ш | T3C | NC | C-II |
| 803 | 599 | 1800 | 39.1 | 209.9 | Ш | T3C | NC | C-II |
| 803 | 599 | 1800 | 39.9 | 214.1 | 11/111 | T3C | NC | NC |

EU Stage V

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----|-----|------|----------|----------|-----|----------|-----|-------|
| 514 | 383 | 1500 | 23.7 | 198.9 | NC | NC | EUV | NC |
| 617 | 460 | 1500 | 28.2 | 197.3 | NC | NC | EUV | NC |
| 624 | 465 | 1800 | 31.1 | 215.1 | NC | NC | EUV | NC |
| 803 | 599 | 1800 | 39.2 | 210.6 | NC | NC | EUV | NC |

C18

GENERATOR SET ENGINE/AUXILIARY

(continued)

SPECIFICATIONS

| In-line 6, 4 | In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | | |
|-------------------------------|----------------------------------|--------------|--|--|--|--|--|--|--|--|
| Aspiration | TA, TTA | | | | | | | | | |
| Bore x Stroke | 5.7 x 7.2 in | 145 x 183 mm | | | | | | | | |
| Displacement | 1106 cu in | | | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | | |
| Generator set weight (approx) | 4299 lb | 1950 kg | | | | | | | | |

| | LE | | |
|------|-----------------|-----------------|-----------------|
| min. | 73.0 in/1854 mm | 51.2 in/1300 mm | 44.6 in/1134 mm |
| max. | 73.0 in/1854 mm | 51.2 in/1300 mm | 44.6 in/1134 mm |

C9.3

GENERATOR SET ENGINE/AUXILIARY

RATINGS AND FUEL CONSUMPTION

Constant Speed

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----|-----|------|----------|----------|--------|----------|----|-------|
| 292 | 218 | 1500 | 13.5 | 198.7 | Ш | NC | NC | C-II |
| 282 | 210 | 1500 | 13.4 | 204.7 | 11/111 | NC | NC | NC |
| 362 | 270 | 1500 | 16.6 | 198.3 | Ш | NC | NC | C-II |
| 351 | 262 | 1500 | 16.9 | 206.9 | 11/111 | NC | NC | NC |
| 369 | 275 | 1800 | 18.0 | 211 | Ш | T3C | NC | C-II |
| 363 | 271 | 1800 | 17.9 | 212.7 | 11/111 | NC | NC | NC |
| 436 | 325 | 1800 | 21.1 | 208.7 | Ш | T3C | NC | C-II |

Variable Speed Auxiliary

| bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-----|-----|------|----------|----------|-----|----------|----|-------|
| 375 | 280 | 1800 | 19.3 | 219.1 | II | T3C | NC | C-II |

¹ Contact your local dealer for details on availability on IMO III ratings. Power may vary slightly from IMO II rating.

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | | |
|----------------------------------|------------------|---------------|--|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | | |
| Bore x Stroke | 4.53 x 5.87 in | 115 x 149 mm | | | | | | | |
| Displacement | 568 cu in | 9.3 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 2083 - 2474 lb | 945 - 1122 kg | | | | | | | |

| | LE | | |
|------|-----------------|-----------------|----------------|
| min. | 57.2 in/1452 mm | 43.0 in/1093 mm | 38.5 in/978 mm |
| max. | 57.2 in/1452 mm | 43.0 in/1093 mm | 38.5 in/978 mm |

C7.1 GENERATOR SET ENGINE / AUXILIARY

RATINGS AND FUEL CONSUMPTION

Variable Speed Auxiliary

| bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|-------|-----|------|----------|----------|-----|----------|-----|-------|
| 249.4 | 186 | 2400 | 14.6 | 240.0 | Ш | T3C | NC | NC |
| 199.8 | 149 | 2400 | 12.6 | 256.5 | Ш | T3C | NC | NC |
| 172.9 | 129 | 2400 | 11.3 | 266.3 | Ш | T3C | EUV | NC |

Constant Speed Auxiliary

| bhp | bkW | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-------|-------|------|----------|----------|-----|----------|-----|-------|
| 146.2 | 109.3 | 1500 | 7.9 | 233.6 | NST | T3C | EUV | C-II |
| 172.9 | 129.0 | 1500 | 9.2 | 224.0 | NST | T3C | EUV | C-II |
| 219.9 | 164.0 | 1500 | 11.2 | 210.0 | Ш | T3C | NC | C-II |
| 172.9 | 129.0 | 1800 | 9.5 | 221.2 | NST | T3C | EUV | C-II |
| 219.9 | 164.0 | 1800 | 11.3 | 212.6 | Ш | T3C | NC | C-II |
| 256.5 | 191.3 | 1800 | 13.2 | 208.6 | Ш | T3C | NC | C-II |
| 292.3 | 218.6 | 1800 | 14.9 | 207.1 | Ш | T3C | NC | C-II |

C7.1 GENERATOR SET ENGINE / AUXILIARY

(continued)

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | | |
| Bore x Stroke | 4.13 x 5.31 in | 105 x 135 mm | | | | | | | |
| Displacement | 428 cu in | 7.01 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 1512 - 1653 lb | 686 - 750 kg | | | | | | | |

| | LE | | |
|------|-----------------|-----------------|----------------|
| min. | 43.8 in/1112 mm | 41.6 in/1056 mm | 32.2 in/817 mm |
| max. | 43.8 in/1112 mm | 41.6 in/1056 mm | 32.6 in/829 mm |

C7.1

RATINGS AND FUEL CONSUMPTION

Variable Speed Auxiliary

| bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-----|-----|------|----------|----------|-----|----------|----|-------|
| 280 | 208 | 2300 | 14.9 | 215.1 | Ш | T3C | NC | C-II |

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | |
| Bore x Stroke | 4.13 x 5.31 in | 105 x 135 mm | | | | | | |
| Displacement | 428 cu in | 7.01 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 1676 lb | 760 kg | | | | | | |

| | LE | | |
|------|-----------------|----------------|----------------|
| min. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |
| max. | 43.1 in/1095 mm | 34.5 in/876 mm | 31.4 in/798 mm |

C44 GENERATOR SET ENGINE / AUXILIARY

RATINGS AND FUEL CONSUMPTION

| bhp | bkW | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-------|-------|------|----------|----------|-----|----------|-----|-------|
| 95.3 | 71.1 | 1500 | 5.3 | 247.5 | NST | T3C | EUV | NC |
| 116.4 | 86.8 | 1500 | 5.7 | 225.1 | NST | T3C | EUV | C-II |
| 145.6 | 108.6 | 1500 | 6.8 | 217.0 | NST | T3C | EUV | C-II |
| 95.3 | 71.1 | 1800 | 5.5 | 247.1 | NST | T3C | EUV | NC |
| 109.3 | 81.5 | 1800 | 5.3 | 222.8 | NST | T3C | EUV | C-II |
| 145.6 | 108.6 | 1800 | 6.7 | 217.5 | NST | T3C | EUV | C-II |
| 173.0 | 129.0 | 1800 | 7.9 | 211.0 | NST | T3C | EUV | C-II |

SPECIFICATIONS

| In-line 4, 4-Stroke-Cycle Diesel | | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|--|
| Aspiration | T, TA | | | | | | | |
| Bore x Stroke | 4.13 x 5.0 in | 105 x 127 mm | | | | | | |
| Displacement | 269 cu in | 4.4 liter | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | |
| Engine dry weight (approx) | 1200 - 1278 lb | 545 - 580 kg | | | | | | |

| | LE | | |
|------|----------------|-----------------|----------------|
| min. | 33.7 in/856 mm | 40.9 in/1038 mm | 30.6 in/778 mm |
| max. | 33.7 in/856 mm | 40.9 in/1038 mm | 32.0 in/814 mm |

C280-16 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

IMO II

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------|------|----|------|----------|----------|-----|----------|----|-------|
| 4400 | 5500 | 60 | 900 | 304.7 | 202.0 | Ш | NC | NC | NC |
| 4840 | 6050 | 60 | 900 | 318.0 | 200.8 | Ш | NC | NC | NC |
| 4700 | 5875 | 50 | 1000 | 307.0 | 197.9 | Ш | NC | NC | NC |
| 5200 | 6500 | 50 | 1000 | 340.0 | 199.7 | Ш | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| ekW@.8pf | kVA | Hz | rpm | U.S. g/h | g/bkW-hr | IMO | U.S EPA | EU | China |
|----------|------|----|-----|----------|----------|-----|---------|----|-------|
| 4400 | 5500 | 60 | 900 | 278 | 192.6 | Ш | T4C | NC | NC |
| 4840 | 6050 | 60 | 900 | 312 | 197.0 | Ш | T4C | NC | NC |

Custom package solutions available via DTO, contact your local dealer for more information

SPECIFICATIONS

| Vee 16, 4-Stroke-Cycle Diesel | | | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | | | |
| Displacement | 18,062 cu in | 222 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 68,343 lb | 31,000 kg | | | | | | | |
| Generator weight (approx) | 40,000 lb | 18,145 kg | | | | | | | |

| | LE | LG | H | WE |
|------|----------------|------------------|------------------|-----------------|
| min. | 197 in/5007 mm | 366.7 in/9314 mm | 164.1 in/4167 mm | 78.3 in/1990 mm |
| max. | 197 in/5007 mm | 366.7 in/9314 mm | 164.1 in/4167 mm | 78.3 in/1990 mm |

C280-12 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

IMO II

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------|------|----|------|----------|----------|-----|----------|----|-------|
| 3300 | 4125 | 60 | 900 | 205 | 188.7 | Ш | NC | NC | NC |
| 3640 | 4550 | 60 | 900 | 237 | 199.0 | Ш | NC | NC | NC |
| 3520 | 4400 | 50 | 1000 | 239 | 206.6 | Ш | NC | NC | NC |
| 3880 | 4850 | 50 | 1000 | 261 | 205.4 | Ш | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| ekW@.8pf | kVA | | rpm | U.S. g/h | g/bkW-hr | IMO | U.S EPA | | China |
|----------|------|----|-----|----------|----------|-----|---------|----|-------|
| 3300 | 4125 | 60 | 900 | 216 | 199.6 | Ш | T4C | NC | NC |
| 3640 | 4550 | 60 | 900 | 236 | 198.3 | Ш | T4C | NC | NC |

Custom package solutions available via DTO, contact your local dealer for more information

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|--|--|
| Aspiration | TA | | | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | | | |
| Displacement | 13546 cu in | 222 liter | | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | | | |
| Engine dry weight (approx) | 57,276 lb | 25,980 kg | | | | | | | |
| Generator weight (approx) | 33,000 lb | 14,790 kg | | | | | | | |

| | LE | LG | н | WE | |
|------|----------------|------------------|------------------|-----------------|--|
| min. | 161 in/4087 mm | 316.5 in/8040 mm | 160.8 in/4085 mm | 78.7 in/2000 mm | |
| max. | 161 in/4087 mm | 316.5 in/8040 mm | 160.8 in/4085 mm | 78.7 in/2000 mm | |

C280-8 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

IMO II

| ekW@.8pf | kVA | Hz | rpm | U.S. g/h | g/bkW-hr | IMO | U.S EPA | EU | China |
|----------|------|----|------|----------|----------|-----|---------|----|-------|
| 2200 | 2750 | 60 | 900 | 144 | 197.7 | Ш | NC | NC | NC |
| 2420 | 3025 | 60 | 900 | 156 | 197.0 | Ш | NC | NC | NC |
| 2350 | 2938 | 50 | 1000 | 170 | 220.6 | Ш | NC | NC | NC |
| 2600 | 3250 | 50 | 1000 | 186 | 218.7 | Ш | NC | NC | NC |

IMO III and U.S. EPA Tier 4

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | IMO | U.S EPA | | China |
|----------|------|----|-----|----------|----------|-----|---------|----|-------|
| 2200 | 2750 | 60 | 900 | 142 | 197.7 | Ш | T4C | NC | NC |
| 2420 | 3025 | 60 | 900 | 153 | 193.6 | Ш | T4C | NC | NC |

Custom package solutions available via DTO, contact your local dealer for more information

SPECIFICATIONS

| In-line 8, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | |
| Displacement | 9031 cu in | 148 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Engine dry weight (approx) | 41,800 lb | 19,000 kg | | | | | |
| Generator weight (approx) | 25,000 lb | 11,340 kg | | | | | |

| | LE | LG | | WE | |
|------|----------------|------------------|------------------|-----------------|--|
| min. | 178 in/4511 mm | 316.5 in/8040 mm | 155.0 in/3937 mm | 77.2 in/1961 mm | |
| max. | 178 in/4511 mm | 316.5 in/8040 mm | 155.0 in/3937 mm | 77.2 in/1961 mm | |
C280-6 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

| ekW@.8pf | kVA | Hz | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|----------|------|----|------|----------|----------|-----|----------|----|-------|
| 1650 | 2063 | 60 | 900 | 102 | 197.7 | Ш | NC | NC | NC |
| 1820 | 2275 | 60 | 900 | 118 | 193.6 | Ш | NC | NC | NC |
| 1760 | 2200 | 50 | 1000 | 119 | 199.5 | Ш | NC | NC | NC |
| 1940 | 2425 | 50 | 1000 | 129 | 197.0 | Ш | NC | NC | NC |

Custom package solutions available via DTO, contact your local dealer for more information

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 11.0 x 11.8 in | 280 x 300 mm | | | | | |
| Displacement | 6773 cu in | 111 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Engine dry weight (approx) | 34,500 lb | 15,680 kg | | | | | |
| Generator weight (approx) | 18,000 lb | 8165 kg | | | | | |

| | LE | LG | | |
|------|----------------|------------------|------------------|-----------------|
| min. | 145 in/3691 mm | 280.3 in/7120 mm | 154.9 in/3934 mm | 77.2 in/1961 mm |
| max. | 145 in/3691 mm | 280.3 in/7120 mm | 154.9 in/3934 mm | 77.2 in/1961 mm |

3500 CUSTOM GENERATOR SET

| | ekW @.8pf | Hz | rpm | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | EU | China |
|-------|--------------|----|------|----------|----------|--------|----------|----|-------|
| 3512C | 1360 | 60 | 1800 | 88.9 | 199.7 | Ш | NC | NC | NC |
| 3512C | 1550 | 60 | 1800 | 99 | 195.2 | Ш | NC | NC | NC |
| 3512C | 1700 | 60 | 1800 | 108.9 | 196.4 | Ш | NC | NC | NC |
| 3516C | 2250 | 60 | 1800 | 143.6 | 196.5 | Ш | NC | NC | NC |
| 3512E | 1550 | 60 | 1800 | 100.7 | 197 | 11/111 | T4C | NC | NC |
| 3512E | 1700 | 60 | 1800 | 109.6 | 197 | 11/111 | T4C | NC | NC |
| 3516E | 1825 | 60 | 1800 | 118.3 | 198.1 | 11/111 | T4C | NC | NC |
| 3516E | 2000 | 60 | 1800 | 130.1 | 198.9 | 11/111 | T4C | NC | NC |
| 3516E | 2250 | 60 | 1800 | 146.8 | 199.4 | 11/111 | T4C | NC | NC |
| 3512E | 1200 | 50 | 1500 | 74.6 | 190 | 11/111 | NC | NC | NC |
| 3516E | 1630 | 50 | 1500 | 107 | 200.5 | 11/111 | NC | NC | NC |
| 3516E | 1840 | 50 | 1500 | 118.7 | 197.2 | 11/111 | NC | NC | NC |

RATINGS AND FUEL CONSUMPTION

Custom package solutions available via design to order (DTO). Contact your local dealer for more information. ekW is based on a 95% generator efficiency

GAS TURBINES IN THE 2 TO 30 MW RANGE FOR MARINE APPLICATION





A Caterpillar Company



RATINGS AND FUEL CONSUMPTION

IMO II/IMO III

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|----------|------|----|------|----------|----------|--------|-------------|----|-------|
| 550 | 688 | 50 | 1500 | 37.2 | 199.8 | Ш | NC | NC | NC* |
| 830 | 1038 | 50 | 1500 | 55.9 | 203.1 | Ш | NC | NC | NC* |
| 830 | 1038 | 50 | 1500 | 56.7 | 206.3 | 11/111 | NC | NC | NC |
| 730 | 913 | 60 | 1800 | 50.8 | 206.4 | Ш | NC | NC | NC* |
| 730 | 913 | 60 | 1800 | 52.6 | 216.6 | 11/111 | NC | NC | NC |
| 940 | 1175 | 60 | 1800 | 62.8 | 203.3 | Ш | NC | NC | NC* |
| 940 | 1175 | 60 | 1800 | 62.8 | 203.3 | 11/111 | NC | NC | NC |
| 525R | 656 | 50 | 1500 | 37.2 | 199.8 | Ш | NC | NC | NC* |
| 795R | 994 | 50 | 1500 | 55.9 | 203.1 | Ш | NC | NC | NC* |
| 795R | 994 | 50 | 1500 | 56.7 | 206.3 | 11/111 | NC | NC | NC |
| 675R | 844 | 60 | 1800 | 50.8 | 206.4 | Ш | NC | NC | NC* |
| 675R | 844 | 60 | 1800 | 52.6 | 216.6 | 11/111 | NC | NC | NC |
| 880R | 1100 | 60 | 1800 | 62.8 | 203.3 | Ш | NC | NC | NC* |
| 880R | 1100 | 60 | 1800 | 62.8 | 203.3 | 11/111 | NC | NC | NC |

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp).

* China II certification expected mid-2023.

Check with your local dealer for availability.

(continued)

C32 GENERATOR SET

(continued) RATINGS AND FUEL CONSUMPTION

IMO III and U.S. EPA Tier 4 Final

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------|------|----|------|----------|----------|-----|----------|----|-------|
| 830 | 1038 | 50 | 1500 | 54.1 | 198.3 | Ш | NC | NC | NC* |
| 940 | 1175 | 60 | 1800 | 61.9 | 200.4 | Ш | T4C | NC | NC* |
| 795R | 994 | 50 | 1500 | 54.1 | 198.3 | Ш | NC | NC | NC* |
| 880R | 844 | 60 | 1800 | 61.9 | 200.4 | Ш | T4C | NC | NC* |

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

* China II certification expected mid-2023.

Check with your local dealer for availability.

SPECIFICATIONS

| Vee 12, 4-Stroke-Cycle Diesel | | | | | | | |
|-------------------------------|------------------|--------------|--|--|--|--|--|
| Aspiration | TTA | | | | | | |
| Bore x Stroke | 5.7 x 6.4 in | 145 x 162 mm | | | | | |
| Displacement | 1959 cu in | 32.1 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 15,721 lb | 7131 kg | | | | | |

| | LE | | |
|------|------------------|-----------------|--|
| min. | 168.2 in/4271 mm | 65.6 in/1667 mm | |
| max. | 175.3 in/4452 mm | 65.6 in/1667 mm | |

C18 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

IMO II

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|----------|-----|----|------|----------|----------|--------|-------------|----|-------------------|
| 280 | 350 | 50 | 1500 | 19.4 | 205.9 | Ш | NC | NC | NC |
| 360 | 450 | 50 | 1500 | 24.5 | 205.4 | Ш | NC | NC | C-II ² |
| 3601 | 450 | 50 | 1500 | 24.3 | 203.7 | 11/111 | NC | NC | NC |
| 410 | 513 | 50 | 1500 | 27.9 | 204.5 | Ш | NC | NC | C-II ² |
| 410 | 513 | 50 | 1500 | 27.5 | 201.9 | 11/111 | NC | NC | NC |
| 465 | 581 | 50 | 1500 | 31.4 | 205.4 | Ш | NC | NC | C-II ² |
| 465 | 581 | 50 | 1500 | 31.2 | 203.8 | 11/111 | NC | NC | NC |
| 345 | 431 | 60 | 1800 | 24.7 | 213.3 | Ш | NC | NC | C-II ² |
| 430 | 538 | 60 | 1800 | 30.6 | 211.3 | Ш | NC | NC | C-II ² |
| 565 | 706 | 60 | 1800 | 39.3 | 210.4 | Ш | NC | NC | C-II ² |
| 565 | 706 | 60 | 1800 | 39.9 | 214.1 | 11/111 | NC | NC | NC |
| 260R | 325 | 50 | 1500 | 19.2 | 205.6 | Ш | NC | NC | NC |
| 335R | 419 | 50 | 1500 | 24.4 | 205.0 | Ш | NC | NC | C-II ² |
| 335R1 | 419 | 50 | 1500 | 24.3 | 203.7 | 11/111 | NC | NC | NC |
| 390R | 486 | 50 | 1500 | 27.9 | 205.0 | Ш | NC | NC | C-II ² |
| 390R | 486 | 50 | 1500 | 27.5 | 201.9 | 11/111 | NC | NC | NC |
| 445R | 556 | 50 | 1500 | 31.3 | 204.7 | Ш | NC | NC | C-II ² |
| 445R | 556 | 50 | 1500 | 31.2 | 203.8 | 11/111 | NC | NC | NC |
| 310R | 388 | 60 | 1800 | 24.7 | 213.3 | Ш | NC | NC | C-II ² |
| 395R | 494 | 60 | 1800 | 30.5 | 211.0 | Ш | NC | NC | C-II ² |
| 530R | 663 | 60 | 1800 | 39.1 | 209.9 | Ш | NC | NC | C-II ² |
| 530R | 663 | 60 | 1800 | 39.9 | 214.1 | 11/111 | NC | NC | NC |

Generator set package includes SRMP generator.

¹ Only available via DTO. Fuel sulfur restrictions apply.

² Only available by DTO.

(continued)

C18 GENERATOR SET

(continued)

RATINGS AND FUEL CONSUMPTION

IMO II and U.S. EPA Tier 3

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | IMO | U.S. EPA | | China |
|----------|-----|----|------|----------|----------|-----|----------|----|-------------------|
| 430 | 538 | 60 | 1800 | 31.3 | 214.9 | Ш | T3C | NC | C-II ² |
| 565 | 706 | 60 | 1800 | 38.9 | 206.9 | Ш | T3C | NC | C-II ² |
| 565 | 706 | 60 | 1800 | 39.9 | 214.1 | / | T3C | NC | NC |
| 395R | 594 | 60 | 1800 | 31.2 | 216 | Ш | T3C | NC | C-II ² |
| 530R | 663 | 60 | 1800 | 38.9 | 206.9 | Ш | T3C | NC | C-II ² |
| 530R | 663 | 60 | 1800 | 39.9 | 214.1 | / | T3C | NC | NC |

Generator set package includes SRMP generator. ² Only available by DTO.

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|----------------|--|--|--|--|--|
| Aspiration | TA, TTA | | | | | | |
| Bore x Stroke | 5.7 x 7.2 in | 145 x 183 mm | | | | | |
| Displacement | 1106 cu in | | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 8733 - 9974 lb | 3961 - 4524 kg | | | | | |

| | LE | | WE |
|------|------------------|-----------------|-----------------|
| min. | 119.7 in/3040 mm | 66.3 in/1684 mm | 60.9 in/1547 mm |
| max. | 119.7 in/3040 mm | 66.3 in/1684 mm | 60.9 in/1547 mm |

C9.3 GENERATOR SET

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|----------|-----|----|------|----------|----------|---|-------------|----|-------------------|
| 200 | 250 | 50 | 1500 | 13.2 | 199.1 | Ш | NC | NC | C-II ² |
| 195 | 244 | 50 | 1500 | 13.2 | 204.8 | / | NC | NC | NC |
| 250 | 313 | 50 | 1500 | 16.5 | 198.5 | Ш | NC | NC | C-II ² |
| 245 | 306 | 50 | 1500 | 16.8 | 207 | / | NC | NC | NC |
| 250 | 313 | 60 | 1800 | 17.6 | 212.3 | Ш | T3C | NC | C-II ² |
| 250 | 313 | 60 | 1800 | 17.7 | 213.4 | / | NC | NC | NC |
| 300 | 375 | 60 | 1800 | 20.8 | 208.9 | Ш | T3C | NC | C-II ² |
| 185R | 231 | 50 | 1500 | 13.2 | 199.1 | Ш | NC | NC | C-II ² |
| 180R | 225 | 50 | 1500 | 13.2 | 204.8 | / | NC | NC | NC |
| 235R | 294 | 50 | 1500 | 16.5 | 198.5 | Ш | NC | NC | C-II ² |
| 230R | 288 | 50 | 1500 | 16.8 | 207 | / | NC | NC | NC |
| 224R | 280 | 60 | 1800 | 17.6 | 212.3 | Ш | T3C | NC | C-II ² |
| 224R | 280 | 60 | 1800 | 17.7 | 213.4 | / | NC | NC | NC |
| 274R | 343 | 60 | 1800 | 20.8 | 208.9 | Ш | T3C | NC | C-II ² |

RATINGS AND FUEL CONSUMPTION

² Only available via DTO.

(continued)

C9.3 GENERATOR SET

(continued)

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|--------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 4.13 x 5.31 in | 115 x 149 mm | | | | | |
| Displacement | 568 cu in | 9.3 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 5219 lb | 2367 kg | | | | | |

| | LE | Н | WE |
|------|-----------------|-----------------|-----------------|
| min. | 85.8 in/2179 mm | 56.5 in/1436 mm | 50.4 in/1260 mm |
| max. | 85.8 in/2179 mm | 56.5 in/1436 mm | 50.4 in/1260 mm |

C7.1 GENERATOR SET

RATINGS AND FUEL CONSUMPTION

IMO II and IMO II/III Switchable, U.S. EPA Tier 3

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|----------|-----|----|------|----------|----------|--------|-------------|-----|-------|
| 100 | 125 | 50 | 1500 | 7.9 | 233.7 | NST | T3C | EUV | C-II |
| 118 | 148 | 50 | 1500 | 9.2 | 224.1 | NST | T3C | EUV | C-II |
| 150 | 188 | 50 | 1500 | 11.2 | 210.2 | 11/111 | T3C | NC | C-II |
| 118 | 148 | 60 | 1800 | 9.5 | 221.5 | NST | T3C | EUV | C-II |
| 150 | 188 | 60 | 1800 | 11.3 | 212.9 | 11/111 | T3C | NC | C-II |
| 175 | 219 | 60 | 1800 | 13.2 | 208.9 | 11/111 | T3C | NC | C-II |
| 200 | 250 | 60 | 1800 | 14.9 | 207.3 | 11/111 | T3C | NC | C-II |
| 92R | 115 | 50 | 1500 | 7.8 | 223.7 | NST | T3C | EUV | C-II |
| 111R | 139 | 50 | 1500 | 9.3 | 221.8 | NST | T3C | EUV | C-II |
| 143R | 179 | 50 | 1500 | 11.3 | 207.5 | 11/111 | T3C | NC | C-II |
| 106R | 133 | 60 | 1800 | 9.1 | 228.7 | NST | T3C | EUV | C-II |
| 138R | 173 | 60 | 1800 | 11.1 | 212.8 | 11/111 | T3C | NC | C-II |
| 163R | 204 | 60 | 1800 | 12.7 | 215.9 | 11/111 | T3C | NC | C-II |

Engine type approval available from ABS, BV, DNV, LR, NKK, RINA, CRS, CCS. All ratings subject to IMO can be configured as an IMO II engine without aftertreatment.

SPECIFICATIONS

| In-line 6, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|----------------|--|--|--|--|--|
| Aspiration | TA | | | | | | |
| Bore x Stroke | 4.13 x 5.3 in | 105 x 135 mm | | | | | |
| Displacement | 433.3 cu in | 7.01 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 3355 - 4718 lb | 1522 - 2140 kg | | | | | |

| | LE | H | WE |
|------|-----------------|-----------------|----------------|
| min. | 76.3 in/1940 mm | 49.7 in/1263 mm | 37.6 in/956 mm |
| max. | 102 in/2582 mm | 62.3 in/1583 mm | 39.0 in/993 mm |

RATINGS AND FUEL CONSUMPTION

IMO II and U.S. EPA Tier 3

| ekW@.8pf | kVA | | | U.S. g/h | g/bkW-hr | ІМО | U.S. EPA | | China |
|----------|-----|----|------|----------|----------|-----|-------------|-----|-------|
| 65 | 81 | 50 | 1500 | 5.3 | 247.7 | NST | T3C | EUV | NC |
| 80 | 100 | 50 | 1500 | 5.7 | 221.7 | NST | T3C | EUV | C-II |
| 99 | 124 | 50 | 1500 | 6.8 | 210.8 | NST | T3C | EUV | C-II |
| 65 | 81 | 60 | 1800 | 5.5 | 248.0 | NST | T3C | EUV | NC |
| 75 | 94 | 60 | 1800 | 5.3 | 217.7 | NST | T3C | EUV | C-II |
| 99 | 124 | 60 | 1800 | 6.7 | 208.9 | NST | T3C | EUV | C-II |
| 118 | 148 | 60 | 1800 | 7.9 | 206.6 | NST | T3C | EUV | C-II |
| 58R | 73 | 50 | 1500 | 5.3 | 247.4 | NST | T3C | EUV | NC |
| 73R | 91 | 50 | 1500 | 5.7 | 209.0 | NST | T3C | EUV | C-II |
| 88R | 110 | 50 | 1500 | 6.8 | 196.1 | NST | T3C | EUV | C-II |
| 56R | 64 | 60 | 1800 | 5.5 | 247.2 | NST | T3C | EUV | NC |
| 66R | 83 | 60 | 1800 | 5.3 | 213.3 | NST | T3C | EUV | C-II |
| 90R | 113 | 60 | 1800 | 6.7 | 204.9 | NST | T3C | EUV | C-II |
| 105R | 131 | 60 | 1800 | 7.9 | 200.8 | NST | T3C | EUV | C-II |

Engine type approval available from ABS, BV, CCS, DNV, LR, NKK, PR, RINA.

(continued)

(continued)

SPECIFICATIONS

| In-line 4, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|----------------|--|--|--|--|--|
| Aspiration | T, TA | | | | | | |
| Bore x Stroke | 4.13 x 5.0 in | 105 x 127 mm | | | | | |
| Displacement | 269 cu in | 4.4 liter | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 2736 - 3389 lb | 1241 - 1537 kg | | | | | |

| | LE | | |
|------|-----------------|-----------------|----------------|
| min. | 66.4 in/1687 mm | 49 in/1245 mm | 38.3 in/974 mm |
| max. | 80.2 in/2037 mm | 78.7 in/1999 mm | 38.8 in/986 mm |

| ekW@.8pf | kVA | Hz | rpm | U.S. g/h | g/bkW-hr | ІМО | U.S. EPA | EU | China |
|----------|-------|----|------|----------|----------|-----|-------------|----|-------|
| 38.0 | 47.5 | 50 | 1500 | 2.9 | 195.1 | NST | NC | NC | NC |
| 51.0 | 64.5 | 50 | 1500 | 3.9 | 201.5 | NST | NC | NC | NC |
| 69.0 | 86.0 | 50 | 1500 | 4.9 | 207.7 | NST | NC | NC | NC |
| 86.0 | 107.0 | 50 | 1500 | 6.5 | 206.1 | NST | NC | NC | NC |
| 44.0 | 55.0 | 60 | 1800 | 3.4 | 204.1 | NST | NC | NC | NC |
| 58.0 | 73.0 | 60 | 1800 | 4.2 | 206.3 | NST | NC | NC | NC |
| 76.0 | 95.0 | 60 | 1800 | 5.8 | 213.3 | NST | NC | NC | NC |
| 99.0 | 123.0 | 60 | 1800 | 7.3 | 205.2 | NST | NC | NC | NC |
| 36.0R | 45.0 | 50 | 1500 | 2.9 | 195.1 | NST | NC | NC | NC |
| 49.0R | 61.0 | 50 | 1500 | 3.9 | 201.5 | NST | NC | NC | NC |
| 65.0R | 81.0 | 50 | 1500 | 4.9 | 207.7 | NST | NC | NC | NC |
| 82.0R | 103.0 | 50 | 1500 | 6.5 | 206,1 | NST | NC | NC | NC |
| 42.0R | 53.0 | 60 | 1800 | 3.4 | 204.1 | NST | NC | NC | NC |
| 56.0R | 70.0 | 60 | 1800 | 4.5 | 206.3 | NST | NC | NC | NC |
| 72.0R | 90.0 | 60 | 1800 | 5.8 | 213.3 | NST | NC | NC | NC |
| 95.0R | 119.0 | 60 | 1800 | 7.3 | 205.2 | NST | NC | NC | NC |

RATINGS AND FUEL CONSUMPTION

R - Radiator cooled only.

Engine type approval available from ABS, BV, CCS, CRS, DNV, LR, RINA.

(continued)

(continued)

SPECIFICATIONS

| In-line 4, 4-Stroke-Cycle Diesel | | | | | | | |
|----------------------------------|------------------|---------------|--|--|--|--|--|
| Aspiration | NA, T, TA | | | | | | |
| Bore x Stroke | 4.13 x 5.0 in | 105 x 127 mm | | | | | |
| Displacement | 269 cu in | 4.4 L | | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | | |
| Generator set weight (approx) | 1664 - 2372 lb | 754 - 1076 kg | | | | | |

| | LE | | |
|-----------|-----------------|-----------------|-----------------|
| Open min. | 56.0 in/1422 mm | 39.8 in/1010 mm | 27.6 in/700 mm |
| Open max. | 73.3 in/1861 mm | 46.2 in/1174 mm | 32.3 in/821 mm |
| Enclosed | 68.9 in/1750 mm | 47.8 in/1215 mm | 39.4 in/1000 mm |



| Three Phase ekW@.8pf | Single Phase ekW@1.0pf | kVA | | | U.S. g/h | g/bkW-hr | ІМО | U.S. EPA | | China |
|----------------------------|---------------------------|-------|----|------|----------|----------|-----|-------------|----|-------|
| 18.0 | | 22.5 | 60 | 1800 | 1.63 | 256.4 | NST | T3C | NC | NC |
| 25.0 | | 31.25 | 60 | 1800 | 2.24 | 239.8 | NST | T3C | NC | NC |
| 15.0 | | 18.75 | 50 | 1500 | 1.37 | 242.6 | NST | T3C | NC | NC |
| 20.0 | | 25.0 | 50 | 1500 | 1.88 | 233.0 | NST | T3C | NC | NC |
| | 18.0 | 18.0 | 60 | 1800 | 1.63 | 256.4 | NST | T3C | NC | NC |
| | 25.0 | 25.0 | 60 | 1800 | 2.24 | 239.8 | NST | T3C | NC | NC |
| | 15.0 | 15.0 | 50 | 1500 | 1.37 | 242.6 | NST | T3C | NC | NC |
| | 20.0 | 20.0 | 50 | 1500 | 1.88 | 233.0 | NST | T3C | NC | NC |

RATINGS AND FUEL CONSUMPTION

SPECIFICATIONS

| In-line 4, 4-Stroke-Cycle Diesel | | | | | | |
|----------------------------------|------------------|-------------|--|--|--|--|
| Aspiration | NA, T | | | | | |
| Bore x Stroke | 3.31 x 3.94 in | 84 x 100 mm | | | | |
| Displacement | 135 cu in | 2.2 liter | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | |
| Generator set weight (approx) | 857/1027 lb | 389/466 kg | | | | |

| | LE | | WE |
|----------|-----------------|----------------|----------------|
| Open | 47.9 in/1219 mm | 32.8 in/835 mm | 22.3 in/567 mm |
| Enclosed | 50.7 in/1290 mm | 31.0 in/775 mm | 24.7 in/628 mm |

C1.5 GENERATOR SET

| RATINGS | AND | FUEL | CONSU | MPTION |
|---------|-----|------|-------|--------|
|---------|-----|------|-------|--------|

| Three Phase ekW@.8pf | Single Phase ekW@1.0pf | kVA | | | U.S. g/h | g/bkW-hr | | U.S. EPA | | China |
|----------------------------|---------------------------|------|----|------|----------|----------|-----|-------------|-----|-------|
| 12.0 | | 15.0 | 60 | 1800 | 1.2 | 269.0 | NST | T3C | NST | NC |
| 10.0 | | 12.5 | 50 | 1500 | 1.0 | 259.4 | NST | T3C | NST | NC |
| | 12.0 | 12.0 | 60 | 1800 | 1.2 | 269.0 | NST | T3C | NST | NC |
| | 10.0 | 10.0 | 50 | 1500 | 1.0 | 259.4 | NST | T3C | NST | NC |

SPECIFICATIONS

| In-line 3, 4-Stroke-Cycle Diesel | | | | | | |
|----------------------------------|------------------|------------|--|--|--|--|
| Aspiration | NA | | | | | |
| Bore x Stroke | 3.31 x 3.5 in | 84 x 90 mm | | | | |
| Displacement | 91 cu in | 1.5 liter | | | | |
| Rotation (from flywheel end) | Counterclockwise | | | | | |
| Generator set weight (approx) | 703/908 lb | 319/412 kg | | | | |

| | LE | | WE |
|----------|-----------------|----------------|----------------|
| Open | 40.8 in/1038 mm | 27.1 in/689 mm | 21.1 in/535 mm |
| Enclosed | 43.1 in/1095 mm | 27.9 in/711 mm | 24 in/608 mm |



SERVICES & SOLUTIONS TO MEET YOUR MISSION'S NEEDS.

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MACHINES

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SERVICES



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HIGH-POWERED TECHNOLOGIES For More Power & Confidence At Sea

Caterpillar Marine offers powerful technologies to help governmental customers operate and manage their vessels and engines efficiently and cost effectively, while supporting you in meeting and exceeding environmental standards.

CAT SELECTIVE CATALYTIC REDUCTION (SCR)

The easy-to-install Cat SCR System is an exhaust gas aftertreatment solution compliant with U.S. Environmental Protection Agency (EPA) Tier 4 Final and International Maritime Organization (IMO) III emissions standards. It is a sustainable solution for reducing NO_x emissions without sacrificing the efficiency, durability and reliability of Cat Marine engines that our customers expect. Environmentally conscious governments are already offering regional incentives that benefit ship owners who invest in NO_x emissions reduction technology like SCR.

Caterpillar evaluated multiple options and concluded that SCR is the optimal solution for marine applications to meet U.S. EPA Tier 4 and IMO III requirements. We also found that this technology allows for the lowest total cost of ownership compared to other solutions, such as exhaust gas recirculation (EGR).

SCR Features & Benefits



- Designed for NO_x emissions reduction; meets IMO III, U.S. EPA Tier 4 Final, and EU Stage V emission standards
- Compact package and flexible mounting configurations
- A fully integrated and certified solution, all available from the engine original equipment manufacturer (OEM)
- Available for new vessel construction and retrofit or repower projects
- Easy to install with minimum impact to vessel design
- Common control and monitoring system for reliable and safe operation
- Global dealer network for installation and service in any location

CAT CLEAN EMISSION MODULES (CEMs)

This compact and easy-to-install aftertreatment technology was designed as part of the SCR System for Cat Marine applications. You will benefit from an optimized system with minimum impact to vessel design. Thus, we offer several different CEM configurations to suit all markets and vessel types.





Cat C18 double CEM with Y-Pipe Airless, IMO II/III switchable

Cat C7.1 and C9.3 CEM Airless, IMO II/III switchable

Cat C18 CEM Airless, EU Stage V with DPF





Cat C18 and C32 CEM Air-Assist, U.S. EPA Tier 4 and IMO III U-Flow or Z-Flow configured



Cat 3500 series CEM Air-Assist, U.S. EPA Tier 4, IMO II/III switchable U-Flow or Z-Flow configured



Cat C32/3512 series EU Stage V, DPF



Cat C280 CEM Air-Assist, U.S. EPA Tier 4 and IMO II/III switchable vertical stack





Examples: Dosing cabinet

Contact your local dealer for more information.

All pictures shown are for illustration purposes only. Product may vary due to product enhancement.

CAT CONTROL SYSTEM

The Cat MPC100 Propulsion Control System for conventional drive systems offers single and twin propeller applications.

By providing redundant control capability, it integrates both primary and secondary (backup) control of engine and marine transmission. Built-in trolling valve control, together with a very flexible configuration, allows this system to be adopted to each installation and customized to the high demands of each captain.

- Highly reliable with built-in redundancy
- Simplified installation and configuration
- Safety and quality compliance (CE, USCG, ABYC, IACS)
- Supporting both 12 and 24 VDC powered applications
- Highly configurable for multiple powertrain configurations using Cat Electronic Technician (ET)
- Supporting all Cat electronically controlled propulsion engines from the Cat C7.1 to the Cat C280
- Compatible with all major marine transmissions
- Up to 8 command stations
- Built-in control of the engine and transmission, including trolling valve
- Mode selector, including warmup, trolling, advanced trolling, slow vessel and cruising mode, with option to adapt modes of operation
- Synchronization mode allowing user to operate twin propeller boats using single lever
- Optional back-up control capability
- Configurable shaft brake control
- Engine start interlocks



CAT MARINE DISPLAY (CMD)

The CMD provides operators with easy-to read, high-resolution graphics to monitor all vessel operations. The configurable screen allows for full user customization and visual simplicity. All electronics are environmentally sealed for increased durability and safety and are built to perform reliably in extreme conditions.



The CMD is available with a 5", 8" or 13" screen size. While CMD5 offers a more compact size and front and rear waterproof IP 66 rating, as well as appreciated tactile feel of the navigation keys.

New CMD8 and CMD13 Gen II displays offer appealing design and easy to use touch screen navigations. Additional features include multiple graphic skin options, configurable splash and monitoring screens, embedded manuals, Modbus, and IT camera support. They are also Integrated Cyber Analysis System (ICAS)-approved.

CAT CONTROL PANELS

Propulsion engine, genset and auxiliary engine control panels provide complete control and monitoring from local and remote locations. This includes engine start/stop capability, alarm and protection, user and integration interfaces. System modularity allows expansion of remote monitoring, input/output capabilities and programmable relays.

Marine Propulsion Engine Control Panels

C7.1 - C32

Remote Analogue Panel

For remote monitoring of engine basic parameters (available with C7.1 only).

MECP IB

Inexpensive, basic control panel that can be mounted directly on the engine. For non MCS approved installations.

C9.3 - 3500 (C280)* *See dealer for availability.

MECP II/LECP II

MCS type-approved panel for manned and un-manned engine rooms. It provides local throttle control, a color display, advanced diagnostics, and integration possibilities. This engine control panel is enhanced by a built-in connectivity solution, allowing easy onboarding and access to a variety of Customer Value Agreement (CVA) offerings.

MECP IIIB/LECP III

Includes all the features of the MECP II and has additional I/O, supports more expansion modules, and has extra space for customer options. This engine control and integration panel is enhanced by a built-in connectivity solution, allowing easy onboarding and access to a variety of CVAs.

Marine Genset & Auxiliary Engine Control Panels

C4.4 - C7.1

MGGP 200

(for electronically controlled engines only)

Basic gauge panel providing basic instrumentation of engine parameters, as well as alarm indication and engine start/stop buttons.

MCS3

MCS type-approved panel provides generator and engine monitoring for manned and un-manned engine rooms. It includes MODbus and CANbus (J1939) interfaces (on electronically controlled engines only), AC monitoring, and optional load share control for multiple genset installations. Multi-position—left, right, rear, plus power remote mountable.

C4.4 - C32

EMCP 4.2B

(for electronically controlled engines only)

Non MCS type-approved panel provides generator and engine monitoring.

MGCP II

MSC type-approved panel for manned and un-manned engine rooms. It provides local throttle control, a color display and advanced diagnostics and communications. This generator control and integration panel is enhanced by a built-in connectivity solution, allowing easy onboarding and access to a variety of CVA offerings.



MGCP IIIB/LECP III

MSC type-approved panel for manned and un-manned engine rooms. It provides local throttle control, a color display and advanced diagnostics and communications. This generator control and integration panel is enhanced by a built-in connectivity solution, allowing easy onboarding and access to a variety of CVA offerings.

L2

Includes a CMPD as the main operator interface. It also has switches for engine protection override, prelube override, torque limit and manual speed control.

CONTROL PANEL ACCESSORIES

RTD Module

Monitors 8 RTD temperature sensors. It is generally used on a generator.

Thermocouple Module

Monitors 20 thermocouple temperature sensors. It is generally used on an engine.

Remote Panel 220E (MECP/MGCP II and III only)

Can remotely monitor and start/stop two engines or gensets. Multiple remote panels can be installed on a ship.

Remote Panel 410E (MECP/MGCP II and III only)

Can remotely monitor and start/stop eight engines or gensets and four IP cameras. Multiple remote panels can be installed on a ship.

Remote I/O 410 Module (MECP/MGCP II and III only)

Provides additional switch and sensor inputs for the control panel, as well as relay outputs. Up to four Remote I/Os can be used with the IIIB panels, one with the II panels.

Relay Module (MECP/MGCP III only)

Provides 14 programmable relays. It can be connected to the Local Control Panel or to a remote panel.

Power Analyzer Module (MGCP II and III only)

Provides generator power information, such as phase voltage, current, power factor, Total Harmonic Distortion (THD), etc.

MSDU – Emergency Shutdown Module

Basic shutdown unit available as an option with C4.4 and C7.1 electronically controlled engine.

U.S. COAST GUARD

WE HAVE WHAT Tomorrow takes CARBON REDUCTION. FUEL FLEXIBILITY. OPERATIONAL EFFICIENCY. ELECTRIFICATION.

STRENGTH IN SUSTAINABILITY To Support Your Energy Transition

Innovating Sustainability Benefits for Cat® Marine Product Services

Helping You Navigate the Energy Transition

Cat Marine products have high standards for quality, performance and reliability. There is an escalating need for lower-carbon intensity fuel solutions and sustainable power sources that minimize fuel usage, decrease your vessel's environmental impact and lower total cost of ownership.

That's why Caterpillar is focused on innovating methanol-powered solutions, and electric and hybrid systems for reducing greenhouse gas emissions. Plus, state-of-the-art supervisory controls will integrate system components for suitable performance and efficient plug-and-play simplicity.

All from one source: Caterpillar Marine.

Caterpillar Marine offers diesel solutions and is developing options like methanol, electric and hybrid to support our customers' energy transition.

SUSTAINABLE PRODUCTS & SERVICES FROM CATERPILLAR MARINE

We are innovating and integrating for a better tomorrow to help naval and defense customers achieve operational success.

At Caterpillar, we've been helping customers solve big problems for nearly a century. We know that as a governmental entity, you demand sturdy, high-performing, cutting-edge products and services. Whether decreasing carbon, increasing fuel flexibility, moving toward electrification or operating more efficiently and safely, you can count on Cat Marine products and services to help you achieve your energy transition goals.

Here are some examples of how we are putting our experience to work to tackle decarbonization challenges on the water.



Ensuring you can accomplish your missions—with fuel flexibility Emissions reduction and adaptability to your missions, with

renewables and biofuels

- Fuel flexibility through use of renewables and biofuels
- Investment in alternative fuel research
- Emissions upgrade solutions for existing fleets

Reduced emissions for supporting greater access to strictly regulated ports—with efficiency and reliability

Current emissions regulations and future standards

- Flexible and configurable for ease of installation
- Designed to improve uptime, time between overhauls and cost
- Integral Cat control system for simple diagnostics and service

Providing hybrid flexibility—that integrates conventional and lower-carbon power for higher fuel efficiency, lower maintenance cost and quieter operation for stealth

Integrated power systems

- Hybrid solutions that integrate engines, gensets and energy storage
- Intelligent controls that enable seamless use of onboard power sources
- Scalable options that support a wide range of propulsion and power generation applications



Caterpillar Marine is working with California-based Pacific6 Enterprises to pilot a parallel battery hybrid propulsion system.

Participating in marine environmental awareness programs

The right solutions to comply with increasingly strict port regulations on emissions and sustainability standards

- Offering Tier 4- and IMO III-compliant marine power solutions that meet current standards
- Engineering dual-fuel and (future) methanol power engines for operations that produce lower emissions for improved air and water quality
- Promoting environmentally sustainable on-water practices

Partnering with Solar Turbines

Safe, quiet turbo power for all military vessels and sizes to support governmental operations

- Operates on liquified natural gas (LNG)
- Exceeds IMO III requirements

THE POWER OF THE CAT MARINE GLOBAL DEALER NETWORK Working Together On Every Mission

Cat Marine offers a legacy in tough, time-critical applications supported by a dedicated, global dealer network. Our broad capabilities ensure customer access to complete solutions for your marine equipment needs, and our acute attention to 24/7 operations are ready for your requirements.



PRO-LEVEL EXPERTISE & AVAILABILITY

Cat dealer service locations around the world are at the ready with dealer personnel who know, understand and respect governmental customers' purpose and mission. With our robust field service capability, we maximize your vessel uptime by ensuring a prompt response by qualified, experienced technicians who have the skills and equipment to quickly diagnose and fix problems right on your ship.

Count on them to know Cat Marine products and solutions and deliver world-class support wherever and whenever you need it, with the level of performance and premium support you expect.

Wherever your missions lead, our expertly skilled Cat dealers are there for you, offering:

- Over 80 years of experience
- 157 Cat Marine locations shore to shore
- Service to 192 countries
- Expert engine technicians
- Engaged parts specialists
- On-sea and at-the-dock service efficiency

Extensive equipment expertise and knowledge equip Cat Marine dealers to diagnose quickly to offer solutions and fix problems fast where and when you need it.

CAT DEALER LOCATOR & ACCESSIBILITY MAP



To find your nearest dealer, scan here or visit: https://www.cat.com/en_US/support/dealer-locator



AUTHORIZED MARINE DEALERS (AMDs)

Our AMD network complements the service offered by Cat dealers, with even more locations worldwide to further protect your uptime. Count on them for parts, basic maintenance, minor repairs, warranty service work and more.

AT YOUR SERVICE WITH THROUGH-LIFE SUPPORT

Always-Mission-Ready

Cat Marine engines offer exceptional availability*, and we have a proven track record of high-quality power solutions, with 3,500+ in place for military or government applications. We amplify that quality with a renowned, worldwide Cat dealer network and robust array of parts and services offerings.

Whether you're called for a standard border patrol operation or an emergency at sea, **Cat parts and services will keep your vessels mission ready**. With power designed to reach maximum speed in a matter of seconds and maintain that speed for full operations, your engine's condition is critical to getting your crews there and back efficiently and safely.

Caterpillar Marine's services portfolio and network of Cat dealers are as tough as our power solutions, enabling you to maintain uptime and stay in control—wherever your missions lead.

- Robust power and technology solutions proven to go the distance and speed you need
- On-demand parts and service availability through the Cat dealer network
- Digital solutions that deliver actionable insights about engine health and performance

*Operational availability: over 99.78% *Average mean time between failure (MTBF): 8,000 hours

COUNT ON US

We offer premium on-site and field service capabilities that include rapid response time by highly qualified and experienced field service technicians.

(Note: For more information about our Cat dealer network, including dealer locator link, see previous section of this guide.)



GENUINE CAT PARTS

Our Parts Ensure Powerful Performance

Get the most power from your vessels, even on your toughest days at sea, by using Genuine Cat Parts. They are designed as an element of the Cat system and are **endurance-tested to keep you mission-ready for the long haul.**

- **Cat fluids** undergo a robust formulation process that's tested for the toughest conditions to ensure the best engine protection.
- **Cat filters** provide a literal shield of protection, delivering up to 45% longer injector life and 80% lower per-hour cost to optimize engine performance and reduce downtime.
- Cat S•O•SSM Services fluid analysis tests the condition of your engine's oil, fuel and coolant to provide an inside look at major systems for avoiding costly failures and increasing uptime.
- Cat Reman parts and components offer a drop-in ready solution that delivers like-new performance at a fraction of the cost of new, with core return.

Online, Anytime: Parts.Cat.Com

Thousands of Genuine Cat Parts, searchable by model and serial number, are right at your fingertips with the Parts.Cat.Com online and mobile app. Count on secure, self-service purchasing 24/7 from any location worldwide, with fulfillment by the closest Cat dealer at your site or theirs.

- Order parts as needed or in bulk.
- Save order lists for future needs.
- Eliminate duplicate orders and wrong parts purchases.

Parts Distribution Centers Worldwide

For your convenience and to keep your marine vessels operating around the clock, Caterpillar has strategically located parts distribution centers around the globe.


PLANNED MAINTENANCE (PM)

Mission-critical naval, coast guard and defense operations cannot afford a missed PM event that risks vessel downtime, inefficiency or under-performance. When PM is covered by a Customer Value Agreement (CVA), your crews can perform the maintenance, or you can opt for dealer servicing. Either way, you will get expert dealer support with engine monitoring and alerts to upcoming maintenance events and always have the right Cat parts for the job, right when you need them.

Keep a Cat Marine engine PM kit on board, at the ready, so your crews have more time to focus on your mission-critical tasks and systems.

- **PM kits*** supply everything required to complete routine maintenance in one convenient package.
- Alerts for upcoming PM events and S•O•S fluid analysis help predict problems.
- Cat Reman components help reduce downtime as a drop-in ready parts solution versus the repair/rebuilding of components.
- Technical Analysis inspections using the Cat Inspect app further monitor your engines' health and enable troubleshooting.

*Kit parts vary based on model and kit selection.

CAT REMAN

To reduce downtime, save cost, minimize waste, lower greenhouse emissions and lessen the need for new raw materials,* Caterpillar offers marine remanufacturing (reman) services.

- End-of-life engines and components returned to like-new condition, for like-new performance, in a manufacturing environment at a fraction of the factory cost*
- Updated to latest Caterpillar performance specifications
- Backed by Caterpillar same-as-new, 12-month Caterpillar Limited Warranty**
- For marine engines and components, including cylinder heads, turbochargers, pumps, motors, fuel injectors and more

*Cost savings when compared to new parts; savings are based on return of core. Core conditions apply. Represents U.S. environmental impacts comparing "gate-to-gate" remanufacturing and manufacturing processes for engines and components. Based on 2018 external study of Cat engines, alternators and turbochargers. Does not include impacts elsewhere in our value chain.

**Warranty can vary by model and application; limitations apply. For complete details about the applicable Caterpillar Limited Warranty, contact an authorized Cat dealer.

ENGINE UPGRADES: FOR PERFORMANCE & EMISSIONS IMPROVEMENTS

Keep your engines shipshape with engine upgrades to meet naval and defense, as well as environmental, standards for protecting your shores, your crews and your investment.

Cat Marine engine upgrades may be integrated into your engine overhaul schedule to update your **engines to the latest available technology.** They can be completed dockside or on the water to maximize availability for navigating any circumstance.



Performance Upgrades

These are available for select Cat 3500-, 3600- and C280-series engines to improve their performance.

- Include Genuine Cat Parts.
- Convert fuel injection systems from mechanical to electronic without negatively impacting horsepower (and in some instances, increased horsepower).
 - Significant fuel reduction
 - Significant ongoing fuel savings
 - Improved acceleration and load acceptance
 - Turbocharger optimized for engine efficiency
 - No negative impact on horsepower; some increases
 - Less vibration and noise
 - Improved diagnostic capability
 - Live messages and alarms
 - Optional user-configured display (real-time information)

Emissions Upgrades & Retrofits

Emission Upgrades are currently available for select Cat[®] 3500, 3600, and C280 engines. Upgrade to the Latest Emissions Technology available for your engines.

- Select Cat 3600 and C280 engine models can be upgraded to an available lower emitting U.S. EPA certified configuration, up to and including IMO II and U.S. EPA Tier 2; IMO III, U.S. EPA Tier 4.
- Select Cat 3500 engine models can be upgraded to an available lower emitting U.S. EPA certified configuration, up to and including U.S. EPA Tier 2, U.S EPA Tier 3, IMO II, and IMO III.



DIGITAL SOLUTIONS

We understand that unscheduled downtime is unacceptable in naval and defense operations. Caterpillar Marine's innovative digital solutions allow vessel monitoring from anywhere, to ensure equipment health and increase time to diagnose and offer solutions. Actionable data from sensors to software enable operational excellence for quick decision making that results in maximum uptime.



Cat® Remote Fleet Vision (RFV)

This service may be included as part of your CVA to help resolve emerging issues before they become big problems. The technology provides features that best fit your goals. RFV provides robust visibility to engine data, so you stay alert to vessel performance, efficiency and availability to help maximize the life and health of your equipment.

- Assimilates timely, reliable, customized engine data from satellite, cellular and local network connections.
- Displays a full view of your engine's current operation, with data trends and visualization to identify engine health issues.
- **Remotely monitors engine data** for making smart, fast decisions from any location.
- Locates, tracks and manages assets with just a few clicks.
- Prompts alerts and notifications that indicate potential problems.
- Monitors, forecasts and optimizes vessel emissions and fuel consumption.

CUSTOMIZED SERVICE AGREEMENTS: CVAs

We tailor Cat Marine Customer Value Agreements (CVAs) to help you deliver the business outcomes you need and ensure your vessels maintain ever-critical mission readiness. For example, with well monitored filters and fluids, you can extend your planned maintenance (PM) periods to reduce cost. Additionally, to mitigate risk, you may add extended service coverage to your CVAs to limit the financial impact of a catastrophic engine failure.

CVAs keep you informed of maintenance and repair needs, cost and unexpected risks to achieve the greatest possible availability for any critical operation throughout the life of your Cat Marine engine.



Consult with your Cat dealer to build a CVA that delivers the outcomes you need:

- Improved uptime: 24/7 condition-based monitoring, available through your Cat dealer
- Emissions reduction to support your energy transition: lifecycle repair options or engine upgrade solutions
- Maintenance/overhaul cost reduction: fleet demand planning enabled by Caterpillar fleet manager
- Risk mitigation to avoid last-minute repairs: Dealer-led repair options or PM kits as convenient, self-service solutions
- Capacity and uptime opportunities: Data-driven insights and engine health monitoring through strategic digital solutions

MaK™

SERVICES FOR THE LIFETIME OF YOUR ENGINE

The MaK Brand

For decades, MaK engines have been in service around the world for customers who trust in their reliability. MaK offers exceptionally engineered and innovative products, components and services. With our worldwide network of distributors and expertise, we grant our customers fast service and high availability.

Services Solutions

- Customizable services based on the customer's operational needs including system enhancements and improved fuel efficiency
- Fleet management and services agreements, such as CVAs (Customer Value Agreements), tailored to the needs of our local and global customers

REParts (Repair and Exchange Parts)

- · Cost-efficient and high-quality service solutions
- Produced to the same quality standards as our original OEM (Original Equipment Manufacturer) parts

MaK Used

• Offers a cost-efficient alternative to new with the same OEM quality and reliability

InSitu (In Situation) Machining

 On-site repair and rework of cylinders, crankshafts, crankcases and further parts



• Reduces downtime while keeping costs to a minimum

Training Center

- Located at the Caterpillar Motoren headquarters in Kiel, Germany
- Customizable training courses to help our customers gain in-depth knowledge about MaK engines, components, and maintenance procedures



For more information on MaK engines, scan this QR code to connect with your nearest dealer.





REFERENCES



U.S. Environmental Protection Agency (EPA), Transport Canada, China Ministry of the Environment and the European Union (EU) have enacted programs to reduce emissions from all domestic diesel vessels. International vessels are subject to the requirements of the country where the vessel is registered (flagged) and if regulated, typically follow the requirements of the International Maritime Organization (IMO).

Caterpillar Marine has a key focus on emissions regulations to ensure that our marine engines meet global requirements.

U.S. EPA Standards

U.S. EPA applies for marine diesel engines installed in a variety of U.S. flagged recreational and workboat vessels.

High Performance Applications:

EPA Tier 3: Cat C7.1, C18 & C32

Commercial Applications:

| EPA Tier 3: | at C1.5, C2.2, C4.4, C7.1, C9.3, C15, C18, C3 | 32 |
|-------------|---|----|
| | < 600 kW) | |

EPA Tier 4: Cat C32, 3500, C280 (> 600 kW)

U.S. EPA Regulations

| NC | Not U.S. EPA Marine Certified for use in the U.S. or |
|-----------|--|
| T3C | Moots II S EPA Marino Tior 3 Commorcial standards |
| 130 | |
| T3R | Meets U.S. EPA Marine Tier 3 Recreational standards. |
| T3CR | Meets U.S. EPA Marine Tier 3 Commercial standards |
| | and U.S. EPA Marine Tier 3 Recreational standards. |
| T4C | Meets U.S. EPA Marine Tier 4 Final Commercial |
| | standards. |
| Emergency | Meets U.S. EPA Marine Tier 2 or Tier 3, as applicable, |
| | that otherwise must meet Tier 4 Final. |

Canada Regulations

As of January 1, 2016, Category 2 engines (7 to 30 L/cylinder) on Canadian flagged vessels must meet U.S. EPA requirements or have an equivalent certificate that has been provided by another country. Unless otherwise exempted, all other marine engines must meet IMO requirements for vessels constructed after January 1, 2016 (IMO III). Engines on vessels with keel laid in 2017 with combined propulsion power < 750 kW must meet IMO II and are exempt from IMO III: the IMO III exemption is subject to review by December 31, 2022.

China Regulations

China Domestic Marine regulation (GB15097) China Stage II went into effect after July 1, 2022. International vessels subject to the requirements of IMO and are not subject to China Domestic Marine regulations.

Engine Certification Descriptions

C-II Engines meeting China inland water regulations.

IMO Certification

The International Maritime Organization (IMO) regulates exhaust gas emissions on diesel engines > 130 kW. Since January 1, 2011 the IMO has regulated NO_x exhaust emission to their prescribed IMO II levels except for special emissions control areas (ECAs). There are four NO_x ECAs that are currently regulated by IMO to stage III. These include the North American ECA, U.S. Caribbean ECA, North Sea ECA, and the Baltic Sea ECA. Vessels that operate within these ECAs must be compliant with IMO III. Engines that are used for emergency power are not subject to IMO regulations.

EU Certification

Commercial Craft Directive 2016/1628 (EU Stage V)

This directive is in effect and applies to all propulsion and auxiliary engines. Caterpillar has certified some engines with a rated power of greater than 560 bkW to this standard. Most of these are to be used for inland waterway vessels. These engines also became effective by reciprocity agreement with CCNR Stage II, on July 1, 2007. (97/68 directive was repealed January 1, 2017 although 97/68 (IIIA) standards apply to marine engines until Stage V came into effect January 1, 2019 for < 300 kW and January 1, 2020 for \geq 300 kW and all references to 97/68 are now references to EU 2016/1628 (Stage V)).

Engine Certification Descriptions

- IW Meets EU Directive 2016/1629 Technical Requirements for Inland Waterway.
- NC Not Certified for specific regulations.
- **NST** Engines \leq 19 kW are not subject to EU Directive 2016/1629.
- RCD Recreational Craft Directive, meets 2013/53/EU. This directive is in effect and applies to all recreational engines used in the EU areas.
- EUV Engines meeting Stage V.

Rating definitions provide guidelines to help determine the appropriate rating for specific applications based on vessel operation. Cat Marine propulsion engine rating applications for C9 through 3516E are based on load factor, time at full throttle, and operational hours per year.

Contact your local Cat dealer for assistance in determining the appropriate rating for your specific application.

A Rating (Unrestricted Continuous)

Typical applications: For vessels operating at rated load and rated speed up to 100% of the time without interruption or load cycling (80% to 100% load factor).

Typical operation ranges from 5000 to 8000 hours per year.

For C280-6, C280-8, C280-12 and C280-16 Engines Only:

Continuous Service (CS) Rating is suitable for continuous duty applications, including dredges, for operation without interruption or load cycling.

B Rating (Heavy Duty)

Typical applications: For vessels operating at rated load and rated speed up to 80% of the time with some load cycling (40% to 80% load factor).

Typical operation ranges from 3000 to 5000 hours per year.

C Rating (Maximum Continuous)

Typical applications: For vessels operating at rated load and rated speed up to 50% of the time with cyclical load and speed (20% to 80% load factor).

Typical operation ranges from 2000 to 4000 hours per year.

For C280-6, C280-8, C280-12, C280-16, and EMD E 23 Engines Only:

Maximum Continuous (MC) Rating or EMD Intermittent rating is generally used for vessel applications involving varying loads. The engine power actually produced is limited by application guidelines, leaving a power reserve for unusual operating conditions. Operating time at loads above the CS Rating for a given rpm is limited to one hour in 12 or 8.3% of total operating hours.

FCVR – Fast Commercial Vessel Rating: 85% of operating hours at rated speed, 15% of hours at less than 50% rated power. TBO approximately 20,000 - 25,000 hours. The propulsion system design should consider heavy ship condition, sea state, hull fouling and propulsion system power losses for proper match between engine and prop/jet.

D Rating (Intermittent Duty)

Typical applications: For vessels operating at rated load and rated speed up to 16% of the time (up to 50% load factor). Typical operating ranges from 1000 to 3000 hours per year.

E Rating (High Performance)

Typical applications: For vessels operating at rated load and rated speed up to 8% of the time (up to 30% load factor). Typical operation ranges from 250 to 1000 hours per year.

DEP Ratings (Diesel Electric Propulsion, Electric Drive)

Typical applications: For vessels operating with generator sets that provide power to the propulsion systems. All ratings are Prime Ratings according to ISO 8528-1 for unlimited usage per year at a load factor of \leq 70%. 10% overload capability is required for a maximum of 1 hour out of every 12 and a maximum of 25 hours total per year.

Typical applications could include but are not limited to submarines, supply vessels, cruise vessels, research vessels, or any other ship using diesel electric drive systems.

Rating Conditions for 3500s and Smaller Engines

Ratings are based on SAE J1228 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046-1:2002E, ISO8665, DIN6271-3, and BS5514 conditions of 29.61 in Hg (100 kPa), 81° F (27° C) and 60% relative humidity.

Caterpillar maintains ISO9001:2000 certified quality management systems for engine test facilities to assure accurate calibration of test equipment. Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1:2002E.

Fuel consumption is based on SAE J1995 with +/- 3% tolerance at rated power for fuel having an LHV of 18,390 Btu/lb (42,780 kJ/kg) when used at 84.2° F (29° C) and weighing 7.001 lb/U.S. gal (838.9 g/L). Additional ratings may be available for specific customer requirements. Consult your Cat representative for details.

Rating Conditions for C280 Engines

Ratings are based on SAE J1349 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046-1:2002E, ISO8665, DIN6271-3, and BS5514 standard reference conditions. Ratings also meet classification society maximum temperature requirements of 113° F (45° C) temperature to turbo and 90° F (32° C) seawater temperature without derate.

Fuel consumption is based on ISO3046/1 with +5% tolerance at rated power for fuel having an LHV of 18,390 Btu/lb (42,780 kJ/kg) and weighing 7.001 lbs/U.S. gal (838.9 gal/liter). Includes engine mounted fresh water and lube oil pumps. BSFC without pumps, 2% less

Additional ratings may be available for specific customer requirements. Consult your Cat representative for details.

Performance Data

Performance along a typical fixed pitch propeller curve with a 3.0 exponent.

Power rated in accordance with NMMA procedure as crankshaft power. For units equipped with Caterpillar supplied marine gears, reduce crankshaft power by 3% for propeller shaft power.

MARINE RATING DEFINITION: GENSETS & AUXILIARY ENGINES

Caterpillar has offered packaged power systems for over 70 years. We assure power and performance ratings, as advertised, through extensive factory testing.

Cat generator sets typically exceed NEMA and IEEE standards for load acceptance. All rotor designs have been type tested at 150% overspeed for two hours at 338° F (170° C) ambient temperature.

Rating Definition

All Cat marine auxiliary engines and generator sets are rated for prime power for continuous electric service according to ISO 8528-1.

Hours per Year Load Factor Overload Capacity

Unlimited < 70% + 10% maximum of 1 hour in 12 maximum of 25 hours per year

Rating Conditions

Ratings are based on SAE J3046 and J1349 standard conditions of 29.61 inHg (100 kPa) and 77° F (25° C). These ratings also apply at ISO8665, ISO3046-1:2002E, DIN6271-3, and BS5514 standard conditions of 29.61 in. Hg (100 kPa), 81° F (27° C), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [60° F (16° C)] gravity having an LHV of 18,390 Btu/lb (42 780 kJ/kg) when used at 85° F (29° C) and weighing 7.001 lbs/U.S. gal. (838.9 gal/L).

Marine auxiliary engines are mainly used as generator set engines; however, they can be used for electrically driven pumps, winches, conveyors, thrusters, when it is specified. Engines can be radiator cooled or heat exchanger/keel cooled.

GLOSSARY

| bhp | Brake Horsepower | MCS | Marine Control |
|--------|------------------------|-------|-----------------------|
| bkW | Brake Kilowatts | | System |
| CEM | Clean Emission | mhp | Metric Horsepower |
| | Module | MW | Megawatt |
| DEF | Diesel Exhaust Fluid | MWe | Megawatt Electric |
| DIN | German Standards | NA | Naturally Aspirated |
| | Organization | R | Radiator Cooled |
| DTO | Design to Order | SAE | Society of Automotive |
| ekW | Electrical Kilowatts | | Engineers |
| EPA | Environmental | SCAC | Separate Circuit |
| | Protection Agency | | Aftercooled |
| EU | European Union | SCR | Selective Catalytic |
| EUI | Electronic Unit | | Reduction |
| | Injection | Т | Turbocharged |
| g/bkWh | Grams per Brake | TA | Turbocharged, |
| | Kilowatt Hour | | Aftercooled |
| Н | Height of Engine | TSA | Turbocharged, |
| HE | Heat Exchanger | | Supercharged, |
| | Cooled | | Aftercooled |
| IM0 | International Maritime | TTA | Twin Turbo |
| | Organization | | Aftercooled |
| ISO | International | U.S. | |
| | Standards | gal/h | U.S. Gallons per Hour |
| | Organization | W | Overall Width |
| kVA | Kilovolt-Ampere | WE | Width of Engine |
| L | Overall Engine Length | | |
| LE | Length of Engine from | | |
| | Front of Engine to | | |
| | Rear Face of Flywheel | | |
| | Housing | | |
| LG | Length of Engine with | | |
| | Gear/Generator | | |

CATERPILLAR MARINE LOCATIONS

HEADQUARTERS

Caterpillar Marine

10203 Sam Houston Park Dr Houston, TX 77064/USA

AMERICAS NORTH

Caterpillar Marine

3450 Executive Way Miramar Park of Commerce Miramar, FL 33025/USA

Caterpillar Lafayette Large Engine Center

3701 South St Lafayette, IN 47905/USA

EUROPE, AFRICA, MIDDLE EAST

Caterpillar Marine A Division of Caterpillar Motoren GmbH & Co. KG Große Elbstraße 279 a

22767 Hamburg/Germany

Caterpillar Marine Power UK Ltd.

22 Cobham Road Wimborne Dorset BH21 7 PW United Kingdom

ASIA PACIFIC

Caterpillar Marine Asia Pacific Pte Ltd

No. 5 Tukang Innovation Grove Singapore 618304 Republic of Singapore

LAFAYETTE, INDIANA, USA

Since 1982, the facility has been a center for innovation, operational excellence and lean manufacturing of Cat[®] 3500, 3600 and C280 engines.

> Office: 3.5 acres Factory: 30+ acres Land: 250+ acres Employment: 2,026 Operations: 24/7/365

Notes

SCAN FOR MORE



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