

C32

MARINE GENERATOR SET

590 bkW (791 bhp) @ 1500 rpm / 874 bkW (1172 bhp) @ 1500 rpm



C32 Marine Generator Set
IMO II (Radiator Cooled)

ENGINE SPECIFICATIONS

Configuration

Vee 12, 4-stroke-cycle diesel

Emissions

IMO II
emissions certified

Rated Engine Speed

1500 rpm

Bore x Stroke

145 mm x 162 mm
5.71 in x 6.38 in

Displacement

32.1 Liter
1959 cu in

Aspiration

Turbocharged-aftercooled
aspiration

Governor

Electronic (A4 ECM)

Refill Capacity

Lube Oil System w/ oil filter change:
146 L (38.5 gal)

Oil Change Interval

750 hrs

Cooling

Heat exchanger, keel or
radiator cooled

Generator

SR5 - Form Wound

FEATURES AND BENEFITS

- Separate-circuit aftercooling – no sea water in aftercooler
- Reliable electronic controlled unit injector fuel system
- Enhanced control of fuel injection optimized through crank timing and A4 ECM technology
- Advanced combustion technology to optimize fuel consumption and meet emissions without aftertreatment
- Industry leading power reserve
- Wide range of available Marine Society certifications
- Industry-leading warranty coverage for factory packaged components
- Global dealer network for service in any location

STANDARD ENGINE EQUIPMENT

- Separate circuit aftercooled (SCAC)
- Heat exchanger, keel or radiator cooled
- Watercooled exhaust manifold and turbocharger
- Right or left hand service sides
- Oil fill, simplex filter and dipstick
- Duplex fuel filters with hybrid fuel lines
- Hard seawater lines – no flexible hoses
- Fuel transfer and priming pump
- Customer wiring and service tool connector
- Flanges for cooling connections, ANSI or DIN
- 24V control system
- IP23, air cooled, form wound SR5 generator offered in 440, 480 and 690V
- Helical spring/rubber isolated mounting for vibration and structure borne noise reduction

OPTIONAL ATTACHMENTS

- Starting motors – air, electric or dual
- Charging alternator
- Duplex oil filters
- EMCP 4.2 control panel
- MGCP II or MGCP IIIB control panel with Cat® Alarm and Protection System
- Closed crankcase fumes disposal
- Installed primary fuel filter with water separator and manual or electric priming pump
- SOLAS approved spray shielding
- Fuel cooler
- IP44 generator protection

RATING DEFINITION AND CONDITIONS - PRIME POWER

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.

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

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

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.

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TECHNICAL DATA

C32 Marine Generator Set

FUEL CONSUMPTION - 1500 RPM/50 Hz

% Power	Brake Specific Fuel Consumption				
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr
100	550	791	0.329	590	199.9
90	495	708	0.337	528	204.6
80	440	628	0.339	468	206.3
70	385	551	0.339	411	206.0
60	330	474	0.339	354	206.0
50	275	399	0.341	297	207.5
40	220	323	0.347	241	211.4
30	165	246	0.363	183	221.2

- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Genset power without fan

% Power	Brake Specific Fuel Consumption				
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr
100	830	1172	0.334	874	203.0
90	747	1056	0.341	788	207.5
80	664	941	0.347	702	210.8
70	581	826	0.346	616	210.3
60	498	710	0.342	530	208.1
50	415	595	0.341	443	207.7
40	332	480	0.346	358	210.3
30	249	365	0.356	272	216.0

- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Genset power without fan

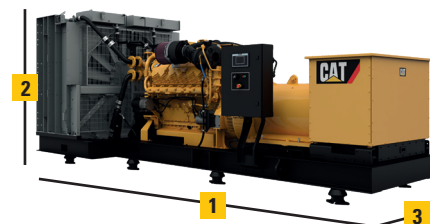
Note:

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Consult your local Cat dealer to create a customized engine TCO (Total Cost of Ownership) analysis specific to your vessel.

DIMENSIONS & WEIGHT

	Length (1)	Height (2)	Width (3)	Package Dry Weight
min.	167.2 in/4245 mm	70.4 in/1747 mm	59.9 in/1521 mm	15721 lb/7131 kg
max.	226.1 in/5742 mm	92.8 in/2356 mm	89.8 in/2280 mm	21998 lb/9978 kg

Note:
Do not use these dimensions for installation design. See general dimension drawings for detail.



C32

MARINE GENERATOR SET

781 bkW (1047 bhp) @ 1800 rpm / 994 bkW (1333 bhp) @ 1800 rpm



C32 Marine Generator Set
U.S. EPA Tier 3 / IMO II (Radiator Cooled)

ENGINE SPECIFICATIONS

Configuration

Vee 12, 4-stroke-cycle diesel

Emissions

U.S. EPA Tier 3 / IMO II emissions certified

Rated Engine Speed

1800 rpm

Bore x Stroke

145 mm x 162 mm
5.71 in x 6.38 in

Displacement

32.1 Liter
1959 cu in

Aspiration

Turbocharged-aftercooled aspiration

Governor

Electronic (A4 ECM)

Refill Capacity

Lube Oil System w/ oil filter change:
146 L (38.5 gal)

Oil Change Interval

750 hrs

Cooling

Heat exchanger, keel or radiator cooled

Generator

SR5 - Form Wound

FEATURES AND BENEFITS

- Separate-circuit aftercooling – no sea water in aftercooler
- Reliable electronic controlled unit injector fuel system
- Enhanced control of fuel injection optimized through crank timing and A4 ECM technology
- Advanced combustion technology to optimize fuel consumption and meet emissions without aftertreatment
- Industry leading power reserve
- Wide range of available Marine Society certifications
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STANDARD ENGINE EQUIPMENT

- Separate circuit aftercooled (SCAC)
- Heat exchanger, keel or radiator cooled
- Watercooled exhaust manifold and turbocharger
- Right or left hand service sides
- Oil fill, simplex filter and dipstick
- Duplex fuel filters with hybrid fuel lines
- Hard seawater lines – no flexible hoses
- Fuel transfer and priming pump
- Customer wiring and service tool connector
- Flanges for cooling connections, ANSI or DIN
- 24V control system
- IP23, air cooled, form wound SR5 generator offered in 440, 480 and 690V
- Helical spring/rubber isolated mounting for vibration and structure borne noise reduction

OPTIONAL ATTACHMENTS

- Starting motors – air, electric or dual
- Charging alternator
- Duplex oil filters
- EMCP 4.2 control panel
- MGCP II or MGCP IIIB control panel with Cat® Alarm and Protection System
- Closed crankcase fumes disposal
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TECHNICAL DATA

C32 Marine Generator Set

FUEL CONSUMPTION - 1800 RPM/60 Hz

% Power	Brake Specific Fuel Consumption				
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr
100	730	1047	0.356	781	216.5
90	657	938	0.357	699	217.6
80	584	833	0.362	621	220.2
70	511	730	0.369	544	224.5
60	438	629	0.383	469	233.2
50	365	529	0.396	395	240.8
40	292	429	0.405	320	246.6
30	219	327	0.422	244	256.7

- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Genset power without fan

% Power	Brake Specific Fuel Consumption				
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr
100	940	1333	0.350	994	212.9
90	846	1198	0.358	893	217.9
80	752	1065	0.366	794	222.3
70	658	934	0.366	696	223.0
60	564	803	0.373	599	226.8
50	470	673	0.381	502	231.3
40	376	544	0.385	406	233.9
30	282	414	0.395	308	240.2

- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Genset power without fan

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Refill Capacity

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Rated Engine Speed

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Oil Change Interval

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Bore x Stroke

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Displacement

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1959 cu in

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Turbocharged-aftercooled
aspiration

FEATURES AND BENEFITS

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STANDARD ENGINE EQUIPMENT

- Separate circuit aftercooled (SCAC)
- Heat exchanger, keel or radiator cooled
- Watercooled exhaust manifold and turbocharger
- Right or left hand service sides
- Oil fill, simplex filter and dipstick
- Duplex fuel filters with hybrid fuel lines
- Hard seawater lines – no flexible hoses
- Fuel transfer and priming pump
- Customer wiring and service tool connector
- Flanges for cooling connections, ANSI or DIN
- 24V control system
- IP23, air cooled, form wound SR5 generator offered in 440, 480 and 690V
- Helical spring/rubber isolated mounting for vibration and structure borne noise reduction

OPTIONAL ATTACHMENTS

- Starting motors – air, electric or dual
- Charging alternator
- Duplex oil filters
- EMCP 4.2 control panel
- MGCP II or MGCP IIIB control panel with Cat® Alarm and Protection System
- Closed crankcase fumes disposal
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TECHNICAL DATA

C32 Marine Generator Set

FUEL CONSUMPTION - 1800 RPM/60 Hz

% Power	Brake Specific Fuel Consumption				
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr
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90	657	938	0.351	699	213.7
80	584	833	0.358	621	217.6
70	511	730	0.358	544	217.8
60	438	629	0.354	469	215.1
50	365	529	0.352	395	214.0
40	292	429	0.357	320	217.6
30	219	327	0.372	244	226.3

- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Genset power without fan

% Power	Brake Specific Fuel Consumption				
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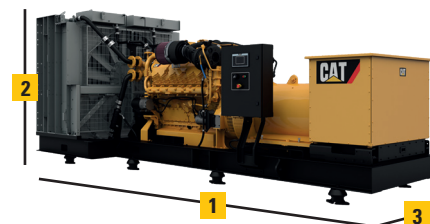
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MARINE GENERATOR SET

830 kW @ 1500 rpm, 50 Hz



Image shown is for illustration purposes only and may not reflect actual product.

ENGINE SPECIFICATIONS

Configurations

Vee 12, 4-stroke-cycle diesel

Emissions

IMO III emissions certified (SCR required)

Rated Engine Speed

1500 rpm

Bore x Stroke

145 mm x 162 mm / 5.71 in x 6.38 in

Displacement

32.1 Liter / 1959 cu in

Aspiration

Turbocharged-aftercooled aspiration

Governor

Electronic (A5 ECM)

Refill Capacity

Lube Oil System w/ oil filter change: 146 L (38.5 gal)

Oil Change Interval

750 hrs

Cooling

Heat exchanger, keel or radiator cooled

Generator

SR5 - Form Wound

FEATURES AND BENEFITS

- Utilizes SCR Technology to enable IMO III emission regulations compliance while lowering operational costs
- Utilizes closed loop air assisted DEF dosing control strategy that delivers:
 - Highest efficiency mixing and control to lower operational costs
 - Extends emissions useful life
 - Ensures compliance
 - Flexible to urea quality
- Enhanced control of fuel injection optimized through crank timing and the A5 ECM technology
- Industry leading power reserve
- Wide range of available Marine Society certifications
- Industry-leading warranty coverage for factory packaged components
- Global dealer network for service in any location

STANDARD ENGINE EQUIPMENT

- Separate circuit aftercooled (SCAC)
- Heat exchanger or Keel Cooling
- Watercooled exhaust manifold and turbocharger
- Right or left hand service sides
- Oil fill, simplex filter and dipstick
- Duplex fuel filters with hybrid fuel lines
- Primary fuel filter with water separator installed on base frame
- Air Cleaner
- Hard seawater lines – no flexible hoses
- Customer wiring and service tool connector
- Flanges for cooling connections, ANSI or DIN
- 24V control system
- IP23, air cooled, form wound SR5 generator offered in 380, 400, 415 and 690 V
- Helical spring/rubber Isolated mounting for vibration and structure borne noise reduction

OPTIONAL ATTACHMENTS

- Closed crankcase fumes disposal
- Starting motors – air, electric or redundant
- Charging alternator
- Duplex oil filters
- MGCP III B control panel with Cat® Alarm and Protection System
- Manual or electric fuel priming pump
- Water-in-fuel and exhaust temperature sensors
- Fuel cooler
- SOLAS approved spray shielding
- IP44 generator protection

RATING DEFINITION AND CONDITIONS - PRIME POWER

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.

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

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TECHNICAL DATA

C32 Marine Generator Set

CONSTANT SPEED FUEL & DEF CONSUMPTION - 1500 RPM, 50 HZ

% Power	Brake Specific Fuel Consumption					DEF Consumption 32.5 % Concentration		DEF Consumption 40 % Concentration	
	eKW	bhp	lb/bhp-hr	bkW	g/bkW-hr	Gal/hr	Liters/hr	Gal/hr	Liters/hr
100	830	1178	0.326	878	198.3	3.8	14.3	2.8	10.8
90	747	1060	0.327	790	199.3	3.2	12.4	2.5	9.3
80	664	942	0.332	703	202.0	2.6	9.8	2.0	7.4
70	581	825	0.331	615	201.5	2.4	8.8	1.8	6.7
60	498	710	0.335	529	203.9	1.9	7.0	1.4	5.2
50	415	595	0.342	443	207.9	1.4	5.1	1.0	3.8
40	332	480	0.349	358	212.4	1.1	4.0	0.8	3.0
30	249	365	0.358	272	217.8	0.8	2.9	0.6	2.3

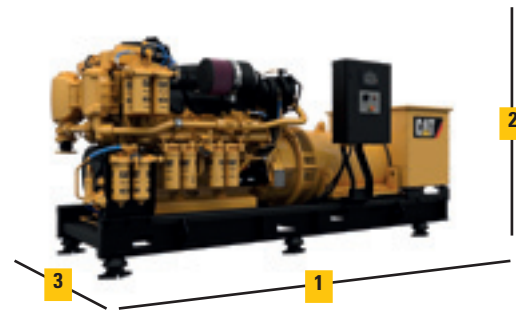
- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Reference 32.5% DEF density of 1.0895 kg/L
- Reference 40% DEF density of 1.1120 kg/L

- Consult your local Cat® dealer to create a customized engine TCO (Total Cost of Ownership) analysis specific to your vessel.
- For Cat® dealers: Please reference TMI Web for most current information.

DIMENSIONS & WEIGHT

	Length (1)	Height (2)	Width (3)	Engine dry weight
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CLEAN EMISSIONS MODULE (CEM)

Dimensions & Weight				
Model	Length (1)	Height (2)	Width (3)	Weight ¹
6 Brick Z-Flow	147.7 in/3751 mm	23.5 in/597 mm	43.5 in/1106 mm	1246 lb/565 kg
6 Brick U-Flow	85.0 in/2159 mm	23.5 in/597 mm	56.9 in/1445 mm	1235 lb/560 kg
Dosing Cabinet	37.4 in/949 mm	22.8 in/579 mm	18.8 in/477 mm	209 lb/95 kg

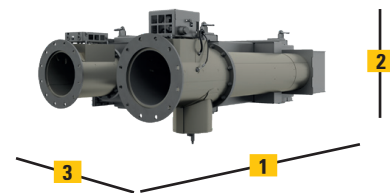
¹ Weight with catalysts installed

The C32 engine requires Selective Catalyst Reduction (SCR) technology. The easy-to-install Cat® SCR System is an exhaust gas aftertreatment solution compliant with IMO III emission standards.

- Proven technology to meet IMO III emission standards
- Maintains engine efficiency, durability and reliability
- Easy to install with minimum impact to vessel design
- Compact package from one single source
- Available for new builds and retrofits
- For detailed dimensions and installation requirements, please refer to latest revision of A&I guide LEBM0023.

Clean Emissions Module (CEM)

Available in U-flow configurations (shown) and Z-flow configurations.



Dosing Cabinet



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LEHM0300-00

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MARINE GENERATOR SET

940 kW @ 1800 rpm, 60 Hz



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Vee 12, 4-stroke-cycle diesel

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 - Ensures compliance
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CONSTANT SPEED FUEL & DEF CONSUMPTION - 1800 RPM, 60 HZ

% Power	Brake Specific Fuel Consumption					DEF Consumption 32.5 % Concentration		DEF Consumption 40 % Concentration	
	eKW	bhp	lb/bhp-hr	bkW	g/bkW-hr	Gal/hr	Liters/hr	Gal/hr	Liters/hr
100	940	1327	0.327	989	198.9	4.6	17.4	3.4	13.1
90	846	1193	0.327	890	199.0	4.0	15.2	3.0	11.5
80	752	1061	0.329	791	200.3	3.2	12.4	2.5	9.3
70	658	930	0.333	693	202.7	2.5	9.4	1.9	7.2
60	564	799	0.336	596	204.4	2.2	8.1	1.7	6.2
50	470	670	0.341	499	207.8	1.7	6.4	1.3	4.8
40	376	541	0.348	403	211.8	1.4	5.0	1.0	3.8
30	282	411	0.366	306	222.7	1.0	3.6	0.7	2.7

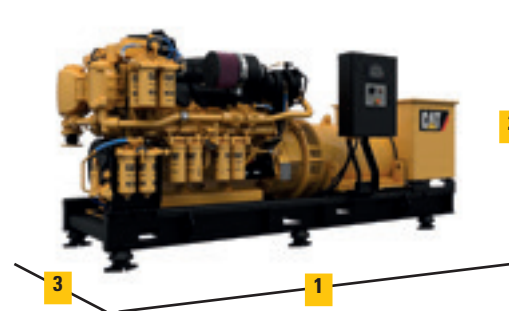
- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Reference 32.5% DEF density of 1.0895 kg/L
- Reference 40% DEF density of 1.1120 kg/L

- Consult your local Cat® dealer to create a customized engine TCO (Total Cost of Ownership) analysis specific to your vessel.
- For Cat® dealers: Please reference TMI Web for most current information.

DIMENSIONS & WEIGHT

	Length (1)	Height (2)	Width (3)	Engine dry weight
min.	167.2 in/4245 mm	70.4 in/1747 mm	59.9 in/1521 mm	15721 lb/7131 kg
max.	226.1 in/5742 mm	92.8 in/2356 mm	89.8 in/2280 mm	21998 lb/9978 kg

Note: Do not use these dimensions for installation design. See general dimension drawings for detail.



CLEAN EMISSIONS MODULE (CEM)

Dimensions & Weight				
Model	Length (1)	Height (2)	Width (3)	Weight ¹
6 Brick Z-Flow	147.7 in/3751 mm	23.5 in/597 mm	43.5 in/1106 mm	1246 lb/565 kg
6 Brick U-Flow	85.0 in/2159 mm	23.5 in/597 mm	56.9 in/1445 mm	1235 lb/560 kg
Dosing Cabinet	37.4 in/949 mm	22.8 in/579 mm	18.8 in/477 mm	209 lb/95 kg

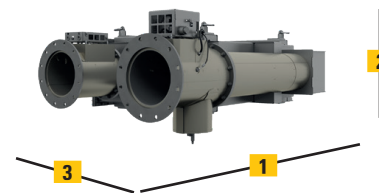
¹ Weight with catalysts installed

The C32 engine requires Selective Catalyst Reduction (SCR) technology. The easy-to-install Cat® SCR System is an exhaust gas aftertreatment solution compliant with U.S. EPA Tier 4 Final / IMO III emission standards.

- Proven technology to meet U.S. EPA Tier 4 Final / IMO III emission standards
- Maintains engine efficiency, durability and reliability
- Easy to install with minimum impact to vessel design
- Compact package from one single source
- Available for new builds and retrofits
- For detailed dimensions and installation requirements, please refer to latest revision of A&I guide LEBM0023.

Clean Emissions Module (CEM)

Available in U-flow configurations (shown) and Z-flow configurations.



Dosing Cabinet



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To find your nearest dealer, please visit: www.cat.com/marine

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