Oil & Gas Ratings Guide

April 2015

CAT®

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Caterpillar: Making Sustainable Progress Possible

A sustainable product life cycle includes efficient and safe equipment operation for our customers – and technology for improved sustainability performance.

Improvement through fuel diversity

Delivering customer value with greater operational flexibility and lower fuel costs is at the heart of our natural gas strategy. Dynamic Gas Blending™ (DGB) technology, for example, has led to the first-ever dual-fuel engine – using both diesel and natural gas – for select Cat 3500 Series engines. In production since April 2013 on land drilling, production and well-service applications, the DGB system allows an engine to run on diesel and natural gas simultaneously, with gas substitution rates of up to 70 percent. In North America the DGB dual-fuel technology is available as a retrofit kit. Exported engines are available with DGB dual-fuel capability from the factory, along with retrofit kit offerings. The customer benefits are clear: DGB can lower fuel costs by 50 percent compared to traditional diesel operation, while providing equivalent performance, as well as the flexibility to run on a wide variety of fuels – from associated gas to liquefied natural gas (LNG).

EPA Nonroad Emissions Limits and Timing

NOx, HC / CO, PM g/kW-hr **OR** NOx+HC / CO, PM g/kW-hr

kW	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<8					10.5 8.0, 1.0					7.5 8.0, 0.80			7.5 8.0, 0.40[1]		7.5 8.0, 0.60[1]	Tier 4i					
≥8 <19					9.5 6.6, 0.80					7.5 6.6, 0.80			7.5 6.6, 0.40								
≥19 <37				9.5 5.5, 0.80					7.5 5.5, 0.60				7.5 5.5, 0.30					4.7 5.5, 0.03			
≥37 <56			9.2, ---- ----, ----	Tier 1					7.5 5.0, 0.40	Tier 2			Option #1 4.7 5.0, 0.30 Option #2 4.7 5.0, 0.40				Option #2 4.7 5.0, 0.03	Option #1 4.7 5.0, 0.03		Tier 4f	
≥56 <75													4.7 5.0, 0.40				3.4[1], 0.19 5.0, 0.02			0.40, 0.19 5.0, 0.02	
≥75 <130		9.2, ---- ----, ----						6.6 5.0, 0.30				4.0 5.0, 0.30									
≥130 <225	9.2, 1.3 11.4, 0.54							6.6 3.5, 0.20			4.0 3.5, 0.20			Tier 3							
≥225 <450	9.2, 1.3 11.4, 0.54					6.4 3.5, 0.20				4.0 3.5, 0.20						2.0[1], 0.19 3.5, 0.02			0.40, 0.19 3.5, 0.02		
≥450 ≤560	9.2, 1.3 11.4, 0.54						6.4 3.5, 0.20			≥300 hp <750 hp per CD											
>560 Non Genset																3.5, 0.40 3.5, 0.10	Tier 4i			3.5, 0.19 3.5, 0.04	
>560 ≤900 Genset					9.2, 1.3 11.4, 0.54			Tier 1			6.4 3.5, 0.20		Tier 2							0.67, 0.19 3.5, 0.03	
>900 Genset																0.67, 0.40 3.5, 0.10					
Fuel Sulfur	5000 ppm												500 ppm			15 ppm					

The dashed lines separating the years show when the Tier 1-2 or 2-3 equipment flexibility program ends.
White lines - after these dates, owners and operators may not install non-emergency stationary CI ICE that do not meet MY2007 standards (1st white line) or Tier 4 PM standards (subsequent lines).

Equipment manufacturers may select Option #1, Option #2, or some of each. Percent of Option #2 engines in 2012 approx. equal to percent of Option #1 engines in 2008-2010
Engine manufacturers must select Option #1 or Option #2 exclusively

1. Multiple compliance options for 56-130 kW and 130-560 kW power categories. Only the alternate NOx standard shown (harmonized with EU).
2. < 8 kW; Air-cooled DI, hand start applications are exempt from these standards.
3. < 8 kW; Applies to only air-cooled hand start applications. Credit generation is prohibited.

Tier 1	Tier 2	Tier 3	Tier 4i	Tier 4f
Phase-Out Standards			Interim Standards	Phase-in Standards

EU Nonroad Emissions Limits and Timing

NOx, HC / CO, PM g/kW-hr *OR* NOx+HC / CO, PM g/kW-hr

Variable Speed

kW	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
≥19 <37	Unregulated		8.0, 1.5 5.5, 0.80						7.5 5.5, 0.60								
≥37 <56	9.2, 1.3 6.5, 0.85					7.0, 1.3 5.0, 0.40				4.7 5.0, 0.40		Stage IIIA			4.7 5.0, 0.025		
≥56 <75	9.2, 1.3 6.5, 0.85		Stage 1			7.0, 1.3 5.0, 0.40		Stage 2		4.7 5.0, 0.40				3.3, 0.19 5.0, 0.025	Stage IIIB		0.40, 0.19 5.0, 0.025
≥75 ≤130	9.2, 1.3 5.0, 0.70				6.0, 1.0 5.0, 0.30				4.0 5.0, 0.30					3.3, 0.19 5.0, 0.025			0.40, 0.19 5.0, 0.025
≥130 ≤560	9.2, 1.3 5.0, 0.54			6.0, 1.0 3.5, 0.20				4.0 3.5, 0.20					2.0, 0.19 3.5, 0.025			0.40, 0.19 3.5, 0.025	Stage IV

Constant Speed

≥19 <37									8.0, 1.5 5.5, 0.80				7.5 5.5, 0.60				
≥37 <56									7.0, 1.3 5.0, 0.40					4.7 5.0, 0.40			
≥56 <75				Unregulated					7.0, 1.3 5.0, 0.40		Stage 2			4.7 5.0, 0.40		Stage IIIA	
≥75 ≤130									6.0, 1.0 5.0, 0.30				4.0 5.0, 0.30				
≥130 ≤560									6.0, 1.0 3.5, 0.20				4.0 3.5, 0.20				
Fuel Sulfur	2000 ppm max									1000 ppm max			10 ppm max				

Unregulated	Stage I	Stage II	Stage IIIA	Stage IIIB	Stage IV

China Nonroad Emission Regulation Status

IMO/EU Certification

		NOx Limit (g/kWh)		
Tier	**Date**	**n < 130**	**130 ≤ n < 2000**	**n ≥ 2000**
Tier I	2000	17.0	$45 \bullet n^{-0.2}$	9.8
Tier II	2011	14.4	$44 \bullet n^{-0.23}$	7.7
Tier III	2016*	3.4	$9 \bullet n^{-0.2}$	2.0

*In NOx Emission Control Areas (Tier II standards apply outside ECAs).

IMO Certification

IMOI – Meet IMO emissions standards for the year 2000 as defined by Regulation 13 of Annex VI to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the protocol of 1997. Applies to specific engines in vessels with a keel lay date from Jan. 1, 2000 until Dec. 31, 2010; other rules may apply.

IMOII – Emissions data measurement is consistent with the procedures described in the NOx Technical Code 2008. The engine exhaust emissions meet the International Maritime Organization's Regulation 13 of Revised Annex VI to the MARPOL Convention. Applies to specific engines in vessels with a keel lay date from Jan. 1, 2001 until Dec. 31, 2015. Other rules may apply.

IMOIII – Emissions data measurement is consistent with the procedures described in the NOx Technical Code 2008. The engine exhaust emissions meet the International Maritime Organization's Regulation 13 of Revised Annex VI to the MARPOL Convention. IMOIII applies to Emission Control Area (ECA) defined areas. Other rules may apply

EPA Stationary Gas Engine Emissions Regulations

New Source Performance Standards (NSPS), 40 CFR part 60 subpart JJJJ[1].

Applicability: The SI gas engines within this manual, intended for operation in the USA, meets the following emission limits when configured as noted.[2]

Emissions Limits[3]:

Engine Power	g/kW-hr (g/hp-hr)			ppmvd @ 15% O2		
	NOx	CO	VOC	NOx	CO	VOC
HP>100	1.3 (1.0)	2.6 (2.0)	0.92 (0.7)	82	270	60

[1]Alternate limits for emergency, landfill/digester

Additional Requirements: Management Practices and Performance Test Requirements for Non-certified Engines:

- Keep maintenance plan and maintenance records.
- Operate consistent with good air pollution control practices.
- 100 ≤ HP ≤ 500 – Conduct initial performance test.[4]
- HP > 500 – Conduct initial performance test and subsequent test every 8,760 hours or 3 years, whichever is first.[4]

[1]Not all inclusive. For more information go to www.epa.com or http://www.combustionportal.org/rice.cfm#s1

[2]With Caterpillar or Customer-supplied AFRC and aftertreatment.

[3]Confirm State requirements on a case-by-case basis as States generally require air permitting for stationary applications. States may apply operational limitations and/or additional requirements including lower emissions limits than Federal. For example, within NAAQS non-attainment areas.

[4]See 40CFR part 60 subpart JJJJ for performance test requirements.

Disclaimer: The emission regulation material contained herein represents an overview of regulatory requirements related to engine emissions. The material is intended for general informational purposes only. Regulations change, and these materials may not be updated to reflect the latest regulatory revisions. End users use this material do so at their own risk and assume all liability for so doing. The information contained herein is not intended to be and should not be construed as legal advice or as a substitute for competent legal advice.

Abbreviations and Definitions

Duty Types

Drill-El . . . . . Land electric drilling rating; output available with varying load for an unlimited time. Prime rating in accordance with ISO 8525. Typical load factor 60 - 70%

Drill-M. . . . . Land mechanical drilling rating; 100% of advertised engine rating used occasionally, but not over one hour followed by one hour period below 90% load per day for mechanical pumping and mechanical drilling applications. Typical load factor 60%

Cont . . . . . Continuous rating; 100% of engine operating hours at 100% of rated power

Prime . . . . . Prime rating for power generation in oil and gas applications; output available with varying load for an unlimited time; output in accordance with ISO 8525.

OS-Prime . . . . . Offshore prime rating with 10% overload capability for MCS certification; output available with varying load for an unlimited time; output in accordance with ISO 8525.

MCR. . . . . Maximum Continuous Rating (MCR) following reference conditions according to the International Association of Classification Societies (ACS) for main and auxiliary engines. An overload of 10% is permitted for one hour within 12 hours of operation

A. . . . . Variable speed. Continuous heavy-duty service where the engine is operated at maximum power and speed up to 100% of the time without interruption or load cycling. Typical service examples are: pumping, ventilation, well service mixing units and customer specs. Typical load factor 100%.

B. . . . . For service where power and/or speed are cyclic. Typical service examples are: irrigation — where normal pump demand is 85% of engine power, oil field mechanical pumping/drilling, independent rotary drive, well service blenders, cementers, and stationary plant air compressors. Typical load factor <85%.

C. . . . . Intermittent service where maximum power and/or speed are cyclic. Typical service examples are: off-highway trucks, fire pump application power, oil field hoisting, nitrogen pumping, well service kill pumps, cementers, and electric drill rig power (also called Prime power). Typical load factor <70%.

D. . . . . For service where maximum power is required for periodic overloads. Typical service examples are: offshore cranes, water well drills, portable air compressors, and fire pump certification power. Typical load factor <50%.

Duty Types (continued)

E . . . . . For service where maximum power is required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable. Typical service examples are: oil field well service acid pumping. Typical load factor <35%.

WS . . . . . Well stimulation rating; continuous operation at varying load and speed with duration of idle between applied loads. Typical load factor 40-50%

Fire Pump . . . . . Standby fire pump ratings represent the output which may be used to drive stationary fire pumps where the pumping equipment has been sized according to NFPA 20 standards.

Emissions

China II NR . . . . China Stage II Nonroad

China III NR . . . China Stage III Nonroad

EPA ESE . . . . . EPA Certified for Stationary Emergency Application

EPA T2 M . . . . . U.S. EPA Marine Tier 2 Commercial

EPA T2 NR . . . . U.S. EPA Tier 2 Nonroad Equivalent (Not Currently EPA Certified)

EPA T2 NR^{-1} . . . EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA Tier 2 Nonroad Standards)

EPA T3 M . . . . . U.S. EPA Marine Tier 3 Commercial

EPA T3 NR . . . . U.S. EPA T3 NR Nonroad Equivalent (Not Currently EPA Certified)

EPA T3 NR^{-1} . . . EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA T3 NR Nonroad Standards)

EPA T4f NRG . . U.S. EPA Tier 4 Final Nonroad Genset Equivalent (Certified to U.S. EPA & California ARB Tier 4 Interim Nonroad Genset Standards)

EPA T4f NRNG . U.S. EPA Tier 4 Final Nonroad Non-Genset Equivalent (Certified to U.S. EPA & California ARB Tier 4 Interim Nonroad Non-Genset Standards)

EPA T4i NRG . . U.S. EPA Tier 4 Interim Nonroad Genset Standards

EPA T4i NRNG . U.S. EPA Tier 4 Interim Nonroad Non-Genset Standard

EU II NR . . . . . EU Stage II Nonroad Equivalent (Non-Current for EU)

EU IIIA NR . . . . EU Stage IIIA Nonroad Equivalent (Non-Current for EU)

EU IIIB NR . . . . EU Stage IIIB Nonroad Standards (Non-Current for EU)

EU IV NR . . . . . EU Stage IV Nonroad Standards

IMO I . . . . . International Maritime Organization (IMO) Tier I

IMO II . . . . . International Maritime Organization (IMO) Tier II

NC . . . . . Non-certified

Engine Configuration

ATAAC. . . . . Air-to-air Aftercooled
FMT . . . . . Front-mounted Turbochargers
Haz Loc . . . . . Hazardous Location Certified
HD . . . . . High Displacement
JWAC . . . . . Jacket-water Aftercooler
REMAC . . . . . Remote-mounted Aftercooler
RMT. . . . . Rear-mounted Turbochargers
SCAC. . . . . Separate-circuit Aftercooler

Fuels

CNG . . . . . Compressed Natural Gas
FG. . . . . Field Gas
HFO . . . . . Heavy Fuel Oil
LFO. . . . . Light Fuel Oil
LNG . . . . . Liquefied Natural Gas
MDO . . . . . Marine Diesel Oil
NG . . . . . Natural Gas

Performance

bhp. . . . . Brake engine power (horsepower)
bkW. . . . . Brake engine power (Kilowatt)
BSFC . . . . . Brake Specific Fuel Consumption
ekW. . . . . Generator set electrical output (kilowatt)l
kVA . . . . . Generator set electrical output (kilo Volt-Amp)
LE. . . . . Low Emissions
NA . . . . . Naturally Aspirated
TA. . . . . Turbocharged-aftercooled

Rating Conditions

Diesel Engines – up to 6.6 liter . . . . . All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (.295 in Hg), and 25°C (77°F). Performance measured using fuel to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L @ 15°C (59°F) and fuel inlet temperature 40°C (104°F).

Diesel Engines – 7 liter and higher . . All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.

Gas Engines . . . . . Ratings are based on SAE J1349 standard conditions of 100 kPa (29.61 in Hg) and 25°C (77°F). These ratings also apply at ISO3046, DIN6271, and BS5514 standard conditions of 100 kPa (29.61 in Hg) and 27°C (81°F); and API 7B-11C standard conditions of 99 kPa (29.28 in Hg) and 29°C (85°F) also apply.

Ratings are based on dry natural gas having an LHV of 35.54 MJ/Nm^3 (905 btu/ft^3). Variations in altitude, temperature, and gas composition from standard conditions may require a reduction in engine horsepower.

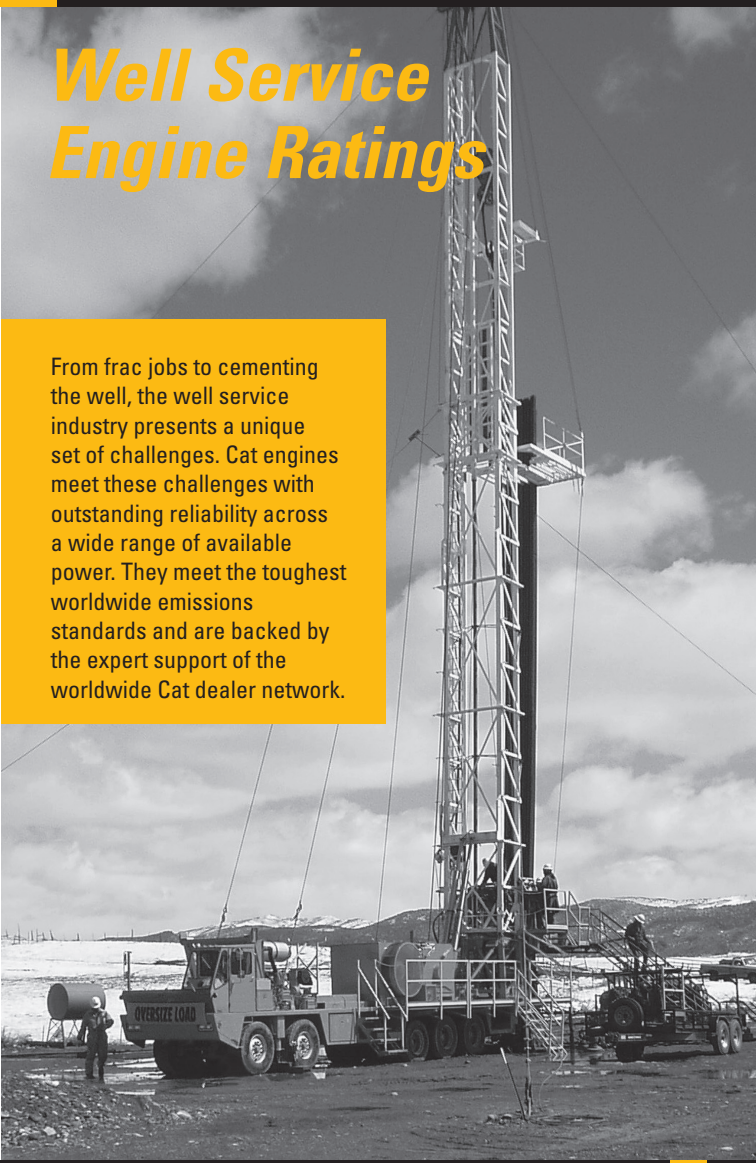
Turbocharged-aftercooled ratings apply to 1525 m (5000 ft) and 25°C (77°F)

ISO 9001:2000 Certification . . . . . Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

To find spec sheets referenced in this guide go to:
www.catoilandgas.cat.com/products/engines

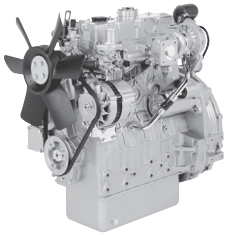
Well Service Engine Ratings

From frac jobs to cementing the well, the well service industry presents a unique set of challenges. Cat engines meet these challenges with outstanding reliability across a wide range of available power. They meet the toughest worldwide emissions standards and are backed by the expert support of the worldwide Cat dealer network.



Well Service Engine Ratings

bhp Range	Engine	Page Number
41.6-66	C2.2	15
72-142	C4.4 • C4.4 ACERT	16
128-275	C6.6 ACERT	17
188-300	C7 ACERT • C7.1 ACERT	18
300-389	C9 ACERT • C9.3 ACERT	19
325-450	C11 ACERT	20
385-520	C13 ACERT	21
440-595	C15 ACERT	22
575-800	C18 ACERT	23
800-1050	C27 ACERT	24
800-1500	C32 ACERT	25
2000-2250	3512B	26
2150-2500	3512C HD	27
2250-2500	3512E	28
3000-3300	3516C HD	29
205-1110	Hazardous Location	30
205-1225	Watercooled Manifold	31
680-1800	Watercooled Manifold	32
27-803	HazPak	33



Well Service Ratings

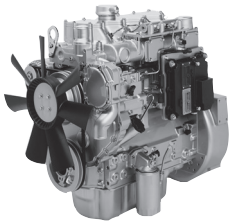
Rating Tier	bkW	bhp	rpm	Emissions	Notes
C	31	41.6	2200	EPA T3 NR, EU IIIA NR	Naturally Aspirated
C	34.1	45.7	2400	EPA T3 NR, EU IIIA NR	Naturally Aspirated
C	35.7	47.9	2600	EPA T3 NR, EU IIIA NR	Naturally Aspirated, Derate to 31.4 bhp/42.1 bkW
C	37.3	50	2800	EPA T3 NR, EU IIIA NR	Naturally Aspirated Derate to 32.8 bhp/43.9 bkW
C	38	51	3000	EPA T3 NR, EU IIIA NR	Naturally Aspirated Derate to 34 bhp/45.6 bkW
C	40	53.3	2600	EPA T3 NR, EU IIIA NR	Turbocharged
C	43	57.7	2600	EPA T3 NR, EU IIIA NR	Turbocharged
C	44.7	60	2800	EPA T3 NR, EU IIIA NR	Turbocharged
C	45.5	61	3000	EPA T3 NR, EU IIIA NR	Turbocharged
C	49.2	66	2800	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
NA	661.5 (26)	439 (17.3)	676 (26.6)	184 (406)	2.2 (135)
T, TA	662 (26.1)	489 (19.3)	698 (27.5)	194 (427.7)	2.2 (135)

Bore x Stroke – mm (in) 84 x 100 (3.3 x 3.9)

For diesel engine rating definitions please see page 14.



Well Service Ratings

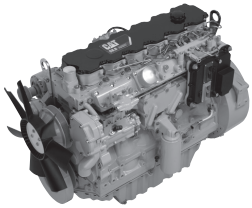
Rating Tier	bkW	bhp	rpm	Emissions	Notes
C4.4					
C	54	72	2200	EPA T3 NR, EU IIIA NR	Naturally Aspirated
C	56	75	2200	EPA T3 NR, EU IIIA NR	Naturally Aspirated
C	56-75	75-100	2200-2400	EPA T3 NR, EU IIIA NR	Turbocharged
C4.4 ACERT					
C	62-75	83-99	2200	EPA T3 NR, EU IIIA NR	Turbocharged
C	68-83	91-111	2200-2400	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	75-106	100-142	2200	EPA T3 NR, EU IIIA NR, EPA T4f NRNG	Turbocharged-Aftercooled

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C4.4	663 (26.1)	597 (23.5)	810 (32)	306 (675)	4.4 (269)
C4.4 ACERT	631 (24.8)	626 (24.7)	824 (32)	360 (794)	4.4 (269)

Bore x Stroke – mm (in) 105 x 127 (4.1 x 5)

For diesel engine rating definitions please see page 14.



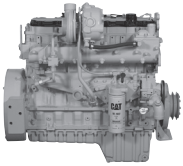
Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
C	95	128	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	116	156	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	129	173	2000-2500	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	130	174	1800-2500	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	136	182	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	140	188	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	144	193	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	146	196	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	151	203	1800-2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	159	213	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	168	225	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	176	236	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	186	250	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled
C	205	275	2200	EPA T3 NR, EU IIIA NR	Turbocharged-Aftercooled

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C6.6 ACERT	929 (34)	668 (26.3)	797 (31.4)	506 (1116)	6.6 (403)
Bore x Stroke – mm (in)	105 x 127 (4.1 x 5)				

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
C7 ACERT					
D	205	275	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Watercooled, SCAC, REMAC avail
B	153	205	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only
C	172	230	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only
B	168	225	2200	IMO II, EPA T3 NR, EU IIIA NR China II NR	Dry Manifold, ATAAC
C	186	250	2200	IMO II, EPA T3 NR, EU IIIA NR China II NR, China On-hwy III	Dry Manifold, ATAAC
D	224	300	2200	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold, ATAAC
C7.1 ACERT					
B	141	188	1800-2200	EPA T4i NRG, EU IIIB NR	Dry Manifold
B	168	225	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold
C	168	250	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold
C	205	275	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C7 ACERT	1053 (41.5)	758 (29.8)	1032 (40.6)	629 (1386)	7.2 (439)
C7.1 ACERT	1065 (41.9)	820 (32.3)	907 (35.7)	715 (1576)	7.01 (427.7)

Bore x Stroke – mm (in)

C7 ACERT 110 x 127 (4.3 x 5)

C7.1 ACERT 105 x 135 (4.1 x 5.3)

Please see spec sheet for more information:

C7 ACERT LEHW0043, LEHW0044, LEHW0045

For diesel engine rating definitions please see page 14.

Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
C9 ACERT					
C	242	325	2200	IMO II, EPA T3 NR, EU IIIA NR	Watercooled, SCAC, REMAC avail
D	254	340	2200	IMO II, EPA T3 NR, EU IIIA NR	Watercooled, SCAC, REMAC avail
D	254	340	2200	IMO II, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC & REMAC avail, Derate option
A	205	275	2200	IMO II, EPA T3 NR, EU IIIA NR	Dry Manifold China II Nonroad
B	224	300	2200	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
C	242	325	2200	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Dry Manifold
C	261	350	2200	IMO II, EPA T3 NR, EU IIIA NR, China On-hwy III	Dry Manifold
D	280	375	2200	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold China II Nonroad
C9.3 ACERT					
A	223	300	1800-2200	EPA T4i NRG, EU IIIB NR	Dry Manifold
B	242	325	1800-2200	EPA T4i NRG, EU IIIB NR	Dry Manifold
C	261	350	1800-2200	EPA T4i NRG, EU IIIB NR	Dry Manifold
A	224	300	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold
B	242	325	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold
C	261	350	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold
D	298	400	1800-2200	EPA T4f NRNG, EU IV NR	Dry Manifold

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C9 ACERT	1092 (43)	828 (32.6)	1024 (40.3)	716 (1578)	8.8 (537)
C9.3 ACERT	1150 (45.3)	828 (32.6)	1123 (44.21)	885 (1950)	9.3 (567.5)

Bore x Stroke – mm (in)

C9 ACERT 112 x 149 (4.4 x 5.8)

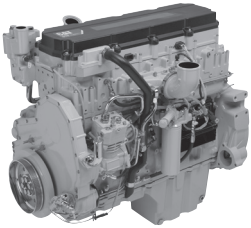
C9.3 ACERT 115 x 149 (4.5 x 5.9)

Please see spec sheet for more information:

C9 ACERT LEHW0014, LEHW0046, LEHW0047

C9.3 ACERT LEHW0099

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	242	325	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
B	261	350	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
C	287	385	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Dry Manifold
D	313	420	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
E	336	450	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold

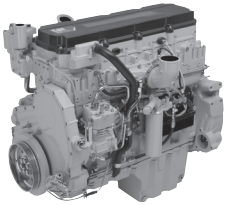
Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C11 ACERT	1201 (47.3)	1057 (41.6)	1176 (46.3)	892 (1967)	11.15 (681)
Bore x Stroke – mm (in)	130 x 140 (5.12 x 5.5)				

Please see spec sheet for more information:

C11 ACERT LEHW0063

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating	Tier	bkW	bhp	rpm	Emissions	Notes
A		287	385	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Avail with Cat Compression Brake, Dry Manifold
B		309	415	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Avail with Cat Compression Brake, Dry Manifold
C		328	440	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Avail with Cat Compression Brake, Dry Manifold
D		354	475	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
E		388	520	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
A		287	385	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
B		309	415	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
C		328	440	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
D		354	475	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
E		388	520	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
A		287	385	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold
B		309	415	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold
C		328	440	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold
D		354	475	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold
E		388	520	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold

Specifications

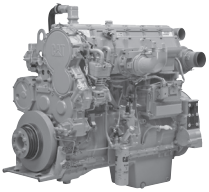
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C13 ACERT	1201 (47.3)	1013 (39.9)	1186 (46.7)	896 (1976)	12.5 (763)
C13 ACERT T4	1203 (47.4)	933.14 (36.74)	1186 (46.7)	1350 (2976)	12.5 (763)

Bore x Stroke – mm (in) 130 x 157 (5.1 x 6.2)

Please see spec sheet for more information:

C13 ACERT LEHW0062, LEHW0096

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	328	440	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Avail with Cat Compression Brake, Dry Manifold
B	354	475	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Avail with Cat Compression Brake, Dry Manifold
C	403	540	1800-2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Avail with Cat Compression Brake, Dry Manifold
D	433	580	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
E	444	595	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Dry Manifold
D	400	536	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC, Watercooled
D	403	540	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC & REMAC, Watercooled
A/B	354	475	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
C	403	540	1800-2100	EPA T4i NRG, EU IIIB NR, China Phase IV	Dry Manifold
D	433	580	1800-2100	EPA T4i NRG, EU IIIB NR	Dry Manifold
A/B	354	475	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold
C	403	540	1800-2100	EPA T4f NRNG, EU IV NR, China Phase IV	Dry Manifold
D	433	580	1800-2100	EPA T4f NRNG, EU IV NR	Dry Manifold

Specifications

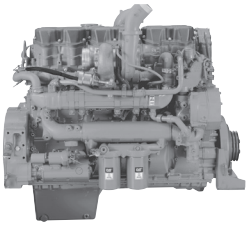
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C15 ACERT	1377 (54)	927 (37)	1227 (48)	1245 (2743)	15.2 (927.6)
C15 ACERT T4	1530 (60.2)	961 (37.8)	1282 (51)	1666 (3673)	15.2 (927.6)

Bore x Stroke – mm (in) 137.2 x 171.5 (5.4 x 6.75)

Please see spec sheet for more information:

C15 ACERT LEHW0097, LEHW0061

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	429	575	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Avail with Cat Compression Brake, Dry Manifold
B	447	600	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR	Avail with Cat Compression Brake, Dry Manifold
C	470	630	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Avail with Cat Compression Brake, Dry Manifold
C	522	700	2100	IMO II, EPA T3 NR, EU IIIA NR, China II NR, China On-hwy III	Dry Manifold
D	570	765	2100	IMO II, EPA T2 NR	Dry Manifold
E	597	800	2100	IMO II, EPA T2 NR	Dry Manifold
A/B	447	600	1800-1900	EPA T4i NRG, EU IIIB NR	Dry Manifold
C	470	630	1800-1900	EPA T4i NRG, EU IIIB NR, China Phase IV	Dry Manifold
C	522	700	1800-1900	EPA T4i NRG, EU IIIB NR	Dry Manifold
C	563	755	1800	EPA T4f NRNG	Dry Manifold
D	597	800	1800	EPA T4f NRNG	Dry Manifold
A	429	575	2000	EPA T4f NRNG, EU IV NR	Dry Manifold
B	447	600	2000	EPA T4f NRNG, EU IV NR	Dry Manifold
C	470	630	2000	EPA T4f NRNG, EU IV NR	Dry Manifold

Specifications

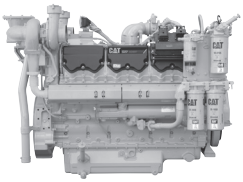
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C18 ACERT	1389 (54.7)	919 (36.2)	1227 (49.5)	1273 (2807)	18.1 (1105)
C18 ACERT T4	1530 (60.2)	961 (37.8)	1282 (51)	1580 (3482)	18.1 (1105)

Bore x Stroke – mm (in) 145 x 183 (5.7 x 7.2)

Please see spec sheet for more information:

C18 ACERT LEHW0098, LEHW0053, LEHW0109

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	1800-2100	EPA T2 NR	Dry Manifold
B	652	875	1800-2100	EPA T2 NR	Dry Manifold
C	708	950	1800-2100	EPA T2 NR	Dry Manifold
C	783	1050	1800-2100	EPA T2 NR	Dry Manifold
A	597	800	1800	EPA T4f NRNG	Narrow Config, Dry Manifold
B	652	875	1800	EPA T4f NRNG	Narrow Config, Dry Manifold
C	708	950	1800	EPA T4f NRNG	Narrow Config, Dry Manifold

Specifications

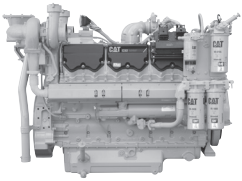
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C27 ACERT	1918 (75.5)	1463 (57.6)	1321 (52)	2895 (6382)	27 (1648)
C27 ACERT T4	2160 (85)	1270 (50)	1650 (65)	2956 (6516)	27 (1648)

Bore x Stroke – mm (in) 137.7 x 152.4 (5.42 x 6)

Please see spec sheet for more information:

C27 ACERT LEHW0052, LEHW0101

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
A	642	860	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
B	686	920	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
C	746	1000	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
D	828	1110	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
E	914	1225	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC+ HEX, & REMAC
A	597	800	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
A	642	860	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
B	686	920	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
D	828	1110	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
A	597	800	2100	EPA T2 NR, IMO II	Dry Manifold
B	708	950	1800-2100	EPA T2 NR, IMO II	Dry Manifold
C	839	1125	1800-2100	EPA T2 NR, IMO II	Dry Manifold
D	895	1200	1800-2100	EPA T2 NR, IMO II	Dry Manifold
E	1007	1350	1800-2100	EPA T2 NR, IMO II	Dry Manifold
C	839	1125	1800	EPA T4f NRNG	Dry Manifold

Specifications

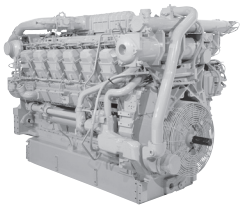
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C32 ACERT	1934.9 (76.18)	1431 (56.34)	1388.3 (54.66)	2286 (5040)	32 (1953)
C32 ACERT T4	1905 (75)	1600 (63)	1549 (61)	3107 (6850)	32 (1953)

Bore x Stroke – mm (in) 145 x 162 (5.7 x 6.4)

Please see spec sheet for more information:

C32 ACERT LEHW0049, LEHW0050, LEHW0051, LEHW0100

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions
Frac	1491	2000	1900	EPA T1 NR, EPA T1 M
Frac	1603	2150	1900	EPA T1 NR, EPA T1 M
Frac	1678	2250	1900	EPA T1 NR, EPA T1 M

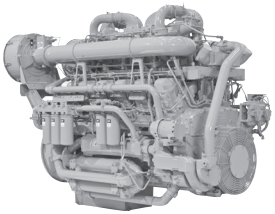
Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
3512B	2827 (111.3)	1793 (70.6)	1862 (73.3)	4803.6 (10,590)	52 (3173)
Bore x Stroke – mm (in)	170 x 190 (6.7 x 7.5)				

Please see spec sheet for more information:

3512B LEHW0055

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
Frac	1603	2150	1900	EPA T2 NR, EPA T2 M, IMO II	ATAAC, 1.6% or 7% Torque Rise
Frac	1678	2250	1900	EPA T2 NR, EPA T2 M, IMO II	ATAAC, 1.6% or 7% Torque Rise
Frac	1752	2350	1900	EPA T2 NR, EPA T2 M, IMO II	ATAAC, 7% Torque Rise
Frac	1864	2500	1900	EPA T2 NR, EPA T2 M, IMO II	ATAAC, 7% Torque Rise
Frac	1678	2250	1900	EPA T2 NR, EPA T2 M, IMO II	SCAC, 1.6% or 7% Torque Rise
Frac	1864	2500	1900	EPA T2 NR, EPA T2 M, IMO II	SCAC, 7% Torque Rise

Dynamic Gas Blending – Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
Frac	1678	2250	1900	EPA T2 NR	Retrofit Kit Only
Frac	1864	2500	1900	EPA T2 NR	Retrofit Kit Only

Specifications

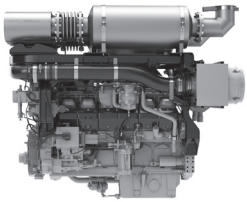
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3512C HD ATAAC	2804 (110.4)	1504 (59.2)	2192 (86.3)	6200 (13,669)	58.9 (3596)
3512C HD SCAC	2880 (113.8)	1630 (64.2)	2185 (86.1)	6402 (14,115)	58.9 (3596)

Bore x Stroke – mm (in) 170 x 215 (6.7 x 8.5)

Please see spec sheet for more information:

3512C HD LEHW0056, LEHW0090

For diesel engine rating definitions please see page 14.



Well Service Ratings

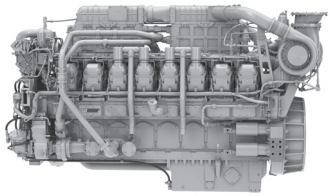
Rating Tier	bkW	bhp	rpm	Emissions	Notes
Frac	1678	2250	1800	EPA T4f NRNG	ATAAC, 1.7% Torque Rise
Frac	1678	2250	1800	EPA T4f NRNG	SCAC, 1.7% Torque Rise
Frac	1865	2500	1800	EPA T4f NRNG	ATAAC, 7.0% Torque Rise
Frac	1865	2500	1800	EPA T4f NRNG	SCAC, 7.0% Torque Rise

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
3512E ATAAC	3099 (122)	2235 (88)	2718 (107)	9110 (20,100)	58.9 (3596)
3512E SCAC	3490 (137.4)	2235 (88)	2718 (107)	9750 (21,500)	58.9 (3596)

Bore x Stroke – mm (in) 170 x 215 (6.69 x 8.46)

For diesel engine rating definitions please see page 14.



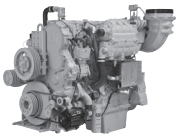
Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
Frac	2237	3000	1900	EPA T2 NR	
Frac	2349	3150	1900	EPA T2 NR	SCAC
Frac	2461	3300	1900	EPA T2 NR	SCAC
Frac	2237	3000	1900	EPA T1 NR	SCAC
Frac	2349	3150	1900	EPA T1 NR	SCAC
Frac	2461	3300	1900	EPA T1 NR	SCAC

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
3516C HD SCAC	3450 (135.83)	1688 (66.5)	2040 (80.3)	8516 (18,775)	78 (4765)
Bore x Stroke – mm (in)	170 x 215 (6.69 x 8.46)				

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
C7 ACERT					
B	153	205	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only, Watercooled
C	172	230	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only Watercooled
C9 ACERT					
D	254	340	2200	IMO II, EPA T3 NR , EU IIIA NR	Haz Loc, SCAC & REMAC avail, Derate Option, Watercooled
C15 ACERT					
D	400	536	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC, Watercooled
D	400	536	1800-2100	EU IIIA NR Constant Speed, IMO II	Haz Loc, SCAC, Watercooled
D	403	540	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC & REMAC, Watercooled
C18 ACERT					
C	533	715	2100	IMO II, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only, Watercooled
D	599	803	2100	IMO II, EPA T3 NR, EU IIIA NR	Haz Loc, SCAC only, Watercooled
C32 ACERT					
A	597	800	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
A	641	860	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
B	686	920	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled
D	826	1110	2100	EPA T2 NR, EPA T2 M, IMO II	Haz Loc, SCAC only, Watercooled

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C7 ACERT	1053 (41.5)	758 (29.8)	1032 (40.6)	629 (1386)	7.2 (439)
C9 ACERT	1092 (43)	828 (32.6)	1024 (40.3)	716 (1578)	8.8 (537)
C15 ACERT	1377 (54)	927 (37)	1227 (48)	1245 (12,743)	15.2 (927.6)
C18 ACERT	1931 (76)	1204 (47.4)	1198 (47.2)	1814 (4000)	
C32 ACERT	1918 (75.5)	1473 (58)	1321 (52)	2286 (5040)	32 (1953)

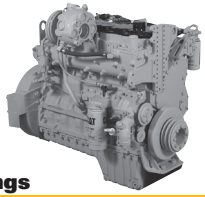
Bore x Stroke – mm (in)

C7 ACERT 110 x 127 (4.3 x 5)
C9 ACERT 112 x 149 (4.4 x 5.8)
C15 ACERT 137.2 x 171.5 (5.4 x 6.75)
C18 ACERT 145 x 183 (5.7 x 7.2)
C32 ACERT 145 x 162 (5.7 x 6.4)

Please see spec sheet for more information:

C7 ACERT .. LEHW0044 C9 ACERT .. LEHW0014 C15 ACERT .. LEHW0113 C32 ACERT .. LEHW0051

For diesel engine rating definitions please see page 14.



Well Service Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
C7 ACERT					
B	153	205	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Watercooled, SCAC & REMAC avail
C	172	230	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Watercooled, SCAC & REMAC avail
D	205	275	2200	IMO II, EPA T2 M, EPA T3 NR, EU IIIA NR	Watercooled, SCAC & REMAC avail
C9 ACERT					
C	242	325	2200	IMO II, EPA T3 NR, EU IIIA NR	Watercooled, SCAC & REMAC avail
D	254	340	2200	IMO II, EPA T3 NR, EU IIIA NR	Watercooled, SCAC & REMAC avail
C15 ACERT					
D	400	536	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC, Watercooled
D	403	540	1800-2000	EPA T2 M, IMO II, EPA T3 M	Haz Loc, SCAC & REMAC, Watercooled
C32 ACERT					
A	597	800	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail
A	641	860	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail
B	686	920	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail
C	746	1000	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail
D	828	1110	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail
E	913	1225	2100	EPA T2 NR, EPA T2 M, IMO II	Watercooled, SCAC, SCAC + HEX & REMAC avail

Specifications

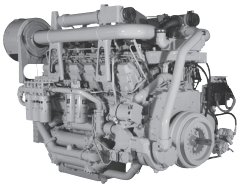
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C7 ACERT	1053 (41.5)	758 (29.8)	1032 (40.6)	629 (1386)	7.2 (439)
C9 ACERT	1092 (43)	828 (32.6)	1024 (40.3)	716 (1578)	8.8 (537)
C32 ACERT	1918 (75.5)	1473 (58)	1321 (52)	2286 (5040)	32 (1953)

Bore x Stroke – mm (in)

C7 ACERT 110 x 127 (4.3 x 5)
C9 ACERT 112 x 149 (4.4 x 5.8)
C32 ACERT 145 x 162 (5.7 x 6.4)

Please see spec sheet for more information:
C7 ACERT .... LEHW0045 C9 ACERT..... LEHW0046 C32 ACERT.... LEHW0050

For diesel engine rating definitions please see page 14.



Well Service Ratings

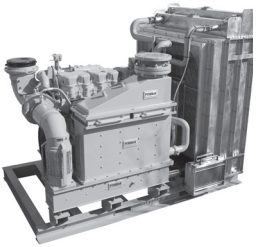
Rating Tier	bkW	bhp	rpm	Emissions	Notes
3508					
A	507	680	1200	NC	Watercooled
C	611	820	1300	NC	Watercooled
A	638	855	1800	NC	Watercooled
C	746	1000	1800	NC	Watercooled
C	846	1135	1900	NC	Watercooled
3512					
A	761	1020	1200	NC	Watercooled
C	858	1150	1300	NC	Watercooled
A	954	1280	1800	NC	Watercooled
C	1119	1500	1800	NC	Watercooled
C	1342	1800	1900	NC	Watercooled
3516					
A	1010	1355	1200	NC	Watercooled
C	1242	1665	1300	NC	Watercooled

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3508	2136.14 (84.1)	1701.8 (67)	1719.58 (67.7)	4309 (9500)	34.5 (2105)
3512	2674.62 (105.3)	1701.8 (67)	1719.58 (67.7)	5203.75 (11,462)	51.8 (3158)
3516	3251 (128)	1701 (66.9)	2004 (78.9)	8660 (19,090)	69 (4210)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)

For diesel engine rating definitions please see page 14.



Well Service

Model	bkW	bhp	rpm	Emissions
C2.2	20/22	27/31	1500/1800	EU IIIA NR
C2.2	30	41	2200	EU IIIA NR
C4.4	43/49	57/65	1500/1800	CCNR Stage 2, EPA T2 M
C4.4	97/112	130/156	1500/1800	NC
C4.4	55	74	2200	CCNR Stage 2, EPA T2 M
C4.4	97	130	2200	NC
C7 ACERT	158	211	2200	IMO II, EPA T2 M, EPA T3 NR
C9 ACERT	227	304	2200	EPA and CARB T3 NR, EU IIIA NR, EPA T2 M, IMO II
C15 ACERT	376	504	1800-2000	IMO II, EPA T3 M, EU IIIA NR
C18	533	715	2100	IMO II, EPA T3 NR, EU IIIA NR
C18	599	803	2100	IMO II, EPA T3 NR, EU IIIA NR
3406C	365	490	2100	NC

Specifications

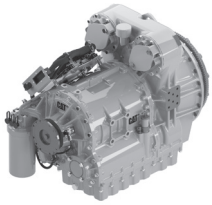
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C2.2	1119 (44)	740 (29)	1483 (58.4)	510 (1124)	2.2 (135)
C4.4	1571 (61.9)	1253 (49.3)	1627 (64)	970 (2138)	4.4 (268.5)
C7 ACERT	2228 (87.7)	1750 (68.9)	1884 (74.2)	3390 (7475)	7.2 (442)
C9 ACERT	2167 (85.3)	1863 (73.3)	2383 (93.8)	3480 (7673)	8.82 (537.96)
C15 ACERT	2583 (101.69)	2042 80.39)	2216 (87.24)	3800 (8378)	15.2 (928)
C18	2720 (107)	2060 (81.1)	2482 (97.7)	3691 (8137)	18.1 (1106)
3406C	2468 (97.2)	1842 (72.5)	2646 (104.2)	3620 (7982.1)	14.6 (893)

For diesel engine rating definitions please see page 14.

Transmission Application Chart

Engine	Transmission	Max hp	Page
C9 ACERT	CX31-P600	600	35
	CX31-P600*	600	36
C11 ACERT	CX31-P600	600	35
	CX31-P600*	600	36
C13 ACERT	CX31-P600	600	35
	CX31-P600*	600	36
C15 ACERT	CX31-P600	600	35
	CX31-P600*	600	36
	CX35-P800	800	37
C18 ACERT	CX35-P800	800	37
C27 ACERT	TH48-E70	1200	38
C32 ACERT	TH48-E70	1500	38
3512B	TH48-E80	2300	39
	CX48-P2300	2300	40
3512C	TH48-E80	2300	39
	CX48-P2300	2300	40
	TH55-E70	3300	41
	TH55-E90	3300	42
3516C	TH55-E70	3300	41
	TH55-E90	3300	42

*Dropbox 2WD or 4WD



Ratings

Gross Input Power	447 kW (600 hp)
Gross Input Torque	2746 N•m (2025 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

Output Connection Options

1710 output yoke, 1810 yoke, 1810 companion flange, ISO-8667 flange

Power Take Off

(Pump Auxiliary Drive)

PTO Mountings and Locations*

Standard Configuration:
10-bolt, 199 kW/267 hp at 8 o'clock and 1 o'clock**

Optional Integral Pump Drive Configuration:

SAE J744 B-size (2- and 4-bolt) 149 kW/200 hp at 1 o'clock and 11 o'clock facing input**

SAE J744 C-size (2- and 4-bolt) 149 kW/200 hp at 1 o'clock and 11 o'clock facing output**

Cat 10-bolt 355 kW/476 hp at 5 o'clock rear

Transmission Speed Ratios

Gear	Ratio
1F	4.40
2F	2.33
3F	1.53
4F	1.00
5F	0.72
6F	0.61
1R	3.97

Stall Torque Ratio @ Rated Speed

< 400 hp engine	2.669
> 400 hp engine	2.324

Dimensions

Height:	719 mm (28.3 in)
Width:	613 mm (24.1 in)
Length:	1098 mm (43.2 in)

Weight

Approximate Dry Weight

STD Configuration	456 kg (1006 lbs)
Integral Pump Drive	496 kg (1094 lbs)

Retarder

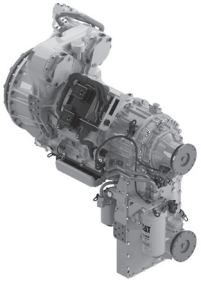
Available for standard and integral pump drive configurations

Spec Sheet

LEHW0008

*Viewed from rear

**Please see Application and Installation Guide (REHS3513) for details on combined PTO power rating



Ratings

Gross Input Power	447 kW (600 hp)
Gross Input Torque	2746 N•m (2025 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

Output Connection Options
1710 output yoke, 1810 yoke, 1810 companion flange, ISO-8667 flange

Power Take Off
(Pump Auxiliary Drive)

PTO Mountings and Locations*
SAE J744 B-size (2- and 4-bolt) 149 kW/ 200 hp at 1 o'clock and 11 o'clock facing input**

SAE J744 C-size (2- and 4-bolt) 149 kW/ 200 hp at 1 o'clock and 11 o'clock facing output**

Transmission Speed Ratios

Gear	Ratio
1F	4.40
2F	2.33
3F	1.53
4F	1.00
5F	0.72
6F	0.61
1R	3.97

Stall Torque Ratio @ Rated Speed

< 400 hp engine	2.669
> 400 hp engine	2.324

Dimensions

Height:	1393 mm (54.8 in)
Width:	755 mm (29.7 in)
Length:	1366 mm (53.7 in)

Weight
Approximate Dry Weight

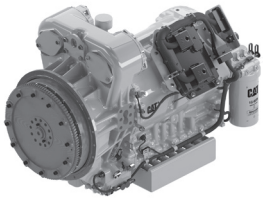
2WD model	909 kg (2005 lbs)
4WD model	943 kg (2080 lbs)

Integral Drop Box
2WD or 4WD options available

Spec Sheet
LEHW0008

*Viewed from rear

**Please see Application and Installation Guide (REHS3513) for details on combined PTO power rating



Ratings

Gross Input Power	597 kW (800 hp)
Gross Input Torque	
1F-3F	3254 N•m (2400 lb-ft)
4F-8F	3661 N•m (2700 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

Output Connection Options

1810 yoke, 1810 companion flange, ISO-8667 flange

Power Take Off

(Pump Auxiliary Drive)

PTO Mountings and Locations*

Standard Configuration:
10-bolt, 199 kW/267 hp at 8 o'clock and 1 o'clock**

Cat 8-bolt 355 kW/476 hp at 5 o'clock*

Optional Integral Pump Drive Configuration:
SAE J744 B-size (2- and 4-bolt) 149 kW/200 hp at 1 o'clock and 11 o'clock facing input**

SAE J744 C-size (2- and 4-bolt) 149 kW/200 hp at 1 o'clock and 11 o'clock facing output**

Cat 8-bolt 355 kW/476 hp at 5 o'clock*

Transmission Speed Ratios

Gear	Ratio
1F	5.73
2F	3.57
3F	2.72
4F	1.95
5F	1.43
6F	1.00
7F	0.74
8F	0.63
1R	-4.46
Stall Torque Ratio	1.962

Dimensions

Height:	872 mm (34.4 in)
Width:	654 mm (25.8 in)
Length:	1265 mm (49.8 in)

Weight

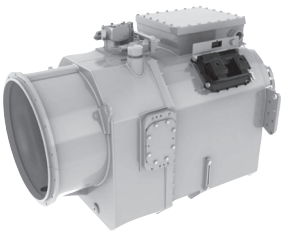
Approximate Dry Weight	
STD Configuration	651 kg (1435 lbs)
Integral Pump Drive	731 kg (1612 lbs)

Spec Sheet

LEHW0007

*Viewed from rear

**Please see Application and Installation Guide (REHS3513) for details on combined PTO power rating



Ratings

Gross Input Power	895 kW (1200 hp)
	1118 kW (1500 hp)
Gross Input Torque	5995 N•m (4422 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2200 rpm

Output Connection (Yoke)
GWB 390.60/GWB 390.65

Power Take Off
(Pump Auxiliary Drive)

PTO Mountings and Locations*
SAE J704 (8-bolt) 14.9 kW/20 hp at 3 o'clock, 5 o'clock, and 9 o'clock

Transmission Speed Ratios

Gear	Ratio
1F	6.16
2F	4.52
3F	3.33
4F	2.47
5F	1.82
6F	1.36
7F	1.00
Stall Torque Ratio	2.20

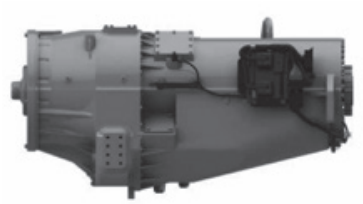
Dimensions

Height:	1092 mm (43 in)
Width:	866 mm (34 in)
Length:	1681 mm (66 in)

Weight
Approximate Dry Weight
Transmission 1694 kg (3735 lbs)
Engine/Transmission Coupling 108 kg (238 lbs)

Spec Sheet
LEHW1002

*Viewed from rear



Ratings

Gross Input Power	1715 kW (2300 hp)
Gross Input Torque	9024 N•m (6656 lb-ft)
Rated Input Speed	1900 rpm
Maximum Input Speed	2150 rpm

Output Connection (Yoke)
GWB 390.60/GWB 390.65

Power Take Off
(Pump Auxiliary Drive)

PTO Mountings and Locations*
SAE J704 (8-bolt) 14.9 kW/20 hp at 12 o'clock

SAE J744 C-size (2- and 4-bolt) 112 kW/ 150 hp at 5 o'clock

Transmission Speed Ratios

Gear	Ratio
1F	3.34
2F	2.45
3F	2.20
4F	1.81
5F	1.62
6F	1.36
7F	1.19
8F	0.99
Stall Torque	2.20

Dimensions

Height:	1049 mm (41.3 in)
Width:	1128 mm (44.4 in)
Length:	1893.2 mm (74.5 in)

Weight

Approximate Dry Weight	
Transmission	1601 kg (3530 lbs)
Engine/Transmission Coupling	156 kg (343 lbs)

Spec Sheet
LEHW0148

*Viewed from rear

Ratings

Gross Input Power	2461 kW (3300 hp)
Gross Input Torque	12 667 N•m (9350 lb-ft)
Rated Input Speed	1900 rpm
Maximum Input Speed	1970 rpm

Output Connection (Yoke)
GWB 390.65 – 2500 hp
GWB 390.70 – 3000+ hp

Power Take Off
(Pump Auxiliary Drive)

PTO Mountings and Locations*
SAE J704 (8-bolt) 14.9 kW/20 hp at 3 o'clock

SAE J744 C-size (2- and 4-bolt) 112 kW/ 150 hp at 11 o'clock

Transmission Speed Ratios

Gear	Ratio
1F	6.25
2F	4.59
3F	3.38
4F	2.48
5F	1.83
6F	1.36
7F	1.00
Stall Torque Ratio	2.23

Dimensions

Height:	1288 mm (51 in)
Width:	1246 mm (49 in)
Length:	2132 mm (84 in)

Weight

Approximate Dry Weight	
Transmission	2871 kg (6330 lbs)
Engine/Transmission Coupling	
2500 hp	136 kg (300 lbs)
3000+ hp	181 kg (400 lbs)

Spec Sheet
LEHW1006

*Viewed from rear

Ratings

Gross Input Power	2461 kW (3300 hp)
Gross Input Torque	12 677 N•m (9350 lb-ft)
Rated Input Speed	1900 rpm
Maximum Input Speed	1970 rpm

Output Connection (Yoke)

GWB 390.65 – 2500 hp
GWB 390.70 – 3000+ hp

Power Take Off

(Pump Auxiliary Drive)

PTO Mountings and Locations*

SAE J704 (8-bolt) 14.9 kW/20 hp at 3 o'clock

SAE J744 C-size (2- and 4-bolt) 112 kW/ 150 hp at 11 o'clock

Transmission Speed Ratios

Gear	Ratio
1F	4.67
2F	3.43
3F	3.03
4F	2.53
5F	2.22
6F	1.85
7F	1.64
8F	1.36
9F	1.00
Stall Torque Ratio	2.23

Dimensions

Height:	1288 mm (51 in)
Width:	1246 mm (49 in)
Length:	2137 mm (84 in)

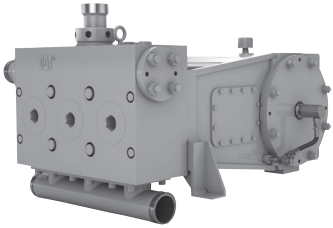
Weight

Approximate Dry Weight	
Transmission	2871 kg (6330 lbs)
Engine/Transmission Coupling	
2500 hp	136 kg (300 lbs)
3000+ hp	181 kg (400 lbs)

Spec Sheet

LEHW1006

*Viewed from rear



Specifications

Max. Input	600 bhp (447 bkW)
Max. rpm	450
Number of Plungers	3
Stroke Length	6 in (152.4 mm)
Plunger Load	100,000 lb (45 359 kg)
Gear Ratio	4.6:1

Dimensions and Weight

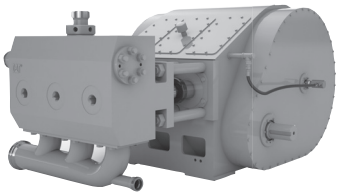
Height:	33.5 in (850.9 mm)
Width:	50.6 in (1285.2 mm)
Length:	54.2 in (1375.7 mm)
Weight:	4,800 lb (2177.2 kg)

Spec Sheet

LEPW0086

Plunger Diameter		Displacement per Revolution		Displacement at Pump rpm Well Service and Intermittent Application									
				50		120		200		300		450	
in	mm	Gal/ Rev.	L/Rev.	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi
3	76	0.55	2.08	27.5	14 152	66.0	14 033	110	8402	165	5601	248	3734
3.5	89	0.75	2.84	37.5	10 395	90.0	10 288	150	6173	225	4115	338	2744
4	102	0.98	3.70	49.0	7958	117.6	7958	196	4726	294	3151	441	2100
4.5	114	1.24	4.69	62.0	6290	148.8	6224	245	3734	372	2489	558	1660
Input Power (bhp)				230		600		600		600		600	

Based on 90% ME and 100% VE – Intermittent Service Only.
Pumps with pressures in excess of 15 000 psi require special gauge and discharge flanges.



Specifications

Max. Input	2250 bhp (1678 bkW)
Max. rpm	330
Number of Plungers	3
Stroke Length	8 in (203.2 mm)
Plunger Load	225,000 lb (102 048 kg)
Gear Ratio	6.353:1

Dimensions and Weight

Height:	44.25 in (1124 mm)
Width:	59.75 in (1518 mm)
Length:	89.75 in (2280 mm)
Weight:	13,000 lb (5896.7 kg)

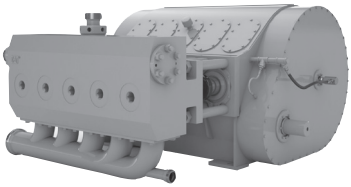
Spec Sheet

LEPW0059

Stainless fluid ends are available.

Plunger Diameter		Displacement per Revolution		Displacement at Pump rpm Well Stimulation and Intermittent Application									
				75/476		115/731		200/1271		300/1906		330/2096	
in	mm	Gal/ Rev.	L/Rev.	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi
4.5	114.3	1.65	6.25	124	14 147	190	14 147	330	10 502	496	7002	545	6365
5	127.0	2.04	7.72	153	11 459	235	11 459	408	8507	612	5671	673	5156
Input Power (bhp)				1137		1743		2250		2250		2250	

Based on 90% ME and 100% VE – Intermittent Service Only.
Pumps with pressures in excess of 15 000 psi require special gauge and discharge flanges.



Specifications

Max. Input	2500 bhp (1864 bkW)
Max. rpm	330
Number of Plungers	5
Stroke Length	8 in (203.2 mm)
Plunger Load	192,325 lb (87 237 kg)
Gear Ratio	6.353:1

Dimensions and Weight

Height:	44 in (1118 mm)
Width:	74 in (1880 mm)
Length:	84.75 in (2153 mm)
Weight:	16,000 lb (7257 kg)

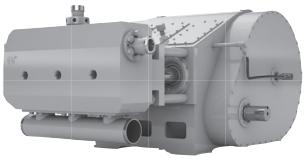
Spec Sheet

LEPW0060

Stainless fluid ends are available.

Plunger Diameter		Displacement per Revolution		Displacement at Pump rpm Well Stimulation and Intermittent Application									
				111/705		150/953		200/1271		250/1588		330/2100	
in	mm	Gal/ Rev.	L/Rev.	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi
4	101.6	2.17	8.21	241	15 315	326	11 830	434	8886	543	7102	716	5386
4.5	114.3	2.75	10.40	305	12 100	413	9338	550	7012	688	5605	908	4247
5	127.0	3.40	12.87	377	9800	510	7562	680	5671	850	4537	1122	3437
Input Power (bhp)				2400		2500		2500		2500		2500	

Based on 90% ME and 100% VE – Intermittent Service Only.
Pumps with pressures in excess of 15 000 psi require special gauge and discharge flanges.



Specifications

Max. Input	2700 bhp (2014 bkW)
Max. rpm	275
Number of Plungers	3
Stroke Length	10 in (254 mm)
Plunger Load	275,000 lb (124 738 kg)
Gear Ratio	5.55:1

Dimensions and Weight

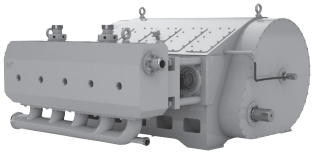
Height:	46.8 in (1189 mm)
Width:	94.8 in (2408 mm)
Length:	70.1 in (1781 mm)
Weight:	18,000 lb (8165 kg)

Spec Sheet

LEPW0081

Plunger Diameter		Displacement per Revolution		Displacement at Pump rpm Well Stimulation and Intermittent Application									
				70		116		150		200		275	
in	mm	Gal/ Rev.	L/Rev.	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi
4	101.6	1.63	6.18	114	21 885	189	21 885	245	18 904	326	14 178	449	10 312
4.5	114.3	2.07	7.82	145	17 290	240	17 290	310	14 937	413	11 203	568	8147
5	127.0	2.55	9.65	178	14 005	296	14 005	382	12 099	510	9074	701	6599
Input Power (bhp)				1600		2400		2700		2700		2700	

Based on 90% ME and 100% VE – Intermittent Service Only.
Pumps with pressures in excess of 15 000 psi require special gauge and discharge flanges.



Specifications

Max. Input	3000 bhp (2237 bkW)
Max. rpm	275
Number of Plungers	5
Stroke Length	10 in (254 mm)
Plunger Load	250,000 lb (113 398 kg)
Gear Ratio	5.55:1

Dimensions and Weight

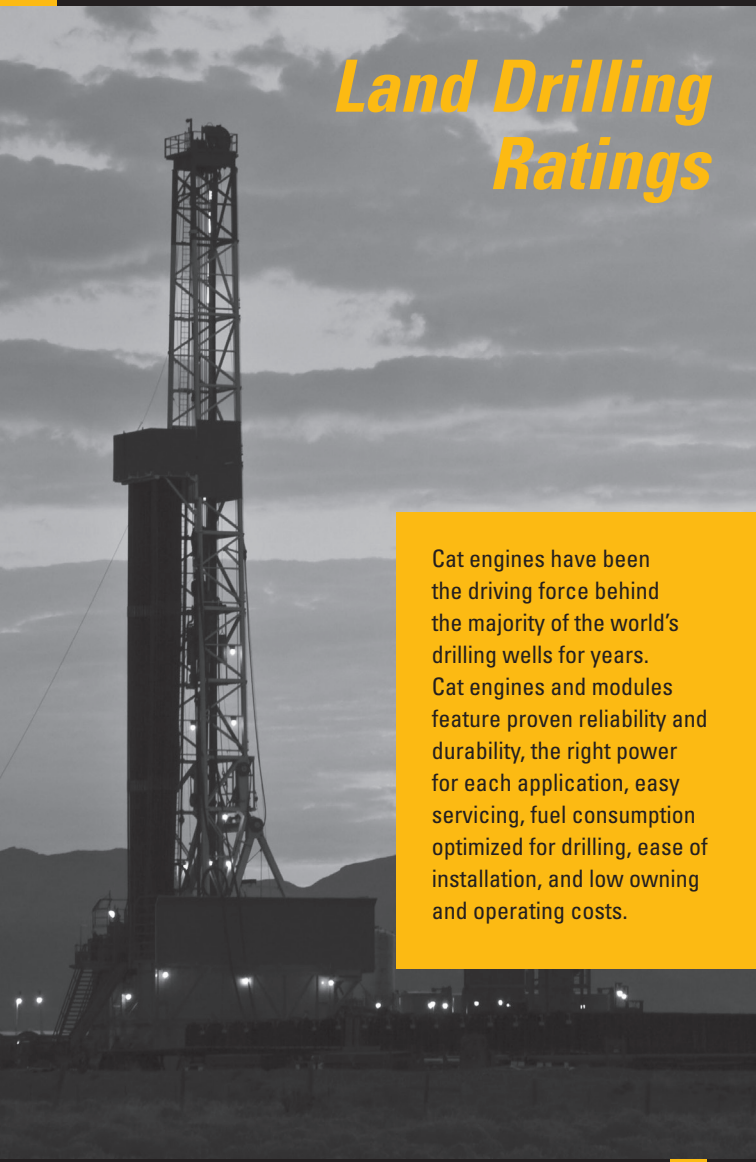
Height:	52.8 in (1342 mm)
Width:	95.6 in (2428 mm)
Length:	97.1 in (2466 mm)
Weight:	24,000 lb (10 886 kg)

Spec Sheet

LEPW0085

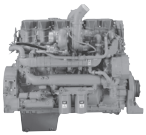
Plunger Diameter		Displacement per Revolution		Displacement at Pump rpm Well Stimulation and Intermittent Application									
				75		115		150		200		275	
in	mm	Gal/ Rev.	L/Rev.	gpm	psi	gpm	psi	gpm	psi	gpm	psi	gpm	psi
4	101.6	2.72	10.3	204	19 900	312	16 450	408	12 615	543	9460	747	6875
4.5	114.3	3.44	13.0	258	15 725	396	12 985	516	9960	688	7450	946	5425
5	127.0	4.25	16.1	319	12 730	489	10 520	637	8065	850	6050	1168	4400
5.5	139.7	5.14	19.5	386	10 525	591	8695	771	6665	1028	5000	1414	3635
Input Power (bhp)				2368		3000		3000		3000		3000	

Based on 90% ME and 100% VE – Intermittent Service Only.
Pumps with pressures in excess of 15 000 psi require special gauge and discharge flanges.



Land Drilling Ratings

Cat engines have been the driving force behind the majority of the world's drilling wells for years. Cat engines and modules feature proven reliability and durability, the right power for each application, easy servicing, fuel consumption optimized for drilling, ease of installation, and low owning and operating costs.



Land Mechanical Drilling Engine Ratings

Rating Tier	bkW	bhp	rpm	Emissions
A	328	440	1800-2100	EPA T3 NR, EU IIIA NR, China II NR
A/B	354	475	1800-2100	EPA T4i NRG, EU IIIB NR Dry Manifold
B*	354	475	1800-2100	EPA T3 NR, EU IIIA NR, China II NR,
C*	403	540	1800-2100	EPA T3 NR, EU IIIA NR, China II NR
C	403	540	1800-2100	EPA T4i, NRG, EU IIIB NR, Dry Manifold China Phase IV
C	403	540	1800-2100	EPA T4f NRNG, EU IV NR, Dry Manifold China Phase IV
D	400	536	1800-2000	EPA T2M, IMO II, Haz Loc, SCAC, EPA T3 M Watercooled
D	403	540	1800-2000	EPA T2M, IMO II, Haz Loc, SCAC EPA T3 M & REMAC Watercooled
D	433	580	1800-2100	EPA T3 NR, EU IIIA NR, China II NR
E	444	595	1800-2100	EPA T3 NR, EU IIIA NR, China II NR
A	354	475	1800-2100	EPA T4i NRNG, EU IIIB NR
B	354	475	1800-2100	EPA T4i NRNG, EU IIIB NR
C	403	540	1800-2100	EPA T4i NRNG, EU IIIB NR
D	433	580	1800-2100	EPA T4i NRNG, EU IIIB NR

*Available with Cat compression brake

Land Drilling Module Ratings

Duty	bkW	ekW	kVA	bhp	Emissions
50 Hz/1500 rpm					
Prime	331	292	365	444	EU II NR, China II NR
Prime	410	365	456	550	EU II NR, China II NR
60 Hz/1800 rpm					
Prime	373	320	400	500	EPA T3 NR[-1]
Prime	420	365	456	563	EPA T3 NR[-1]
Prime	467	410	513	626	EPA T3 NR[-1]
Prime	517	455	569	693	EPA T2 NR[-1]
Prime	500	450	563	670	EPA T4i NRG

Specifications

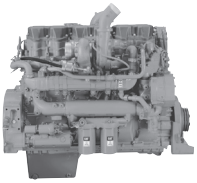
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C15 ACERT	1377 (54)	927 (37)	1227 (48)	1245 (2743)	15 (928)
C15 ACERT T4	1530 (60.2)	961 (37.8)	1282 (51)	1580 (3482)	15 (928)
C15 ACERT Module	3518 (138.5)	1524 (60)	2110 (83.1)	4760 (10,500)	15 (928)

Bore x Stroke – mm (in) 137 x 171 (5.4 x 6.75)

Please see spec sheet for more information:

C15 ACERT (T3).....LEHW0061
C15 ACERT (T4) LEHW0097
C15 ACERT Module LEHW0010

For diesel engine rating definitions please see page 14.



Land Mechanical Drilling Engine Ratings

Rating Tier	bkW	bhp	rpm	Emissions
A*	429	575	2100	EPA T3 NR, IMO II, EU IIIA NR, China II NR, NC
B*	447	600	2100	EPA T3 NR, IMO II, EU IIIA NR, China II NR, NC
C*	470	630	2100	EPA T3 NR, IMO II, EU IIIA NR, China II NR, NC
C	522	700	2100	EPA T3 NR, IMO II, EU IIIA NR, China II NR, NC
D	570	765	2100	EPA T3 NR, IMO II
E	597	800	2100	EPA T3 NR, IMO II
A	447	600	1800-1900	EPA T4i NRNG, EU IIIB NR
B	447	600	1800-1900	EPA T4i NRNG, EU IIIB NR
C	470	630	1800-1900	EPA T4i NRNG, EU IIIB NR
C	522	700	1800-1900	EPA T4i NRNG, EU IIIB NR
C	563	755	1800-1900	EPA T4i NRNG
D	597	800	1800-1900	EPA T4i NRNG
A	429	575	1800-2000	EPA T4f NRNG, EU IV NR
B	447	600	1800-2000	EPA T4f NRNG, EU IV NR
C	470	630	1800-2000	EPA T4f NRNG, EU IV NR
C	563	755	1800	EPA T4f NRNG
C	597	800	1800	EPA T4f NRNG

*Available with Cat compression brake

Land Drilling Module Ratings

Duty	bkW	ekW	kVA	bhp	Emissions
50 Hz/1500 rpm					
Prime	483	436	545	657	EU II NR, China II NR
60 Hz/1800 rpm					
Prime	576	500	625	772	EPA T2 NR[-1]
Prime	624	545	681	837	EPA T2 NR[-1]

Specifications

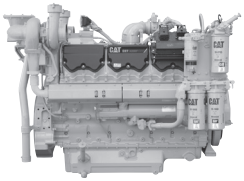
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C18 ACERT	1389 (54.7)	919 (36.2)	1227 (49.5)	1273 (2807)	18 (1105)
C18 ACERT T4	1530 (60.2)	961 (37.8)	1282 (51)	1580 (3482)	18 (1105)
C18 ACERT Module	3632 (143)	1524 (60)	2115 (83.3)	5033 (11,095)	18 (1105)

Bore x Stroke – mm (in) 145 x 183 (5.7 x 7.2)

Please see spec sheet for more information:

C18 ACERT (T3)..... LEHW0053
C18 ACERT (T4i) LEHW0098
C18 ACERT (T4f)..... LEHW0109
C18 ACERT Module..... LEHW7450

For diesel engine rating definitions please see page 14.



Land Mechanical Drilling Engine Ratings

Rating Tier	bkW	bhp	rpm	Emissions
A	597	800	1800-2100	EPA T2 NR
B	653	875	1800-2100	EPA T2 NR
C	708	950	1800-2100	EPA T2 NR
D	783	1050	1800-2100	EPA T2 NR
E	858	1150	1800-2100	EPA T2 NR
A	597	800	1800-2100	EPA T4i NRNG
B	653	875	1800-2100	EPA T4i NRNG
C	709	950	1800-2100	EPA T4i NRNG
D	783	950	1800-2100	EPA T4i NRNG
A*	597	800	1800	EPA T4f NRNG
B*	653	875	1800	EPA T4f NRNG
C*	708	950	1800	EPA T4f NRNG

*Narrow configuration

Land Drilling Module Ratings

Duty	bkW	ekW	kVA	bhp	Emissions
			60 Hz/1800 rpm		
Prime	824	725	1036	1105	NC
Prime	824	725	907	1105	NC
Prime	824	725	1036	1105	EPA T4i NRG
Prime	824	725	907	1105	EPA T4i NRG

Specifications

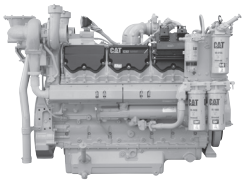
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
C27 ACERT	1918 (75.5)	1463 (57.6)	1321 (52)	2895 (6382)	27 (1648)
C27 ACERT T4	2160 (85)	1270 (50)	1650 (65)	2956 (6516)	27 (1648)
C27 ACERT Module	5228 (205.8)	1950 (76.8)	2180 (85.8)	9072 (20,000)	27 (1648)

Bore x Stroke – mm (in) 137.7 x 152.4 (5.42 x 6)

Please see spec sheet for more information:

C27 ACERT (T2)..... LEHW0052
C27 ACERT (T4i) LEHW0101
C27 ACERT Module..... LEHW0115

For diesel engine rating definitions please see page 14.



Land Mechanical Drilling Engine Ratings

Rating Tier	bkW	bhp	rpm	Emissions
A	597	800	1800-2100	EPA T2 NR, IMO II
B	708	950	1800-2100	EPA T2 NR, IMO II
C	839	1125	1800-2100	EPA T2 NR, IMO II
D	895	1200	1800-2100	EPA T2 NR, IMO II
E	1007	1350	1800-2100	EPA T2 NR, IMO II
E	1119	1500	1800-2100	EPA T2 NR, IMO II
B	709	950	1800-2100	EPA T4i NRNG, IMO II
C	839	1125	1800-2100	EPA T4i NRNG, IMO II
D	895	1200	1800-2100	EPA T4i NRNG, IMO II
C	839	1125	1800	EPA T4f NRNG

Land Drilling Module Ratings

Duty	bkW	ekW	kVA	bhp	Emissions
			50 Hz/1500 rpm		
Prime	770	700	1000	1032	NC
Prime	882	800	1000	1182	NC
			60 Hz/1800 rpm		
Prime	1003	910	1300	1182	EPA T2 NR[-1]
Prime	1000	910	1137	1340	EPA T2 NR[-1]

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C32 ACERT	1918 (75.5)	1473 (58)	1321 (52)	2895 (6382)	32 (1953)
C32 ACERT T4	1905 (75)	1600 (63)	1549 (61)	3107 (6850)	32 (1953)
C32 ACERT Module	5228 (206)	1905 (75)	2180 (86)	9299 (20,500)	32 (1953)

Bore x Stroke – mm (in) 145 x 162 (5.7 x 6.4)

Please see spec sheet for more information:

C32 ACERT (T2)..... LEHW0049
C32 ACERT (T4i)..... LEHW0100
C32 ACERT Module..... LEHW0110

For diesel engine rating definitions please see page 14.

Land Mechanical Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3508	A	507	680	1200	NC
3508	Drill-M	567	760	1200	NC
3508	C	611	820	1300	NC
3512	A	761	1020	1200	NC
3512	Drill-M	764	1025	1200	NC
3512	C	858	1150	1300	NC
3512*	Drill-M	932	1250	1200	NC
3512	C	1119	1500	1800	NC
3516	Drill-M	1230	1649	1200	NC
3512	WS	1342	1800	1900	NC

*Dry exhaust manifold, all other are wet or dry manifold configurations

Land Electric-Drive Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3512	Prime	830	1113	1000	NC
3512	Prime	985	1321	1200	NC
3512	Prime	1090	1462	1500	NC

Land Electric-Drive Drilling Module Ratings

Model	Duty	bkW	ekW	kVA	bhp	Emissions
50 Hz/1000 rpm						
3512	Drill-El	830	790	1130	1113	NC
3512	Drill-El	890	855	1220	1194	NC
60 Hz/1200 rpm						
3508	Drill-El	641	610	880	860	NC
3512	Drill-El	708	665	950	950	NC
3512	Drill-El	985	925	1320	1321	NC
3512	Drill-El	1070	1025	1460	1435	NC
50 Hz/1500 rpm						
3512	Drill-El	1090	1050	1500	1462	NC

Specifications

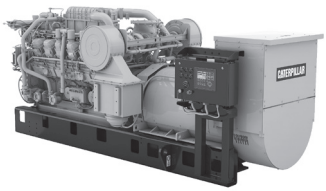
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3508 Engine	2136 (84.1)	1702 (67.0)	1720 (67.7)	4309 (9500)	35 (2105)
3508 Module	7874 (310)	2385 (93.9)	2779 (109.4)	14 443 31,847)	35 (2105)
3512 Engine	2675 (105.3)	1702 (67.0)	1720 (67.7)	5203 (11,471)	52 (3158)
3512 Module	7874 (310)	2385 (93.9)	2936 (115.6)	15 714 (34,643)	52 (3158)
3516 Engine	3251 (128)	1701 (67.0)	2004 (78.9)	8659 (19,090)	69 (4210)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)

Please see spec sheet for more information:

3508 Engine LEHW0058
3508 Module LEHW0069
3512 Engine LEHW0060
3512 Module LEHW0066

For diesel engine rating definitions please see page 14.



Land Mechanical Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3508B	Drill-M	671	900	1200	NC

Land Electric-Drive Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3508B	Drill-El	682	915	1200	NC
3512B	Drill-El	1101	1476	1200	NC

Land Electric-Drive Drilling Module Ratings

Model	Duty	bkW	ekW	kVA	bhp	Emissions
60 Hz/1200 rpm						
3512B with Dynamic Gas Blending	Drill-El	1101	1045	1492	1476	NC
3512B with Dynamic Gas Blending Retrofit Kit	Drill-El	1101	1045	1492	1476	T1 NC
3512B	Drill-El	1101	1045	1492	1476	NC
3516B	Drill-El	1383	1320	1885	1855	NC
50 Hz/1500 rpm						
3508B	Drill-El	880	835	1194	1180	NC
3512B	Drill-El	1310	1245	1750	1757	NC
3512B with Dynamic Gas Blending	Drill-El	1310	1245	1750	1757	NC

Specifications

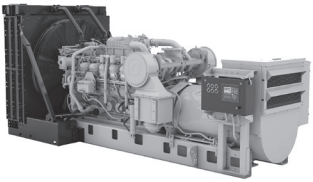
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3508B Engine	2136 (84.1)	1702 (67)	2024 (79.7)	4309 (9500)	35 (2105)
3508B Module	4986 (196.3)	2319 (91.3)	2596 (102.2)	15 352 (33,846)	35 (2105)
3512B Engine	2675 (105.3)	1702 (67)	1720 (67.7)	5203 (11,471)	52 (3158)
3512B Module	6051 (238.2)	2318 (91.2)	2659 (104.7)	14 000 (30,864)	52 (3158)
3516B DGB Module	5841 (230.0)	2318 (91.2)	2662 (104.8)	13 545 (29,861)	52 (3158)
3516B Module	7874 (310.0)	2385 (93.9)	2520 (99.2)	18 810 (41,469)	69 (4210)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)

Please see spec sheet for more information:

3508B Engine LEHW0057
3508B Module LEHW0070
3512B Module LEHW0067, LEHW0170
3512B DGB Module LEHW0200
3516B Module LEHW0065

For diesel engine rating definitions please see page 14.



Land Mechanical Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3508C	Drill-M	671	900	1200	EPA T2 NR, China III NR
3512C (HD)	Drill-M	932	1250	1200	EPA T2 NR, China III NR
3512C (HD)	Drill-M	1100	1475	1200	EPA T2 NR

Land Electric-Drive Drilling Engine Ratings

Model	Duty	bkW	bhp	rpm	Emissions
3508C	Drill-EI	682	915	1200	EPA T2 NR, China III NR
3512C	Drill-EI	1101	1476	1200	EPA T2 NR, China III NR
3512C (HD)	Drill-EI	1305	1750	1200	EPA T2 NR, China III NR

Land Electric-Drive Drilling Module Ratings

Model	Duty	bkW	ekW	kVA	bhp	Emissions
60 Hz/1200 rpm						
3512C	Drill-EI	1101	1045	1492	1476	EPA T2 NR
3512C with Dynamic Gas Blending Retrofit Kit	Drill-EI	1101	1045	1492	1476	EPA T2 NR
3512C (HD)	Drill-EI	1305	1245	1780	1750	EPA T2 NR, China III NR
50 Hz/1500 rpm						
3512C (HD)	Drill-EI	1310	1245	1780	1757	China III NR

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3508C Engine	2136 (84.1)	1702 (67.0)	2024 (79.7)	4582 (10,101)	35 (2105)
3512C Module	6051 (238.2)	2318 (91.2)	2659 (104.7)	14 453 (31,864)	52 (3158)
3512C (HD)					
Engine	2682 (105.6)	1790 (70.5)	2019 (79.5)	5423 (11,945)	59 (3574)
Module	6035 (237.6)	2320 (91.4)	2636 (103.8)	14 720 (32,452)	59 (3574)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)
Bore x Stroke (HD) – mm (in) 170 x 215 (6.7 x 8.5)

Please see spec sheet for more information:

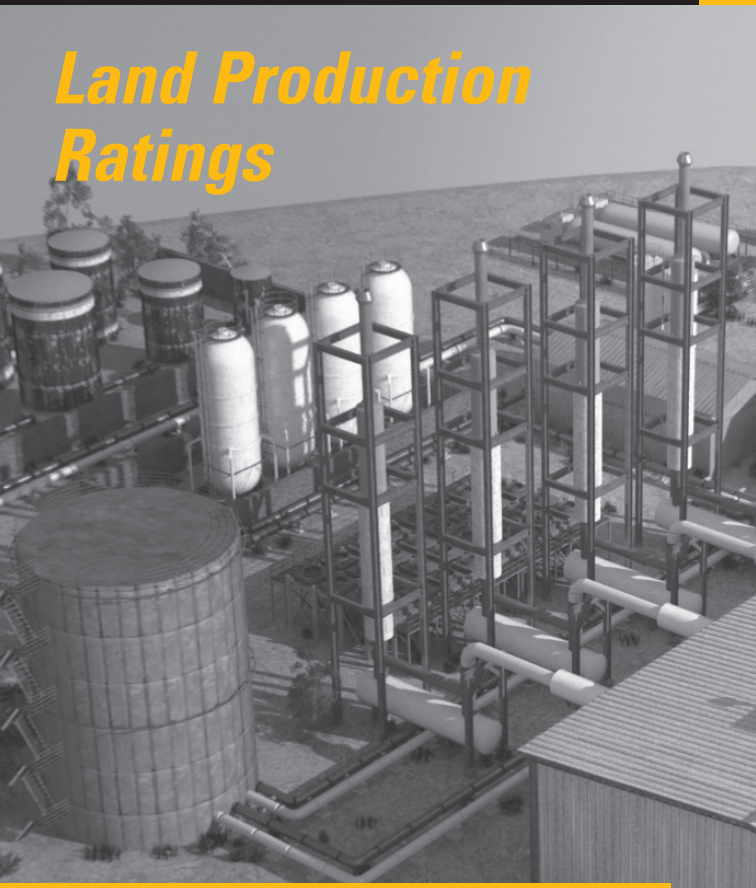
3508C Engine LEHW0059, LEHW0071
3512C (HD) Engine LEHW0048
3512C (HD) China III NR..... LEHW0241
3512C Module..... LEHW0068
3512C (DGB) Module..... LEHW0138
3512C (HD) Module..... LEHW0113

For diesel engine rating definitions please see page 14.

Drilling Transmission Application Chart

Engine	Transmission	Max hp	Page
C15 ACERT	CX31-P600	600	35
	CX35-P800	800	37
C18 ACERT	CX35-P800	800	37
C27 ACERT	TH48-E70	1200	38
C32 ACERT	TH48-E70	1500	38

Land Production Ratings



The broad line of Cat engines and generator sets is the preferred choice in a variety of production applications worldwide. Known for reliability and durability, Cat engines are used in the most demanding applications in the oilfield. Cat engines have high fuel efficiency, low life cycle costs, simple installation and start-up, and fuel flexibility including LFO, HFO, crude oil, gas, and dual fuel.

Oilfield Diesel Generator Set Ratings – 365-1000 kVA

Model	Duty	bkW	ekW	kVA	Emissions
50 Hz – 1500 rpm					
C15 ACERT	Prime	331	292	365	EU II NR, China II NR
C15 ACERT	Prime	410	365	456	EU II NR, China II NR
C18 ACERT	Prime	483	436	545	EU II NR, China II NR
C32 ACERT	Prime	882	800	1000	NC

50 Hz Generator Set Ratings – 275 kVA-18236 kVA

kVA			ekW			Generator Set Model	Configuration
Standby	Prime	Cont.	Standby	Prime	Cont.		
1500 rpm							
300	275	–	240	220	–	3406C	Low BSFC
350	320	–	280	256	–	3406C	Low BSFC
400	350	–	320	280	–	3406C	Low BSFC
400	365	–	320	292	–	C13 ACERT	Low BSFC, China III NR
400	365	–	320	292	–	C15 ACERT	Low BSFC
450	400	–	350	320	–	C13 ACERT	Low BSFC
450	410	–	360	328	–	C15 ACERT	Low BSFC
500	455	–	400	364	–	C15 ACERT	Low BSFC, China III NR
550	500	–	440	400	–	C15 ACERT	Low BSFC, China III NR
605	550	–	484	440	–	C18 ACERT	Low BSFC
660	600	–	528	480	–	C18 ACERT	Low BSFC, China III NR
700	635	–	560	508	–	C18 ACERT	Low BSFC
750	680	–	600	544	–	3412C	Low BSFC
800	725	–	640	580	–	3412C	Low BSFC
900	810	–	720	648	–	3412C	Low BSFC
1100	1000	910	880	800	728	C32 ACERT	Low BSFC, Low Emissions
1250	1150	1000	1000	920	800	3512	Low BSFC
1400	1275	1206	1120	1020	965	3512	Low BSFC
1500	1360	1320	1200	1088	1056	3512B	Low BSFC, Low Emissions
1600	1500	–	1280	1200	–	3512B	Low BSFC, Low Emissions
1750	1600	1500	1400	1280	1200	3512B (HD)	Low BSFC, Low Emissions
1875	1700	–	1500	1360	–	3512B (HD)	Low BSFC, Low Emissions
2000	1825	1600	1600	1460	1280	3516	Low BSFC
2250	2000	1750	1800	1600	1400	3516B	Low BSFC, Low Emissions

Ratings continued on page 60

Ratings continued from page 59

kVA			ekW			Generator Set Model	Configuration
Standby	Prime	Cont.	Standby	Prime	Cont.		
1500 rpm							
2500	2275	2000	2000	1820	1600	3516B (HD)	Low BSFC, Low Emissions
3000	2725	2500	2400	2180	2000	C175-16	Low BSFC
3100	2825	2600	2480	2260	2080	C175-16	Low BSFC
4000	3600	3250	3200	2880	2600	C175-20	Low BSFC
1000 rpm							
–	–	1368	–	–	1094	6CM20C	Low BSFC
–	–	1824	–	–	1459	8CM20C	Low BSFC
–	–	2054	–	–	1642	9CM20C	Low BSFC
2688	2425	2200	2150	1940	1760	3606	Low BSFC
3575	3250	2938	2860	2600	2350	3608	Low BSFC
5375	4850	4400	4300	3880	3520	3612	Low BSFC
7150	6500	5875	5720	5200	4700	3616	Low BSFC
750 rpm							
–	–	2160	–	–	1728	6CM25C	Low BSFC
–	–	2880	–	–	2304	8CM25C	Low BSFC
–	–	3240	–	–	2592	9CM25C	Low BSFC
–	–	7275	–	–	5820	12CM32C	Low BSFC
–	–	9700	–	–	7760	16CM32C	Low BSFC
600 rpm							
–	–	3456	–	–	2765	6CM32C	Low BSFC
–	–	4608	–	–	3686	8CM32C	Low BSFC
–	–	5184	–	–	4147	9CM32C	Low BSFC
500 rpm							
–	–	6839	–	–	5471	6CM43C	Low BSFC
–	–	7639	–	–	6111	7CM43C	Low BSFC
–	–	8730	–	–	6984	8CM43C	Low BSFC
–	–	10258	–	–	8206	9CM43C	Low BSFC
–	–	13677	–	–	10942	12CM43C	Low BSFC
–	–	18236	–	–	14589	16CM43C	Low BSFC

60 Hz Oilfield Diesel Generator Set Ratings – 373-1000 ekW

Model	Duty	bkW	ekW	kVA	Emissions
		1800 rpm			
C15 ACERT	Prime	373	320	400	EPA T3 NR[-1]
C15 ACERT	Prime	420	365	456	EPA T3 NR[-1]
C15 ACERT	Prime	467	410	513	EPA T3 NR[-1]
C15 ACERT	Prime	517	455	569	EPA T2 NR[-1]
C15 ACERT	Prime	500	450	563	EPA T4i NRG
C18 ACERT	Prime	576	500	625	EPA T2 NR[-1]
C18 ACERT	Prime	624	545	681	EPA T2 NR[-1]
C27 ACERT	Prime	824	725	907	NC
C27 ACERT	Prime	824	725	907	EPA T4i NRG
C32 ACERT	Prime	1000	910	1137	EPA T2 NR[-1]

60 Hz Generator Set Ratings – 180 ekW-14589 ekW

kVA			ekW			Generator Set Model	Configuration
Standby	Prime	Cont.	Standby	Prime	Cont.		
			1800 rpm				
250	225	–	200	180	–	C9 ACERT	EPA ESE
313	281	–	250	225	–	C9 ACERT	EPA ESE
375	344	–	300	275	–	C9 ACERT	EPA ESE
375	344	–	300	275	–	3406C	Low BSFC
438	400	–	350	320	–	3406C	Low BSFC
438	400	–	350	320	–	C15 ACERT	EPA ESE, Low BSFC
438	400	–	350	320	–	C13 ACERT	Low BSFC
500	438	–	400	350	–	C13 ACERT	Low BSFC
500	456	–	400	365	–	3406C	Low BSFC
500	456	–	400	365	–	C15 ACERT	EPA ESE, Low BSFC
563	513	–	450	410	–	C15 ACERT	EPA ESE, Low BSFC
625	563	–	500	455	–	C15 ACERT	EPA T4i NRG, EPA ESE, Low BSFC
688	–	–	550	–	–	C15 ACERT	EPA ESE, Low BSFC
688	625	–	550	500	–	C18 ACERT	EPA ESE, Low BSFC
750	681	–	600	545	–	C18 ACERT	EPA ESE, Low BSFC
813	739	–	650	591	–	3412C	Low BSFC
875	794	–	700	635	–	3412C	Low BSFC
938	850	–	750	680	–	3412C	Low BSFC

Ratings continued on page 62

Ratings continued from page 61

kVA			ekW			Generator Set Model	Configuration
Standby	Prime	Cont.	Standby	Prime	Cont.		
1800 rpm (continued)							
938	850	–	750	680	–	C27 ACERT	EPA ESE, Low BSFC
1000	906	–	800	725	–	3412C	Low BSFC
1000	1035	–	800	725	–	C27 ACERT	EPA T4i NRG, EPA ESE, Low BSFC
1000	906	–	800	725	–	3512C	Low BSFC
1250	1138	1038	1000	910	830	C32 ACERT	EPA, Low BSFC
1375	1250	1113	1100	1000	890	3512	Low BSFC
1563	1419	1263	1250	1135	1010	3512	Low BSFC
1750	1594	1538	1400	1275	1230	3512B	Low BSFC, Low Emissions
1875	1700	1538	1500	1360	1230	3512B	Low BSFC, Low Emissions
1875	1700	1538	1500	1360	1230	3512C	EPA ESE
2188	2000	1813	1750	1600	1450	3516	Low BSFC
2500	2281	2050	2000	1825	1640	3516B	Low BSFC, Low Emissions
2500	2281	2063	2000	1825	1650	3516C	EPA ESE
2813	–	–	2250	–	–	3516B	Low BSFC
3125	2813	2563	2500	2250	2050	3516C (HD)	EPA T4i NRG, EPA ESE
3750	3406	3125	3000	2725	2500	C175-16	EPA T4i NRG, Low BSFC, EPA ESE
3875	3531	3250	3100	2825	2600	C175-16	EPA T4i NRG, Low BSFC, EPA ESE
5000	4500	4063	4000	3600	3250	C175-20	EPA ESE, Low BSFC
900 rpm							
–	–	1224	–	–	979	6CM20C	Low BSFC
–	–	1632	–	–	1309	8CM20C	Low BSFC
–	–	1836	–	–	1469	9CM20C	Low BSFC
2500	2275	2063	2000	1820	1650	3606	Low BSFC
3325	3025	2750	2660	2420	2200	3608	Low BSFC
5000	4550	4125	4000	3640	3300	3612	Low BSFC
6650	6050	5500	5320	4840	4400	3616	Low BSFC

Ratings continued on page 63

Ratings continued from page 62

kVA			ekW			Generator Set Model	Configuration
Standby	Prime	Cont.	Standby	Prime	Cont.		
720 rpm							
–	–	2160	–	–	1728	6CM25C	Low BSFC
–	–	2880	–	–	2304	8CM25C	Low BSFC
–	–	3240	–	–	2592	9CM25C	Low BSFC
–	–	7275	–	–	5820	12CM32C	Low BSFC
–	–	9700	–	–	7760	16CM32C	Low BSFC
600 rpm							
–	–	3456	–	–	2765	6CM32C	Low BSFC
–	–	4608	–	–	3686	8CM32C	Low BSFC
–	–	5184	–	–	4147	9CM32C	Low BSFC
514 rpm							
–	–	6839	–	–	5471	6CM43C	Low BSFC
–	–	7639	–	–	6111	7CM43C	Low BSFC
–	–	8730	–	–	6984	8CM43C	Low BSFC
–	–	10258	–	–	8206	9CM43C	Low BSFC
–	–	13677	–	–	10942	12CM43C	Low BSFC
–	–	18236	–	–	14589	16CM43C	Low BSFC

Generator Set Ratings – 1056 ekW-17460 ekW

ekW	kVA	Duty	Generator Set Model	Notes
60 Hz – 1800 rpm				
1360	1700	Prime	3512B with Dynamic Gas Blending	Diesel with up to 70% NG/LNG/CNG/FG
50 Hz – 1500 rpm				
1056	1500	Cont	3512B with Dynamic Gas Blending	Diesel with up to 70% NG/LNG/CNG/FG
1200	1750	Prime	3512B with Dynamic Gas Blending	Diesel with up to 70% NG/LNG/CNG/FG
1600	2000	Prime	3516B with Dynamic Gas Blending	Diesel with up to 70% NG/LNG/CNG/FG
50/60 Hz – 750/720 rpm				
2910	3638	Cont	6CM34DF	LFO/Crude/HFO with NG/LNG
3880	4850	Cont	8CM34DF	LFO/Crude/HFO with NG/LNG
4365	5456	Cont	9CM34DF	LFO/Crude/HFO with NG/LNG
50/60 Hz – 500/514 rpm				
5238	6548	Cont	6CM46DF	LFO/Crude/HFO with NG/LNG
6111	7639	Cont	7CM46DF	LFO/Crude/HFO with NG/LNG
6984	8730	Cont	8CM46DF	LFO/Crude/HFO with NG/LNG
7857	9821	Cont	9CM46DF	LFO/Crude/HFO with NG/LNG
10476	13095	Cont	12CM46DF	LFO/Crude/HFO with NG/LNG
13968	17460	Cont	16CM46DF	LFO/Crude/HFO with NG/LNG
17460	21825	Cont	20CM46DF	LFO/Crude/HFO with NG/LNG

50 Hz Oilfield Generator Set Ratings – 110-1560 ekW

ekW	rpm	Generator Set Model
	1500 rpm	
110	1500	G3306B
1560	1500	CG170-16

50 Hz Generator Set Ratings – 86-9700 ekW

ekW	rpm	Generator Set Model
	1500 rpm	
86	1500	G3306
115	1500	G3306
126	1500	G3406
166	1500	G3406
374	1500	G3412C
400	1500	CG132-8
485	1500	G3508
600	1500	CG132-12
731	1500	G3512
777	1500	G3512
800	1500	CG132-16
983	1500	G3516
1017	1500	G3512E
1088	1500	G3516B
1200	1500	CG170-12
1211	1500	G3512E
1560	1500	CG170-16
1603	1500	G3516E
1605	1500	G3516C
1976	1500	G3520C
2000	1500	CG170-20
2010	1500	G3520C
2022	1500	G3516H
2039	1500	G3520E
	1000 rpm	
1722	1000	G3608
2582	1000	G3612
3333	1000	CG260-12
3440	1000	G3616
4300	1000	CG260-16
	750 rpm	
6518	750	G16CM34
9700	750	G20CM34

60 Hz Oilfield Generator Set Ratings – 110-1560 ekW

ekW	rpm	Generator Set Model
	1800 rpm	
110	1800	G3306B*
282	1800	CG137-8
400	1800	CG137-12**
	1200 rpm	
373	1200	G3508
380	1200	G3508
564	1200	G3512
581	1200	G3512
755	1200	G3516
779	1200	G3516

60 Hz Generator Set Ratings – 86-9700 ekW

ekW	rpm	Generator Set Model
	1800 rpm	
104	1800	G3306
131	1800	G3306B
143	1800	G3306
155	1800	G3406
217	1800	G3406
253	1800	G3412
400	1800	CG137-12
401	1800	CG132-8
403	1800	G3412
453	1800	G3412C
600	1800	CG132-12
800	1800	CG132-16
1312	1800	G3516B
1626	1800	G3520C
1663	1800	G3516C
2008	1800	G3516H
2026	1800	G3520E
2077	1800	G3520C
	1500 rpm	
1200	1500	CG137-12
1550	1500	CG170-16
2000	1500	CG170-20
	900 rpm	
1549	900	G3608
2347	900	G3612
3000	900	CG260-12
3121	900	G3616
4000	900	CG260-16
	720 rpm	
6518	720	G16CM34
9700	720	G20CM34

*NR Mobile and Stationary with FG and Propane

**NR Mobile with FG

Mechanical Drive Engine Ratings; Highly Regulated Areas – 140-895 bkW

Model	bkW	bhp	rpm	Emissions
C7.1 ACERT	140 - 225	188 - 302	2200	EPA T4i NRNG, EU IIIB NR
C7.1 ACERT	116 - 225	156 - 302	2200	EPA T4f NRNG, EU IV NR
C9.3 ACERT	224 - 261	300 - 350	1800 - 2200	EPA T4i NRNG, EU IIIB NR
C9.3 ACERT	224 - 298	300 - 400	1800 - 2200	EPA T4f NRNG, EU IV NR
C13 ACERT	287 - 388	385 - 520	1800 - 2100	EPA T4i NRNG, EU IIIB NR
C13 ACERT	287 - 388	385 - 520	1800 - 2100	EPA T4f NRNG, EU IV NR
C15 ACERT	354 - 433	475 - 580	1800 - 2100	EPA T4i NRNG, EU IIIB NR
C15 ACERT	354 - 433	475 - 580	1800 - 2100	EPA T4f NRNG, EU IV NR
C18 ACERT	447 - 522	600 - 700	1800 - 1900	EPA T4i NRNG, EU IIIB NR
C18 ACERT	563 - 597	755 - 800	1800 - 1900	EPA T4i NRNG
C18 ACERT	429 - 470	575 - 630	1800 - 2000	EPA T4f NRNG, EU IV NR
C18 ACERT	563 - 597	755 - 800	1800	EPA T4f NRNG
C27 ACERT	597 - 783	800 - 1050	1800 - 2100	EPA T4i NRNG
C27 ACERT	597 - 708	800 - 950	1800	EPA T4f NRNG
C32 ACERT	709 - 895	950 - 1200	1800 - 2100	EPA T4i NRNG
C32 ACERT	839	1125	1800	EPA T4f NRNG

Ratings continued on page 68

Ratings continued from page 67

Mechanical Drive Engine Ratings; Lesser Regulated Areas – 168-15040 bkW

Model	bkW	bhp	rpm	Fuel
C7 ACERT	168-224	225-300	1800-2200	Diesel
C9 ACERT	205-261	275-350	2100	Diesel
C11 ACERT	242-336	325-450	2100	Diesel
C13 ACERT	287-387	385-520	2100	Diesel
C15 ACERT	328-443	440-595	2100	Diesel
3406C	343	460	2100	Diesel
C18 ACERT	429-596	575-800	2100	Diesel
C27 ACERT	596-782	800-1050	2100	Diesel
3508	470-847	680-1135	1200-1900	Diesel
3508B	566-671	760-900	1200	Diesel
C32 ACERT	596-1118	800-1500	1800-2200	Diesel
3512	761-1118	1020-1500	1200-1800	Diesel
3516	1011-1275	1355-1710	1200-1800	Diesel
3512B	1492-1678	2000-2250	1900	Diesel
3606	1490-1850	2000-2480	750-1000	Diesel/Crude
3608	1980-2460	2655-3300	800-1000	Diesel/Crude
3612	2980-3700	4000-4962	750-1000	Diesel/Crude
3616	3960-4920	5310-6598	800-1000	Diesel/Crude
6CM20C	1140	1530	1000	Diesel/Crude/HFO
8CM20C	1520	2040	1000	Diesel/Crude/HFO
9CM20C	1710	2290	1000	Diesel/Crude/HFO
6CM25C	1800	2410	750	Diesel/Crude/HFO
8CM25C	2400	3220	750	Diesel/Crude/HFO
9CM25C	2700	3620	750	Diesel/Crude/HFO
6CM32C	2880	3860	600	Diesel/Crude/HFO
8CM32C	3840	5150	600	Diesel/Crude/HFO
9CM32C	4320	5795	600	Diesel/Crude/HFO
12CM32C	6000	8045	750	Diesel/Crude/HFO
16CM32C	8000	10730	750	Diesel/Crude/HFO
6CM43C	5640	7565	514	Diesel/Crude/HFO
7CM43C	6300	8450	514	Diesel/Crude/HFO
8CM43C	7200	9655	514	Diesel/Crude/HFO
9CM43C	8460	11345	514	Diesel/Crude/HFO
12CM43C	11280	15125	514	Diesel/Crude/HFO
16CM43C	15040	20170	514	Diesel/Crude/HFO

Mechanical Drive Engine Ratings – 3000 bkW-18000 bkW

Model	bkW	bhp	rpm	Fuel
6CM34DF	3000	4020	750	LFO/Crude/HFO with NG/LNG
8CM34DF	4000	5360	750	LFO/Crude/HFO with NG/LNG
9CM34DF	4500	6030	750	LFO/Crude/HFO with NG/LNG
6CM46DF	5400	7240	514	LFO/Crude/HFO with NG/LNG
7CM46DF	6300	8450	514	LFO/Crude/HFO with NG/LNG
8CM46DF	7200	9655	514	LFO/Crude/HFO with NG/LNG
9CM46DF	8700	10860	514	LFO/Crude/HFO with NG/LNG
12CM46DF	10800	14370	514	LFO/Crude/HFO with NG/LNG
16CM46DF	14400	19080	514	LFO/Crude/HFO with NG/LNG
20CM46DF	18000	23850	514	LFO/Crude/HFO with NG/LNG

Mechanical Drive Engine Ratings – 71-10000 bkW

Model	bkW	bhp	rpm
G3304B	71	95	1800
G3306B	108-157	145-211	1800
G3406	160-242	215-325	1800
G3408	190-298	255-400	1800
G3408C	317	425	1800
G3412	448	600	1800
CG137-8	298	400	1800
CG137-12	447	600	1800
G3412C	475	637	1800
G3508	391	524	1200
G3508	500	670	1400
G3508B	515	690	1400
G3512	589-642	790-860	1200
G3512	749	1004	1400
G3512B	772	1035	1400
G3516	492-858	660-1150	1200
G3516	1000	1340	1400
G3516B	1029	1380	1400
G3520B	1104	1480	1200
G3520B	1286	1725	1400
G3606	1324-1413	1775-1895	1000
G3608	1767-1879	2370-2520	1000
G3612	2647-2822	3550-3785	1000
G3616	3531-3762	4735-5045	1000
G12CM34	4575	6135	750
G16CM34	6720	9010	750
G20CM34	10000	13410	750

Land Fire Pump Engine Ratings – 172-6100 bkW

Model	bkW	bhp	rpm	Exhaust Manifold	NFPA 20	NFPA 20 Intent	Hazardous Location Certified
C7 ACERT	172	230	2200	wet		X[1,2]	X[3]
C7 ACERT	205	275	2200	wet		X[1,2]	X[3]
3406	218	292	1750	wet	X		
3406	218	292	1750	wet			
C9 ACERT	242	325	2200	wet		X[1,2]	
C9 ACERT	254	340	2200	wet		X[1,2]	X[3]
C9 ACERT	269	361	1800	wet		X[1]	
3406	276	370	1750	dry	X		
3406	276	370	1750	dry			
3406	313	420	1750	wet	X		
3406	313	420	1750	wet			
3406	321	430	2100	wet	X		
3406	321	430	2100	wet			
3406	339	455	2300	dry	X		
3406	339	455	2300	dry			
3406	343	460	1750	dry	X		
3406	343	460	1750	dry			
3406	359	482	2100	dry	X		
3406	359	482	2100	dry			
C15 ACERT	400	536	1800 - 2000	wet		X[1,2]	X[3]
C18 ACERT	448	600	2100	dry	X		
C18 ACERT	448	600	1900	dry	X		
C18 ACERT	448	600	1750	dry	X		
C18 ACERT	465	624	1800	wet		X[1]	
3412	476	638	1750	wet		X	
3412	476	638	1750	wet		X	
C18 ACERT	522	700	2100	dry	X		
C18 ACERT	522	700	1900	dry	X		
C18 ACERT	522	700	1750	dry	X		
C18 ACERT	522	700	1500	dry	X		
3412	551	739	2100	wet		X	
3412	551	739	1900	wet		X	
3412	551	739	2100	wet		X	
3412	551	739	1900	wet		X	
C18 ACERT	597	800	2100	dry	X		
C18 ACERT	597	800	1900	dry	X		

Ratings continued on page 72

Ratings continued from page 71

Model	bkW	bhp	rpm	Exhaust Manifold	NFPA 20	NFPA 20 Intent	Hazardous Location Certified
C18 ACERT	597	800	1750	dry	X		
C32 ACERT	642	860	2100	wet		X[1,2]	X[3]
C32 ACERT	683	916	1800	wet		X[1,2]	
C32 ACERT	686	920	2100	wet		X[1,2]	X[3]
3508	709	950	1460	wet		X	
3508	746	1000	1800	wet		X[2]	
C32 ACERT	746	1000	1600-1800	wet		X[1,2]	
C32 ACERT	746	1000	1600-1800	wet		X[1,2]	
C32 ACERT	746	1000	1800	wet		X[1,2]	
3508	795	1065	1750	wet		X	
C32 ACERT	828	1110	2100	wet		X[1,2]	X[3]
C32 ACERT	970	1300	1800	wet		X[1,2]	
3512	1066	1430	1460	wet		X	
3512	1118	1500	1800	wet		X[2]	
3512	1195	1600	1750	wet		X	
3516	1417	1900	1460	wet		X	
3516	1480	1985	1750	wet		X	
3516	1491	2000	1800	dry			
3516	1491	2000	1800	wet		X[2]	
3512C (HD)	1678	2250	1800	dry		X[2]	
3512C (HD)	1765	2365	1800	dry		X[2]	
3512C (HD)	1821	2442	1800	dry		X[1]	
3516C (HD)	1921	2576	1800	dry		X[1]	
3516C (HD)	2350	3151	1800	dry		X[2]	

Note: Additional components may be required to meet NFPA 20 intent requirements. Contact your local Cat dealer for technical support.

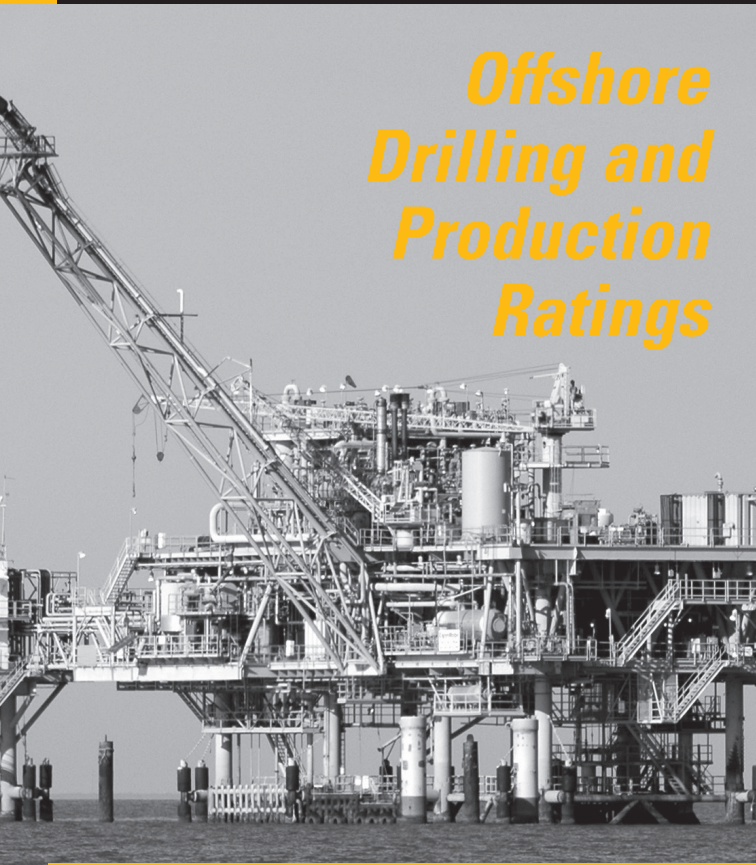
[1]Does not include required dual ECM

[2]Does not include 10% overload of advertised engine power. Will meet NFPA20 intent if pump is sized with nameplate 10% below engine advertised power.

[3]"X" indicates factory-certified for hazardous locations; hazardous location compliance for other ratings is possible through customization at the dealership.

Consult LEDW0018 for additional details.

Offshore Drilling and Production Ratings



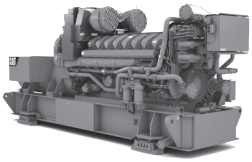
Cat engines and generator sets are widely known for performance, reliability, durability, and fuel flexibility in the offshore oil and gas industry. With ratings capable of operating on MDO, LFO, HFO, crude oil, and dual fuel, offshore products include generator sets for main, essential, and emergency power plus a wide range of fire pump and crane engines. The global Cat dealer network covers offshore operations with warranty, parts, service, and technical support any time, anywhere.

Offshore Generator Set Ratings – 60 Hz

ekW	kVA	Generator Set Model
600-968	750-1138	3508B
1030-1360	1287-1943	3512B
1030-1700	1470-2125	3512C
1037-1555	1296-1944	CM20
1285-1825	1606-2281	3516B
1650-1820	2062-2600	C280-6
1833	2619	C175-16
1285 -2250	1836-2813	3516C
2200-2420	2750-3457	C280-8
1920-2880	2400-3600	CM25
3300-3650	4125-5214	C280-12
4400-5500	5500-7857	C280-16
2880-8226	3600-10282	CM32
2910-4365	3638-5456	CM34DF
6111-16296	7639-20370	CM43
5238-17460	6548-21725	CM46DF

Offshore Generator Set Ratings – 50 Hz

ekW	kVA	Generator Set Model
639-779	799-974	3508C
880-1200	1100-1500	3512B
1152-1728	1440-2160	CM20
1180-1600	1475-2000	3516B
1631-1843	2039-2304	3516C
1760-1940	2200-2771	C280-6
2300	2875	C175-16
2362-2600	2953-3714	C280-8
1920-2880	2400-3600	CM25
3520-3900	4400-5571	C280-12
4700-5200	5875-7429	C280-16
2880-8226	3600-10282	CM32
2910-4365	3638-5456	CM34DF
6111-16296	7239-20370	CM43
5238-17460	6548-21825	CM46DF

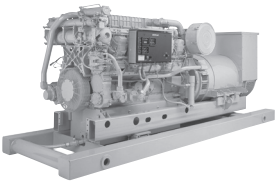


Generator Sets

Caterpillar reduced emission generator sets combine the 3516C (HD) – 1200 rpm, C175-16 – 1200 rpm, C280-12 – 900 rpm, and C280-16 rpm increased exhaust backpressure engines with Caterpillar Emission Solutions SCRs to offer NOx emission levels eqivalent to IMO III (non-certified). Contact the Application Support Center for additional Information.

Offshore Reduced Emission Generator Set Ratings

Model	Duty	bkW	ekW[1]	kVA[1]	Emissions
1200 rpm/60 Hz					
3516C (HD)	MCR	1383	1285	1836	IMO II
3516C (HD)	MCR	1603	1530	2186	IMO II
C175-16	MCR	1930	1833	2619	IMO II
900 rpm/60 Hz					
C280-12	MCR	3800	3650	5214	IMO II
C280-16 FMT	MCR	5730	5500	7857	IMO II



Offshore Generator Set Ratings

Model	Duty	bkW	ekW[1]	kVA[1]	Emissions
1000 rpm/50 Hz					
3512B	OS-Prime	933	880	1100	IMO I
3516B	OS-Prime	1257	1180	1475	IMO I
1200 rpm/60 Hz					
3508B	MCR	682	600	750	IMO I
3512B	MCR	1102	1030	1287	IMO I
3512B	MCR	1102	1030	1470	IMO I
3516B	MCR	1383	1285	1606	IMO I
3516B	MCR	1383	1285	1836	IMO I
3516B (HD)	MCR	1603	1530	2186	IMO I
1500 rpm/50 Hz					
3508B	OS-Prime	856	800	1000	IMO I
3512B	OS-Prime	1257	1200	1500	IMO II
3516B	OS-Prime	1566	1460	1825	IMO I
3516B	OS-Prime	1717	1600	2000	IMO II
1800 rpm/60 Hz					
3508B	OS-Prime	968	910	1138	IMO I
3512B	OS-Prime	1424	1360	1700	IMO I
3512B	OS-Prime	1424	1360	1943	IMO I
3516B	OS-Prime	1901	1825	2281	IMO I

Ratings continued on page 77

Ratings continued from page 76

Specifications[2]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
3508B	4031 (158.7)	1784 (70.2)	2048 (80.6)	12 475 (27,503)	35 (2116)
3512B	4660 (183.5)	1988 (78.3)	2043 (80.4)	14 975 (33,014)	52 (3161)
3516B	6095 (240)	2147 (84.5)	2106 (82.9)	17 500 (38,580)	69 (4233)
3516B (HD)	6095 (240)	2147 (84.5)	2214 (87.2)	18 800 (41,400)	78 (4764)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)
Bore x Stroke – mm (in) (HD) 170 x 215 (6.7 x 8.5)

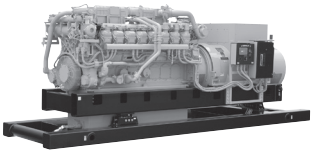
[1]Dependent on generator selection and power factor.

[2]Dimensions and weights are dependent on generator and options selected. See general installation drawings for details.

Please see spec sheet for more information:

3508B LEHW0123
3512B LEHW0124, LEHW0125
3516B LEHW0126, LEHW0127

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings

Model	Duty	bkW	ekW[1]	kVA[1]	Emissions
1200 rpm/60 Hz					
3512C	MCR	1102	1030	1470	IMO II
3516C (HD)*	MCR	1383	1285	1836	IMO II
3516C (HD)*	MCR	1603	1530	2186	IMO II
1500 rpm/50 Hz					
3508C	OS-Prime	673	639	799	IMO II
3508C	OS-Prime	820	779	974	IMO II
3512C	OS-Prime	1362	1294	1618	IMO II
3516C	OS-Prime	1717	1631	2039	IMO II
3516C	OS-Prime	1940	1843	2304	IMO II
1800 rpm/60 Hz					
3512C	OS-Prime	1432	1360	1700	IMO II
3512C (HD)	OS-Prime	1632	1550	1938	IMO II
3512C (HD)	OS-Prime	1790	1700	2125	IMO II
3516C (HD)	OS-Prime	2350	2250	2813	IMO II

*Available with increased exhaust backpressure.

[1]Dependent on generator selection and power factor.

[2]Dimensions and weights are dependent on generator and options selected. See general installation drawings for details.

Specifications

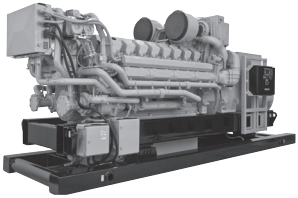
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
3512C	5448 (214.5)	1825 (71.9)	2313 (91)	14 975 (33,300)	51.8 (3161)
3516C (HD)	6705 (264)	1986 (78.2)	2535 (99.8)	18 800 (41,400)	78 (4764)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)
Bore x Stroke (HD) – mm (in) 170 x 215 (6.7 x 8.5)

Please see spec sheet for more information:

3512C ..... LEHW0078 3516C (HD)..... LEHW0073, LEHW0155

For diesel engine rating definitions please see page 14.



Offshore Generator Set Rating

Model	Duty	bkW	ekW[1]	kVA[1]	Emissions
1200 rpm/60 Hz					
C175-16*	MCR	1930	1833	2619	IMO II
1500 rpm/50 Hz					
C175-16	OS-Prime	2418	2300	2875	IMO II

Specifications[2]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
C175-16 50 Hz	6782 (267)	2413 (95)	2928 (115)	25 991 (57,300)	85 (5164)
C175-16 60 Hz	6742 (265)	2125 (84)	2916 (115)	24 312 (53,599)	85 (5164)

Bore x Stroke – mm (in) 175 x 220 (6.9 x 8.7)

*Available with increased exhaust backpressure.

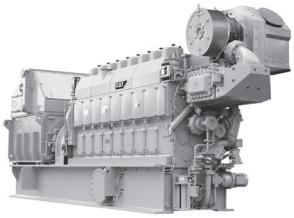
[1]Dependent on generator selection and power factor.

[2]Dimensions and weights are dependent on generator and options selected. See general installation drawings for details.

Please see spec sheet for more information:

C175-16 50 Hz..... LEHW0151 C175-16 60 Hz LEHW6097

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
900 rpm/60 Hz					
6CM20C	Prime	1080	1037	1296	IMO II
8CM20C	Prime	1440	1380	1728	IMO II
9CM20C	Prime	1620	1500	1944	IMO II
1000 rpm/50 Hz					
6CM20C	Prime	1200	1152	1440	IMO II
8CM20C	Prime	1600	1536	1920	IMO II
9CM20C	Prime	1800	1728	2160	IMO II

[1] Ratings Available in MDO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.
[2] Generator efficiency of 96% and 0.8 power factor.

Specifications[3]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
6CM20C	6073 (239.1)	1680 (66.1)	3219 (126.7)	18.8 (41,447)	57 (3480)
8CM20C	6798 (267.6)	1816 (71.5)	3389 (133.4)	23.1 (50,927)	75 (4580)
9CM20C	7128 (280.6)	1816 (71.5)	3389 (133.4)	30.0 (66,139)	85 (5190)

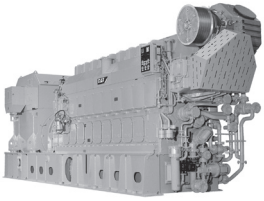
Bore x Stroke – mm (in) 200 x 300 (7.9 x 11.8)

[3] Base-mounted generator sets. Final dimensions dependent on generator make/type.

Please see spec sheet for more information:

6CM20C..... LEPW0045
8CM20C..... LEPW0046
9CM20C..... LEPW0047

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
750/720 rpm – 50/60 Hz					
6CM25C	Prime	2000	1920	2400	IMO II
8CM25C	Prime	2666	2559	3199	IMO II
9CM25C	Prime	3000	2880	3600	IMO II

[1] Ratings Available in MDO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.

[2] Generator efficiency of 96% and 0.8 power factor.

Specifications[3]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
6CM25C	8070 (317.7)	2479 (97.6)	4290 (168.9)	43 (94,799)	123 (7510)
8CM25C	9130 (359.4)	2534 (99.8)	4437 (174.7)	53 (116,845)	163 (9500)
9CM25C	9516 (374.6)	2534 (99.8)	4437 (174.7)	56 (123,459)	184 (11,230)

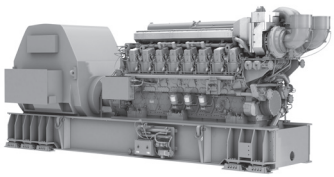
Bore x Stroke – mm (in) 255 x 400 (10 x 15.7)

[3] Base-mounted generator sets. Final dimensions dependent on generator make/type.

Please see spec sheet for more information:

6CM25C..... LEPW0033
8CM25C..... LEPW0034
9CM25C..... LEPW0035

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings

Model	Duty	bkW	ekW[1]	kVA[1]	Emissions
900 rpm/60 Hz					
C280-6	Cont	1730	1650	2062	IMO II
C280-6	MCR	1900	1820	2600	IMO II
C280-8	Cont	2300	2200	2750	IMO II
C280-8	MCR	2530	2420	3457	IMO II
C280-12	Cont	3460	3300	4125	IMO II
C280-12*[T]	MCR	3800	3650	5214	IMO II
C280-16	Cont	4600	4400	5500	IMO II
C280-16*	MCR	5060	4840	6914	IMO II
C280-16**	MCR	5600	5375	7679	IMO II
C280-16**[T]	MCR	5730	5500	7857	IMO II
1000 rpm/50 Hz					
C280-6	Cont	1850	1760	2200	IMO II
C280-6	MCR	2030	1940	2771	IMO II
C280-8	Cont	2460	2362	2953	IMO II
C280-8	MCR	2710	2600	3714	IMO II
C280-12	Cont	3700	3520	4400	IMO II
C280-12	MCR	4060	3900	5571	IMO II
C280-16	Cont	4920	4700	5875	IMO II
C280-16	MCR	5420	5200	7429	IMO II

* Available with front- or rear-mounted turbochargers.

** Front-mounted turbochargers, all other ratings are rear-mounted turbochargers.

[T]Available with increased exhaust backpressure.

[1]Dependent on generator selection and power factor.

Ratings continued on page 83

Ratings continued from page 82

Specifications[2]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
C280-6	7441 (292.9)	2326 (91.6)	3406 (134.1)	41.5 (91 492)	111 (6773)
C280-8	8140 (320.5)	2326 (91.6)	3406 (134.1)	49 (108,027)	148 (9031)
C280-12	8125 (319.9)	2568 (101.1)	3973 (156.4)	56.5 (124,561)	222 (13,546)
C280-16 FMT	10283 (404.8)	2800 (110.2)	4092 (161.1)	66 (145,505)	296 (18,062)
C280-16 RMT	9873 (388.7)	2931 (115.4)	4092 (161.1)	64 (141,096)	296 (18,062)

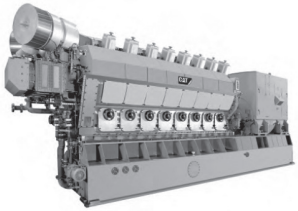
Bore x Stroke – mm (in) 280 x 300 (11 x 11.8)

[2]Dimensions and weights are dependent on generator and options selected. See general installation drawings for details.

Please see spec sheet for more information:

C280-6 ..... LEHW0085, LEHW0091
C280-8 ..... LEHW0086, LEHW0092
C280-12 ..... LEHW0087, LEHW0093
C280-16 ..... LEHW0088, LEHW0094, LEHW0182

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
600 rpm – 50/60 Hz					
6CM32C	Prime	3000	2880	3600	IMO II
8CM32C	Prime	4000	3840	4800	IMO II
9CM32C	Prime	4500	4320	5400	IMO II
750/720 rpm – 50/60 Hz					
6CM32C	Prime	3300	3168	3960	IMO II
8CM32C	Prime	4400	4224	5280	IMO II
9CM32C	Prime	4950	4752	5940	IMO II
12CM32C	Prime	6360	6169	7712	IMO II
12CM32C[3]	Prime	6720[3]	6518	8150	IMO II
16CM32C	Prime	8480	8226	10282	IMO II
16CM32C[3]	Prime	8960[3]	8691	10860	IMO II

[1] Ratings Available in MDO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.

[2] Generator efficiency of 97% and 0.8 power factor.

[3] Ratings available in MDO only.

Specifications[4]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
6CM32C/E	9302 (366.2)	2639 (103.9)	5275 (207.7)	73.0 (160,937)	232 (14,160)
8CM32C/E	10 886 (428.6)	2611 (102.8)	5413 (213.1)	92.0 (202,825)	309 (18,860)
9CM32C/E	11 419 (449.6)	2611 (102.8)	5413 (213.1)	98.0 (216,053)	347 (21,180)
12CM32C	10 980 (432.3)	3142 (123.7)	5715 (225.0)	127.1 (280,208)	444 (27,090)
16CM32C	12 420 (489.0)	3750 (147.6)	5661 (222.9)	149.9 (330,473)	592 (36,130)

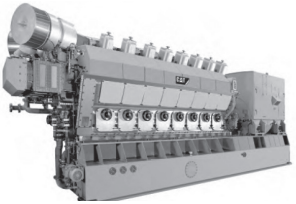
Bore x Stroke – mm (in) 320 x 480 (12.6 x 18.9)

[4] Base-mounted generator sets. Final dimensions dependent on generator make/type.

Please see spec sheet for more information:

6CM32C..... LEPW0042
8CM32C..... LEPW0043
9CM32C..... LEPW0044
12CM32C LEPW0051, LEPW0079
16CM32C LEPW0052, LEPW0068

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
750/720 rpm – 50/60 Hz					
6CM34DF	Prime	3000	2910	3638	IMO II/III
8CM34DF	Prime	4000	3880	4850	IMO II/III
9CM34DF	Prime	4500	4365	5456	IMO II/III

[1] Ratings Available in MDO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.

[2] Generator efficiency of 97% and 0.8 power factor.

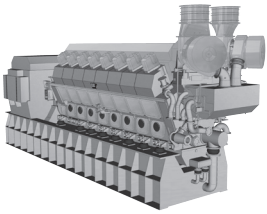
Specifications[3]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in^3)
6CM34DF	9302 (366.2)	2639 (103.9)	5275 (207.7)	73.0 (160,937)	232 (14,160)
8CM34DF	10 886 (428.6)	2611 (102.8)	5413 (213.1)	92.0 (202,825)	309 (18,860)
9CM34DF	11 419 (449.6)	2611 (102.8)	5413 (213.1)	98.0 (216,053)	347 (21,180)

Bore x Stroke – mm (in) 340 x 480 (13.4 x 18.9)

[3] Base-mounted generator sets. Final dimensions dependent on generator make/type.

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
500/514 rpm – 50/60 Hz					
6CM43C	Prime	6300	6111	7639	IMO II
7CM43C	Prime	7350	7130	8912	IMO II
8CM43C	Prime	8400	8148	10185	IMO II
9CM43C	Prime	9450	9167	11458	IMO II
12CM43C	Prime	12600	12222	15278	IMO II
16CM43C	Prime	16800	16296	20370	IMO II

[1] Ratings Available in MDO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.

[2] Generator efficiency of 97% and 0.8 power factor.

Specifications[3]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
6CM43C	12 800 (503.9)	3382 (133.1)	7281 (286.7)	170.0 (374,786)	532 (32,460)
7CM43C	13 600 (535.4)	3382 (133.1)	7281 (286.7)	185.0 (407,855)	620 (37,380)
8CM43C	14 300 (563.0)	3382 (133.1)	7281 (286.7)	201.4 (444,011)	709 (43,270)
9CM43C	14 700 (578.7)	3382 (133.1)	7281 (286.7)	219.0 (482,812)	797 (48,640)
12CM43C	15 000 (590.6)	3800 (149.6)	7640 (300.8)	275.0 (606,271)	1063 (64,870)
16CM43C	16 800 (661.4)	3800 (149.6)	7640 (300.8)	345.0 (760,595)	1417 (86,470)

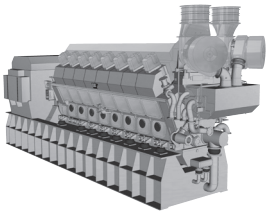
Bore x Stroke – mm (in) 430 x 610 (16.9 x 24.0)

[3] Base-mounted generator sets. Final dimensions dependent on generator make/type.

Please see spec sheet for more information:

12CM32C LEPW0053
16CM32C LEPW0054

For diesel engine rating definitions please see page 14.



Offshore Generator Set Ratings[1]

Model	Duty	bkW	ekW[2]	kVA[2]	Emissions
500/514 rpm – 50/60 Hz					
6CM46DF	Prime	5400	5238	6548	IMO II/III
7CM46DF	Prime	6300	6111	7639	IMO II/III
8CM46DF	Prime	7200	6984	8730	IMO II/III
9CM46DF	Prime	8100	7857	9821	IMO II/III
12CM46DF	Prime	10800	10476	13095	IMO II/III
16CM46DF	Prime	14400	13968	17460	IMO II/III
20CM46DF	Prime	18000	17460	21825	IMO II/III

[1] Ratings Available in LFO, HFO, and crude oil fuel. ISO 3046-1 reference conditions.

[2] Generator efficiency of 97% and 0.8 power factor.

Specifications[3]

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – tonnes (lbs)	Disp – L (in³)
6CM46DF	12 800 (503.9)	3382 (133.1)	7281 (286.7)	170.0 (374,786)	608 (37,100)
7CM46DF	13 600 (535.4)	3382 (133.1)	7281 (286.7)	185.0 (407,855)	710 (43,330)
8CM46DF	14 300 (563.0)	3382 (133.1)	7281 (286.7)	201.4 (444,011)	811 (49,490)
9CM46DF	14 700 (578.7)	3382 (133.1)	7281 (286.7)	219.0 (482,812)	912 (55,650)
12CM46DF	15 000 (590.6)	3800 (149.6)	7640 (300.8)	275.0 (606,271)	1217 (74,270)
16CM46DF	16 800 (661.4)	3800 (149.6)	7640 (300.8)	345.0 (760,595)	1622 (98,980)
20CM46DF	17 900 (704.7)	3940 (155.1)	7640 (300.8)	430.0 (947,978)	–

Bore x Stroke – mm (in) 460 x 610 (18.1 x 24.0)

[3] Base-mounted generator sets. Final dimensions dependent on generator make/type.

For diesel engine rating definitions please see page 14.

Offshore Fire Pump Engine Ratings

Model	bkW	bhp	rpm	Exhaust Manifold	NFPA 20	NFPA 20 Intent	MCS Approved	Hazardous Location Certified
C7 ACERT	172	230	2200	wet		X[1,2]		X[3]
C7 ACERT	205	275	2200	wet		X[1,2]		X[3]
3406	218	292	1750	wet	X			
3406	218	292	1750	wet				
C9 ACERT	242	325	2200	wet		X[1,2]		
C9 ACERT	254	340	2200	wet		X[1,2]		X[3]
C9 ACERT	269	361	1800	wet		X[1]	X	
3406	276	370	1750	dry	X			
3406	276	370	1750	dry				
3406	313	420	1750	wet	X			
3406	313	420	1750	wet				
3406	321	430	2100	wet	X			
3406	321	430	2100	wet				
3406	339	455	2300	dry	X			
3406	339	455	2300	dry				
3406	343	460	1750	dry	X			
3406	343	460	1750	dry				
3406	359	482	2100	dry	X			
3406	359	482	2100	dry				
C15 ACERT	400	536	1800 - 2000	wet		X[1,2]		X[3]
C18 ACERT	448	600	2100	dry	X			
C18 ACERT	448	600	1900	dry	X			
C18 ACERT	448	600	1750	dry	X			
C18 ACERT	465	624	1800	wet		X[1]	X	
3412	476	638	1750	wet		X		
3412	476	638	1750	wet		X		
C18 ACERT	522	700	2100	dry	X			
C18 ACERT	522	700	1900	dry	X			
C18 ACERT	522	700	1750	dry	X			
C18 ACERT	522	700	1500	dry	X			
3412	551	739	2100	wet		X		
3412	551	739	1900	wet		X		
3412	551	739	2100	wet		X		
3412	551	739	1900	wet		X		
C18 ACERT	597	800	2100	dry	X			
C18 ACERT	597	800	1900	dry	X			

Ratings continued on page 89

Ratings continued from page 88

Model	bkW	bhp	rpm	Exhaust Manifold	NFPA 20	NFPA 20 Intent	MCS Approved	Hazardous Location Certified
C18 ACERT	597	800	1750	dry	X			
C32 ACERT	642	860	2100	wet		X[1,2]		X[3]
C32 ACERT	683	916	1800	wet		X[1,2]	X	
C32 ACERT	686	920	2100	wet		X[1,2]		X[3]
3508	709	950	1460	wet		X		
3508	735	986	1750	wet				
3508	746	1000	1800	wet		X[2]	X	
C32 ACERT	746	1000	1600-1800	wet		X[1,2]	X	
C32 ACERT	746	1000	1600-1800	wet		X[1,2]	X	
C32 ACERT	746	1000	1800	wet		X[1,2]	X	
3508	795	1065	1750	wet		X		
C32 ACERT	828	1110	2100	wet		X[1,2]		X[3]
C32 ACERT	970	1300	1800	wet		X[1,2]	X	
3512	1066	1430	1460	wet		X		
3512	1118	1500	1800	wet		X[2]	X	
3512	1130	1515	1750	wet				
3512	1195	1600	1750	wet		X		
3516	1417	1900	1460	wet		X		
3516	1425	1911	1750	wet				
3516	1480	1985	1750	wet		X		
3516	1491	2000	1800	dry				
3516	1491	2000	1800	wet		X[2]	X	
3512C (HD)	1678	2250	1800	dry		X[2]	X	
3512C (HD)	1765	2365	1800	dry		X[2]	X	
3512C (HD)	1821	2442	1800	dry		X[1]	X	
3516C (HD)	1921	2576	1800	dry		X[1]	X	
3516C (HD)	2350	3151	1800	dry		X[2]	X	

Note: Additional components may be required to meet NFPA 20 intent requirements. Contact your local Cat dealer for technical support.

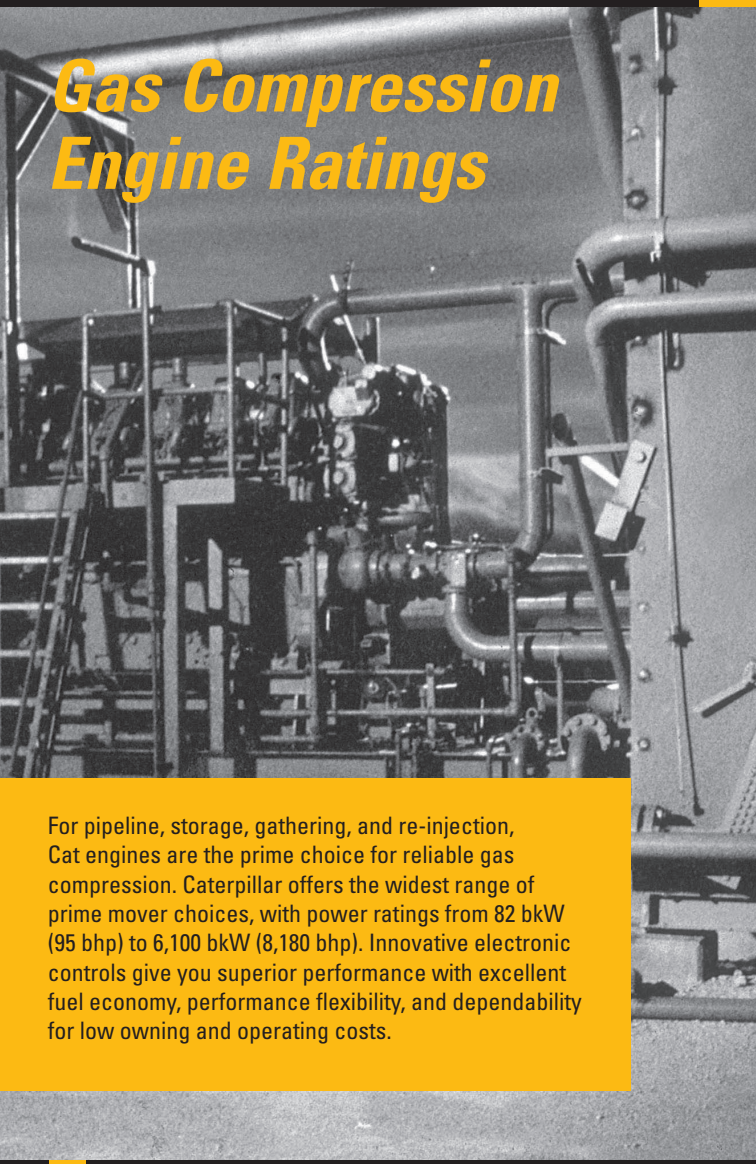
[1]Does not include required dual ECM

[2]Does not include 10% overload of advertised engine power. Will meet NFPA20 intent if pump is sized with nameplate 10% below engine advertised power.

[3]"X" indicates factory-certified for hazardous locations; hazardous location compliance for other ratings is possible through customization at the dealership.

Consult LEDW0018 for additional details.

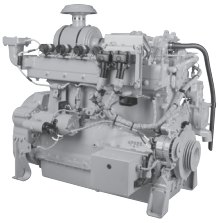
Gas Compression Engine Ratings



For pipeline, storage, gathering, and re-injection, Cat engines are the prime choice for reliable gas compression. Caterpillar offers the widest range of prime mover choices, with power ratings from 82 bkW (95 bhp) to 6,100 bkW (8,180 bhp). Innovative electronic controls give you superior performance with excellent fuel economy, performance flexibility, and dependability for low owning and operating costs.

Gas Compression Engine Ratings

Range	Engine	Page Number
95-211 bhp	G3300	85
215-637 bhp	G3400	86
400-600 bhp	CG137	87
524-1725 bhp	G3500	88-89
1775-5045 bhp	G3600	90-91
6135-8180 bhp	GCM34	92



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3304B NA	Cont	71	95	1800	NSPS Site Compliant Capable	With Caterpillar or Customer-provided AFRC & Aftertreatment* 0.5 & 1.0 g/bhp-hr NOx NTE
G3306B NA	Cont	108	145	1800	NSPS Site Compliant Capable	With Caterpillar or Customer-provided AFRC & Aftertreatment* 0.5 & 1.0 g/bhp-hr NOx NTE
G3306B TA[1]	Cont	151	203	1800	NSPS Site Compliant Capable	With Caterpillar or Customer-provided AFRC & Aftertreatment* 0.5 & 1.0 g/bhp-hr NOx NTE
G3306B TAA[1]	Cont	157	211	1800	NSPS Site Compliant Capable	With Caterpillar or Customer-provided AFRC & Aftertreatment* 0.5 & 1.0 g/bhp-hr NOx NTE

*Dependent upon engine configuration selected.

[1] 54°C/130°F Water to Aftercooler

Ratings listed are for 25°C (77°F) ambient temperature, 500' altitude, and pipeline quality gas.

Specifications

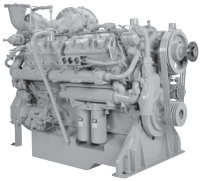
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
G3304	1158 (46)	744 (29)	1170 (46)	757 (1670)	7 (425)
G3306	1539 (60)	978 (38)	1261 (50)	948 (2090)	10.5 (640)

Bore x Stroke – mm (in) 121 x 152 (4.75 x 6.0)

Please see spec sheet for more information:

G3304 (0.5% O_2)..... LEHW0018
G3304..... LEHW0019
G3306 (0.5% O_2).....LEHW0026
G3306 .....LEHW0027
G3306B LEHW8815

For gas engine rating conditions please see page 14.



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3406 NA	Cont	160	215	1800	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 or 2% O_2 Set Points
G3406 TA[1]	Cont	206	276	1800	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 Set Point
G3406 TA[1]	Cont	242	325	1800	Export Only	2% O_2 Emission Rating
G3408 NA	Cont	190	255	1800	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 or 2% O_2 Set Points 0.5% O_2 Set Point
G3408 TA[1]	Cont	298	400	1800	Export Only	2% O_2 Emission Rating
G3408C LE[1]	Cont	317	425	1800	Export Only[2] Compliant Capable	With Customer-supplied Aftertreatment
G3412 TA[1]	Cont	448	600	1800	Export Only	2% O_2 Set Point
G3412C LE[1]	Cont	475	637	1800	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment

[1] 54°C/130°F Water to Aftercooler

[2] NSPS Site Compliant Capable with Customer-supplied SCR Aftertreatment

Specifications

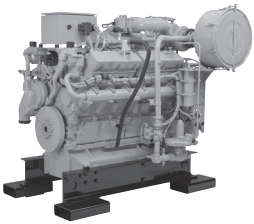
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
G3406 TA	1934 (76)	1270 (50)	1433 (56)	1362 (3000)	14.6 (893)
G3408 TA	1738 (68)	1312 (52)	1542 (61)	1680 (3700)	18 (1099)
G3408C LE	1756 (69.1)	1563 (61.5)	1758 (69.2)	2245 (4950)	18 (1099)
G3412 TA	2087 (82)	1224 (48)	1542 (61)	2143 (4720)	27 (1649)
G3412C LE	2442 (96)	1598 (63)	1960 (77)	2141 (4720)	27 (1649)

Bore x Stroke – mm (in) 137 x 152 (5.4 x 6.0)

Please see spec sheet for more information:

G3406..... LEHW0029
G3408..... LEHW0030
G3408C LE.....LEHW0031
G3412.....LEHW0032
G3412C LE..... LEHW0033

For gas engine rating conditions please see page 14.



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
CG137-8	Cont	298	400	1800	NSPS Site Compliant Capable	With Customer-provided AFRC & Aftertreatment
CG137-12	Cont	447	600	1800	NSPS Site Compliant Capable	With Caterpillar AFRC & Aftertreatment 0.5 & 1.0 g/bhp-hr NOx NTE

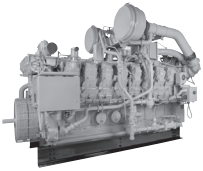
Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Disp – L (in³)
CG137-12	2092 (82.4)	1423 (56)	1778 (70)	27 (1649)

Bore x Stroke – mm (in) 137 x 152 (5.4 x 6)

Please see spec sheet for more information:
CG137-12 ..... LEHW0119

For gas engine rating conditions please see page 14.



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3508 TA[1]	Cont	391	524	1200	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 Set Point
G3508 LE[1]	Cont	500	670	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment
G3508B LE[1,2,3]	Cont	514	690	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3512 TA[1]	Cont	589	790	1200	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 Set Point
G3512 LE[1]	Cont	642	860	1200	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3512 LE[1]	Cont	749	1004	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3512B LE[1,2,3]	Cont	772	1035	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3516 NA	Cont	492	660	1200	Export Only	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 Set Point
G3516 TA[1]	Cont	783	1050	1200	NSPS Site Compliant Capable	With Customer-supplied AFRC & Aftertreatment 0.5% O_2 Set Point
G3516 LE[1]	Cont	858	1150	1200	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3516 LE[1]	Cont	1000	1340	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3516B LE[1,2,3]	Cont	1029	1380	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3520B LE[1,2,3]	Cont	1104	1480	1200	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3520B LE[1,2,3]	Cont	1286	1725	1400	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE

[1] 54°C/130°F Water to Aftercooler
[2] 250 mg/N•m³ dry NOx NTE emissions (corrected to 5% O_2)
[3] 500 mg/N•m³ dry NOx NTE emissions (corrected to 5% O_2)

Ratings listed are for 25°C (77°F) ambient temperature, 500' altitude, and pipeline quality gas.

Ratings continued on page 96

Ratings continued from page 95

Specifications

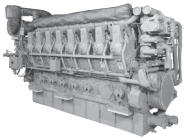
	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
G3508 LE	2440 (96)	1768 (70)	1907 (76)	5420 (11,950)	34.5 (2105)
G3508B LE	2522 (99)	2014 (79)	2131 (84)	3941 (8688)	34.5 (2105)
G3512 LE	2786 (109)	1790 (71)	1863 (73)	6676 (14,720)	51.8 (3158)
G3512B LE	3023 (119)	2220 (87.4)	2136 (84.1)	4950 (10,913)	51.8 (3158)
G3516 LE	3339 (131)	1820 (72)	1863 (73)	8015 (17,670)	69 (4211)
G3516B LE	3400 (133)	1844 (73)	2286 (90)	8401 (18,520)	69 (4211)
G3520B LE	4180 (164)	1755 (69)	2385 (94)	11,168 (24,622)	86 (5263)

Bore x Stroke – mm (in) 170 x 190 (6.7 x 7.5)

Please see spec sheet for more information:

G3508 TA LEHW0034
G3508B LE LEHW0072
G3512 TA LEHW0035
G3512B LE LEHW0095
G3516 TA LEHW0036
G3516B LE LEHW0037
G3520B LE (1200 rpm) LEHW0017
G3520B LE (1400 rpm) LEHW0038

For gas engine rating conditions please see page 14.



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3606 LE[3,4,5]	Cont	1324	1775	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 0.7 g/bhp-hr NOx NTE
G3606 LE[2,5]	Cont	1368	1835	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3606 LE[1,5]	Cont	1413	1895	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3608 LE[3,4,5]	Cont	1767	2370	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 0.7 g/bhp-hr NOx NTE
G3608 LE[2,5]	Cont	1823	2445	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3608 LE[1,5]	Cont	1879	2520	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3612 LE[3,4,5]	Cont	2647	3550	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 0.7 g/bhp-hr NOx NTE
G3612 LE[2,5]	Cont	2733	3665	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3612 LE[1,5]	Cont	2822	3785	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3616 LE[3,4,5]	Cont	3531	4735	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.5 & 0.7 g/bhp-hr NOx NTE
G3616 LE[2,5]	Cont	3647	4890	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE
G3616 LE[1,5]	Cont	3762	5045	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment 0.7 g/bhp-hr NOx NTE

[1] 32°C Aftercooler Water & 88°C Jacket Water
[2] 43°C Aftercooler Water & 88°C Jacket Water
[3] 54°C Aftercooler Water & 88°C Jacket Water
[4] 250 mg/N•m^3 dry NOx NTE emissions (corrected to 5% O_2)
[5] 350 mg/N•m^3 dry NOx NTE emissions (corrected to 5% O_2)

Ratings listed are for 25°C (77°F) ambient temperature, 500′ altitude, and pipeline quality gas.

Ratings continued on page 98

Ratings continued from page 97

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
G3606 LE	4638 (183)	1744 (69)	2921 (115)	15 676 (34,560)	127.2 (7762)
G3608 LE	5465 (215)	1868 (74)	2922 (115)	19 000 (41,888)	169.6 (10,350)
G3612 LE	4735 (186)	2380 (94)	3220 (127)	25 084 (55,300)	254 (15,528)
G3616 LE	5661 (223)	2380 (94)	3208 (126)	29 892 (65,900)	339 (20,705)

Bore x Stroke – mm (in) 300 x 300 (11.8 x 11.8)

Please see spec sheet for more information:

G3606 LE..... LEHW0039
G3608 LE..... LEHW0040
G3612 LE.....LEHW0041
G3616 LE.....LEHW0042

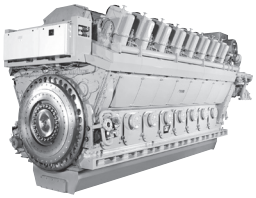
For gas engine rating conditions please see page 14.

Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3606 A4	Cont	1398-1499	1875-2010	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment
G3608 A4	Cont	1864-1995	2500-2675	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment
G3612 A4	Cont	2796-2983	3750-4000	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment
G3616 A4	Cont	3729-3990	5000-5350	1000	NSPS Site Compliant Capable	With Customer-supplied Aftertreatment

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in^3)
G3606 A4	4833.4 (190.3)	2225.2 (87.6)	2923.2 (115.1))	16 639 (36,683)	127.2 (7762)
G3608 A4	5656 (222.68)	2260 (89)	2922 (115)	21 092 (46,500)	169.6 (10,350)
G3612 A4	5431.9 (210.31)	2731.7 (107.56)	3279 (129)	26 535 (58,500)	254 (15,528)
G3616 A4	5652 (222.5)	2634 (104)	3278 (129)	32 659 (72,000)	339 (20,705)



Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G12CM34	Cont	4575	6135	750	NSPS Site Compliant Capable	0.5 & 0.7 g/bhp-hr NOx NTE
G16CM34	Cont	6750	9052	750	NSPS Site Compliant Capable	0.5 & 0.7 g/bhp-hr NOx NTE

Specifications

	L – mm (in)	W – mm (in)	H – mm (in)	Wt – kg (lbs)	Disp – L (in³)
G12CM34	7055 (278)	2992 (118)	3875 (153)	64 400 (142,000)	457 (27,907)
G16CM34	8405 (331)	2992 (118)	3875 (153)	82 000 (181,000)	610 (37,209)

Bore x Stroke – mm (in) 340 x 420 (13.4 x 16.5)

Please see spec sheet for more information:

G12CM34..... LEHW8997
G16CM34..... LEHW0001

For gas engine rating conditions please see page 14.

Specifications

	CN1566	CN5086
Rpm	1200	900
Enclosure Type	WPII	WPII
Hp Rating	1500	5000
Number of Poles	6	8
Voltages	4160 V/60 Hz	4160 V/60 Hz
Service Factor (Inverter Fed)	1.15 SF (1.0 VFD)	1.15 SF (1.0 VFD)
Temperature Rise	Class B	Class B
Insulation	Class F	Class F
Weight	8510 lb	20,856 lb

Unit Conversions

Torque
1 N•m = 0.737562 ft/lb

Power
1 kW = 1.341022 hp

Volume
1 L = 61.023744 in^3

Length
1 mm = 0.03937 in

Mass
1 kg = 2.204623 lb

Energy
1 kJ = 0.948452 BTU

Pressure
1 kPa = 0.145038 psi

Temperature
(°C x 1.8) + 32 = °F

$$\frac{(°F - 32)}{1.8} = °C$$

Fuel Consumption

$$\frac{g}{bkW\text{-}hr} \rightarrow \frac{L}{hr}$$

$$\left(\frac{g}{bkW\text{-}hr}\right) \times \left(\frac{\text{Power (bkW)}}{1000 \times \text{fuel density (kg/L)}}\right) = \frac{L}{hr}$$

Torque

$$\frac{30{,}000}{\pi} \times \frac{\text{Power (bkW)}}{\text{Speed (rpm)}} = \text{Torque (N•m)}$$

Displacement

$$\frac{\pi}{4 \times 10^6} \times [\text{bore (mm)}]^2 \times \text{stroke (mm)} \times \#\text{ cylinders} = \text{Displacement (L)}$$

BMEP

$$\frac{4\pi \times \text{Torque (N•m)}}{\text{Displacement (L)}} = \text{BMEP (kPa)}$$

Generator Set Ratings

Real Power (ekW) = Brake Power (bkW) x Generator Efficiency

$$\text{Power Factor} = \frac{\text{Real Power (ekW)}}{\text{Apparent Power (kVA)}}$$

$$\text{Apparent Power (kVA)} = \frac{1.73 \times \text{Voltage} \times \text{Current}}{1000}$$

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BUILT FOR IT.

Materials and specifications are subject to change without notice. Rating ranges listed include the lowest and highest available for a specific engine or family of engines. Load factor and time at rated load and speed will determine the best engine/rating match.

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