

# Petroleum Ratings Guide



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## **Caterpillar: Making Sustainable Progress Possible**

The essence of Caterpillar is one of progress, so it only makes sense that the development we enable strengthens economies, communities, and businesses — including our own. In short, it's progress that is sustainable. By pursuing sustainable development — and sustainable progress — in every aspect of our business, Caterpillar and the global dealer network strive to meet the emerging sustainability requirements of our worldwide customers.

Caterpillar Global Petroleum is committed to driving sustainability in the manufacturing of products at all global facilities, as well as embedding an environmentally focused culture for all employees in their office environments and homes. By designing engines to exceed global emissions standards, embracing remanufacturing and recycling of engine components and office waste, and redesigning office spaces to reduce energy consumption, employees are constantly working to shrink their overall carbon footprint. But we're not stopping there — Caterpillar is also globally partnering with customers to help them achieve their sustainable goals, making sustainable progress possible.

Visit [catoilandgas.cat.com](http://catoilandgas.cat.com) for future updates on continual efforts by Caterpillar to lead the petroleum industry in the development of products and services with minimum impact on our environment.

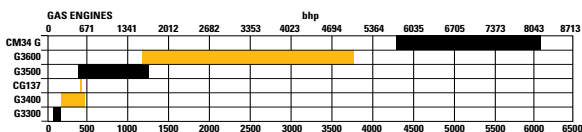
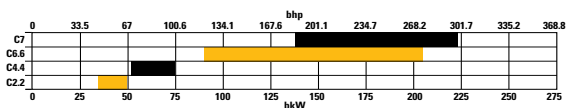
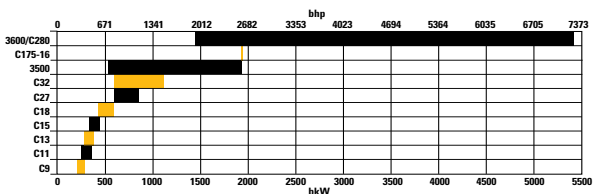
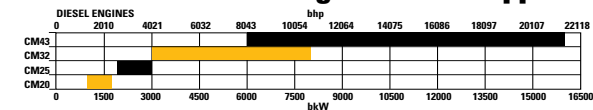
## Application Power/Engine Selection Guide

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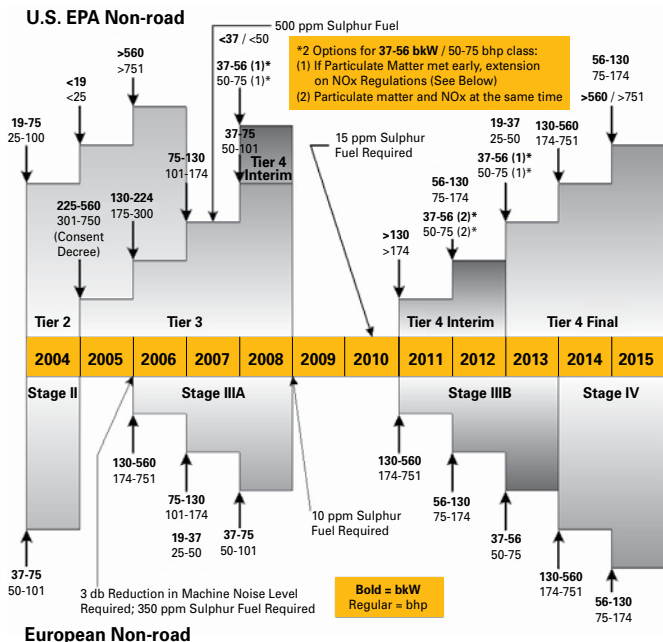
## Application Power/Engine Selection Guide (cont.)

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4080-10,880 bhp	CM32	73
8160-21,760 bhp	CM43	74
292-1985 bhp	Fire Pumps	75
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6135-8180 bhp	CM34 G	85

## Match a Reliable Cat® Engine to Your Application



## EPA & EU NON-ROAD EMISSIONS REGULATIONS\*



\*Additional information available at [www.dieselnet.com](http://www.dieselnet.com)

## EPA Stationary Regulations

For important information related to the New Source Performance Standard (NSPS) for diesel stationary engines, refer to the EPA web site at [www.epa.gov](http://www.epa.gov).

## **Diesel Engine Rating Definitions**

For an exact determination of the appropriate rating, contact your local Cat® dealer. Engine rating obtained and presented in accordance with ISO3046/1.

### **A Rating (Continuous)**

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 Rating**

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 Rating (Intermittent)**

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 Rating**

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%.

### **E Rating**

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 servicing frac/acid pumping. Typical load factor <35%.

## **Diesel Engine Rating Definitions continued**

### **Fracturing (Frac)**

Continuous operation at varying load and speed with duration of idle between applied loads. Typical load factor 40-50%.

### **Offshore Drilling – Electric**

Prime rating with 10% overload for MCS certification. Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. Typical load factor 60-70%.

### **Land Drilling – Electric**

Prime rating. Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. Typical load factor 60-70%.

### **Emergency Generator Set – Electric**

Prime rating with 10% overload for MCS certification. Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. Typical load factor 60-70%.

### **Land Production – Electric**

Prime rating for power distribution in oil and gas production applications. Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. Typical load factor 60-70%.

### **Land Mechanical Drilling**

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%.

## 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

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<sup>3</sup> (905 btu/ft<sup>3</sup>). 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

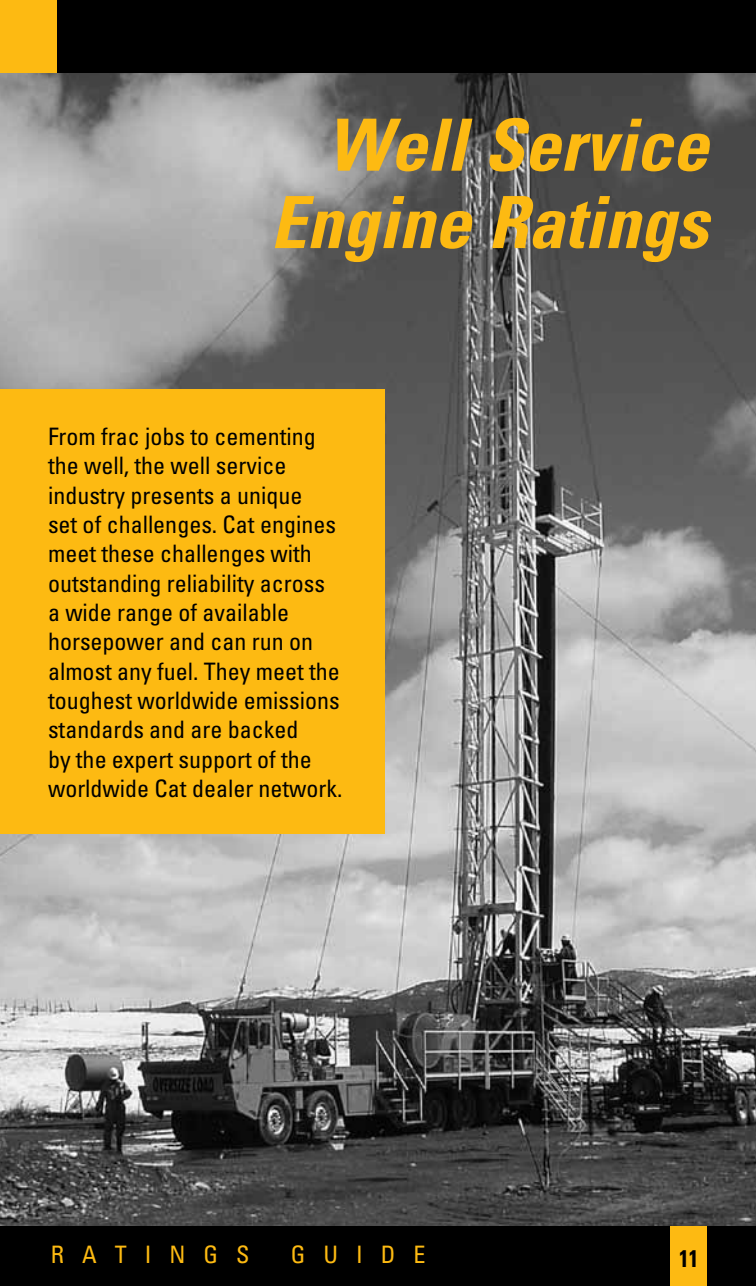
Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

## Abbreviations

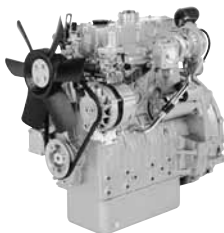
ATAAC.....	Air-to-Air Aftercooled
bhp.....	Brake horsepower
bkW .....	Brake Kilowatts
NA .....	Naturally Aspirated
HD .....	High Displacement
LE.....	Low Emission
REMAC .....	Remote Aftercooler
SCAC.....	Separate Circuit Aftercooled
T.....	Turbocharged
TA.....	Turbocharged-Aftercooled
Haz Loc.....	Hazardous Location
Non-current EPA T1 .....	Non-certified engines that meet previous U.S. EPA Non-Road Tier 1 emissions levels
Non-current EPA T2 .....	Non-certified engines that meet previous U.S. EPA Non-Road Tier 2 emissions levels
Non-current EPA T3 .....	Non-certified engines that meet previous U.S. EPA Non-Road Tier 3 emissions levels
EPA T4 Int.....	U.S. EPA Non-Road Tier 4 Interim
EPA T4 Final.....	U.S. EPA Non-Road Tier 4 Final
EU IIIA.....	EU Stage IIIA
Non-current EU IIIA .....	Non-certified engines that meet previous EU Stage IIIA emissions levels
Non-current EU II .....	Non-certified engines that meet previous EU Stage II emissions levels
EU IIIB.....	EU Stage IIIB
IMO T1.....	IMO Tier I
Non-current IMO T1 .....	Non-certified engines that meet previous IMO Tier I emissions levels
IMO TII .....	IMO Tier II
Non-current Mar T1 .....	Non-certified engines that meet previous U.S. EPA Marine Tier 1 emissions levels
Mar T2.....	U.S. EPA Marine Tier 2
Mar T3 Compliant.....	Meets future U.S. EPA Marine Tier 3 emissions levels
China II Non-Road .....	China Stage II Non-Road
China On-Hwy III.....	China On-Highway Phase 3
CARB.....	California Air Resource Board

**To find spec sheets referenced in this guide go to:**  
**[www.catoilandgas.cat.com/products/engines](http://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 horsepower and can run on almost any fuel. They meet the toughest worldwide emissions standards and are backed by the expert support of the worldwide Cat dealer network.



## Well Service

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

## Specifications

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

Displacement . . . . . 2.2 liters (135 in<sup>3</sup>)

## Dimensions & Weights

	L	W	H	Wt
NA	661.5 mm/26 in	439 mm/17.3 in	676 mm/26.6 in	184 kg/406 lbs
T, TA	662 mm/26.1 in	489 mm/19.3 in	698 mm/27.5 in	194 kg/427.7 lbs

For diesel engine rating definitions please see pages 7-8.



## Well Service

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

## Specifications

**Bore x Stroke** . . . . . 105 x 127 mm (4.1 x 5 in)

**Displacement** . . . . . 4.4 liters (269 in<sup>3</sup>)

## Dimensions & Weights

	L	W	H	Wt
<b>C4.4</b>	663 mm/26.1 in	597 mm/23.5 in	810 mm/32 in	306 kg/675 lbs
<b>C4.4 ACERT</b>	631 mm/24.8 in	626 mm/24.7 in	824 mm/32 in	360 kg/794 lbs

For diesel engine rating definitions please see pages 7-8.



## Well Service

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

## Specifications

**Bore x Stroke** . . . . . 105 x 127 mm (4.1 x 5 in)

**Displacement** . . . . . 6.6 liters (403 in<sup>3</sup>)

## Dimensions & Weights

929 mm/34 in

668 mm/26.3 in

797 mm/31.4 in

506 kg/1116 lbs

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating	Tier	bkW	bhp	rpm	Emissions	Notes
<b>C7 ACERT</b>						
B		153	205	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Water-Cooled, SCAC, REMAC avail
C		172	230	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Water-Cooled, SCAC, REMAC avail
D		205	275	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Water-Cooled, SCAC, REMAC avail
B		153	205	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only
C		172	230	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only
D		205	275	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only, Derate Option
B		168	225	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA	Dry Manifold, ATAAC
C		186	250	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA	Dry Manifold, ATAAC
D		224	300	2200	China II Non-Road, China On-Hwy III IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold, ATAAC
<b>C7.1 ACERT</b>						
B		141	188	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold
B		168	225	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold
C		168	250	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold
C		205	275	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold

## Specifications

**Bore x Stroke** ..... C7 110 x 127 mm (4.3 x 5 in) ..... C7.1 105 x 135 mm (4.1 x 5.3 in)  
**Displacement** ..... C7 7.2 liters (439 in<sup>3</sup>) ..... C7.1 7.01 liters (427.7 in<sup>3</sup>)

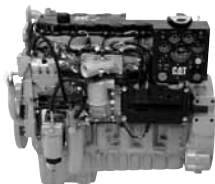
## Dimensions & Weights

	L	W	H	Wt
<b>C7 ACERT</b>	1053 mm/41.5 in	758 mm/29.8 in	1032 mm/40.6 in	629 kg/1386 lbs
<b>C7.1 ACERT</b>	1065 mm/41.9 in	820 mm/32.3 in	907 mm/35.7 in	715 kg/1576 lbs

Please see spec sheet for more information:

C7 ACERT ..... LEHW0043, LEHW0044, LEHW0045

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating	Tier	bkW	bhp	rpm	Emissions	Notes
<b>C9 ACERT</b>						
C		242	325	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA	Water-Cooled, SCAC, REMAC avail
D		254	340	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA	Water-Cooled, SCAC, REMAC avail
D		254	340	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC & REMAC avail, Derate option
A		205	275	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA,	Dry Manifold China II Non-Road
B		224	300	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
C		242	325	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Dry Manifold
C		261	350	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA, China On-Hwy III	Dry Manifold
D		280	375	2200	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
<b>C9.3 ACERT</b>						
A		224	300	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold
B		242	325	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold
C		261	350	1800-2200	EPA T4 Int, EU IIIB	Dry Manifold

## Specifications

**Bore x Stroke**... C9 ACERT 112x149 mm (4.4x5.8 in) .. C9.3 ACERT 115x149 mm (4.5x5.9 in)

**Displacement** .. C9 ACERT 8.8 liters (537 in<sup>3</sup>)..... C9.3 ACERT 9.3 liters (567.5 in<sup>3</sup>)

## Dimensions & Weights

	L	W	H	Wt
<b>C9 ACERT</b>	1092 mm/43 in	828 mm/32.6 in	1024 mm/40.3 in	716 kg/1578 lbs
<b>C9.3 ACERT</b>	1150 mm/45.3 in	828 mm/32.6 in	1123 mm/44.21 in	885 kg/1950 lbs

Please see spec sheet for more information:

C9 ACERT ..... LEHW0014, LEHW0046, LEHW0047

C9.3 ACERT ..... LEHW0099

For diesel engine rating definitions please see pages 7-8.



## Well Service

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

## Specifications

**Bore x Stroke** ..... 130x140 mm (5.12x5.5 in)

**Displacement** ..... 11.15 liters (681 in<sup>3</sup>)

## Dimensions & Weights

L	W	H	Wt
1201 mm/47.3 in	1057 mm/41.6 in	1176 mm/46.3 in	892 kg/1967 lbs

**Please see spec sheet for more information:**

C11 ACERT ..... LEHW0063

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating	Tier	bkW	bhp	rpm	Emissions	Notes
A		287	385	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
B		309	415	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
C		328	440	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
D		354	475	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
E		388	520	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
A		287	385	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
B		309	415	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
C		328	440	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
D		354	475	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
E		388	520	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold

## Specifications

Bore x Stroke . . . . . 130x157 mm (5.1 x 6.2 in)

Displacement . . . . . 12.5 liters (763 in<sup>3</sup>)

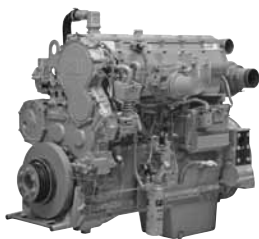
## Dimensions & Weights

	L	W	H	Wt
<b>C13 ACERT</b>	1201 mm/47.3 in	1013 mm/39.9 in	1186 mm/46.7 in	896 kg/1976 lbs
<b>C13 ACERT T4</b>	1203 mm/47.4 in	933.14 mm/36.74 in	1186 mm/46.7 in	1350 kg/2976 lbs

Please see spec sheet for more information:

C13 ACERT ..... LEHW0062, LEHW0096

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	328	440	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
B	354	475	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
C	403	540	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
D	433	580	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
E	444	595	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
D	400	536	1800-2000	Mar T2, IMO TII, Mar T3 Compliant	Haz Loc, SCAC, Water-Cooled
D	403	540	1800-2000	Mar T2, IMO TII, Mar T3 Compliant	Haz Loc, SCAC & REMAC, Water-Cooled
A/B	354	475	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
C	403	540	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
D	433	580	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold

## Specifications

**Bore x Stroke** . . . . . 137.2x171.5 mm (5.4x6.75 in)

**Displacement** . . . . . 15.2 liters (927.6 in<sup>3</sup>)

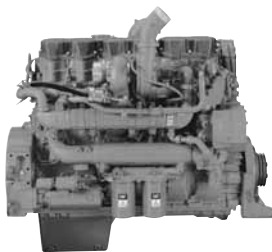
## Dimensions & Weights

	L	W	H	Wt
<b>C15 ACERT</b>	1377 mm/54 in	927 mm/37 in	1227 mm/48 in	1245 kg/2743 lbs
<b>C15 ACERT T4</b>	1530 mm/60.2 in	961 mm/37.8 in	1282 mm/51 in	1666 kg/3673 lbs

**Please see spec sheet for more information:**

C15 ACERT ..... LEHW0097, LEHW0061

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	429	575	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
B	447	600	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
C	470	630	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
C	522	700	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Dry Manifold
D	570	765	2100	IMO TII, Non-current EPA T2	Dry Manifold
E	597	800	2100	IMO TII, Non-current EPA T2	Dry Manifold
A/B	447	600	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	470	630	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	522	700	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	563	755	1800	EPA T4 Final	Dry Manifold
D	597	800	1800	EPA T4 Final	Dry Manifold

## Specifications

**Bore x Stroke** ..... 145 x 183 mm (5.7 x 7.2 in)

**Displacement** ..... 18.1 liters (1105 in<sup>3</sup>)

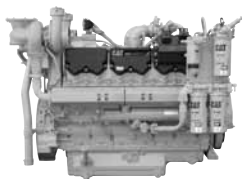
## Dimensions & Weights

	L	W	H	Wt
<b>C18 ACERT</b>	1389 mm/54.7 in	919 mm/36.2 in	1227 mm/49.5 in	1273 kg/2807 lbs
<b>C18 ACERT T4</b>	1530 mm/60.2 in	961 mm/37.8 in	1282 mm/51 in	1580 kg/3482 lbs

**Please see spec sheet for more information:**

C18 ACERT ..... LEHW0098, LEHW0053, LEHW0109

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	1800-2100	Non-current EPA T2, EU II	Dry Manifold
B	652	875	1800-2100	Non-current EPA T2, EU II	Dry Manifold
C	708	950	1800-2100	Non-current EPA T2, EU II	Dry Manifold
C	783	1050	1800-2100	Non-current EPA T2, EU II	Dry Manifold
A	597	800	1800	EPA T4 Final	Narrow Config, Dry Manifold

## Specifications

**Bore x Stroke** ..... 137.7 x 152.4 mm (5.42 x 6 in)

**Displacement** ..... 27 liters (1648 in<sup>3</sup>)

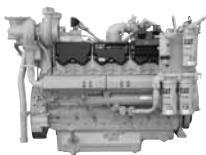
## Dimensions & Weights

	L	W	H	Wt
<b>C27 ACERT</b>	1918 mm/75.5 in	1463 mm/57.6 in	1321 mm/52 in	2895 kg/6382 lbs
<b>C27 ACERT T4</b>	2160 mm/85 in	1270 mm/50 in	1650 mm/65 in	2956 kg/6516 lbs

**Please see spec sheet for more information:**

C27 ACERT ..... LEHW0052, LEHW0101

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
A	641	860	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
B	686	920	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
C	746	1000	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
D	828	1110	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
E	913	1225	2100	Non-current EPA T2, Mar T2, IMO TII	Water-Cooled, SCAC, SCAC+ HEX, & REMAC
A	597	800	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled
A	641	860	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled
B	686	920	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled
D	828	1110	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled
A	597	800	2100	Non-current EPA T2, IMO TII	Dry Manifold
B	708	950	1800-2100	Non-current EPA T2, IMO TII	Dry Manifold
C	839	1125	1800-2100	Non-current EPA T2, IMO TII	Dry Manifold
D	895	1200	1800-2100	Non-current EPA T2, IMO TII	Dry Manifold
E	1007	1350	1800-2100	Non-current EPA T2, IMO TII	Dry Manifold
E	1119	1500	2100	Non-current EPA T2, IMO TII	Dry Manifold
C	839	1125	1800	EPA T4 Final	Dry Manifold

## Specifications

**Bore x Stroke** ..... 145 x 162 mm (5.7 x 6.4 in)

**Displacement** ..... 32 liters (1953 in<sup>3</sup>)

## Dimensions & Weights

	L	W	H	Wt
<b>C32 ACERT</b>	1934.9 mm/76.18 in	1431 mm/56.34 in	1388.3 mm/54.66 in	2286 kg/5040 lbs
<b>C32 ACERT T4</b>	1905 mm/75 in	1600 mm/63 in	1549 mm/61 in	3107 kg/6850 lbs

**Please see spec sheet for more information:**

C32 ACERT ..... LEHW0049, LEHW0050, LEHW0051, LEHW0100

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions
Frac	1491	2000	1900	Non-current EPA T1, Non-current Mar T1
Frac	1603	2150	1900	Non-current EPA T1, Non-current Mar T1
Frac	1678	2250	1900	Non-current EPA T1, Non-current Mar T1

## Specifications

**Bore x Stroke** ..... 170 x 190 mm (6.7 x 7.5 in)

**Displacement** ..... 52 liters (3173 in<sup>3</sup>)

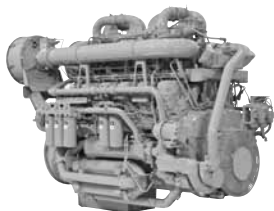
## Dimensions & Weights

L	W	H	Wt
2827 mm/111.3 in	1793 mm/70.6 in	1862 mm/73.3 in	4803.6 kg/10,590 lbs

**Please see spec sheet for more information:**

3512B..... LEHW0055

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating Tier	bkW	bhp	rpm	Emissions	Notes
Frac	1603	2150	1900	Non-current EPA T2, Mar T2, IMO TII	ATAAC, 1.6% or 7% Torque Rise
Frac	1678	2250	1900	Non-current EPA T2, Mar T2, IMO TII	ATAAC, 1.6% or 7% Torque Rise
Frac	1752	2350	1900	Non-current EPA T2, Mar T2, IMO TII	ATAAC, 7% Torque Rise
Frac	1864	2500	1900	Non-current EPA T2, Mar T2, IMO TII	ATAAC, 7% Torque Rise
Frac	1678	2250	1900	Non-current EPA T2, Mar T2, IMO TII	SCAC, 1.6% or 7% Torque Rise
Frac	1864	2500	1900	Non-current EPA T2, Mar T2, IMO TII	SCAC, 7% Torque Rise

## Specifications

**Bore x Stroke** . . . . . 170 x 215 mm (6.7 x 8.5 in)

**Displacement** . . . . . 58.9 liters (3596 in<sup>3</sup>)

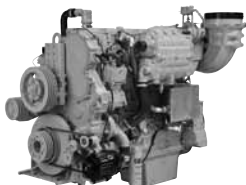
## Dimensions & Weights

	L	W	H	Wt
<b>3512C HD ATAAC</b>				
	2804 mm/110.4 in	1504 mm/59.2 in	2192 mm/86.3 in	6645 kg/14,650 lbs
<b>3512C HD SCAC</b>				
	2880 mm/113.8 in	1630 mm/64.2 in	2185 mm/86.1 in	6416 kg/14,145 lbs

**Please see spec sheet for more information:**

3512C HD ..... LEHW0056, LEHW0090

For diesel engine rating definitions please see pages 7-8.



## Well Service

Rating	Tier	bkW	bhp	rpm	Emissions	Notes
<b>C7 ACERT</b>						
B	153	205	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only, Water-Cooled	
C	172	230	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only Water-Cooled	
D	205	275	2200	IMO TII, Mar T2, Non-current EPA T3, Non-current EU IIIA	Haz Loc, SCAC only, Derate Option, Water-Cooled	
<b>C9 ACERT</b>						
D	254	340	2200	IMO TII, Non-current EPA T3 , Non-current EU IIIA	Haz Loc, SCAC & REMAC avail, Derate Option, Water-Cooled	
<b>C15 ACERT</b>						
D	400	536	1800-2000	Mar T2, IMO TII, Mar T3 Compliant	Haz Loc, SCAC, Water-Cooled	
D	403	540	1800-2000	Mar T2, IMO TII, Mar T3 Compliant	Haz Loc, SCAC & REMAC, Water-Cooled	
<b>C32 ACERT</b>						
A	597	800	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled	
A	641	860	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled	
B	686	920	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled	
D	826	1110	2100	Non-current EPA T2, Mar T2, IMO TII	Haz Loc, SCAC only, Water-Cooled	

## Specifications

<b>Bore x Stroke..</b>	<b>C7 ACERT</b> 110 x 127 mm (4.3 x 5 in)	<b>Displacement ..</b> 7.2 liters (439 in <sup>3</sup> )
	<b>C9 ACERT</b> 112 x 149 mm (4.4 x 5.8 in)	8.8 liters (537 in <sup>3</sup> )
	<b>C15 ACERT</b> 137.2 x 171.5 mm (5.4 x 6.75 in)	15.2 liters (927.6 in <sup>3</sup> )
	<b>C32 ACERT</b> 145 x 162 mm (5.7 x 6.4 in)	32 liters (1953 in <sup>3</sup> )

## Dimensions & Weights

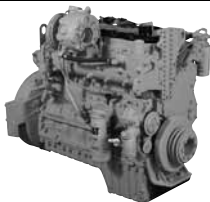
	L	W	H	Wt
<b>C7 ACERT</b>	1053 mm/41.5 in	758 mm/29.8 in	1032 mm/40.6 in	629 kg/1386 lbs
<b>C9 ACERT</b>	1092 mm/43 in	828 mm/32.6 in	1024 mm/40.3 in	716 kg/1578 lbs
<b>C15 ACERT</b>	1377 mm/54 in	927 mm/37 in	1227 mm/48 in	1245 kg/12,743 lbs
<b>C32 ACERT</b>	1918 mm/75.5 in	1473 mm/58 in	1321 mm/52 in	2286 kg/5040 lbs

Please see spec sheet for more information:

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

For diesel engine rating definitions please see pages 7-8.

# Water Cooled Manifold WELL SERVICE



## Well Service

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

## Specifications

<b>Bore x Stroke...</b>	<b>C7 ACERT</b> 110 x 127 mm (4.3 x 5 in)	<b>Displacement ..</b> 7.2 liters (439 in <sup>3</sup> )
	<b>C9 ACERT</b> 112 x 149 mm (4.4 x 5.8 in)	8.8 liters (537 in <sup>3</sup> )
	<b>C32 ACERT</b> 145 x 162 mm (5.7 x 6.4 in)	32. liters (1953 in <sup>3</sup> )

## Dimensions & Weights

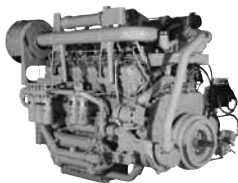
	L	W	H	Wt
<b>C7 ACERT</b>	1053 mm/41.5 in	758 mm/29.8 in	1032 mm/40.6 in	629 kg/1386 lbs
<b>C9 ACERT</b>	1092 mm/43 in	828 mm/32.6 in	1024 mm/40.3 in	716 kg/1578 lbs
<b>C32 ACERT</b>	1918 mm/75.5 in	1473 mm/58 in	1321 mm/52 in	2286 kg/5040 lbs

Please see spec sheet for more information:

C7 ACERT .....LEHW0045      C9 ACERT.....LEHW0046      C32 ACERT..... LEHW0050

For diesel engine rating definitions please see pages 7-8.

# Water Cooled Manifold



Rating Tier	bkW	bhp	rpm	Emissions	Notes
<b>3508</b>					
A	507	680	1200	Non-Certified	Water-Cooled
C	611	820	1300	Non-Certified	Water-Cooled
A	638	855	1800	Non-Certified	Water-Cooled
C	746	1000	1800	Non-Certified	Water-Cooled
C	846	1135	1900	Non-Certified	Water-Cooled
<b>3512</b>					
A	761	1020	1200	Non-Certified	Water-Cooled
C	858	1150	1300	Non-Certified	Water-Cooled
A	954	1280	1800	Non-Certified	Water-Cooled
C	1119	1500	1800	Non-Certified	Water-Cooled
C	1342	1800	1900	Non-Certified	Water-Cooled
<b>3516</b>					
A	1010	1355	1200	Non-Certified	Water-Cooled
C	1242	1665	1300	Non-Certified	Water-Cooled

## Specifications

Bore x Stroke . . . . .	<b>3508</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>3512</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>3516</b>	170 x 190 mm (6.7 x 7.5 in)
Displacement . . . . .	<b>3508</b>	34.5 liters (2105 in <sup>3</sup> )
	<b>3512</b>	51.8 liters (3158 in <sup>3</sup> )
	<b>3516</b>	69 liters (4210 in <sup>3</sup> )

## Dimensions & Weights

	L	W	H	Wt
<b>3508</b>	2136.14 mm/84.1 in	1701.8 mm/67 in	1719.58 mm/67.7 in	4309 kg/9500 lbs
<b>3512</b>	2674.62 mm/105.3 in	1701.8 mm/67 in	1719.58 mm/67.7 in	5203.75 kg/11,462 lbs
<b>3516</b>	3251 mm/128 in	1701 mm/67 in	2004 mm/78.9 in	8660 kg/19,090 lbs

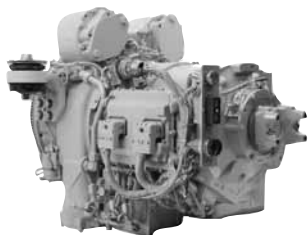
For diesel engine rating definitions please see pages 7-8.

# Transmission Application Chart

Engine	Transmission	Max hp	Page
<b>C9 ACERT</b>	TH31-E61	350	29
	TH31-E61*	350	30
	CX31-P600	600	33
	CX31-P600*	600	34
<b>C11 ACERT</b>	TH35-E81	450	31
	TH35-E81*	450	32
	CX31-P600	600	33
	CX31-P600*	600	34
<b>C13 ACERT</b>	TH35-E81	520	31
	TH35-E81*	520	32
	CX31-P600	600	33
	CX31-P600*	600	34
<b>C15 ACERT</b>	TH35-E81	540	31
	TH35-E81*	540	32
	CX31-P600	600	33
	CX31-P600*	600	34
	CX35-P800	800	35
<b>C18 ACERT</b>	CX35-P800	800	35
<b>C27 ACERT</b>	TH48-E70	1150	36
<b>C32 ACERT</b>	TH48-E70	1500	36
<b>3512B</b>	TH48-E80	2250	37
<b>3512C</b>	TH48-E80	2250	37
	TH55-E70	2500	38
	TH55-E90	2500	39

\*Dropbox 2WD or 4WD

# TH31-E61 WELL SERVICE TRANSMISSION



## Ratings

Gross Input Power	261 kW (350 hp)
Gross Input Torque	1556 N•m (1148 lb-ft)
Maximum Turbine Torque	2746 N•m (2025 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1710 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

4 x PTOs integral live drive

## Location & Rated Power

- 11 o'clock 149 kW/200 hp and
- 1 o'clock 149 kW/200 hp
- Total 164 kW (220 hp)

## PTO Mountings

- SAE C mounting pads facing output (2)
- SAE B mounting pads facing input (2)

## 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	2.46

## Dimensions

Height:	925 mm (36.4 in)
Width:	654 mm (25.7 in)
Length:	1108.3 mm (43.6 in)

## Weight

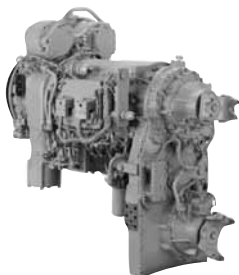
Approximate Dry Weight	841 kg (1855 lbs)
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## Spec Sheet

LEHW1000

# TH31-E61 WELL SERVICE TRANSMISSION

WITH INTEGRAL DROP BOX



## Ratings

Gross Input Power	261 kW (350 hp)
Gross Input Torque	1556 N•m (1148 lb-ft)
Maximum Turbine Torque	2746 N•m (2025 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1710 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

4 x PTOs integral live drive

## Location & Rated Power

- 11 o'clock 149 kW/200 hp and
- 1 o'clock 149 kW/200 hp
- Total 164 kW (220 hp)

## PTO Mountings

- SAE C mounting pads facing output (2)
- SAE B mounting pads facing input (1)

## 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	2.46

## Dimensions

Height:	1381.6 mm (54.4 in)
Width:	677 mm (26.7 in)
Length:	1381.6 mm (54.4 in)

## Weight

Approximate Dry Weight	
2WD model	1250 kg (2755 lbs)
4WD model	1282 kg (2827 lbs)

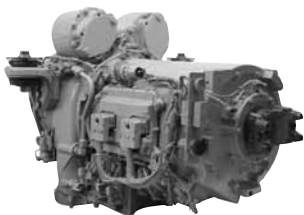
## Integral Drop Box (optional)

2WD or 4WD options available

## Spec Sheet

LEHW1004

# TH35-E81 WELL SERVICE TRANSMISSION



## Ratings

Gross Input Power	410 kW (550 hp)
Gross Input Torque	2237 N•m (1650 lb-ft)
Maximum Turbine Torque	3295 N•m (2430 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1810 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

2 x PTOs integral live drive

## Location & Rated Power

- 11 o'clock 149 kW/200 hp and
- 1 o'clock 149 kW/200 hp
- Total 164 kW (220 hp)

## PTO Mountings

- SAE C mounting pads facing output (2)
- SAE B mounting pads facing input (2)

## 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	2.46

## Dimensions

Height:	925 mm (36 in)
Width:	654 mm (26 in)
Length:	1225 mm (48 in)

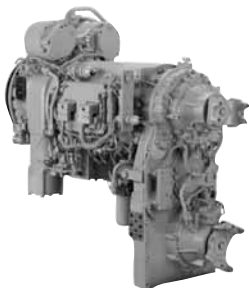
## Weight

Approximate Dry Weight	973 kg (2145 lbs)
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## Spec Sheet

LEHW1001

# TH35-E81 WELL SERVICE TRANSMISSION WITH INTEGRAL DROP BOX



## Ratings

Gross Input Power	410 kW (550 hp)
Gross Input Torque	2237 N•m (1650 lb-ft)
Maximum Turbine Torque	3295 N•m (2430 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1810 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

2 x PTOs integral live drive

## Location & Rated Power

- 11 o'clock 149 kW/200 hp and
- 1 o'clock 149 kW/200 hp
- Total 164 kW (220 hp)

## PTO Mountings

- SAE C mounting pads facing output (2)
- SAE B mounting pads facing input (1)

## 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 2.46

## Dimensions

Height:	1371.1 mm (53.98 in)
Width:	686 mm (27 in)
Length:	1491.4 mm (58.71 in)

## Weight

Approximate Dry Weight	
2WD model	1350 kg (2975 lbs)
4WD model	1382 kg (3047 lbs)

## Integral Drop Box (optional)

### Drive Ratio

- 1:1 to selected outputs
- 2WD or 4WD options available

## Spec Sheet

LEHW1005



## 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)

## Description

4 x PTOs integral live drive

## Location

Standard: 1 o'clock and 8 o'clock, 5 o'clock at rear

Optional Integral PTO Drives:

1 o'clock and 11 o'clock, 5 o'clock at rear

## PTO Mountings

Standard:

10-bolt, rear PTO mounting Cat 8-bolt (1)

Optional Integral Pump Drive:

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (2)

## 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, 2.324
> 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

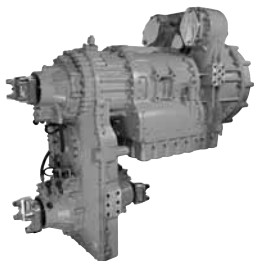
Approximate Dry Weight	465 kg (1026 lbs)
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## Spec Sheet

LEHW0008

# CX31-P600 WELL SERVICE TRANSMISSION

## WITH INTEGRAL DROP BOX



### 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)

### Description

4 x PTOs integral live drive

### Location

Standard: 1 o'clock and 8 o'clock,  
5 o'clock at rear

Optional Integral PTO Drives:

1 o'clock and 11 o'clock, 5 o'clock  
at rear

### PTO Mountings

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (1)

### 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, 2.324
> 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	842 kg (1857 lbs)
4WD model	876 kg (1932 lbs)

### Integral Drop Box (optional)

2WD or 4WD options available

### Spec Sheet

LEHW0008



## 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)
Maximum Turbine 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)

## Description

4 x PTOs integral live drive

## Location

Standard: 8 o'clock and 1 o'clock side positions, 5 o'clock at rear

Optional Integral PTO Drives:

1 o'clock and 11 o'clock above T/C housing, 5 o'clock at rear

## PTO Mountings

Standard:

10-bolt, rear PTO mounting Cat 8-bolt (1)

Optional Integral Pump Drive:

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (2)

## 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

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	699 kg (1540 lbs)
------------------------	-------------------

## Spec Sheet

LEHW0007

# TH48-E70 WELL SERVICE TRANSMISSION



## Ratings

Gross Input Power	895 kW (1200 hp)
	1118 kW (1500 hp)
Gross Input Torque	5484 N•m (4045 lb-ft)
	5995 N•m (4422 lb-ft)
Maximum Turbine Torque	7442 N•m (5489 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)

## Location & Rated Power

3 positions (3 o'clock, 5 o'clock, and 9 o'clock from rear)

112 kW/150 hp continuous

## PTO Mountings

SAE 8 bolt (J704)

## 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

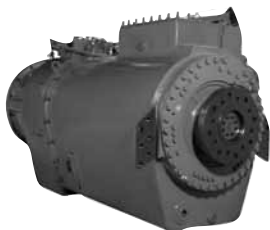
Height:	1092 mm (43 in)
Width:	866 mm (34 in)
Length:	1681 mm (66 in)

## Weight

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

## Spec Sheet

LEHW1002



## 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	2100 rpm

## Output Connection (Yoke)

GWB 390.60/GWB 390.65

## Power Take Off

(Pump Auxiliary Drive)

## Location & Rated Power

3 positions (3 o'clock, 5 o'clock, and 9 o'clock from rear)

112 kW/150 hp continuous

## PTO Mountings

SAE 8 bolt (J704)

## 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 Ratio	2.20

## Dimensions

Height:	1177 mm (46.34 in)
Width:	859.9 mm (33.85 in)
Length:	1984.4 mm (78.13 in)

## Weight

Approximate Dry Weight	
Transmission	2213 kg (4878 lbs)
Engine/Transmission	
Coupling	186 kg (410 lbs)

## Spec Sheet

LEHW1003

**\*Warm-Up Mode Option** — provides torque converter stall for aiding powertrain warming during cold starts. 8F is unavailable on units configured with the warm-up mode option.



## Ratings

Max. Gross Input Power	2237 kW (3000 hp)
Max. Gross Input Torque	12 403 N•m (9148 lb-ft)
Rated Input Speed	1900 rpm
Maximum Input Speed	1970 rpm

## Output Connection (Yoke)

GWB 390.65

## Power Take Off

(Pump Auxiliary Drive)

## Location & Rated Power

2 positions (3 o'clock and 11 o'clock from rear)

112 kW/150 hp continuous

## PTO Mountings

SAE 8 bolt (J704) @ 3 o'clock  
SAE C-size (J744) @ 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	2920 kg (6430 lbs)
Engine/Transmission Coupling	136 kg (300 lbs)

## Spec Sheet

LEHW1006

# TH55-E90 WELL SERVICE TRANSMISSION



## Ratings

Max. Gross Input Power	2237 kW (3000 hp)
Max. Gross Input Torque	12 403 N•m (9148 lb-ft)
Rated Input Speed	1900 rpm
Maximum Input Speed	1970 rpm

## Output Connection (Yoke)

GWB 390.65

## Power Take Off

(Pump Auxiliary Drive)

## Location & Rated Power

2 positions (3 o'clock and 11 o'clock from rear)

112 kW/150 hp continuous

## PTO Mountings

SAE 8 bolt (J704) @ 3 o'clock

SAE C-size (J744) @ 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	2920 kg (6430 lbs)
Engine/Transmission Coupling	136 kg (300 lbs)

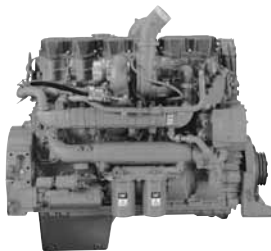
## Spec Sheet

LEHW1006



# *Drilling Engine Ratings*

Cat engines have been the driving force behind the majority of the world's drilling wells for years. Cat 3500, C175, C280, and MaK engines 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 Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	328	440	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
B	354	475	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
C	403	540	1800-2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
D	433	580	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
E	444	595	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Dry Manifold
A/B	354	475	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
C	403	540	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold
D	433	580	1800-2100	EPA T4 Int, EU IIIB	Dry Manifold

## Specifications

**Bore x Stroke** ..... 137.2x171.5 mm (5.4x6.75 in)

**Displacement** ..... 15.2 liters (927.6 in<sup>3</sup>)

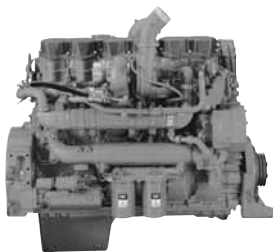
## Dimensions & Weights

	L	W	H	Wt
<b>C15 ACERT</b>	1377 mm/54 in	927 mm/37 in	1227 mm/48 in	1245 kg/2743 lbs
<b>C15 ACERT T4</b>	1530 mm/60.2 in	961 mm/37.8 in	1282 mm/51 in	1580 kg/3482 lbs

**Please see spec sheet for more information:**

C15 ACERT ..... LEHW0097, LEHW0061

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	429	575	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
B	447	600	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road	Avail with Cat Compression Brake, Dry Manifold
C	470	630	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Avail with Cat Compression Brake, Dry Manifold
C	522	700	2100	IMO TII, Non-current EPA T3, Non-current EU IIIA, China II Non-Road, China On-Hwy III	Dry Manifold
D	570	765	2100	IMO TII, Non-current EPA T2	Dry Manifold
E	597	800	2100	IMO TII, Non-current EPA T2	Dry Manifold
A/B	447	600	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	470	630	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	522	700	1800-1900	EPA T4 Int, EU IIIB	Dry Manifold
C	563	755	1800	EPA T4 Final	Dry Manifold
D	597	800	1800	EPA T4 Final	Dry Manifold

## Specifications

**Bore x Stroke** ..... 145 x 183 mm (5.7 x 7.2 in)

**Displacement** ..... 18.1 liters (1105 in<sup>3</sup>)

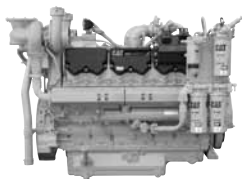
## Dimensions & Weights

	L	W	H	Wt
<b>C18 ACERT</b>	1389 mm/54.7 in	919 mm/36.2 in	1227 mm/49.5 in	1273 kg/2807 lbs
<b>C18 ACERT T4</b>	1530 mm/60.2 in	961 mm/37.8 in	1282 mm/51 in	1580 kg/3482 lbs

**Please see spec sheet for more information:**

C18 ACERT ..... LEHW0098, LEHW0053, LEHW0109

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	1800-2100	Non-current EPA T2, EU II	Dry Manifold
B	652	875	1800-2100	Non-current EPA T2, EU II	Dry Manifold
C	708	950	1800-2100	Non-current EPA T2, EU II	Dry Manifold
C	783	1050	1800-2100	Non-current EPA T2, EU II	Dry Manifold
A	597	800	1800	EPA T4 Final	Narrow Config, Dry Manifold

## Land Electric Drilling Ratings

Model	Volt	kV•A	ekW	Hz	Emissions
C27 ACERT	480	906	725	60	Non-current EPA T2

## Specifications

**Bore x Stroke** . . . . . 137.7 x 152.4 mm (5.42 x 6 in)

**Displacement** . . . . . 27 liters (1648 in<sup>3</sup>)

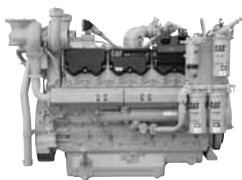
## Dimensions & Weights

	L	W	H	Wt
<b>C27 ACERT</b>	1918 mm/75.5 in	1463 mm/57.6 in	1321 mm/52 in	2895 kg/6382 lbs
<b>C27 ACERT T4</b>	2160 mm/85 in	1270 mm/50 in	1650 mm/65 in	2956 kg/6516 lbs
<b>C27 ACERT</b>	5207 mm/205 in	1905 mm/75 in	2180 mm/86 in	8799.7 kg/19,400 lbs

Please see spec sheet for more information:

C27 ACERT ..... LEHW0052, LEHW0101, LEHW0115

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

Rating Tier	bkW	bhp	rpm	Emissions	Notes
A	597	800	2100	Non-current EPA T2	Dry Manifold
B	708	950	1800-2100	Non-current EPA T2	Dry Manifold
C	839	1125	1800-2100	Non-current EPA T2	Dry Manifold
D	895	1200	1800-2100	Non-current EPA T2	Dry Manifold
E	1007	1350	1800-2100	Non-current EPA T2	Dry Manifold
E	1119	1500	2100	Non-current EPA T2	Dry Manifold
C	839	1125	1800	EPA T4 Final	Dry Manifold

## Land Electric Drilling Ratings

Model	Volt	kV•A	ekW	Hz	Emissions
C32 ACERT	380	1000	800	50	Non-current EPA T2
C32 ACERT	600	1137	910	60	Non-current EPA T2

## Specifications

**Bore x Stroke** ..... 145x162 mm (5.7x6.4 in)

**Displacement** ..... 32 liters (1953 in<sup>3</sup>)

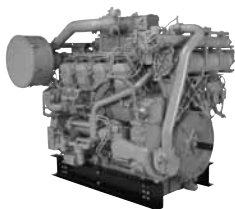
## Dimensions & Weights

	L	W	H	Wt
<b>C32 ACERT</b>	1918 mm/75.5 in	1473 mm/58 in	1321 mm/52 in	2895 kg/6382 lbs
<b>C32 ACERT T4</b>	1905 mm/75 in	1600 mm/63 in	1549 mm/61 in	3107 kg/6850 lbs
<b>C32 ACERT</b>	5228 mm/206 in	1905 mm/75 in	2180 mm/86 in	9299 kg/20,500 lbs

Please see spec sheet for more information:

C32 ACERT ..... LEHW0049, LEHW0050, LEHW0051, LEHW0100, LEHW0110

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions	Notes
507	680	1200	Non-certified	Dry or Watercooled Manifold
567	760	1200	Non-certified	Dry Manifold
611	820	1300	Non-certified	Dry or Watercooled Manifold
638	855	1800	Non-certified	Dry or Watercooled Manifold
746	1000	1800	Non-certified	Dry or Watercooled Manifold
846	1135	1900	Non-certified	Dry or Watercooled Manifold

## Land Electric Drilling Ratings

Rating Tier	bkW	bhp	rpm	Emissions
A	641	860	1200	Non-certified

## Specifications

**Bore x Stroke** ..... 170 x 190 mm (6.7 x 7.5 in)

**Displacement** ..... 34.5 liters (2105 in<sup>3</sup>)

## Dimensions & Weights

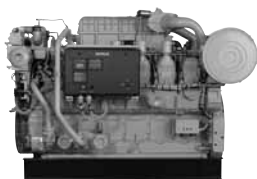
	L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>				
	2136.14 mm/84.1 in	1701.8 mm/67 in	1719.58 mm/67.7 in	4309 kg/9,500 lbs
<b>Land Electric Drilling Module*</b>				
	7874 mm/310 in	2385.06 mm/93.9 in	2778.76 mm/109.4 in	14 443 kg/31,843 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

**Please see spec sheet for more information:**

3508 ..... LEHW0058, LEHW0069

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions
671	900	1200	Non-certified
567	760	1200	Non-certified

## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
682	915	1200	Non-certified

## Offshore Electric Drilling Ratings

ekW	bkW	bhp	rpm	Emissions
600	682	915	1200	Non-current IMO TI
800	856	1148	1500	Non-current IMO TI

## Offshore Emergency Generator Set Ratings

ekW	bkW	bhp	rpm	Emissions
910	968	1298	1800	Non-current IMO TI

## Specifications

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

Displacement . . . . . 34.5 liters (2105 in<sup>3</sup>)

## Dimensions & Weights

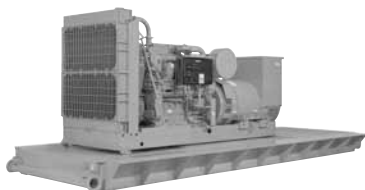
L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>			
2136.14 mm/84.1 in	1701.8 mm/67.0 in	2024.38 mm/79.7 in	4309 kg/9,500 lbs
<b>Land Electric Drilling Module*</b>			
4986.02 mm/196.3 in	2319.02 mm/91.3 in	2595.88 mm/102.2 in	15 352 kg/33,846 lbs
<b>Offshore Electric Drilling Module*</b>			
4986.02 mm/196.3 in	2319.02 mm/91.3 in	2595.88 mm/102.2 in	14 443 kg/31,843 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

Please see spec sheet for more information:

3508B..... LEHW0057, LEHW0070

For diesel engine rating definitions please see pages 7-8.



### Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions
671	900	1200	Non-current EPA T2

### Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
682	915	1200	Non-current EPA T2

### Specifications

**Bore x Stroke** ..... 170 x 190 mm (6.7 x 7.5 in)

**Displacement** ..... 34.5 liters (2105 in<sup>3</sup>)

### Dimensions & Weights

	L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>	2136.14 mm/84.1 in	1701.8 mm/67.0 in	2024.38 mm/79.7 in	4581.7 kg/10,101 lbs
<b>Land Electric Drilling Module*</b>	4986.02 mm/196.3 in	2319.02 mm/91.3 in	2595.88 mm/102.2 in	15 352 kg/33,846 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

**Please see spec sheet for more information:**

3508C..... LEHW0071, LEHW0059

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions	Notes
761	1020	1200	Non-certified	Dry or Watercooled Manifold
764	1025	1200	Non-certified	Dry Manifold
858	1150	1300	Non-certified	Dry or Watercooled Manifold
932	1250	1200	Non-certified	Dry Manifold
954	1280	1800	Non-certified	Dry or Watercooled Manifold
1119	1500	1900	Non-certified	Dry or Watercooled Manifold

## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
708	950	1200	Non-certified
830	1113	1000	Non-certified
890	1194	1000	Non-certified
985	1321	1200	Non-certified
1070	1435	1200	Non-certified
1090	1462	1500	Non-certified

## Specifications

**Bore x Stroke** . . . . . 170 x 190 mm (6.7 x 7.5 in)

**Displacement** . . . . . 51.8 liters (3158 in<sup>3</sup>)

## Dimensions & Weights

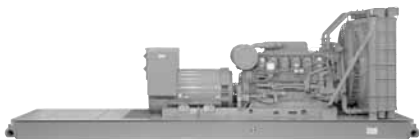
L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>			
2674.62 mm/105.3 in	1701.8 mm/67.0 in	1719.58 mm/67.7 in	5203.75 kg/11,462 lbs
<b>Land Electric Drilling Module*</b>			
7874 mm/310 in	2385.06 mm/93.9 in	2936.24 mm/115.6 in	15 714 kg/34,644 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

**Please see spec sheet for more information:**

3512 ..... LEHW0066, LEHW0060

For diesel engine rating definitions please see pages 7-8.



## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
1101	1476	1200	Non-certified
1310	1757	1500	Non-certified

## Offshore Electric Drilling Ratings

ekW	bkW	bhp	rpm	Emissions
1030	1102	1478	1200	Non-current IMO TI
1200	1257	1686	1500	IMO TII
880	933	1251	1000	Non-current IMO TI

## Offshore Emergency Generator Sets Ratings

ekW	bkW	bhp	rpm	Emissions
1360	1424	1910	1800	Non-current IMO TI

## Specifications

**Bore x Stroke** . . . . . 170 x 190 mm (6.7 x 7.5 in)

**Displacement** . . . . . 51.8 liters (3158 in<sup>3</sup>)

## Dimensions & Weights

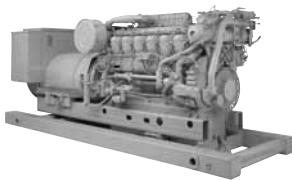
	L	W	H	Wt
<b>Land Electric Drilling Module*</b>				
	7874 mm/310 in	2385.06 mm/93.9 in	2956.56 mm/116.4 in	15 652 kg/34,507 lbs
<b>Offshore Electric Drilling Module*</b>				
	7874 mm/310 in	2385.06 mm/93.9 in	2956.56 mm/116.4 in	15 652 kg/34,507 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

Please see spec sheet for more information:

3512B..... LEHW0067

For diesel engine rating definitions please see pages 7-8.



## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
1101	1476	1200	Non-current EPA T2

## Offshore Electric Drilling Ratings

ekW	bkW	bhp	rpm	Emissions
1030	1102	1478	1200	IMO TII, EPA Mar T2

## Specifications

**Bore x Stroke** . . . . . 170 x 190 mm (6.7 x 7.5 in)

**Displacement** . . . . . 51.8 liters (3158 in<sup>3</sup>)

## Dimensions & Weights

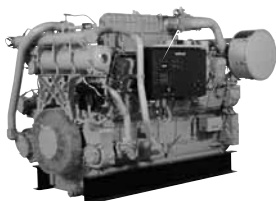
L	W	H	Wt
<b>Land Electric Drilling Module*</b>			
7874 mm/310 in	2385.06 mm/93.9 in	2956.56 mm/116.4 in	15 566 kg/34,319 lbs
<b>Offshore Electric Drilling Module*</b>			
5448 mm/214.49 in	1827 mm/71.13 in	2315.2 mm/91.15 in	15 566 kg/34,319 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

Please see spec sheet for more information:

3512C..... LEHW0078, LEHW0068

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions
1100	1475	1200	Non-current EPA T2
932	1250	1200	Non-current EPA T2

## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
1305	1750	1200	Non-current EPA T2

## Specifications

Bore x Stroke . . . . . 170x215 mm (6.7 x 8.5 in)

Displacement . . . . . 58.6 liters (3575 in<sup>3</sup>)

## Dimensions & Weights

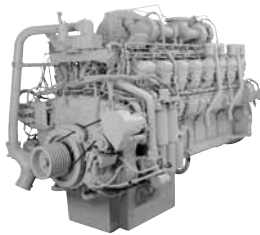
L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>			
2682.24 mm/105.6 in	1790.7 mm/70.5 in	2019.3 mm/79.5 in	5423 kg/11,945 lbs
<b>Land Electric Drilling Module</b>			
7880 mm/311 in	2384 mm/94 in	2282-2955 mm/90-117 in*	15 765 kg/34,757 lbs

\*Height is dependent on radiator selected

Please see spec sheet for more information:

3512C HD ..... LEHW0048

For diesel engine rating definitions please see pages 7-8.



## Land Mechanical Drilling Ratings

bkW	bhp	rpm	Emissions	Notes
1044	1400	1200	Non-certified	Dry Manifold
1230	1649	1200	Non-certified	Dry Manifold
1010	1355	1200	Non-certified	Dry or Watercooled Manifold
1242	1665	1300	Non-certified	Dry or Watercooled Manifold

## Land Electric Drilling Ratings

bkW	bhp	rpm	Emissions
1200	1609	1000	Non-certified
1345	1804	1200	Non-certified

## Specifications

Bore x Stroke . . . . . 170 x 190 mm (6.7 x 7.5 in)  
 Displacement . . . . . 69 liters (4210 in<sup>3</sup>)

## Dimensions & Weights

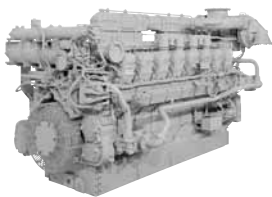
	L	W	H	Wt
<b>Land Mechanical Drilling Engine</b>				
	3251 mm/128 in	1701 mm/67 in	2004 mm/78.9 in	878 kg/19,090 lbs
<b>Land Electric Drilling Module*</b>				
	7874 mm/310 in	2385 mm/93.9 in	2497 mm/98.3 in	18 340 kg/40,433 lbs

\*Module weight and dimensions include — inner and outer base, radiator, generator, and engine

Please see spec sheet for more information:

3516 ..... LEHW0064

For diesel engine rating definitions please see pages 7-8.



## Land Electric Ratings

bkW	bhp	rpm	Emissions
1383	1855	1200	Non-certified

## Offshore Electric Ratings

ekW	bkW	bhp	rpm	Emissions	Notes
<b>3516B</b>					
1285	1383	1855	1200	Non-current IMO TI	
1600	1717	2303	1500	IMO TII	
<b>3516B HD</b>					
1530	1603	2150	1200	Non-current IMO TI	

## Offshore Emergency Generator Set Ratings

ekW	bkW	bhp	rpm	Emissions	Notes
1825	1901	2549	1800	Non-current IMO TI	Emergency Rating

## Specifications

Bore x Stroke .....	<b>3516B</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>3516B HD</b>	170 x 215 mm (6.7 x 8.5 in)
Displacement .....	<b>3516B</b>	69 liters (4210 in <sup>3</sup> )
	<b>3516B HD</b>	78 liters (4470 in <sup>3</sup> )

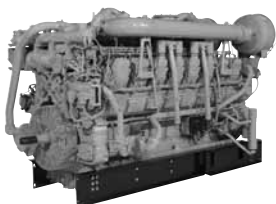
## Dimensions & Weights

	L	W	H	Wt
<b>Engine</b>	3213 mm/127 in	1786 mm/70 in	2024 mm/80 in	7484 kg/16500 lbs
<b>Module</b>	7874 mm/310 in	2385 mm/93.9 in	2520 mm/99.2 in	18 810 kg/41,469 lbs

Please see spec sheet for more information:

3516B..... LEHW0065

For diesel engine rating definitions please see pages 7-8.



## Offshore Electric Ratings

ekW	bkW	bhp	rpm	Emissions
1285	1383	1855	1200	IMO TII, EPA Mar T2
1530	1603	2150	1200	IMO TII, EPA Mar T2

## Specifications

Bore x Stroke . . . . . 170x215 mm (6.7 x 8.5 in)

Displacement . . . . . 78 liters (4770 in<sup>3</sup>)

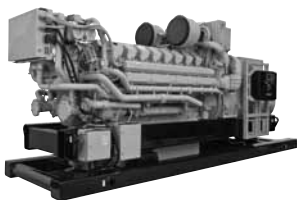
## Dimensions & Weights

	L	W	H	Wt
Engine	5915 mm/223 in	1786 mm/70 in	2024 mm/80 in	7484 kg/16,500 lbs
Module	6704 mm/264 in	1988 mm/78 in	2537 mm/100 in	16 874 kg/37,200 lbs

Please see spec sheet for more information:

3516C..... LEHW0073

For diesel engine rating definitions please see pages 7-8.



### Offshore Electric Ratings

ekW	bkW	bhp	rpm	Emissions
1833	1930	2586	1200	IMO TII, EPA Mar T2

### Specifications

**Bore x Stroke** . . . . . 175 x 220 mm (6.9 x 8.7 in)

**Displacement** . . . . . 85 liters (5164 in<sup>3</sup>)

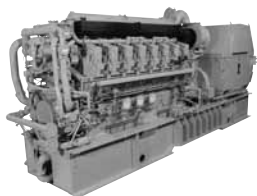
### Dimensions & Weights

	L	W	H	Wt
<b>Module</b>	6705 mm/264 in	2160 mm/85 in	2797 mm/110 in	24 312 kg/53,600 lbs

**Please see spec sheet for more information:**

C175-16 ..... LEHW6097

For diesel engine rating definitions please see pages 7-8.



## Offshore Generator Set Ratings

	ekW	bkW	bhp	rpm	Emissions
<b>C280-6</b>	1820	1900	2548	900	IMO TII, EPA Mar T2
	1940	2030	2722	1000	IMO TII, EPA Mar T2
<b>C280-8</b>	2420	2530	3393	900	IMO TII, EPA Mar T2
	2600	2710	3634	1000	IMO TII, EPA Mar T2
<b>C280-12</b>	3640	3800	5096	900	IMO TII, EPA Mar T2
	3880	4060	5444	1000	IMO TII, EPA Mar T2
<b>C280-16</b>	4840	5060	6785	900	IMO TII, EPA Mar T2
	5200	5420	7268	1000	IMO TII, EPA Mar T2
	5359	5600	7510	900	IMO TII, EPA Mar T2

## Specifications

<b>Bore x Stroke</b> . . . . .	280 x 300 mm (11 x 11.8 in)
<b>Displacement</b> . . . . .	<b>C280-6</b> 111 liters (6773 in <sup>3</sup> )
	<b>C280-8</b> 148 liters (9031 in <sup>3</sup> )
	<b>C280-12</b> 222 liters (13,546 in <sup>3</sup> )
	<b>C280-16</b> 296 liters (18,062 in <sup>3</sup> )

## Dimensions & Weights

	L	W	H	Wt
<b>C280-6</b>	4012 mm/158 in	1818 mm/71.6 in	2733 mm/107.6 in	15 680 kg/34,568 lbs
<b>C280-8</b>	4958 mm/195 in	1865 mm/73.4 in	2930 mm/115 in	19 000 kg/41,888 lbs
<b>C280-12</b>	4012 mm/158 in	2113 mm/83 in	3490 mm/137.4 in	25 980 kg/57,276 lbs
<b>C280-16</b>	5648 mm/222 in	2113 mm/83 in	3490 mm/137.4 in	31 000 kg/68,343 lbs
<b>C280-16</b>				
<b>Module</b>	9881 mm/389 in	2490 mm/98 in	5293 mm/209 in	82 000 kg/184,000 lbs

Please see spec sheet for more information:

C280-6 (50 Hz).....	LEHW0085	C280-12 (50 Hz).....	LEHW0087
C280-6 (60 Hz).....	LEHW0091	C280-12 (60 Hz).....	LEHW0093
C280-8 (50 Hz).....	LEHW0086	C280-16 (50 Hz).....	LEHW0088
C280-8 (60 Hz).....	LEHW0092	C280-16 (60 Hz).....	LEHW0094

For diesel engine rating definitions please see pages 7-8.



## Offshore Generator Set Ratings

Model	bkW	ekW*	kVA*	bhp	rpm	Emissions
CM32-9	4500	4320	5400	6035	600	IMO TII
CM32-12	6000	5760	7200	8046	720/750	IMO TII
CM32-16	8000	7680	9600	10,728	720/750	IMO TII

\*Generator efficiency: 0.96, cos  $\phi$ : 0.7

## Specifications

### Bore x Stroke

<b>CM32-9</b>	320 x 480 mm (12.6 x 18.9 in)
<b>CM32-12</b>	320 x 460 mm (12.6 x 18.1 in)
<b>CM32-16</b>	320 x 460 mm (12.6 x 18.1 in)

### Displacement

<b>CM32-9</b>	347 liters (21,175 in <sup>3</sup> )
<b>CM32-12</b>	405 liters (24,715 in <sup>3</sup> )
<b>CM32-16</b>	541 liters (33,014 in <sup>3</sup> )

## Dimensions & Weights

	L	W	H	Wt
<b>CM32-9</b>	4276 mm/168 in	1722 mm/68 in	2733 mm/108 in	49.4 tons/108,908 lbs
<b>CM32-12</b>	5561 mm/219 in	1722 mm/68 in	2733 mm/108 in	64.5 tons/142,195 lbs
<b>CM32-16</b>	4861 mm/191 in	1741 mm/69 in	3550 mm/140 in	81.6 tons/179,894 lbs

Please see spec sheet for more information:

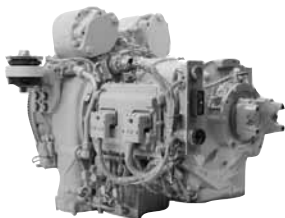
CM32-12 ..... LEHW0024      CM32-16 ..... LEHW0025

For diesel engine rating definitions please see pages 7-8.

# Drilling Transmission Application Chart

Engine	Transmission	Max hp	Page
<b>C9 ACERT</b>	TH31-E61	350	59
<b>C11 ACERT</b>	TH35-E81	450	60
<b>C13 ACERT</b>	TH35-E81	520	60
<b>C15 ACERT</b>	TH35-E81	540	60
	CX31-P600	600	61
	CX35-P800	800	62
<b>C18 ACERT</b>	CX35-P800	800	62
<b>C27 ACERT</b>	TH48-E70	1150	63
<b>C32 ACERT</b>	TH48-E70	1500	63

# TH31-E61 DRILLING TRANSMISSION



## Ratings

Gross Input Power	261 kW (350 hp)
Gross Input Torque	1556 N•m (1148 lb-ft)
Maximum Turbine Torque	2746 N•m (2025 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1710 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

4 x PTOs integral live drive

## Location & Rated Power

11 o'clock 149 kW/200 hp and

1 o'clock 149 kW/200 hp

Total 164 kW (220 hp)

## PTO Mountings

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (2)

## 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	2.46

## Dimensions

Height:	925 mm (36.4 in)
Width:	654 mm (25.7 in)
Length:	1108.3 mm (43.6 in)

## Weight

Approximate Dry Weight	841 kg (1855 lbs)
---------------------------	-------------------

## Spec Sheet

LEHW1000

# TH35-E81 DRILLING TRANSMISSION



## Ratings

Gross Input Power	410 kW (550 hp)
Gross Input Torque	2237 N•m (1650 lb-ft)
Maximum Turbine Torque	3295 N•m (2430 lb-ft)
Rated Input Speed	2100 rpm
Maximum Input Speed	2500 rpm

## Output Connection Options

- 1810 output yoke
- 1810 companion flange

## Power Take Off

(Pump Auxiliary Drive)

## Description

2 x PTOs integral live drive

## Location & Rated Power

- 11 o'clock 149 kW/200 hp and
- 1 o'clock 149 kW/200 hp
- Total 164 kW (220 hp)

## PTO Mountings

- SAE C mounting pads facing output (2)
- SAE B mounting pads facing input (2)

## 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	2.46

## Dimensions

Height:	925 mm (36 in)
Width:	654 mm (26 in)
Length:	1225 mm (48 in)

## Weight

Approximate Dry Weight	973 kg (2145 lbs)
---------------------------	-------------------

## Spec Sheet

LEHW1001



## 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)

## Description

4 x PTOs integral live drive

## Location

Standard: 1 o'clock and 8 o'clock, 5 o'clock at rear

Optional Integral PTO Drives:

1 o'clock and 11 o'clock, 5 o'clock at rear

## PTO Mountings

Standard:

10-bolt, rear PTO mounting Cat 8-bolt (1)

Optional Integral Pump Drive:

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (2)

## 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, 2.324
> 400 hp engine	2.324

## Dimensions

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

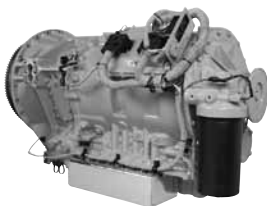
## Weight

Approximate Dry Weight	465 kg (1026 lbs)
---------------------------	-------------------

## Spec Sheet

LEHW0008

# CX35-P800 DRILLING TRANSMISSION



## 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)
Maximum Turbine 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)

## Description

4 x PTOs integral live drive

## Location

Standard: 8 o'clock and 1 o'clock side

positions, 5 o'clock at rear

Optional Integral PTO Drives:

1 o'clock and 11 o'clock above T/C

housing, 5 o'clock at rear

## PTO Mountings

Standard:

10-bolt, rear PTO mounting Cat 8-bolt (1)

Optional Integral Pump Drive:

SAE C mounting pads facing output (2)

SAE B mounting pads facing input (2)

## 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

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 699 kg (1540 lbs)

## Spec Sheet

LEHW0007

# TH48-E70 DRILLING TRANSMISSION



## Ratings

Gross Input Power	895 kW (1200 hp)
	1118 kW (1500 hp)
Gross Input Torque	5484 N•m (4045 lb-ft)
	5995 N•m (4422 lb-ft)
Maximum Turbine Torque	7442 N•m (5489 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)

## Location & Rated Power

3 positions (3 o'clock, 5 o'clock, and 9 o'clock from rear)

112 kW/150 hp continuous

## PTO Mountings

SAE 8 bolt (J704)

## 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)

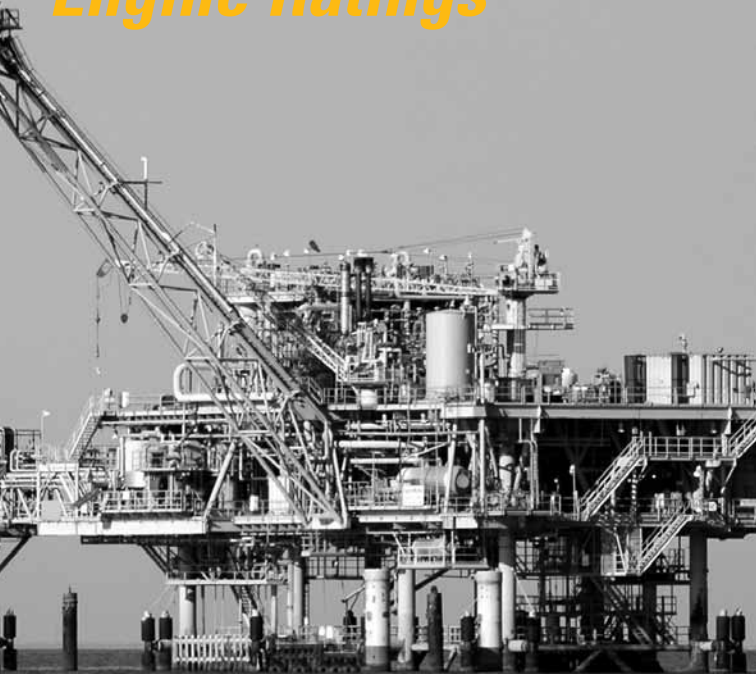
## Weight

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

## Spec Sheet

LEHW1002

# *Production Engine Ratings*



The broad line of Cat diesel and gas engines are 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 start-up and installation, and high tolerance for fuel of variable quality.



## Production Ratings

Model	Volt	kV•A	ekW	Hz	Emissions
C15 ACERT	400	365	292	50	Non-current EU II, China II Non-Road Emissions Certified
C15 ACERT	400	455	365	50	Non-current EU II, China II Non-Road Emissions Certified
C15 ACERT	480	400	320	60	Non-current EPA T3
C15 ACERT	480	455	365	60	Non-current EPA T2
C15 ACERT	480	515	410	60	Non-current EPA T3
C15 ACERT	480	570	455	60	Non-current EPA T2
C18 ACERT	400	545	435	50	Non-current EU II
C18 ACERT	480	625	500	60	Non-current EPA T2
C18 ACERT	600	625	500	60	Non-current EPA T2
C18 ACERT	480	680	545	60	Non-current EPA T2
C18 ACERT	600	680	545	60	Non-current EPA T2
C27 ACERT	480	906	725	60	Non-current EPA T2
C32 ACERT	380	1000	800	50	Non-current EPA T2
C32 ACERT	600	1137	910	60	Non-current EPA T2

## Specifications

<b>Bore x Stroke</b> .....	<b>C15 ACERT</b>	137.2 x 171.5 mm (5.4 x 6.75 in)
	<b>C18 ACERT</b>	145 x 183 mm (5.7 x 7.2 in)
	<b>C27 ACERT</b>	137.7 x 152.4 mm (5.42 x 6 in)
	<b>C32 ACERT</b>	145 x 162 mm (5.7 x 6.4 in)
<b>Displacement</b> .....	<b>C15 ACERT</b>	15.2 liters (927.6 in <sup>3</sup> )
	<b>C18 ACERT</b>	18.1 liters (1105 in <sup>3</sup> )
	<b>C27 ACERT</b>	27 liters (1648 in <sup>3</sup> )
	<b>C32 ACERT</b>	32 liters (1953 in <sup>3</sup> )

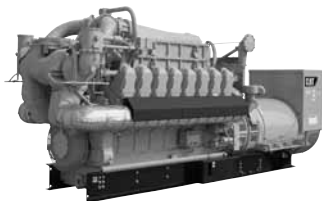
## Dimensions & Weights

	L	W	H	Wt
<b>C15 ACERT</b>	2804 mm/110.4 in	1504 mm/59.2 in	2192 mm/86.3 in	6645 kg/14,650 lbs
<b>C18 ACERT</b>	3632 mm/143 in	1524 mm/60 in	2108 mm/83 in	5655 kg/12,469 lbs
<b>C27 ACERT</b>	5207 mm/205 in	1905 mm/75 in	2180 mm/86 in	8799.7 kg/19,400 lbs
<b>C32 ACERT</b>	5228 mm/206 in	1905 mm/75 in	2180 mm/86 in	9299 kg/20,500 lbs

Please see spec sheet for more information:

C15 ACERT .....	LEHW0010
C18 ACERT .....	LEHW6319, LEHW7449, LEHW7450, LEHW7451
C32 ACERT .....	LEHW0110
C27 ACERT .....	LEHW0115

For diesel engine rating definitions please see pages 7-8.



## Production Ratings

Model	ekW	kVA	rpm	Hz
G3406	160	200	1500	50
G3406	190	238	1800	60
G3412	280	350	1500	50
G3412	360	450	1800	60
G3412	305	380	1500	50
G3412	450	563	1800	60
G3412C LE	360	450	1500	50
G3412C LE	375	469	1800	60
G3508	370	—	1200	60
G3508	—	600	1500	50
G3512	585	—	1200	60
G3512	—	900	1500	50
G3516B	—	1356	1500	50
G3516B	1300	—	1800	60
G3516	975	—	1500	50
G3516	770	—	1200	60
G3520C	—	2458	1500	50
G3520C	2055	—	1800	60

## Specifications

<b>Bore x Stroke</b> .....	<b>G3406</b>	137 x 152 mm (5.4 x 6 in)
	<b>G3408</b>	137 x 152 mm (5.4 x 6 in)
	<b>G3412</b>	137 x 152 mm (5.4 x 6 in)
	<b>G3508</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>G3512</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>G3516</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>G3520C</b>	170 x 190 mm (6.7 x 7.5 in)
	<b>Displacement</b> .....	<b>G3406</b>
<b>G3408</b>		18 liters (1099 in <sup>3</sup> )
<b>G3412</b>		27 liters (1649 in <sup>3</sup> )
<b>G3508</b>		34.5 liters (2105 in <sup>3</sup> )
<b>G3512</b>		51.8 liters (3158 in <sup>3</sup> )
<b>G3516</b>		69 liters (4211 in <sup>3</sup> )
<b>G3520C</b>		86 liters (5263 in <sup>3</sup> )

Please see spec sheet for more information:

G3406..... LEHW3888, LEHW3891

G3412..... LEHW3889, LEHW3890

\*Other ratings available, see dealer for details.

For gas engine rating definitions please see page 9.

Ratings continued on page 67.

Ratings continued from 66.

## Production Ratings

Model	ekW	kVA	rpm	Hz
G3606	1155	1444	900	60
G3606	1285	1606	1000	50
G3606	1370	1713	1000	50
G3606	1825	2281	900	60
G3608	1540	1925	900	60
G3608	1640	2050	900	60
G3608	1715	2144	1000	50
G3608	1825	2281	1000	50
G3612	2310	2888	900	60
G3612	2335	2919	900	60
G3612	2456	3081	900	60
G3612	2570	3213	1000	50
G3612	2575	3219	1000	50
G3612	2615	3269	900	60
G3612	2655	3319	1000	50
G3612	2735	3419	1000	50
G3612	2740	3425	1000	50
G3612	2900	3625	1000	50
G3616	3080	3850	900	60
G3616	3105	3882	900	60
G3616	3285	4106	900	60
G3616	3425	4281	1000	50
G3616	3480	4350	900	60
G3616	3535	4419	1000	50
G3616	3640	4550	1000	50
G3616	3650	4563	1000	50
G3616	3860	4825	1000	50

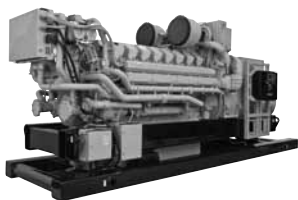
## Specifications

Bore x Stroke . . . . .	<b>G3606</b>	300 x 300 mm (11.8 x 11.8 in)
	<b>G3608</b>	300 x 300 mm (11.8 x 11.8 in)
	<b>G3612</b>	300 x 300 mm (11.8 x 11.8 in)
	<b>G3616</b>	300 x 300 mm (11.8 x 11.8 in)
Displacement . . . . .	<b>G3606</b>	127.2 liters (7762 in <sup>3</sup> )
	<b>G3608</b>	169.6 liters (10,350 in <sup>3</sup> )
	<b>G3612</b>	254 liters (15,528 in <sup>3</sup> )
	<b>G3616</b>	339 liters (20,705 in <sup>3</sup> )

Please see spec sheet for more information:

\*Other ratings available, see dealer for details.

For gas engine rating definitions please see page 9.



## Production Ratings

Model	Volt	kVA	ekW	rpm	Hz	Emissions
C175-16	600	—	1833	1200	60	IMO TII, EPA Mar T2
C175-16	400	3000	—	1500	50	Non-certified
C175-16	3300	2725	—	1500	50	Non-certified
C175-16	11,000	2500	—	1500	50	Non-certified
C175-16	480	—	3000	1800	60	Non-current EPA T2
C175-16	4160	—	2725	1800	60	Non-current EPA T2
C175-16	12,470	—	2500	1800	60	Non-current EPA T2
C175-16	480	—	3100	1800	60	Non-current EPA T2
C175-16	4160	—	2825	1800	60	Non-current EPA T2
C175-16	12,470	—	2600	1800	60	Non-current EPA T2

## Specifications

Bore x Stroke . . . . . 175x220 mm (6.9x8.7 in)

Displacement . . . . . 85 liters (5164 in<sup>3</sup>)

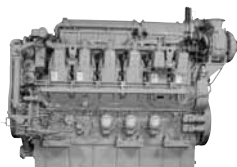
## Dimensions & Weights

	L	W	H	Wt
Module	6705 mm/264 in	2160 mm/85 in	2797 mm/110 in	24 312 kg/53,600 lbs

Please see spec sheet for more information:

C175-16 ..... LEHW6097

For diesel engine rating definitions please see pages 7-8.



## Production Ratings

Model	Rating	ekW	bkW	bhp	rpm	Emissions
C280-6	Continuous	1661	1730	2320	900	Mar T2, IMO II
C280-6	Continuous	1776	1850	2481	1000	Mar T2, IMO II
C280-6	Prime + 10%	1820	1900	2548	900	Mar T2, IMO II
C280-6	Prime + 10%	1940	2030	2722	1000	Mar T2, IMO II
C280-8	Continuous	2208	2300	3084	900	Mar T2, IMO II
C280-8	Continuous	2362	2460	3299	1000	Mar T2, IMO II
C280-8	Prime + 10%	2420	2530	3393	900	Mar T2, IMO II
C280-8	Prime + 10%	2600	2710	3634	1000	Mar T2, IMO II
C280-12	Continuous	3322	3460	4640	900	Mar T2, IMO II
C280-12	Continuous	3552	3700	4962	1000	Mar T2, IMO II
C280-12	Prime + 10%	3640	3800	5096	900	Mar T2, IMO II
C280-12	Prime + 10%	3880	4060	5444	1000	Mar T2, IMO II
C280-16	Continuous	4416	4600	6169	900	Mar T2, IMO II
C280-16	Continuous	4723	4920	6598	1000	Mar T2, IMO II
C280-16	Prime + 10%	4840	5060	6785	900	Mar T2, IMO II
C280-16	Prime + 10%	5200	5420	7268	1000	Mar T2, IMO II
C280-16	Prime + 10%	5359	5600	7510	900	Mar T2, IMO II

## Specifications

**Bore x Stroke** . . . . . 280 x 300 mm (11.0 x 11.8 in)

**Displacement** . . . . . **C280-6** 111 liters (6773 in<sup>3</sup>)  
**C280-8** 148 liters (9031 in<sup>3</sup>)  
**C280-12** 222 liters (13,546 in<sup>3</sup>)  
**C280-16** 296 liters (18,062 in<sup>3</sup>)

## Dimensions & Weights

	L	W	H	Wt
<b>C280-6</b>	4012 mm/158 in	1818 mm/71.6 in	2733 mm/107.6 in	15 680 kg/34,568 lbs
<b>C280-8</b>	4958 mm/195 in	1865 mm/73.4 in	2930 mm/115 in	19 000 kg/41,888 lbs
<b>C280-12</b>	4012 mm/158 in	2113 mm/83 in	3490 mm/137.4 in	25 980 kg/57,276 lbs
<b>C280-16</b>	5648 mm/222 in	2113 mm/83 in	3490 mm/137.4 in	31 000 kg/68,343 lbs

For diesel engine rating definitions please see pages 7-8.



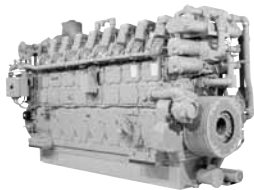
## Production Ratings

Model	ekW	kVA	rpm	Hz
3406C	275	—	1800	60
3406C	—	320	1500	50
3406C	—	365	1500	50
3406C	—	400	1500	50
3412	591	—	1800	60
3412	—	810	1500	50
3508	820	—	1800	60
3508B	910	—	1800	60
3508B	—	1000	1500	50
3512	—	1275	1500	50
3512B	—	1500	1500	50
3512B HD	—	1700	1500	50
3512	1000	—	1800	60
3512	1045	—	1200	60
3512B	1275	—	1800	60
3512B	1360	—	1800	60
3516	—	1825	1500	50
3516B	—	1750	1500	50
3516B	—	2000	1500	50
3516B HD	—	2275	1500	50
3516	1600	—	1800	60
3516B	1825	—	1800	60
3516C	1825	—	1800	60

## Specifications

Bore x Stroke .....	<b>3406C</b>	137 x 152 mm (5.4 x 6 in)	
	<b>3412</b>	137 x 152 mm (5.4 x 6 in)	
	<b>3512</b>	170 x 190 mm (6.7 x 7.5 in)	
	<b>3512B</b>	170 x 190 mm (6.7 x 7.5 in)	
	<b>3512B HD</b>	170 x 215 mm (6.7 x 8.5 in)	
	<b>3516</b>	170 x 190 mm (6.7 x 7.5 in)	
	<b>3516B</b>	170 x 190 mm (6.7 x 7.5 in)	
	<b>3516B HD</b>	170 x 190 mm (6.7 x 7.5 in)	
	Displacement .....	<b>3406C</b>	14 liters (893 in <sup>3</sup> )
		<b>3412</b>	27 liters (1649 in <sup>3</sup> )
<b>3512</b>		51.8 liters (3158 in <sup>3</sup> )	
<b>3512B</b>		51.8 liters (3158 in <sup>3</sup> )	
<b>3512B HD</b>		58.6 liters (3575 in <sup>3</sup> )	
<b>3516</b>		69 liters (4211 in <sup>3</sup> )	
<b>3516B</b>		69 liters (4211 in <sup>3</sup> )	
<b>3516B HD</b>	78 liters (4470 in <sup>3</sup> )		

For diesel engine rating definitions please see pages 7-8.



## Production Ratings

Rating Tier	bkW	bhp	rpm	Emissions
<b>3606</b>				
Continuous	1730	2320	900	Non-current IMO TI*
Continuous	1850	2481	1000	Non-current IMO TI*
Continuous	1900	2548	900	Non-current IMO TI*
Continuous	2030	2722	1000	Non-current IMO TI*
<b>3608</b>				
Continuous	2300	3084	900	Non-current IMO TI*
Continuous	2460	3299	1000	Non-current IMO TI*
Continuous	2530	3393	900	Non-current IMO TI*
Continuous	2710	3634	1000	Non-current IMO TI*
<b>3612</b>				
Continuous	3460	4640	900	Non-current IMO TI*
Continuous	3700	4962	1000	Non-current IMO TI*
Continuous	3800	5096	900	Non-current IMO TI*
Continuous	4060	5444	1000	Non-current IMO TI*
<b>3616</b>				
Continuous	4600	6169	900	Non-current IMO TI*
Continuous	4920	6598	1000	Non-current IMO TI*
Continuous	5060	6785	900	Non-current IMO TI*
Continuous	5420	7268	1000	Non-current IMO TI*

## Specifications

<b>Bore x Stroke</b> .....	<b>3606</b>	280 x 300 mm (11 x 11.8 in)
	<b>3608</b>	280 x 300 mm (11 x 11.8 in)
	<b>3612</b>	280 x 300 mm (11 x 11.8 in)
	<b>3616</b>	280 x 300 mm (11 x 11.8 in)
<b>Displacement</b> .....	<b>3606</b>	111 liters (6773 in <sup>3</sup> )
	<b>3608</b>	148 liters (9031 in <sup>3</sup> )
	<b>3612</b>	222 liters (13,546 in <sup>3</sup> )
	<b>3616</b>	296 liters (18,062 in <sup>3</sup> )

## Dimensions & Weights

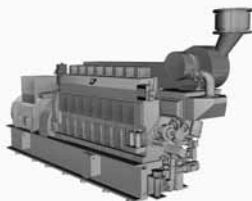
	L	W	H	Wt
<b>3606</b>	4276 mm/168 in	1722 mm/68 in	2733 mm/108 in	15 680 kg/34,500 lbs
<b>3608</b>	5561 mm/219 in	1722 mm/68 in	2733 mm/108 in	19 000 kg/41,800 lbs
<b>3612</b>	4861 mm/191 in	1741 mm/69 in	3550 mm/140 in	25 140 kg/55,300 lbs
<b>3616</b>	5482 mm/216 in	1741 mm/69 in	3550 mm/140 in	29 950 kg/65,900 lbs

Please see spec sheet for more information:

3600 ..... LEHW0629

\*IMO TI levels with 32°C cooling water at 25°C ambient sea water temperature.

For diesel engine rating definitions please see pages 7-8.



## Offshore Generator Sets

Model	bkW	ekW*	kVA*	bhp	rpm
CM20-6	1020/1140	979/1094	1224/1368	1368/1529	900/1000
CM20-8	1360/1520	1306/1459	1632/1824	1824/2038	900/1000
CM20-9	1530/1710	1469/1642	1836/2052	2052/2293	900/1000
CM25-6	1900/2000	1824/1920	2280/2400	2548/2682	720/750
CM25-8	2534/2666	2433/2559	3041/3199	3398/3575	720/750
CM25-9	2850/3000	2736/2880	3420/3600	3822/4023	720/750

\*Generator efficiency: 0.96, cos  $\phi$ : 0.7

## Specifications

### Bore x Stroke

<b>CM20-6</b>	200 x 300 mm (7.9 x 11.8 in)
<b>CM20-8</b>	200 x 300 mm (7.9 x 11.8 in)
<b>CM20-9</b>	200 x 300 mm (7.9 x 11.8 in)
<b>CM25-6</b>	255 x 400 mm (10.0 x 15.7 in)
<b>CM25-8</b>	255 x 400 mm (10.0 x 15.7 in)
<b>CM25-9</b>	255 x 400 mm (10.0 x 15.7 in)

### Displacement

<b>CM20-6</b>	56 liters (3442 in <sup>3</sup> )
<b>CM20-8</b>	75 liters (4589 in <sup>3</sup> )
<b>CM20-9</b>	85 liters (5163 in <sup>3</sup> )
<b>CM25-6</b>	122 liters (7469 in <sup>3</sup> )
<b>CM25-8</b>	163 liters (9959 in <sup>3</sup> )
<b>CM25-9</b>	184 liters (11,204 in <sup>3</sup> )

## Dimensions & Weights

	L**	W	H	Wt**
<b>CM20-6</b>	6073 mm/239.1 in	1680 mm/66.1 in	3218 mm/126.7 in	18.8 tons/41,447 lbs
<b>CM20-8</b>	6798 mm/267.6 in	1816 mm/71.5 in	3389 mm/133.4 in	23.1 tons/50,927 lbs
<b>CM20-9</b>	7128 mm/280.6 in	1816 mm/71.5 in	3389 mm/133.4 in	30 tons/66,139 lbs
<b>CM25-6</b>	8070 mm/317.7 in	2479 mm/97.6 in	4290 mm/168.9 in	43 tons/94,799 lbs
<b>CM25-8</b>	9130 mm/359.4 in	2534 mm/99.8 in	4437 mm/174.7 in	53 tons/116,845 lbs
<b>CM25-9</b>	9516 mm/374.6 in	2534 mm/99.8 in	4437 mm/174.7 in	56 tons/123,459 lbs

\*\*Dependent on generator make/type

For diesel engine rating definitions please see pages 7-8.



## Offshore Generator Sets

Model	bkW	ekW*	kVA*	bhp	rpm	Emissions
CM32-6	3000	2880	3600	4023	600	
CM32-8	4000	3840	4800	5364	600	
CM32-9	4500	4320	5400	6035	600	IMO TII
CM32-12	6000	5760	7200	8046	720/750	IMO TII
CM32-16	8000	7680	9600	10,728	720/750	IMO TII

\*Generator efficiency: 0.96, cos  $\phi$ : 0.7

## Specifications

### Bore x Stroke

<b>CM32-6</b>	320 x 480 mm (12.6 x 18.9 in)
<b>CM32-8</b>	320 x 480 mm (12.6 x 18.9 in)
<b>CM32-9</b>	320 x 480 mm (12.6 x 18.9 in)
<b>CM32-12</b>	320 x 460 mm (12.6 x 18.1 in)
<b>CM32-16</b>	320 x 460 mm (12.6 x 18.1 in)

### Displacement

<b>CM32-6</b>	232 liters (14,133 in <sup>3</sup> )
<b>CM32-8</b>	309 liters (18,844 in <sup>3</sup> )
<b>CM32-9</b>	347 liters (21,200 in <sup>3</sup> )
<b>CM32-12</b>	444 liters (27,095 in <sup>3</sup> )
<b>CM32-16</b>	592 liters (36,126 in <sup>3</sup> )

## Dimensions & Weights

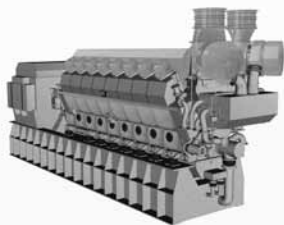
	L**	W	H	Wt**
<b>CM32-6</b>	9129 mm/359.4 in	2639 mm/103.9 in	5275 mm/207.7 in	73 tons/160,937 lbs
<b>CM32-8</b>	10,784 mm/424.6 in	2600 mm/102.4 in	5413 mm/213.1 in	93 tons/205,030 lbs
<b>CM32-9</b>	11,021 mm/433.9 in	2600 mm/102.4 in	5413 mm/213.1 in	98 tons/216,053 lbs
<b>CM32-12</b>	10,710 mm/421.7 in	3526 mm/138.8 in	5513 mm/217 in	126.8 tons/279,546 lbs
<b>CM32-16</b>	12,156 mm/478.6 in	3526 mm/138.8 in	5661 mm/222.9 in	149.6 tons/329,812 lbs

\*\*Dependent on generator make/type

Please see spec sheet for more information:

CM32-12 ..... LEHW0024      CM32-16 ..... LEHW0025

For diesel engine rating definitions please see pages 7-8.



## Offshore Generator Sets

Model	bkW	ekW*	kVA*	bhp	rpm
CM43-6	6000	5760	7200	8046	500/514
CM43-7	7000	6720	8400	9387	500/514
CM43-8	8000	7680	9600	10,728	500/514
CM43-9	9000	8640	10800	12,069	500/514
CM43-12	12000	11520	14400	16,092	500/514
CM43-16	16000	15360	19200	21,456	500/514

\*Generator efficiency: 0.96, cos  $\phi$ : 0.7

## Specifications

### Bore x Stroke

<b>CM43-6</b>	430 x 610 mm (16.9 x 24 in)
<b>CM43-7</b>	430 x 610 mm (16.9 x 24 in)
<b>CM43-8</b>	430 x 610 mm (16.9 x 24 in)
<b>CM43-9</b>	430 x 610 mm (16.9 x 24 in)
<b>CM43-12</b>	430 x 610 mm (16.9 x 24 in)
<b>CM43-16</b>	430 x 610 mm (16.9 x 24 in)

### Displacement

<b>CM43-6</b>	532 liters (32,440 in <sup>3</sup> )
<b>CM43-7</b>	620 liters (37,847 in <sup>3</sup> )
<b>CM43-8</b>	709 liters (43,254 in <sup>3</sup> )
<b>CM43-9</b>	797 liters (48,660 in <sup>3</sup> )
<b>CM43-12</b>	1063 liters (64,880 in <sup>3</sup> )
<b>CM43-16</b>	1418 liters (86,507 in <sup>3</sup> )

## Dimensions & Weights

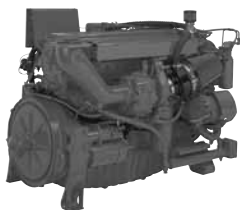
	L**	W	H	Wt**
<b>CM43-6</b>	12,769 mm/502.7 in	3382 mm/133.1 in	6788 mm/267.2 in	170 tons/374,786 lbs
<b>CM43-7</b>	13,565 mm/534.1 in	3382 mm/133.1 in	7281 mm/286.7 in	185 tons/407,855 lbs
<b>CM43-8</b>	14,295 mm/562.8 in	3382 mm/133.1 in	7281 mm/286.7 in	201.4 tons/444,011 lbs
<b>CM43-9</b>	15,025 mm/591.5 in	3382 mm/133.1 in	7281 mm/286.7 in	219 tons/482,812 lbs
<b>CM43-12</b>	14,740 mm/580.3 in	3800 mm/149.6 in	7544 mm/297.0 in	275 tons/606,271 lbs
<b>CM43-16</b>	16,870 mm/664.2 in	3940 mm/155.1 in	7639 mm/300.7 in	345 tons/760,595 lbs

\*\*Dependent on generator make/type

Please see spec sheet for more information:

CM43-12 ..... LEHW0120      CM43-16 ..... LEHW0121

For diesel engine rating definitions please see pages 7-8.



## Diesel Ratings

Model	bkW	bhp	rpm
3406	218	292	1750
3406	275	370	1750
3406	313	420	1750
3406	343	460	1750
3406	321	430	2100
3406	359	482	2100
3406	339	455	2300
3412	476	638	1750
3412	551	739	1900
3412	551	739	2100

## Diesel Ratings

Model	bkW	bhp	rpm
C18 ACERT	522	700	1500
C18 ACERT	447	600	1750
C18 ACERT	522	700	1750
C18 ACERT	597	800	1750
C18 ACERT	447	600	1900
C18 ACERT	522	700	1900
C18 ACERT	597	800	1900
C18 ACERT	447	600	2150
C18 ACERT	522	700	2150
C18 ACERT	597	800	2150
3508	709	950	1460
3508	794	1065	1750
3512	1067	1430	1460
3512	1193	1600	1750
3516	1417	1900	1460
3516	1480	1985	1750

## Specifications

Bore x Stroke	3406	137 x 165 mm (5.4 x 6.5 in)
	3412	137 x 152 mm (5.4 x 6 in)
	C18 ACERT	145 x 183 mm (5.7 x 7.2 in)
	3508	170 x 190 mm (6.7 x 7.5 in)
	3512	170 x 190 mm (6.7 x 7.5 in)
Displacement	3516	170 x 190 mm (6.7 x 7.5 in)
	3406	14.6 liters (893 in <sup>3</sup> )
	3412	27 liters (1649 in <sup>3</sup> )
	C18 ACERT	18.1 liters (1104.5 in <sup>3</sup> )
	3508	34.5 liters (2105 in <sup>3</sup> )
	3512	51.8 liters (3158 in <sup>3</sup> )
	3516	69 liters (4210 in <sup>3</sup> )

## Dimensions & Weights

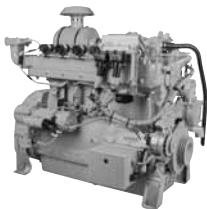
	L	W	H	Wt
3406	1938 mm/76.3 in	1176 mm/46.3 in	1310 mm/51.6 in	588 kg/3947 lbs
3412	2062 mm/81.2 in	1346 mm/53 in	1412 mm/55.6 in	2579 kg/5686 lbs
C18 ACERT	1554 mm/61.2 in	1069 mm/42.1 in	1379 mm/54.3 in	1767 kg/3897 lbs
3508	2350 mm/92.5 in	1744 mm/68.7 in	1903 mm/74.9 in	5355 kg/11,806 lbs
3512	2890 mm/113.8 in	1905 mm/74.9 in	1742 mm/68.6 in	6350 kg/14,000 lbs
3516	2891 mm/146.9 in	1744 mm/68.7 in	1903 mm/74.9 in	8073 kg/17,800 lbs

For diesel engine rating definitions please see pages 7-8.



# *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 95 hp (82 kW) to 8,180 hp (6,100 kW). Innovative electronic controls give you superior performance with excellent fuel economy, performance flexibility, and dependability for low owning and operating costs.



## Gas Ratings – All ratings available in 0.5% O<sub>2</sub> or 2% O<sub>2</sub> set points

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3304 NA	Continuous	71	95	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3304B NA	Continuous	71	95	1800	NSPS Site Compliant Capable	With Caterpillar Provided AFRC & Aftertreatment
G3306 NA	Continuous	108	145	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3306 T	Continuous	112	150	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3306 TA <sup>1</sup>	Continuous	151	203	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3306 TAA	Continuous	157	211	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3306 TA <sup>1</sup>	Continuous	164	220	1800	NSPS Site Compliant Capable	With Customer Provided AFRC & Aftertreatment
G3306B NA	Continuous	108	145	1800	NSPS Site Compliant Capable	With Caterpillar Provided AFRC & Aftertreatment
G3306B TA <sup>1</sup>	Continuous	153	205	1800	NSPS Site Compliant Capable	With Caterpillar Provided AFRC & Aftertreatment
G3306B TAA <sup>1</sup>	Continuous	157	211	1800	NSPS Site Compliant Capable	With Caterpillar Provided AFRC & Aftertreatment

<sup>1</sup> 54°C/130°F Water to Aftercooler

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

## Specifications

<b>Bore x Stroke</b> .....	121 x 152 mm (4.75 x 6.0 in)
<b>Displacement</b> .....	<b>G3304</b> 7 liters (425 in <sup>3</sup> )
	<b>G3306</b> 10.5 liters (640 in <sup>3</sup> )

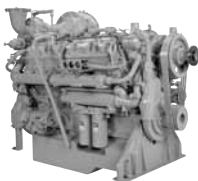
## Dimensions & Weights

	L	W	H	Wt
<b>G3304</b>	1158 mm/46 in	744 mm/29 in	1170 mm/46 in	757 kg/1670 lbs
<b>G3306</b>	1539 mm/60 in	978 mm/38 in	1261 mm/50 in	948 kg/2090 lbs

Please see spec sheet for more information:

G3304 (0.5% O <sub>2</sub> ).....	LEHW0018	G3306 (0.5% O <sub>2</sub> ).....	LEHW0026
G3304.....	LEHW0019	G3306.....	LEHW0027
		G3306B.....	LEHW8815

For gas engine rating definitions please see page 9.



## Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3406 NA	Continuous	160	215	1800	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> or 2% O <sub>2</sub> Set Points
G3406 TA <sup>1</sup>	Continuous	206	276	1800	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3406 TA <sup>1</sup>	Continuous	242	325	1800	Export Only	2% O <sub>2</sub> Emission Rating
G3408 NA	Continuous	190	255	1800	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> or 2% O <sub>2</sub> Set Points
G3408 TA <sup>1</sup>	Continuous	249	332	1500	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3408 TA <sup>1</sup>	Continuous	298	400	1800	Export Only	2% O <sub>2</sub> Emission Rating
G3408C LE <sup>1</sup>	Continuous	317	425	1800	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment
G3412 TA <sup>1</sup>	Continuous	373	500	1500	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Points
G3412 TA <sup>1</sup>	Continuous	448	600	1800	Export Only	2% O <sub>2</sub> Set Point
G3412C LE <sup>1</sup>	Continuous	475	637	1800	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment

<sup>1</sup> 54°C/130°F Water to Aftercooler

Continued on page 79.

Continued from page 78.

## Specifications

Bore x Stroke	.....	137 x 152 mm (5.4 x 6.0 in)
Displacement	.....	<b>G3406</b> 14.6 liters (893 in <sup>3</sup> )
		<b>G3408</b> 18 liters (1099 in <sup>3</sup> )
		<b>G3412</b> 27 liters (1649 in <sup>3</sup> )

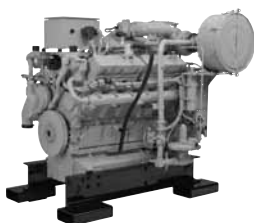
## Dimensions & Weights

	L	W	H	Wt
<b>G3406 TA</b>	1934 mm/76 in	1270 mm/50 in	1433 mm/56 in	1362 kg/3000 lbs
<b>G3408 TA</b>	1738 mm/68 in	1312 mm/52 in	1542 mm/61 in	1680 kg/3700 lbs
<b>G3408C LE</b>	1756 mm/69.1 in	1563 mm/61.5 in	1758 mm/69.2 in	2245 kg/4950 lbs
<b>G3412 TA</b>	2087 mm/82 in	1224 mm/48 in	1542 mm/61 in	2143 kg/4720 lbs
<b>G3412C LE</b>	2442 mm/96 in	1598 mm/63 in	1960 mm/77 in	2141 kg/4720 lbs

Please see spec sheet for more information:

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

For gas engine rating definitions please see page 9.



### Offshore Generator Sets

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
CG137-12	Continuous	447	600	1800	NSPS Site Compliant Capable	With Caterpillar Provided AFRC & Aftertreatment

### Specifications

**Bore x Stroke** ..... 137 x 152 mm (5.4 x 6 in)

**Displacement** ..... 27 liters (1649 in<sup>3</sup>)

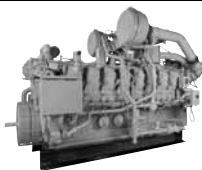
### Dimensions & Weights

	L	W	H
CG137-12	2092 mm/82.4 in	1423 mm/56 in	1778 mm/70 in

**Please see spec sheet for more information:**

CG137-12 ..... LEHW0119

For diesel engine rating definitions please see pages 7-8.



## Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
G3508 TA <sup>1</sup>	Continuous	391	524	1200	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3508 LE <sup>1</sup>	Continuous	500	670	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment
G3508B LE <sup>1,2,3</sup>	Continuous	515	690	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3512 TA <sup>1</sup>	Continuous	589	790	1200	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3512 LE <sup>1</sup>	Continuous	642	860	1200	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3512 LE <sup>1</sup>	Continuous	749	1005	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3512B LE <sup>1,2,3</sup>	Continuous	772	1035	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3516 NA	Continuous	492	660	1200	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3516 TA <sup>1</sup>	Continuous	783	1050	1200	NSPS Site Compliant Capable	With Customer Supplied AFRC & Aftertreatment 0.5% O <sub>2</sub> Set Point
G3516 LE <sup>1</sup>	Continuous	858	1150	1200	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3516 LE <sup>1</sup>	Continuous	1000	1340	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 2 g/bhp-hr NOx NTE
G3516B LE <sup>1,2,3</sup>	Continuous	1029	1380	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3520B LE <sup>1,2,3</sup>	Continuous	1104	1480	1200	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE
G3520B LE <sup>1,2,3</sup>	Continuous	1286	1725	1400	NSPS Site Compliant Capable	With Customer Supplied Aftertreatment 0.5 & 1 g/bhp-hr NOx NTE

<sup>1</sup> 54°C/130°F Water to Aftercooler

<sup>2</sup> 250 mg/N•m<sup>3</sup> dry NOx NTE emissions (corrected to 5% O<sub>2</sub>)

<sup>3</sup> 500 mg/N•m<sup>3</sup> dry NOx NTE emissions (corrected to 5% O<sub>2</sub>)

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

Continued on page 82.

Continued from page 81.

**Specifications**

<b>Bore x Stroke</b> .....	170 x 190 mm (6.7 x 7.5 in)
<b>Displacement</b> .....	<b>G3508, G3508B</b> 34.5 liters (2105 in <sup>3</sup> )
	<b>G3512, G3512B</b> 51.8 liters (3158 in <sup>3</sup> )
	<b>G3516, G35168B</b> 69 liters (4211 in <sup>3</sup> )
	<b>G3520B</b> 86 liters (5263 in <sup>3</sup> )

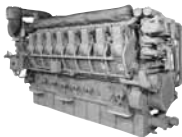
**Dimensions & Weights**

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

**Please see spec sheet for more information:**

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

For gas engine rating definitions please see page 9.



## Gas Ratings

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

<sup>1</sup> 32°C Aftercooler Water & 88°C Jacket Water

<sup>2</sup> 43°C Aftercooler Water & 88°C Jacket Water

<sup>3</sup> 54°C Aftercooler Water & 88°C Jacket Water

<sup>4</sup> 250 mg/N·m<sup>3</sup> dry NOx NTE emissions (corrected to 5% O<sub>2</sub>)

<sup>5</sup> 350 mg/N·m<sup>3</sup> dry NOx NTE emissions (corrected to 5% O<sub>2</sub>)

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

Continued on page 84.

Continued from page 83.

**Specifications****Bore x Stroke** .... 300 x 300 mm (11.8 x 11.8 in)**Displacement** .... **G3606 LE** 127.2 liters (7762 in<sup>3</sup>)..... **G3612 LE** 254 liters (15,528 in<sup>3</sup>)**G3608 LE** 169.6 liters (10,350 in<sup>3</sup>).... **G3616 LE** 339 liters (20,705 in<sup>3</sup>)**Dimensions & Weights**

	L	W	H	Wt
<b>G3606 LE</b>	4638 mm/183 in	1744 mm/69 in	2921 mm/115 in	15 676 kg/34,560 lbs
<b>G3608 LE</b>	5465 mm/215 in	1868 mm/74 in	2922 mm/115 in	19 000 kg/41,888 lbs
<b>G3612 LE</b>	4735 mm/186 in	2380 mm/94 in	3220 mm/127 in	25 084 kg/55,300 lbs
<b>G3616 LE</b>	5661 mm/223 in	2380 mm/94 in	3208 mm/126 in	29 892 kg/65,900 lbs

**Please see spec sheet for more information:**

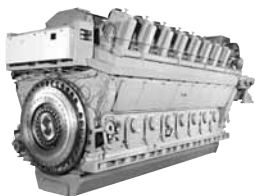
G3606 LE ..... LEHW0039

G3612 LE ..... LEHW0041

G3608 LE ..... LEHW0040

G3616 LE ..... LEHW0042

For gas engine rating definitions please see page 9.



## Gas Ratings

Model	Rating Tier	bkW	bhp	rpm	Emissions	Notes
CM34-12 G	Continuous	4575	6135	750	NSPS Site Compliant Capable	0.5 & 0.7 g/bhp-hr NOx NTE
CM34-16 G	Continuous	6100	8180	750	NSPS Site Compliant Capable	0.5 & 0.7 g/bhp-hr NOx NTE

## Specifications

<b>Bore x Stroke</b> . . . . .	340 x 420 mm (13.4 x 16.5 in)
<b>Displacement</b> . . . . .	<b>CM34-12 G</b> 457 liters (27,907 in <sup>3</sup> )
	<b>CM34-16 G</b> 610 liters (37,209 in <sup>3</sup> )

## Dimensions & Weights

	L	W	H	Wt
<b>CM34-12 G</b>	7055 mm/278 in	2992 mm/118 in	3875 mm/153 in	64 400 kg/142,000 lbs
<b>CM34-16 G</b>	8405 mm/331 in	2992 mm/118 in	3875 mm/153 in	82 000 kg/181,000 lbs

Please see spec sheet for more information:

- CM34-12 G ..... LEHW8997
- CM34-16 G ..... LEHW0001

For gas engine rating definitions please see page 9.

## Equivalents

$$1 \text{ ft/lb} = 1.35582 \text{ N}\cdot\text{m}$$

$$1 \text{ bhp} = 0.745699 \text{ bkW}$$

$$1 \text{ bkW} = 1.34102 \text{ bhp}$$

$$1 \text{ liter} = 61.02374 \text{ in}^3$$

$$1 \text{ in}^3 = 0.01639 \text{ L}$$

$$1 \text{ in} = 25.4 \text{ mm}$$

$$1 \text{ lb} = 0.4535924 \text{ kg}$$

$$1 \text{ Btu} = 0.001055056 \text{ MJ}$$

$$1 \text{ liter diesel} = 0.85 \text{ kg}$$

$$1 \text{ psi} = 0.06894757 \text{ bar}$$

## Temperature

$$^{\circ}\text{C} \rightarrow ^{\circ}\text{F}$$

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$^{\circ}\text{F} \rightarrow ^{\circ}\text{C}$$

$$\frac{(^{\circ}\text{F} - 32)}{1.8} = ^{\circ}\text{C}$$

$$1.8$$

## Fuel Consumption

$$\text{g/bkW-hr} \rightarrow \text{gal/hour}$$

$$\left( \frac{\text{g}}{\text{bkW-hr}} \right) \times \text{bkW} \times 0.001 = \frac{\text{kg}}{\text{hr}}$$

$$\frac{\text{kg}}{\text{hr}} \times \frac{1}{0.85 \text{ kg}} = \frac{\text{L}}{\text{hr}}$$

$$\frac{\text{L}}{\text{hr}} \times 0.2641721 = \frac{\text{gal}}{\text{hr}}$$

$$\text{Btu/bhp-hr} \rightarrow \text{MJ/bkW-hr}$$

$$\frac{(\text{Btu} \times 0.001055056)}{0.745699} = \frac{\text{MJ}}{\text{bkW-hr}}$$

## Torque

$$\frac{(5252 \times \text{bhp})}{\text{rpm}} = T \left( \frac{\text{ft}}{\text{lb}} \right)$$

## Displacement

$$\left[ \pi \times \left( \frac{\text{bore (in)}}{2} \right)^2 \right] \times \text{stroke (in)} \times \text{\# of cylinders} = \text{displacement (in}^3\text{)}$$

## BMEP

$$\frac{\left[ 150.8 \times T \left( \frac{\text{ft}}{\text{lb}} \right) \right]}{\text{displacement (in}^3\text{)}} = \text{BMEP (psi)}$$

## Piston Speed

$$\frac{[\text{rpm} \times \text{stroke (in)}]}{6} = \text{piston speed} \left( \frac{\text{ft}}{\text{min}} \right)$$

## kVa

$$\frac{(1.73 \times \text{volts} \times \text{amps})}{1000} = \text{kVa}$$

## ekW

$$\text{kVa} \times \text{power factor} = \text{ekW}$$

## bhp

$$\frac{\text{ekW}}{(0.745699 \times \text{efficiency})} = \text{bhp}$$





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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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