C4.4 (electronic)

MARINE GENERATOR SET

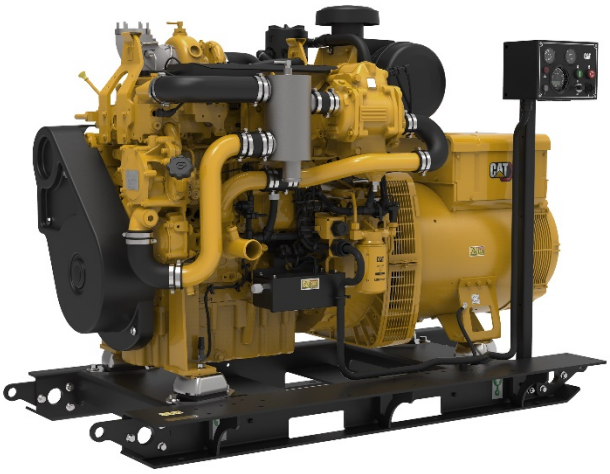
65, 75, 99,118 ekW (75, 94, 124, 148 kVA) 60 Hz Heat Exchanger / Single Circuit Keel / Combined Circuit Keel

GENERAL ENGINE SPECIFICATIONS

Basic Engine Specifications

In-line 4 cylinder, 4-Stroke-Cycle-Diesel

Rated engine speed	1800 rpm
Bore	105 mm (4.13 in)
Stroke	127 mm (5.0 in)
Aspiration	Turbocharged / Aftercooled
Governor	ECU
Fuel system type	Common Rail
Length (overall)	1699-1769 mm (66.9-69.6 in)
Width	956 mm (37.6 in)
Height	1245 mm (49 in)
Weight, net dry (approx.)	1142-1290 kg (2518-2844 lb)
Rotation (from flywheel end)	Counter-clockwise



Cat® C4.4
Marine Generator Set Package
Image shown may not reflect actual engine

Tolerances

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Inlet Air Flow	+/- 5%
Intake Manifold Pressure	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Heat Rejection	+/- 5%
Fuel Rate	+/- 5%

Emission Compliance

U.S. EPA Tier 3
EU Stage V

Marine Classification Society – Certifications

ABS – BV – DNV – LR – RINA – CCS - NK

Generator

Insulation	Class H
Temperature Rise	
@ 40°C Ambient (110%)	Class H (150°K)
@ 50°C Ambient (110%)	Class H (140°K)
Winding Pitch Code	2/3
Terminals	12-lead reconnectable
Ingress Protection Rating	IP 23
Air Flow 60 Hz	0.32 m^3/s (678 cfm)
Excitation System	AREP
Voltage Regulation (steady state)	±1%
Total Harmonic Content LL/LN	<4%
Wave Form: NEMA=TIF	<50
Wave Form: I.E.C.=THF	<2%
Standard Voltages	≤ 690 V

• For detailed information about fuel, oil, and cooling water treatment, please refer to “Caterpillar Commercial Diesel Engine Fluids Recommendations” (SEBU6251).

LEHM20671-00

AIR SYSTEM

Combustion Air Inlet System

Intake combustion air flow ..... 8.3m^3/min (118 ekW), 7.6m^3/min (99 ekW), 6.9m^3/min (75 ekW), 6.1m^3/min (65ekW)
Intake combustion air flow ..... 293cfm (118ekW), 270cfm (99 ekW), 244cfm (75 ekW) 215cfm (65 ekW)
Intake combustion air temperature up to ..... 50°C (122°F)

Engine Room Ventilation Air

Heat rejection to atmosphere ..... 8.4kW (118ekW), 8.4kW (99 ekW), 8.4kW (75 ekW), 8.4kW (65 ekW),
Heat rejection to atmosphere .... 477BTU/min (118ekW) 477BTU/min (99 ekW), 477BTU/min (75 ekW), 477BTU/min (65 ekW)

COOLING SYSTEM

HTC Cooling Water System (Engine Jacket Water)

Heat rejection to HTC cooling water system ..... 93.0kW (188ekW), 81.4kW (99 ekW), 66.3kW (75 ekW), 55.7kW (65 ekW)
Heat rejection to HTC cooling water system ..... 5291BTU/min (118ekW), 4631BTU/min (99 ekW), 3772BTU/min (75 ekW), 3169BTU/min (65 ekW)
Flow HTC cooling water pump – max. ..... 190 L/m (50 gal/min)
min. ..... 144.5 L/min (38.2 gal/min)
HTC cooling water temperature engine out (nominal) ..... 95°C (203°F)
HTC cooling water refill capacity (Hex) ..... 21 L (10 gal)
Coolant medium ..... Cat® Extended Life Coolant (ELC) or equal
Expansion tank pressure cap ..... 50 kPa (7.25 psi)
HTC cooling water connection engine inlet ..... 50.8 mm (2.0 in.) OD
HTC cooling water connection engine outlet ..... 50.8 mm (2.0 in.) OD

LTC Cooling Water System (Aftercooler)

Heat rejection to LTC cooling water system ..... 16.8kW (118ekW), 12.6kW (99 ekW), 8.2kW (75 ekW), 5.3kW (65 ekW)
Heat rejection to LTC cooling water system ..... 956BTU/min (118ekW), 717BTU/min (99 ekW), 467BTU/min (75 ekW) 328BTU/min (65 ekW)
Flow LTC cooling water pump 2484130 – max. ..... 150 L/Min (39.5gal/min)
min. ..... 120 L/min (31.7 gal/min)
LTC water temperature engine in (max.) ..... 42° (118ekW), 45°c (99 ekW), 48°c (75 ekW), 49°c (65 ekW)
LTC cooling water refill capacity ..... 4 L (1.0 gal)
Engine only
Coolant medium ..... Cat Extended Life Coolant (ELC) or equal
Expansion tank pressure cap ..... 50 kPa (7.25 psi)
LTC cooling water connection engine inlet (138) ..... 50.8 mm (2.0 in.) OD
LTC cooling water connection engine outlet (139) ..... 50.8 mm (2.0 in.) OD

EXHAUST SYSTEM

Exhaust Gas Data

Exhaust gas flow (total) ..... 10.4 kg/min (118ekW), 9.5kg/min (99 ekW), 8.5kg/min (75 ekW), 7.5kg/min (65 ekW)
Exhaust stack temperature ..... 431° (118ekW), 419°C (99 ekW), 404°C (75 ekW), 395°C (65 ekW)
Exhaust stack temperature ..... 808°F (118ekW), 786°F (99 ekW), 7593°F (75 ekW), 743°F (65 ekW)
Engine exhaust connection ..... 63 mm (2.5 in) ID, 6 x 9 mm (0.35 in) holes on 88.9 mm (3.5 in) PCD
Max. allowable system backpressure ..... 15 kPa (60 in H_2O)

Specified system backpressure shall not be exceeded in any circumstances. Caterpillar advises to limit value of maximum allowable backpressure to 50% for new (clean) installations. Minimum diameter of customer piping should be according to "Customer piping diameter overview for Caterpillar engines."

C4.4 (electronic)

MARINE GENERATOR SET PACKAGE

FUEL SYSTEM

Specific fuel consumption	205 g/bkWh (118ekW), 220g/bkW-hr (99 ekW), 232g/bkW-hr (75 ekW), 241g/bkW-hr (65 ekW)
Fuel rate	26.3kg/hr (118ekW), 23.9kg/hr (99 ekW), 19.1kg/hr (75 ekW), 16.1kg/hr (65 ekW)
Fuel flow transfer pump	4.1 L/min (64.9gal/hr)
Fuel pressure static head	± 2.8 m (± 9.2 ft)
Fuel supply line restriction (max.)	10 kPa (2.9 in Hg) (1.45 psi)
Fuel temperature transfer pump in (max.)	60°C (140°F)
Fuel return line restriction (max.)	10 kPa (2.9 in Hg) (1.45 psi)
Fuel supply / return connections	11 / 16 in O ring face seal (ORFS)
Diesel fuel grade	ISO-F-DMX/ISO-F-DMA/ISO 8217:2010 (E) Class F, EN590, D975, JIS class 1,2,3

LUBE SYSTEM

Sump type	Isolated
Sump capacity (max.)	11 L (5.55 gal)
Sump capacity (min.)	9 L (4.62 gal)
Sump refill capacity (with filter change)	11 L (5.55 gal)
Oil change interval	500 Hr
(can be extended by S•O•S^{SM} testing)	
Max. installation angle (any direction)	25 degrees
Max continuous operation angle (any direction)	25 degrees
Max. intermittent operation angle (any direction)	30 degrees
Quality diesel engine oil (min.)	CI-4 10W30 or 15W40
(compliant with Caterpillar specification ECF-2)	

STARTING SYSTEM

Electrical Starting System

Electrical starting motor	24 or 12 VDC
Cold starting	800 CCA
[at -15°C (5°F) ambient temperature]	

SOUND DATA (ISO 8528-10)

Mechanical Sound Pressure	
118 ekW at distance 1 m (3.28 ft)	86.3dB(A)
99 ekW at distance 1 m (3.28 ft)	86.2dB(A)
75 ekW at distance 1 m (3.28 ft)	86.7dB(A)
65 ekW at distance 1 m (3.28 ft)	87.1dB(A)

Mechanical Sound Power	
118 ekW	101.5dB(A)*
99 ekW	101.4dB(A)*
75 ekW	101.9dB(A)*
65 ekW	102.3 dB(A)*

*Mechanical sound pressure and power levels measured according to ISO 8528-10 with engine at 75% load.

LEHM20671-00