




CAT C7.1 generator set.



Image may not reflect actual generator set offered.

Technical specification for C7.1 Keel cooled generator set with  
rating 100ekW @ 1500rpm 50Hz

	GENSET SPECIFICATIONS	Project no	
	CAT C7.1	Yard no	
	CAT GENERATOR 100ekW 50Hz	Date	

Caterpillar diesel engine, type **C7.1**, a 4-stroke, 6-cylinder common rail direct injection Inline-engine, with turbocharger and separate circuit aftercooler.


<b>1.0</b>	<b>Basic model</b>	
1.1	Caterpillar model	C7.1
1.2	Rating	100 ekW $\pm 3\%$ <sup>1)</sup> at 1500 rpm
1.3	Specification	4-stroke, electronically govern common rail Inline-engine with turbocharger and separate cooled aftercooler.
1.4	Rotation	SAE standard, CCW viewed towards flywheel
1.5	Dimensions	Displacement: 7,01 liters Bore: 105 mm Stroke: 135 mm
1.6	Dry weight	Approximately 2.140 kg
1.7	Voltage	Generator voltage: 3 x 220V 50Hz

Note<sup>1)</sup>

*Engine performance corrected to inlet air standard conditions of 99kPa and 25 °C. These values correspond to the standard atmospheric pressure and temperature in accordance with SAE J1995. Also included is a correction to standard fuel gravity and 35 degrees API having a lower heating value of 42,780kJ/kg when used at 29°C where the density is 838,9 g/l.*

<b>2.0</b>	<b>Generator</b>	
2.1	Generator	CAT
2.2	Generator specifications	IP 23 220V 50Hz 125 KVA PF: 0,8 Max ambient temp 45 deg C
2.3	Cooling	IP23 air cooled
2.4	Bearings	Roller bearing NDE
2.5	Equipment	Standstill/space heater for 230V operation
2.6	AVR	Solid state voltage regulator with integral voltage adjustment
2.7	Parallel operation	Suitable for parallel operation with Potential Transformers and CT Coils (500/5A)

<b>3.0</b>	<b>Cooling system</b>	
3.1	Cooling system	Keel Cooled, Separate Circuit
3.2	HT Cooling system	Engine driven HT pump Thermostat controlled water circulation Integrated oil cooler Engine preheater/Jacket water heater, 240V
3.3	LT Cooling system	Sea Water resistant after cooler LT pump
3.4	Shipped Loose	Keel cool Remote expansion tank 19l
3.5	Yard Supplied	All external piping and valves

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<b>4.0</b>	<b>Exhaust system</b>	
4.1	Exhaust specifications	Maximum design backpressure 4,5kPa.
4.2	Exhaust manifold	Water-cooled exhaust manifold, with 90deg exhaust outlet
4.3	Shipped loose	90 degree dry exhaust elbow for turbocharger outlet connection, 4-bolt flange, 68mm I.D, M14 X 1.5 port located on elbow, includes heat shield
4.4	Optional	Dry Exhaust Silencer, will be calculated after received exhaust routing from yard <sup>2)</sup> . Incl. counter flanges, gaskets and bolts/nuts.

Note<sup>2)</sup> Price adjusted accordingly if size must be increased.


<b>5.0</b>	<b>Air Inlet system</b>	
5.1	Air Inlet specifications	Separate circuit aftercooler core, corrosion resistant, max air inlet temp 45 deg C
5.2	Air Cleaners	Dry type air cleaners included
5.3	Turbochargers	Turbocharger, jacket water cooled

<b>6.0</b>	<b>Fuel system</b>	
6.1	Fuel system	High pressure common rail fuel system Fuel transfer and priming pump installed on engine. Spray shielding acc. to Solas requirements.
6.2	Fuel specifications	Fuel type according to ISO8217, DMA/DMB/DMC (MGO/MDO)
6.3	Fuel Filters	Simplex engine filters with manual priming pump.

<b>7.0</b>	<b>Lube oil system</b>	
7.1	Lube oil system	Closed system. Oil filler and dipstick LH side
7.2	Lube oil ventilation	Open crankcase ventilation system with breather (OCV)
7.3	Lube specifications	According to Cat specifications
7.4	Lube oil Filters	Engine oil filters
7.5	Yard supply	Piping for crankcase ventilation.

<b>8.0</b>	<b>Starting system</b>	
8.1	Starting system	Electric Starting motor
8.2	Starting motor specifications	24V Starting motor Negative isolated ground electric system with ECU unit
8.3	Yard Supply	Set of batteries Battery charger

<b>9.0</b>	<b>Engine control system</b>	
9.1	Engine control system	Electronic governor
9.2	Engine control system specifications	Electronic governor with adjustable droop, suitable for short time parallel synchronisation

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<b>10.0</b>	<b>Instrumentation</b>	
10.1	Control system	CAT EMCP4.2 control system LH side mounting Local start/stop and alarms
10.2	Yard supply	24V DC 10A power supply

<b>11.0</b>	<b>Driven Equipment</b>	
11.1	Turning tool	Fitted engine turning device
11.2	Option	Front mounted PTO shaft – cannot be used with turning tool.

<b>12.0</b>	<b>Mounting system</b>	
12.1	Mounting system	Engine and generator mounted with anti-vibration isolators to a common baseframe for fixed assembly towards ship structure.
12.2	Coupling specifications	Coupling plate

<b>13.0</b>	<b>Paint</b>	
13.1	Engine paint	Caterpillar standard yellow genset, black generator set base frame

<b>14.0</b>	<b>Tests</b>	
14.1	Engine tests	Engine Test at 100 and 10% Overload including Start Stop

<b>15.0</b>	<b>Society Approval</b>	
15.1	Certificates	Equipment delivered with relevant Type Approval certificates, DNV-GL.
15.2	Environmental certificates	NA No EIAPP needed below 130kW