

## Technical data Diesel Generator Set

## CAT 3412-900

Output Ratings with Radiator	DIN/ISO 3046	
Combustion Strategy	Low BSFC, 91 °C ACT	
Generating set Model	<b>Prime</b>	<b>Standby</b>
400V, 50Hz, power factor 0.8	810 kVA	900 kVA
	648 kW	720 kW
Feature Code	412DEBB	
Performance No.	DM1908	DM1909

Diesel Engine	
Brand	Caterpillar
Type	3412C TA
No. of Cylinders / Alignment	12 / V
Cycle	4-Stroke
Cooling Method	Water-cooled
Fuel	Diesel
Speed	1'500 rpm
Bore	137.20 mm
Stroke	152.40 mm
Displacement	27.02 L
Compression Ratio	13.0:1
Aspiration	Turbo after cooler
Fuel System	Pump and Lines
Base Tank Capacity	"Optional" 1'200 L
Jacket Water heaters	220 V / 6 kW
Starting Motor	24 V / 7 kW
Battery Type	153-5700
Quantity	2
Capacity per Battery / total	145 Ah - 12 V / 145 Ah - 24 V

Generator	
Brand	Caterpillar
Type / Frame	598
Excitation	Permanent Magnet or AREP
Pitch	0.8667
Number of Poles	4
Number of Bearings	Single Bearing
Number of Leads	12
Insulation	Class H
IP Rating	IP22
Nominal Speed	1'500 rpm
Over Speed capability	180 %
Wave form Deviation (Line to Line)	Less than 5 %
Voltage Regulator	Electronic
Voltage regulation	Less than ± ½% (steady state) Less than ± 1% (no load to full load)
Telephone Influence Factor (TIF)	Less than 50
Total Harmonic Distortion (THD)	Less than 5%
CBK 3pol manual, fixed mount rear	1'600 A / 50 kA
Typical Cabeling; TN-C (Prime)	3 x 4 x 185 mm <sup>2</sup> + 2 x 1 x 185 mm <sup>2</sup>
Typical Cabeling; TN-C (Standby)	3 x 4 x 185 mm <sup>2</sup> + 2 x 1 x 185 mm <sup>2</sup>

Package Dimensions			
Engine:	Length x Width x Height	1'937 x 1'266 x 1'637 mm	
	Weight	1'927.0 kg	
Generator:	Length x Width x Height	1'966 x 1'066 x 1'812 mm	
	Weight	2'321 kg	
Radiator:	Length x Width x Height	1'184 x 1'742 x 1'987 mm	
	Dry Weight	227 kg	
Complete:	Length x Width x Height	4'485 x 1'742x 1'987mm	
	Weight	4'975 kg	



Technical Data	Prime	Standby
<b>Fuel Consumption</b>		
100% load with Fan	171.7 L/hr	191.7 L/hr
75% load with Fan	130.4 L/hr	143.7 L/hr
50% load with Fan	90.9 L/hr	99.6 L/hr
Oil consumption 75% load	0.170 L/hr	0.186 L/hr
<b>Cooling System</b>		
Engine coolant Capacity with Radiator / expansion Tank	149.0 L	
Engine coolant Capacity	59.0 L	
<b>Inlet Air</b>		
Combustion Air inlet flow rate	48.8 m <sup>3</sup> /min	54.7 m <sup>3</sup> /min
<b>Exhaust System</b>		
Exhaust stack gas Temperature	539.4 °C	544.9 °C
Exhaust gas flow rate	139.3 m <sup>3</sup> /min	157.3 m <sup>3</sup> /min
Exhaust System backpressure max.	6.7 kPa	
<b>Heat Rejection</b>		
Heat Rejection to coolant (total)	386 kW	429 kW
Heat Rejection to exhaust (total)	637 kW	721 kW
Heat Rejection to after cooler	86 kW	113 kW
Heat Rejection to Atmosphere from Engine	108 kW	119 kW
Heat Rejection to Atmosphere from Generator	29.8 kW	33.9 kW
<b>Lube System</b>		
Sump refill with Filter	139.0 L	
<b>Exhaust Emission (Nominal Data); Potential Site Variation possible</b>		
NOx mg/nm <sup>3</sup>	2'972.6	3'170.4
CO mg/nm <sup>3</sup>	193.8	423.6
HC mg/nm <sup>3</sup>	122.7	250.8
Part Matter mg/nm <sup>3</sup>	45.9	49.9
<b>Generator</b>		
Motor starting capability @30%	1'629 skVA	
Voltage Dip		
Rated Current	1'169.1 A	1'299.0 A
Short-Circuit Current	3 x I <sub>NOM</sub>	

Radiator	
Radiator Type	21.4 CT
Design Temperature	50 °C
Radiator coolant Capacity	90.0 L
Air Flow @ 120 Pa	1'176 m <sup>3</sup> /min
Air Flow @ 180 Pa	1'152 m <sup>3</sup> /min

Sound pressure Level LPA @ 75% Last @ 7m										
dB	Hz	63	125	250	500	1000	2000	4000	8000	Overall dBA
		Mechanical [Stby]	92	100	91	84	86	85	77	
Exhaust [Stby]	93	90	92	92	89	86	87	79	95	
Mechanical [Prim]	91	98	89	83	86	85	77	68	91	
Exhaust [Prim]	92	89	91	91	88	85	86	78	94	