Avesco AG
Energy Systems
Hasenmattstrasse 2
CH – 4901 Langenthal / BE
www.avesco.ch

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Technical data Diesel Generator Set — CAT C4.4 / DE88E3

		Prime	Standby
Feature Code		-	C04DF11
Performance No.		-	P4522B
Power Rating	kVA	80.0	88.0
Power Rating @ 0.8 Power Factor	KW	64.0	70.4
Voltage	V	400	
Frequenz	Hz	50	
Power Factor		0.8	
Radiator		Yes	
Combustion Strategy		Emission EU Stage IIIA	
ISO		3046 / 8528	

Illustration

Diesel Engine		
Brand		Caterpillar
Type		C4.4
No. of Cylinders		4
Cylinders Alignment		L
Cycle		4-Stroke
Cooling Method		Water-cooled
Turbo Configuration		Single
Turbo Quantity		1
Fuel		Diesel
Speed	rpm	1'500.0
Bore	mm	105.0
Stroke	mm	127.0
Displacement	L	4.4
Compression Ratio		16.7:1
Piston speed	m/s	6.35
Mean effective pressure (PME)	bar	14.23
Aspiration		Air-toAir Aftercooled
Fuel System		Electronic unit injection
Base Tank Capacity		301
Jacket Water heaters	V / kW	230 / 1.5
Starting Motor	V / kW	12 / 7
Battery Type		115-2421
Battery Quantity		1
Capacity Battery	V / Ah	12 / 90
Capacity Battery total	V / Ah	12 / 90

Generator		
Brand		Caterpillar
Type / Frame		R1973L4
Excitation		Self Excited
Pitch		0.6667
Number of Poles		4
Number of Bearings		1
Number of Leads		12
Insulation		Class H
IP Rating		IP23
Nominal Speed	rpm	1'500.0
Over Speed capability	%	150.0
Wave form Deviation (Line to Line)	%	2.0
Voltage Regulator		3 Phase sensing with selectible volts/Hz
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	A	160.0
Typical Cabeling; TN-C (Prime)		x x mm² + x x mm²
Typical Cabeling; TN-C (Standby)		x x mm² + x x mm²

Package Dimensions (Dry)		
Engine: Length x Width x Height	mm	1'358 x 746 x 1'087
Weight	kg	439
Generator: Length x Width x Height	mm	684 x 532 x 640
Weight	kg	320
Radiator: Length x Width x Height	mm	394 x 711 x 850
Dry Weight	kg	238
Complete: Length x Width x Height	mm	2'089 x 1'120 x 1'526
Complete: Weight	kg	1'138
with Enclosure: Length x Width x Height	mm	2'770 x 1'120 x 1'690
with Enclosure: Weight	kg	1'677

Technical Data		**Prime**	**Standby**
Fuel Consumption			
100% load	L/hr	20.1	21.5
75% load	L/hr	15.9	17.2
50% load	L/hr	11.1	12.1
100% load	g/kWh	215.7	210.5
75% load	g/kWh	227.5	224.5
50% load	g/kWh	238.2	236.9
Oil consumption 75% load	L/hr	0.008	0.009
Oil consumption 75% load	g/kWh	0.103	0.102
Cooling System			
Engine coolant Capacity with Radiator / expansion Tank	L	17.5	
Engine coolant Capacity	L		
Inlet Air			
Combustion Air inlet flow rate	m³/min	5.7	6.0
Exhaust System			
Exhaust stack gas Temperature 100%	°C	517.6	528.3
Exhaust gas flow rate 100%	m³/min	16.4	17.5
Exhaust System backpressure max.	kPa	15.0	
Heat Rejection			
Heat Rejection to coolant (total)	kW	50.3	55.4
Heat Rejection to exhaust (total)	kW	70.0	75.0
Heat Rejection to after cooler	kW	11.0	12.0
Heat Rejection to Atmosphere from Engine	kW	13.0	14.0
Heat Rejection to Atmosphere from Generator	kW	6.6	7.6
Lube System			
Sump refill with Filter	L	8.0	
Exhaust Emission (Nominal Data) @ 75% and 55°C ATAAC			
CO	mg/nm³	-	-
HC	mg/nm³	-	-
NOx	mg/nm³	-	-
HC + Nox	mg/nm³	-	-
Part Matter	mg/nm³	-	-
Generator			
Motor starting capability @30% Voltage Dip	skVA	167.0	
Rated Current	A	115.5	127.0
Short-Circuit Current		3 x INOM	

Radiator		
Radiator Type		
Design Temperature	°C	
Radiator coolant Capacity	L	
Air Flow @ 120 Pa	m³/min	
Air Flow @ 180 Pa	m³/min	

Sound pressure Level LPA @ 75% Last @ 7m

Hz / dB	63	125	250	500	1000	2000	4000	8000	Overall dBA
Mechanical [Stby]	83.0	83.0	81.0	80.0	79.0	76.0	72.0	67.0	**84.0**
Exhaust [Stby]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**n.a.**
Mechanical [Prim]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**n.a.**
Exhaust [Prim]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**n.a.**