Generator set data sheet

Power Generation

Model: C1000 D2R
Fuel type: Diesel
Document No.: EMERD-5838a-EN

Fuel consumption 50 Hz

	Standby				Prime			
	kVA (kW)				kVA (kW)			
Ratings	1100 (880)				1000 (800)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
L/hr	70	122	175	228	65	113	161	209

Fuel consumption 60 Hz

	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	1000 (1250)				930 (1138)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
L/hr	87	147	206	266	82	136	189	242

Engine

	Standby rating	Prime rating
Gross engine power output 50 Hz/60 Hz, kWm	970 / 1112	880 / 1007
BMEP at set rated load 50 Hz/60 Hz, kPa	2055 / 1965	1868 / 1779
Engine manufacturer	Cummins	
Engine model	KTA38 G14	
Configuration	4 cycle, 12 cylinder, direct injection	
Aspiration	Turbo-charged and after-cooled	
Bore, mm	159	
Stroke, mm	159	
Rated speed 50 Hz/60 Hz, rpm	1500 / 1800	
Piston speed 50 Hz/60 Hz, m/s	7.9 / 9.5	
Compression ratio	13.9:1	
Lube oil capacity, L	140	
Overspeed limit 50 Hz/60Hz, rpm	1725 / 2070 ± 50	
Regenerative power 50 Hz/60 Hz, kW	86 / 127	
Governor type	Elec.	

Fuel flow

Maximum fuel flow, L/hr	507
Maximum fuel inlet restriction, mm Hg	203
Maximum fuel inlet temperature, °C	70

Air

Combustion air 50 Hz/60 Hz, m^3/min	72.8 / 90.8	68.4 / 86.0
Maximum air cleaner restriction, kPa	6.2	

Exhaust

Exhaust gas flow at set rated load 50 Hz/60 Hz, m^3/min	198.4 / 239.4	183.1 / 219.7
Exhaust gas temperature 50 Hz/60 Hz, °C	513 / 486	499 / 463
Maximum exhaust back pressure, kPa	10	

Standard set-mounted radiator cooling

	Standby rating	Prime rating
Ambient design, °C	50	
Fan load, kWm 1500 rpm/1800 rpm	17.6 / 30.3	
Coolant capacity (with radiator), L	433	
Cooling system air flow, m^3/sec 1500 rpm/1800 rpm	16.45 / 20.84	
Total heat rejection, Btu/min 1500 rpm/1800 rpm	33800 / 34774	30680 / 30543

Weights*

Unit dry weight kgs	16879
Unit wet weight kgs	18132

* Weights represent a set with standard features. See outline drawing for weights of other configurations.

Dimensions

	Length	Width	Height
Enclosed set standard dimensions, m	6.058	2.438	2.591

Alternator data

Alternator	Connection	Temp rise °C	Duty	Voltage 50 Hz, L-L	Voltage 60 Hz, L-L
HCI634K	Series Star, 3Ph	150/40 / 125/40	Standby/Prime	380, 400, 415, 440	416, 440, 480

Transient performance class

Refer to factory

Details of voltage and frequency performance data available upon request

Noise data 50Hz

Enclosed set sound power level, LwA	113 dB(A)
Enclosed set sound pressure level , dB(A) @ 75% prime, 7m	83 dB(A)
Enclosed set sound pressure level , dB(A) @ 75% prime, 1m	92 dB(A)

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$