

C280-16

DIESEL ENGINE TECHNICAL DATA



Genset	60 Hz	RATING:	EPG/Continuous
ENGINE SPEED (rpm):	900	CERTIFICATION:	Best BSFC
COMPRESSION RATIO:	13:1	TURBOCHARGER PART #:	284-8281
AFTERCOOLER WATER (°C):	50	FUEL TYPE:	Distillate
JACKET WATER INLET (°C):	90	RATED ALTITUDE @ 25°C (m):	150
IGNITION SYSTEM:	EUI	ASSUMED GENERATOR EFFICIENCY (%):	96
EXHAUST MANIFOLD:	DRY	ASSUMED GENERATOR POWER FACTOR:	0.8
FIRING PRESSURE, MAXIMUM (kPa)	17300		

RATING	NOTES	LOAD	110%	100%	75%	50%
ENGINE POWER	(2)	bkW	5060	4600	3450	2300
GENERATOR POWER	(2)	ekW	4858	4416	3312	2208
BMEP		kPa	2283	2076	1557	1038
ENGINE EFFICIENCY (ISO 3046/1)	(1)	%	44.9%	44.9%	43.7%	40.5%
ENGINE EFFICIENCY (NOMINAL)	(1)	%	43.6%	43.6%	42.3%	39.2%

ENGINE DATA							
FUEL CONSUMPTION (ISO 3046/1)	(1)	g/bkw-hr	189.7	187.6	188.6	201.6	
FUEL CONSUMPTION (NOMINAL)	(1)	g/bkw-hr	193.4	191.2	192.3	205.5	
FUEL CONSUMPTION (90% CONFIDENCE)	(1)	g/bkw-hr	195.6	193.5	194.9	208.4	
AIR FLOW (@ 25°C, 101.3 kPaa)		Nm ³ /min	455.0	399.0	273.0	191.5	
AIR MASS FLOW		kg/hr	32132	28192	19267	12814	
INLET MANIFOLD PRESSURE		kPa (abs)	393.0	344.0	241.0	182.0	
INLET MANIFOLD TEMPERATURE		°C	61.0	59.0	57.0	58.0	
EXHAUST STACK TEMPERATURE		°C	370.0	376.0	421.0	457.0	
EXHAUST GAS FLOW (@ stack temp, 101.3 kPa)		m ³ /min	974.0	854.0	584.0	389.0	
EXHAUST GAS MASS FLOW		kg/hr	33124	29073	19932	13287	

EMISSIONS							
NOx as NO2		g/bkW-hr	14.50	15.03	14.83	12.86	
CO		g/bkW-hr	0.72	0.85	1.13	1.58	
THC (molecular weight of 15.84)		g/bkW-hr	0.58	0.60	0.67	0.85	
Particulates		g/bkW-hr	0.23	0.25	0.30	0.56	

ENERGY BALANCE DATA							
FUEL INPUT ENERGY (LHV) (NOMINAL)	(1)	KW	11606	10551	8148	5861	
HEAT REJ. TO JACKET WATER (NOMINAL)	(3)	KW	1029	971	820	648	
HEAT REJ. TO ATMOSPHERE (NOMINAL)	(4)	KW	232	211	163	117	
HEAT REJ. TO OIL COOLER (NOMINAL)	(5)	KW	511	485	424	360	
HEAT REJ. TO EXH. (LHV to 25°C) (NOMINAL)	(3)	KW	3352	3096	2623	2051	
HEAT REJ. TO EXH. (LHV to 177°C) (NOMINAL)	(3)	KW	2640	2365	1634	1113	
HEAT REJ. TO AFTERCOOLER (NOMINAL)	(6) (7)	KW	1396	1165	650	371	

CONDITIONS AND DEFINITIONS

ENGINE RATING OBTAINED AND PRESENTED IN ACCORDANCE WITH ISO 3046/1 AND SAE J1995 JAN90 STANDARD REFERENCE CONDITIONS OF 25°C, 100 KPA, 30% RELATIVE HUMIDITY AND 150M ALTITUDE AT THE STATED AFTERCOOLER WATER TEMPERATURE. CONSULT ALTITUDE CURVES FOR APPLICATIONS ABOVE MAXIMUM RATED ALTITUDE AND/OR TEMPERATURE. PERFORMANCE AND FUEL CONSUMPTION ARE BASED ON 35 API, 16°C FUEL HAVING A LOWER HEATING VALUE OF 42.780 KJ/KG USED AT 29°C WITH A DENSITY OF 838.9 G/LITER.

NOTES

- 1) FUEL CONSUMPTION TOLERANCE. ISO 3046/1 IS 0, + 5% OF FULL LOAD DATA. NOMINAL IS ± 3 % OF FULL LOAD DATA.
- 2) ENGINE POWER TOLERANCE IS ± 3 % OF FULL LOAD DATA.
- 3) HEAT REJECTION TO JACKET AND EXHAUST TOLERANCE IS ± 10% OF FULL LOAD DATA. (heat rate based on treated water)
- 4) HEAT REJECTION TO ATMOSPHERE TOLERANCE IS ±50% OF FULL LOAD DATA. (heat rate based on treated water)
- 5) HEAT REJECTION TO LUBE OIL TOLERANCE IS ± 20% OF FULL LOAD DATA. (heat rate based on treated water)
- 6) HEAT REJECTION TO AFTERCOOLER TOLERANCE IS ± 5% OF FULL LOAD DATA. (heat rate based on treated water)
- 7) TOTAL AFTERCOOLER HEAT = AFTERCOOLER HEAT x ACHRF (heat rate based on treated water)

C280 Best BSFC