

Only for reference



Technical data

1200 kWel; 480 V, 60 Hz; Natural gas, MN = 80

Design conditions

Comb. air temperature / rel. Humidity:	[°F] / [%]	77 / 60
Altitude:	[ft]	328
Exhaust temp. after heat exchanger:	[°F]	248
NO _x Emission (tolerance - 8%):	[g/bhph]	0,94

Fuel gas data: ²⁾

Methane number:	[-]	80
Lower calorific value:	[BTU/ft ³]	985,2
Gas density:	[lb/ft ³]	0,05
Standard gas:	Natural gas, MN = 80	

Genset:

Engine:	CG170-12	
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 12
Bore / Stroke / Displacement:	[in] / [in] / [in ³]	6,7 / 7,7 / 3241
Compression ratio:	[-]	13,5
Mean piston speed:	[ft/s]	32
Mean lube oil consumption at full load:	[lb/hr]	0,9
Engine-management-system:	[-]	TEM EVO

Generator:	Marelli MJB 450 LB4	
Voltage / voltage range / cos Phi:	[V] / [%] / [-]	480 / ±5 / 1
Speed / frequency:	[1/min] / [Hz]	1800 / 60

Gear box:	Eisenbeiss GU 320	
Lube oil volume of gear box:	[gal(US)]	15

Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	1200	900	600
Engine jacket water heat:	[MBTU/hr±8%]	2088	1614	1160
Intercooler LT heat:	[MBTU/hr±8%]	396	266	157
Lube oil heat:	[MBTU/hr±8%]			
Exhaust heat with temp. after heat exchanger:	[MBTU/hr±8%]	1992	1651	1252
Exhaust temperature:	[°F]	777	824	876
Exhaust mass flow, wet:	[lb/hr]	14390	10909	7542
Combustion mass air flow:	[lb/hr]	13913	10540	7282
Radiation heat engine / generator:	[MBTU/hr±8%]	140 / 116	136 / 99	123 / 89
Fuel consumption:	[MBTU/hr +5%]	9440	7301	5145
Electrical / thermal efficiency:	[%]	43,4 / 43,2	42,1 / 44,7	39,8 / 46,9
Total efficiency:	[%]	86,6	86,7	86,6

System parameters ¹⁾

Ventilation air flow (comb. air incl.) with ΔT = 15K	[lb/hr]	66800
Combustion air temperature minimum / design:	[°F]	68 / 77
Exhaust back pressure from / to:	[inWC]	12 / 20
Maximum pressure loss in front of air cleaner:	[inWC]	2
Zero-pressure gas control unit selectable from / to: ²⁾	[inWC]	8 / 80
Pre-pressure gas control unit selectable from / to: ²⁾	[psi]	7 / 145
Starter battery 24V, capacity required:	[Ah]	430
Starter motor:	[kWel.] / [VDC]	15 / 24
Lube oil content engine / base frame:	[gal(US)]	54 / 135
Dry weight engine / genset:	[lb]	11200 / 28551

Cooling system ³⁾

Glycol content engine jacket water / intercooler:	[% Vol.]	0 / 35
Water volume engine jacket / intercooler:	[gal(US)]	29 / 5,3
KVS / Cv value engine jacket water / intercooler:	[ft ³ /h]	1483 / 1059
Jacket water coolant temperature in / out:	[°F]	176 / 199
Intercooler coolant temperature in / out:	[°F]	104 / 109
Engine jacket water flow rate from / to:	[gpm]	159 / 247
Water flow rate engine jacket water / intercooler:	[gpm]	184 / 154
Water pressure loss engine jacket water / intercooler:	[psi]	14 / 20

1) See also "Layout of power plants":

2) See also Techn. Circular 0199-99-3017

3) Gear oil cooling within intercooler coolant circuit

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Engine noise level	Octave band centre frequency								Sum level (distance 1 meter)
	63	125	250	500	1000	2000	4000	8000	
Exhaust noise [dB(lin)]	116	123	122	119	111	110	108	107	120 dB(A) (±2,5 dB(A))
Air-borne noise [dB(lin)]	92	104	104	100	99	96	99	99	106 dB(A) (±1,0 dB(A))