

Only for reference



Technical data

400 kWel; 400 V, 50 Hz; Acc. to gas analysis

Design conditions

Comb. air temperature / rel. Humidity:	[°C] / [%]	25 / 60
Altitude:	[m]	100
Exhaust temp. after heat exchanger:	[°C]	120
NO _x Emission (tolerance - 8%):	[mg/Nm ³ @5%O ₂]	500

Genset:

Engine:	CG132-8	
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 08
Bore / Stroke / Displacement:	[mm]/[mm]/[dm ³]	132 / 160 / 17,5
Compression ratio:	[-]	15
Mean piston speed:	[m/s]	8
Mean lube oil consumption at full load:	[g/kWh]	0,2
Engine-management-system:	[-]	TEM EVO

Generator:	Marelli MJB 355 MB4	
Voltage / voltage range / cos Phi:	[V] / [%] / [-]	400 / ±5 / 1
Speed / frequency:	[1/min] / [Hz]	1500 / 50

Fuel gas data: ²⁾

Methane number:	[-]	134
Lower calorific value:	[kWh/Nm ³]	4,98
Gas density:	[kg/Nm ³]	1,18
Acc. to gas analysis		
Analysis: CO ₂	[Vol%]	27
N ₂	[Vol%]	23
O ₂	[Vol%]	0
H ₂	[Vol%]	0
CO	[Vol%]	0
CH ₄	[Vol%]	50
C ₂ H ₆	[Vol%]	0
C ₃ H ₈	[Vol%]	0
C ₄ H ₁₀	[Vol%]	0
C _x H _y	[Vol%]	0
H ₂ S	[Vol%]	0

Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	400	300	200
Engine jacket water heat:	[kW ±8%]	200	149	113
Intercooler LT heat:	[kW ±8%]	30	19	13
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	214	187	139
Exhaust temperature:	[°C]	442	487	512
Exhaust mass flow, wet:	[kg/h]	2157	1648	1145
Combustion mass air flow:	[kg/h]	1936	1475	1022
Radiation heat engine / generator:	[kW ±8%]	18 / 14	15 / 11	11 / 9
Fuel consumption:	[kW+5%]	935	727	517
Electrical / thermal efficiency:	[%]	42,8 / 44,2	41,3 / 46,3	38,7 / 48,8
Total efficiency:	[%]	87,0	87,5	87,4

System parameters ¹⁾

Ventilation air flow (comb. air incl.) with ΔT = 15K	[kg/h]	11900
Combustion air temperature minimum / design:	[°C]	20 / 25
Exhaust back pressure from / to:	[mbar]	30 / 50
Maximum pressure loss in front of air cleaner:	[mbar]	5
Zero-pressure gas control unit selectable from / to: ²⁾	[mbar]	20 / 200
Pre-pressure gas control unit selectable from / to: ²⁾	[bar]	0,5 / 10
Starter battery 24V, capacity required:	[Ah]	143
Starter motor:	[kWel.] / [VDC]	5,4 / 24
Lube oil content engine / base frame:	[dm ³]	70 / -
Dry weight engine / genset:	[kg]	2080 / 4790

Cooling system

Glycol content engine jacket water / intercooler:	[% Vol.]	0 / 35
Water volume engine jacket / intercooler:	[dm ³]	28 / 5
KVS / Cv value engine jacket water / intercooler:	[m ³ /h]	37 / 10
Jacket water coolant temperature in / out:	[°C]	78 / 88
Intercooler coolant temperature in / out:	[°C]	40 / 44
Engine jacket water flow rate from / to:	[m ³ /h]	14 / 25
Water flow rate engine jacket water / intercooler:	[m ³ /h]	18 / 8
Water pressure loss engine jacket water / intercooler:	[bar]	0,2 / 0,6

1) See also "Layout of power plants":

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

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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)]	108	125	123	116	114	112	107	103	120 (±2,5 dB(A))
Air-borne noise [dB(lin)]	85	85	91	93	87	88	92	91	97 (±1,0 dB(A))