

Only for reference

Technical data

1560 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]	150
NO _x Emission (tolerance - 8%):	[mg/Nm ³]	500

Genset:

Engine:	CG170-16	
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 16
Bore / Stroke / Displacement:	[mm]/[mm]/[dm ³]	170 / 195 / 71
Compression ratio:	[-]	13,5
Mean piston speed:	[m/s]	9,8
Mean lube oil consumption at full load:	[g/kWh]	0,2
Engine-management-system:	[-]	TEM EVO

Generator:

Marelli MJB 500 MC4

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/m 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]	1560	1170	780
Engine jacket water heat:	[kW ±8%]	823	616	439
Intercooler LT heat:	[kW ±8%]	127	86	54
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	818	668	502
Exhaust temperature:	[°C]	460	484	512
Exhaust mass flow, wet:	[kg/h]	8536	6439	4444
Combustion mass air flow - ISO 3046/1:	[kg/h]	7652	5762	3968
Radiation heat engine / generator:	[kW ±8%]	53 / 42	52 / 33	45 / 27
Fuel consumption:	[kW +5%]	3734	2860	2009
Electrical / thermal efficiency:	[%]	41,8 / 44,0	40,9 / 44,9	38,8 / 46,8
Total efficiency:	[%]	85,7	85,8	85,7

System parameters ¹⁾

Ventilation air flow (comb. air incl.) with ΔT = 15K	[kg/h]	39000
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 / 300
Pre-pressure gas control unit selectable from / to: ²⁾	[bar]	0,5 / 10
Starter battery 24V, capacity required:	[Ah]	430
Starter motor:	[kWel.] / [VDC]	15 / 24,0
Lube oil content engine / base frame:	[dm ³]	265 / 685
Dry weight engine / genset:	[kg]	6090 / 12700

Cooling system

Glycol content engine jacket water / intercooler:	[% Vol.]	0 / 35
Water volume engine jacket / intercooler:	[dm ³]	151 / 20
KVS / Cv value engine jacket water / intercooler:	[m ³ /h]	46 / 30
Jacket water coolant temperature in / out:	[°C]	80 / 93
Intercooler coolant temperature in / out:	[°C]	50 / 54
Engine jacket water flow rate from / to:	[m ³ /h]	50 / 65
Water flow rate engine jacket water / intercooler:	[m ³ /h]	56 / 35
Water pressure loss engine jacket water / intercooler:	[bar]	1,4 / 1,4

1) See also "Layout of power plants":

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

Engine noise level	Octave band centre frequency								Sum level (distance 1 meter)
	63	125	250	500	1000	2000	4000	8000	
Exhaust noise [dB(lin)]	117	127	118	116	113	112	110	103	120 dB(A) (±2,5 dB(A))
Air-borne noise [dB(lin)]	94	96	99	100	102	100	107	104	111 dB(A) (±1,0 dB(A))