

Technical data

1560 kWel; 400 V, 50 Hz; Natural gas, MWM MN = 80

Design conditions

Comb. air temperature / rel. Humidity:	[°C / %]	25 / 60
Altitude:	[m]	200
Exhaust temp. after heat exchanger:	[°C]	120
NO _x Emission (tolerance - 8%):	[mg/m ³ n]	500

Fuel gas data:

MWM Methane number:	[-]	80
Lower calorific value:	[kWh/m ³]	10,24
Gas density:	[kg/m ³ n]	0,80
Standard gas:	Natural gas, MWM MN = 80	

Genset:

Engine:	TCG2020V16.	
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 / frequency:	[V / % / Hz]	400 / ±5 / 50
Speed:	[1/min]	1500

Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	1560	1170	780
Generator efficiency with cos Phi = 1 / ind	[%]	97,4	97,2	96,6
Engine power acc. ISO 3046-1:	[kW]	1602	1203	807
Engine jacket water heat:	[kW ±8%]	772	588	426
Intercooler LT heat:	[kW ±8%]	133	93	54
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	804	658	496
Exhaust temperature:	[°C]	430	454	484
Exhaust mass flow, wet:	[kg/h]	8505	6436	4422
Combustion mass air flow - ISO 3046/1:	[kg/h]	8223	6220	4270
Radiation heat engine / generator:	[kW ±8%]	54 / 42	52 / 33	41 / 27
Fuel consumption:	[kW +5%]	3600	2772	1946
electrical / mechanical / thermal efficiency:	[%]	43,3 / 44,5 / 43,8	42,2 / 43,4 / 45,0	40,1 / 41,5 / 47,4
Total efficiency:	[%]	87,1	87,2	87,5

System parameters ¹⁾

Ventilation air flow (comb. air incl.) with ΔT = 15 K	[kg/h]	39200
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.]	35 / 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]	40 / 44
Engine jacket water flow rate from / to:	[m ³ /h]	50 / 65
Water flow rate engine jacket water / intercooler:	[m ³ /h]	55 / 35
Water pressure loss engine jacket water / intercooler:	[bar]	1,4 / 1,4

1) See also MWM "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))