

# Reference Datasheet CG260-16 4.5MW



## Technical data

4500 kWel; 10500 V, 50 Hz; Natural gas, MN = 70

### Design conditions

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

### Fuel gas data: 2)

Methane number:	[-]	70
Lower calorific value:	[kWh/Nm <sup>3</sup> ]	10,95
Gas density:	[kg/Nm <sup>3</sup> ]	0,83
Standard gas:	Natural gas, MN = 70	

### Genset:

Engine:	<b>CG260-16</b>	
Speed:	[1/min]	1000
Configuration / number of cylinders:	[-]	V / 16
Bore / Stroke / Displacement:	[mm]/[mm]/[dm <sup>3</sup> ]	260 / 320 / 272
Compression ratio:	[-]	12,0
Mean piston speed:	[m/s]	10,7
Mean lube oil consumption at full load:	[g/kWh]	0,3
Engine-management-system:	[-]	TEM EVO

### Generator:

### Marelli MJH 800 MC6

Voltage / voltage range / cos Phi:	[V] / [%] / [-]	10500 / ±10 / 1
Speed / frequency:	[1/min] / [Hz]	1000 / 50

### Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	<b>4500</b>	<b>3375</b>	<b>2250</b>
Engine jacket water heat:	[kW ±8%]	1647	1220	841
Intercooler LT heat:	[kW ±8%]	354	240	158
Lube oil heat:	[kW ±8%]	683	557	484
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	1932	1636	1261
Exhaust temperature:	[°C ±25°C]	380	406	446
Exhaust mass flow, wet:	[kg/h]	24616	18825	12660
Combustion mass air flow:	[kg/h]	23849	18233	12240
Radiation heat engine / generator:	[kW ±8%]	198 / 98	153 / 83	109 / 72
Fuel consumption:	[kW+5%]	10095	7783	5525
Electrical / thermal efficiency:	[%]	44,6 / 42,2	43,4 / 43,8	40,7 / 46,8
Total efficiency:	[%]	86,8	87,2	87,5

### System parameters 1)

Ventilation air flow (comb. air incl.) with ΔT = 15K	[kg/h]	116100
Combustion air temperature minimum / design:	[°C]	5 / 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
Air bottle, volume / pressure	[dm <sup>3</sup> ] / [bar]	2000 / 30
Starter motor:	[dm <sup>3</sup> /s] / [bar]	800 / 16
Lube oil content engine / base frame:	[dm <sup>3</sup> ]	1850 / -
Dry weight engine / genset:	[kg]	24890 / 51400

### Cooling system

Glycol content engine jacket water / intercooler:	[% Vol.]	0 / 35
Water volume engine jacket / intercooler:	[dm <sup>3</sup> ]	570 / 51
KVS / Cv value engine jacket water / intercooler:	[m <sup>3</sup> /h]	88 / 62
Jacket water coolant temperature in / out:	[°C]	78 / 90
Intercooler coolant temperature in / out:	[°C]	40 / 45
Engine jacket water flow rate from / to:	[m <sup>3</sup> /h]	110 / 130
Water flow rate engine jacket water / intercooler:	[m <sup>3</sup> /h]	121 / 65
Water pressure loss engine jacket water / intercooler:	[bar]	1,8 / 1,1
Lube oil temp. engine inlet max. / lube oil flow rate:	[°C] / [m <sup>3</sup> /h]	80 / 125

1) See also "Layout of power plants":

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

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Frequency band f [Hz]	25	31,5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	L <sub>WA</sub> [dB(A)]	S [m <sup>2</sup> ]																									
<b>Air-borne noise 3)</b>	101,1	104,1	107,5	107,4	112,6	113,7	120,6	121,2	120,5	117,3	116,4	114,9	114,2	112,9	115	115,9	115,3	112	112,1	111,6	112,8	115,8	124,8	129,1	121,8	111,5	111,5	108,8	104,2	132,4	224																									
<b>Exhaust noise 4)</b>	123	127,2	141,9	125,1	144,6	129,2	132,4	133	133,3	130	129,2	129	128,5	128,8	128,6	126,5	125,7	124,4	124,4	124,6	123,2	124	126,3	123,5	121,7	119,6	119,6	122,4	117,9	137,2	16,9 <sup>5)</sup>																									
3) DIN EN ISO 3746 (±4 dB)																	4) Measured in exhaust pipe (f ≤ 250Hz: ±5dB; f > 250Hz: ±3dB)										L <sub>W</sub> : Sound power level										S: Area of measurement surface (S <sub>m</sub> =1m <sup>2</sup> )										5) DIN 45635-11, Appendix A									