

# Only for reference



## Technical data

600 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 <sub>x</sub> Emission (tolerance - 8%):	[mg/Nm <sup>3</sup> @5%O <sub>2</sub> ]	500

### Genset:

Engine:	<b>CG132-12</b>	
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 12
Bore / Stroke / Displacement:	[mm]/[mm]/[dm <sup>3</sup> ]	132 / 160 / 26
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 400 LA4

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

### Fuel gas data: <sup>2)</sup>

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

### Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	<b>600</b>	<b>450</b>	<b>300</b>
Engine jacket water heat:	[kW ±8%]	301	239	184
Intercooler LT heat:	[kW ±8%]	49	31	14
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	323	263	197
Exhaust temperature:	[°C]	444	467	493
Exhaust mass flow, wet:	[kg/h]	3241	2459	1702
Combustion mass air flow:	[kg/h]	2908	2202	1520
Radiation heat engine / generator:	[kW ±8%]	22 / 20	17 / 16	13 / 13
Fuel consumption:	[kW+5%]	1405	1085	769
Electrical / thermal efficiency:	[%]	42,7 / 44,4	41,5 / 46,3	39,0 / 49,6
Total efficiency:	[%]	87,1	87,8	88,6

### System parameters <sup>1)</sup>

Ventilation air flow (comb. air incl.) with ΔT = 15K	[kg/h]	16300
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: <sup>2)</sup>	[mbar]	20 / 200
Pre-pressure gas control unit selectable from / to: <sup>2)</sup>	[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 <sup>3</sup> ]	100 / -
Dry weight engine / genset:	[kg]	2650 / 6180

### Cooling system

Glycol content engine jacket water / intercooler:	[% Vol.]	0 / 35
Water volume engine jacket / intercooler:	[dm <sup>3</sup> ]	43 / 5
KVS / Cv value engine jacket water / intercooler:	[m <sup>3</sup> /h]	37 / 10
Jacket water coolant temperature in / out:	[°C]	78 / 88
Intercooler coolant temperature in / out:	[°C]	40 / 45
Engine jacket water flow rate from / to:	[m <sup>3</sup> /h]	22 / 37
Water flow rate engine jacket water / intercooler:	[m <sup>3</sup> /h]	27 / 10
Water pressure loss engine jacket water / intercooler:	[bar]	0,5 / 1,0

1) See also "Layout of power plants":

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

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132-12-B-50-00400-M-X\_e

Engine noise level	Octave band centre frequency								Sum level (distance 1 meter)
	63	125	250	500	1000	2000	4000	8000	
Exhaust noise [dB(lin)]	106	117	122	117	116	116	111	105	122 (±2,5 dB(A))
Air-borne noise [dB(lin)]	87	89	91	93	93	92	89	95	99 (±1,0 dB(A))