

**Technical data**

**800 kWel; 400 V, 50 Hz; Natural gas, MN = 80**

**Design conditions**

Inlet 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> ]	250

Datasheet specification considers the grid codes EU 631/2016 (NC-RfG)

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

Methane number:	[-]	80
Lower calorific value:	[kWh/Nm <sup>3</sup> ]	10,17
Gas density:	[kg/Nm <sup>3</sup> ]	0,79
Standard gas:	Natural gas, MN = 80	

**Genset:**

Engine:	<b>TCG 3016 V16</b>	
Configuration code:	[-]	
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 16
Bore / Stroke / Displacement:	[mm]/[mm]/[dm <sup>3</sup> ]	132 / 160 / 35
Compression ratio:	[-]	13
Mean piston speed:	[m/s]	8
Mean lube oil consumption at full load:	[g/kWh]	0,1

Generator:	<b>Marelli MJB 450 MB4</b>	
Voltage / voltage range / cos Phi:	[V] / [%] / [-]	400 / ±10 / 1
Speed / frequency:	[1/min] / [Hz]	1500 / 50

**Energy balance**

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	<b>800</b>	<b>600</b>	<b>400</b>
Engine jacket water heat:	[kW ±8%]	440	335	242
Intercooler LT heat:	[kW ±8%]	49	35	24
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	422	346	258
Exhaust temperature:	[°C ±25°C]	426	450	474
Exhaust mass flow, wet:	[kg/h]	4533	3433	2373
Combustion mass air flow:	[kg/h]	4386	3319	2292
Radiation heat engine / generator:	[kW ±8%]	29 / 24	26 / 19	24 / 16
Fuel consumption:	[kW+5%]	1889	1456	1029
Electrical / thermal efficiency:	[%]	42,4 / 45,6	41,2 / 46,8	38,9 / 48,6
Total efficiency:	[%]	88,0	88,0	87,5

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

Ventilation air flow (comb. air incl.) with ΔT = 15K	[kg/h]	21500
Combustion air temperature minimum / design:	[°C]	10 / 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]	286
Starter motor:	[kWel.] / [VDC]	9 / 24
Lube oil content engine & extension / clean oil tank:	[dm <sup>3</sup> ]	480 / 360
Dry weight engine / genset:	[kg]	3090 / 8600

**Cooling system**

Glycol content engine jacket water / intercooler:	[% Vol.]	35 / 35
Water volume engine jacket / intercooler:	[dm <sup>3</sup> ]	56 / 5
KVS / Cv value engine jacket water / intercooler:	[m <sup>3</sup> /h]	29 / 14
Jacket water coolant temperature in / out:	[°C]	78 / 88
Intercooler coolant temperature in / out:	[°C]	45 / 50
Engine jacket water flow rate from / to:	[m <sup>3</sup> /h]	29 / 50
Water flow rate engine jacket water / intercooler:	[m <sup>3</sup> /h]	40 / 10
Water pressure loss engine jacket water / intercooler:	[bar]	1,9 / 0,6

1) See also "Layout of power plants":

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

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 <sup>3)</sup></b>	87,2	82,6	86,7	90,6	103,2	108,1	113,6	105,2	111,5	103,5	102,6	107,9	103,6	101,7	101,2	102,2	103,2	115,4	106,7	100,3	101,8	102,8	104,0	103,7	108,1	113,2	96,0	92,8	94,4	119,5	76
L <sub>W, Terz</sub> [dB(lin)]																															
<b>Exhaust noise <sup>4)</sup></b>	112,3	113,3	121,9	112,5	113,7	125,4	139,2	132,4	125,9	128,6	127,3	125,3	123,9	123,1	122,3	121,1	120,4	120,1	119,7	119,0	118,6	117,6	116,8	116,3	114,5	113,2	112,1	111,5	110,1	131,9	15,2 <sup>5)</sup>
L <sub>W, Terz</sub> [dB(lin)]																															

3) DIN EN ISO 3746 (σ<sub>90</sub>±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>r</sub>=1m<sup>2</sup>)

5) DIN 45635-11, Appendix A