

Design conditions

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

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

Fuel gas data: ²⁾

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

Genset:

Engine:	TCG 3016 V16	
Configuration code:	[-]	S
Speed:	[1/min]	1500
Configuration / number of cylinders:	[-]	V / 16
Bore / Stroke / Displacement:	[mm]/[mm]/[dm ³]	132 / 160 / 35
Compression ratio:	[-]	11
Mean piston speed:	[m/s]	8
Mean lube oil consumption at full load:	[g/kWh]	0,1
Generator:	Marelli MJB 460 LB4 or similar (*)	
Voltage / voltage range / cos Phi:	[V] / [%] / [-]	400 / 10 / 1
Speed / frequency:	[1/min] / [Hz]	1500 / 50

*) CSE reserves the right to change the alternative engine and type during offer period. The genset delivery is strictly changeable.
The power output will not change. CSE will confirm the alternative type, brand and alternative data when notified under confirmation.

Energy balance

Load:	[%]	100	75	50
Electrical power COP acc. ISO 8528-1:	[kW]	1000	750	500
Engine jacket water heat:	[kW ±8%]	540	410	298
Intercooler LT heat:	[kW ±8%]	75	48	27
Lube oil heat:	[kW ±8%]			
Exhaust heat with temp. after heat exchanger:	[kW ±8%]	583	474	348
Exhaust temperature:	[°C ±25°C]	463	492	518
Exhaust mass flow, wet:	[kg/h]	5531	4126	2819
Combustion mass air flow:	[kg/h]	5342	3982	2719
Radiation heat engine / generator:	[kW ±8%]	32 / 27	24 / 22	20 / 19
Fuel consumption:	[kW±5%]	2411	1844	1290
Electrical / thermal efficiency:	[%]	41,5 / 46,6	40,7 / 47,9	38,8 / 50,0
Total efficiency:	[%]	88,1	88,6	88,8

System parameters ³⁾

Ventilation air flow (comb. air incl.) with ΔT = 15K:	[kg/h]	25100
Combustion air temperature minimum / design:	[°C]	15 / 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 ³⁾ / 200
Pre-pressure gas control unit selectable from / to: ²⁾	[bar]	0,5 / 10
Starter battery 24V, capacity required:	[Ah]	286
Starter motor:	[kW _{el}] / [VDC]	9 / 24
Lube oil content engine & extension / clean oil tank:	[dm ³]	480 / 360
Dry weight engine / genset:	[kg]	3090 / 8900

Cooling system

Glycol content engine jacket water / intercooler:	[% Vol.]	35 / 35
Water volume engine jacket / intercooler:	[dm ³]	56 / 5
KVS / Cv value engine jacket water / intercooler:	[m ³ /h]	29 / 14
Jacket water coolant temperature in / out:	[°C]	78 / 89
Intercooler coolant temperature in / out:	[°C]	45 / 51
Engine jacket water flow rate from / to:	[m ³ /h]	35 / 50
Water flow rate engine jacket water / intercooler:	[m ³ /h]	45 / 12
Water pressure loss engine jacket water / intercooler:	[bar]	2,5 / 0,8

¹⁾ See also "Legend of power plant".

²⁾ See also "Notes, General" (09/09/2017).

³⁾ Minimum pressure may be higher, depending on project conditions.

Frequency band f [Hz]	20	25,0	30	35	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	f _{max} [kHz]	1/3 [dB]
Acoustic noise ¹⁾ L _{WA} [dB(A)]	87,0	88,0	87,2	86,3	85,4	84,2	83,2	82,0	80,7	79,2	77,5	75,7	73,7	71,5	69,1	66,5	63,7	60,7	57,5	54,0	50,2	46,2	42,0	37,6	33,0	28,2	23,2	18,0	12,6	7,1	113,7
Exhaust noise ¹⁾ L _{WA} [dB(A)]	113,0	116,7	120,4	123,0	125,0	126,4	127,1	127,5	127,7	127,5	126,9	126,0	124,9	123,5	121,8	120,0	117,9	115,6	113,1	110,4	107,5	104,4	101,1	97,6	93,9	89,9	85,7	81,3	76,7	71,9	120,8

¹⁾ LWA: 1m, 0,1m, 0,05m, 0,02m, 0,01m

²⁾ LWA: 1m, 0,1m, 0,05m, 0,02m, 0,01m, 0,005m, 0,002m, 0,001m

³⁾ LWA: 1m, 0,1m, 0,05m, 0,02m, 0,01m

⁴⁾ LWA: 1m, 0,1m, 0,05m, 0,02m, 0,01m, 0,005m, 0,002m, 0,001m

⁵⁾ LWA: 1m, 0,1m, 0,05m, 0,02m, 0,01m, 0,005m, 0,002m, 0,001m