Basic Technical Data

nominal electrical output			124	kW
maximum heat output[1)]			165	kW
load	50	75	100	%
maximum heat output	107	136	165	kW
fuel input	196	266	336	kW
electrical efficiency	31,6	34,9	36,9	%
heat efficiency	54,6	51,2	49,2	%
total efficiency (fuel utilization)	86,2	86,1	86,1	%
gas consumption	30,2	41,0	51,7	Nm^3/h

The Basic Technical Data are applicable for the standard conditions pursuant to the "Technical instructions" document.
The minimum permanent electrical output must not drop below 50 % of the nominal output.
Gas consumption is mentioned for biogas with methane content 65%, at normal conditions (0°C, 101,325 kPa)
Gas consumption tolerance, or fuel input tolerance, at 100% load is +5%.
Tolerances of other parameters are mentioned in "Technical Instructions-Validity of Technical Data" document.
1) Maximum heat output is a sum of heat outputs of secondary circuit with exhaust gas cooled to 150°C

Observance of Emission Limits

emissions	NOx	CO	
with 5% of O_2 in exhaust gases	500	650	mg/Nm^3

Generator

used types	LSA 46.3 S5	
producer	LEROY SOMER	
cos φ	1,0	
efficiency in the working point	94,8	%
voltage	400	V
frequency	50	Hz

Engine

type	TB 130 G5V TX 86	
producer	TEDOM	
number of cylinders	6	
arrangement of cylinders	in series	
bore × stroke	130/150	mm
displacement	11946	cm^3
compression ratio	12 : 1	
speed	1500	rpm
oil consumption, normal / max.	0,3 / 0,5	g/kWh
max. engine output	130,4	kW

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Thermal System

Secondary circuit

heat carrier	water	
circuit's heat output	165	kW
nominal water temperature, input / output	70/90	°C
nominal temperature drop	20	°C
return water temperature, min / max	40/70	°C
nominal flow rate	2,0	kg/s
max. working pressure	600	kPa
water volume in CHP unit circuit	10	dm^3
pressure loss at the nominal flow rate	15	kPa

Utilization of exhaust gas output for other purposes

heat output of exhaust gases (cooling to 150°C)	80	kW
exhaust gas temperature	533	°C

Primary circuit

circuit's heat output	165	kW
max. working pressure	250	kPa
water volume in CHP unit circuit	110	dm^3

Fuel, Gas Inlet

methane content	65	%
low heat value	23,4	MJ/Nm^3
gas pressure	5 ÷ 10	kPa
max. pressure change under varying consumption	10	%
max. gas temperature	35	°C

Combustion and Ventilation Air

unused heat removed by the ventilation air	20	kW
aspirated air temperature, min / max	10/35	°C
amount of combustion air	500	Nm^3/h

Exhaust Gas and Condensate Outlet

amount of exhaust gases	544	Nm^3/h
exhaust gas temperature, nominal / max	150/180	°C
max. back-pressure of exhaust gases downstream the CHP unit flange	20	mbar
pressure loss of the freely delivered silencer	10	mbar
permissible pressure loss of the interconnecting exhaust piping	10	mbar
speed of exhaust gases at the outlet (DN 125)	19,1	m/s

Lubricant Charges

amount of lubrication oil in the engine	56	dm^3
replenishment oil tank volume	125	dm^3

Noise Parameters

CHP unit at 1m	93	dB(A)
exhaust gas outlet at 1m from the silencer flange [1)]	65	dB(A)

1) the noise parameter can be reduced by optimizing the exhaust silencer to the required acoustic pressure level or by applying the exhaust silencer beyond the standard range designed for 60 dB(A) at 1 m

Electrical Parameters

nominal voltage	230/400	V
nominal frequency	50	Hz
power factor [1)]	0,8	
nominal current at cos φ=0.8	224	A
generator circuit breaker	NSX250B 3P	
short-circuit resistance of switchboard	20	kA
contribution of the actual source to the short-circuit current	< 2,5	kA
protection of switchboard's power part closed/open	IP 31/00	
protection of switchboard's control part closed/open	IP 31/00	
recommended superior protection	250	A
|recommended connection cable [2)] (length< 50m, at t<35°C)	NYY-J 3×120 +70	

1) Power factor adjustable from 0,8C ÷ 1 ÷ 0,8L (range from 0.8C ÷ 1 must be verified according to the various types of generators).
L = inductive load - overexcited
C = capacitive load - underexcited
Operation of the generator with a power factor of less than 0.95 causes a power limitation sets the following table:

power factor [-]	1	0,95	0,8
output [% Pnom]	100	100	98

2) The stated cables are for information only. A check calculation for temperature rise and voltage drop must be made according to the actual length, placement and type of the cable (maximum allowed voltage drop is 10 V)

Colour Version

base frame, engine, and generator	RAL 5015 (blue)

Unit Dimensions and Weights[1)]

length total / transport	4 420 / 3 350	mm
width	1 500	mm
total height	2 225	mm
service weight of the entire CHP unit	4 100	kg

1) approximate values

Caution

Manufacturer reserves the right to alter this document and the linked source materials.