Basic Technical Data

nominal electrical output			104	kW
maximum heat output[1)]			166	kW

load	50	75	100	%
heat output	112	139	166	kW
fuel input	182	241	300	kW
electrical efficiency	28,6	32,3	34,7	%
heat efficiency	61,5	57,7	55,3	%
total efficiency (fuel utilization)	90,1	90,0	90,0	%
gas consumption	19,2	25,6	31,7	m^3/h

Technical data for additional exhaust gas exchanger[2)]

electric output	104	kW
maximum heat output	170	kW
fuel input	300	kW
electrical efficiency	34,7	%
heat efficiency	56,8	%
total efficiency (fuel utilization)	91,5	%
gas consumption at 100% output	31,7	m^3/h
gas consumption at 75% output	25,6	m^3/h
gas consumption at 50% output	19,2	m^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 expressed under the invoicing conditions (15°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 heat output of secondary circuit with exhaust gas cooled to 120°C
2) Heat output indicated is based on inlet water temperature 70°C into additional exhaust gas exchanger and exhaust gas cooled to 85°C.

Observance of Emission Limits

emissions with 5% of O_2 in exhaust gases	NO_x	CO	
standard	95	300	mg/Nm^3
option	50	150	mg/Nm^3

Generator

used type	LSA 44.3 L10	
producer	LEROY SOMER	
cos φ	1,0	
efficiency in the working point	94,6	%
voltage	400	V
frequency	50	Hz

Engine

type	TG 110 G5V NX 88	
producer	TEDOM	
combustion	stoichiometric	
number of cylinders	6	
arrangement of cylinders	In line	
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	110,4	kW

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Thermal System

Secondary circuit

heat carrier	water	
circuit's heat output	166	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 120°C)	65	kW
exhaust gas temperature	614	°C

Primary circuit

circuit's heat output	166	kW
max. working pressure	250	kPa
water volume in CHP unit circuit	110	dm^3

Fuel, Gas Inlet

low heat value	34	MJ/m^3
min. methane number	80	
gas pressure	2 ÷ 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	18	kW
aspirated air temperature, min / max	10/35	°C
amount of combustion air	310	Nm^3/h
max. amount of ventilation air at the outlet flange	4560	m^3/h
max. air temperature at the outlet flange	50	°C
max. counter-pressure at the ventilation air offtake flange	70	Pa

Exhaust Gas and Condensate Outlet

amount of exhaust gases	332	Nm^3/h
exhaust gas temperature, nominal / max	120/150	°C
max. back-pressure of exhaust gases downstream the CHP unit flange[1)]	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)	10,8	m/s

1) Valid for standard version (without economizer)

Lubricant Charges

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

Noise Parameters

sound enclosure of CHP unit at 1m	76	dB(A)
ventilation outlet of sound enclosure at 1m	84	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	188	A
generator circuit breaker	NSX250B3P	
short-circuit resistance of switchboard	20	kA
contribution of the actual source to the short-circuit current	< 2	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	225	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

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

Unit Dimensions and Weights[1)]

length, total	3 840	mm
width	1 300	mm
total height	21 00	mm
service weight of the entire CHP unit	3 750	kg

1) approximate values

Caution

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