Basic Technical Data

nominal electrical output			133	kW
heat output [1)]			191	kW
load	60	75	100	%
heat output	155	160	191	kW
fuel input	260	281	352	kW
electrical efficiency	30,6	35,5	37,8	%
heat efficiency	59,5	57,0	54,2	%
total efficiency	90,1	92,5	92,0	%
gas consumption	28	30	37	m^3/h

Option

EKO - Technical data for additional exhaust gas exchanger

	EKO[2)]	
electric output	133	kW
maximum heat output	196	kW
fuel input	352	kW
electrical efficiency	37,8	%
heat efficiency	55,7	%
total efficiency (fuel utilization)	93,5	%
gas consumption at 100% output	37	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 60 % 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) 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 with exhaust gas cooled to 85°C.

Observance of Emission Limits

emissions with 5% of O_2 in exhaust gas	NO_x	CO	
standard	95	300	mg/Nm^3
option[1)]	50	150	mg/Nm^3

1) In the factory, the NOx emission values are set below 20 mg/Nm3

Generator

used type	LSA 46.3 S5	
producer	LEROY SOMER	
cos φ	1,0	
efficiency in the working point	95,1	%
voltage	400	V
frequency	50	Hz

Engine

type	E 2676 E302	
producer	MAN	
number of cylinders	6	
bore × stroke	126x166	mm
displacement	12,42	dm^3
compression ratio	12 : 1	
speed	1500	rpm
oil consumption, normal / max.	0,3/0,6	g/kWh
max. engine output	140	kW

E 2676 E302; NG; 03.04.2017

Thermal System

Secondary circuit

heat carrier	water	
circuit's heat output	191	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	2,3	kg/s
max. working pressure	600	kPa
water volume in CHP unit circuit	12	dm^3
pressure loss at the nominal flow rate	15	kPa

Primary circuit

circuit's heat output	191	kW
max. working pressure	200	kPa
water volume in CHP unit circuit	146	dm^3

Fuel, Gas Inlet

low heat value	34	MJ/m^3
min. methane number	80	
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	14	kW
aspirated air temperature, min / max	-20/35	°C
amount of combustion air	336	Nm^3/h

Exhaust Gas and Condensate Outlet

amount of exhaust gases	356	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
speed of exhaust gases at the outlet (DN 150)	8	m/s

1) Valid for standard version (without economizer)

Lubricant Charges

amount of lubrication oil in the engine	70	dm^3
replenishment oil tank volume	125	dm^3

Noise Parameters

CHP unit in 10 m from container	55	dB(A)

Electrical Parameters

nominal voltage	230/400	V
nominal frequency	50	Hz
power factor [1)]	0,8	
nominal current at cos φ=0.8	240	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	315	A
recommended connection cable [2)] (length< 50m, at t<35°C)	NYY-J 3×150+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

engine, generator and internal parts of unit	RAL 7035 (grey)
container	RAL 5013 (blue)

Unit Dimensions and Weights[1)]

length total	5300	mm
width total	3550	mm
height total	6200	mm
service weight of the entire CHP unit	9285	kg

1) Approximate values

Caution

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