Imperial

Basic Technical Data

Nominal electrical output			285	kW
Maximum heat output [1)]			1,440,000	BTU/h

Load	60	75	100	%
Maximum heat power	863,000	1,184,000	1,440,000	BTU/h
Fuel input	1,873,000	2,071,000	2,624,000	BTU/h
Heat rate	10,955	9,690	9,207	BTU/kW$_e$
Electrical efficiency	31.1	35.2	37.0	%
Heat efficiency	61.6	57.2	54.8	%
Total efficiency (fuel utilization)	92.7	92.4	91.8	%
Gas consumption	2,052	2,267	2,878	cfh

The Basic Technical Data are applicable for the standard conditions pursuant to the "Technical instruction" document.
The minimum permanent electrical output must not drop below 60% of the nominal output.
Gas consumption is expressed under the the invoicing conditions (59°F, 14.648 psi, Low Heat Value 912.18 BTU/CF)
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 248°F

Metric

Basic Technical Data

Nominal electrical output			285	kW
Maximum heat output [1)]			422	kW

Load	60	75	100	%
Maximum heat power	253	347	422	kW
Fuel input	549	607	769	kW
Electrical efficiency	31,1	35,2	37,0	%
Heat efficiency	61,6	57,2	54,8	%
Total efficiency (fuel utilization)	92,7	92,4	91,8	%
Gas consumption	58,1	64,2	81,5	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) Maximum heat output is a sum of heat outputs of secondary circuit with exhaust gas cooled to 120°C

Emissions

emissions with 5% of O_2 in exhaust gases	NO_x	CO	
Standard	500	650	mg/Nm^3
Reduced*	250	300	mg/Nm^3
emissions with 15% of O_2 in exhaust gases	NO_x	CO	
Standard	0.7 (100)	0,9 (200)	g/bhp (ppm)
Reduced	0,4 (50)	0,4 (100)	g/bhp (ppm)

** Reduced NOx emissions are achieved by the engine adjustment, causing lower electrical efficiency, Reduced CO emissions are archived by additional oxicatalyst provided as an option.*
Lower emissions compliant with most stringent requirements in North America can be achieved with SCR

Generator

Type	LSA 46.3 L11	
Producer	LEROY SOMER	
Cos φ	1.0	
Efficiency in the working point	95.7	%
Voltage	480	V
Frequency	60	Hz

Engine

Type	E 3262 E 302	
Producer	MAN	
Combustion	stoichiometric	
Number of cylinders	12	
Arrangement of cylinders	V	
Bore × stroke	132/157	mm
Displacement	25780	cm^3
Compression ratio	12 : 1	
Speed	1800	min^{-1}
Oil consumption, normal / max.	0,23/0,42	g/kWh
Max. engine power	300	kW

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Thermal System

Secondary circuit

Heat carrier	water	
Total system heat recovery	1,440,000	BTU/h
Nominal water temperature, input / output	158/194	°F
Return water temperature, min / max	104/158	°F
Nominal flow rate	84.8	gpm
Max. working pressure	232,1	psi
Water volume in CHP unit circuit	10.6	gal
Pressure loss at the nominal flow rate	4.4	psi
Nominal temperature drop	68	°F

Utilization of exhaust gas output for other purposes

Heat output of exhaust gases (cooling to 248°F)	577,000	BTU/h
Exhaust gas temperature	1,105	°F

Primary circuit

Total system heat recovery	1,440,000	BTU/h
Max. working pressure	43.5	psi
Water volume in CHP unit circuit	72.1	gal

Fuel, Gas Inlet

Low heat value	912.18	BTU/CF
Min. methane number	80	
Gas pressure	0.3 – 1.4	psi
Max. pressure change under varying consumption	10	%
Max. gas temperature	95	°F

Thermal System

Secondary circuit

Heat carrier	water	
Total system heat recovery	422	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	5,3	kg/s
Max. working pressure	1600	kPa
Water volume in CHP unit circuit	40	dm^3
Pressure loss at the nominal flow rate	30	kPa

Utilization of exhaust gas output for other purposes

Heat output of exhaust gases (cooling to 120°C)	169	kW
Exhaust gas temperature	596	°C

Primary circuit

Total system heat recovery	422	kW
Max. working pressure	300	kPa
Water volume in CHP unit circuit	273	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	99,000	BTU/h
Aspirated air temperature, min / max	50/95	°F
Amount of combustion air	434	CFM
Max. amount of ventilation air at the outlet flange	4,303	CFM
Max. air temperature at the outlet flange	50	°C
Max. counter-pressure at the ventilation air offtake flange	95	Pa

Combustion and Ventilation Air

Unused heat removed by the ventilation air	29	kW
Aspirated air temperature, min / max	10/35	°C
Amount of combustion air	737	Nm^3/h
Max. amount of ventilation air at the outlet flange	7310	m^3/h
Max. air temperature at the outlet flange	50	°C
Max. counter-pressure at the ventilation air offtake flange	95	Pa

Exhaust Gas and Condensate Outlet

Amount of exhaust gases	461	CFM
Exhaust gas temperature, nominal / max	248/302	°F
Max. back-pressure of exhaust gases downstream the CHP unit flange	0.29	psi
Pressure loss of the freely delivered silencer	0.15	psi
Permissible pressure loss of the interconnecting exhaust piping	0.15	psi
Speed of exhaust gases at the outlet (DN 200)	17.7	m/s

Exhaust Gas and Condensate Outlet

Amount of exhaust gases	783	Nm^3/h
Exhaust gas temperature, nominal / max	120/150	°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 200)	17.7	m/s

Oil

Amount of lubrication oil in the engine	14.8	gal
Replenishment oil tank volume	33.0	gal

Oil

Amount of lubrication oil in the engine	56	dm^3
Replenishment oil tank volume	125	dm^3

Unit Dimensions and Weights*

Length total	194.9	in
Width	70.9	in
Height	92.6	in
Service weight of the entire CHP unit	14,772	lb

Unit Dimensions and Weights*

Length total	4950	mm
Width	1800	mm
Height	2350	mm
Service weight of the entire CHP unit	6700	kg

Noise Parameters

	Standard	Super Silent	
sound enclosure of CHP unit at 1m	78	65	dB(A)
ventilation outlet of sound enclosure at 1m	94	65	dB(A)
exhaust gases outlet at 1m from the silencer flange	65	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	480	V
Nominal frequency	60	Hz
Power factor	0,8C	
Nominal current at cos φ=0.8	429	A
Protection of switchboard's power part closed/open	IP 31/00	
Protection of switchboard's control part closed/open	IP 31/00	

Color Version

base frame	RAL 5015 (blue)
engine and generator	RAL 7035 (grey)
sound enclosure	RAL 5013 (blue)

Caution

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