

Imperial

Basic Technical Data

Nominal electrical output	555	kW		
Maximum heat output <sup>1)</sup>	2,477,000	BTU/h		
Load	60	75	100	%
Maximum heat power	1,778,000	1,938,000	2,477,000	BTU/h
Fuel input	3,228,000	3,764,000	4,886,000	BTU/h
Heat rate	9,693	9,042*	8,804	3TU/kW <sub>e</sub>
Electrical efficiency	35.2	37.8	38.8	%
Heat efficiency	55.0	52.5	53.8	%
Total efficiency (fuel utilization)	90.2	90.3	92.6	%
Gas consumption	3,531	4,131	5,367	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 and aftercooler circuit

Emissions

emissions with 5% of O <sub>2</sub> in exhaust gases	NO <sub>x</sub>	CO	
Standard	500	650	mg/Nm <sup>3</sup>
Reduced*	250	300	mg/Nm <sup>3</sup>
emissions with 15% of O <sub>2</sub> in exhaust gases	NO <sub>x</sub>	CO	
Standard	0.7 (100)	0.9 (200)	g/bhp (ppm)
Reduced	0.4 (50)	0.4 (100)	g/bhp (ppm)

\* Reduced NO<sub>x</sub> emissions are achieved by the engine adjustment, causing lower electrical efficiency, Reduced CO emissions are archived by additional oxycatalyst provided as an option.  
 Lower emissions compliant with most stringent requirements in North America can be achieved with SCR

Metric

Basic Technical Data

Nominal electrical output	555	kW		
Maximum heat output <sup>1)</sup>	726	kW		
Load	60	75	100	%
Maximum heat power	521	568	726	kW
Fuel input	946	1103	1432	kW
Electrical efficiency	35,2	37,8	38,8	%
Heat efficiency	55,0	51,5	50,7	%
Total efficiency (fuel utilization)	90,2	89,3	89,5	%
Gas consumption	100	117	152	m <sup>3</sup> /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 and aftercooler circuit

Generator

Type	LSA 49.3 M6		
Producer	LEROY SOMER		
Cos φ	1.0		
Efficiency in the working point	96.3	%	
Voltage	480	V	
Frequency	60	Hz	

Engine

Type	E 3262 LE202		
Producer	MAN		
Number of cylinders	12		
Arrangement of cylinders	V		
Bore × stroke	132/157	mm	
Displacement	25800	cm <sup>3</sup>	
Compression ratio	12 : 1		
Speed	1800	min <sup>-1</sup>	
Oil consumption.	0.32	g/kWh	
Max. engine power	580	kW	

E3262 LE202; NG;08.12.2017



## Thermal System

### Secondary circuit

Heat carrier	water	
Total system heat recovery	2,304,000	BTU/h
Nominal water temperature, input / output	158/194	°F
Nominal temperature drop	68	°F
Return water temperature, min / max	104/158	°F
Nominal flow rate	128.4	gpm
Max. working pressure	232,1	psi
Water volume in CHP unit circuit	14.8	gal
Pressure loss at the nominal flow rate	2.2	psi

### Utilization of exhaust gas output for other purposes

Heat output of exhaust gases (cooling to 248°F)	925,000	BTU/h
Exhaust gas temperature	748,4	°F

### Primary circuit

Total system heat recovery	2,303,000	BTU/h
Max. working pressure	43.5	psi
Water volume in CHP unit circuit	83.2	gal

### Aftercooler circuit

Heat carrier	water + ethylene glycol	
Ethylene glycol's concentration	35	%
Total system heat recovery	79,000	BTU/h
max coolant temperature at the input	107	°F
nominal flow rate	39.6	gpm
pressure reserve at the nominal flow rate	10.2	psi
max. working pressure	36.3	psi
water volume in CHP unit circuit	915	cui

## 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	676	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	8,1	kg/s
Max. working pressure	1600	kPa
Water volume in CHP unit circuit	56	dm <sup>3</sup>
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)	271	kW
Exhaust gas temperature	398	°C

### Primary circuit

Total system heat recovery	676	kW
Max. working pressure	300	kPa
Water volume in CHP unit circuit	315	dm <sup>3</sup>

### Aftercooler circuit

Heat carrier	water + ethylene glycol	
Ethylene glycol's concentration	35	%
Total system heat recovery	50	kW
max coolant temperature at the input	42	°C
nominal flow rate	2,4	kg/s
pressure reserve at the nominal flow rate	70	kPa
max. working pressure	250	kPa
water volume in CHP unit circuit	10	dm <sup>3</sup>

## Fuel, Gas Inlet

Low heat value	34	MJ/m <sup>3</sup>
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	198,000	BTU/h
Aspirated air temperature, min / max	50/95	°F
Amount of combustion air	1,360	CFM
Max. amount of ventilation air at the outlet flange	8,700	CFM
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	1,410	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)	30.1	m/s

### Oil

Amount of lubrication oil in the engine	23.8	gal
Replenishment oil tank volume	34.3	gal

### Unit Dimensions and Weights\*

Length total	194.9	in
Width	70.9	in
Height	92.5	in
Service weight of the entire CHP unit	21,607	lb

### Combustion and Ventilation Air

Unused heat removed by the ventilation air	58	kW
Aspirated air temperature, min / max	10/35	°C
Amount of combustion air	2300	Nm <sup>3</sup> /h
Max. amount of ventilation air at the outlet flange	14 800	m <sup>3</sup> /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	2400	Nm <sup>3</sup> /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)	30,1	m/s

### Oil

Amount of lubrication oil in the engine	90	dm <sup>3</sup>
Replenishment oil tank volume	130	dm <sup>3</sup>

### Unit Dimensions and Weights\*

Length total	4950	mm
Width	1800	mm
Height	2350	mm
Service weight of the entire CHP unit	9800	kg



## Noise Parameters

	Standard	Super Silent	
sound enclosure of CHP unit at 1m	80	65	dB(A)
ventilation outlet of sound enclosure at 1m	96	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 <sup>1)</sup>	0,8	
Nominal current at cos φ=0.8	835	A
Protection of switchboard's power part closed/open	IP 31/00	
Protection of switchboard's control part closed/open	IP 31/00	

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 [% P <sub>nom</sub> ]	100	100	98

## 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.

