

**Imperial**

**Basic Technical Data**

Nominal electrical output	93	kW		
Maximum heat output	506,325	BTU/h		
Load	50	75	100	%
Heat output	359,719	438,889	506,325	BTU/h
Fuel input	588,595	769,439	936,274	BTU/h
Heat rate	12,658	11,031	10,067	BTU/kW <sub>e</sub>
Electrical efficiency	26,9	30,9	33,9	%
Heat efficiency	61,1	57,0	54,0	%
Total efficiency (fuel utilization)	88,0	87,9	87,9	%
Gas consumption	645	843	1,026	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 50 % of the nominal output.*

*Gas consumption is expressed under the conditions (59°F, 14.648 psi, Low Heat Value 912.18 BTU/CF)*

**Observance of Emission Limits**

Emissions	CO	NOx	VOC	
At 15% of O <sub>2</sub> in exhaust gas	1.7	1.1	0.7	g/HP-hr

**Generator**

Used types	LSA 44.2 L12 LSA 44.3 L10
Producer	LEROY SOMER
Cos φ	1.0
Efficiency in the working point	94.2 %
Voltage	480 V
Frequency	60 Hz

**Metric**

**Basic Technical Data**

Nominal electrical output	93	kW		
Maximum heat output	148	kW		
Load	50	75	100	%
Heat output	105	128	148	kW
Fuel input	173	226	274	kW
Electrical efficiency	26,9	30,9	33,9	%
Heat efficiency	61,1	57,0	54,0	%
Total efficiency (fuel utilization)	88,0	87,9	87,9	%
Gas consumption	18,3	23,9	29,1	m <sup>3</sup> /h

*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 50 % of the nominal output.*

*Gas consumption is expressed under the conditions (15°C, 101.325 kPa, Low Heat Value 34MJ/m<sup>3</sup>)*

**Engine**

Type	TG 100 G8V NX 88
Producer	TEDOM
Number of cylinders	6
Arrangement of cylinders	In series
Bore × Stroke	130x150 mm
Displacement	729 cui
Compression ratio	12 : 1
Speed	1800 rpm
Oil consumption, normal / max.	0.3 / 0.5 g/kWh
Max. engine output	98,8 kW

*TG 100 G8V NX 86\_850; revision B: 10.1.2013*



**Thermal System**

**Secondary circuit**

Heat carrier	water	
Total system heat recovery	506,325	BTU/h
Nominal water temperature, input / output	158/194	°F
Return water temperature, min / max	104/158	°F
Nominal flow rate	28.5	GPM
Max. working pressure	87	psi
Water volume in CHP unit circuit	7.9	gal
Pressure loss at the nominal flow rate	3.6	psi
Nominal temperature drop	36	°F

**Primary circuit<sup>1)</sup>**

Total system heat recovery	506,325	BTU/h
Max. working pressure	36.3	psi
Water volume in CHP unit circuit	29.1	gal

*1) Parameters are valid if the dry cooler (optional) is part of delivery*

**Fuel, Gas Inlet**

Low heat value	912.18	BTU/CF
Min. methane number	80	
Gas pressure	0.7 – 1.4	psi
Max. pressure change under varying consumption	10	%
Max. gas temperature	95	°F

**Combustion and Ventilation Air**

Unused heat removed by the ventilation air	57,072	BTU/h
Amount of combustion air	249	CFM
outdoor air temperature, min / max	-68/95	°F

**Thermal System**

**Secondary circuit**

Heat carrier	water	
Total system heat recovery	148	kW
Nominal water temperature, input / output	70/90	°C
Return water temperature, min / max	40/70	°C
Nominal flow rate	1,8	kg/s
Max. working pressure	600	kPa
Water volume in CHP unit circuit	30	dm <sup>3</sup>
Pressure loss at the nominal flow rate	25	kPa
Nominal temperature drop	20	°C

**Primary circuit<sup>1)</sup>**

Total system heat recovery	148	kW
Max. working pressure	250	kPa
Water volume in CHP unit circuit	110	dm <sup>3</sup>

*1) Parameters are valid if the dry cooler (optional) is part of delivery*

**Fuel, Gas Inlet**

Low heat value	34	MJ/m <sup>3</sup>
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	17	kW
Amount of combustion air	423	Nm <sup>3</sup> /h
outdoor air temperature, min / max	-20/35	°C



**Exhaust Gas and Condensate Outlet**

Amount of exhaust gases	264	CFM
Exhaust gas temperature, nominal / max	248/302	°F
Max. back-pressure of exhaust gases downstream the CHP unit flange	0.14	psi
Speed of exhaust gases at the outlet (DN 125)	11,0	m/s

**Oil**

Amount of lubrication oil in the engine	14.8	gal
Replenishment oil tank volume	33.1	gal

**Unit Dimensions and Weights\***

Length total / transport	212.5 / 196.8	in
Width	98.4	in
Height total / transport	267.7 / 104.7	in
Service weight of the entire CHP unit	18,222	lb

\* Approximate values

**Exhaust Gas and Condensate Outlet**

Amount of exhaust gases	448	Nm <sup>3</sup> /h
Exhaust gas temperature, nominal / max	120/150	°C
Max. back-pressure of exhaust gases downstream the CHP unit flange	10	mbar
Speed of exhaust gases at the outlet (DN 125)	11,0	m/s

**Oil**

Amount of lubrication oil in the engine	56	dm <sup>3</sup>
Replenishment oil tank volume	125	dm <sup>3</sup>

**Unit Dimensions and Weights\***

Length total / transport	5400 / 5000	mm
Width	2500	mm
Height total / transport	6800 / 2660	mm
Service weight of the entire CHP unit	8 265	kg

\* Approximate values



### Noise Parameters

CHP unit in 10 m from container	62	dB(A)
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### Electrical Parameters

Nominal voltage	480	V
Nominal frequency	60	Hz
Power factor	0,8C	
Nominal current at $\cos \varphi=0.8$	140	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

engine, generator and internal parts of unit	RAL 5015 (blue)
container	RAL 5013 (blue)

### Caution

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

