

September 2024

**2 MW Containerised MTU 16V4000L64F Natural Gas Gensets**

Complete Plug&Play genset powered by **MTU 16V4000L64FNER**



**Capacity:** 2,026 MW

**Fuel:** Natural Gas

**Year:** Genset 2020, Container 2022

**Hours:** 0

**Voltage:** 11,000 V

**Frequency:** 50 Hz

**Scope of supply:** Container - Engine, Alternator, Base frame, Gas Line, MIP & MCS Control System, Radiator, Fire Alarm System, Gas Alarm System.

**Warranty:** 1 year.

**Available:** immediately.

Technical data sheets for each version are attached below.



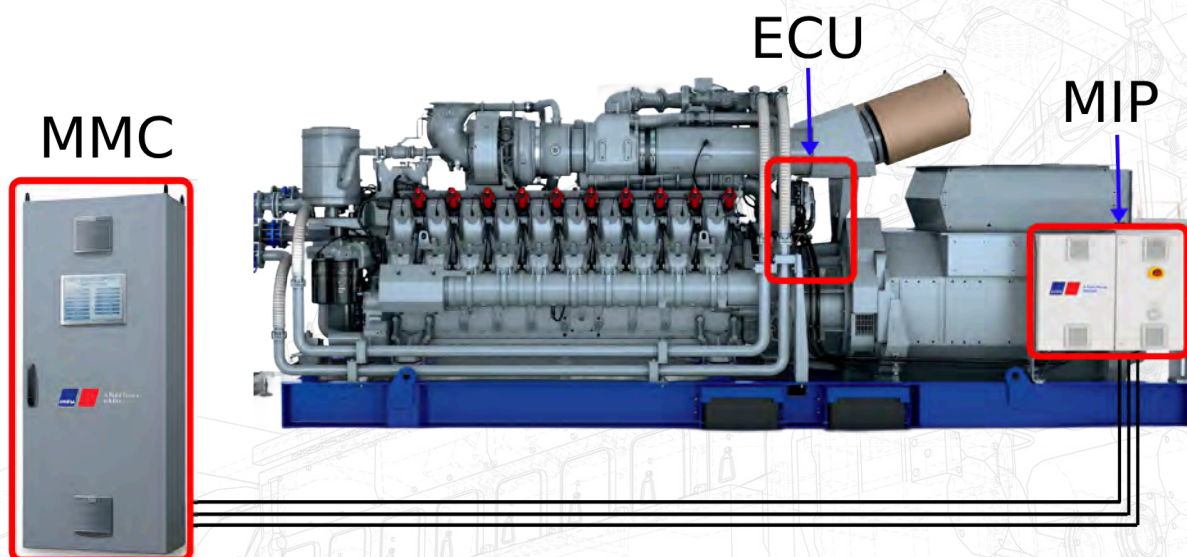
## Automation systems MIP & MMC

Motor interface panel (MIP) with standalone mtu Module Control (MMC). The MMC provides all the functions necessary for controlling the system. All the auxiliary drives required for the CHP system can be operated from here. The integrated power circuitry minimizes the customer's need for cabling on site.

- Provides customizable control and regulation of CHP units.
- Continuously monitors system performance and detects faults.
- Offers protective features to prevent damage and ensure safety.
- User-friendly interface for easy operation and maintenance.
- Enhances reliability and efficiency of the system.
- Interface to Engine Control Unit (ECU)

### The most important features are:

- Drive and control via PLC (programmable logic controller)
- Operation and visualization on industrial PC with color touch-screen panel
- Visual display of all functional processes and controls
- Supports additional controls (CH4, gas tank, heat production/storage, power usage)
- Networking of multi-module systems via Ethernet
- Connectivity with master control system
- Wide choice of interface protocols (Ethernet, Profibus DP, Modbus RTU/TCP, Profinet)
- Logs all fault and status messages in a database (up to six months)
- Optional remote diagnostics via DSL/ISDN
- Optional SMS/email integration for fault notifications and daily meter reports



**Container:** 40FT High Cube Acoustic Container

- Dimensions: (L×W×H) mm 12,192 x 2,438 x 7,000
- Weight: (kg) 35,700

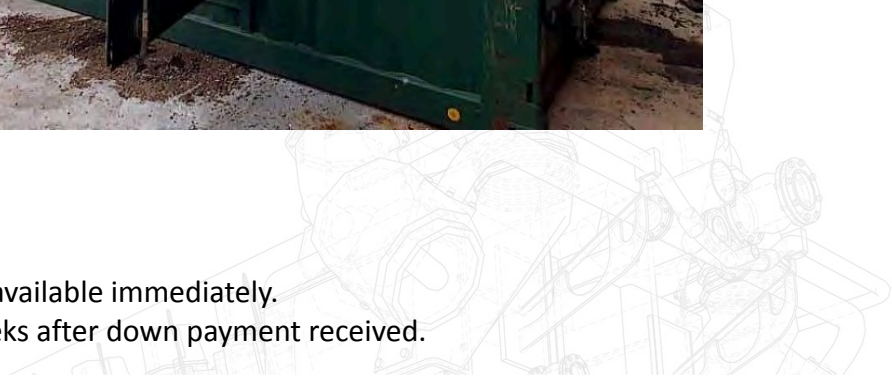
**Radiator:** Cooling system for engine and mixture cooling circuit (electricity generation only)



Subject to availability.

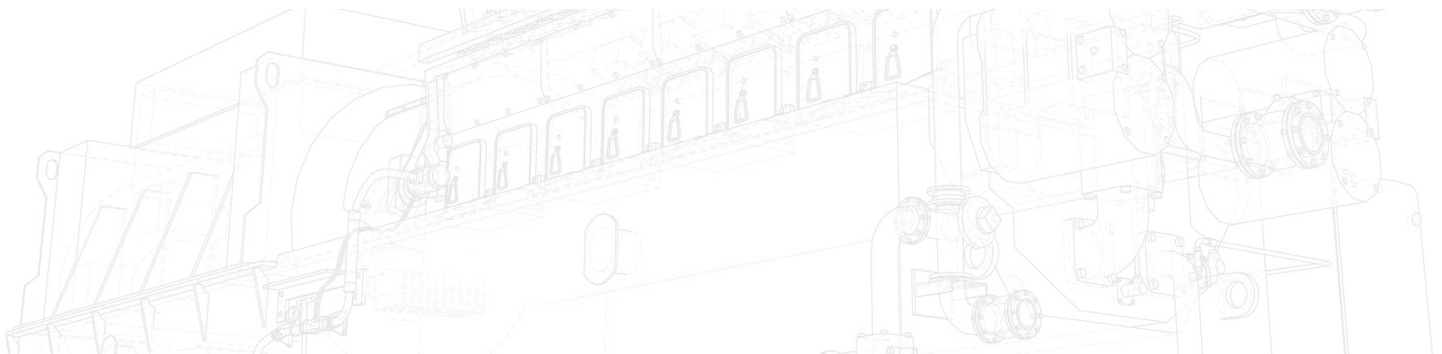
Containerised generator sets in stock available immediately.

Cooling radiator is available 6 to 8 weeks after down payment received.




**Scope of Supply Origin:**

NO.	NAME	MODEL	SPECIFICATION	BRAND	QTY	Country of Origin
1.	Container	40HQ/12192*2438*2896	40' ISO HQ	VPOWER	1	China
2.	Engine	16V4000L64FNER	2080 bkW 1500rpm	MTU	1	Germany
3.	Pre-lubrication pump	MTU Standard	P=5.5KW	MTU	1	European
4.	MCS	VPower	Controller	ComAp	1	China
5.	MIP	MIP4000	MTU interface panel	MTU	1	European
6.	Gas Regulation Line	MTU Standard	Gas Regulation	MTU	1	European
7.	Alternator	HVSI804T	11kV /50Hz Double Bearing	STAMFORD	1	European
8.	Exhaust Silencer	VPower	Silencing system	VPOWER	1	China
9.	Radiator	TBA	Flatbed type with 8 cooling fans	GUNTNER or Equivalent	1	Indonesia
10.	LT Water Pump	TP65-250/2 A-F-A-BQQV	4kW/400V 50Hz	GRUNDFOS	1	China
11.	HT Water Pump	TP65-720/2 A-F-A-BQQV	22kW/400V 50Hz	GRUNDFOS	1	China
12.	LT Pressure Tank	100L-1.0Mpa-130°C	VPower	BESTANK	1	China
13.	HT Pressure Tank	200L-1.0Mpa-130°C	VPower	BESTANK	1	China
14.	Air Exhausting Fan	PMSWF150L85P10-810H-710 B	2.8kW/380V 50Hz	MAER	2	China
15.	Starting Battery	D31A	75Ah DC12V	OPTIMA	4	China
16.	Battery Charger	SITOP PSU300B	2kW/400V 50Hz	Siemens	2	China





## Example Engine Plate Photo



**Stromerzeugungsaggregat nach ISO 8528**  
**Genset acc. to ISO 8528**

Leistungsangaben nach ISO-Standard-Leistung ISO 3046-1 nicht überlastbar  
 Luftdruck (Gesamtdruck)  $p_r = 100 \text{ kPa}$  (100  $\bar{m}$  N.N.)  
 Lufttemperatur (am Luftfiltereintritt)  $T_i = 298 \text{ K}$  ( $t_i = 25^\circ\text{C}$ )  
 Relative Luftfeuchte  $\Phi = 30\%$   
 Standard reference conditions ISO standard power ISO 3046-1 no overload  
 Total barometric pressure  $p_r = 100 \text{ kPa}$  (100  $\text{m a. s. l.}$ )  
 Air temperature  $T_i = 298 \text{ K}$  ( $t_i = 25^\circ\text{C}$ )  
 Relative humidity  $\Phi = 30\%$

Typ Type	MTU 16V4000 GS
Modul- / Aggregat - Nr. Module / Genset No.	
Baujahr Year of Manufacture	2020
Gewicht mit / ohne Betriebsstoffe [kg] Weight with / without fluids and lubricants [kg]	17700 / 17000
Elektrische Leistung COP [kW] Electrical Power COP [kW]	2026
Performance Klasse nach ISO 8528-1 Performance Class acc. to ISO 8528-1	G3
Nennspannung [V] Nominal Voltage [V]	11000
Nennfrequenz [Hz] Nominal Frequency [Hz]	50
Max. Außentemperatur [°C] Max. outdoor temperature [°C]	30
Nennleistungsfaktor $\cos \varphi$ induktiv / kapazitiv Nominal Rated Power Factor $\cos \varphi$ inductive / capacitive	0.8 / 0.95
Max. Aufstellhöhe [m $\bar{u}$ NN] Max. installation height [m a.s.l.]	100
<b>Wärmeauskopplung nach DIN 6280</b> <b>Heat extraction to DIN 6280</b>	
Thermische Nennleistung [kW] Thermal output [kW]	1215
Zulässige Heizwassertemperatur Eintritt / Austritt [°C] Admissible heating water temperature inlet / outlet [°C]	76 / 91
Zulässiger Betriebsdruck im Heizwasserkreis [bar] Admissible operating pressure in heating water circuit [bar]	
<b>MTU Onsite Energy GmbH</b> Dasinger Str. 11 D - 86166 Augsburg	

Technical Data Sheet

MTU 16V4000 GS



Voltage / Frequency  
 Cooling water temperature (in / out)  
 NOx emissions (dry, 5 % O<sub>2</sub>)  
 Mixture cooler 1st stage water temperature (in)  
 Mixture cooler 2nd stage water temperature (in)  
 Exhaust gas temperature  
 Catalytic converter  
 Special equipment  
 Elevation above sea level  
 Combustion air temperature  
 Relative combustion air humidity  
 Standard specifications and regulations

V / Hz	11000	/	50
°C		76 / 91	
mg/m <sup>3</sup> i.N.		< 250	
°C		43	
°C		411	
		not included	
		Fast start capability 120s	
m / mbar	100	/	1000
°C		25	
%		30	
		VDE-AR-N 4110	

<b>Energy balance</b>	%	100	75	50
Electrical Power <sup>2) 3)</sup>	kW	2026	1520	1013
Energy input <sup>4) 5)</sup>	kW	4834	3688	2566
Thermal output total <sup>6)</sup>	kW	1215	883	600
Thermal output engine (block, lube oil, 1st stage mixture cooler) <sup>6)</sup>	kW	1215	883	600
Thermal output mixture cooler 1st stage <sup>6)</sup>	kW			
Thermal output mixture cooler 2nd stage <sup>6)</sup>	kW	170	116	74
Exhaust heat ( 120 °C ) <sup>6)</sup>	kW	( 995 )	( 840 )	( 663 )
Engine power ISO 3046-1 <sup>2)</sup>	kW	2080	1561	1045
Generator efficiency at power factor = 1	%	97.4	97.4	96.9
Electrical efficiency <sup>4)</sup>	%	41.9	41.2	39.5
Total efficiency	%	87.6	87.9	88.7
Power consumption <sup>7)</sup>	kW			

<b>Combustion air / Exhaust gas</b>				
Combustion air volume flow <sup>1)</sup>	m <sup>3</sup> i.N./h	8090	6062	4041
Combustion air mass flow	kg/h	10447	7829	5218
Exhaust gas volume flow, wet <sup>1)</sup>	m <sup>3</sup> i.N./h	8496	6374	4259
Exhaust gas volume flow, dry <sup>1)</sup>	m <sup>3</sup> i.N./h	7600	5690	3783
Exhaust gas mass flow, wet	kg/h	10801	8101	5408
Exhaust temperature after turbocharger	°C	411	447	503

<b>Reference fuel <sup>8)</sup></b>				
Natural gas			CH <sub>4</sub> >95 Vol.%	
Sewage gas			not applicable	
Biogas			not applicable	
Landfill gas			not applicable	

<b>Fuel requirements <sup>9)</sup></b>				
Minimum methane number	MN		72	
Range of heating value: design / operation range without power derating	kWh/m <sup>3</sup> i.N.		10.0 - 10.5 / 8.0 - 11.0	

<b>Exhaust gas emissions <sup>5) 8)</sup> Compliance with emissions standards only for ≥ 1013 kWel</b>				
NOx, stated as NO <sub>2</sub> (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 250		
CO (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 1000		
HCHO (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 120		
VOC (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.			

<b>Otto-gas engine, lean burn operation with turbocharging</b>				
Number of cylinders / configuration		16	/	V
Engine type			16V4000L64FNER	
Engine speed	1/min		1500	
Bore	mm		170.0	
Stroke	mm		210.0	
Displacement	dm <sup>3</sup>		76.3	
Mean piston speed	m/s		10.5	
Compression ratio			12.5	
BMEP at nominal engine speed min-1	bar	21.8		
Lube oil consumption <sup>10)</sup>	dm <sup>3</sup> /h	0.35		
Exhaust back pressure min. - max. after module	mbar - mbar		30 - 60	

<b>Generator</b>				
Rating power (temperature rise class F) <sup>11)</sup>	kVA		2840	
Insulation class / temperature rise class			F / F	
Winding pitch			2/3	
Protection			IP 23	
Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) <sup>12)</sup>			0.8 / 0.95	
Voltage tolerance / frequency tolerance	%		± 10 / ± 5	

<b>Engine cooling water system</b>				
Coolant temperature (in / out), design	°C	76 / 91		
Coolant flow rate, constant <sup>13) 14)</sup>	m <sup>3</sup> /h	75.5		
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	bar / m <sup>3</sup> /h	2.94	44.7
Max. operation pressure (coolant before engine)	bar		6.0	

<b>Exhaust gas heat exchanger (EGHE)</b>				
Exhaust gas temperature (out)	°C			
Coolant temperature (in / out), design	°C			
Coolant volumetric flow, constant <sup>13) 14)</sup>	m <sup>3</sup> /h			
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	kPa / m <sup>3</sup> /h	/	
Min. coolant flow rate / min. operation gauge pressure	m <sup>3</sup> /h / bar		/	
Max. operation pressure (coolant water)	bar			

<b>Mixture cooler 1st stage, external</b>				
Coolant temperature (in / out), design	°C			
Coolant volumetric flow, design, constant <sup>13) 14)</sup>	m³/h			
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	bar / m³/h	/	
Min. coolant flow rate / min. operation gauge pressure	m³/h / bar		/	
Max. operation pressure before mixture cooler	bar			
<b>Mixture cooling 2nd stage, external</b>				
Coolant temperature (in / out), design	°C	43 / 47.6		
Coolant volumetric flow, design, constant <sup>13) 14)</sup>	m³/h	34.3		
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	bar / m³/h	0.6	/ 45.3
Max. operation pressure before mixture cooler	bar		6	
<b>Heating circuit interface</b>				
Engine coolant temperature (in / out), design	°C			
Heating water temperature (in / out), design	°C			
Heating water flow rate, design <sup>14) 16)</sup>	m³/h			
Pressure drop, design <sup>14)</sup>	Cv value <sup>15) 16)</sup>	bar / m³/h	/	
Max. operation gauge pressure (heating water)	bar			
<b>Room ventilation</b>				
Genset ventilation heat <sup>17)</sup>	kW		120	
Inlet air temperature: (min./design/max.)	°C		20 / 25 / 30.0	
Min. engine room temperature <sup>18)</sup>	°C		15	
Max. temperature difference ventilation air (in / out)	K		20	
Min. supply air volume flow rate (combustion + ventilation) <sup>19)</sup>	m³ i.N./h		25000	
<b>Gearbox</b>	%	<b>100</b>	<b>75</b>	<b>50</b>
Efficiency	%	-	-	-
<b>Starter battery</b>				
Nominal voltage / power / capacity required	V / kW / Ah		24 / 2 x 9 / --	
<b>Filling quantities</b>				
Lube oil for engine	dm³		330	
Coolant in engine	dm³		270	
Coolant in mixture cooler	dm³		25	
Heating water for plate heat exchanger <sup>20)</sup>	dm³			
Lube oil for gearbox	dm³			
<b>Gas regulation line</b>				
Nominal size / gas pressure min. - max. (at gas regulation line inlet)	DN / mbar - mbar	100	/	155 - 250
<b>Engine sound level <sup>21)</sup> (1 meter distance, free field) +3 dB(A) for total A-weighted level tolerance; + 5 dB for single octave level</b>				
Frequency	Hz	<b>63</b>	<b>125</b>	<b>250</b>
Sound pressure level	dB	84.8	90.5	90.0
Frequency	Hz	<b>1000</b>	<b>2000</b>	<b>4000</b>
Sound pressure level	dB	92.5	91.8	99.2
Linear total sound pressure level	Lin dB	104.8		
A-weighted total sound pressure level	dB(A)	104.4		
A-weighted total sound power level	dB(A)	124.1		
<b>Undampened exhaust noise <sup>21)</sup> (1 meter distance to outlet within 90°, free field) +3 dB(A) for total A-weighted level tolerance; + 5 dB for single octave level</b>				
Frequency	Hz	<b>63</b>	<b>125</b>	<b>250</b>
Sound pressure level	dB	113.9	119.8	111.9
Frequency	Hz	<b>1000</b>	<b>2000</b>	<b>4000</b>
Sound pressure level	dB	97.1	96.8	94.0
Linear total sound pressure level	Lin dB	121.6		
A-weighted total sound pressure level	dB(A)	108.0		
A-weighted total sound power level	dB(A)	121.0		
<b>Dimensions (aggregate)</b>				
Length	mm		~ 5300	
Width	mm		~ 2000	
Height	mm		~ 2300	
Gross weight (dry weight)	kg		~ 17700 (~ 17000)	
<b>Power derating</b>				
Elevation			specific to the project	
Combustion air temperature			specific to the project	
Mixture cooler coolant temperature (in)			specific to the project	
Methane number			specific to the project	
<b>Boundary conditions and consumables</b>				
Systems and consumables have to conform to the following actual company standards:			A001072	
<ol style="list-style-type: none"> <li>1) Normal cubic meter at 1013 mbar and T = 273 K</li> <li>2) Prime power operation will be designed specific to the project</li> <li>3) Generator gross power at nominal voltage, power factor = 1 and nominal frequency</li> <li>4) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at nominal voltage, power factor = 1 and nominal frequency</li> <li>5) Emission values during grid parallel operation</li> <li>6) Thermal output at layout temperature; tolerance +/- 8 %</li> <li>7) Power consumption of all electrical consumers which are mounted at the module / genset</li> <li>8) Deviations from the layout parameters respectively the reference fuel can have influence on the obtained efficiency and exhaust emissions</li> <li>9) Functional capability</li> <li>10) Reference value at nominal load (without amount of oil exchange)</li> <li>11) Generator (at nominal power) max. 1000 m height of location and max. 40 °C intake air temperature; else power derating</li> <li>12) Max. allowable cos phi at nominal power (view of producer)</li> <li>13) Stated values for cooling fluid composition 65% water and 35% glycol, adaption for use of other cooling fluid composition necessary The system design must consider the tolerance.</li> <li>14) Pressure loss at reference flow rate</li> <li>15) The Cv value declares the volumetric flow in m³/h at a pressure drop of 1 bar. Min. and max. flow rate limits are defined.</li> <li>16) Stated values for pure water, adaption for other cooling fluid composition necessary</li> <li>17) Only generator- and surface losses</li> <li>18) Frost-free conditions must be guaranteed</li> <li>19) Amount of ventilation air must be adapted to the gas safety concept</li> <li>20) Assemblies including pipe work</li> <li>21) All sound pressure levels at nominal load, according to ISO 8528-10 and ISO 6798. Resonance effects of the connected exhaust line can influence the exhaust noise sound pressure level</li> <li>22) Max. admissible cos phi depending on voltage in accordance with the requirements of the valid 'Standard specifications and regulations'</li> </ol>				

Voltage / Frequency	V / Hz	11000	/	50
Cooling water temperature (in / out)	°C		78 / 92	
NOx emissions (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.		< 500	
Mixture cooler 1st stage water temperature (in)	°C			
Mixture cooler 2nd stage water temperature (in)	°C		58	
Exhaust gas temperature	°C		421	
Catalytic converter			not included	
Special equipment			SRD	
Elevation above sea level	m / mbar	100	/	1000
Combustion air temperature	°C		35	
Relative combustion air humidity	%		60	
Standard specifications and regulations				

<b>Energy balance</b>	%	100	75	50
Electrical Power <sup>2) 3)</sup>	kW	2026	1520	1013
Energy input <sup>4) 5)</sup>	kW	4622	3524	2444
Thermal output total <sup>6)</sup>	kW	1173	871	601
Thermal output engine (block, lube oil, 1st stage mixture cooler) <sup>6)</sup>	kW	1173	871	601
Thermal output mixture cooler 1st stage <sup>6)</sup>	kW			
Thermal output mixture cooler 2nd stage <sup>6)</sup>	kW	93	53	24
Exhaust heat ( 120 °C ) <sup>6)</sup>	kW	( 974 )	( 806 )	( 606 )
Engine power ISO 3046-1 <sup>2)</sup>	kW	2080	1561	1045
Generator efficiency at power factor = 1	%	97.4	97.4	96.9
Electrical efficiency <sup>4)</sup>	%	43.8	43.1	41.4
Total efficiency	%	90.3	90.7	90.9
Power consumption <sup>7)</sup>	kW			

<b>Combustion air / Exhaust gas</b>				
Combustion air volume flow <sup>1)</sup>	m <sup>3</sup> i.N./h	7673	5737	3876
Combustion air mass flow	kg/h	9909	7409	5006
Exhaust gas volume flow, wet <sup>1)</sup>	m <sup>3</sup> i.N./h	8064	6035	4083
Exhaust gas volume flow, dry <sup>1)</sup>	m <sup>3</sup> i.N./h	7207	5382	3631
Exhaust gas mass flow, wet	kg/h	10250	7669	5187
Exhaust temperature after turbocharger	°C	421	452	487

<b>Reference fuel <sup>8)</sup></b>				
Natural gas			CH <sub>4</sub> >95 Vol.%	
Sewage gas			not applicable	
Biogas			not applicable	
Landfill gas			not applicable	

<b>Fuel requirements <sup>9)</sup></b>				
Minimum methane number	MN		80	
Range of heating value: design / operation range without power derating	kWh/m <sup>3</sup> i.N.		10.0 - 10.5 / 8.0 - 11.0	

<b>Exhaust gas emissions <sup>5) 8)</sup> Compliance with emissions standards only for ≥ 1013 kWel</b>				
NOx, stated as NO <sub>2</sub> (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 500		
CO (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 800		
HCHO (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.	< 75		
VOC (dry, 5 % O <sub>2</sub> )	mg/m <sup>3</sup> i.N.			

<b>Otto-gas engine, lean burn operation with turbocharging</b>				
Number of cylinders / configuration		16	/	V
Engine type			16V4000L64FNER	
Engine speed	1/min		1500	
Bore	mm		170.0	
Stroke	mm		210.0	
Displacement	dm <sup>3</sup>		76.3	
Mean piston speed	m/s		10.5	
Compression ratio			12.5	
BMEP at nominal engine speed min-1	bar	21.8		
Lube oil consumption <sup>10)</sup>	dm <sup>3</sup> /h	0.35		
Exhaust back pressure min. - max. after module	mbar - mbar		30 - 60	

<b>Generator</b>				
Rating power (temperature rise class F) <sup>11)</sup>	kVA		2840	
Insulation class / temperature rise class			F / F	
Winding pitch			2/3	
Protection			IP 23	
Max. allowable p.f. inductive (overexcited) / capacitive (underexcited) <sup>12)</sup>			0.8 / 1.0	
Voltage tolerance / frequency tolerance	%		± 5 / ± 5	

<b>Engine cooling water system</b>				
Coolant temperature (in / out), design	°C	78 / 92		
Coolant flow rate, constant <sup>13) 14)</sup>	m <sup>3</sup> /h	78.1		
Pressure drop, design <sup>14)</sup>	bar / m <sup>3</sup> /h	3.15	/	44.7
Max. operation pressure (coolant before engine)	bar		6.0	

<b>Exhaust gas heat exchanger (EGHE)</b>				
Exhaust gas temperature (out)	°C			
Coolant temperature (in / out), design	°C			
Coolant volumetric flow, constant <sup>13) 14)</sup>	m <sup>3</sup> /h			
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup> kPa / m <sup>3</sup> /h		/	
Min. coolant flow rate / min. operation gauge pressure	m <sup>3</sup> /h / bar		/	
Max. operation pressure (coolant water)	bar			



<b>Mixture cooler 1st stage, external</b>					
Coolant temperature (in / out), design	°C				
Coolant volumetric flow, design, constant <sup>13) 14)</sup>	m³/h				
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	bar / m³/h	/		
Min. coolant flow rate / min. operation gauge pressure	m³/h / bar		/		
Max. operation pressure before mixture cooler	bar				
<b>Mixture cooling 2nd stage, external</b>					
Coolant temperature (in / out), design	°C	58 / 60.5			
Coolant volumetric flow, design, constant <sup>13) 14)</sup>	m³/h	34.3			
Pressure drop, design <sup>14)</sup>	Cv value <sup>13) 15)</sup>	bar / m³/h	0.48	/	50.6
Max. operation pressure before mixture cooler	bar			6	
<b>Heating circuit interface</b>					
Engine coolant temperature (in / out), design	°C				
Heating water temperature (in / out), design	°C				
Heating water flow rate, design <sup>14) 16)</sup>	m³/h				
Pressure drop, design <sup>14)</sup>	Cv value <sup>15) 16)</sup>	bar / m³/h	/		
Max. operation gauge pressure (heating water)	bar				
<b>Room ventilation</b>					
Genset ventilation heat <sup>17)</sup>	kW			117	
Inlet air temperature: (min./design/max.)	°C			30 / 35 / 40.0	
Min. engine room temperature <sup>18)</sup>	°C			15	
Max. temperature difference ventilation air (in / out)	K			20	
Min. supply air volume flow rate (combustion + ventilation) <sup>19)</sup>	m³ i.N./h			24000	
<b>Gearbox</b>	%	100	75	50	
Efficiency	%	-	-	-	
<b>Starter battery</b>					
Nominal voltage / power / capacity required	V / kW / Ah			24 / 2 x 9 / --	
<b>Filling quantities</b>					
Lube oil for engine	dm³			330	
Coolant in engine	dm³			270	
Coolant in mixture cooler	dm³			25	
Heating water for plate heat exchanger <sup>20)</sup>	dm³				
Lube oil for gearbox	dm³				
<b>Gas regulation line</b>					
Nominal size / gas pressure min. - max. (at gas regulation line inlet)	DN / mbar - mbar	100	/	150 - 250	
<b>Engine sound level <sup>21)</sup> (1 meter distance, free field) +3 dB(A) for total A-weighted level tolerance; + 5 dB for single octave level</b>					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	84.8	90.5	90.0	93.0
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	92.5	91.8	99.2	101.4
Linear total sound pressure level	Lin dB	104.8			
A-weighted total sound pressure level	dB(A)	104.4			
A-weighted total sound power level	dB(A)	124.1			
<b>Undampened exhaust noise <sup>21)</sup> (1 meter distance to outlet within 90°, free field) +3 dB(A) for total A-weighted level tolerance; + 5 dB for single octave level</b>					
Frequency	Hz	63	125	250	500
Sound pressure level	dB	113.9	119.8	111.9	104.5
Frequency	Hz	1000	2000	4000	8000
Sound pressure level	dB	97.1	96.8	94.0	83.9
Linear total sound pressure level	Lin dB	121.6			
A-weighted total sound pressure level	dB(A)	108.0			
A-weighted total sound power level	dB(A)	121.0			
<b>Dimensions (aggregate)</b>					
Length	mm			~ 5300	
Width	mm			~ 2000	
Height	mm			~ 2300	
Gross weight (dry weight)	kg			~ 17700 (~ 17000)	
<b>Power derating</b>					
Elevation				specific to the project	
Combustion air temperature				specific to the project	
Mixture cooler coolant temperature (in)				specific to the project	
Methane number				specific to the project	
<b>Boundary conditions and consumables</b>					
Systems and consumables have to conform to the following actual company standards:				A001072	
<p>1) Normal cubic meter at 1013 mbar and T = 273 K</p> <p>2) Prime power operation will be designed specific to the project</p> <p>3) Generator gross power at nominal voltage, power factor = 1 and nominal frequency</p> <p>4) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at nominal voltage, power factor = 1 and nominal frequency</p> <p>5) Emission values during grid parallel operation</p> <p>6) Thermal output at layout temperature; tolerance +/- 8 %</p> <p>7) Power consumption of all electrical consumers which are mounted at the module / genset</p> <p>8) Deviations from the layout parameters respectively the reference fuel can have influence on the obtained efficiency and exhaust emissions</p> <p>9) Functional capability</p> <p>10) Reference value at nominal load (without amount of oil exchange)</p> <p>11) Generator (at nominal power) max. 1000 m height of location and max. 40 °C intake air temperature; else power derating</p> <p>12) Max. allowable cos phi at nominal power (view of producer)</p> <p>13) Stated values for cooling fluid composition 65% water and 35% glycol, adaption for use of other cooling fluid composition necessary The system design must consider the tolerance.</p> <p>14) Pressure loss at reference flow rate</p> <p>15) The Cv value declares the volumetric flow in m³/h at a pressure drop of 1 bar. Min. and max. flow rate limits are defined.</p> <p>16) Stated values for pure water, adaption for other cooling fluid composition necessary</p> <p>17) Only generator- and surface losses</p> <p>18) Frost-free conditions must be guaranteed</p> <p>19) Amount of ventilation air must be adapted to the gas safety concept</p> <p>20) Assemblies including pipe work</p> <p>21) All sound pressure levels at nominal load, according to ISO 8528-10 and ISO 6798. Resonance effects of the connected exhaust line can influence the exhaust noise sound pressure level</p> <p>22) Max. admissible cos phi depending on voltage in accordance with the requirements of the valid 'Standard specifications and regulations'</p>					