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NATURAL GAS COGENERATING UNIT WITH SPARK IGNITION ENGINE

MARTIN POWER MTU

Cogenerating unit model	MP 1100 M - CU
Electric power @ cos phi 0.8	1046 kVA / 836 kW
Electric power @ cos phi 1.0	**854 kW**
Energy input in fuel [3]	**1993 kW**
Gas consumption (min/max) @ 9,6 kWh/m^3	113/208 m^3/h
Thermal power from engine cooling	443 kW
HT-stage intercooler thermal power	included in engine cooling
Lube oil cooling thermal power	included in engine cooling
LT-stage intercooler thermal power [1]	49 kW
Thermal power from exhaust	448 kW
Thermal power on the output [2]	**940 kW**
Electric power efficiency	**42,8%**
Thermal power efficiency	47,2%
Total efficiency	**90,0%**
Current	1540 A
Control panel current	1600 A
Speed	1500 min^{-1}

Engine model	**8V 4000 L33**
Nominal power	880 kW
Intake	turbocharged with intercooler
Speed governor	electronic
Cylinders	8V
Bore	170 mm
Stroke	210 mm
Displacement	38,1 dm^3
Compression ratio	12,8:1
Ignition sequence	1-5-7-2-6-3-4-8
Ignition timing	fixed
Lambda	lean burn
Intake air temperature	25 ℃
Combustion air temperature (min/max)	20/30 ℃
Air mass flow	4511 kg/h
Exhaust gas flow	4524 kg/h
Max. back pressure at exhaust	6 kPa
Max. exhaust temperature (@ rated power)	443 ℃
Radiated heat	58 kW
Specific gas consumption	175 g/kWh
Gas consumption (CH_4) @ 100% load	149 kg/h
Gas consumption (CH_4) @ 75% load	115 kg/h
Gas consumption (CH_4) @ 50% load	80 kg/h
Engine oil volume	160 l
Engine oil consumption	0,2 l/h
Coolant volume (CHP)	150 l (engine only)
Coolant pressure (max)	6 bar
Minimal coolant flow through engine	35 m^3/h
Coolant temperature - engine (in/out)	78/90 ℃
Coolant temperature - CHP (in/out)	78/103 ℃
Heating water temperature (in/out)	70/90 ℃
Heating water flow rate	40 m^3/h
LT stage intercooler temperature (in/out)	40/42 ℃
LT stage intercooler coolant flow	22 m^3/h
Battery voltage	24 V
Starter	9 kW
Battery	4 x 170 Ah

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NATURAL GAS COGENERATING UNIT WITH SPARK IGNITION ENGINE

MARTIN POWER MTU

Cogenerating unit model	MP 1100 M - CU
Generator manufacturer	**STAMFORD**
Generator model	**PI 734C**
Nominal power	1550 kVA
F class power	1445 kVA
Protection	IP 23
Voltage regulation	electronic
Voltage precission	1,5 %
Emissions [4]	@ 5% O_2
NO_x	500 mg/Nm^3
CO	300 mg/Nm^3 (with OxiCat)
HCHO	60 mg/Nm^3
Open genset	
Length	4200 mm
Width	2000 mm
Height	2400 mm
Weight	9500 kg
Open CHP version	
Length	5700 mm
Width	2000 mm
Height	2400 mm
Weight	10750 kg
Canopied CHP version	
Length	12000 mm
Width	3100 mm
Height	3100 mm
Weight	
Container CHP version	40'
Length	12192 mm
Width	3100 mm
Height	3100 mm
Weight	
Installation - connections	
Gas inlet	DN 65 / PN 16
Heating HT circuit	DN 100 / PN 16
Heating LT circuit (optional)	DN 50 / PN 16
Exhaust (pipe up to 6 m)	DN 300 / PN 6

1) The thermal power is available if the cooling water temperature input is below 35℃
2) Theoretical usable thermal power; tolerance +/- 8 %
3) According to ISO 3046 (+ 5 % tolerance), using reference fuel used at 400 V, p.f. 1.0, 50 Hz
4) Emission values during grid parallel operation