



TTS MARTIN, s.r.o., 038 42 Pribovce 343, SLOVAKIA

tel. +421 43 42 94 466, fax +421 43 42 94 026

e-mail: tts@tts-martin.sk, http: www.tts-martin.sk

## BIOGAS COGENERATING UNIT WITH SPARK IGNITION ENGINE

## MARTIN POWER MAN

### Cogenerating unit model

Electric power @ cos phi 0.8
<b>Electric power @ cos phi 1.0</b>
<b>Energy input in fuel <sup>3)</sup></b>
Gas consumption (min/max) @ 6 kWh/m <sup>3</sup>
Thermal power from engine cooling
HT-stage intercooler thermal power
LT-stage intercooler thermal power <sup>1)</sup>
Thermal power from suction air cooling
Thermal power from exhaust
<b>Thermal power on the output <sup>2)</sup></b>
<b>Electric power efficiency</b>
Thermal power efficiency
<b>Total efficiency</b>
Current
Control panel current
Speed

### MP 460 N - BCU

451 kVA / 361 kW
<b>365 kW</b>
<b>946 kW</b>
85/157,7 m <sup>3</sup> /h
205 kW
40 kW
16 kW
56 kW
228 kW
<b>489 kW</b>
<b>38,6%</b>
51,7%
<b>89,9%</b>
650 A
800 A
1500 min <sup>-1</sup>

### Engine model

Nominal power
Intake
Speed governor
Cylinders
Bore
Stroke
Displacement
Compression ratio
Ignition sequence
Ignition timing
Lambda
Max. mixture temperature
Max. intake temperature
Air mass flow
Exhaust gas flow
Max. back pressure at exhaust
Max. exhaust temperature (@ rated power)
Radiated heat (engine)
Specific gas consumption
Gas consumption (CH <sub>4</sub> ) @ 100% load
Gas consumption (CH <sub>4</sub> ) @ 75% load
Gas consumption (CH <sub>4</sub> ) @ 50% load
Engine oil volume (min/max)
Engine oil consumption
Coolant volume (engine only)
Coolant pressure (max)
Minimal coolant flow through engine
Coolant temperature (@ engine outlet) (min/max)
Max. temperature difference over engine
HT stage intercooler inlet temperature (max)
HT stage intercooler coolant flow (min)
LT stage intercooler inlet temperature (max)
LT stage intercooler coolant flow (min)
Battery voltage
Starter
Battery

### E 2842 LE 322

380 kW
turbocharged with intercooler
electronic
12V
128 mm
142 mm
21,9 dm <sup>3</sup>
12:1
1-12-2-11-3-10-6-7-5-8-4-9
18° BTDC
1,47
50 °C
40 °C
1744 kg/h
1940 kg/h
4 kPa
480 °C
30 kW
200 g/kWh
73 kg/h
57 kg/h
40 kg/h
60/90 l
0,2 kg/h
23 l
3 bar
554 l/min
80/88 °C
6 °C
85 °C
216 l/min
45 °C
86 l/min
24 V
6,5 kW
143 Ah



**BIOGAS COGENERATING UNIT  
 WITH SPARK IGNITION ENGINE**

**MARTIN POWER  
 MAN**

**Cogenerating unit model**

**Generator manufacturer**

**Generator model**

Nominal power

F class power

Engine - generator connection

Voltage regulation

Voltage precision

**MP 460 N - BCU**

**MECC ALTE**

**ECO 40 - 1.5L/4**

620 kVA / 496 kW

560 kVA

SAE 1 / B3-B14

electronic

1,5 %

**Emissions <sup>4)</sup>**

NO<sub>x</sub>

CO

NMHC

Formaldehyd

@ 5% O<sub>2</sub>

500 mg/Nm<sup>3</sup>

650 mg/Nm<sup>3</sup> (with Oxi-Cat)

150 mg/Nm<sup>3</sup>

60 mg/Nm<sup>3</sup>

**Open CHP version**

Length

Width

Height

Weight

**Canopied CHP version**

Length

Width

Height

Weight

**Container CHP version**

Length

Width

Height

Weight

**Installation - connections**

Gas inlet

Heating HT circuit

Heating LT circuit (optional)

Exhaust (pipe up to 6 m)

20'

6058 mm

2438 mm

2591 mm

DN 65

DN 200

1) The thermal power is available if the cooling water temperature input is below 40°C

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