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## 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 40 N - BCU

39 kVA / 31 kW
<b>32 kW</b>
<b>100 kW</b>
9/16,7 m <sup>3</sup> /h
29 kW
- kW
- kW
- kW
22 kW
<b>51 kW</b>
<b>32,0%</b>
51,0%
<b>83,0%</b>
56 A
63 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 0834 E 312

34 kW
naturally aspired
electronic
4R
108 mm
125 mm
4,6 dm <sup>3</sup>
13:1
1-3-4-2
18° BTDC
1,3
-
40 °C
161 kg/h
181 kg/h
4 kPa
485 °C
7 kW
218,8 g/kWh
7 kg/h
6 kg/h
4 kg/h
9/12 l
0,04 kg/h
12 l
2 bar
77 l/min
80/88 °C
6 °C
-
-
-
-
24 V
4 kW
88 Ah



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## 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 40 N - BCU

#### SINCRO

#### IB4 LA

50 kVA / 40 kW

48 kVA

SAE 2 / 11,5"

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>

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

#### Open CHP version

Length

Width

Height

Weight

2600 mm

1200 mm

2000 mm

#### Canopied CHP version

Length

Width

Height

Weight

2600 mm

1200 mm

2350 mm

#### Container CHP version

Length

Width

Height

Weight

20'

6058 mm

2438 mm

2591 mm

#### Installation - connections

Gas inlet

Heating HT circuit

Heating LT circuit (optional)

Exhaust (pipe up to 6 m)

Rp 3/4"

DN 70

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