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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 280 N2 - BCU

|                           |
|---------------------------|
| 260 kVA / 207 kW          |
| <b>211 kW</b>             |
| <b>531 kW</b>             |
| 47/88,5 m <sup>3</sup> /h |
| 108 kW                    |
| 13 kW                     |
| 19 kW                     |
| 32 kW                     |
| 113 kW                    |
| <b>253 kW</b>             |
| <b>39,7%</b>              |
| 47,6%                     |
| <b>87,3%</b>              |
| 375 A                     |
| 400 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 2676 LE 212

|                               |
|-------------------------------|
| 220 kW                        |
| turbocharged with intercooler |
| electronic                    |
| 6R                            |
| 126 mm                        |
| 166 mm                        |
| 12,4 dm <sup>3</sup>          |
| 12,6:1                        |
| 1-5-3-6-2-4                   |
| 26° BTDC                      |
| 1,45                          |
| 50 °C                         |
| 40 °C                         |
| 1087 kg/h                     |
| 1199 kg/h                     |
| 4 kPa                         |
| 440 °C                        |
| 10 kW                         |
| 194,3 g/kWh                   |
| 42 kg/h                       |
| 32 kg/h                       |
| 22 kg/h                       |
| 35/70 l                       |
| 0,15 kg/h                     |
| 50 l                          |
| 2 bar                         |
| 320 l/min                     |
| 80/88 °C                      |
| 6 °C                          |
| 85 °C                         |
| 42 l/min                      |
| 40 °C                         |
| 58 l/min                      |
| 24 V                          |
| 7 kW                          |
| 143 Ah                        |



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### Cogenerating unit model

#### Generator manufacturer

#### Generator model

Nominal power

F class power

Engine - generator connection

Voltage regulation

Voltage precision

### MP 150 N - BCU

#### MECC ALTE

#### ECO 38 - 2LN/4

300 kVA / 240 kW

275 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>

300 mg/Nm<sup>3</sup>

20 mg/Nm<sup>3</sup>

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

#### Open CHP version

Length

Width

Height

Weight

4000 mm

1300 mm

2600 mm

#### Canopied CHP version

Length

Width

Height

Weight

4000 mm

1550 mm

2800 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 2"

DN 50

DN 150

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