

|                                                                                                                                                                                                                             |              |                                 |                     |                        |      |            |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------|---------------------|------------------------|------|------------|--|
|                                                                                                                                             | GROUP        | GAS                             | PRODUCT INFORMATION |                        |      | INDEX      |  |
|                                                                                                                                                                                                                             | IC           |                                 | IC-G-B-48-052       |                        |      | D1         |  |
|                                                                                                                                                                                                                             | POWER RATING |                                 |                     |                        |      | DATE       |  |
|                                                                                                                                                                                                                             |              |                                 |                     |                        |      | 17/11/2016 |  |
| DEP.                                                                                                                                                                                                                        |              |                                 |                     |                        |      | 2          |  |
| GENSET: SGE-48SL                                                                                                                                                                                                            |              | SPEED: 1500                     |                     |                        |      |            |  |
| JACKET WATER TEMPERATURE (°C): 90                                                                                                                                                                                           |              | FUEL TYPE: NATURAL GAS          |                     |                        |      |            |  |
| INTERCOOLER WATER TEMP (°C) 55                                                                                                                                                                                              |              |                                 |                     |                        |      |            |  |
| APPLICATION CONTINUOUS                                                                                                                                                                                                      |              | COMPRESSION RATIO: 11,6:1       |                     |                        |      |            |  |
| COOLING SYSTEM: TWO CIRCUITS                                                                                                                                                                                                |              | REGULATION: Electronic          |                     |                        |      |            |  |
| TWO STAGE IC                                                                                                                                                                                                                |              | IGNITION TIMING: 15°            |                     |                        |      |            |  |
| EXHAUST MANIFOLD TYPE: WATER COOLED                                                                                                                                                                                         |              | MAX. BACK PRESSURE: 450 mmH2O   |                     |                        |      |            |  |
| EMISSIONS:                                                                                                                                                                                                                  |              | AMBIENT CONDITIONS ISO 3046/1:  |                     |                        |      |            |  |
| NOX mg/Nm3(8) 1000                                                                                                                                                                                                          |              | Atmospheric pressure (kPa)= 100 |                     |                        |      |            |  |
| CO mg/Nm3(8) <800                                                                                                                                                                                                           |              | Ambient temperature (°C)= 25    |                     |                        |      |            |  |
| NMHC mg/Nm3(8) <300                                                                                                                                                                                                         |              | Relative humidity (%)= 30       |                     |                        |      |            |  |
| CH4 mg/Nm3(8) <1200                                                                                                                                                                                                         |              |                                 |                     |                        |      |            |  |
| CO2 kg/h (1) 421                                                                                                                                                                                                            |              |                                 |                     |                        |      |            |  |
| POWER RATING (4)                                                                                                                                                                                                            |              |                                 | NOMINAL             | PARTIAL LOADS          |      |            |  |
| LOAD                                                                                                                                                                                                                        | %            | 100%                            | 80%                 | 60%                    | 40%  |            |  |
| MECHANICAL POWER (3,4,5)                                                                                                                                                                                                    | kWb          | 838                             | 670                 | 503                    | 335  |            |  |
| BMEP                                                                                                                                                                                                                        | bar          | 14,0                            | 11,2                | 8,4                    | 5,6  |            |  |
| ELECTRICAL POWER (cosφ 1)                                                                                                                                                                                                   | kWe          | 811                             | 649                 | 485                    | 320  |            |  |
| ELECTRICAL POWER (cosφ 0,8)                                                                                                                                                                                                 | kWe          | 801                             | 642                 | 481                    | 318  |            |  |
| FUEL CONSUMPTION (1)                                                                                                                                                                                                        | kW           | 2076                            | 1683                | 1310                   | 946  |            |  |
| MECHANICAL EFFICIENCY                                                                                                                                                                                                       | %            | 40,4                            | 39,8                | 38,4                   | 35,4 |            |  |
| ELECTRICAL EFFICIENCY (COSφ 1)                                                                                                                                                                                              | %            | 39,1                            | 38,6                | 37,0                   | 33,8 |            |  |
| HEAT IN MAIN WATER CIRCUIT (1)                                                                                                                                                                                              | kW           | 599                             | 467                 | 356                    | 271  |            |  |
| HEAT IN SECONDARY WATER CIRCUIT (1)                                                                                                                                                                                         | kW           | 131                             | 120                 | 106                    | 83   |            |  |
| HEAT IN CHARGE COOLER (1)                                                                                                                                                                                                   | kW           | 42                              | 34                  | 25                     | 5    |            |  |
| HEAT IN OIL COOLER (1)                                                                                                                                                                                                      | kW           | 89                              | 86                  | 81                     | 78   |            |  |
| HEAT IN EXHAUST GASES (25 °C) (1)                                                                                                                                                                                           | kW           | 474                             | 395                 | 317                    | 234  |            |  |
| HEAT IN EXHAUST GASES (120 °C) (1)                                                                                                                                                                                          | kW           | 349                             | 293                 | 238                    | 178  |            |  |
| EXHAUST GAS TEMPERATURE (1)                                                                                                                                                                                                 | °C           | 384                             | 394                 | 408                    | 419  |            |  |
| HEAT TO RADIATION (1)                                                                                                                                                                                                       | kW           | 34                              | 31                  | 28                     | 23   |            |  |
| CARBURETION SETTINGS (2)                                                                                                                                                                                                    |              |                                 |                     |                        |      |            |  |
| O2 TO EXHAUST(DRY)(ONLY A REFERENCE)                                                                                                                                                                                        | %            | 8,7                             | 8,5                 | 8,3                    | 7,8  |            |  |
| MASS FLOWS                                                                                                                                                                                                                  |              |                                 |                     |                        |      |            |  |
| INTAKE AIR FLOW (1)                                                                                                                                                                                                         | kg/h         | 3980                            | 3220                | 2490                   | 1790 |            |  |
| EXHAUST GAS FLOW (WET) (1)                                                                                                                                                                                                  | kg/h         | 4130                            | 3350                | 2590                   | 1860 |            |  |
| NOTES                                                                                                                                                                                                                       |              |                                 |                     |                        |      |            |  |
| 1. ALL VALUES ASUME LHV OF THE GAS. 100% LOAD TOLERANCES:<br>FUEL CONSUMPTION +5%,<br>COOLING CIRCUIT AND EXHAUST GASES ± 8%, RADIATION ±25%<br>EXHAUST TEMPERATURE ±20°C, MASS FLOWS ± 10% (ALSO FOR CO2 FLOW IN EXHAUST). |              |                                 |                     |                        |      |            |  |
| 2. THE ENGINE PERFORMANCE DATA, TIMING ADVANCE AND CARBURETION SETTINGS ARE VALID FOR A GAS THAT FULFILS THE REQUIREMENTS DEFINED IN IC-G-D-30-001e AND IC-G-D-30-002e                                                      |              |                                 |                     |                        |      |            |  |
| 3. NET POWER, MECHANICAL PUMPS NOT INCLUDED.                                                                                                                                                                                |              |                                 |                     |                        |      |            |  |
| 4. POWERS ARE VALID FOR AMBIENT TEMP.=25°C AND AN ALTITUDE OF =500 m. SEE OTHER CONDITIONS IN PI IC-G-B-00-001                                                                                                              |              |                                 |                     |                        |      |            |  |
| 5. OVERLOAD NOT ALLOWED. IT IS NOT RECOMMENDED TO OPERATE BELOW 40% LOAD DURING LONG TIME.                                                                                                                                  |              |                                 |                     |                        |      |            |  |
| 6. THE SPECIFICATIONS AND MATERIALS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION                                                                                                                                              |              |                                 |                     |                        |      |            |  |
| 7. A ENGINE WITH INLET OR OUTPUT RESTRICTION OVER PUBLISHED LIMITS, OR WITH INADEQUATE MAINTENANCE OR INSTALLATION CAN MODIFY POWER RATING DATA.                                                                            |              |                                 |                     |                        |      |            |  |
| 8. EMISSIONS ARE CORRECTED TO 5% OF O2. EMSSIONS ACCORDING TO D1 CYCLE IS 8178-4. (0°C and 1013 mbar)                                                                                                                       |              |                                 |                     |                        |      |            |  |
| 9. ALTERNATOR VOLTAGE 400 V                                                                                                                                                                                                 |              |                                 |                     |                        |      |            |  |
| CODE3                                                                                                                                                                                                                       | 21/09/2020   | Cod.: C-A                       | Elab: dis10         | Version: 40/21/02/2019 | 1/1  |            |  |