









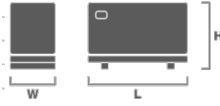
## INDUSTRIAL RANGE

## GENSET 110 KVA BAUDOIN / GRUPEL

### 1. MAIN FEATURES

|   |   |       |
|---|---|-------|
| <b>T</b> Three-phase  |  Oil               |       |
|  Baudouin / 4M11G120/5 |  Grupel / 274GB100 |       |
|  Grupel / G545         | <b>Hz</b> 50 Hz   |       |
|  1500 r.p.m.           | <b>V</b> 400 V  |       |
| <b>cos φ</b> 0.8  |  160 A             |       |
| Standby Power(ESP)  | 110 kVA   | 88 kW |
| Prime Power (PRP)   | 100 kVA   | 80 kW |
| Continuous Power(COP)   | -   | -     |

#### SOUNDPROOF

|                              |              |   |
|------------------------------|--------------|---|
| Length (L)                   | 2530 mm      |  |
| Height (H)                   | 1580 mm      |   |
| Width (W)                    | 1015 mm      |   |
| Weight                       | 1712 kg      |   |
| Daily tank                   | 200 L        |   |
| Acoustic pressure level @ 1m | 80 ± 2 dB(A) |   |
| Acoustic pressure level @ 7m | 72 ± 2 dB(A) |   |

### 2. ROOM INSTALLATION

| EXHAUST SYSTEM                    | 50 Hz |      |      |
|-----------------------------------|-------|------|------|
|                                   | COP   | PRP  | ESP  |
| Exhaust gas temperature (°C)      | -     | -    | 550  |
| Exhaust gas flow (m³/min)         | -     | 16.5 | 17   |
| Evacuated heat (kW)               | -     | -    | 82.6 |
| Maximum back pressure (kPa)       | 6     |      |      |
| Exhaust silencer attenuation (dB) | 18-25 |      |      |
| Output diameter (mm)              | 90    |      |      |

| VENTILATION SYSTEMS                  | 50 Hz |      |      |
|--------------------------------------|-------|------|------|
|                                      | COP   | PRP  | ESP  |
| Combustion air flow (m³/min)         | -     | 6.15 | 6.58 |
| Cooling airflow (m³/min)             | 156   |      |      |
| Maximum load losses (Pa)             | 50    |      |      |
| Alternator cooling air flow (m³/min) | 31.44 |      |      |

| RADIATION       | 50 Hz |      |      |
|-----------------|-------|------|------|
|                 | COP   | PRP  | ESP  |
| Engine (kW)     | -     | -    | 13.8 |
| Alternator (kW) | 7.68  | 7.68 | 8.45 |



### 3. ENGINE SPECIFICATIONS

| GENERAL SPECIFICATIONS       |  | 50Hz                              |
|------------------------------|--|-----------------------------------|
| Model                        |  | 4M11G120/5                        |
| Emissions (UE/USEPA)         |  | Not applicable / Not applicable   |
| Performance grade            |  | G3*, ISO 8528:5 2018              |
| Operating method             |  | 4 stroke                          |
| Fuel type                    |  | Oil                               |
| Refrigeration system         |  | Closed water circuit / antifreeze |
| Aspiration system            |  | Turbo-aftercooled                 |
| Injection system             |  | Direct                            |
| No. and Cylinder arrangement |  | 4 In-line                         |
| Displacement (L)             |  | 4.5                               |
| Cylinder bore (mm)           |  | 105                               |
| Cylinder stroke (mm)         |  | 130                               |
| Compression ratio            |  | 18:1                              |
| Regulation                   |  | Electronic                        |
| Rotation speed (r.p.m.)      |  | 1500                              |
| Piston speed (m/s)           |  | 6.5                               |
| Gross power COP (kWm)        |  | -                                 |
| Gross power PRP (kWm)        |  | 98                                |
| Gross power ESP (kWm)        |  | 108                               |
| Fan Power (kWm)              |  | - / 3 / 3                         |
| Net Power COP (kWm)          |  | -                                 |
| Net Power PRP (kWm)          |  | 95                                |
| Net Power ESP (kWm)          |  | 105                               |
| BMEP COP (kPa)               |  | -                                 |
| BMEP PRP (kPa)               |  | 1742                              |
| BMEP ESP (kPa)               |  | 1920                              |



| CONSUMPTION      |                            | 50 Hz |
|------------------|----------------------------|-------|
| Fuel consumption | l/h                        | g/kWh |
| ESP              | 26                         | 202   |
| PRP              | 23.2                       | 199.2 |
| COP              | -                          | -     |
| 75%              | 17.4                       | 198.8 |
| 50%              | 11.9                       | 203.4 |
| Oil consumption  | < 0.2% of fuel consumption |       |

| REFERENCE CONDITIONS       |     |
|----------------------------|-----|
| Temperature (°C)           | 25  |
| Atmospheric pressure (kPa) | 100 |

| CAPACITY (°C) |      |
|---------------|------|
| Coolant (L)   | 14.8 |
| Oil (L)       | 14   |

| STARTING SYSTEM |     |
|-----------------|-----|
| Voltage (V)     | 12  |
| Power (kW)      | 4   |
| Battery (Ah)    | 100 |

### 4. ALTERNATOR SPECIFICATIONS

| GENERAL SPECIFICATIONS        |   |
|-------------------------------|---|
| Model                         | 274GB100                                  |
| Phases No.                    | Three-phase                               |
| Protection                    | IP23                                      |
| Insulation                    | H   |
| Temperature rise              | H   |
| R.F.I. telephone interference | THF < 2%                                  |
| R.F.I. Suppression            | BS EN 61000-6-2 /6-4,VDE 0875G, VDE 0875N |
| Coupling                      | Flexible disks                            |
| Support                       | Single bearing                            |



|  |                    |
|--|--------------------|
| Wave form distortion with no load              | < 1,5%             |
| Wave form distortion with balanced linear load | < 5%               |
| Winding Leads                                  | 12                 |
| Excitation (standard/optional)                 | Autoexcitado / PMG |
| AVR Model (standard/optional)                  | SX460 / MX341      |
| Voltage Regulation (standard/optional)         | ± 1 % / ± 0,5 %    |
| Icc (standard/optional)                        | - / 3In:10s        |

| PF (cos Ø) | Phase       | Voltage (V) | Power PRP/ESP (kVA) | Efficiency PRP/ESP (%) | Xd   | X'd  | X''d |
|------------|-------------|-------------|---------------------|------------------------|------|------|------|
| 0.8        | Three-phase | 400         | 100 / 110           | 90.4 / 90.4            | 2.21 | 0.18 | 0.13 |



## 5. CONTROL PANEL



| GENSET                        | Grupel G545 |
|-------------------------------|-------------|
| Voltage (F-F / F-N)           | ● / ●       |
| Current intensity             | ●           |
| Frequency                     | ●           |
| RMS Values                    | ●           |
| Generator phase sequence      | ●           |
| Generator earth current [a]   | ○           |
| No. of registers events       | 400         |
| Real time clock               | ●           |
| PIN Protection                | ●           |
| kWh, kVAR, kVAh, kVARh, cos Ø | ●           |
| Synchroscope [i]              | ○           |
| Nº of available outputs [b]   | 4           |
| Indication of alarms on LCD   | ●           |
| Engine run hours              | ●           |
| Total no. of LED indicators   | 15          |
| No. of LED alarms             | 4           |
| Sound signalling alarms       | -           |
| Scheduler                     | ●           |
| Fuel level                    | ●           |

| ELECTRICAL NETWORK                   | Grupel G545 |
|--------------------------------------|-------------|
| Voltage (F-F / F-N)                  | ● / ●       |
| Current [a]                          | ○           |
| Frequency                            | ●           |
| kVA,kW, cos Ø [a]                    | ○           |
| Inversion control between main-group | ●           |

| PROTECTIONS AND ALARMS               | Grupel G545 |
|--------------------------------------|-------------|
| High / low battery voltage           | A           |
| Failure in battery charge alternator | A           |
| Failure to stop                      | A/S         |
| Failure to start                     | A/S         |
| Low fuel level                       | A/S         |
| Overload                             | A/S         |
| Earth leakage                        | A/S         |
| Asymmetry between phases             | A/S         |
| Maintenance                          | A/S         |
| High / Low generator frequency       | A/S         |
| Engine overspeed                     | A/S         |
| Engine underspeed                    | A/S         |
| Generator overvoltage                | A/S         |
| Generator undervoltage               | A/S         |
| ECU Alert (if applicable)            | A/S         |
| Low oil pressure                     | A/S         |
| Low level of radiator water [f]      | A/S         |
| Engine high temperature              | A/S         |
| Fuel leakage/ theft                  | A           |



## 6. CONTROL PANEL

| ENGINE  | Grupel G545 | APPLICATIONS  | Grupel G545                                |
|---|-------------|---|--|
| Engine speed  | ●           | Automatic or manual starting  | ●  |
| Low oil pressure protection   | ●           | Remote start by NO dry contact  | ●  |
| Oil pressure reading [c]  | ○           | Automatic by mains failure  | ●  |
| High temperature engine protection  | ●           | Alternating with timesharing  | ●  |
| Engine temperature reading [c]  | ○           | Multi-generators synchronization and load sharing (max. 48 generators) [i]  | ○  |
| Engine battery voltage  | ●           | Generator-Main in synchronism and load sharing (1 generator and 1 main) [i] | ○  |
| Intensity of the engine battery [d]   | ○           |   |  |
| Fuel Consumption [e]  | ●           |   |  |
| Low level of radiator water [f]   | ○           |   |  |
| Engine maintenance scheduled  | ●           |   |  |
| COMMUNICATION   | Grupel G545 | OPTIONAL EXPANSIONS   | Grupel G545                                |
| USB female type B (max. 6m)   | ●           | G-08 (8 dig. inputs)  | ○  |
| USB female type A [g]   | ○           | G-06 (8 relay outputs)  | ○  |
| RS232 port (max. 15m)   | -           | G-GSM (GSM and/or GPS by MLAT)  | ○  |
| RS485 port (max. 1,2Km)   | ●           | G-ETH (ethernet module)   | ○  |
| Ethernet port RJ45 [g]  | ○           | G-ETH (ethernet module according SNMP protocol)                             | ○  |
| GSM + location via MLAT [h]   | ○           | G545 (mirror controller, maximum distance 1km)                              | ○  |
| ModBus RTU protocol   | ●           | G175 (convert QTC into QTA)   | ○  |
| ModBus TCP protocol [g]   | ○           | G545 (convert QTC into QTA)   | ○  |
| SNMP protocol [g]   | ○           |   |  |
| CAN port (max. 40m)   | ●           |   |  |
| MSC port (max. 240m) [i]  | ○           |   |  |
| PLC functionality   | ●           |   |  |
| Legenda   |             | STANDARDS   |  |
| ● Available   |             | Working temperature   | -30 ≤ °C ≤ 70                              |
| ○ Optional  |             | Protection index (when assembled with sealing gasket)                       | IP65 - Quando montado com junta de vedação |
| - Not available   |             | Degree of humidity (during 48hr)  | 93%, 40°C durante 48h                      |
| A Warning Alarm   |             |   |  |
| S Stop alarm  |             |   |  |
| [a] Need additional CT  |             |   |  |
| [b] No. of outputs available for standard configuration. The outputs do not include relays and additional terminal connections. |             |   |  |
| [c] If the information is not provided by the engine-ECU, you need an additional sensor   |             |   |  |
| [d] Needs additional ammeter  |             |   |  |
| [e] If information provided by the engine ECU   |             |   |  |
| [f] Required additional sensor  |             |   |  |
| [g] Requires G-ETH  |             |   |  |
| [h] Requires G-GSM  |             |   |  |
| [i] Requires G-Sync   |             |   |  |

Dimensions and guiding weights. Environmental reference conditions: 100kPa, 25 °C, 30% relative humidity and fuel temperature below 40 °C. Power ratings according to ISO 8528-1:2018.

Emergency power (ESP): Maximum power available to supply variable loads for a maximum period of 200h/year. The average load factor in 24h of operation must not exceed 70% of the ESP regime. It does not allow overload.

Prime power (PRP): Maximum power available to supply variable loads for an unlimited number of hours. The average load factor in 24 hours of operation must not exceed 70% of the PRP rating. Allows an overload of 10% for a maximum period of 1 hour every 12 hours of operation. Overloading may not exceed 25 hours/year.

Continuous power (COP): Maximum power available to supply constant loads for an unlimited number of hours per year, between the maintenance intervals and environmental conditions advertised by the manufacturer.

*These specifications are subject to change without notice.*

## DISTRIBUTOR