



## INDUSTRIAL RANGE

### 1 MAIN FEATURES

|          |           |  |             |  |                    |  |                   |  |        |
|----------|-----------|--|-------------|--|--------------------|--|-------------------|--|--------|
| <b>T</b> | Triphasic |  | Diesel fuel |  | Grupel / 6GA80TD50 |  | Grupel / 274GB160 |  | / 4520 |
|----------|-----------|--|-------------|--|--------------------|--|-------------------|--|--------|

|           |      |  |             |          |      |              |     |
|-----------|------|--|-------------|----------|------|--------------|-----|
| <b>Hz</b> | 50Hz |  | 1500 r.p.m. | <b>V</b> | 400V | <b>cos φ</b> | 0,8 |
|-----------|------|--|-------------|----------|------|--------------|-----|

|                        |         |        |
|------------------------|---------|--------|
| Standby power (STP)    | 165 kVA | 132 kW |
| Prime Power (PRP)      | 150 kVA | 120 kW |
| Power Continuous (COP) | - kVA   | - kW   |

|           |      |  |             |          |      |              |     |
|-----------|------|--|-------------|----------|------|--------------|-----|
| <b>Hz</b> | 60Hz |  | 1800 r.p.m. | <b>V</b> | 480V | <b>cos φ</b> | 0,8 |
|-----------|------|--|-------------|----------|------|--------------|-----|

|                        |         |        |
|------------------------|---------|--------|
| Standby power (STP)    | 186 kVA | 149 kW |
| Prime Power (PRP)      | 169 kVA | 135 kW |
| Power Continuous (COP) | - kVA   | - kW   |

#### OPEN SKID

|            |         |
|------------|---------|
| Length (L) | 3200 mm |
| Height (H) | 1745 mm |
| Width(W)   | 1100 mm |
| Weight     | 1441 kg |
| Daily tank | 350 L   |

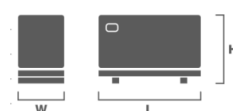


| 50Hz | 60Hz |
|------|------|
|------|------|

|                             |   |   |
|-----------------------------|---|---|
| Acoustic pressure level @1m | - | - |
| Acoustic pressure level @7m | - | - |

#### SOUNDPROOF

|            |         |
|------------|---------|
| Length (L) | 3200 mm |
| Height (H) | 1745 mm |
| Width (W)  | 1100 mm |
| Weight     | 1991 kg |
| Daily tank | 350 L   |



| 50Hz | 60Hz |
|------|------|
|------|------|

|                             |          |          |
|-----------------------------|----------|----------|
| Acoustic pressure level @1m | 75 dB(A) | 76 dB(A) |
| Acoustic pressure level @7m | 62 dB(A) | 63 dB(A) |

#### AVAILABLE VOLTAGES - 50Hz

| FP (cos Ø) | Phase        | Voltage | COP (kVA/kW) | PRP (kVA/kW) | STP (kVA/kW) | Circuit breaker (A) |
|------------|--------------|---------|--------------|--------------|--------------|---------------------|
| 0,8        | Three-phase  | 440     | - / -        | 150 / 120    | 165 / 132    | 200                 |
| 0,8        | Three-phase  | 415     | - / -        | 150 / 120    | 166 / 132    | 250                 |
| 0,8        | Three-phase  | 400     | - / -        | 150 / 120    | 165 / 132    | 250                 |
| 0,8        | Three-phase  | 380     | - / -        | 150 / 120    | 164 / 132    | 250                 |
| 0,8        | Three-phase  | 240     | - / -        | 150 / 120    | 166 / 132    | 400                 |
| 0,8        | Three-phase  | 230     | - / -        | 150 / 120    | 165 / 132    | 400                 |
| 0,8        | Three-phase  | 220     | - / -        | 150 / 120    | 165 / 132    | 400                 |
| 0,8        | Single phase | 240     | - / -        | 95 / 76      | 104 / 83     | 400                 |
| 1          | Single phase | 240     | - / -        | 76 / 76      | 83 / 83      | 400                 |
| 0,8        | Single phase | 230     | - / -        | 95 / 76      | 104 / 83     | 630                 |
| 1          | Single phase | 230     | - / -        | 76 / 76      | 83 / 83      | 400                 |
| 0,8        | Single phase | 220     | - / -        | 95 / 76      | 104 / 83     | 630                 |
| 1          | Single phase | 220     | - / -        | 76 / 76      | 83 / 83      | 400                 |

#### AVAILABLE VOLTAGES - 60Hz

| FP (cos Ø) | Phase        | Voltage | COP (kVA/kW) | PRP (kVA/kW) | STP (kVA/kW) | Circuit breaker (A) |
|------------|--------------|---------|--------------|--------------|--------------|---------------------|
| 0,8        | Three-phase  | 480     | - / -        | 169 / 135    | 186 / 149    | 250                 |
| 0,8        | Three-phase  | 460     | - / -        | 169 / 135    | 185 / 148    | 250                 |
| 0,8        | Three-phase  | 440     | - / -        | 168 / 134    | 185 / 148    | 250                 |
| 0,8        | Three-phase  | 416     | - / -        | 167 / 134    | 184 / 147    | 250                 |
| 0,8        | Three-phase  | 240     | - / -        | 169 / 135    | 186 / 149    | 630                 |
| 0,8        | Three-phase  | 230     | - / -        | 169 / 135    | 185 / 148    | 630                 |
| 0,8        | Three-phase  | 220     | - / -        | 168 / 134    | 185 / 148    | 630                 |
| 0,8        | Three-phase  | 208     | - / -        | 167 / 134    | 184 / 147    | 630                 |
| 0,8        | Single phase | 240     | - / -        | 105 / 84     | 115 / 92     | 630                 |
| 1          | Single phase | 240     | - / -        | 105 / 105    | 115 / 115    | 630                 |
| 0,8        | Single phase | 230     | - / -        | 105 / 84     | 115 / 92     | 630                 |
| 1          | Single phase | 230     | - / -        | 105 / 105    | 115 / 115    | 630                 |
| 0,8        | Single phase | 220     | - / -        | 105 / 84     | 115 / 92     | 630                 |
| 1          | Single phase | 220     | - / -        | 105 / 105    | 115 / 115    | 630                 |

## 2 ROOM INSTALLATION

| EXHAUST SYSTEM                    | 50 Hz |     |     | 60 Hz |     |      |
|-----------------------------------|-------|-----|-----|-------|-----|------|
|                                   | COP   | PRP | STP | COP   | PRP | STP  |
| Exhaust gas temperature (°C)      | -     | -   | 500 | -     | -   | 500  |
| Exhaust gas flow (kg/h)           | -     | -   | 545 | -     | -   | 575  |
| Evacuated Heat (kW)               | -     | -   | 30  | -     | -   | 33,1 |
| Maximum back pressure (kPa)       | 6     |     |     |       |     |      |
| Exhaust silencer attenuation (dB) | 30    |     |     |       |     |      |
| Output Diameter (mm)              | 90    |     |     |       |     |      |

| VENTILATION SYSTEMS        | 50 Hz |     |       | 60 Hz |      |      |
|----------------------------|-------|-----|-------|-------|------|------|
|                            | COP   | PRP | STP   | COP   | PRP  | STP  |
| Combustion air flow (kg/h) | -     | -   | 520   | -     | -    | 550  |
| Cooling airflow (m³/min)   | 151,2 |     |       | 181,8 |      |      |
| Maximum load losses (Pa)   | 125   |     |       |       |      |      |
| RADIATION                  | 50 Hz |     |       | 60 Hz |      |      |
|                            | COP   | PRP | STP   | COP   | PRP  | STP  |
| Engine (kW)                | -     | -   | 26,25 | -     | -    | 29   |
| Alternator (kW)            | 9,7   | 9,7 | 10,6  | 11,1  | 11,1 | 12,2 |

## 3 ENGINE SPECIFICATIONS

| GENERAL SPECIFICATIONS       | 50 Hz                           | 60 Hz  |
|------------------------------|---------------------------------|--------|
| Model                        | 6GA80TD50                       |        |
| Emissions                    | Not satisfy 97/68/EC            |        |
| Performance grade            | G1                              |        |
| Operating method             | Four stroke                     |        |
| Fuel type                    | Diesel fuel                     |        |
| Refrigeration system         | Water/antifreeze Closed Circuit |        |
| Aspiration system            | Turbocharged                    |        |
| Injection system             | Direct                          |        |
| No. and Cylinder arrangement | 6 In-Line                       |        |
| Displacement (L)             | 7,98                            |        |
| Cylinder bore (mm)           | 112                             |        |
| Cylinder stroke (mm)         | 135                             |        |
| Compression Ratio            | 17.5:1                          |        |
| Regulation                   | Mechanic                        |        |
| Rotation speed               | 1500                            | 1800   |
| Piston Speed (m/s)           | 6,8                             | 8,1    |
| Gross power COP (kWm)        | -                               | -      |
| Gross power PRP (kWm)        | 132                             | 148,6  |
| Gross power STP (kWm)        | 145                             | 163,16 |
| Fan power (kWm)              | 2                               | 3      |
| Net Power COP (kWm)          | -                               | -      |
| Net Power PRP (kWm)          | 130                             | 145,6  |
| Net Power STP (kWm)          | 143                             | 160,16 |
| BMEP COP (kPa)               | -                               | -      |
| BMEP PRP (kPa)               | 1323                            | 1241   |
| BMEP STP (kPa)               | 1454                            | 1363   |



| CONSUMPTION                |      | 50Hz                       |       | 60Hz |       |
|----------------------------|------|----------------------------|-------|------|-------|
| Fuel consumption           | LOAD | lt/h                       | g/kWh | lt/h | g/kWh |
| STP                        | 100% | 35,1                       | 205,5 | 39,1 | 203,5 |
|                            | 100% | 32,5                       | 209,5 | 36,3 | 207,5 |
| PRP                        | 75%  | 25,7                       | 220,4 | 28,2 | 215,3 |
|                            | 50%  | 18,1                       | 232,7 | 20   | 228,6 |
| COP                        | 100% | -                          | -     | -    | -     |
|                            | 75%  | -                          | -     | -    | -     |
|                            | 50%  | -                          | -     | -    | -     |
| Oil consumption            |      | < 0,1% of fuel consumption |       |      |       |
| REFERENCE CONDITIONS       |      |                            |       |      |       |
| Temperature (°C)           |      | 25                         |       |      |       |
| Atmospheric pressure (kPa) |      | 100                        |       |      |       |
| CAPACITY                   |      |                            |       |      |       |
| Coolant (L)                |      | 36                         |       |      |       |
| Oil (L)                    |      | 26                         |       |      |       |
| STARTING SYSTEM            |      |                            |       |      |       |
| Voltage (V)                |      | 24                         |       |      |       |
| Power (kW)                 |      | 6.5                        |       |      |       |
| Battery (Ah)               |      | 155                        |       |      |       |

## 4 ALTERNATOR SPECIFICATIONS

| GENERAL SPECIFICATIONS             |                                            |
|------------------------------------|--------------------------------------------|
| Model                              | 274GB160                                   |
| Phases No.                         | Triphasic                                  |
| Protection                         | IP23                                       |
| Insulation                         | H                                          |
| Temperature Rise                   | H                                          |
| 50Hz R.F.I. telephone interference | THF<2%                                     |
| 60Hz R.F.I. telephone interference | TIF<50                                     |
| R.F.I. Suppression                 | BS EN 61000-6-2 /6-4,VDE 0875G, VDE 0875N. |
| Coupling                           | Semi-Flexible                              |
| Support                            | Single bearing                             |



|                                                |                    |
|------------------------------------------------|--------------------|
| Wave form distortion with no load              | < 1,5%             |
| Wave form distortion with balanced linear load | < 5%               |
| Winding Leads                                  | 12                 |
| Excitation (standard / option)                 | Self-excited / PMG |
| AVR Model (standard / option)                  | SX460/ MX341       |
| Voltage Regulation (standard / option)         | ± 1,0%/ ± 0,5%     |



## INDUSTRIAL RANGE

| RATED POWER - 50Hz |              |             |                           |                              |       |       |       | RATED POWER - 60Hz |              |             |                           |                              |       |       |       |
|--------------------|--------------|-------------|---------------------------|------------------------------|-------|-------|-------|--------------------|--------------|-------------|---------------------------|------------------------------|-------|-------|-------|
| FP (cos Ø)         | Phase        | Voltage (V) | Power<br>PRP/STP<br>(kVA) | Efficiency<br>PRP/STP<br>(%) | Xd    | X'd   | X''d  | FP (cos Ø)         | Phase        | Voltage (V) | Power<br>PRP/STP<br>(kVA) | Efficiency<br>PRP/STP<br>(%) | Xd    | X'd   | X''d  |
| 0,8                | Three-phase  | 440         | 150 / 165                 | 93,0 / 93,0                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 480         | 192 / 211                 | 92,8 / 92,8                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 415         | 160 / 175                 | 92,6 / 92,6                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 460         | 192 / 211                 | 92,6 / 92,6                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 400         | 160 / 175                 | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 440         | 192 / 211                 | 92,2 / 92,2                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 380         | 160 / 175                 | 92,0 / 92,0                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 416         | 192 / 211                 | 91,8 / 91,8                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 240         | 160 / 175                 | 92,6 / 92,6                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 240         | 192 / 211                 | 92,8 / 92,8                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 230         | 160 / 175                 | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 230         | 192 / 211                 | 92,6 / 92,6                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Three-phase  | 220         | 150 / 165                 | 93,0 / 93,0                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 220         | 192 / 211                 | 92,2 / 92,2                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Single phase | 240         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Three-phase  | 208         | 192 / 211                 | 91,8 / 91,8                  | 2,370 | 0,200 | 0,130 |
| 1                  | Single phase | 240         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Single phase | 240         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Single phase | 230         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 1                  | Single phase | 240         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |
| 1                  | Single phase | 230         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Single phase | 230         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |
| 0,8                | Single phase | 220         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 1                  | Single phase | 230         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |
| 1                  | Single phase | 220         | 95 / 104                  | 92,4 / 92,4                  | 2,020 | 0,170 | 0,120 | 0,8                | Single phase | 220         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |
|                    |              |             |                           |                              |       |       |       | 1                  | Single phase | 220         | 105 / 115                 | 92,4 / 92,4                  | 2,370 | 0,200 | 0,130 |

## 5

## CONTROL PANEL



| GENSET                        | DEEPSEA 4520 | OPTIONAL |
|-------------------------------|--------------|----------|
| Voltage (Ph-Ph / Ph-N)        | • / •        | • / •    |
| Current intensity             | •            | •        |
| Frequency                     | •            | •        |
| RMS values                    | •            | •        |
| Generator phase sequence      | -            | 0        |
| Generator earth current [a]   | -            | 0        |
| No. of registers events       | 15           | 250      |
| Real time clock               | •            | •        |
| PIN protection                | •            | •        |
| kWh, kVAr, kVAh, kVArh, cos Ø | •            | •        |
| Synchroscope (m)              | -            | 0        |
| Nº of available outputs [b]   | 2            | 6        |
| Engine run hours              | •            | •        |
| Indication of alarms on LCD   | •            | •        |
| Total no. of LED indicators   | 3            | 12       |
| No. of LED alarms             | -            | 4        |
| Sound signalling alarms       | •            | •        |
| Scheduler                     | •            | •        |
| Fuel Level                    | •            | •        |

| Electrical network                   | DEEPSEA 4520 | OPTIONAL |
|--------------------------------------|--------------|----------|
| Voltage (Ph-Ph / Ph-N)               | • / •        | • / •    |
| Current intensity [a]                | -            | 0        |
| Frequency                            | •            | •        |
| kVA, kW, cos Ø (a)                   | -            | 0        |
| Inversion control between main-group | -            | 0        |
| Protections and Alarms               | DEEPSEA 4520 | OPTIONAL |
| High / low battery voltage           | A            | 0        |
| Failure in Battery Charge Alternator | A            | 0        |
| Failure to stop                      | A/S          | A/S      |
| Failure to start                     | A/S          | A/S      |
| Low fuel level                       | A/S          | A/S      |
| Overload                             | A/S          | A/S      |
| Earth leakage                        | -            | 0        |
| Asymmetry between phases             | -            | 0        |
| Maintenance                          | A/S          | A/S      |
| High / Low generator frequency       | A/S          | A/S      |
| Engine overspeed                     | A/S          | A/S      |
| Engine underspeed                    | A/S          | A/S      |
| Generator overvoltage                | A/S          | A/S      |
| Generator undervoltage               | A/S          | A/S      |
| ECU Alert (if applicable)            | A/S          | A/S      |
| Low oil pressure                     | A/S          | A/S      |
| Low level of radiator water [f]      | A/S          | A/S      |
| Engine high temperature              | A/S          | A/S      |
| Fuel leakage/ theft                  | -            | 0        |

## 6 CONTROL PANEL

| Engine                               | DEEPSEA 4520 | OPTIONAL | Applications                                                                                  | DEEPSEA 4520 | OPTIONAL |
|--------------------------------------|--------------|----------|-----------------------------------------------------------------------------------------------|--------------|----------|
| Engine Speed                         | •            | •        | Automatic or manual starting                                                                  | •            | •        |
| Low oil pressure protection          | •            | •        | Remote start by NO dry contact                                                                | •            | •        |
| Oil pressure reading [c]             | 0            | 0        | Automatic by mains failure                                                                    | •            | •        |
| High temperature engine protection   | •            | •        | Alternating with timesharing                                                                  | -            | 0        |
| Engine temperature reading [c]       | 0            | 0        | Multi-generators synchronization and load sharing (Max. 32 generators) (m)                    | -            | 0        |
| Engine battery voltage               | •            | •        | Generator-Main in synchronism and load sharing (1 generator and 1 main) (m)                   | -            | 0        |
| Intensity of the engine battery [d]  | 0            | 0        |                                                                                               |              |          |
| Fuel Consumption [e]                 | •            | •        |                                                                                               |              |          |
| Low level of radiator water [f]      | 0            | 0        |                                                                                               |              |          |
| Engine maintenance scheduled         | •            | •        |                                                                                               |              |          |
| Communication                        | DEEPSEA 4520 | OPTIONAL | Optional expansions                                                                           | DEEPSEA 4520 | OPTIONAL |
| USB female type B plug (Max. 6m) [g] | •            | •        | DSE2130 (8 inputs dig.)   IG-IOM (8 in/outputs dig. + 4 inputs anal.)   G-08 ( 8 inputs dig.) | -            | 0        |
| USB female type A plug (n)           | -            | 0        | DSE2157   I-RB8   G-06 (8 relay outputs)                                                      | -            | 0        |
| RS232 port (Max. 15m) (n)            | -            | 0        | DSE890   IL-NT-GPRS   G-GSM (GSM and/or GPS)                                                  | •            | •        |
| RS485 port (Max. 1,2Km) [h]          | -            | 0        | DSE891   IB-LITE   G-ETH (ethernet module)                                                    | •            | •        |
| Ethernet port RJ45 [i]               | 0            | 0        | DSE892   IB-LITE   - (ethernet module according SNMP protocol)                                | •            | •        |
| GSM and/or GPS [j]                   | 0            | 0        | DSE2548   IGL-RA15   - (expansion with 8 additional LEDs)                                     | -            | 0        |
| ModBus RTU protocol [h]              | -            | 0        | DSE2510 / 20 (mirror controller, maximum distance 1km)                                        | -            | 0        |
| ModBus TCP protocol [i]              | -            | 0        |                                                                                               |              |          |
| SNMP protocol [l]                    | 0            | 0        |                                                                                               |              |          |
| CAN port (Max. 40m)                  | •            | •        |                                                                                               |              |          |
| MSC port (Max. 240m) (m)             | -            | 0        |                                                                                               |              |          |
| PLC functionality                    | -            | 0        |                                                                                               |              |          |

| Legend |                                                                                                                             |     |                                                                                                            |
|--------|-----------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------|
| •      | Available                                                                                                                   | [d] | Needs additional ammeter                                                                                   |
| o      | Optional                                                                                                                    | [e] | If information provided by the engine ECU                                                                  |
| -      | Not available                                                                                                               | [f] | Required additional sensor                                                                                 |
| A      | Warning Alarm                                                                                                               | [g] | Requires the addition of the IL-NT-S-USB module                                                            |
| S      | Stop alarm                                                                                                                  | [h] | Requires the addition of the IL-NT-RS232-485 module                                                        |
| [a]    | Need additional CT                                                                                                          | [i] | DeepSea: Requires the addition of the DSE891 module/ ComAp: Requires the addition of the IB-LITE module    |
| [b]    | No. of outputs available for standard configuration. The outputs do not include relays and additional terminal connections. | [j] | DeepSea: Requires the addition of the DSE890 module/ ComAp: Requires the addition of the IL-NT-GPRS module |
| [c]    | If the information is not provided by the engine-ECU, you need an additional sensor                                         | [l] | DeepSea: Requires the addition of the DSE892 module/ ComAp: Requires the addition of the IB-LITE module    |

Indicative weights and dimensions. Reference ambient conditions: 100kPa, 25°C, 30% relative humidity and fuel temperature below 40°C. Power in accordance with ISO 8528: Continuous power (PRP): Maximum available power to feed a variable electrical load for an unlimited period. The average of load factor in 24h of operation, shall not exceed 70% of the PRP. Admits 10% of overload during the maximum period of 1h every 12h of operation. The operation under overload shall not exceed 25h/year. Emergency Power (STP): Maximum available power to feed variable electrical load for a maximum period of 200h/year. The average of load factor in 24h of operation shall not exceed 70% of the STP. No overload. These specifications are subject to change without notice.

Distribuidor