



## SMART RANGE

### 1 MAIN FEATURES

T Triphasic    
 Diesel fuel    
 Baudouin / 4M06G44/5    
 Grupel / 184GB40    
 / 4520

Hz 50Hz    
 1500 r.p.m.    
 V 400V    
 cos φ 0,8

|                        |        |       |
|------------------------|--------|-------|
| Standby power (STP)    | 43 kVA | 34 kW |
| Prime Power (PRP)      | 38 kVA | 31 kW |
| Power Continuous (COP) | - kVA  | - kW  |

#### OPEN SKID

|            |         |
|------------|---------|
| Length (L) | 1700 mm |
| Height (H) | 1110 mm |
| Width (W)  | 850 mm  |
| Weight     | 627 kg  |
| Daily tank | 150 L   |

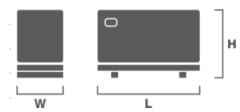


#### 50Hz

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

#### SOUNDPROOF

|            |         |
|------------|---------|
| Length (L) | 1950 mm |
| Height (H) | 1110 mm |
| Width (W)  | 800 mm  |
| Weight     | 827 kg  |
| Daily tank | 40 L    |



#### 50Hz

|                             |          |
|-----------------------------|----------|
| Acoustic pressure level @1m | 74 dB(A) |
| Acoustic pressure level @7m | 61 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     | - / -        | 39 / 31      | 43 / 34      | 63                  |
| 0,8        | Three-phase  | 415     | - / -        | 39 / 31      | 43 / 34      | 63                  |
| 0,8        | Three-phase  | 400     | - / -        | 38 / 31      | 43 / 34      | 63                  |
| 0,8        | Three-phase  | 380     | - / -        | 38 / 31      | 43 / 34      | 63                  |
| 0,8        | Three-phase  | 240     | - / -        | 39 / 31      | 43 / 34      | 100                 |
| 0,8        | Three-phase  | 230     | - / -        | 38 / 31      | 43 / 34      | 100                 |
| 0,8        | Three-phase  | 220     | - / -        | 39 / 31      | 43 / 34      | 125                 |
| 0,8        | Single phase | 240     | - / -        | 24 / 19      | 25 / 20      | 100                 |
| 1          | Single phase | 240     | - / -        | 18 / 18      | 20 / 20      | 80                  |
| 0,8        | Single phase | 230     | - / -        | 24 / 19      | 25 / 20      | 100                 |
| 1          | Single phase | 230     | - / -        | 18 / 18      | 20 / 20      | 80                  |
| 0,8        | Single phase | 220     | - / -        | 24 / 19      | 25 / 20      | 125                 |
| 1          | Single phase | 220     | - / -        | 18 / 18      | 20 / 20      | 100                 |

## 2 ROOM INSTALLATION

| EXHAUST SYSTEM                    | 50 Hz |      |      |
|-----------------------------------|-------|------|------|
|                                   | COP   | PRP  | STP  |
| Exhaust gas temperature (°C)      | -     | -    | 650  |
| Exhaust gas flow (m³/min)         | -     | 7,26 | 7,92 |
| Evacuated Heat (kW)               | -     | 24,1 | 28,3 |
| Maximum back pressure (kPa)       |       | 8    |      |
| Exhaust silencer attenuation (dB) |       | 30   |      |
| Output Diameter (mm)              |       | 65   |      |

| VENTILATION SYSTEMS          | 50 Hz |      |      |
|------------------------------|-------|------|------|
|                              | COP   | PRP  | STP  |
| Combustion air flow (m³/min) | -     | 2,1  | 2,22 |
| Cooling airflow (m³/min)     |       | 84,3 |      |
| Maximum load losses (Pa)     |       | 120  |      |
| RADIATION                    | 50 Hz |      |      |
|                              | COP   | PRP  | STP  |
| Engine (kW)                  | -     | -    | -    |
| Alternator (kW) 50           | 4,3   | 4,3  | 4,7  |

## 3 ENGINE SPECIFICATIONS

| GENERAL SPECIFICATIONS       | 50 Hz                           |
|------------------------------|---------------------------------|
| Model                        | 4M06G44/5                       |
| Emissions                    | Not satisfy 97/68/EC            |
| Performance grade            | G2                              |
| Operating method             | Four stroke                     |
| Fuel type                    | Diesel fuel                     |
| Refrigeration system         | Water/antifreeze Closed Circuit |
| Aspiration system            | Turbocharged                    |
| Injection system             | Direct                          |
| No. and Cylinder arrangement | 4 In-Line                       |
| Displacement (L)             | 2,3                             |
| Cylinder bore (mm)           | 89                              |
| Cylinder stroke (mm)         | 92                              |
| Compression Ratio            | 17,5:1                          |
| Regulation                   | Electronic                      |
| Rotation speed               | 1500                            |
| Piston Speed (m/s)           | 4,6                             |
| Gross power COP (kWm)        | -                               |
| Gross power PRP (kWm)        | 36                              |
| Gross power STP (kWm)        | 40                              |
| Fan power (kWm)              | 0,5                             |
| Net Power COP (kWm)          | -                               |
| Net Power PRP (kWm)          | 35,5                            |
| Net Power STP (kWm)          | 39,5                            |
| BMEP COP (kPa)               | -                               |
| BMEP PRP (kPa)               | 1043                            |
| BMEP STP (kPa)               | 1159                            |



| CONSUMPTION      |                            | 50 Hz |       |
|------------------|----------------------------|-------|-------|
| Fuel consumption | LOAD                       | lt/h  | g/kWh |
| STP              | 100%                       | 10,4  | 220,9 |
|                  | 100%                       | 9,3   | 215,8 |
|                  | 75%                        | 6,8   | 210,4 |
| PRP              | 50%                        | 4,6   | 215   |
|                  | 100%                       | -     | -     |
|                  | 75%                        | -     | -     |
| COP              | 50%                        | -     | -     |
|                  |                            |       |       |
| Oil consumption  | < 0,4% of fuel consumption |       |       |

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

| CAPACITY    |      |
|-------------|------|
| Coolant (L) | 16   |
| Oil (L)     | 11,5 |

| STARTING SYSTEM |    |
|-----------------|----|
| Voltage (V)     | 12 |
| Power (kW)      | 3  |
| Battery (Ah)    | 60 |

## 4 ALTERNATOR SPECIFICATIONS

| GENERAL SPECIFICATIONS             |   |
|------------------------------------|---|
| Model                              | 184GB40                                     |
| 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 / - |
| AVR Model (standard / option)                  | SX460/ -         |
| Voltage Regulation (standard / option)         | ± 1,0%/ -        |



## SMART RANGE

### RATED POWER - 50Hz

| FP (cos Ø) | Phase        | Voltage (V) | Power         |             | Efficiency |       |       |
|------------|--------------|-------------|---------------|-------------|------------|-------|-------|
|            |              |             | PRP/STP (kVA) | PRP/STP (%) | Xd         | X'd   | X''d  |
| 0,8        | Three-phase  | 440         | 40 / 44       | 87,3 / 87,3 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 415         | 40 / 44       | 87,0 / 87,0 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 400         | 40 / 44       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 380         | 40 / 44       | 86,3 / 86,3 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 240         | 40 / 44       | 87,0 / 87,0 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 230         | 40 / 44       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 0,8        | Three-phase  | 220         | 40 / 44       | 87,3 / 87,3 | 2,051      | 0,156 | 0,085 |
| 0,8        | Single phase | 240         | 24 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 1          | Single phase | 240         | 23 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 0,8        | Single phase | 230         | 24 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 1          | Single phase | 230         | 23 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 0,8        | Single phase | 220         | 24 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |
| 1          | Single phase | 220         | 23 / 25       | 86,6 / 86,6 | 2,051      | 0,156 | 0,085 |

## 5

## CONTROL PANEL



| GENSET                       | DEEPSEA 4520 | OPTIONAL |
|------------------------------|--------------|----------|
| Voltage (Ph-Ph / Ph-N)       | • / •        | • / •    |
| Current intensity            | •            | •        |
| Frequency                    | •            | •        |
| RMS values                   | •            | •        |
| Generator phase sequence     | -            | o        |
| Generator earth current [a]  | -            | o        |
| No. of registers events      | 15           | 250      |
| Real time clock              | •            | •        |
| PIN protection               | •            | •        |
| kWh, kVAr, kVAh, kVAh, cos Ø | •            | •        |
| Synchroscope (m)             | -            | o        |
| 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]                | -            | o        |
| Frequency                            | •            | •        |
| kVA, kW, cos Ø (a)                   | -            | o        |
| Inversion control between main-group | -            | o        |
| Protections and Alarms               | DEEPSEA 4520 | OPTIONAL |
| High / low battery voltage           | A            | o        |
| Failure in Battery Charge Alternator | A            | o        |
| 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                        | -            | o        |
| Asymmetry between phases             | -            | o        |
| 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                  | -            | o        |

## 6 CONTROL PANEL

| Engine                               | DEEPSEA 4520 | OPTIONAL |
|--------------------------------------|--------------|----------|
| Engine Speed                         | •            | •        |
| Low oil pressure protection          | •            | •        |
| Oil pressure reading [c]             | o            | o        |
| High temperature engine protection   | •            | •        |
| Engine temperature reading [c]       | o            | o        |
| Engine battery voltage               | •            | •        |
| Intensity of the engine battery [d]  | o            | o        |
| Fuel Consumption [e]                 | •            | •        |
| Low level of radiator water [f]      | o            | o        |
| Engine maintenance scheduled         | •            | •        |
| Communication                        | DEEPSEA 4520 | OPTIONAL |
| USB female type B plug (Max. 6m) [g] | •            | •        |
| USB female type A plug (n)           | -            | o        |
| RS232 port (Max. 15m) (n)            | -            | o        |
| RS485 port (Max. 1,2Km) [h]          | -            | o        |
| Ethernet port RJ45 [i]               | o            | o        |
| GSM and/or GPS [j]                   | o            | o        |
| ModBus RTU protocol [h]              | -            | o        |
| ModBus TCP protocol [i]              | -            | o        |
| SNMP protocol [l]                    | o            | o        |
| CAN port (Max. 40m)                  | •            | •        |
| MSC port (Max. 240m) (m)             | -            | o        |
| PLC functionality                    | -            | o        |

| Applications  | DEEPSEA 4520 | OPTIONAL |
|---|--------------|----------|
| Automatic or manual starting  | •            | •        |
| Remote start by NO dry contact  | •            | •        |
| Automatic by mains failure  | •            | •        |
| Alternating with timesharing  | -            | o        |
| Multi-generators synchronization and load sharing (Max. 32 generators) (m)                    | -            | o        |
| Generator-Main in synchronism and load sharing (1 generator and 1 main) (m)                   | -            | o        |
| Optional expansions   | DEEPSEA 4520 | OPTIONAL |
| DSE2130 (8 inputs dig.)   IG-IOM (8 in/outputs dig. + 4 inputs anal.)   G-08 ( 8 inputs dig.) | -            | o        |
| DSE2157   I-RB8   G-06 (8 relay outputs)  | -            | o        |
| DSE890   IL-NT-GPRS   G-GSM (GSM and/or GPS)  | •            | •        |
| DSE891   IB-LITE   G-ETH (ethernet module)  | •            | •        |
| DSE892   IB-LITE   - (ethernet module according SNMP protocol)                                | •            | •        |
| DSE2548   IGL-RA15   - (expansion with 8 additional LEDs)                                     | -            | o        |
| DSE2510 / 20 (mirror controller, maximum distance 1km)  | -            | o        |
| Standards   |              |          |
| Working temperature   | -30 -> 70°C  |          |
| Protection index (when assembled with sealing gasket)   | IP65         |          |
| Degree of humidity (during 48hr)  | 93% / 40°C   |          |

### Legend

|     |   |
|-----|---|
| •   | Available   |
| o   | Optional  |
| -   | Not available   |
| 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 the addition of the IL-NT-S-USB module  |
| [h] | Requires the addition of the IL-NT-RS232-485 module  |
| [i] | DeepSea: Requires the addition of the DSE891 module/ ComAp: Requires the addition of the IB-LITE module    |
| [j] | DeepSea: Requires the addition of the DSE890 module/ ComAp: Requires the addition of the IL-NT-GPRS module |
| [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