# GENERATING SET
# GE 225 BSX


| POWER RATINGS | |
|---|---|
| * Stand-By three-phase power (LTP) | 220 kVA (176 kW) / 400V / 317,5A |
| * PRP three-phase power | 200 kVA (160 kW) / 400V / 288,7A |
| * PRP single-phase power | / |
| Frequency | 50 Hz |
| Cos φ | 0.8 |

* Output powers according to ISO 8528-1

## FEATURES

- Electronic engine speed control
- Fuel pre-filter and filter with water-in-fuel indicator
- Two lifting hooks for the central lifting system
- Sealed base to contain any engine fluid leaks, preventing environmental pollution
- Door with viewing window for the control panel
- External access for filling the radiator
- External cap for draining liquids from the crankcase
- Oil extraction pump
- 3-way valve for transferring fuel from an external tank with quick-fill couplings housed in a special recess (OPTIONAL)
- Fuel level sensor / low radiator fluid level / crankcase leak detection
- Battery disconnect switch
- Emergency button
- Electrical distribution panel with three-phase and single-phase output sockets (OPTIONAL)
- Four-pole main circuit breaker
- Electronic differential relay with adjustable current and trip time, standard with the electrical distribution panel
- Brushless alternator with three-phase sensing electronic voltage regulation (AVR) and marine impregnation protection

water cooled | diesel | 3~ three-phase | electric starter

## ENGINE 1500 RPM

| 4 STROKE, DIRECT INJECTION, TURBOCHARGED | |
|---|---|
| Model | BAUOUIN 6M16G2D0/S |
| * Stand-By net power | 291 Kw (256) |
| * PRP net power | 174 kW (233 hp) |
| * COP net power | / |
| Cylinders / Displacement | 6 / 9,726 lit. (9726 $cm^3$) |
| Bore / Stroke | 126 / 130 (mm) |
| Compression ratio | 17 : 1 |
| BMEP (Brake Mean Effective Pressure : LTP - PRP) | 1645 kPa |
| Speed governor type | Electronic |
| **FUEL CONSUMPTION** | |
| 110 % (Stand-by power) | 46,9 lit./h |
| 100 % to PRP | 43,1 lit./h |
| 75 % to PRP | 32,4 lit./h |
| 50 % to PRP | 22,4 lit./h |
| 25 % to PRP | 12,6 lit./h |
| **COOLING SYSTEM** | |
| Total system cap. - only engine | 42 lit. - 22 lit |
| Fan air flow | 415 $m^3$/min. |
| **LUBRIFICATION SYSTEM** | |
| Total oil system capacity | 19 - 22 lit. |
| Oil capacity in sump | / |
| Oil consumption at full load | 0,2 % (fuel consumption) |

| **EXHAUST SYSTEM** | |
|---|---|
| Maximum exhaust gas flow | 38,2 $m^3$/min. |
| Max. exhaust gas temp. | 700 °C |
| Maximum back pressure | 6 kPa (0,06 bar) |
| External diameter exhaust pipe | / |
| **ELECTRICAL SYSTEM** | 24 Vdc |
| Starter motor power | 8,5 kW |
| Battery charging alternator cap. | 55 A |
| Cold start | - 10 °C |
| With cold start aid | - 30 °C |
| **AIR FILTER** | Dry |
| Combustion air flow | 14,2 $m^3$/min. |
| **HEAT REJECTED AT FULL LOAD** | 260 kWh |
| To exhaust system | / |
| To water and oil | / |
| Radiated to room | / |
| To charge cooler | / |

* Output powers according to ISO 3046-1

# ALTERNATOR

| SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS | |
|---|---|
| Continuos power | 200 kVA |
| Stand-by power | 220 kVA |
| Three phase voltage | 380 - 440 Vac |
| Frequency | 50 Hz |
| Cos φ | 0.8 |
| Model A.V.R. | HVR-30 (3ph. sensing) |
| Voltage regulation acc. | ± 1,0 % |
| Sustained short circuit current | ≥ 3 In (x10 sec.) |
| Transient dip (100% load) | < 10 % |
| Recovery time | < 0,3 sec |
| Efficiency at 100% load | 91.7 % (400V - Cos φ 0,8) |
| Insulation | Class H |
| Connection - Terminals | Star - N°12 |
| Electromagnetic compatibility ( R.F.I. suppr.) | EN 55011 |
| Waveform distorsion - THD | < 3 % |
| Thelephone interference - THF | < 2 % |

| REACTANCES (200 kVA - 400V) | |
|---|---|
| Direct axis synchronuos - Xd | 389 % |
| Direct axis transient - X'd | 21,0 % |
| Subdirect axis transient - X"d | 11,1 % |
| Quadrature axis synchronuos - Xq | 239 % |
| Quadr. axis subtransient - X"q | / |
| Negative sequence - X2 | / |
| Zero sequence - X0 | / |
| **TIME CONSTANTS** | |
| Transient - T'd | 0,113 sec |
| Subtransient - T"d | 0,017 sec |
| Open circuit - T'do | 1,81 sec |
| Armature - Ta | / |
| Short-circuit ratio Kcc | 0.34 |
| Grado di Protezione IP | IP 23 |
| Cooling air flow | 0,533 $m^3$/sec. |
| Coupling I Bearing | Direct SAE 3 -11 ½ - N°1 |

# GENERAL SPECIFICATIONS

| | |
|---|---|
| Fuel tank capacity | 425 lt. |
| Running time (75% to PRP) | 13 h |
| Starter battery | 24 Vdc [2x12Vdc-180Ah 1100A CCA(EN)] |

| | |
|---|---|
| IP protection degree | IP 44 |
| Acoustic pressure LpA | 74 dB(A) @ 7m |
| Performance class (ISO 8528) | G3 |

# Digital Control Panel

| INTELILITE4 AMF9 CONTROLLER CHARACTERISTICS | |
|---|---|
| Operating mode | • OFF - MAN.- AUTO - TEST |
| Display - Pulsanti-LEDs | • Backlit display, LCD 132x64 pixels<br>• Buttons / Buttons: START - STOP - RESET ALARMS / FAULT RESET<br>• LEDs: Generator / GCB ON status - Grid status |
| Generator Measures | • Voltages: L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3<br>• Currents: I1 - I2 - I3<br>• Frequency Hz<br>• Power: kVA – kW – kVAR<br>• Energy: kVAh – kWh<br>• Cos φ per phase |
| Engine Measures | • Water temperature<br>• Oil pressure<br>• Fuel level<br>• Rpm meter<br>• Battery voltage<br>• Maintance<br>• Hours meter<br>• Starts number |
| Generator Protections | • Overload<br>• Overcurrent<br>• Short circuit<br>• Over-Udervoltage<br>• Over-Uderfrequency<br>• Voltage asymmetry<br>• Unbalanced current<br>• Phase sequence |
| Engine Protections | • Overspeed<br>• High water temperature pre-alarm<br>• High water temperature<br>• Low oil pressure pre-alarm<br>• Low oil pressure<br>• Low fuel level pre-alarm<br>• Low fuel level alarm<br>• High battery voltage<br>• Low battery voltage<br>• Alternator/battery charger failure<br>• Emergency stop<br>• Failure to start<br>• Failure to stop<br>• Low water level |
| AMF functins (Automatic control panel only) | • Voltages: L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3<br>• Frequency<br>• Three-phase detection<br>• Mains overvoltage<br>• Undervoltage Network<br>• Network overfrequency<br>• Network underfrequency<br>• Voltage asymmetry<br>• Phase rotation<br>• Management of two standby generators |
| Features | • Event log, 150 stored events<br>• 3 programmable test timers<br>• Programming from panel or PC<br>• 3 selectable languages (other languages available)<br>• Direct connection to engines with ECUs (Stage V, Tier 4 Final) via CAN Bus J1939<br>• External start and stop<br>• Programmable inputs and outputs<br>• Alternative configurations (50/60Hz)<br>• IP 65 protection<br>• Operating temperature: -20°C -+70°C |
| Communication | • USB port<br>• RS232-RS485 (optional)<br>• Modbus RTU/TCP (optional)<br>• Internet connection with Ethernet (optional)<br>• Online control and monitoring via web pages (embedded web server) (optional)<br>• GPS/4G modem (optional) (geographic tracking via Web-Supervisor)<br>• Internal PLC support |


## Manual control panel with sockets

- Power switch
- Audible warning light
- Emergency stop button
- Circuit breaker
- Electronic differential relay
- Terminal block for TCM 35 remote control and PAC I 275-M (400A) Mains/ Generation Transfer Switch (ATS) panel. Earth terminal (PE)
- Output sockets: 1x 400V 125A 3P+N+T CEE IP67
  1x 400V 63A 3P+N+T CEE IP67
  1x 400V 32A 3P+N+T CEE IP67
  1x 400V 16A 3P+N+T CEE IP67
  1x 230V 16A 2P+T CEE IP67
  1x 230V 16A 2P+T SCHUKO IP67
- Circuit breaker (for 125A socket)
- Circuit breaker (for 63A socket)
- Circuit breaker with residual current (RCD) (for 32A socket)
- Circuit breaker with residual current (RCD) (for 16A socket)
- Circuit breaker with residual current (RCD) (for 16A single-phase sockets)
- Earth terminal (PE)

## Automatic control panel without sockets

- Intelilite4 AMF9 Controller
- Power switch
- Horn
- Emergency stop button
- Connector for TCM 35 remote control
- Magnetic circuit breaker
- 16-pin PAC (ATS) connector (Automatic control panel only)
- Battery charger (Automatic control panel only)
- Earth terminal (PE)

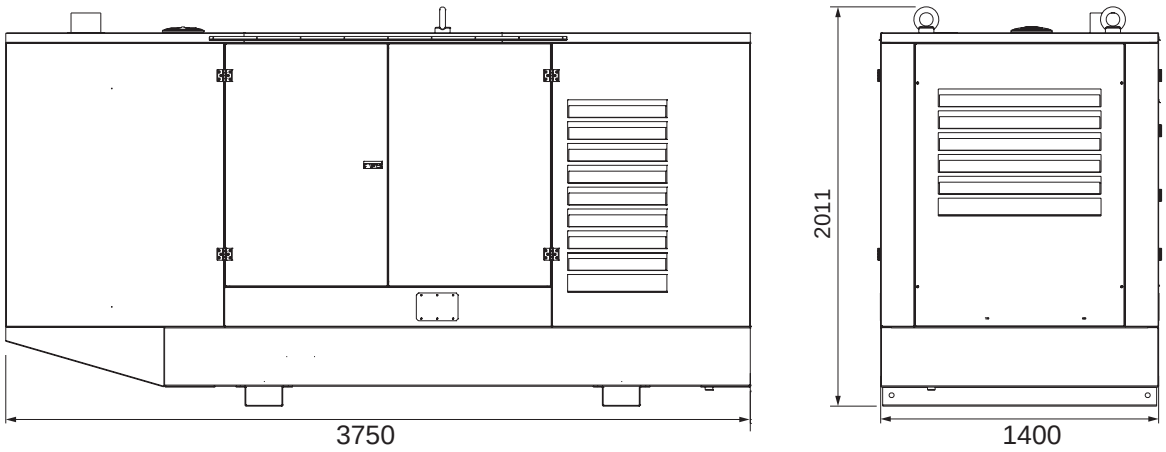
# WEIGHT - DIMENSIONS AND ACCESSORIES



DRY WEIGHT MACHINE:
- 3020 kg
- 3220 kg (850 lt. )

Generating set pictured may include optional accessories.

DIMENSIONS DRAW




## VERSIONS IN ADDITION TO THE STANDARD FEATURES

| | HEATER | REMOTE | 3WAY | ISO | OIL & GAS | 850L | TOP |
|---|---|---|---|---|---|---|---|
| 3-way valve | | | √ | | √ | | √ |
| Water heater Engine | √ | | | | | | √ |
| Radio control | | √ | | | | | |
| Insulation monitor | | | | √ | | | |
| Spark suppressor | | | | | √ | | |
| Voltage adjustment from control panel | | | | | | | √ |
| 850-liter tank | | | | | | √ | |

### OPTIONS ON REQUEST

- Internet/Ethernet plug-in module with web server
- GPS/4G modem with antenna
- Plug-in module with dual RS232 and RS485 ports
- 15 alarm/status reporting board (configurable)
- PAC I 275-M Mains/Generation Transfer Switch (ATS) (400A)
- TCM35 remote control
- MT75 earthing

### VERSIONS AVAILABLE

| AUTOMATIC WITHOUT SOCKETS | | | |
|---|---|---|---|
| CH6V90F6 | STANDARD | CH6V90F6AR | OIL & GAS+HEATER |
| CH6V90F6A | HEATER | CH6V90F6AHR | TOP |
| CH6V90F6AMF | HEATER+3WAY+850L | | |
| **MANUAL WITH SOCKETS** | | | |
| CH6V90G6R | STANDARD | CH6V90G6HR | 3WAY |
| CH6V90G6AR | HEATER | CH6V90G6T | ISO |
| CH6V90G6RW | REMOTE | CH6V90G6MRU | TOP |
| CH6V90G6CHR | OIL & GAS | | |

### GENERAL INFORMATION

**COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS**
2006/42 / EC (Machines Directive)
2014/35 / EU (Low Voltage Directive)
2014/30 / EU (EMC Directive)
ISO 8528 (Reciprocating internal combustion engine driven alternating current generating sets )

ISO 9001:2008 - Cert. 0192

**WARRANTY**
All devices are covered by the manufacturer's warranty.