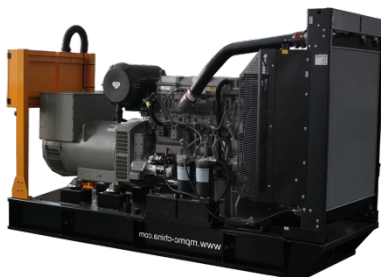


## Model: MBL23(S)-1

Powered by Baudouin



### Applicable Standards

- ISO 8528-5:2018
- GB/T2820.5-2009
- CE
- ISO 3046
- ISO 12944 (\*SC only)

### Environmental Conditions

- Ambient temperature: +5°C~+40°C (Rated Power)
- Maximal ambient temperature: 50°C
- Altitude: ≤1000m
- Anti-dust, anti-corrosion and ultra-silent

\*Remark: If your conditions are different from the above, please contact our sales.

### Factory Inspection

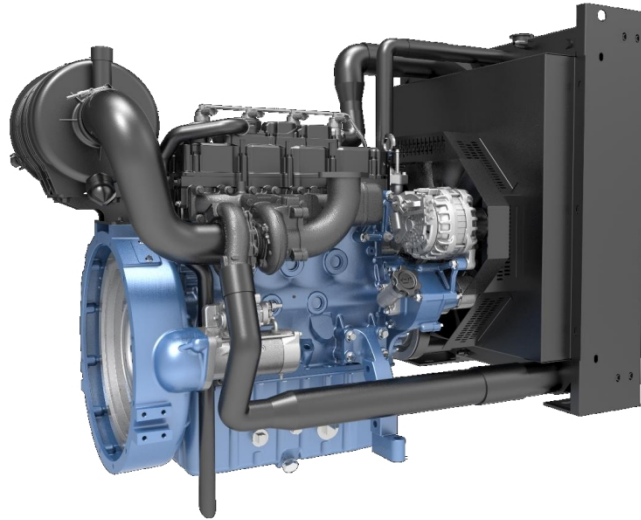
- Complete design and quality inspection
- 0%, 25%, 50%, 75%, 100%, 110% load test
- IP test
- Noise test
- Function test
- Protection test

| General Information          |                 | Rated Power                     |                          |               |     |
|------------------------------|-----------------|---------------------------------|--------------------------|---------------|-----|
| Frequency                    | Voltage         | Prime Power                     |                          | Standby Power |     |
| Hz                           | V               | kVA                             | kW                       | kVA           | kW  |
| 50Hz<br>Rated                | 415V/240V       | 22.5                            | 18                       | 25            | 20  |
|                              | Rated 400V/230V | 22.5                            | 18                       | 25            | 20  |
|                              | 380V/220V       | 22.5                            | 18                       | 25            | 20  |
|                              | 220V/110V       | TBA                             | TBA                      | TBA           | TBA |
| 60Hz                         | 480V/277V       | N/A                             | N/A                      | N/A           | N/A |
|                              | 440V/254V       | N/A                             | N/A                      | N/A           | N/A |
|                              | 400V/230V       | N/A                             | N/A                      | N/A           | N/A |
|                              | 380V/220V       | N/A                             | N/A                      | N/A           | N/A |
|                              | 220V/127V       | N/A                             | N/A                      | N/A           | N/A |
| 220V/110V                    | N/A             | N/A                             | N/A                      | N/A           |     |
| Power Factor                 |                 | 0.8 Lagging                     |                          |               |     |
| Engine                       |                 | 4M06G25-5                       |                          |               |     |
| Rated Speed                  |                 | 1500 RPM (Unchangeable)         |                          |               |     |
| Fuel Type                    |                 | Grade No. 2D per ASTM D975      |                          |               |     |
| Lube-oil Type                |                 | API Service CF Class SAE 15W-40 |                          |               |     |
| Alternator                   |                 | LYG 184E                        |                          |               |     |
| Noise Level                  |                 | 50Hz                            | 60Hz                     |               |     |
| Average Value<br>@1m,75%load | OE Series dB(A) | 105.9                           | N/A                      |               |     |
|                              | SR Series dB(A) | TBA                             | N/A                      |               |     |
| Fuel Consumption             |                 | 50Hz                            | 60Hz                     |               |     |
| Load Ration                  | L/h@110%        | 7.1                             | N/A                      |               |     |
|                              | L/h@100%        | 6.1                             | N/A                      |               |     |
|                              | L/h@75%         | 4.5                             | N/A                      |               |     |
|                              | L/h@50%         | 3.2                             | N/A                      |               |     |
| Dimension and Weight         |                 | OE Series<br>Open-type          | SR Series<br>Silent-type |               |     |
| Length (L) mm                |                 | 1730                            | 1950                     |               |     |
| Width (W) mm                 |                 | 610                             | 793                      |               |     |
| Height (H) mm                |                 | 1192                            | 1125                     |               |     |
| Net. Weight (kg)             |                 | 560                             | 820                      |               |     |

Note: Specifications and illustrations are subject to revision without notice.



## Engine Specifications

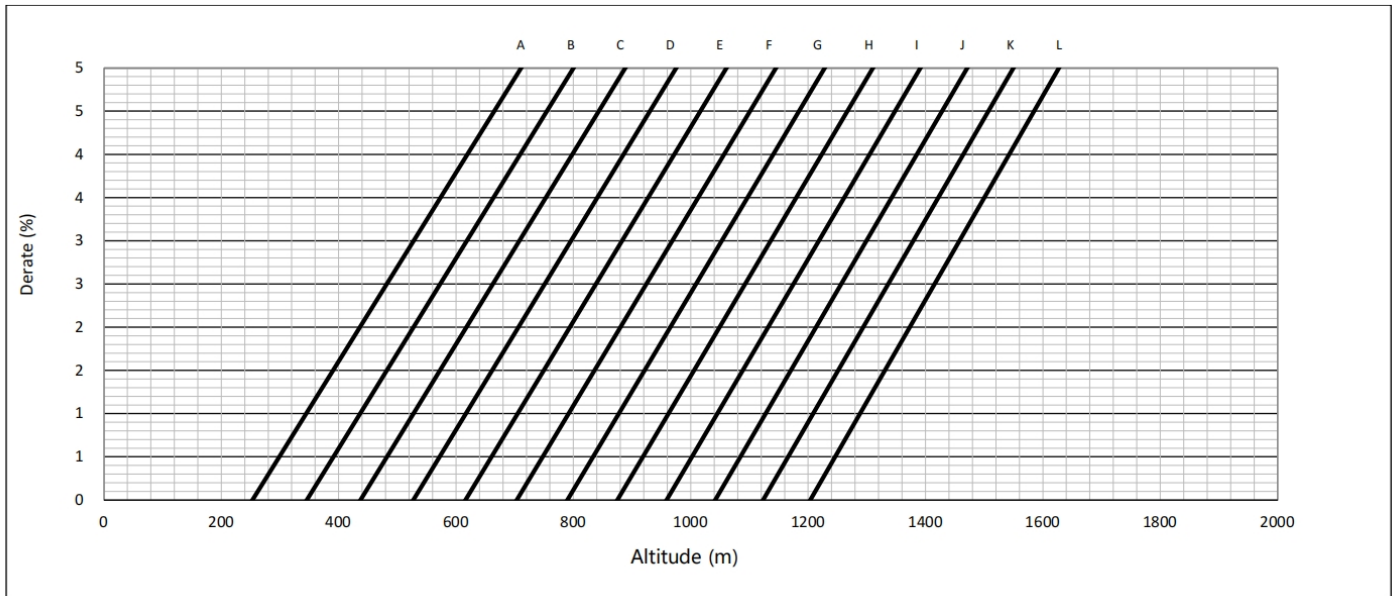


| Engine model   | 4M06G25-5  |                  |
|--|--|------------------|
| Emission   | N/A  |                  |
| Number of cylinders  | 4  |                  |
| Cylinder arrangement   | Vertical inline  |                  |
| Cycle  | Four stroke  |                  |
| Aspiration   | Naturally aspirated  |                  |
| Bore x Stroke  | 89 x 92 mm   |                  |
| Displacement   | 2.3 L  |                  |
| Compression ratio  | 17.5: 1  |                  |
| Gross prime power /speed   | 23 kWm/1500 rpm  | N/A kWm/1800 rpm |
| Gross standby power /speed   | 25 kWm/1500 rpm  | N/A kWm/1800 rpm |
| Speed governor   | Electronic   |                  |
| Cooling system   | Liquid (water + 50% antifreeze)  |                  |
| Steady State Stability Band at any Constant Load   | ≤±0.5%   |                  |
| Total lubrication system capacity  | 11.5 L   |                  |
| Coolant capacity (engine only)   | 5 L  |                  |
| Starter motor  | DC 12V   |                  |
| Charge alternator  | DC 12V 35Amps  |                  |
| <input checked="" type="checkbox"/> Industrial silencer / <input type="checkbox"/> Residential silencer / <input type="checkbox"/> Critical silencer<br><input checked="" type="checkbox"/> Heavy duty air filter / <input type="checkbox"/> Single-core air filter<br><input checked="" type="checkbox"/> Anti-vibration mount<br><input type="checkbox"/> Water-fuel separator / <input type="checkbox"/> Multi-water-fuel separators<br><input type="checkbox"/> Coolant level sensor<br><input checked="" type="checkbox"/> Lube-oil pressure sensor<br><input type="checkbox"/> Lube-oil auto refilling meter<br><input type="checkbox"/> Smoke temperature sensor<br><input checked="" type="checkbox"/> Replaceable fuel filter, oil filter | <input type="checkbox"/> Spark arrestor<br><input checked="" type="checkbox"/> -18°C start up battery / <input type="checkbox"/> -45°C start up battery<br><input checked="" type="checkbox"/> Flexible fuel connection hoses<br><input type="checkbox"/> Jacket water heater / <input type="checkbox"/> Fuel jacket water heater<br><input checked="" type="checkbox"/> Coolant temperature sensor<br><input type="checkbox"/> Lube-oil temperature sensor<br><input type="checkbox"/> Lube-oil auto refilling tank<br><input type="checkbox"/> Lube-oil manual pump<br><input type="checkbox"/> Breath box |                  |

## Engine Derating Curves

### 50Hz/1500RPM

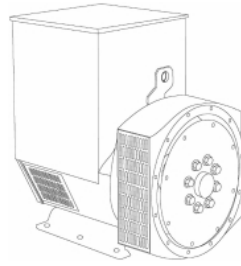
| Ambient Temperature (°C / °F) | A        | B        | C        | D        | E       | F       | G       | H       | I       | J       | K      | L      |
|-------------------------------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|--------|--------|
|                               | 55 / 131 | 50 / 122 | 45 / 113 | 40 / 104 | 35 / 95 | 30 / 86 | 25 / 77 | 20 / 68 | 15 / 59 | 10 / 50 | 5 / 41 | 0 / 32 |



### 60Hz/1800RPM

N/A

## Alternator Specifications



| Alternator model       | LYG184E-V02    |
|------------------------|----------------|
| Number of phase        | 3              |
| Power factor (Cos Phi) | 0.8            |
| Poles                  | 4              |
| Winding leads          | 12             |
| Insulation level       | H class        |
| Temperature rise       | H class        |
| Excitation             | Brushless      |
| AVR model              | SX460          |
| Winding Pitch          | 5/6            |
| IP rating              | IP22           |
| Bearing                | Single bearing |
| Voltage regulator      | ±1.0%          |

Space heater

Air filter (5% derating)

Anti-harsh environment

RTD STD

### Alternator Ratings Table

| Class-Temp Rise |                | Cont.H-125/40°C |      |      |      | Standby-163/27°C |     |     |     |
|-----------------|----------------|-----------------|------|------|------|------------------|-----|-----|-----|
| 50Hz            | Series Star(V) | 380             | 400  | 415  | 440  | 380              | 400 | 415 | 440 |
|                 | Output(kVA)    | 22.5            | 22.5 | 22.5 | 17.5 | N/A              | N/A | N/A | N/A |
|                 | Efficiency(%)  | 83.7            | 84.2 | 84.5 | 84.9 | N/A              | N/A | N/A | N/A |
| 60Hz            | Series Star(V) | 416             | 440  | 460  | 480  | 416              | 440 | 460 | 480 |
|                 | Output(kVA)    | 27.5            | 28.8 | 28.8 | 30.0 | N/A              | N/A | N/A | N/A |
|                 | Efficiency(%)  | 83.4            | 83.6 | 84.1 | 84.2 | N/A              | N/A | N/A | N/A |

#### De-Rates

All values tabulated above are subject to the following reductions:

- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters must be referred to applications.

## Alternator Operating Charts

400V@50Hz

TBA

480V@60Hz

TBA

### One-step Load Acceptance

| ISO 8528-5                         | 50Hz                      |                            | 60Hz                      |                            |
|------------------------------------|---------------------------|----------------------------|---------------------------|----------------------------|
|                                    | 50% sudden power increase | 100% sudden power decrease | 50% sudden power increase | 100% sudden power decrease |
| Transient frequency difference (%) | TBA                       | TBA                        | TBA                       | TBA                        |
| Frequency recovery time (s)        | TBA                       | TBA                        | TBA                       | TBA                        |
| Transient voltage deviation (%)    | TBA                       | TBA                        | TBA                       | TBA                        |
| Voltage recovery time (s)          | TBA                       | TBA                        | TBA                       | TBA                        |

\*All data comes from actual testing and is for reference only.

## Control Panel

### DSE 4520 MKII

Auto start and auto mains failure control module  
(Alternator frequency & can speed sensing)



#### Key features

- Auto Start and AMF mode in one module.
- J1939-75 support and CAN alarm ignore function.
- Alternator frequency & CAN speed sensing in one variant.
- Largest back-lit icon display in its class.
- Heated display option.
- Real time clock provides accurate event logging.
- Fully configurable via the fascia or PC using USB communication.
- Extremely efficient power save mode.
- 3 phase generator sensing.
- 3 phase mains (utility) sensing
- Compatible with 600 V ph to ph nominal systems.
- Generator/load power monitoring (kW, kVA, kVar, PF).
- Accumulated power monitoring (kWh, kVAh, kVarh).
- Generator overload protection.
- Generator/load current monitoring and protection.
- Fuel and start outputs (configurable when using CAN).
- 4 configurable DC outputs.
- 3 configurable analogue/digital inputs

#### Expansion devices

N/A

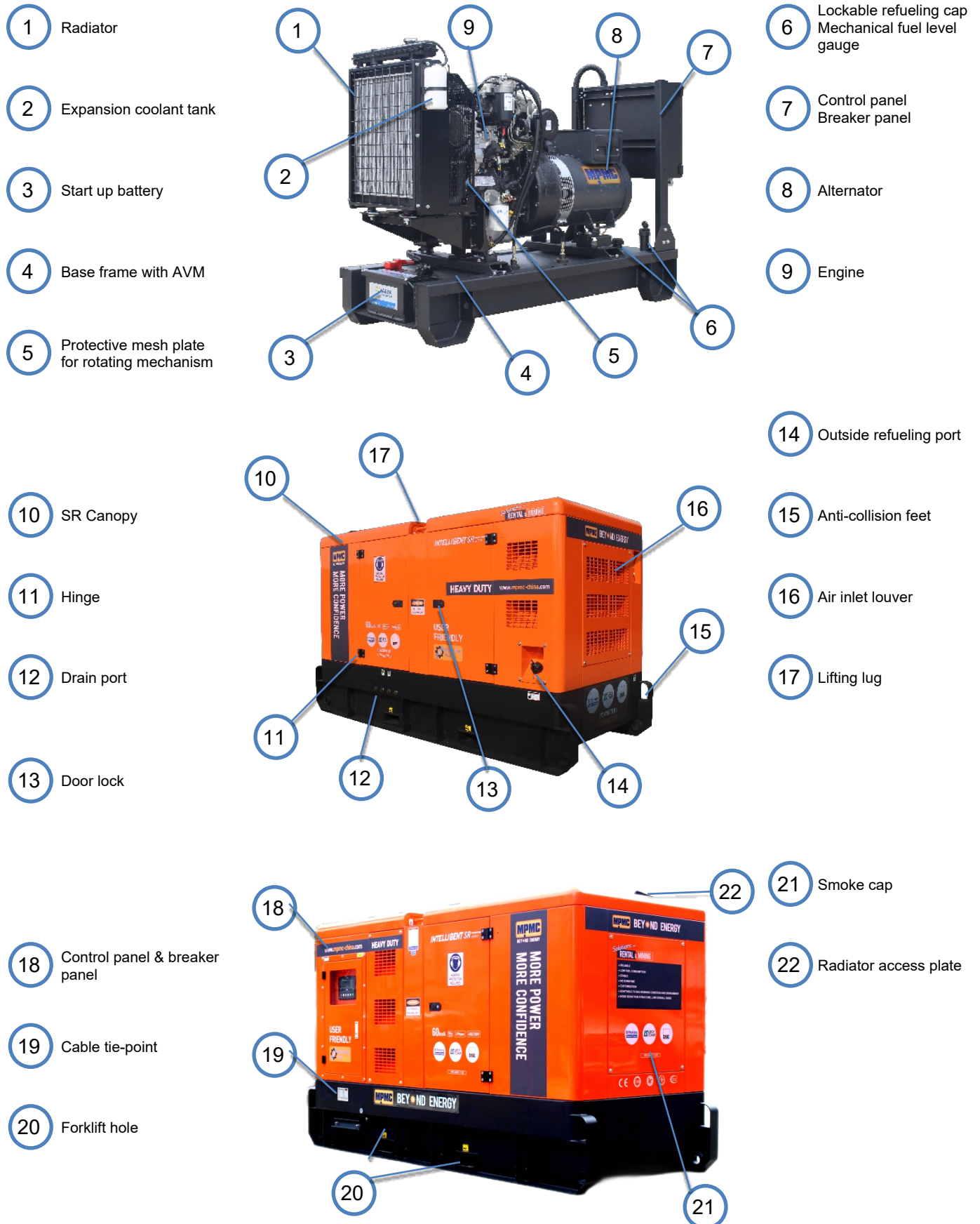
#### Key benefits

- Ultimate size to feature ratio.
- Automatically transfers between mains (utility) and generator.
- Hours counter provides accurate information for monitoring and maintenance periods.
- User-friendly set-up and button layout for ease of use.
- Multiple parameters are monitored simultaneously which are clearly displayed on the largest back-lit icon display in its class.
- The module can be configured to suit a wide range of applications.
- Compatible with a wide range of CAN engines including Tier 4.
- IP65 rating (with optional gasket) offers increased resistance to water ingress.

- 4 configurable digital inputs.
- Configurable staged loading outputs.
- 3 engine maintenance alarms.
- Engine speed protection.
- Engine hours counter.
- Engine pre-heat.
- Engine run-time scheduler.
- Engine idle control for starting & stopping.
- Tier 4 engine instrumentation screens.
- Battery voltage monitoring.
- Start on low battery voltage.
- Configurable remote start input.
- 1 alternative configuration.
- Comprehensive warning, electrical trip or shutdown protection upon fault condition.
- LCD alarm indication.
- Event log (50)

## General Arrangement

### Main Components



## Generator Options

### Basement :

- 6 hours fuel tank
- 8 hours fuel tank
- 12 hours fuel tank
- 24 hours fuel tank
- Bonded fuel tank
- Fuel leakage sensor
- Lifting points
- Forklift holes
- Drag holes
- Expansion joint
- Quick connector of external fuel pipe & tank
- Three-way valve
- Mechanical fuel level gauge
- Electronic fuel level sensor
- C-3 painting / C-4 painting / C-5 painting
- Others:

### Electrical system :

- CHINT Breaker /  ABB Breaker / Schneider Breaker / Others:
- Manual breaker / Motorized breaker
- 3P Breaker / 4P Breaker
- RCD
- MEN
- External AC charger
- Socket:
- Plug:

### Silent Generator Only :

- Galvanized canopy
- Stainless steel canopy & hardware
- Sponge materials / Rock wool with mesh plate
- IP 21 / IP 22 / IP23
- Zinc alloy door lock
- Zinc alloy hinge
- Access door for radiator
- Aluminum canopy



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<https://www.linkedin.com/company/mpmcpowertech>



<https://www.youtube.com/user/MPMCGenerator>

\*All information in this document is substantially correct at time of printing and may be altered subsequently. Final weight and dimensions will depend on completed specification.