

## Model: MBL50(S)-2

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

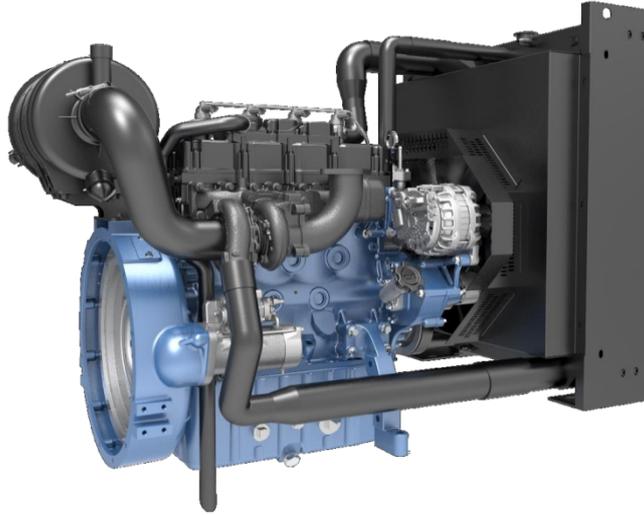
- Complete design and quality inspection
- 0%, 25%, 50%, 75%, 100%, 110% load test
- IP test
- Noise test
- Function test
- Protection test

General Information		Rated Power			
Frequency	Voltage	Prime Power		Standby Power	
Hz	V	kVA	kW	kVA	kW
50Hz	415V/240V	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/110V	N/A	N/A	N/A	N/A
60Hz Rated	480V/277V	57.5	46	62.5	50
	Rated 440V/254V	57.5	46	62.5	50
	400V/230V	N/A	N/A	N/A	N/A
	380V/220V	N/A	N/A	N/A	N/A
	220V/127V	57.5	46	62.5	50
	220V/110V	40	32	44	35.2
Power Factor		0.8 Lagging			
Engine		4M06G50-6			
Rated Speed		1800 RPM (Unchangeable)			
Fuel Type		Grade No. 2D per ASTM D975			
Lube-oil Type		API Service CF Class SAE 15W-40			
Alternator		LYG 224C			
Noise Level		50Hz	60Hz		
Average Value @1m,75%load	OE Series dB(A)	N/A	107.6		
	SR Series dB(A)	N/A	TBA		
Fuel Consumption		50Hz	60Hz		
Load Ration	L/h@110%	N/A	14.4		
	L/h@100%	N/A	13.1		
	L/h@75%	N/A	9.6		
	L/h@50%	N/A	6.7		
Dimension and Weight		OE Series Open-type	SR Series Silent-type		
Length (L) mm		1850	2100		
Width (W) mm		700	993		
Height (H) mm		1330	1125		
Net. Weight (kg)		750	1000		

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



## Engine Specifications



Engine model	4M06G50-6	
Emission	N/A	
Number of cylinders	4	
Cylinder arrangement	Vertical inline	
Cycle	Four stroke	
Aspiration	Turbocharged and Aftercooled	
Bore x Stroke	89 x 92 mm	
Displacement	2.3 L	
Compression ratio	17.5 : 1	
Gross prime power /speed	N/A kWm/1500 rpm	53 kWm/1800 rpm
Gross standby power /speed	N/A kWm/1500 rpm	58 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	<input type="checkbox"/> Spark arrestor	
<input checked="" type="checkbox"/> Heavy duty air filter / <input type="checkbox"/> Single-core air filter	<input checked="" type="checkbox"/> -18°C start up battery / <input type="checkbox"/> -45°C start up battery	
<input checked="" type="checkbox"/> Anti-vibration mount	<input checked="" type="checkbox"/> Flexible fuel connection hoses	
<input type="checkbox"/> Water-fuel separator / <input type="checkbox"/> Multi-water-fuel separators	<input type="checkbox"/> Jacket water heater / <input type="checkbox"/> Fuel jacket water heater	
<input type="checkbox"/> Coolant level sensor	<input checked="" type="checkbox"/> Coolant temperature sensor	
<input checked="" type="checkbox"/> Lube-oil pressure sensor	<input type="checkbox"/> Lube-oil temperature sensor	
<input type="checkbox"/> Lube-oil auto refilling meter	<input type="checkbox"/> Lube-oil auto refilling tank	
<input type="checkbox"/> Smoke temperature sensor	<input type="checkbox"/> Lube-oil manual pump	
<input checked="" type="checkbox"/> Replaceable fuel filter, oil filter	<input type="checkbox"/> Breath box	

## Engine Derating Curves

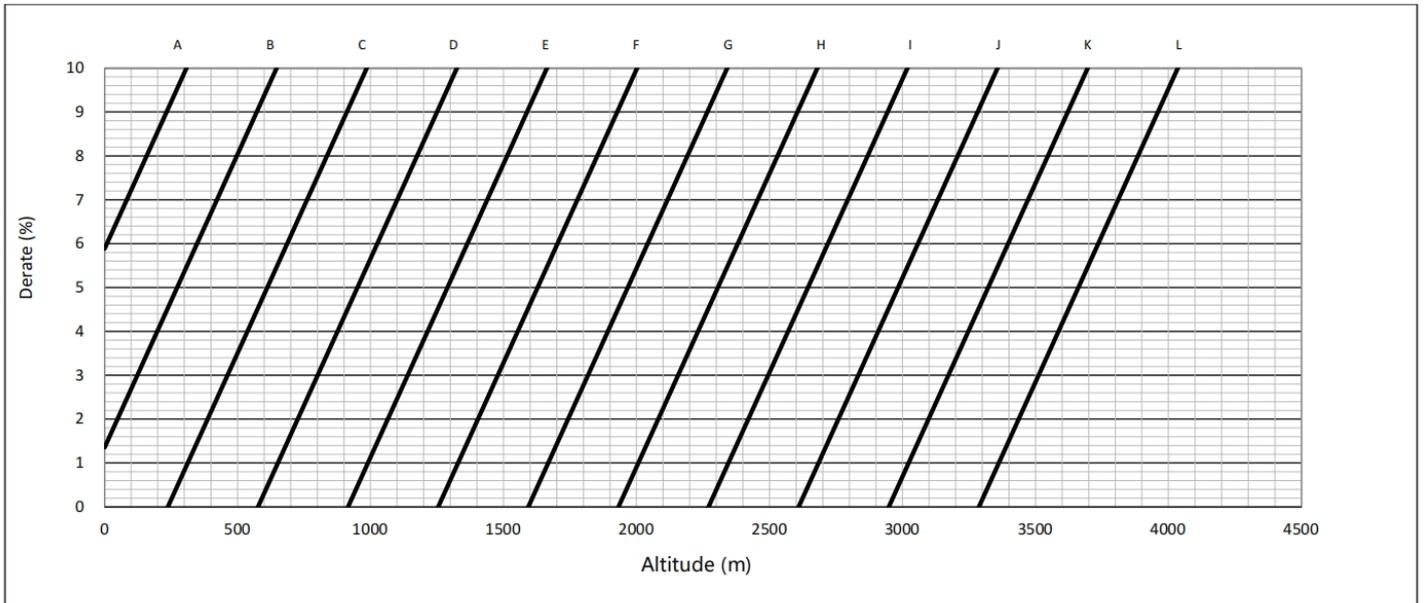
50Hz/1500RPM

N/A

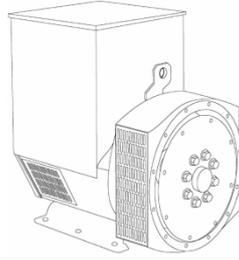
60Hz/1800RPM

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



## Alternator Specifications



Alternator model	LYG224C-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)	50.0	50.0	50.0	37.5	55.0	55.0	55.0	41.2
	Efficiency(%)	87.7	88.2	88.5	89.6	87.2	87.7	88.0	89.4
60Hz	Series Star(V)	416	440	460	480	416	440	460	480
	Output(kVA)	60.0	62.5	62.5	65.0	65.0	66.3	66.3	71.3
	Efficiency(%)	88.0	88.4	88.8	89.0	87.5	88.1	88.5	88.5

#### 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

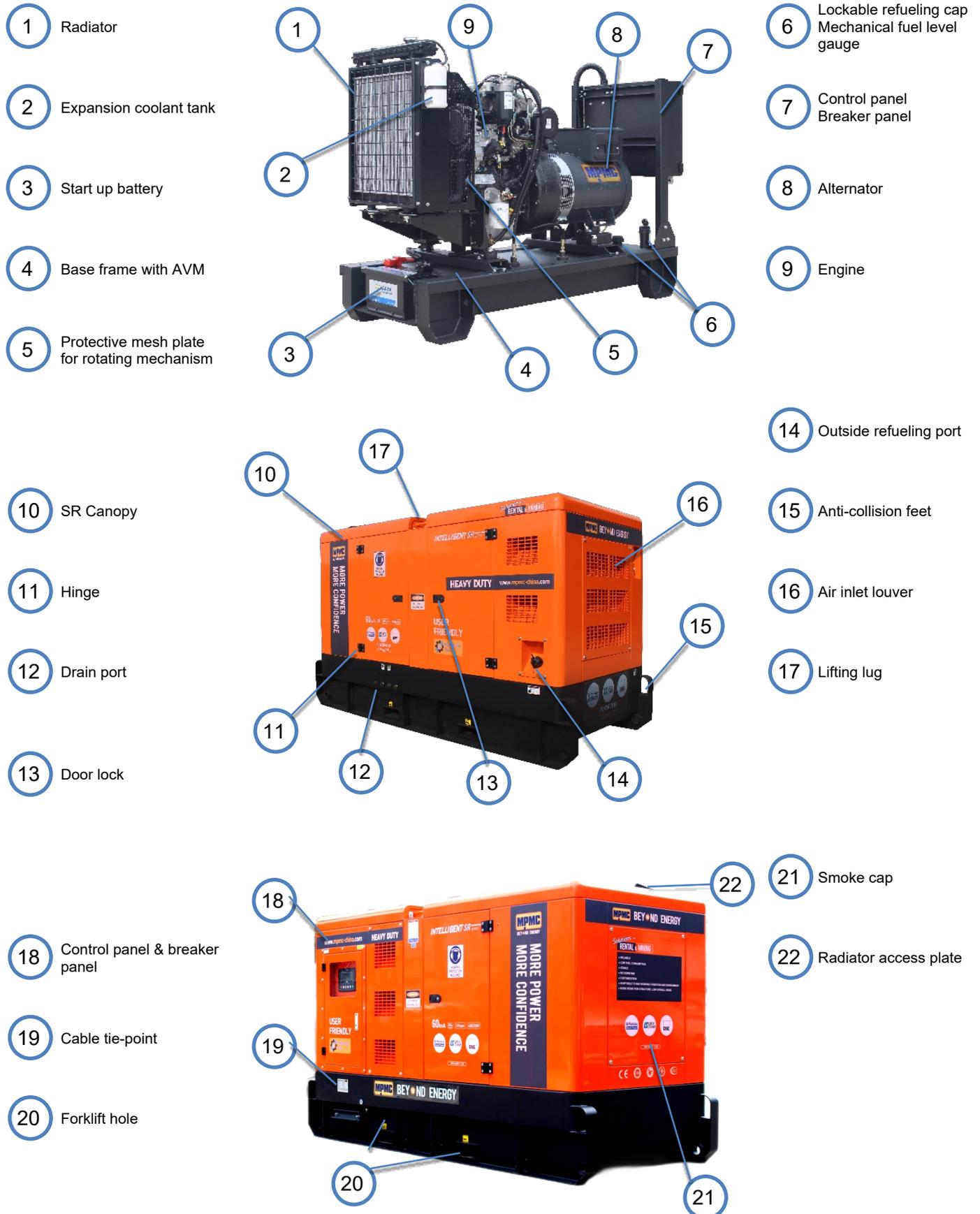
#### Key benefits

- 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



1 Radiator

2 Expansion coolant tank

3 Start up battery

4 Base frame with AVM

5 Protective mesh plate for rotating mechanism

10 SR Canopy

11 Hinge

12 Drain port

13 Door lock

18 Control panel & breaker panel

19 Cable tie-point

20 Forklift hole

6 Lockable refueling cap  
Mechanical fuel level gauge

7 Control panel  
Breaker panel

8 Alternator

9 Engine

14 Outside refueling port

15 Anti-collision feet

16 Air inlet louver

17 Lifting lug

21 Smoke cap

22 Radiator access plate

## 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 /  IP 23
- Zinc alloy door lock
- Zinc alloy hinge
- Access door for radiator
- Aluminum canopy



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\*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.