# CM-BD500

**DIESEL GENERATOR SET / OPEN + SILENT**

OPEN SET

SILENT SET

| 500 kVA | 450 kVA | 50 Hz | 400/230 V |
|---|---|---|---|
| STANDBY POWER | PRIME POWER | FREQUENCY | VOLTAGE |

## Baudouin 6M21G500/5

3 phase · 0.8 PF · 1500 rpm

### CONFIGURATION COMPARISON

| Configuration | Dimensions (L × W × H) | Dry weight | Fuel tank |
|---|---|---|---|
| Open set | **3000 × 1230 × 1850 mm** | **3450 kg** | **780 L** |
| Silent set | **3950 × 1450 × 1910 mm** | **4375 kg** | **780 L** |

Performance, engine, alternator and controller data are common to both configurations.

# GENERAL CHARACTERISTICS

**CM-BD500 · 50 Hz · 3 Phase**

## RATED PERFORMANCE

| | |
|---|---|
| Standby Power (kVA) | **500** |
| Standby Power (kW) | **400** |
| Prime Power (kVA) | **450** |
| Prime Power (kW) | **360** |
| Power Factor (Cos Phi) | **0.8** |
| Diesel Engine | **6M21G500/5** |
| Frequency (Hz) | **50** |
| Rated Speed (rpm) | **1500** |
| Phase | **3** |
| Standard Voltage (V) | **400/230** |

## POWER DEFINITIONS

### STANDBY POWER (ESP)

Available for supplying emergency power during a utility interruption. The stated rating follows ISO 8528-1; overload is not permitted.

### PRIME POWER (PRP)

Available for an unlimited number of annual operating hours in variable-load applications, in accordance with ISO 8528-1.

### TERMS OF USE

Nominal power is stated at 25 °C inlet-air temperature, 100 kPa barometric pressure (100 m A.S.L.) and 30% relative humidity.

## RATED OUTPUT CURRENT BY VOLTAGE

| Rated voltage | Standby current (500 kVA) | Prime current (450 kVA) |
|---|---|---|
| 400/230 V | **721.7 A** | **649.5 A** |
| 380/220 V | **759.7 A** | **683.7 A** |
| 415/240 V | **695.6 A** | **626.0 A** |

# ENGINE DATA

**Baudouin 6M21G500/5**

## GENERAL ENGINE DATA

| | |
|---|---|
| Engine brand | **Baudouin** |
| Engine model | **6M21G500/5** |
| Engine type | **4-stroke diesel** |
| Governor type | **ECU** |
| Injection type | **Direct** |
| Aspiration type | **Turbocharged and Aftercooled** |
| Cylinders and arrangement | **6-L** |

## FUEL CONSUMPTION

| | |
|---|---|
| 100% load ESP | **110.1 L/h** |
| 100% load PRP | **95.6 L/h** |
| 75% load PRP | **69.9 L/h** |
| 50% load PRP | **46.6 L/h** |

## AIR SYSTEM

| | |
|---|---|
| Intake air flow | **480 L/s** |
| Cooling air flow | **9167 L/s** |

## GENERAL ENGINE DATA

| | |
|---|---|
| Bore × stroke | **127 × 165 mm** |
| Displacement | **12.54 L** |
| Cooling system | **Water-cooled** |
| Lube oil consumption at full load | **0.5%-1% of fuel consumption** |
| Compression ratio | **16:1** |
| Air filter | **Dry** |

## EXHAUST SYSTEM

| | |
|---|---|
| Maximum exhaust temperature | **580 °C** |
| Exhaust gas flow | **1650 L/s** |
| Maximum allowed back pressure | **12 kPa** |

## STARTING SYSTEM

| | |
|---|---|
| Starting power | **8.5 kW** |
| Recommended battery | **120 Ah** |
| Number of batteries | **2** |
| Auxiliary voltage | **24 VDC** |

## OIL AND COOLING CAPACITIES

| | |
|---|---|
| Engine oil capacity | **34 L** |
| Total coolant capacity | **47 L** |

# ALTERNATOR DATA

**3-phase · Brushless · Electronic AVR**

## GENERAL ALTERNATOR DATA

| | |
|---|---|
| Number of phases | **3 Power factor (Cos Phi)** |
| Power factor (Cos Phi) | **0.8** |
| Poles | **4** |
| Winding connections (standard) | **Star-series** |
| Insulation | **H class** |
| Enclosure (IEC 34-5) | **/** |

## GENERAL ALTERNATOR DATA

| | |
|---|---|
| Excitation system | **Self-excited, brushless** |
| Voltage regulator | **AVR (Electronic)** |
| Number of bearings | **Single bearing** |
| Coupling system | **Flexible disc** |
| Coating type | **Standard (vacuum impregnation)** |

The alternator is coupled to the engine through a flexible disc on a single-bearing spigot fit. Alternator make and frame size are selected to match the set rating and the site specification, and are confirmed on the quotation.

# CONTROL MODULE

## Automatic Mains Failure (AMF) controller

### AMF CONTROL

Provides automatic mains failure control plus manual or remote start/stop, with generator and mains measurement, protection, event logging and timer functions.

### MOUNTING AND DISPLAY

Panel-mounted controller with back-lit LCD display, push-button interface and LED status indication; sealed front to IP54 for dusty or damp plant rooms.

### CORE FUNCTIONS

**01** Automatic mains failure control plus manual or remote start/stop

**02** 3-phase generator and mains voltage measurement, plus current measurement

**03** Fully configurable timers, setpoints and alarm protections

**04** Detailed event log for fault analysis

**05** Engine protection: low oil pressure, high coolant temperature, overspeed, overload

**06** AMF start, cooldown stop and mains return transfer sequences

**07** Front-panel configuration or configuration via PC software

**08** Emergency-stop functionality

The exact controller variant is selected to match the engine communication protocol (J1939 CAN or analogue) and the site specification, and is confirmed on the quotation.

# CONNECTIVITY

## Communication and monitoring options

| USB | CAN / J1939 | RS485 / MODBUS RTU | ETHERNET / 4G (option) |
|---|---|---|---|

## COMMUNICATION AND MONITORING FEATURES

**01** **USB** Local configuration and firmware updates from a laptop

**02** **CAN / J1939** Direct communication with compatible engine ECUs

**03** **RS485 / MODBUS RTU** SCADA and BMS integration on request

**04** **ETHERNET / 4G (option)** Remote monitoring via web portal or mobile app

## REMOTE MONITORING

Gensets can be monitored on site through the controller display, or remotely through an optional communication module and web-based monitoring portal. Remote start/stop, alarms and running reports are available where the site network allows.

### PLUG-IN MODULES

Ethernet, 4G-GPS or RS232/RS485 modules are ordered with the set; only one module is fitted.