

# 4M06 Series

### General Specifications

|                       |                               |
|-----------------------|-------------------------------|
| Bore x Stroke         | 89 x 92 mm                    |
| Displacement          | 2.3 L                         |
| N° of Cylinders       | 4                             |
| Cylinders Arrangement | In line                       |
| Fuel System           | Mechanical Pump / Common Rail |
| Governor (Gov.)       | Electronic / ECU              |
| Aspiration (Asp.)     | NA / T / T/A-A                |



| Diesel Engine | Speed | Gross Engine Output |                   | Typical Generator Output |     |                   |     | Asp.  | Gov. |
|---------------|-------|---------------------|-------------------|--------------------------|-----|-------------------|-----|-------|------|
|               |       | Prime Power PRP     | Standby Power ESP | Prime Power PRP          |     | Standby Power ESP |     |       |      |
|               | Rpm   | kWm                 | kWm               | kWe                      | kVA | kWe               | kVA |       |      |
| 4M06G20/5     | 1500  | 18                  | 20                | 15                       | 18  | 16                | 20  | NA    | Elec |
| 4M06G25/5     | 1500  | 23                  | 25                | 18                       | 23  | 20                | 25  | NA    | Elec |
| 4M06G35/5     | 1500  | 30                  | 33                | 26                       | 32  | 28                | 35  | T     | Elec |
| 4M06G44/5     | 1500  | 37                  | 41                | 32                       | 40  | 35                | 44  | T     | Elec |
| 4M06G50/5     | 1500  | 44                  | 48                | 36                       | 45  | 40                | 50  | T/A-A | Elec |
| 4M06G55/5     | 1500  | 48                  | 53                | 40                       | 50  | 44                | 55  | T/A-A | ECU  |
| 4M06G20/6     | 1800  | 23                  | 25                | 18                       | 23  | 20                | 25  | NA    | Elec |
| 4M06G25/6     | 1800  | 27                  | 30                | 23                       | 29  | 25                | 32  | NA    | Elec |
| 4M06G33/6     | 1800  | 37                  | 41                | 30                       | 38  | 33                | 42  | T     | Elec |
| 4M06G41/6     | 1800  | 43                  | 47                | 37                       | 47  | 41                | 51  | T     | Elec |
| 4M06G50/6     | 1800  | 53                  | 58                | 45                       | 56  | 50                | 63  | T/A-A | Elec |
| 4M06G55/6     | 1800  | 58                  | 63                | 50                       | 63  | 55                | 69  | T/A-A | ECU  |

Aspiration : NA = Naturally Aspirated, T = Turbocharged, T/A-A = Turbocharged & Air-to-Air Aftercooled

## Standard Equipment

### Engine and block

- Cast iron gantry type structure block
- One-piece forged crankshaft
- Separate cast iron cylinder heads and wet liners
- Aluminum alloy pistons with oil cooling gallery

### Cooling system

- Radiator and hoses supplied directly mounted on the engine
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

### Lubrication system

- Flat bottom large capacity oil pan
- Spin-on full-flow lube oil filter

### Fuel system

- P type fuel injection pump and injector for higher inject pressure, for engines with electronic governor
- High pressure Common Rail injection system, for engines with ECU Fine filter

### Air intake and exhaust system

- Special rear mounted air filter with restriction indicator
- Exhaust manifold shield for heat isolating

### Electrical system

- 12 Vdc electric starter motor and battery charging alternator
- LOP + HWT sensors

### Flywheel and housing

- SAE 4 flywheel housing and 7.5" flywheel, for engines 4M06G20/5 & 25/5 and 4M06G20/6 & 25/6
- SAE 3 flywheel housing and 11.5" flywheel, for other engines

## Ratings definitions

### Emergency Standby Power (ESP)

Emergency Standby Power is the maximum power available for a varying load for the duration of a main power network failure. The average load factor over 24 hours of operation should not exceed 70% of the engine's ESP power rating. Typical operational hours of the engine is 200 hours per year, with a maximum usage of 500 hours per year. This includes an annual maximum of 25 hours per year at the ESP power rating. No overload capability is allowed. The engine is not to be used for sustained utility paralleling applications.

### Unlimited Prime Rated Power (PRP)

Prime Power is the maximum power available for unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's PRP power rating during any 24 hour period. An overload capability of 10% is available, however, this is limited to 1 hour within every 12 hour period.

### Continuous Power (COP)

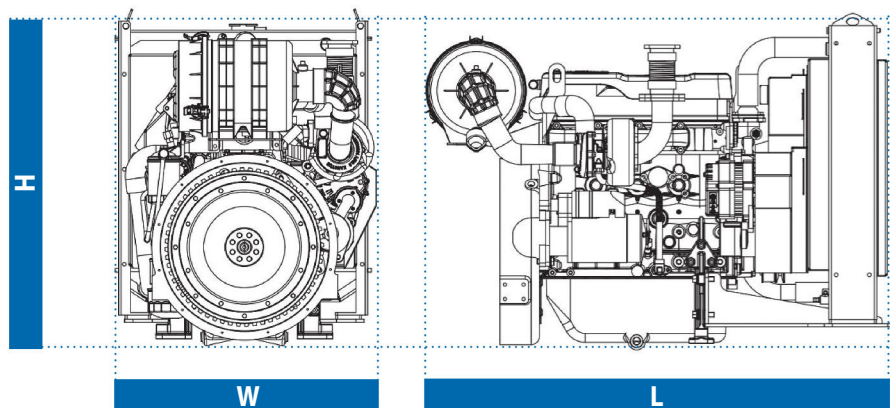
Continuous Power is the maximum power available for an unlimited period of use at a constant load factor. No overload capability is allowed.

1) All ratings are based on operating conditions under ISO 8528-1, ISO 3046, DIN6271. Performance tolerance of  $\pm 5\%$ .

2) Test conditions : 100 kPa, 25°C air inlet temperature, relative humidity of 30%, with fuel density 0.84 kg/L. Derating may be required for conditions outside these; please contact the factory for details.

3) Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan and optional equipment.

## Dimensions and dry weight (mm / kg)



| Diesel Engine | Speed<br>Rpm | Dimensions and dry weights including radiator |         |         |               |
|---------------|--------------|-----------------------------------------------|---------|---------|---------------|
|               |              | L<br>mm                                       | W<br>mm | H<br>mm | Weight<br>Kg. |
| 4M06620/5     | 1500         | 1064                                          | 627     | 786     | 277           |
| 4M06625/5     | 1500         | 1064                                          | 627     | 786     | 277           |
| 4M06635/5     | 1500         | 1120                                          | 627     | 786     | 280           |
| 4M06644/5     | 1500         | 1120                                          | 627     | 786     | 280           |
| 4M06650/5     | 1500         | 1184                                          | 646     | 786     | 285           |
| 4M06655/5     | 1500         | 1184                                          | 646     | 786     | 285           |
| 4M06620/6     | 1800         | 1064                                          | 627     | 786     | 277           |
| 4M06625/6     | 1800         | 1064                                          | 627     | 786     | 277           |
| 4M06633/6     | 1800         | 1120                                          | 627     | 786     | 280           |
| 4M06641/6     | 1800         | 1120                                          | 627     | 786     | 280           |
| 4M06650/6     | 1800         | 1184                                          | 646     | 786     | 285           |
| 4M06655/6     | 1800         | 1184                                          | 646     | 786     | 285           |