HONNY POWER

# Datasheet

## HGM1110 Googol Diesel Power Generator

**800kW-1000kVA**
**888kW-1110kVA**
**50Hz**

Googol diesel generators are powered by Googol engines which are being manufactured by latest US based technology. Googol engines are known for cost effective reliable power solution.

### Features

Googol power generators are designed to operate under extreme conditions with low operational and maintenance cost.
Honny power manufacture and test it's products under strict QC rules to insure international manufacturing standard.

### Equipment

Engine and alternator mounted on same frame steel skid.
Build in damper for anti-vibration.
Compact design, easy to operate and maintain.
Sino-US Googol brand engine
Top brand AC alternator
Full range protections, alarms with auto shutdown features.
Comply with ISO8628 national standard and ISO9001 quality standard. Specially designed horizontal/vertical, engine driven/electrical radiator. Industrial, Residential silencers
Catalytic converters
Heat exchangers
Special spark arrester silencers
Standard set for "CE" certification
Sound & Weatherproof canopy optional
Spring, seismic anti-vibration mounts
Advanced facility for FAT.

## Diesel Generator Specification

| Genset Model | | HGM1110 |
|---|---|---|
| Genset Prime Output | kW/kVA | 800/1000 |
| Genset Standby Output | kW/kVA | 888/1110 |
| Rating Power Factor | | 0.8 |
| Rating Speed | rpm | 1500 |
| Rating Frequency | Hz | 50 |
| Rating Voltage | V | 400 |
| Engine Model | | QTA2160-G1 |
| Displacement | l | 35.4 |
| Configuration | | 8V |
| Genset Size-Open Type (LxWxH) | mm | 4500x1920x2600 |
| Genset Weight | kg | 7300 |

## Engine Data in General

| Aspiration Type | | Turbocharger, air-water aftercooler |
|---|---|---|
| Injection Type | | Direct Injection |
| Configuration | | Vee |
| No. of Cylinders | | 8 |
| Displacement | l | 35.4 |
| Bore | mm | 170 |
| Stroke | mm | 195 |
| Compression Ratio | | 13.5:1 |
| Piston Speed | m/s | 9.75 |
| Rotation Direction (from Flywheel) | | Counter Clockwise |
| Number of Flywheel Teeth | | 218 |
| Flywheel House Size | | SAE00-18 |

## Engine Specification

| Engine Model | | QTA2160-G1 |
|---|---|---|
| Speed | rpm | 1500 |
| Standby Output （LTP) | kW | 982 |
| Prime Output (PRP) | kW | 898 |
| Engine Continuous Power (COP) | kW | 725 |
| Fan Quantity | | 1 |
| All Fans Reduction | kW | 44.0 |
| Engine Net Standby Output （LTP) | kW | 938 |
| Engine Net Prime Output (PRP) | kW | 854 |
| Engine Net Continuous Output (COP) | kW | 681 |
| BMEP for Standby Output | bar | 21.96 |
| BMEP for Prime Output | bar | 20.06 |
| BMEP for Continuous Output | bar | 16.24 |
| Typical Generation Standby Output | kW | 880 |
| Typical Generation Prime Output | kW | 800 |
| Typical Generation Continuous Output | kW | 640 |
| Typical Alternator Efficiency | | 94.8% |
| Speed droop (static) elect. Gov. | | 0-5% |
| Governing standards to ISO 8528 | | G3 |
| Max. step load acceptance, 1st step | | 40% |

## Lubrication System

| Lube Oil Specification | | API-CF4 |
|---|---|---|
| Oil Capacity | l | 160 |
| Max. Permissible Oil Temperature | °C | 110 |
| Oil Pressure Warning | kPa | 300 |
| Oil Pressure Shutdown | kPa | 200 |

## Electrical System

| | | |
|---|---|---|
| Charging Alternator Voltage | V | 28 |
| Charging Alternator Capacity | A | 55 |
| Starting Voltage | V | 24 |
| Starting Motor Capacity | kW | 9 |
| Minimum Battery Capacity (Ref. Varta brand) | Ah | 2*120 |

## Fuel System

| | | |
|---|---|---|
| Governor Type | | Electrical |
| Engine Output at genset prime output | KW | 65 |
| Fuel Consumption at 25% of PRP | l/h | 109 |
| Fuel Consumption at 50% of PRP | l/h | 155 |
| Fuel Consumption at 75% of PRP | l/h | 205 |
| Fuel Consumption at 100% of PRP | l/h | 191 |

## Intake & Exhaust System

| | | |
|---|---|---|
| Combustion Air Consumption | m³/min | 98 |
| Max. Intake Restriction | KPa | 2 |
| Exhaust Temperature (Before Turbo) | °C | 630 |
| Exhaust Temperature (After Turbo) | °C | 540 |
| Max. Exhaust Back Pressure | Kpa | 2 |
| Exhaust Gas Flow | m³/min | 246 |
| Turbo Bellows Diameter | mm | DN250 |
| Exhaust Flange Diameter | mm | DN250 |

## Cooling System

| | | |
|---|---|---|
| Coolant Capacity for Engine | l | 70 |
| Max. Permissible Temperature | °C | 90 |
| Max. Coolant Warning Temperature | °C | 95 |
| Max. Coolant Shutdown Temperature | °C | 98 |
| Thermostat Open Temperature | °C | 71 |
| Radiator Cooling Flow | m³/min | 1420 |
| Flow of Cylinder liner Coolant pump | m³/h | 48 |
| Flow of aftercooler Coolant pump | m³/h | 45 |
| Heat dissipation (engine radiator) | kW | 367 |
| Heat dissipation (CAC) | kW | 176 |
| Heat dissipation (convection) | kW | 63 |

## Alternator Specification

| | | |
|---|---|---|
| **Generator Model** | | GP1025-4P |
| Voltage of Genset | V | 400 |
| Rating Speed | rpm | 1500 |
| Frequency | Hz | 50 |
| Capacity @ 0.8PF, H Rise Class | kW | 820 |
| Efficiency @ 0.8PF | % | 94.8 |
| Duty | | S1 |
| Bearing | | Single |
| Insulation | | H |
| Rise Temperature | | H |
| Enclosure | | IP23 |
| Over Speed | rpm | 2250 |
| Excitation System | | AVR |
| AVR Model | | MX341 |
| Poles | | 4 |

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## Performance Parameter

### Frequency

| | | |
|---|---|---|
| Frequency Droop | % | ≤5 |
| Steady-state Frequency Band | % | ≤0.5 |
| Related Downward Range of Frequency Setting | % | ≥2.5 |
| Related Upward Range of Frequency Setting | % | ≥+2.5 |
| Change Rate of Frequency Setting | % | 0.2 ~ 1 |

### Transient Frequency Deviation

| | | |
|---|---|---|
| 100% Sudden Power Decrease | % | ≤10 |
| Sudden Power Increase | % | ≤7 |
| 100% Sudden Power Decrease | % | ≤+10 |
| Sudden Power Increase | % | ≤-7 |
| Frequency Recovery Time | sec | ≤3 |
| Related Frequency Tolerance Band | % | 2 |

### Voltage

| | | |
|---|---|---|
| Steady-state Voltage Deviation | % | ≤±1 |
| Voltage Unbalance | % | 1 |
| Range of Voltage Setting | % | ±5 |
| Change Rate of Voltage Setting | % | 0.2 ~1 |

### Transient Voltage Deviation

| | | |
|---|---|---|
| 100% Sudden Power Decrease | % | ≤+20 |
| Sudden Power Increase | % | ≤-15 |
| Voltage Recovery Time | s | ≤2 |

### Voltage Waveform & EMC Compatibility

| | | |
|---|---|---|
| Sin. Distortion | % | 4 |
| Coefficient Variation | % | 5 |
| Individual Harmonic Content | % | 2 |
| Radio Interference THF | % | ≤2 |

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