QGS - 30 | INDUSTRIAL RANGE POWER BY CUMMINS

No quality - No born

Model: QGS - 30

Powered by CUMMINS

Generator Specification

Service	PRP(1)	ESP(2)
Power (kVA)	30	33
Power (kW)	24	26
Rated speed (r.p.m)	1500	
Standard voltage (V)	400/230V	
Rated at power factor(cos phi)	0.8	

QNG Power gensets are compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN 12601 : 2010

(1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

(2) ESP (Standby Power):

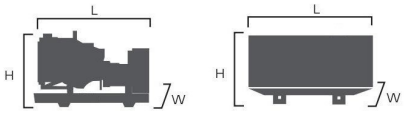
According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Powers	ESP		PRP		Standby
Voltage (V)	KVA	KW	KVA	KW	Amps
415/240	33	26	30	24	45.9
400/230	33	26	30	24	47.6
380/220	33	26	30	24	50.1

Performance Data		
Model		QGS - 30
Engine brand		Cummins
Engine model		4B3.9G2
Speed control type		Electronic
Phase		3
Control system		Digital
Starter motor voltage		24V
Frequency		50HZ
Engine speed (RPM)		1500
Fuel Consumption (L/H)	100% standby power	7.5
	100% prime power	6.4
	75% prime power	5.2
	50% prime power	3.9

Standard reference Conditions

Note: Standard reference condition 25°C[77°F] air inlet temp, 1000m(328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2



Dimension and Weight		
Dimension	Open	Silent
Length (L)	-	2300mm
Width (W)	-	955mm
Height (H)	-	1250mm
Net Weight	-	1000KG
Fuel Tank (L)	-	70

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Engine Specification: 4B3.9G2

Basic technical data	
No. of cylinders	4
Center of Gravity above Crankshaft Centerline	163mm
Cycle	/
Induction system	/
Compression ratio	18.0:1
Bore	102mm
Stroke	120mm
Displacement	3.9L
Engine idle speed	950-1050 RPM
Approximate engine weight	308kg

Cooling system	
Coolant capacity-engine	7.2L
Maximum coolant friction head external to engine:	
-1800 rpm	35kPA
-1500 rpm	28kPA
Maximum static head of coolant above engine crank centerline	14m
Standard Thermostat (Modulating) Range	83 - 95℃
Minimum Pressure Cap	69 kPa
Maximum Top Tank Temperature for Standby / Prime Power	110 / 104℃

Fuel system	
Injection system	BYC A
Governor type	Electyonic
Maximum restriction at lift pump	13.6kPa
Maximum fuel inlet temperature	/
Total drain flow (constant for all loads)	30 litre/hour

Air intake system	
Maximum intake air restriction with heavy duty air cleaner:	
-Dirty element	6. 2kpa
-Clean element	3. 7kpa

Lubrication system	
Engine oil pressure for engine protection devices:	
— Idle speed(Minimum)	207kPa
— Governed speed(Maximum)	345kPa
Maximum oil temperature	121 ℃
Minimum required lube system capacity-sump plus filters	10. 9L

Electrical system	
Cranking motor (Heavy duty, positive engagement	24V
Battery charging system, negative ground	40 ampere
Maximum allowable resistance of cranking circuit	0.002 ohm
Minimum recommended battery capacity- cold soak	312 CCA

General installation	Prime power
Gross engine power output	24kw
Piston speed	6.0 m/s
Friction horsepower	8.2kW
Engine water flow to engine	2.2 l/sec
Intake air flow	32.8 l/sec
Exhaust gas flow	67.5 l/sec
Exhaust gas temperature	380 ℃
Radiated heat to ambient	TBD
Heat rejection to coolant	25.9 kW
Heat rejection to fuel	TBD

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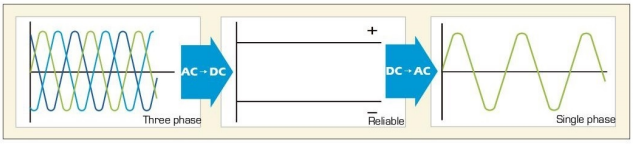
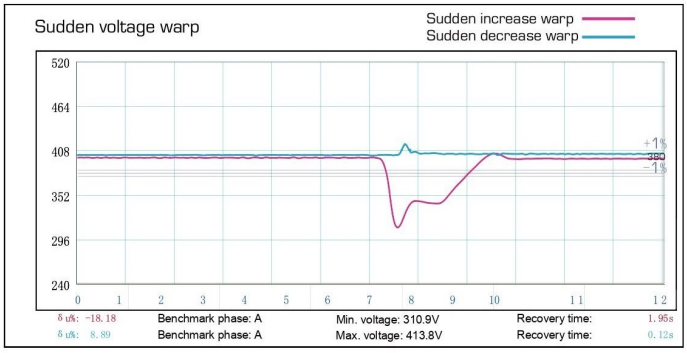
Alternator Specification

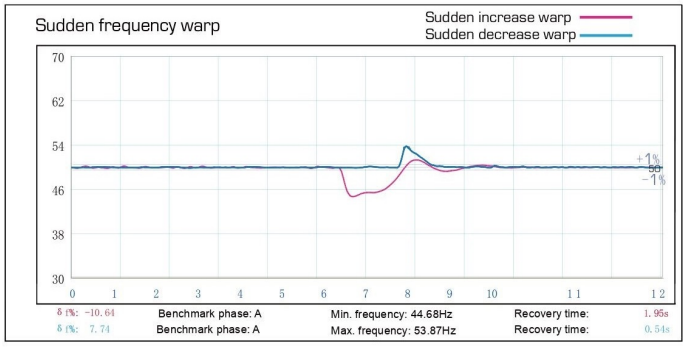
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



Options

Engine	Alternator	Generator Sets	Fuel System
• Water Jacket Pre-heater • Fuel heater	• Winding Temp measuring Instrument • Alternator Pre-heater • PMG • Anti-damp and anti-corrosion treatment • Anti-condensation heater • Winding and bearing RTD	• Tools with the machine • Extended range fuel tank • Bunded fuel tank	• Low fuel level alarm • Automatic fuel feeding system • Fuel T-valves
Canopy	**Lub oil system**	**Cooling System**	**Control Panel**
• Rental type Canopy • Trailer	• Oil Pre-heater • Oil temp sensor	• Front heat protection	• Remote control panel • ATS • Synchronizing controller • Adjustable earth leakage relay

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Control Panel

Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements (50HZ/60HZ)
- Generator measurements (50HZ/60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
  - Over-/under voltage
  - Over-/under frequency
  - Current/voltage asymmetry
  - Over current/overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

Operation conditions

- Operation temp: -20 ℃ to + 70 ℃
- Storage temp: -30 ℃ to + 80 ℃
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz, ±1.6 mm
  5-100Hz, a=4g
- Shocks: a= 500m/s²

Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs

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