

## Datasheet

### HGM625 Googol Diesel Power Generator

**450kW-562.5kVA**

**500kW-625kVA**

**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

<b>Genset Model</b>		HGM625
Genset Prime Output	kW/kVA	450/562.5
Genset Standby Output	kW/kVA	500/625
Rating Power Factor		0.8
Rating Speed	rpm	1500
Rating Frequency	Hz	50
Rating Voltage	V	400
Engine Model		PTAA1120-G1
Displacement	l	18.3
Configuration		10V
Genset Size-Open Type (LxWxH)	mm	3300x1450x2100
Genset Weight	kg	3600

## Engine Data in General

Aspiration Type		Turbocharger, air-air aftercooler
Injection Type		Direct Injection
Configuration		Vee
No. Of Cylinders		10
Displacement	l	18.3
Bore	mm	128
Stroke	mm	142
Compression Ratio		15:1
Piston Speed	m/s	7.1
Rotation Direction (from Flywheel)		Counter Clockwise
Number of Flywheel Teeth		160
Flywheel House Size		SAE1-14

## Engine Specification

<b>Engine Model</b>		<b>PTAA1120-G1</b>
Speed	rpm	1500
Engine Standby Output (LTP)	kW	565
Engine Prime Output (PRP)	kW	512
Engine Continuous Power (COP)	kW	393
Fan Reduction	kW	28
Engine Net Standby Output (LTP)	kW	537
Engine Net Prime Output (PRP)	kW	484
Engine Net Continuous Output (COP)	kW	365
BMEP for Standby Output	bar	24.28
BMEP for Prime Output	bar	21.96
BMEP for Continuous Output	bar	16.88
Typical Generation Standby Output	kW	500
Typical Generation Prime Output	kW	450
Typical Generation Continuous Output	kW	340
Typical Alternator Efficiency		95.0%
Power Factor		0.8
Speed Droop (Static) Elect. Gov.		0-5%
Governing Standards to ISO 8528		G3
Max. Step Load Acceptance, 1st Step		40%

## Lubrication System

<b>Lube Oil Specification</b>		<b>API-CF4</b>
Oil Capacity	l	34
Max. Permissible Oil Temperature	°C	110
Oil Pressure Warning	kPa	200
Oil Pressure Shutdown	kPa	160
Oil Consumption (as % of Fuel Consumption)	%	≤0.5

## Electrical System

Charging Alternator Voltage	V	28
Charging Alternator Capacity	A	35
Starting Voltage	V	24
Starting Motor Capacity	kW	6.6
Minimum Battery Capacity (Ref. Varta Brand)	Ah	2*120

## Fuel System

Governor Type		Electrical
Engine Output at PRP	kW	512
Fuel Consumption at 25% of PRP	l/h	41
Fuel Consumption at 50% of PRP	l/h	68
Fuel Consumption at 75% of PRP	l/h	98
Fuel Consumption at 100% of PRP	l/h	129
Lowest Fuel Consumption Ratio	g/kW.hr	211

## Intake & Exhaust System

Combustion Air Consumption	m <sup>3</sup> /min	42
Max. Intake Restriction	KPa	5
Exhaust Temperature (Before Turbo)	°C	660
Exhaust Temperature (After Turbo)	°C	490
Max. Exhaust Back Pressure	Kpa	5
Exhaust Gas Flow	m <sup>3</sup> /min	52
Turbo Bellows Diameter	mm	DN150
Exhaust Flange Diameter	mm	DN150

## Cooling System

Coolant Capacity for Engine	l	21
Max. Permissible Temperature	°C	90
Max. Coolant Warning Temperature	°C	95
Max. Coolant Shutdown Temperature	°C	105
Thermostat Open Temperature	°C	79
Radiator Cooling Flow	m <sup>3</sup> /min	688
Flow of Coolant Pump	m <sup>3</sup> /h	26
Heat Dissipation (Engine Radiator)	kW	266
Heat Dissipation (Convection)	kW	40

## Alternator Specification

<b>Generator Model</b>		GP563-4P
Voltage of Genset	V	400
Rating Speed	rpm	1500
Frequency	Hz	50
Capacity @ 0.8PF, H Rise Class	kW	450
Efficiency @ 0.8PF	%	95.0
Duty		S1
Bearing		Single
Insulation		H
Rise Temperature		H
Enclosure		IP23
Over speed	rpm	2250
Excitation System		AVR
AVR Model		SX440
Poles		4



## Performance Parameter

### Frequency

Frequency Droop	%	$\leq 5$
Steady-state Frequency Band	%	$\leq 0.5$
Related Downward Range of Frequency Setting	%	$\geq 2.5$
Related Upward Range of Frequency Setting	%	$\geq 2.5$
Change Rate of Frequency Setting	%	0.2 ~ 1

### Transient Frequency Deviation

100% Sudden Power Decrease	%	$\leq 10$
Sudden Power Increase	%	$\leq 7$
100% Sudden Power Decrease	%	$\leq +10$
Sudden Power Increase	%	$\leq -7$
Frequency Recovery Time	sec	$\leq 3$
Related Frequency Tolerance Band	%	2

## Voltage

Steady-state Voltage Deviation	%	$\leq \pm 1$
Voltage Unbalance	%	1
Range of Voltage Setting	%	$\pm 5$
Change Rate of Voltage Setting	%	0.2 ~ 1

### Transient Voltage Deviation

100% Sudden Power Decrease	%	$\leq +20$
Sudden Power Increase	%	$\leq -15$
Voltage Recovery Time	s	$\leq 2$

### Voltage Waveform & EMC Compatibility

Sin. Distortion	%	4
Coefficient Variation	%	5
Individual Harmonic Content	%	2
Radio Interference THF	%	$\leq 2$

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