

	<b>Googol Power-Tech Co., Ltd.</b>	Engine Model: PTAA780-G3	Engine Application: Generator
	Phoenix Lake Industrial Park, Yongchuan, Chongqing City, China		
	Tel: 86-23-49682222, Fax: 86-23-49683222	Engine Prime Power: 408 KW	RPM: 1500
	5820 Central Ave, Unit 230, Riverside CA92504, U.S.A		
	Tel: 1-909-7436092 Fax: 1-909-9392093	Engine Standby Power: 450 KW	Publication Date: 03-01-2015

## Specifications:

Engine Model		PTAA780-G3
Speed	rpm	1500
<b>Rating Output</b>		
Engine Standby Output (LTP)	kW	450
Engine Prime Output (PRP)	kW	408
Engine Continuous Power (COP)	kW	320
Fan Reduction	kW	16
Engine Net Standby Output (LTP)	kW	434
Engine Net Prime Output (PRP)	kW	392
Engine Net Continuous Output (COP)	kW	304
BMEP for Standby Output	bar	27.52
BMEP for Prime Output	bar	24.88
BMEP for Continuous Output	bar	19.60
Typical Generation Standby Output	kW	400
Typical Generation Prime Output	kW	360
Typical Generation Continuous Output	kW	280
Max. step load acceptance, 1st step (% Prime Output)		53%
<b>Basic Performance Datasheet</b>		
Aspiration Type		Turbocharger, air-air aftercooler
Injection Type		Direct Injection
Configuration		In line
No. of Cylinders		6
Displacement	l	12.8
Bore	mm	128
Stroke	mm	166
Compression Ratio		15.5:1
Piston Speed	m/s	8.3
Rotation Direction (from flywheel)		Counter Clockwise
Number of Flywheel Teeth		160
Flywheel House Size		SAE1-14

<b>Lubrication System</b>		
Lube Oil Specification		API-CF4
Oil Capacity	l	40
Max. Permissible Oil Temperature	°C	110
Oil Pressure Warning	kPa	200
Oil Pressure Shutdown	kPa	160
<b>Cooling System</b>		
Coolant Capacity for Engine	l	18
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	410
Flow of Coolant pump	m <sup>3</sup> /h	19.7
Heat dissipation (engine radiator)	kW	219
Heat dissipation (convection)	kW	33
Mode of Radiator(Aluminium core, 40°C environment's temp)		6400001
Mode of Radiator( Aluminium core, 50°C environment's temp)		6500001
<b>Fuel System</b>		
Governor Type		Electrical
Engine Output at genset prime output	kW	408
Fuel Consumption at 25% of genset prime output	l/h	31.21
Fuel Consumption at 50% of genset prime output	l/h	52.01
Fuel Consumption at 75% of genset prime output	l/h	74.34
Fuel Consumption at 100% of genset prime output	l/h	98.14
Lowest Fuel Consumption Ratio	g/kW.hr	200.85
<b>Intake &amp; Exhaust System (on standby power)</b>		
Combustion Air Consumption	m <sup>3</sup> /min	33.75
Max. Intake Restriction	KPa	5
Exhaust Temperature (Before Turbo)	°C	685
Exhaust Temperature (After Turbo)	°C	540
Max. Exhaust Back Pressure	Kpa	5
Exhaust Gas Flow	m <sup>3</sup> /min	41.25
Turbo Bellows Diameter	mm	DN100-150
Exhaust Flange Diameter	mm	DN150
<b>Electrical System</b>		
Charging Alternator Voltage	V	28
Charging Alternator Capacity	A	35
Starting Voltage	V	24
Starting Motor Capacity	kW	6.6
Minimum Battery Capacity	Ah	2*150
<b>Engine Dimension</b>		
Length	mm	1745
Width	mm	970
Height	mm	1250
Engine Dry Weight w/o Cooling System	kg	1000

- 1: All engine parameters are in accordance with ISO3046, ISO8528.
- 2: All engine parameters are based on 25°C / 100kPa environment condition.
- 3: No power decrease with below 40°C environment temperature and 1500 meter altitude.
- 4: More than 40°C and 1500m above sea level , decrease 2% per 10°C , and 4% per 300m.
- 5: At calorific value 42700 kJ/kg + 5%, density 0,835 kg/dm<sup>3</sup> , temperature 280 K.
- 6: Above data is only the testing data in our laboratory, it can't used to be the data on all contract.

## Picture of Googol PTAA780-G3 Diesel Engine.

