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Gas Generator Set TDS

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Natural gas applications

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- New development — greatly reduced operating and installation costs and fully digitized power plant control.
- Greatly reduced installation and operating costs

- Cogeneration & Trigeneration
- Distributed Power Plants

PWM1250G

Product Highlights

- Highest efficiency in the same class
- Up to 43.5% electrical efficiency
- Low operation cost to maximize economic benefits
- Fluid low-loss design optimized by numerical simulation for higher efficiency
- Convenient unit installation
 - ✓ Integrated auxiliary fuel tank and daily fuel tank
 - ✓ Vibration isolation base reduces installation cost and facilitates stable operation
 - ✓ Larger lubricating oil capacity
 - ✓ Integrated lubricating oil management system
- Upgraded turbocharger with wider application range
 - ✓ Longer maintenance cycle
 - ✓ Wider intake air temperature range
- High reliability
 - ✓ Excellent island operation capability
 - ✓ Optimized lubricating oil management system
 - ✓ Lowest lubricating oil consumption in the same class: 0.1g/kWh
 - ✓ Longer oil change cycle
 - ✓ Integrated daily fuel tank
 - ✓ Higher availability and longer service life
 - ✓ Cylinders with uniform air intake optimize the combustion process
 - ✓ Optimized combustion process reduces peak pressure
 - ✓ Stable unit operation with small vibration
- TPEM – New control system
 - ✓ Simple human-machine interface
 - ✓ Fully integrated remote access

Standard Configuration

- Engine: TCG3016 V16S (natural gas).
- Generator: IP23 protection class, H-class insulation.
- Cooling water system: Air-cooled radiator, high-low temperature centrifugal cooling water pump, high-low temperature expansion tank.
- Lubricating oil system: 300L new oil tank, lubricating oil makeup pump.
- HAS cabinet: Auxiliary equipment power control cabinet (with grid connection function).
- Starting system: 9kW electric starting motor (built-in), 24V starting battery and battery connection cable, battery switch.
- Rubber shock absorbers.
- Exhaust system: Exhaust bellows, industrial-grade muffler, smoke exhaust elbow, flange, asbestos gasket, connecting bolts and other standard parts.
- Random documents.

Design Environmental Conditions

Ambient temperature	℃	25
Relative Humidity	%	60
Altitude	m	100
Exhaust temp. after heat exchange	℃	120
NOx Emission (tolerance – 8%)	mg/Nm ³ @5%O ₂	500
Lower calorific value	kWh/Nm ³	10.17

Technical DataSheet of Gas Generator Set

Datasheet		PWM1250G
Rated Power	KW	1000
Speed	rpm	1500
Exhaust Temperature	℃	469
Exhaust Back Pressure	kPa	5
Electrical Efficiency	%	40.5
Thermal Efficiency	%	47.3
Total Efficiency	%	87.8
Online Rate	h/year	8000
Cooling Water System		
Cylinder Liner Water Heat	kw	557
Cylinder Liner Water Inlet Temperature	℃	78
Cylinder Liner Water Outlet Temperature	℃	89
Cylinder Liner Water Circulation Flow	m ³ /h	47
Intercooler Water Heat	kw	77
Intercooler Water Inlet Temperature	℃	45
Intercooler Water Outlet Temperature	℃	51
Intercooler Water Circulation Flow	m ³ /h	12
Exhaust System		
Exhaust heat after heat exchanger	kw	603
Exhaust temperature	℃	469
Exhaust mass flow (wet)	kg/h	5633
Length* Width* Height 5000x1776x2148mm Net Weight kg 7600		

Engine Technical

Model: TCG3016 V16S
Engine Power (100%) KW: 1028
Number of Cylinders: 16
Cylinder Arrangement: V-type
Bore mm: 132
Stroke mm: 160
Compression Ratio: 11:1
Displacement L: 35
Speed rpm: 1500
Rotation Direction: Counterclockwise from flywheel end
Smoke Exhaust Temperature ℃: 469
Full-load Lubricating Oil Consumption Rate g/kWh: 0.1
Lubricating Oil Filling Volume L: 120
Starting Motor: 9kW/24VDC
Cylinder Liner Water Filling Volume (engine only) L: 56
Intercooler Water Filling Volume (engine only) L: 5

Alternator Technical

Environmental Temperature ℃: 40
Altitude m: 1000
Power KVA: 1250
Voltage V: 400
Frequency Hz: 50
Power Factor: 1.0
Efficiency %: 96.82
Protection Class: IP23
Excitation Mode: Brushless self-excitation
Insulation Class: H