Technical Introduction of 4500kW Gas Generating Set

712V3240G Natural Gas Genset(MAN-JDEC)

3240 natural gas engine adopt the advanced technology of pre-chamber and spark plug ignition, has stable ignition and combustion performance. The main combustion chamber was simulation calculated, to reduce the possibility of knocking availably, optimize the working process. About the fuel control in the pre-chamber, adopt electromagnetic valve to control gas flow of pre-chamber accurately, the one-way valve can prevent pre-chamber backfire. In order to improve the life time and maintenance period of spark plug, the suitable high temperature resisting and anti-wear-out spark plug is adopted, optimize the cooling system of pre-chamber.

SaCoSone control system: has the function of engine control and alarm, monitoring and safety protection, including gas injection control, knock monitoring, ignition control, gas pressure regulation skid control and external auxiliary equipment control, the engine can be achieved in situ and remote control.

CoCoS EDS(computer-controlled monitoring and fault diagnosis system): has the function of real-time data recording, fault analysis and pre-warning, and it can export the report file. Can query the history record, display the record data by the mode of curve, bar chart, etc.

1. Main Specification of Genset

Model of genset	4500GF-T
Model of engine	12V3240G(MAN)
Model of alternator	TFC4 1102-3LB92
Coupling method	Elastic coupling
Rated speed(r/min)	750
Rated power(kW)	4500
Rated voltage(V)	11000
Rated frequency(Hz)	50
Rated power factor	0.8 lagging
Voltage regulation	Automatic
Supply connecting	3 phase
Control model	Remote electric control, Hand control
Starting method	Air starting motor
Cooling method	Water cooling system
Electrical efficiency	42%
Overall dimension L×B×H(mm)	10460×3470×4750
Net weight(kg)	107000

2. Main Electrical Performance Data

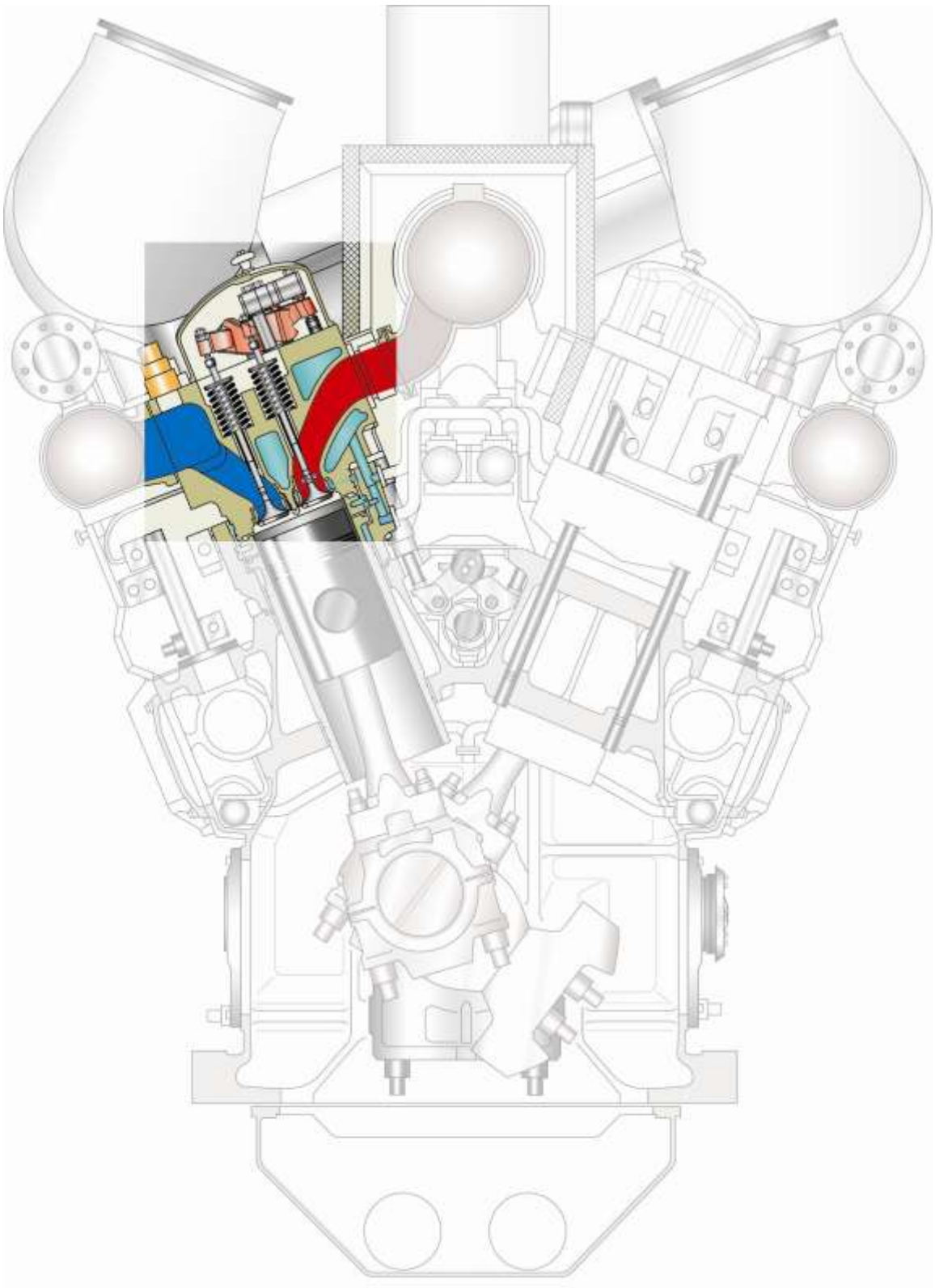
Voltage				Frequency			
Stable regulating rate	Instantaneous regulating rate	Recovery time	Fluctuation	Stable regulating rate	Instantaneous regulating rate	Recovery time	Fluctuation
±2.5%	+20%−15%	1.5s	1%	5%	±10%	7s	1%
Voltage adjustment range: idle load voltage adjusted 95~105% rated voltage.							

3. Main Specification of Engine(MAN-JDEC, MAN Parts assembled in JDEC)

Model	12V3240G natural gas engine
Power(kWe)	4800
Noise(dB(A))	108
Emission	500mgNOx/m3@5%O2
Speed(RPM)	750
Cylinder	12-cylinder, V-type
Cycle	Four stroke
Bore×Stroke(mm)	320×400
Displacement(L)	386.04
Compression Ratio	11.5:1
BMEP(bar)	20
Max. mean effective pressure under rated speed	21 bar
Max. design firing pressure	190 bar
Rotation	Clockwise(facing to flywheel)
Gas consumption(m3/kW.h)	0.23
Oil type	KJNG10
Oil capacity(L)	3000 (separate oil tank)
Oil consumption	0.35 g/kW.h
Type of combustion	Pre-chamber, lean-burn, spark plug ignition
Gas pressure(bar)	5~6
Heat in water circuit(kW)	2590
Heat in surface emission(kW)	250
Heat in exhaust Gases(kW)	3213
Exhaust Gas temperature(of turbine outlet)(℃)	390
Intake Air Flow(kg/h)	29760
Exhaust Gas Flow(kg/h)	30720
High temperature water flow(m3/h)	72
Low temperature water flow(m3/h)	150

4. Technical Data of Alternator

Type	TFC4 1102-3LB92 (SIEMENS technology)
Rated power(kW)	4500
Rated voltage(V)	11000
Rated frequency(Hz)	50
Exciting method	Brushless
Wiring method	3 phases
Number of pole	4
Rated speed	750 r/min
Insulation class	Class F
Class of protection	IP23 to DIN 40050
Cooling	Air cooling
Type and number of bearing	Rolling bearing, 2 pcs
Lubrication method	Complex lubricating
Efficiency at P.F. 0.8	96%

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