

H Series Gas Genset



Price Quotation

Item	FOB PRICE USD /unit	Quantity	FOB Total amount USD /unit
425KW Natrue Gas Genset KDGH425-GZ			
Comap Synchronizing Control System with breaker			
Solenoid valve			
Water Heater and Lube Oil Heater			
40' HQ Container Canopy			
Total FOB Price			

OPTION:

HMI Synchronizing Control System with breaker (Option)		1	
Remote Cooling Radiator		1	
CHP system		1	
Gas gen-set anti-kock system		1	

This price is of FOB Shenzhen, China.

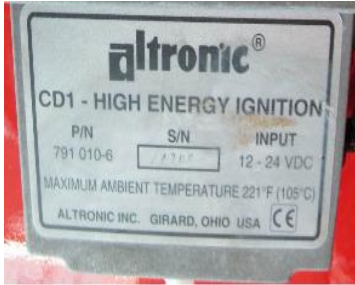


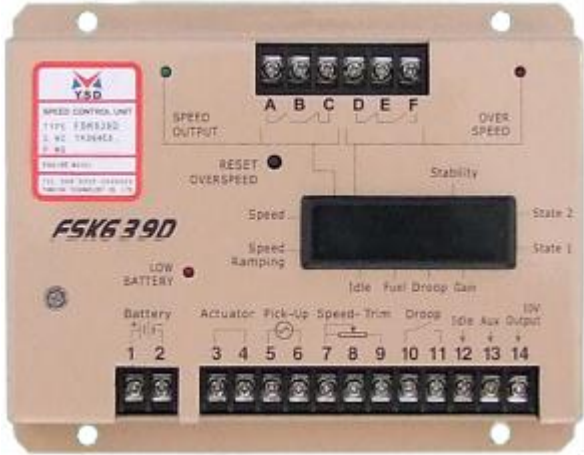
Delivery Time Within 90 days since the deposit has been received.

Genset Specification Data:

Model	KDGH425-G
Description	
Gas Generator Set Parameters	
Prime power (KVA/KW)	425KW
Rated voltage (V)	380
Rated frequency (Hz)	50
Rated current (A)	807
Steady-state voltage regulating rate	$\leq \pm 1.5\%$
Transient voltage regulating rate	$\leq \pm 20\%$
Voltage recovery time (s)	≤ 1
Voltage fluctuation rate	$\leq 1\%$
Voltage waveform distortion rate	$\leq 5\%$
Steady-state frequency regulating rate	$\leq 1\%$ (adjustable)
Transient frequency regulating rate	-10%~12%
Frequency recovery time (s)	≤ 7
Insulation class	H
Noise (db)	≤ 95
Engine parameters	
Engine model	HGK38
Type	Inline,4-stroke,water-cooling,Wet cylinder、 Electronic controlled high energy ignition, pre-mixed mixture proportion combustion
No. of cyliners	12
Bore X Stroke(mm)	159 X 159
Displacement(L)	38
Rated speed(r/min)	1500
Fuel gas	Natrue gas
Maximum fuel consumption (m3/kW.h)	≤ 138 (Including 97% natural gas)
Firing order	1-5-3-6-2-4
Idile speed (r/min)	700
Oil type	15W-40CD CNG special oil
Oil consumption (g/kW.h)	≤ 1.0
Max.exhaust temp. (POPC)	≤ 680
Net weight (kg)	6000
Dimensions (mm) (LXWXH)	4400x1630x2410

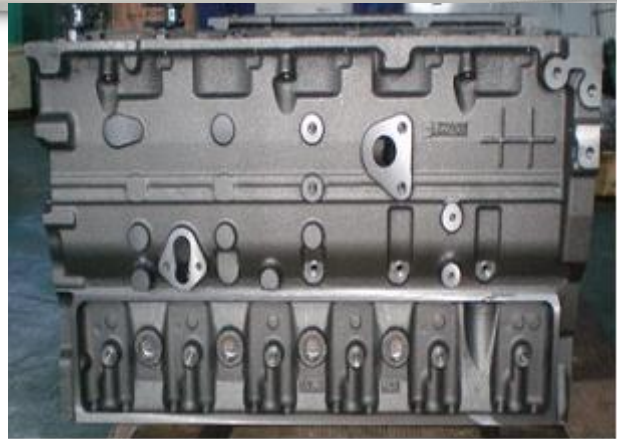
Technology Features:

The main parts of gas engine:

Item		Description
Ignition system: ALTRONIC brand imported from USA	ECU	 
	Sensor	
	Ignition coils	
	Ignition cables	
	spark plugs	
Air/Fuel mixer	Electronic Air/Fuel mixer, R&D by Camda	
Speed governor: Electronic		

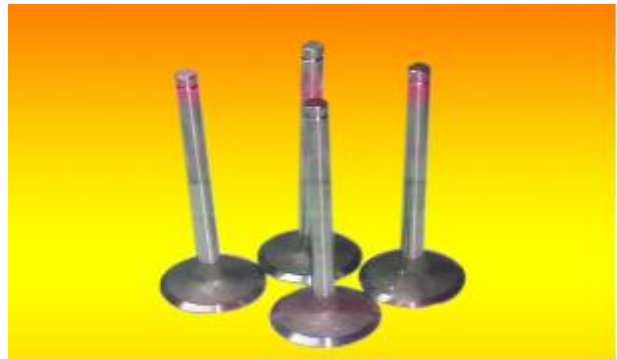
Gas engine body:

Cummins China



Air valves:

Gas engine design, made by Cummins China



Crankshaft:


**Integrated Crankshaft Forging for gas engine
made by Cummins China**



Camshaft:

Gas engine design, made by Cummins China



Pistons: Gas engine design, made by Cummins China	
Actuator	Equipped
Throttle valve	Equipped
Anti explosion valve	Equipped
Gas pressure regulating valve	Equipped
Filters	Fleetguard
Radiator	Cummins original or remote radiator
Muffler	Residential/Industrial

Advantages:

- **Experiment- evidential gas engine technology**
- **Overhaul term: 30000 hours**
- **Gurantee term: 5000 hours**
- **Over 85% cogeneration efficiency**
- **Economical and low-cost running: lower gas and oil consumption**
- Specially-designed air valves, crankshaft, camshaft, pistons, ignition system and combustion chamber according to international brands gas engine technology(Waukeshu, MAN, Guascor, Daewoo)
- 4 air valves design for each cylinder, sufficient air intake and exhaust, more air intake, to realize higher power output and stronger capability of load
- Electronic Air/Fuel Ratio mixer, better combustion and lower emission, sufficient combustion to reduce gas consumption and increase engine heat efficiency, effectively lessen NO_x emission.
- Original Cummins engine body, 90% parts made by Cummins China factory, long life and durable engine parts produced strictly accord to ISO9001-2000 International Quality Management System
- Unique air-fuel ratio adjusting system adapting 30%~70% CH₄ Methane concentration
- Integrated Crankshaft Forging for gas engine made by Cummins, different from other China brands which the crankshaft is forged by subsections and then assembled into a whole.
- Continuous rating up to 90% of prime power rating.
- Exceed 10-year genset repair and maintenance experience
- Low pressure gas intake, biogas no need boosting pressure
- Larger displacement engine to keep much surplus for genset power output.

- Sound alarm and protection system
- Electrical efficiency higher 10%~20% than other China brands
- With good command of biogas anaerobic technology, we can make better biogas genset, design and testing.
- ISO standard production
- Adopting high-precision special gas engine speed governor: precise speed governing, instant recovering ability so as to fit different loads upon the three signals: rotating speed, load and temperature.
- Precisely-controlled engine air intake and exhaust time.
- Advanced ignition sensor and ECU (Electronic Control Unit) ignition system with computer core: Precise ignition at right cylinder and right time, prompt startup ability to avoid the ratio of detonation and make stable engine.
- Cylinder Block: High quality alloy cast iron for the rigidity performance and good stability.
- Crankshaft and Rod: Robust and fully balanced crankshaft design for a more steadily rotation and higher strength.
- Lubrication System: Dual spin-on filter can separate impurity above 10um effectively and lower cost.
- Less accumulated carbon, reduces the abrasion between cylinder and valve, it can much prolong genset lifetime.
- Compact design: small size and weight
- Wide spare parts availability: Base on Cummins engine parts, the engine base body made of the parts from the supplying factory for Cummins engine China factory.
- Equipped with the most well-known brand generator—**Leroy Somer**.
- Using advanced **intelligent PLC genset controller**: capable computer chip, with full monitoring, control, alarm and protecting function, all-in-one configuration for all kinds of demands.
- Electrical system: 24V cranking motor starting and battery charging system.
- Self-contained power genset, needs few accessories.
- Parallel operation with genset or city power grid for option.
- Instant startup configuration for option.
- Free of charge training for operation and maintenance in the supplier factory.

Genset working condition:

Applicable gas:

Natural Gas, Biogas, LPG, Coal-bed Gas

Gas temperature $\leq 40^{\circ}\text{C}$

Acceptable natural gas pipeline pressure: 10kPa

ComAp Genset Controller for synchronization

ComAp IntelliGen NT series



Description

New Technology IntelliSys NT is an expandable generator controller for both single and multiple gensets operating in standby or parallel modes, especially in CHP (Combined heat and power) and other complex applications. Detachable construction is optimized for easy installation, many different extension modules are available based on the customer requirements for a particular application. Built-in automatic synchronizer and digital isochronous load sharer allow total integrated solution for gensets in standby, island parallel or mains parallel. Native cooperation of up to 32 generators is a standard feature. IntelliSys NT supports many standard ECU types and is especially designed to easily integrate new ones. Powerful graphic display with user-friendly control allows even new users to find quickly the required information. The display in a basic version is capable to display the graphical languages (e.g. Chinese).

Benefits

- Support of electronic engines with ECU (Electronic Control Unit)
- Excellent configurability allows matching exactly the customer's needs
- Complete integrated genset solution, using of built-in PLC and signal sharing via J1939 CAN bus – minimum external components needed
- Many communication options – easy remote supervising and servicing
- Perfect price/ performance ratio
- Gen-set performance log for easy problem tracing

Integrated fixed and configurable protections

- 3 phase integrated generator protections (U + f)
- IDMT over current + Short current protection
- Overload protection
- Reverse power protection
- Earth fault protection
- 3 phase integrated mains protections (U + f)
- Vector shift protection
- All binary/analogue inputs free configurable for various protection types: HistRecOnly / Alarm Only / Warning / Off load / Slow stop / Breaker Open &Cool down / Shutdown / Mains protect / Sensor fail

- Additional 160 programmable protections configurable for any measured value to create customer-specific protections

Features

InteliSys NT

- CHP support (programmable PID loops and other built-in PLC functions)
- Support of engines with ECU (J1939, ModBus and other proprietary interfaces); alarm codes displayed in text form
- Automatic synchronizing and power control (via speed governor or ECU)
- Baseload, Import/Export
- Peak shaving
- Voltage and PF control (AVR)
- Generator measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
- Mains measurement: U, I, Hz, kW, kVAr, PF
- Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0-1 / 0-5 A
- Inputs and outputs configurable for various customer needs
- 2x RS232/RS485 interface with ModBus protocol support; Analog/ GSM/ ISDN/CDMA modem communication support; SMS messages; ECU ModBus interface; secondary RS485 converter is isolated
- Event-based history (up to 1000 records) with customer-selectable list of stored values; RTC; statistic values
- Integrated PLC programmable functions
- Interface to remote display units (3x IS-Disp)
- USB 2.0 slave interface
- Dimensions 284x180 mm (front panel)
- Sealed to IP65

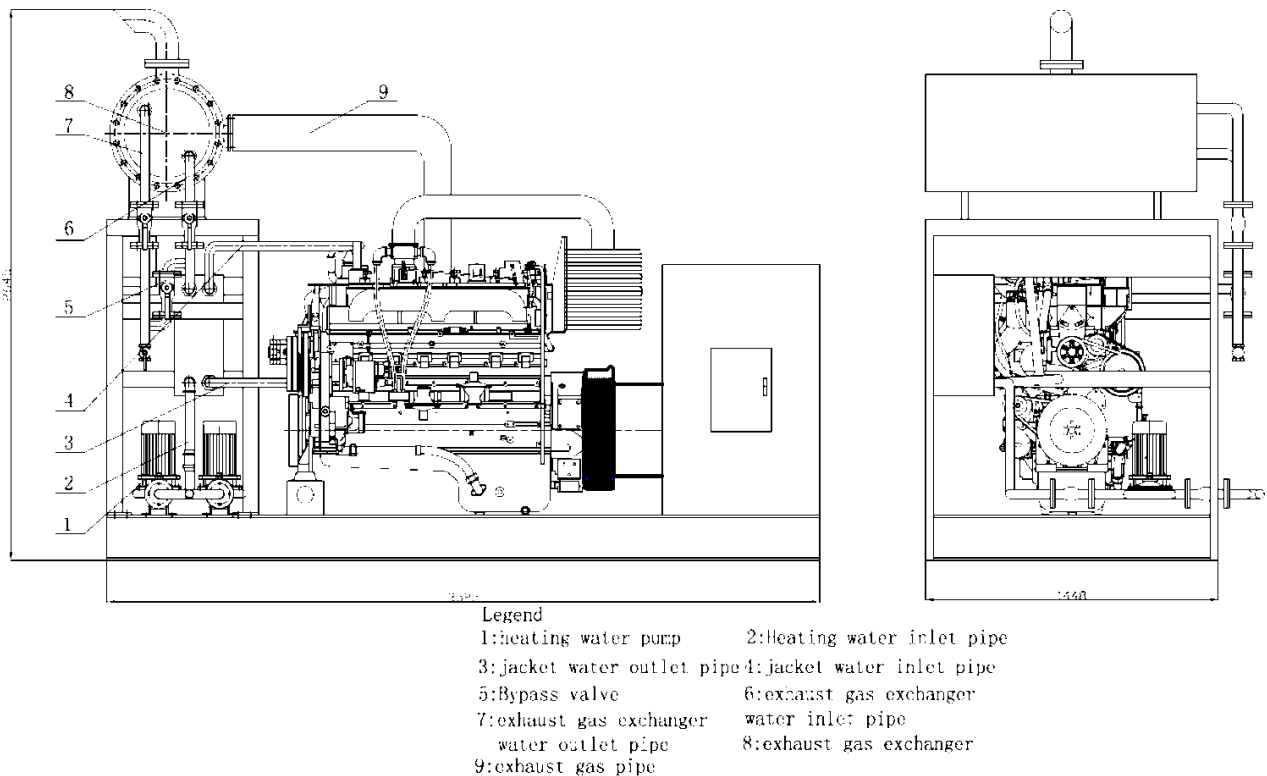
Specification of Leroy Somer Alternator



Alternator Details	
Model	Leroy Somer
Model	LSA49.1S4
Rated power (KW)	528
Rated Frequency (HZ)	50
Rated Voltage (V)	380
Power factor Lagging	0.8
Efficiency	93.7%
Connecting Type	3 phase, 4 wire
Voltage regulating mode	P.M.G.
AVR Model	R450
Voltage Regulation	± 0.5 %(adjustable)
Insulation Class	H
Cooling Method	Wind-cooling, self-heat-rejection
Net weight (kg)	1445
Dimensions (mm) (L*W*H)	1315*792*1058

1. Brushless, four-pole revolving field, single bearing and drop proof screen protected.
2. IP23 protection standard.
3. Dynamically balanced rotor to BS 55625 grade 12.5.
4. High-quality lubrication sealed for long-life bearing.
5. Comply with International standard: IEC60034, ISO8528, NEMA, CSA, CSA/UL and so on.

Cogeneration system for option



Scope of supply

- 1.Brand new Camda H Series Gas engine with necessary parts.
- 2.Brand new Leroy Somer AC brushless alternator IP23
- 3.Rating: 380V, 3Ph, 50Hz, 1500Rpm, 0.8PF, IP23
- 4.Comap Control Panel with power grid Synchronizing Parallel
- 5.Primary muffler, Standard tools kit
- 6.Rubber isolator for engine, alternator and control panel
- 7.English Generator installation and maintenance manual, Engine spareparts catalog, Engine maintenance manual and Alternator maintenance manual
- 8.Battery, Battery Charger, Battery cable, Battery tray and necessary accessories
- 9.Gen-set ex-factory testing report
- 10.Remote radiator: 40°C Ambient temperature mounted on skid
- 11.Heat recovery system.
- 12.Solenoid valve
- 13.Water heater and lube oil heater
- 14.Gas gen-set anti-kock system

- 15.Canopy heating system for winter season.
- 16.40' HQ Containerized Sound-proof Canopy

Genset lifetime and Warranty

12 months or 5000 running hours warranty covering all manufacturing defects (whichever comes first) since leaving China port, our company provides free easily-damaged parts for the faults caused by the quality of products or raw material, but exclude the damageable parts of engine due to customer's incorrect man-made operation. After expiration, our company provides spare parts with cost for maintenance forever.