Premium engineering for exceptional performance with Hydrogen Rotary Valve / Injection Control and Ignition Systems. Reliable, versatile, efficient—our Hydrogen Rotary Valve Fitted on QSK38 series which utilize premium engineering for exceptional performance. These outstanding engines are equipped with a high performance lubrication pressure fuel pumps, Modular Common Rail Gaseous Fuel System and state-of-the-art electronic controls for superior efficiency and diagnostics. (LTA) and highly efficient turbo-charging for lower cylinder temperatures, lower emissions and less fuel consumption.

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Hydrogen Fueled Power Plant

Secure Supplies Fueling Healthy Communities

HEALTHY COMMUNITY

FUELING & POWER SECURITY

- LESS HARMFUL EMISSIONS
- LESS FUELING COSTS
- LESS FUEL CONSUMPTION

SERVICE ADVANTAGES

- LESS OIL CHANGES
- NO SERVICING TO INJECTION VALVE SYSTEM FOR LIFE OF THE ENGINE

FUEL TYPES

- HYDROGEN STANDARD
- LPG OPTION
- FLARE GAS OPTION
- METHANE OPTION
- BIO GAS OPTION
- CNG OPTION
- REFINERY GAS

LOW REACTANCE

A Advanced Low Reactance Hydrogen Generator Design, offers a low wave form distortion with non linear loads, and provides excellent motor starting capabilities in all conditions.

Electric Generators, Water Pumps. 24 hr Continuous operation

Alternator Specifications

<table>
<thead>
<tr>
<th>Make</th>
<th>Stamford</th>
<th>Stamford</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame size / Model No.</td>
<td>HCM52</td>
<td>P72NC</td>
</tr>
<tr>
<td>Voltage Regulation</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Insulation</td>
<td>Class H</td>
<td>Class H</td>
</tr>
<tr>
<td>Standard Enclosure</td>
<td>IP 23</td>
<td>IP 23</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>2.3 Ph</td>
<td>2.3 Ph</td>
</tr>
<tr>
<td>Power Factor</td>
<td>Dynamically balanced</td>
<td>Dynamically balanced</td>
</tr>
<tr>
<td>Waveform distortion</td>
<td>No load &lt; 1.8%, non distorted balanced linear load &lt; 5%</td>
<td>No load &lt; 1.8%, non distorted balanced linear load &lt; 5%</td>
</tr>
<tr>
<td>Total Harmonic Factor</td>
<td>Better than 5%</td>
<td>Better than 5%</td>
</tr>
</tbody>
</table>

Comformance Standards

IS 4722, BS 5000, IS 1460, IS 8528, BS 5514, ISO 3046

- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Oil consumption data is based on oil having specific gravity of 0.89 and meeting CH4 API categories
- Fuel consumption tolerance is +5%
Reliable and durable
K50 series’ diesel engine with strong regenerative crankshaft, high strength connecting rod, low pressure fuel lines, STC (Step Timing Controls) injectors and high volume coolant system make ‘K50 series’ generating sets, more reliable and durable. Engines have clocked millions of hours operating in some of the world’s most demanding conditions. Current engines are regularly upgraded with new technologies for better performance and economy. The ultimate proof of superior performance.

Unmatched Warranty
‘K50 series’ diesel engine generating sets are a truly cost-effective solution to long term power need backed by industry best, 2 years / 5000 hours warranty, for the entire generating set.

Advantages
Special features of ‘K50 series engines like STC (Step Timing Controls) injectors, low temperature aftercooler, square combustion chamber, optimised turbocharging and precision heavy-duty camshaft make these engines the ultimate in exceptional fuel efficiency all across the operating range.

Control panel: Digital Control 24/7
The control system is an integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing.

AmpSentry – Includes integral AmpSentry protection, which provides a full range of alternator protection function which are matched to the alternator provided.

Power management – Control function provides battery monitoring, testing and a smart starting control system.

Advanced control methodology – Three phase sensing, FET based full wave rectified voltage regulation and PWM output for stable operation with all load types.

Communications Interface – Control comes standard with PCCHNet and Modbus interface.

Regulation compliant – Prototype tested: UL, CSA and CE compliant.

Service – PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Reliable design – For reliable operation in harsh environment.

Multi-language support
Independent of PC/ laptop for setting up

Standard Scope
Engine: K50 series’ direct injection, water cooled engine, 16 cylinder, 4 stroke, rated at 1500 RPM, conforming to ISO 3046 / BS 5514 has the following specifications:
- PT fuel pump
- Heavy duty STC injectors
- Holset turbocharger, pulse tuned exhaust manifold, stainless steel exhaust flexible connections
- Radiator or heat exchanger, coolant inhibitor
- Plate type lube oil cooler
- Outboard aftercooler
- Full flow paper element filters – fuel, lube oil and by-pass
- Dry type replaceable paper element air cleaner with restriction indicator
- Flywheel housing & flywheel to suit single/ double bearing alternator
- Holset flexible coupling for double bearing alternator
- Holset flexible coupling for double bearing alternator
- Starting motor – Electric, battery charging alternator
- Microprocessor based genset controller
- First fill lube oil

Alternator: Stamford brushless alternator
- Separately excited, self-regulated
- Class “H” insulation
- Salient pole revolving field
- Single / double bearing
- PMG standard

Operator panel features – The operator panel, in addition to the alternator, displays the Utility / AC Bus data.

Operator/ display functions:
- 320 x 240 pixels graphic LCD backlight LCD with bar graph for displaying electrical parameters
- Auto, manual, start, stop, fault reset and lamp test / panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Conformance Standards
IS 4722, BS 5000, IS 1460, ISO 8528, BS 5514, ISO 3046

Rating Definitions
Prime Power (PP): Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514:
- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Oil consumption data is based on oil having specific gravity of 0.89 and meeting CH4 API categories
- Fuel consumption tolerance is +5%
Bio Gas Choice and Hydrogen Fueled Options

This Healthy Community Fueled Solution Means Emissions are Extremely Small.

**1500 rpm (50Hz Ratings)**

<table>
<thead>
<tr>
<th>Gross Engine Output</th>
<th>Net Engine Output</th>
<th>Typical Generator Set Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standby</td>
<td>Prime</td>
</tr>
<tr>
<td></td>
<td>kWm/BHP</td>
<td>kWm/BHP</td>
</tr>
<tr>
<td>1227/71465</td>
<td>1097/1470</td>
<td>900/1206</td>
</tr>
</tbody>
</table>

**1800 rpm (60 Hz Ratings)**

<table>
<thead>
<tr>
<th>Gross Engine Output</th>
<th>Net Engine Output</th>
<th>Typical Generator Set Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standby</td>
<td>Prime</td>
</tr>
<tr>
<td></td>
<td>kWm/BHP</td>
<td>kWm/BHP</td>
</tr>
<tr>
<td>1300/1850</td>
<td>1220/1635</td>
<td>1000/1340</td>
</tr>
</tbody>
</table>

**S3 Step 3**

Control Panel Installation and Upgrades

Multiple Generator Sync Configuration

3 Mw to 12.5 MW

www.securesupplyusa.biz
1 MW Power Plants V16

ROTARY VALVE
KT A50 - G3

Outstanding Power Production Performance for a Modern World

Secure grid level power when you need it.

Fuel Consumption 1500 rpm (50 Hz)

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>kWm</th>
<th>BHP</th>
<th>L/h</th>
<th>US gal/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby Power</td>
<td>100</td>
<td>1227</td>
<td>1645</td>
<td>263</td>
<td>77.4</td>
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<tr>
<td>Prime Power</td>
<td>100</td>
<td>1097</td>
<td>1470</td>
<td>261</td>
<td>69.0</td>
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<td></td>
<td>75</td>
<td>922</td>
<td>1102</td>
<td>199</td>
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<td></td>
<td>50</td>
<td>548</td>
<td>735</td>
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<td></td>
<td>25</td>
<td>275</td>
<td>368</td>
<td>76</td>
<td>20.0</td>
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<tr>
<td>Continuous Power</td>
<td>100</td>
<td>900</td>
<td>1206</td>
<td>216</td>
<td>57.1</td>
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</table>

Fuel Consumption 1800 rpm (50 Hz)

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>kWm</th>
<th>BHP</th>
<th>L/h</th>
<th>US gal/h</th>
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</thead>
<tbody>
<tr>
<td>Standby Power</td>
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<td>1380</td>
<td>1850</td>
<td>330</td>
<td>87.3</td>
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<tr>
<td>Prime Power</td>
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<td>1220</td>
<td>1635</td>
<td>291</td>
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<tr>
<td></td>
<td>75</td>
<td>915</td>
<td>1226</td>
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<tr>
<td></td>
<td>50</td>
<td>610</td>
<td>818</td>
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<td></td>
<td>25</td>
<td>305</td>
<td>409</td>
<td>89</td>
<td>23.6</td>
</tr>
<tr>
<td>Continuous Power</td>
<td>100</td>
<td>1000</td>
<td>1340</td>
<td>242</td>
<td>63.8</td>
</tr>
</tbody>
</table>

Gaseous Fueling Consumption Guide
1097 kw X 3Nm3/h= 329 CBM/h (Normal Meter Cubed per Hour)=329000LH=648L/min 0.1-0.4Mpa
1294 kw X 3Nm3/h= 383 CBM/h (Normal Meter Cubed per Hour)=388000LH=6487L/min 0.1-0.4Mpa

Authorized Representative

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