HiMSEN Engine
Hi-touch Marine & Stationary ENgine
H17/21V
Earth Friendly Engine
17/21V HiMSEN Family.....

Korea’s first high speed engine, H17/21V is a different design concept to the existing HiMSEN engine, with 1,800 rpm (1,500 rpm), a high output of 160 kW (140 kW) per cylinder, and a compact structure. The weight ratio per kilowatt of the H17/21V engine will average about one third less than the current 4-stroke diesel engine. It can be used for marine propulsion, high speed vessels, emergency generator sets and diesel power plants. It is a state-of-the-art diesel engine available up to a maximum output of 3,200 kW and also satisfies IMO Tier II regulations for emissions, and the lower SFOC. The new H17/21V was developed based on the advanced HiMSEN engine concept and Hi-Touch technology. It also features:

- Structure strength minimizing heat load, noise and vibration
- Operating system based on dynamic analysis for high precision
- Highly efficient turbocharging for the best performance
- Advanced Miller timing
- Crown shape and selection of nozzle specification for excellent combustion performance
- Efficient lubrication and cooling system

HiMSEN H17/21V high speed engine marks the birth of a new era in earth-friendly engines, boasting a compact structure and simple exterior sure to influence the industry.

Main Features

**Performance characteristics**
- High Output in the similar range engines
- Low Fuel Oil Consumption
- Quick acceleration & load response

**Maintenance**
- Easier maintenance by modularized design
- Minimal the number and kind of components

**Earth-friendly engine**
- Low NOx emissions
- Complies with IMO Tier II
- Low Vibration & Noise

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**Major Application**

**Marine**
- Propulsion System
- Generating Sets

**Stationary**
- Power Plant
- Packaged Power Station
- Pre-fabricated Power Plant
- Emergency Generating Sets

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**Engine Output**

<table>
<thead>
<tr>
<th>Engine Type</th>
<th>1,500 rpm/50 Hz</th>
<th>1,800 rpm/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine</td>
<td>Generator</td>
<td>Engine</td>
</tr>
<tr>
<td>12H17/21V</td>
<td>1,680</td>
<td>1,920</td>
</tr>
<tr>
<td>16H17/21V</td>
<td>2,240</td>
<td>2,560</td>
</tr>
<tr>
<td>18H17/21V</td>
<td>2,520</td>
<td>2,880</td>
</tr>
<tr>
<td>20H17/21V</td>
<td>2,800</td>
<td>3,200</td>
</tr>
</tbody>
</table>

**Remark**
The alternator outputs are calculated for an efficiency of 95.5% and a power factor of 0.8 lagging.

**Specific Lubricating Oil Consumption**: 0.7 g/kWh (Tolerance: +25% depending on the operating conditions)

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**Dimensions & Weights**

<table>
<thead>
<tr>
<th>Cyl. Type</th>
<th>Dimension (mm)</th>
<th>Dry Weight (ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B₁</td>
</tr>
<tr>
<td>1,500 rpm</td>
<td>12</td>
<td>2,200</td>
</tr>
<tr>
<td>1,800 rpm</td>
<td>16</td>
<td>2,600</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>2,800</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>3,100</td>
</tr>
</tbody>
</table>

**Remark**
1) : Depending on alternator
2) : Weight included a standard alternator (Maker: HHI-EES)
3) : Without common base frame
4) : With common bed & Generator
5) : Confirmation form HHI to be needed when applying

Note) All dimensions and weight are approximate value and subject to change without prior notice
### Technical Data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Unit</th>
<th>H17/21V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore / Stroke</td>
<td>mm</td>
<td>170 / 210</td>
</tr>
<tr>
<td>Swept Volume</td>
<td>liter/cyl.</td>
<td>4.77</td>
</tr>
<tr>
<td>Bank Angle</td>
<td>°</td>
<td>90</td>
</tr>
<tr>
<td>Engine Speed</td>
<td>rpm</td>
<td>1,500</td>
</tr>
<tr>
<td>Frequency</td>
<td>Hz</td>
<td>50</td>
</tr>
<tr>
<td>Output</td>
<td>kW/cyl.</td>
<td>140</td>
</tr>
<tr>
<td>Piston Speed</td>
<td>m/s</td>
<td>10.5</td>
</tr>
<tr>
<td>Mean Effective Pressure (BMEP)</td>
<td>bar</td>
<td>23.5</td>
</tr>
<tr>
<td>Power density</td>
<td>b.m/s</td>
<td>247</td>
</tr>
<tr>
<td>Max. Firing Pressure (P. max)</td>
<td>bar</td>
<td>180</td>
</tr>
</tbody>
</table>
We build a better future

HYUNDAI
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