Reliability Upgrade

Upgrade Solution TPS50 to TPS52-F
MWM TBG620 Gas Engine – Power Generation

“Upgrading to the TPS52-F turbocharger has multiple times proven to solve operational challenges and delivered a sustainably outstanding performance.”

Joerg Simon,
H.G.S. GmbH

- Operational reliability highly increased
- Performance & efficiency Outstanding for harsh conditions
- Maintenance cost decreased 20% increased TBO
- Engine power up to 40 kW increased
- Solution turn-key
Turbocharger Upgrade Solution
Upgrade from TPS50 to TPS52-F

The solution in a nutshell
The TPS52-F provides several significant improvements over the TPS50 and is now available as an upgrade solution for MWM TBG620 gas engines. The old TPS50 may reach its operational limits when running under harsh conditions, such as high variation of ambient temperatures or low methane (CH4) content in the gas.

Upgrading to TPS52-F results in operational flexibility due to an increased compressor map width and compressor stability. As consequence, potential de-rating of the engine can be mitigated, leading to additional energy sales. Decreased wear and tear as well as increased time between overhauls by 20% lead to lower maintenance costs and higher reliability.

This all-encompassing upgrade package consists of a brand new TPS52-F turbocharger unit and all conversion parts; A reliable 100% original solution.

Application
- Stationary TBG620 gas engines fitted with TPS50
- V12 or V16 cylinder configuration
- All gas types: Natural, Mine, Dump, Bio, Sewage gas

Case study
Upgrade solution including engine up-rating of 40 kW

<table>
<thead>
<tr>
<th>Engine</th>
<th>TBG620 V16K</th>
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</thead>
<tbody>
<tr>
<td>Rated engine power</td>
<td>1400 kW</td>
</tr>
<tr>
<td>Yearly running hours</td>
<td>6000 h</td>
</tr>
<tr>
<td>Mitigated engine load reduction</td>
<td>3%</td>
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<tr>
<td>Annual added value</td>
<td></td>
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<tr>
<td>Additional power output</td>
<td>252 MWh</td>
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<tr>
<td>Additional energy earnings (@ 0.2 $/kWh)</td>
<td>50'400 $</td>
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