The Israeli government tightened its Health, Safety and Environment (HSE) regulations so that they now reflect the highest level in this field. As a result, PAZ Ashdod Refinery had to revamp their existing process gas compressors for hydrogen application in order to be compliant with the new strict HSE standards. PAZ entrusted Burckhardt Compression to both perform this task and to restore the performance of the compressors of another Original Equipment Manufacturer (OEM).

CUSTOMER ISSUE

- Government tightened the Health, Safety and Environment (HSE) regulations, high leakage of the machine became an issue
- Low valves reliability and short-lived Piston Rod Sealing System
- Energy loss due to low motor efficiency
- Maintenance unfriendly due to rigid coupling design and single bearing motor
- Old design of capacity control system, only manually activating
APPLICATION DESCRIPTION

High leakage on compressor and tightened HSE regulations

<table>
<thead>
<tr>
<th>Type</th>
<th>Gas</th>
<th>Power</th>
<th>Discharge pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other brand process gas compressor</td>
<td>Hydrogen</td>
<td>737 hp / 550 kW</td>
<td>17.56 bara / 240 psia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed</th>
<th>Lubrication</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>424 rpm</td>
<td>Dry-running</td>
<td></td>
</tr>
</tbody>
</table>

BURCKHARDT COMPRESSION SOLUTION

- Complete compressor revamp with latest technology incl. conformity of API 618
- Advanced design for 1st and 2nd stage cylinders with improved cooling effect
- Burckhardt Compression design applied to piston rod and piston, Redura® Sealing Systems, packing, rings and valves
- State-of-the-art buffer/purge system of the distance piece and packing
- New motor and flexible coupling for reduced maintenance and higher reliability
- Modern capacity control system with saver activation through control panel

CUSTOMER BENEFITS

- Compliant with latest Health, Safety and Environment regulations
- Leakage rate down to zero
- Increased reliability of the compressor systems, reduced MTBO
- Lower investment costs and shorter execution time compared to a new machine solution
- Improved maintainability and operation due to new applied design of Burckhardt Compression

"A beautiful project! Looking back to the beginning of the project and the situation we were confronted with, I am thrilled to see amazing low fugitive emissions results thanks to the new technology applied by Burckhardt Compression. Of course, I will recommend Burckhardt Compression to every other petrochemical and refinery plant."

Malachi Alper
CEO of the PAZ Ashdod Refinery

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