Shell Corena S4 R 68

Advanced Synthetic Rotary Air Compressor Oil

Shell Corena S4 R is primarily an advanced synthetic air compressor oil incorporating a unique high performance additive system. It is designed to deliver the highest performance lubrication of rotary sliding vane and screw air compressors. It uses an advanced additive system to provide excellent protection and performance for compressors running at pressures over 25 bar and in excess of 100°C discharge temperatures with oil maintenance intervals of up to 12,000 hours. Shell Corena S4 R is also perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is needed.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

**Long oil life – Maintenance saving**
Shell Corena S4 R is capable of providing oil maintenance intervals of up to 12,000 hours (where allowed by manufacturers) even when operating at maximum discharge temperatures in excess of 100°C.

The advanced formulation of Shell Corena S4 R helps deliver exceptional oil life through:

- Exceptional resistance to thermal and chemical breakdown.
- Resist formation of deposits on rotating components in screw compressors and in sliding vane slots for continuous efficient operation.
- Exceptionally low levels of deposit formation to help maintain excellent internal surface cleanliness particularly in oil/air separator and coalescer systems.

Exact oil maintenance interval will depend on intake air quality, duty cycle and ambient conditions. For hot and humid type climates as found in the Asian and Pacific regions, a reduced oil drain period is recommended (consult OEM recommendations).

**Outstanding wear protection**
Shell Corena S4 R helps provide exceptional protection and protection of internal metal surfaces from corrosion and wear. It contains an advanced ashless anti-wear system to help prolong the life of critical parts such as bearings and gears.

**Maintaining System Efficiency**
Shell Corena S4 R is designed to provide rapid air release without excessive foaming to give trouble-free operation even under cycling conditions helping to ensure reliable start-up and continuous compressed air availability.

Shell Corena S4 R has low volatility and oil carryover to provide reduced oil top-up requirements in combination with increased air quality.

In addition, Shell Corena S4 R has excellent water separation properties to help ensure continuous efficient operation of the compressor even in the presence of water.

Main Applications

**Rotary sliding vane and screw air compressors**
Shell Corena S4 R is suitable for oil-flooded/oil injected, single or two-stage compressors, operating at pressures of in excess of 25 bar and with air discharge temperatures of over 100°C (including intermittent operation under these conditions).

**Severe service conditions**
May also be used where exceptionally high ambient temperatures are found, when the oil temperature cannot be reduced to normal levels.

**ABB Turbochargers**
The product is recommended for use in ABB turbochargers fitted to low and medium speed diesel engines used in marine and power generation applications.
• **Bearing & Circulating Oil**
  Perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is required and will provide benefits due to increased resistance to deposit formation, improved low temperature fluidity, and lowering equipment operating temperatures.

• When a higher viscosity grade synthetic oil is required we recommend to use Shell Morlina S4 B grades for such applications.

**Specifications, Approvals & Recommendations**

• Shell Corena S4 R 68 is approved by ABB for use in VTR turbochargers, with a maximum oil change interval of 5000 hours (HZTL 90617, list 3a).

• ISO 6743-3A-DAJ.

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**Typical physical characteristics**

<table>
<thead>
<tr>
<th>Properties</th>
<th>Method</th>
<th>S4 R 68</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO Viscosity Grade</td>
<td>ISO 3448</td>
<td>68</td>
</tr>
<tr>
<td>Kinematic Viscosity @40°C mm²/s</td>
<td>ASTM D445</td>
<td>68</td>
</tr>
<tr>
<td>Kinematic Viscosity @100°C mm²/s</td>
<td>ASTM D445</td>
<td>10.2</td>
</tr>
<tr>
<td>Viscosity Index (VI)</td>
<td>DIN ISO 2909</td>
<td>135</td>
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<tr>
<td>Density @15°C kg/m³</td>
<td>ASTM D1298</td>
<td>8.48</td>
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<tr>
<td>Flash Point (COC) °C</td>
<td>ASTM D92</td>
<td>248</td>
</tr>
<tr>
<td>Pour Point °C</td>
<td>ASTM D97</td>
<td>-45</td>
</tr>
<tr>
<td>Air Release mins</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Rust Prevention - Synthetic Sea Water</td>
<td>ASTM D665B</td>
<td>Pass</td>
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<tr>
<td>Water Separability mins</td>
<td>ASTM D1401</td>
<td>10</td>
</tr>
<tr>
<td>Rotating Pressure Vessel Oxidation mins</td>
<td>ASTM D2272</td>
<td>2200</td>
</tr>
<tr>
<td>FZG Load Carrying Test failure load stage</td>
<td>CEC-L-07-A-95</td>
<td>&gt;12</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. Whilst future production will conform to Shell’s specification, variations in these characteristics may occur.

**Health, Safety & Environment**

• **Health and Safety**
  Shell Corena S4 R Oil is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from http://www.epc.shell.com/

• **Protect the Environment**
  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

**Additional Information**

• **Advice**
  Advice on applications not covered here may be obtained from your Shell representative.