These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**HEALTH & SAFETY**

**NON ISO VG Grade**

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>32</th>
<th>46</th>
<th>68</th>
<th>81</th>
<th>100</th>
<th>121*</th>
<th>150</th>
<th>176*</th>
<th>220</th>
<th>257*</th>
<th>320</th>
<th>460</th>
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<tbody>
<tr>
<td>MinFP</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>MaxFP</td>
<td>190</td>
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</tr>
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<td>204</td>
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</tr>
<tr>
<td>MinVF</td>
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<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>MinIV</td>
<td>32</td>
<td>46</td>
<td>68</td>
<td>72</td>
<td>78</td>
<td>86</td>
<td>118</td>
<td>124</td>
<td>155</td>
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<td>MaxIV</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**CHARACTERISTICS**

**PERFORMANCE STANDARDS**

- Meet the following specifications:
  - Morgan Construction Co., USA
  - IPSS 1-09-001-81

**APPLICATION**

- Suitable for oil film bearings in steel mills. These oils are also recommended in steel mills. These oils are also recommended in circulating systems where non-additive lubricants with high demulsibility and thermal stability are required.

**PERFORMANCE BENEFITS**

- Rapidly separate from water
- Meet the following specification:
  - IS 6552 – 1972 Grade 1 and 2 respectively
  - Servofilm 46 and 257 meet the following specification:
  - ISO VG 32 / 46 / 68 / 100 / 121 / 150 / 176 / 220 / 257 / 320 / 460

**DESCRIPTION**

- Developed for use in circulating systems where non-additive lubricants are required.
- These are blend cuts from solvent refined high viscosity index base stocks having inherent oxidation and thermal stability characteristics.
- These oils have excellent water separation characteristics.
- These oils are highly refined straight mineral.
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

E-mail: services@indianoil.co.in OR tech_services@indianoil.co.in

For further information please contact our nearest office OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Fair, Extn, Phase-1, Okhla, New Delhi, Pincode - 110020

GRADES AVAILABLE - SERVOSYSTEM 22/32/46/57*/*68/81*/100/150

PERFORMANCE STANDARDS

• IS: 10522:1983 (Reaffirmed 1993)

MANUFACTURERS APPROVAL

• Bharat Pumps & Compressors Ltd., Naini
• Hindustan Machine Tools Ltd., Bangalore
• Kirloskar Bros. Ltd., Pune
• Heavy Engg. Corporation, Ranchi
• Revathi CP Equipments

APPLICATION

Servosystem oils are anti-wear hydraulic and circulation oils specially formulated for efficient lubrication of a wide variety of industrial equipment. Servosystem oils are blended from highly refined base stocks and carefully selected high-performance additives and other quality materials to provide superior performance in hydraulic systems. Servosystem oils are recommended as fluid media for hydraulic systems and hydraulic pumps even under severe operating conditions in highly corrosive, anti-wear, anti-rust, anti-foam and anti-oxidation environments. Servosystem oils are anti-wear, hydraulic and anti-oxidation.

DESCRIPTION

Servosystem oils are anti-wear, hydraulic and anti-oxidation.

GRADES

<table>
<thead>
<tr>
<th>GRADE</th>
<th>FV, cSt @ 40°C</th>
<th>V. INDEX</th>
<th>FP, °C</th>
<th>RP, °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>20-24</td>
<td>95</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>32</td>
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</tr>
<tr>
<td>46</td>
<td>43-48</td>
<td>95</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>57*</td>
<td>55-60</td>
<td>95</td>
<td>-6</td>
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<td>68</td>
<td>64-72</td>
<td>95</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>81*</td>
<td>78-85</td>
<td>95</td>
<td>-6</td>
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<tr>
<td>100</td>
<td>95-105</td>
<td>90</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>150</td>
<td>145-155</td>
<td>90</td>
<td>-6</td>
<td>Pass</td>
</tr>
</tbody>
</table>

NON ISO VG

<table>
<thead>
<tr>
<th>GRADE</th>
<th>FV, cSt @ 40°C</th>
<th>V. INDEX</th>
<th>FP, °C</th>
<th>RP, °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>68</td>
<td>57*</td>
<td>6</td>
<td>Pass</td>
</tr>
<tr>
<td>32</td>
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<td>46</td>
<td>29-33</td>
<td>32</td>
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<td>Pass</td>
</tr>
<tr>
<td>57*</td>
<td>20-24</td>
<td>32</td>
<td>6</td>
<td>Pass</td>
</tr>
<tr>
<td>68</td>
<td>145-155</td>
<td>32</td>
<td>6</td>
<td>Pass</td>
</tr>
<tr>
<td>81*</td>
<td>57*</td>
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<td>Pass</td>
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<td>100</td>
<td>81*</td>
<td>32</td>
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</tr>
<tr>
<td>150</td>
<td>100</td>
<td>32</td>
<td>6</td>
<td>Pass</td>
</tr>
</tbody>
</table>

CHARACTERISTICS

- High Viscosity Index
- Excellent Oxidation Stability
- Good Anti-Wear Properties
- Excellent Anti-Rust Properties
- Good Anti-Foam Properties
- High Flash Point
These oils are unlikely to present any significant health or safety hazards when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**HEALTH & SAFETY**

**GRADES AVAILABLE - SERVOSYSTEM 121/176/220/320/460**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>ISO VG 121*</th>
<th>ISO VG 176*</th>
<th>ISO VG 220*</th>
<th>ISO VG 320*</th>
<th>ISO VG 460*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity, cSt @ 40°C</td>
<td>118-124</td>
<td>210-230</td>
<td>210-230</td>
<td>315-350</td>
<td>440-500</td>
</tr>
<tr>
<td>Viscosity Index, Min.</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Flash Point (COC), °C</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>260</td>
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<tr>
<td>Pour Point, °C Max</td>
<td>(-3)</td>
<td>(-3)</td>
<td>(-3)</td>
<td>(-3)</td>
<td>(-3)</td>
</tr>
<tr>
<td>Rust Test (D-665 AVGB, 24 hrs)</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>Non ISO VG</td>
<td></td>
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</tr>
</tbody>
</table>

**DESCRIPTION**

Servosystem oils are high quality circulation oils designed for use in a wide variety of industrial equipment. These oils are particularly suitable for lubrication of anti-friction machinery, such as paper mill dryer rolls, plastic film calendars and paper corrugators where the excellent resistance of these oils, to the formation of harmful deposits, results into outstanding benefits. These oils find wide usage as gear and bearing lubricants in coal pulverizers and feed and conveying equipment in coal preparation and handling systems. These oils are also extensively used for long trouble free operation of compressors, hydraulic systems, circulating oil systems and small enclosed gears where EP lubricants are not necessary.

**PERFORMANCE BENEFITS**

- Provide long term protection against rust and corrosion
- Have resistance to the formation of sludge and deposits in the system
- Provide long life to moving parts due to adequate anti-wear properties
- Have reduced foaming tendency
- Ensure longer intervals between oil changes and system clean ups
- Ensure longer intervals between oil changes and system clean ups
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- Provide longer intervals between oil changes and system clean ups
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**APPLICATION**

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These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

GRADES AVAILABLE – SERVOSYSTEM HLP 22, 32, 46, 68, 100, 150

CHARACTERISTICS

<table>
<thead>
<tr>
<th>ISO VG GRADE</th>
<th>11</th>
<th>-</th>
<th>10</th>
<th>10</th>
<th>10</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity @ 40°C, cSt</td>
<td>20-24</td>
<td>-</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Viscosity Index, Min</td>
<td>95</td>
<td>95</td>
<td>89</td>
<td>89</td>
<td>89</td>
<td>89</td>
</tr>
<tr>
<td>Flash Point (COC), °C</td>
<td>160</td>
<td>200</td>
<td>200</td>
<td>210</td>
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<tr>
<td>Pour Point, °C</td>
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<td>45</td>
<td>45</td>
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<td>Emulsion Test D-1401, 40-37-3, Minutes, Max</td>
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<td>20</td>
<td>20</td>
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<td>25</td>
<td>30</td>
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<td>FZG, Rating Stage, Failure - 1 01 01 01 0 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

DESCRIPTION

Servosystem HLP oils are high performance hydraulic oils. These oils provide superior antiwear protection, excellent oxidation and thermal stability, outstanding hydraulic stability and good demulsibility.

PERFORMANCE BENEFITS

- Ensure overall problem free performance.
- Provide outstanding oxidation and thermal stability.
- Provide sludge free high temperature performance.
- Provide excellent filterability characteristics.
- Provide excellent hydraulic performance.
- Provide superior high temperature, oxidation and thermal stability.
- Ensure long service life due to outstanding hydraulic stability.

APPLICATION

- Designed for use in hydraulic systems operating under extremely severe conditions.
- Recommended for use in high performance electro-hydraulic systems.
- Suitable for use in high temperature, oxidation and thermal stability
- No significant health or safety hazards when used properly.

PERFORMANCE STANDARDS

- DIN 51524 Part 2
- DENISON HF-O
- US STEEL 127
- IS: 1522-1943 (Reaffirmed 1993)
- IS: 11656-1986 (Reaffirmed 1991)
- IS: 10522-1983 (Reaffirmed 1993)
- ATLAS COPCO R8 & R9, HOESCH HLP
- DIN 51524 Part 2

Indian Oil
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

GREAT AVAILABLE = SERVOSYSTEM HLP (N) (22, 32, 46, 68, 100, 150)
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Centre, Bandra (East), Mumbai – 400 051
E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in

GRADES AVAILABLE – SERVOHYDREX 32, TH46, 100

CHARACTERISTICS

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>Kinematic Viscosity, cSt @ 40°C</th>
<th>Flash Point (COC), °C Min.</th>
<th>Pour Point, °C Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>29-33</td>
<td>170</td>
<td>39</td>
</tr>
<tr>
<td>46</td>
<td>43-48</td>
<td>200</td>
<td>33</td>
</tr>
<tr>
<td>100</td>
<td>69-77</td>
<td>210</td>
<td>24</td>
</tr>
</tbody>
</table>

DESCRIPTION

Servohydrex oils are anti-wear type hydraulic oils having a very high viscosity index and low pour point. These oils are blended with high quality base stocks and are incorporated with oxidation inhibitors and anti-rust additives to give long trouble free service. Servohydrex oils are recommended as fluid media in all hydraulic systems where very low operating temperatures are encountered and the application demands use of a very high viscosity index oil.

APPLICATION

Servohydrex oils are recommended as fluid media in all hydraulic systems where very low operating temperatures are encountered and the application demands use of a very high viscosity index oil.

APPROVALS

Servohydrex 100 is approved by TELCO for Tata Hitachi excavators.
Servohydrex TH 46 is approved by TELCO for Tata Hitachi excavators.
Servohydrex TH 46 is approved by TELCO.

PERFORMANCE BENEFITS

• Provide protection against rust and corrosion
• Have reduced foaming tendency
• Possess excellent resistance to oxidation
• Provide good protection against wear thereby prolonging service life of moving parts
• Provide good protection against wear thereby prolonging service life of moving parts
• Suitable for a wide range of operating temperatures
• Easy flow at very low temperatures

APPROVALS

• Servohydrex TH 46 is approved by TELCO

DESCRIPTION

Servohydrex oils are anti-wear type hydraulic oils having a very high viscosity index and low pour point. These oils are blended with high quality base stocks and are incorporated with oxidation inhibitors and anti-rust additives to give long trouble free service. Servohydrex oils are recommended as fluid media in all hydraulic systems where very low operating temperatures are encountered and the application demands use of a very high viscosity index oil.
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:
Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Jute Mills, Bandra (East), Mumbai – 400 051
E-Mail: tservices@indianoil.co.in    OR tech_services@indianoil.co.in

GRADES AVAILABLE - SERVOLINE 32/46/68/100/150/220/320/460

CHARACTERISTICS

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>Rust Test (D-665A.24 hrs)</th>
<th>Pour Point, °C</th>
<th>Flash Point (CCl₃), °C Min</th>
<th>Viscosity Index, Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Pass</td>
<td>0</td>
<td>150</td>
<td>90</td>
</tr>
<tr>
<td>46</td>
<td>Pass</td>
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<td>68</td>
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</tr>
<tr>
<td>460</td>
<td>Pass</td>
<td>0</td>
<td>250</td>
<td>90</td>
</tr>
</tbody>
</table>

PERFORMANCE STANDARDS

Servoline oils meet the following specification:

APPLICATION

Servoline oils are developed for general lubrication of all types of industrial machinery using once-through lubrication system i.e., all-loss systems of lubrication of all types of industrial machinery, where the oil is applied intermittently by means of an oilcan.

SERVOLINE SERVO

PRODUCT DATA SHEET

IndianOil
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**HEALTH & SAFETY**

**GRADES AVAILABLE - SERVO CIROL 32/46/68/100/150**

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Grade</th>
<th>ISO VG</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>68</td>
<td>80</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

**DESCRIPTION**

Servocirol oils are rust and oxidation inhibited grades intended for use in situations where long service periods are desired and improved anti-wear characteristics are not essential.

**PERFORMANCE BENEFITS**

- Easier to separate from water since they have good demulsibility.
- Provide good protection against rust and corrosion during idle periods, even under humid conditions.
- Due to its multi-functional properties, help in reducing the number of grades.
- Due to its multi-functional properties, help in reducing the number of grades.
- Have good demulsibility.
- Readily separate from water since they are rust and oxidation inhibited.
- Rust Test (D-665 B, 24 hrs).
- Pour Point, c° Max.
- Flash Point, (COC), c° Min.
- Viscosity Index, Min.
- Kinematic Viscosity, cSt @ 40° C

**APPLICATION**

- Servocirol oils are recommended for:
  - Hydraulic systems where anti-wear properties are not specifically needed.
  - Enclosed industrial gear boxes where EP properties are not specifically needed.
  - Railway systems where anti-wear properties are not specifically needed.
  - Industrial oil for plain and anti-friction bearings of turbo-feed pumps, turbo blowers, etc.
  - Moderate duty, intermittent operating, turbo sets where the oil is generally changed on a yearly basis.

**PERFORMANCE STANDARDS**

- DIN- 51524 for hydraulic oils H and H-L (except very low pour point).
- US Steel requirement No. 135.
- Servocirol 32, 46, 68 and 150 meet Cincinnati Milacron, USA specification P-38, P-68, P-24 and Servocirol 32, 46, 68 and 150 meet Cincinnati Milacron, USA specification P-38, P-55, P-54.
- USS Steel specification No. 135 (except very low pour point).
- DIN- 51524 for hydraulic oils H and H-L.
- Rust Test (D-665 B, 24 hrs).
- Pour Point, c° Max.
- Flash Point, (COC), c° Min.
- Viscosity Index, Min.
- Kinematic Viscosity, cSt @ 40° C

**DESCRIPTION**

Servocirol oils are rust and oxidation inhibited grades intended for use in situations where long service periods are desired and improved anti-wear characteristics are not essential.
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

GRADES AVAILABLE - SERVO PRESS 32, 68, 100, 150, 220, 320

DESCRIPTION

Servopress oils are air compressor lubricants specially developed to minimise the incidence of fire and explosions in modern air compressors. These oils provide satisfactory lubrication under prolonged high temperature and load conditions, since they are exceptionally stable and are incorporated with antioxidant and rust inhibitor additives.

PERFORMANCE BENEFITS

- Provide excellent resistance to oxidation, thus permitting extended oil drain intervals
- Reduce maintenance costs due to minimum consumption
- Reduce oil consumption during running down
- Provide effective protection against rust
- Enable trouble free starting at lower temperature
- Reduce risk of fire and explosion
- Minimize corrosion deposits on the valve
- Provide excellent resistance to oxidation

MANUFACTURERS APPROVAL

- DIN - 51506, VDL
- ISO DIS - 6271

APPLICATION

Servopress oils are suitable, not only for cylinder lubrication of high performance, portable and stationary reciprocating units, but also for rotary compressors. Servopress oils are recommended for air compressor lubrication with air discharge temperature up to 220°C.

CHARACTERISTICS

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>Kinematic Viscosity, cSt @ 40°C</th>
<th>Viscosity Index</th>
<th>Flash Point (COC), °C Min.</th>
<th>Pour Point, °C Max.</th>
<th>Rust Test (D-655, ACK, 24 hrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>68-72</td>
<td>95</td>
<td>190</td>
<td>0</td>
<td>Pass</td>
</tr>
<tr>
<td>68</td>
<td>95-105</td>
<td>95</td>
<td>200</td>
<td>3</td>
<td>Pass</td>
</tr>
<tr>
<td>100</td>
<td>145-155</td>
<td>95</td>
<td>204</td>
<td>3</td>
<td>Pass</td>
</tr>
<tr>
<td>150</td>
<td>190-200</td>
<td>90</td>
<td>210</td>
<td>3</td>
<td>Pass</td>
</tr>
<tr>
<td>220</td>
<td>240-250</td>
<td>90</td>
<td>220</td>
<td>3</td>
<td>Pass</td>
</tr>
<tr>
<td>320</td>
<td>290-335</td>
<td>90</td>
<td>230</td>
<td>3</td>
<td>Pass</td>
</tr>
</tbody>
</table>
**HEALTH & SAFETY**

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**GRADES AVAILABLE - SERVO PRESS C 100, C 220**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ISO VG 100</th>
<th>ISO VG 220</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity, cSt @ 40°C</td>
<td>95-105</td>
<td>99-105</td>
</tr>
<tr>
<td>Flash Point, °C Min.</td>
<td>192</td>
<td>222</td>
</tr>
<tr>
<td>Pour Point, °C Max</td>
<td>(-) 9</td>
<td>(-) 9</td>
</tr>
<tr>
<td>Rust Test, (D-665 V.A.24hrs.)</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>Pour Point, °C Min.</td>
<td>192</td>
<td>222</td>
</tr>
<tr>
<td>Kinematic Viscosity, cSt @ 40°C</td>
<td>99-105</td>
<td>99-105</td>
</tr>
</tbody>
</table>

**DESCRIPTION**

Servopress C oils are high quality, compounded mineral lubricants that have been specially developed for use in multistage air and gas compressors. These oils are however, blends of mineral lubricants that have been specially compounded.

Servopress C oils are recommended for cylinder lubrication of single/multistage air compressors handling moist air/gas. The use of Servopress C oils enable easy maintenance and provide long service life to metal surfaces. The use of Servopress C oils enable easy maintenance and provide long service life to metal surfaces. Further more, they have excellent resistance to water action and maintain a strong oil film on metal surfaces. They have excellent resistance to the washing action of water and maintain a strong oil film on metal surfaces.

Servopress C oils are recommended for cylinder lubrication of single/multistage air compressors handling moist air/gas. These oils are however, blends of mineral lubricants that have been specially developed for use in multistage air and gas compressors. Servopress C oils are recommended for cylinder lubrication of single/multistage air compressors handling moist air/gas.

Servopress C oils are high quality, compounded mineral lubricants that have been specially developed for use in multistage air and gas compressors. Servopress C oils are recommended for cylinder lubrication of single/multistage air compressors handling moist air/gas.

**APPLICATION**

Servopress C oils are high quality, compounded mineral lubricants that have been specially developed for use in multistage air and gas compressors. Servopress C oils are recommended for cylinder lubrication of single/multistage air compressors handling moist air/gas.
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**HEALTH & SAFETY**

GRADES AVAILABLE - SERVO PRESS T32, T46, T57, T68

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>Non ISO VG</th>
<th>Emulsion Test (ASTM D 1401), 40-37-3, Min &amp; Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>15</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>15</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>6</td>
<td>(-) 6</td>
<td>(-) 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash Point (COC), °C</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pour Point, °C</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>215</td>
<td>200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>kinematic Viscosity, cSt @ 40 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viscosity Index, Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.5 - 30.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturer's Viscosity, cSt @ 40 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 - 70</td>
</tr>
</tbody>
</table>

**CHARACTERISTICS**

Servopress oils are new series of compressor lubricants specially formulated for use in view of their excellent oxidation stability. Use for screw and vane compressors in view of their excellent oxidation stability. They can also be used for screw and vane compressors having common circulation systems for bearings, couplings and seals.

- Rust Test, (D-665 A&B, 24 hrs.) Pass
- Emulsion Test (ASTM D 1401), 40-37-3, Min & Max
- Flash Point (COC), °C Min
- Pour Point, °C Max
- Kinematic Viscosity, cSt @ 40 °C
- Viscosity Index, Min.
- Manufacturer’s Viscosity, cSt @ 40 °C

**DESCRIPTION**

Servopress T oils are suitable for use in rotary vane, centrifugal and screw compressors having common circulation systems for bearings, couplings and seals.

- Rust Test, (D-665 A&B, 24 hrs.) Pass
- Emulsion Test (ASTM D 1401), 40-37-3, Min & Max
- Flash Point (COC), °C Min
- Pour Point, °C Max
- Kinematic Viscosity, cSt @ 40 °C
- Viscosity Index, Min.
- Manufacturer’s Viscosity, cSt @ 40 °C

**APPLICATION**

Servopress T oils are suitable for use in rotary vane, centrifugal and screw compressors having common circulation systems for bearings, couplings and seals.

- Rust Test, (D-665 A&B, 24 hrs.) Pass
- Emulsion Test (ASTM D 1401), 40-37-3, Min & Max
- Flash Point (COC), °C Min
- Pour Point, °C Max
- Kinematic Viscosity, cSt @ 40 °C
- Viscosity Index, Min.
- Manufacturer’s Viscosity, cSt @ 40 °C

**PERFORMANCE BENEFITS**

- Have excellent resistance to oxidation and sludge formation which lead to extended oil drain intervals.
- Provide effective protection against rust and corrosion.
- Do not react with ammonia.
- Do not turn red while in contact with ammonia.
- Readily separate from water.
- Have excellent resistance to oxidation and sludge formation which lead to extended oil drain intervals.
- Provide effective protection against rust and corrosion.
- Do not react with ammonia.
- Do not turn red while in contact with ammonia.

**MANUFACTURERS APPROVAL**

- Bharat Heavy Electricals Ltd., Hyderabad
- Consolidated Pneumatic Tool Co (I) Ltd., Mumbai
-...
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**GRADES AVAILABLE - SERVO PRESS LS 320, LS 460**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ISO VG 320</th>
<th>ISO VG 460</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity, cSt @ 40°C</td>
<td>295 – 305</td>
<td>415 – 470</td>
</tr>
<tr>
<td>Viscosity Index Mix</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>Flash Point (COC), °C</td>
<td>Min 226</td>
<td>Min 260</td>
</tr>
<tr>
<td>Pour Point, °C</td>
<td>Max. (-) 3</td>
<td>Max. (-) 3</td>
</tr>
<tr>
<td>Minimum Viscosity, cSt @ 40°C</td>
<td>295</td>
<td>305</td>
</tr>
<tr>
<td>Minimum Viscosity, cSt @ 40°C</td>
<td>460</td>
<td>60</td>
</tr>
</tbody>
</table>

**APPLICATION**

- Minimises wear at cylinder liner and rings
- Ensures longer life of the catalyst used in the converter

**DESCRIPTION**

Servopress LS oils are specially developed for cylinder lubrication of high pressure syn-gas reciprocating compressors used in fertiliser plants. These compressors are generally slow-speed, multi-stage high capacity, high efficiency, high temperature, low maintenance units. The compressors are equipped with special cylinder bushes and annular rings in the cylinder head used in high temperature. Servopress LS oils are recommended for cylinder lubrication of these compressors.

**PERFORMANCE BENEFITS**

- Longer life of the catalyst
- Minimises wear at cylinder liner and rings

Synthetic gases containing Nitrogen and Hydrogen in the ratio of 1:3, The syn-gas is passed over the catalyst beds in a converter where temperature prevails in the range of 550-570°C. Usage of Servopress LS oil due to its inherent low sulphur, prevents any significant health or safety hazards when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:

- Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Mart, Bandra (East), Mumbai – 400 051
- E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

GRADES AVAILABLE - SERVO FRIZ 12, 22, 32, 46, 68, 100

CHARACTERISTICS

SERVOFRIZ oils are high quality mineral lubricants formulated for the lubrication of reciprocating and rotary refrigeration compressors. These oils possess inherent resistance to oxidation and deposit formation.

PERFORMANCE STANDARDS

ServoFriz oils meet the following specification:
• IS : 4578-1989
• Servofriz 68 meets Carrier Corporation, USA specification No. PP 46-1

MANUFACTURER’S APPROVAL

ServoFriz oils are approved by the leading refrigeration compressor manufacturers, such as:
Bharat Heavy Electricals Ltd., Hyderabad
Bharat Pumps and Compressors Ltd., Naini
Frick India Ltd., Faridabad
ServoFriz oils meet the following specification:
ISO VG

APPLICATION

ServoFriz oils are recommended for the lubrication of a wide range of refrigeration compressors. These oils can be used with conventional refrigerants, except sulphur di-oxide, in both reciprocating and rotary compressors.

PERFORMANCE BENEFITS

• Possess high fluidity at very low temperatures
• Resist deposit formation thereby keeping compressor parts clean
• Reduce compressor valve maintenance due to higher temperatures
• Resist deposits formation thereby keeping condenser efficiency high
• Have reduced tendency to foam
• Have high service life due to high oxidation and thermal stability
• Minimise copper plating due to their inherent resistance to oxidation
• Have long service life due to high condenser efficiency

DESCRIPTION

Non ISO VG

<table>
<thead>
<tr>
<th>Pour Point, °C Min.</th>
<th>Flash Point (COC), °C Min.</th>
<th>Kinematic Viscosity, cSt @ 40 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>12-14</td>
<td>12-14</td>
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<tr>
<td>68</td>
<td>32</td>
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<tr>
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<td></td>
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<tr>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43-46</td>
<td>33-35</td>
<td>90 - 100</td>
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<td>20-24</td>
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<td>63-65</td>
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<td>27</td>
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<tr>
<td>12*</td>
<td>240</td>
<td>(-)</td>
</tr>
</tbody>
</table>

Non ISO VG
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

**HEALTH & SAFETY**

**GRADES AVAILABLE - SERVO PRIME 32/46/68/100/32LP/46LP/68LP**

**DESCRIPTION**

SERVOPRIME oils premium quality lubricants especially formulated to give outstanding performance and long life in modern steam, gas and hydraulic turbines. SERVOPRIME oils have been tested for radiation stability and found suitable for use in nuclear power plants. These oils have been tested for radiation stability and found suitable for use in nuclear power plants.

**CHARACTERISTICS**

- Provide excellent long term protection
- Able to release entrained air at a rapid rate
- Reduced tendency to foam
- Outstanding oxidation stability
- Ensures long service life since they possess resistant rust and corrosion
- Readily separate from water
- Provide performance benefits

**PERFORMANCE STANDARDS**

- Turbine oil requirements of BHEL
- BS 489/1983
- GE, USA specification GEK-27070
- IS: 1012 1987-1987 (Reaffirmed)
- DIN 51517-1983
- Turbine oil requirements of BHEL

**APPLICATION**

- Steam, gas and hydraulic turbines
- Electric motors
- Compressors
- Valves
- Gearboxes
- Sprockets
- Pulleys
- Bearings
- Enclosed systems

**MANUFACTURERS’ APPROVALS**

- Bharat Heavy Electricals Ltd., Bhopal
- Bharat Heavy Electricals Ltd., Bhopal
- Bharat Heavy Electricals Ltd., Bhopal

**GRADES AVAILABLE**

- SERVO PRIME 32/46/68/100/32LP/46LP/68LP

For further information please contact our nearest office OR:

**E-Mail**

tservices@indianoil.co.in OR tech_services@indianoil.co.in
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:
Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Centre, Bandra (East), Mumbai – 400 051
E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in

GRADES AVAILABLE – SERVOPRIME 32T, 46T, 57T*, 68T, 32A

DESCRIPTION

Servoprime T oils have been specially formulated to satisfy the demanding requirements of modern high-output steam turbines including their gear units. Servoprime T oils show exceptionally good oxidation stability, excellent demulsibility and prevent foaming tendency. These also possess good air release property. These properties are retained during prolonged service life and helps in giving outstanding performance and trouble free service.

Servoprime 32 A provides extra antiwear and oxidation protection. This increases life of the load gears and prevents induced troubles in critical turbine systems.

PERFORMANCE BENEFITS

- Outstanding oxidation and thermal stability that ensure long trouble free service life.
- Provide excellent antiwear protection.
- Give excellent long term protection against rust and corrosion.
- Prevent foaming tendency.
- Readily separates oil water.
- Readily releases entrained air quickly.
- Prevent formation of sediment.
- Rust and corrosion resistant.
- Give excellent long term protection against rust and corrosion.
- Provide excellent antiwear protection.
- Ensure long trouble free service life.
- Outstanding oxidation and thermal stability.

APPLICATION

SERVOPRIME T & A

Product Data Sheet

For further information please contact our nearest office OR:
Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Centre, Bandra (East), Mumbai – 400 051
E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in

GRADES AVAILABLE – SERVOPRIME 32T, 46T, 57T*, 68T, 32A

**CHARTERISTIC**

<table>
<thead>
<tr>
<th>ISO V</th>
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<th>8</th>
<th>8</th>
<th>8</th>
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<tr>
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<td>(-) 6</td>
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<td>55-60</td>
<td>43-48</td>
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<td>57.1</td>
<td>46.1</td>
<td>32.1</td>
<td>32.1</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

* Servoprime T oils exceed the following performance standards:

**GE Around the World**

- Servoprime 32 A is approved by the following:
  - Siemens (TLU 901304)
  - GEK 28143A
  - Brown Boveri HTGD 90117

**APPLICATION**

Servoprime T oils are recommended for use in the lubrication system of steam, gas and water turbines operating under all service conditions. In addition, Servoprime T oils provide outstanding performance in hydraulic systems, circulation systems, enclosed bearings and other industrial machines in which trouble free service of lubricants is essential. Servoprime T oils are recommended for use in the lubrication system of steam, gas and water turbines operating under all service conditions.

**DESCRIPTIO**
**SERVOPRIME LL**

**IndianOil**

**HEALTH & SAFETY**

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Jute Mills, Bandra (East), Mumbai-400 051

E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in

**GRADES AVAILABLE – SERVOPRIME 32 LL, 46 LL, 68 LL**

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>ISO VG</th>
<th>ISO VG</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>46</td>
<td>68</td>
</tr>
</tbody>
</table>

- **Kinematic Viscosity (at 40°C)**: 32
- **Pour Point (°C)**: (-6)
- **Flash Point (°C)**: 200
- **Rust Test, D-665B, 24 hrs.** Pass
- **Emulsion Test @ 54°C, D-1401, Minutes.** 20

**DESCRIPTION**

Servoprime LL oils are premium quality turbine oils especially formulated for long life in modern turbines. Servoprime LL oils are manufactured from selectively refined base stocks and contain carefully chosen antioxidant, rust inhibitor and defoamant additives.

**APPLICATION**

Servoprime LL oils are recommended for use in lubrication system of modern steam, gas and hydraulic turbines operating under all service conditions. Hydraulic systems of modern steam, gas and Servoprime LL oils are recommended for use in these applications:

- BHEL, Haridwar
- MANUFACTURERS APPROVAL
  - BS 489-1993
  - IS 1012-1987 (Reaffirmed 1993)

**PERFORMANCE BENEFITS**

- Higher oxidation stability reserve, almost two times
- Superior antiwear and extreme pressure characteristics
- Exceeds the requirement of all national and international specifications
- Is a potential oil for providing problem free performance under all service conditions
- Long life for high severity turbines of modern power plants
- Does not contain any significant health or safety hazard

**PERFORMANCE STANDARDS**

- IS:1012-1987 (Reaffirmed 1993)
- BS:489-1993
- IS:1012-1987 (Reaffirmed 1993)
**PRODUCT DATA SHEET**

SERVOMESH SP

**HEALTH & SAFETY**

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office OR:

Technical Services Dept, Indian Oil Corporation Ltd., G-9, Airforce Jurisdiction, Bhandup (E), Mumbai – 400051

**GRADES AVAILABLE - SERVO MESH SP 68/100/150/220/257/320/460/680/1000**

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>ISO No.</th>
<th>Kin. Visc. cst @ 40°C</th>
<th>Viscosity Index, Min.</th>
<th>Flash Point (COC),°C</th>
<th>Pour Point,°C</th>
<th>FZG Rating, 12th Stage Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>64 - 72</td>
<td>90</td>
<td>204</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>100</td>
<td>95 - 105</td>
<td>90</td>
<td>204</td>
<td>-6</td>
<td>Pass</td>
</tr>
<tr>
<td>150</td>
<td>145 - 155</td>
<td>90</td>
<td>232</td>
<td>-6</td>
<td>Pass</td>
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<tr>
<td>220</td>
<td>210 - 230</td>
<td>90</td>
<td>232</td>
<td>-3</td>
<td>Pass</td>
</tr>
<tr>
<td>257</td>
<td>250 - 280</td>
<td>90</td>
<td>232</td>
<td>-3</td>
<td>Pass</td>
</tr>
<tr>
<td>320</td>
<td>320 - 350</td>
<td>90</td>
<td>232</td>
<td>-3</td>
<td>Pass</td>
</tr>
<tr>
<td>460</td>
<td>420 - 500</td>
<td>90</td>
<td>232</td>
<td>-3</td>
<td>Pass</td>
</tr>
<tr>
<td>680</td>
<td>615 - 660</td>
<td>80</td>
<td>232</td>
<td>-6</td>
<td>Pass</td>
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<tr>
<td>1000</td>
<td>980 - 1050</td>
<td>80</td>
<td>280</td>
<td>-6</td>
<td>Pass</td>
</tr>
</tbody>
</table>

*NON ISO VG*

**DESCRIPTION**

Servomesh SP oils are extreme pressure type industrial gear lubricants. These oils demonstrate improved thermal stability and oxidation resistance over conventional lead-naphthenate oils. They have good demulsibility properties, low foaming tendency and provide improved thermal stability and oxidation resistance over conventional lead-naphthenate oils.

Servomesh SP oils are recommended for all types of enclosed gear drives with circulation or splash lubrication systems. Servomesh SP oils are particularly recommended for gear sets working under heavy or shock load conditions. These oils are also suitable for chain drives, sprockets, flexible couplings, plain and rolling element bearings.

**PERFORMANCE BENEFITS**

- Provide metal-to-metal rust and corrosion protection
- Excellent ready separation from water due to emulsifiers, even at high bulk oil temperatures
- Minimise the formation of sludge and deposits, even at high bulk oil temperatures
- Ensure long service life since they have excellent wear protection
- Provide high load carrying ability
- Have reduced tendency to foam
- High film strength
- High viscosity index
- Good demulsibility
- Protect metal surfaces against rust and corrosion
- Minimise the formation of deposits and corrosion
- Have reduced tendency to foam
- Provide high load carrying ability
- Ensure long service life since they have excellent wear protection
- Minimise the formation of sludge and deposits, even at high bulk oil temperatures

**APPLICATION**

- Gearboxes
- Compressors
- Pumps
- Turbines
- Fans
- Motors
- Hydraulic systems
- Transportation systems
- Mining equipment
- Agriculture equipment
- Aerospace
- Marine

**SERVO MESH SP 68/100/150/220/257/320/460/680/1000**

**EQUIPMENT AVAILABILITY - SERVO MESH Sp 68/100/150/220/257/320/460/680/1000**

**SERVO MESH SP**

IndianOil
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

GRADES AVAILABLE – SERVOMESH EE 220, 257*, 320, 460, 680

DESCRIPTION

Servomesh EE oils are Energy Efficient industrial gear oils, represent a new and significant advancement in gear lubricant technology. It satisfies the new era’s demands – “Energy Savings” and “Resource Conservation” through reduction in frictional losses, extension of gear life and prevention of irregular wear. The superior performance of these oils has been proven in field conditions especially in heavily loaded industrial gear systems. The oils demonstrate improved thermal stability and oxidation resistance over the conventional Sulphur-Phosphorus (S-P) gear oils. These oils possess good demulsibility, low foaming tendency and provide excellent rust and corrosion protection to metal surfaces.

PERFORMANCE STANDARDS

Servomesh EE oils meet the following performance standards:
- US STEEL 224
- DIN 51517 PART 3
- DRÄGER BROWN SL:53.101
- DIN 51517 Part III
- US STEEL 224
- IS: 8406 : 1993

APPLICATION

Servomesh EE oils are Energy Efficient Industrial gear oils. They possess good demulsibility, low foaming tendency and provide excellent rust and corrosion resistance over the conventional Sulphur-Phosphorus (S-P) gear oils. It satisfies the new era’s demands – “Energy Savings” and “Resource Conservation” through reduction in frictional losses, extension of gear life and prevention of irregular wear.

PERFORMANCE BENEFITS

- Improve gear efficiency.
- Reduce power consumption and provide energy savings.
- Minimise formation of sludge and deposits even at high temperatures.
- Protect components against rust and corrosion.
- Provide smooth running through reduced vibration.
- Lower bulk oil temperature.
- Have outstanding load carrying ability.
- Provide excellent gear lubrication.
- Reduce oil consumption.
- Provide exceptional rust and corrosion resistance.
- Minimize formation of sludge and deposits even at high temperatures.
- Protect components against rust and corrosion.
- Provide smooth running through reduced vibration.
- Lower bulk oil temperature.
- Have outstanding load carrying ability.
- Provide excellent gear lubrication.
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- Protect components against rust and corrosion.
- Provide smooth running through reduced vibration.
- Lower bulk oil temperature.
- Have outstanding load carrying ability.
- Provide excellent gear lubrication.
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

GRADES AVAILABLE - SERVOCYL C 460/530/680/800

DESCRIPTION

SERVOCYL C oils are highly refined steam cylinder lubricating oils, compounded with specially selected materials, which can withstand high temperatures, excellent adhesive property and resist severe water washing, due to its unique characteristics and resist water wash out. These oils also have excellent oiliness, good film strength characteristics and resist water wash out. These oils are not suitable for such applications where the steam condensate is re-used by mixing with boiler feed water. These oils are also recommended for lubrication of worm gears and selected materials, which can withstand high temperatures. Oil compounds with specially selected materials, which can withstand high temperatures. Oil compounds with specially selected materials, which can withstand high temperatures.

APPLICATION

These oils are recommended for steam cylinder lubrication under wet saturated steam conditions. SERVOCYL C oils are recommended for steam cylinder lubrication. These oils are also recommended for lubrication of worm gears. Other major uses include lubrication of paper and sugar mill roller bearings. These oils are suitable for such applications where the steam condensate is re-used by mixing with boiler feed water. These oils are also suitable for such applications where the steam condensate is re-used by mixing with boiler feed water.
These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

HEALTH & SAFETY

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>ISO VG</th>
<th>CCR, % Wt. Max.</th>
<th>Viscosity Index, Min.</th>
<th>Flash Point (COC), °C Min.</th>
<th>Pour Point, °C Max.</th>
<th>Kinematic Viscosity, cSt @ 40°C</th>
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<td>4.5</td>
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<td>50</td>
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<tr>
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<td>6</td>
<td>58</td>
<td>80</td>
<td>80</td>
<td>1800</td>
</tr>
</tbody>
</table>

**APPLICATION**

Servocyl M oils are recommended for cylinder lubrication of steam engines handling superheated steam. These oils are especially suitable for services demanding straight mineral oil where ready separation of condensate from lubricant is necessary so that the condensate can be further treated or discharged from the engine in a condition suitable for re-use or reclamation.

**PERFORMANCE BENEFITS**

- Enable higher loading of equipment, since Servocyl M oils have high load-carrying ability.
- Reduce steam consumption, due to excellent sealing characteristics and low frictional losses.
- Protect engine parts against rusting and corrosion.
- Maintain wear of cylinder wall and piston ring.
- High viscosity index base stocks.
- High-quality, non-additive treated mineral oil, blended from high-quality, specially refined mineral oil and compatible with existing engine and condensate systems.

**DESCRIPTION**

Servocyl M oils are highly refined steam cylinder lubricants having excellent thermal and chemical stability. These oils provide good resistance to the washing effect of moisture and separate easily from exhaust steam and condensate. These oils are non-additive treated mineral oils, blended from high-quality, specially refined mineral oil and compatible with existing engine and condensate systems.

**GRADES AVAILABLE - SERVOCYL M 680/1000/1500**
SERVO SM

DESCRIPTION

Servo SM oils have been exclusively developed from heavy bodied lube base stocks and contain selected non toxic mild EP additives to meet the requirements of heavily loaded, slow speed, mill-roll bearings in sugar mills. These oils provide excellent lubrication and prevent wear and corrosion of bearings under all operating conditions. Servo SM oils are approved by the leading sugar machinery manufacturers, such as:

• Backau Wolf New India Engg. Works Ltd., Pune
• K. C. P. Ltd., Madras

APPLICATION

Servo SM oils are recommended for the lubrication of sugar mill crusher and mill-roll bearings. These oils are generally applied by means of mechanical force feed lubricators. In certain industries, these grades are used in centralised lubrication system of slow speed spur and helical gears and for slush pan lubrication of open gears.

CHARACTERISTICS

<table>
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<th>GRADE</th>
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<th>175</th>
<th>260</th>
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<td>Kinematic Viscosity, cSt @ 100°C</td>
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<td>Pour Point, °C</td>
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<td>Flash Point (COC), °C</td>
<td>Min. 230</td>
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<tr>
<td>Copper strip corrosion, for 3 hrs., @ 100°C</td>
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<td></td>
</tr>
</tbody>
</table>

HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

For further information please contact our nearest office, OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, All India Trade Mart, Kendriya Bhawan (East), Mumbai - 400 051

E-Mail: tservices@indianoil.co.in    OR tech_services@indianoil.co.in

GRADES AVAILABLE - SERVO SM 85, 175, 260
HEALTH & SAFETY

These oils are unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of industrial and personal hygiene are maintained.

Also contains special tackiness agent.

### Grades Available – Servocoat 110, 120, 140, 170T, 190

<table>
<thead>
<tr>
<th></th>
<th>110</th>
<th>120</th>
<th>140</th>
<th>170T</th>
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<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Flash Pt.</td>
<td>280</td>
<td>280</td>
<td>280</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>Copper Strip Corrosion</td>
<td>250</td>
<td>250</td>
<td>280</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>110°C</td>
<td>110°C</td>
<td>110°C</td>
<td>110°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>120</td>
<td>140</td>
<td>170T</td>
<td>190</td>
</tr>
</tbody>
</table>

**DESCRIPTION**

Servocoat compounds are heavy bodied, adhesive type black lubricants for open gears, wire rope and chain lubrication.

These gear compounds are formulated using highly refined steam cylinder oils having excellent thermal and chemical stability. They contain corrosion inhibitors in cement mills and chemical plants.

- Have good resistance against water washing.
- During idle periods.
- Protect components against rusting even during idle periods.
- Provide long lasting lubricating film, which minimizes friction and wear.
- Have excellent film adhesiveness.
- Provide high bearing load capacity which minimizes friction and wear.
- Eliminate excessive friction of gear teeth under boundary lubrication conditions.
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- Provide long lasting lubricating film, which minimizes friction and wear.
- Have excellent film adhesiveness.
- Protect components against rusting even during idle periods.
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- Eliminate excessive friction of gear teeth under boundary lubrication conditions.

**APPLICATION**

Servocoat compounds are primarily designed for lubrication of a wide variety of open gears ranging from machine tools/small presses to heavily loaded open gears in cement factories, coal mines, etc. Servocoat compounds are formulated to meet the requirements of a wide variety of open gears, which are subject to heavy loads and slow speeds.

**CHARACTERISTICS**

- Also contains special tackiness agent.
- Have good resistance against water washing.
- Provide long lasting lubricating film, which minimizes friction and wear.
- Have excellent film adhesiveness.
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**SERVOCOAT**

Product Data Sheet

Indian Oil Corporation Limited
G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai – 400 051

For further information please contact our nearest office OR:

Technical Services Dept., Indian Oil Corporation Ltd., G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai – 400 051

E-Mail: tservices@indianoil.co.in OR tech_services@indianoil.co.in

**APPLICATION**

Servocoat compounds are primarily designed for lubrication of a wide variety of open gears ranging from machine tools/small presses to heavily loaded open gears in cement factories, coal mines, etc. Servocoat compounds are formulated to meet the requirements of a wide variety of open gears, which are subject to heavy loads and slow speeds.

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