Technical Data Sheet

Formerly Known As: **Shell Corena AP**

# Shell **Corena** ***S4 P 100***

- Extra Long Life
- Improved Efficiency
- Severe Applications

***Advanced Synthetic Reciprocating (Piston) Air Compressor Oil***

Shell Corena S4 P is an advanced synthetic air compressor oil incorporating synthetic ester base fluids and a unique high performance additive system. It is designed to deliver the highest performance lubrication for high pressure reciprocating compressors running in excess of 220$^{0}$C discharge temperatures at elevated pressures.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- **Long oil life – Maintenance saving**

  Shell Corena S4 P is designed to provide safe, reliable and effective lubrication for extended service periods where mineral compressor lubricants are unsatisfactory.

  With an extremely low tendency for deposit build-up Shell Corena S4 P helps ensure continued high performance of the compressor over long periods and reduces maintenance costs and shutdowns.

  Shell Corena S4 P can extend the normal valve maintenance period from typically up to 1000 hours of operation using conventional mineral oils, to 2000 to 4000 hours depending on operating conditions.

- **Outstanding wear protection**

  Shell Corena S4 P helps provide exceptional protection of internal metal surfaces from corrosion and wear to help prolong the life of critical parts such as bearings and gears.

- **Maintaining system efficiency**

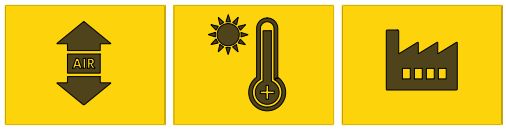
  Shell Corena S4 P helps prevent the formation of carbon deposits and lacquer on valves and piston crowns at high working temperatures and pressures. These can cause serious damage, lower compressor efficiency and increase maintenance costs.

  In addition, Shell Corena S4 P has excellent water separation to help prevent accelerated corrosion and facilitating easy draining of condensate.

- **Enhanced air line safety**

  In discharge air lines, the combination of rust particles, dispersed in carbonaceous deposits, coupled with heat from recently compressed air, can cause a reaction leading to the possibility of fires and explosion. Shell Corena S4 P helps to minimise the likelihood of this danger.

### Main Applications




- **Reciprocating air compressors**

  Shell Corena S4 P is suitable for all industrial reciprocating air compressors, in particular those operating under severe conditions of air discharge temperatures in excess of 220$^{0}$C with continuous high delivery pressures.

- **Breathing air compressors**

  Shell Corena S4 P may be used in breathing air compressors, provided subsidiary clean-up apparatus is used to ensure that the air produced is fit for breathing.

- Shell Corena S4 P 100 can also meet the lubrication requirements of many oil mist lubrication systems operating under severe conditions, with enhanced low temperature and antioxidation performance.

### Specifications, Approvals & Recommendations

- DIN 51506 VDL ISO/DP 6521-1-L-DAB - severe duty
- ISO 6743-3 L-DAB - Severe duty
- EN 12021

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

## Compatibility & Miscibility

- **Miscibility**

  Shell Corena S4 P oils are fully miscible with mineral oils, although dilution with mineral lubricants will markedly reduce its performance.

- **Seal Compatibility**

  Shell Corena S4 P, in common with other ester-based lubricants, is not compatible with all seal materials, and some older compressors may need to have the seals changed before they can be run on the new grades.

- **Compatibility Guide : Acceptable**

  High Nitrite content (SEB5)

  >36% acrylonitrile

- **Compatibility Guide : Majority Acceptable**

  Medium nitrile content (SE70)

  30 - 36% acrylonitrile

- **Compatibility Guide : Not recommended**

  Low nitrile content

  <30% acrylonitrile

## Typical Physical Characteristics

| Properties | | | Method | Shell Corena S4 P 100 |
|---|---|---|---|---|
| ISO Viscosity Grade | | | ISO 3448 | 100 |
| Performance Standard | | | DIN 51506 | VDL 100 |
| Kinematic Viscosity | @40°C | $mm^2/s$ | ASTM D445 | 100 |
| Kinematic Viscosity | @100°C | $mm^2/s$ | ASTM D445 | 10.2 |
| Density | @15°C | $kg/m^3$ | ASTM D1298 | 988 |
| Flash Point (COC) | | °C | ASTM D92 | 260 |
| Pour Point | | °C | ASTM D97 | -39 |
| Sulphated Ash | | %m | DIN 51575 | <0.02 |
| Rust Prevention - Distilled Water | 24 hrs | Pass | ASTM D665A | Pass |
| Copper Corrosion | 100ºC/3hr | °C | ASTM D130 | 1b |
| Water Separability | @82°C | min | ASTM D1401 | 25 |

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 P 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 Safety Data Sheet, which can be obtained from http://www.epc.shell.com

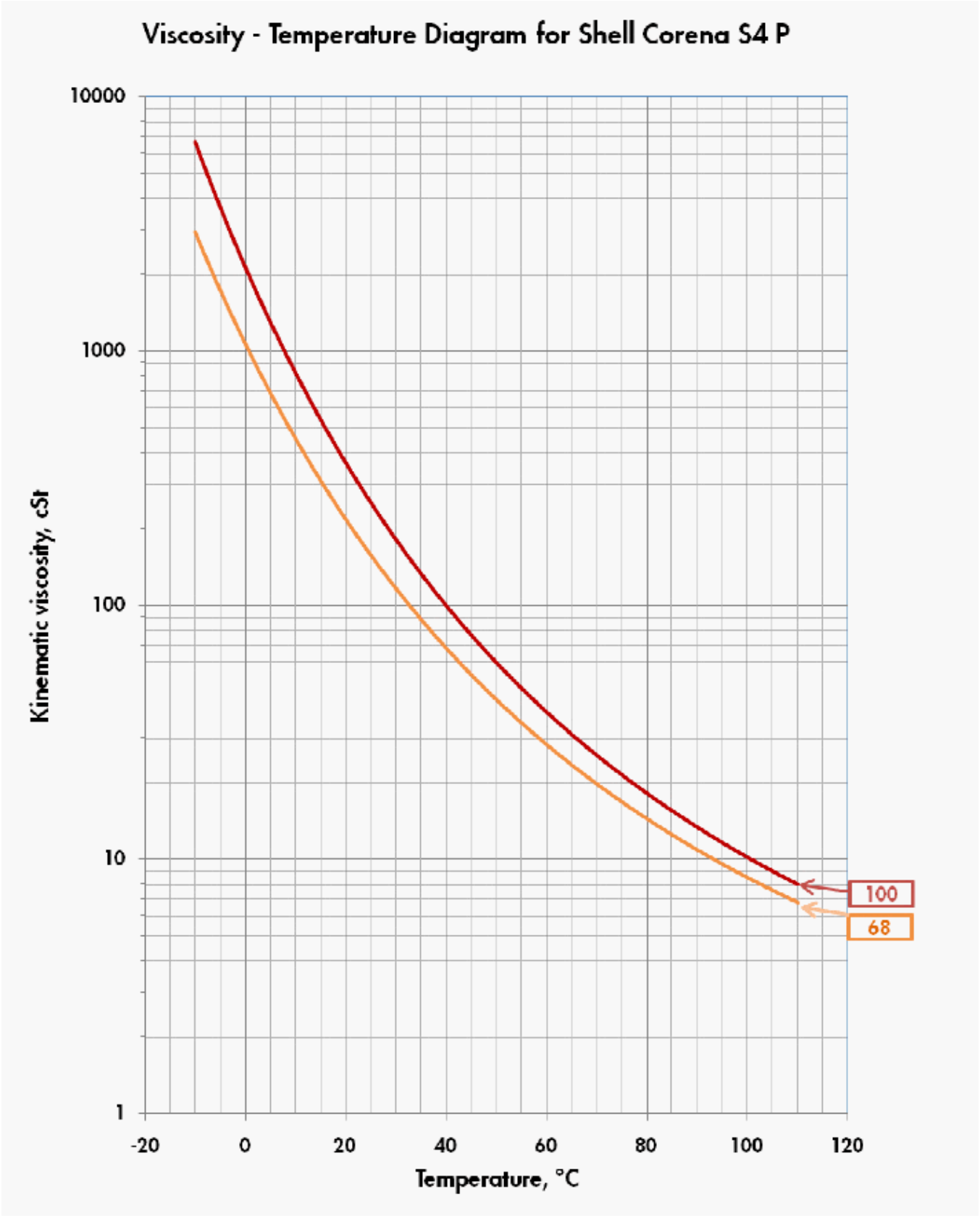
- **Protect the Environment**

  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.


Viscosity - Temperature Diagram for Shell Corena S4 P
Kinematic viscosity, cSt
10000
1000
100
10
1
-20
0
20
40
60
80
100
120
Temperature, °C
100
68