



Technical Data Sheet

- Long Life
- High temperature applications
- High pressure applications

Shell Corena S5 R 46

High quality synthetic fluid designed for rotary screw air compressors

Shell Corena S5 R is a top tier synthetic lubricant based on polyalkylene glycol (PAG) and ester technology designed for use in rotary screw air compressors. It enables long oil drain intervals with varnish free operation and is the product of choice for unprecedented, challenging operations. It is an excellent choice for service fill in situations where polyglycol-ester type lubricants are already in use.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Long oil life – Maintenance saving**

Shell Corena S5 R is capable of providing oil change intervals of up to 10,000 hours (where allowed by manufacturers) depending on running conditions.

Long oil drain intervals are realised by outstanding fluid properties in the areas of thermal, hydrolytic and oxidative stability, resistance to sludge and varnish formation.

- **Machine protection**

Shell Corena S5 R protects machine internals from corrosion and wear.

Its high viscosity index and high flash point enable safe operation over a wide range of ambient operating conditions. Compressor bearing protection is retained even in cases where modern compressors reach high temperature trip levels. Fluid intrinsic lubricity combined with excellent load carrying characteristics help prolong the life of critical parts such as bearings and gears.

- **Maintaining system efficiency**

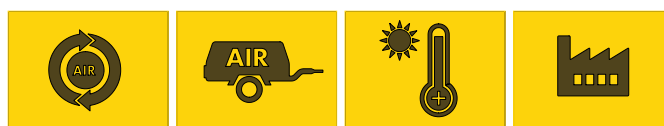
Shell Corena S5 R oils display a combination of properties that are key for maintaining total lifecycle system efficiency for the entire compressor string.

Shell Corena S5 R is especially synthesized towards low product vapour pressure, rapid air release and low foaming properties. This enables for low lubricant make-up rates and minimal complications arising from the presence of entrained lubricant in downstream air system.

Shell Corena S5 R has good thermal conductivity which makes it an effective coolant. It empowers efficient gas compression throughout your operation 24/7.

Shell Corena S5 R exhibits superior environmentally friendly properties.

Main Applications



- **Rotary sliding vane and screw air compressors**

Shell Corena S5 R is suitable for use in oil-flooded/ oil injected screw air compressors. It will meet the lubrication requirements of many positive displacement compressors operating under adverse conditions requiring similar viscosity grades.

- **Severe service conditions**

Shell Corena S5 R is the fluid of choice for machines that

- Have high capacity utilization.
- Require high reliability.
- Have high compression ratios including multi stage compression.
- Operate in hot environments.
- Operate in humid conditions.
- Operate in environments where intake air quality is low.

Specifications, Approvals & Recommendations

- ISO 6743-3:2003 L-DAJ
- Shell Corena S5 R lubricants are especially recommended for use in rotary screw air compressors operating under severe conditions.

It is an excellent choice for service fill in situations where polyglycol-ester type lubricants are already in use.

- Shell Corena S5 R has demonstrated its resilience in the field both on- & offshore.

It has demonstrated its strong performance in machines of market leading OEMs such as Ingersoll-Rand®.

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

Compatibility & Miscibility

- **Seal & Paint Compatibility**

High quality epoxy paints are recommended as polyalkylene glycols will not be compatible with certain conventional paints. Shell Corena S5 R has been found to be satisfactory with nitrile and Viton® seal materials, although Viton® seals are preferred. Consult your Shell representative or the equipment manufacturer for additional details about seal compatibility.

- **Change-over Procedure**

Shell Corena S5 R contains polyalkylene glycols and is not compatible with mineral oils or most synthetic ester or PAO lubricant types. Care should be taken when changing from such products to Shell Corena S5 R. For more information, please contact your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties			Method	Shell Corena S5 R 46
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	46
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	8.2
Viscosity Index			ASTM D2270	170
Density	@15°C	kg/m ³	ASTM D445	990
Flash Point (COC)		°C	ASTM D92	270
Rust Test, Salt Water			ASTM D665B	Pass
Cu Corrosion	@150°C		ASTM D130	1B
Air Release	@50°C	minutes	ASTM D3427	3.2
Thermal Conductivity (DSM)	@110°C	W/(m ⁰ k)	PLTL-73	0.14

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 S5 R 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 <https://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.