



Regal[®] R&O is an inhibited turbine oil formulated from highly refined base stocks and rust, oxidation and foam inhibitors.

APPLICATIONS

Regal R&O is suitable for use in the following applications provided a rust and oxidation (R&O) inhibited oil is acceptable.

- Steam and hydraulic turbines operating under all service conditions.
- Industrial gas turbines operating under moderate service conditions where the oil is not exposed to excessively high temperatures, or gear sets requiring enhanced load-carrying performance.
- Centrifugal, rotary and reciprocating compressors, turbo-blowers and centrifugal pumps (not recommended for use in breathing air compressors).
- Bath and circulating systems supplying rolling element bearings of all types, lightly loaded gear sets, vacuum pumps (including rotary vacuum pumps used in the dairy farming industry), machine tools (including computer controlled units), conveyors, electric motors, and low to moderate pressure hydraulic pumps where anti-wear properties are not required.

BENEFITS

- **Prolonged oil service life**
Superior oxidation stability provided by the multi-component inhibitor system resists oil breakdown during exposure to high temperature conditions for longer service life.
- **Resists degradation**
The good oxidation stability provided by the multi-component inhibitor system resists oil breakdown during exposure to high temperature conditions.
- **Potential maintenance and downtime savings**
The highly refined base stocks and multi-component oxidation inhibitor system resist the formation of harmful sludge and varnish deposits. The rust inhibitor protects components against corrosion.
- **Smooth operation**
The good water separability of the highly refined base stocks and inhibitor system ensure rapid settling of harmful water accumulated from steam condensate. The non-silicone foam inhibitor allows rapid release of entrained air while minimizing foam formation, enabling reliable operation of sensitive hydraulic control devices.



PERFORMANCE STANDARDS

Suitable for use where the following industry and OEM specifications are requested:

ASTM	D4304-06a Type I
ANSI/AGMA	9005-EO2 for R&O inhibited oils
British Standard	489:1999
Cincinnati Machine	P-38, P-55, P-54 (ISO 32, 46, 68 respectively)
General Electric	GEK 27070, GEK 28143B, GEK 46506D
German Standard	DIN 51515 Part I (2001)
Siemens	TLV 9013 04
Siemens	MAT 812101 (ISO 32) and 812102 (ISO 46)
Solar	ES 9-224W Class II

Approved against:

David Brown	Table M - 0M, 1M, 2M, 3M (ISO 32 to 100, respectively)
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Regal R&O 68 is suitable for use in Masport rotary vacuum pumps used in dairy farm milking machine applications. In extreme cold weather conditions, Regal R&O 46 may be required.

TYPICAL CHARACTERISTICS

Product Code	1334	1335	1336	1333	TBA
ISO viscosity grade	32	46	68	100	220
Density at 15°C, kg/L	0.857	0.847	0.857	0.863	0.885
Air Release Value at 50°C, min.	2.9	3.8	6.2	-	-
Flash Point, COC, °C	212	224	234	254	265
Oxidation Stability: D943, h to 2.0 Acid No IP280, (TOP) m%	3000 0.24	3000 0.26	2700 0.27	2500 0.28	2000 -
Pour Point, °C	-9	-9	-9	-9	-9
Viscosity, cSt at 40°C cSt at 100°C	32 5.4	46 6.7	68 8.6	100 11.1	220 20.1
Viscosity Index	102	100	98	96	-



PACK SIZES

1000L, 205L, 20L.

ISO 100 only available in 205L.

SERVICE CONSIDERATIONS

Turbine oils must be capable of lubricating and cooling the bearings while protecting the system against rust, corrosion and harmful deposits. Since turbine equipment is normally used in key applications, the reliability of the rotating machinery and its lubricant is critical.

Regal R&O oils have demonstrated superior service in all many types of industrial steam, gas and hydraulic turbines. Turbine equipment is expected to have a long, reliable service life because of its high cost and type of service such as electrical power generation.

Periodic monitoring of the oil in service is recommended to assure satisfactory performance of the turbine. The principal reasons for monitoring are two-fold: firstly, to determine the condition of the used oil and secondly, to disclose environmental or operational problems within the equipment. The oil should be visually inspected by the operator at frequent intervals for contaminants and/or appearance changes. Refer to ASTM D4378 for guidance on sampling and testing frequency. Samples should be taken from the discharge side of the oil pump while the system is circulating.

During service, effective purification of the lubricating oil is recommended for the removal of contaminants such as water and solids.

Care should be taken to insure against cross-contamination with other oils, as this could reduce the performance characteristics of Regal R&O

ENVIRONMENT, HEALTH AND SAFETY

Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal. Used packaging material should not be incinerated or exposed to flame. After use, protect your environment. Do not pollute drains, soil or water with used product.

OTHER INFORMATION

For further information on Caltex products and services call the Lubelink Advisory Service on 1300 364 169 between 8.00am and 6.00pm (EST) Monday to Friday.

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