



Tribol™ CS 890 Range

Synthetic compressor lubricant

Description

Castrol Tribol™ CS 890 (previously called Tribol 890 Range) compressor oils are fully synthetic ester based lubricants formulated for long service life and clean deposit-free operation. They are manufactured in several viscosity grades to satisfy the lubrication needs of the most demanding air compressor applications (as well as many other process gases).

Application

Rotary vane and rotary screw compressors: Tribol CS 890/32 and 890/68 are designed for vacuum pumps and rotary compressors where circulation systems inject oil directly into the air stream to lubricate, cool and seal the compressor. The Tribol CS 890 range performs better than petroleum oils in flooded rotary vane and screw compressors. By minimizing varnish and carbon deposits, it can extend drain intervals from 1,000 hours to more than 5,000 hours in most vane compressors. Under normal use oil-flooded screw compressor drain intervals can be extended to over 8,000 hours with maximum air discharge temperatures <100°C, as defined by ISO 6743-3:2003. Tribol CS 890 can also be used in compressor units operating under severe conditions with maximum air discharge temperatures of >100°C with reduced oil drain intervals.

Reciprocating compressors: Tribol CS 890/100 is used for both crankcase and upper cylinder lubrication in reciprocating compressors for either normal or severe duty lubrication, as defined by ISO 6743.

Normal duty is defined as:

- discharge temperatures =/< 165°C
- differential pressures =/< 2.5 MPa (25 bar)
- discharge pressures =/< 7.0 MPa (70 bar)

Severe Duty is defined as:

- discharge temperatures > 165°C
- differential pressures > 2.5 MPa (25 bar)
- discharge pressures > 7.0 MPa (70 bar)

Crankcase drain intervals can be greatly extended and significant reduction in valve inspections and cleaning are possible. Lower volatility permits lower feed rates to reduce carryover and deposit formation.

Hydraulic and circulating systems, gears, bearings: where rust and oxidation inhibited (R&O) turbine type circulating oils are specified. Tribol CS 890 is particularly well suited where operating temperatures ranges are too extreme for petroleum based oils. Tribol CS 890 is classified as follows: DIN 51506 classification - VBL, VCL and VDL. ISO 6743/4 - DAG, DAH and DAJ for rotary air compressors also DAA, DAB for trunk pistons at high pressure and high temperature (Viscosity grade 100).

Advantages

- Excellent thermal and oxidative stability leads to longer operating life and reduce lubricant costs. Can last up to 4 to 8 times longer than mineral based compressor oils depending on operating conditions.
- Natural cleansing action prevents the formation and build-up of varnish, sludge or deposits. This prevents valve

wear and sticking, allows more efficient re-compression and provides clean intercoolers. The resulting benefits are less heat generation, reduced fire potential as well as reduced energy input required for constant discharge capacity and overall improved compressor efficiency.

- Low volatility means less oil contamination of plant air, greater demister efficiency, less maintenance of filters and separators and reduced oil consumption.
- Natural oil film strength and lubricity with additional load carrying and antiwear additives providing excellent wear protection and reduced downtime from unscheduled maintenance.

Typical Characteristics

Name	Method	Units	890/32	890/68	890/100
ISO Viscosity Grade	-	-	32	68	100
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m ³	990	970	960
K.V. @ 20°C	ISO 3104/ ASTM D445	mm²/s	72	217	391
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	32	68	100
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	6.1	8.6	9.5
Pour Point	ISO 3016 / ASTM D97	°C/°F	-51/-60	-33/-27	-33/-27
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	243/469	254/489	260/500
Autoignition temperature	ASTM E659	°C/°F	410/770	410/770	427/801
Carbon residue - Conradson test	ISO 6615 / ASTM D189	%wt	0.5	0.2	0.2
Characteristics of distillation residue after distillation of 80 vol.%	DIN 51356				
Conradson carbon residue		% wt	-	-	0.18
K.V. @ 40°C		mm²/s	-	-	170
Conradson carbon residue after ageing	DIN 51352 part 1	% wt	-	-	0.21
Conradson carbon residue after ageing (with catalyst)	DIN 51352 part 2	% wt	-	-	0.55

Subject to usual manufacturing tolerances.

Additional Information

Changeover from petroleum oils to Tribol CS 890 should always be preceded by a very thorough cleanout. Although 890 oils are compatible with petroleum, any residual mineral oil will soon oxidize and contaminate Tribol CS 890, shortening the anticipated service life. Tribol CS 890 oils soften polycarbonate and should not be used with this material. These fluids should not be used where neoprene seals and E.P.D.M. elastomers sealing materials are present anywhere in the air system.

This product was previously called Tribol 890. The name was changed in 2015.

Tribol™ CS 890 Range

17 Apr 2015

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Castrol Industrial, North America Inc., 150 West Warrenville Road, 603 1E Naperville, IL 60563

Tel: (877) 641 1600 Fax: (877) 648 9801

www.castrol.com/industrial