Product Data

Tribol HM 943 Range

Hydraulic & circulating oil

Description

Castrol Tribol™ HM 943 Range (previously called Tribol™ 943 AW) (anti-wear) hydraulic and circulating oils were developed to meet the demands of the most severe hydraulic applications. These high performance, ashless (zinc-free), multi-service oils can extend service life for uninterrupted machine availability and production. The following performance characteristics are emphasised. Oxidation stability to significantly extend safe oil service life and to protect tight machine clearance from varnish or deposits. Antiwear protection to maintain crucial tolerance characteristics of advanced hydraulic systems and to protect gears and bearings in circulating systems. Corrosion resistance to give protection, exceeding normal industry standards, against damage from condensed atmospheric moisture.

Application

Hydraulics - designed for the most sophisticated hydraulic operations, robots, and other NC machines, Tribol HM 943 oils may be used in any industrial, marine, or mobile applications.

Circulating systems - outstanding anti-wear properties make Tribol HM 943 AW oils ideal for multi-component systems including anti-friction and journal bearings and all types of gears except where manufacturers specify AGMA "EP" or “Compounded” gear oils.

Compressors – Tribol HM 943/32 and Tribol HM 943/46 in centrifugal and flooded screw compressors can significantly extend oil service life compared with conventional petroleum compressor oils and ATF fluids. In fact, drain intervals approach the range of some synthetic fluids. Tribol 943 AW oils may also be used in reciprocating compressors if temperatures are not high and units are not prone to valve deposits.

The wide array of Tribol HM 943 applications provides excellent opportunity to consolidate inventory.
The Tribol HM 943 range is fully compatible with the elastomer materials commonly used for static and dynamic seals, such as nitrile, silicone and fluorinated (e.g. Viton) polymers.

Tribol HM 943 is classified as follows: DIN 51502 classification - HLP ISO 6743/4 - Hydraulic Oils Type HM
Tribol HM 943 grades meet the requirements (for appropriate viscosity grade) of:
DIN 51524 Part 2
Cincinnati Lamb (Milacron) P 68-69-70
Denison (Parker Hannafin) HF-0
US Steel 126 & 127
Eaton (formerly Vickers) 35VQ 25, I-286-S & M-2950-S
General Motors: LS2
Bosch Rexroth RE90220
Le Norse 100-1
Jeffrey No. 87
Ford M-6C32
B.F. Goodrich 0152

Advantages

- The base oils in Tribol HM 943 are selected for chemical and thermal stability. They are also selected for the naturally high film strength necessary to prevent rupture at the highest pump pressures and tightest clearances where operating conditions usually lead to mixed or boundary (contact) lubrication. The premium base oils also maintain unsurpassed cleanliness, therefore minimising formation of varnish deposits and wear debris in any system.
- The anti-wear characteristics of Tribol HM 943 oils are achieved by a unique additive system which does not include zinc. The advanced anti-wear additive systems maintain critical dimensions in robots and other NC machines, therefore extending the service life of valves, pumps, gears, and bearings.
- The unsurpassed oxidation stability of Tribol HM 943 oils is a result of extensive research to stabilise petroleum oils at high operating temperatures. The balanced, total additive system in Tribol HM 943 oils also inhibits foaming and provides an unusual degree of corrosion protection see Typical Characteristics.

Typical Characteristics

Name	Method	Units	HM 22	HM 32	HM 46	HM 68	HM 100
ISO Viscosity Grade	-	-	22	32	46	68	100
Density @ 15°C / 59°F	ASTM D4052 / ISO 12185	kg/m³	860	850	860	865	860
Kinematic Viscosity @ 40°C / 104°F	ASTM D445 / ISO 3104	mm²/s	22	32	46	68	100
Kinematic Viscosity @ 100°C / 212°F	ASTM D445 / ISO 3104	mm²/s	4.3	5.8	7.3	9.2	11.6
Viscosity Index	ASTM D2270 / ISO 2909	-	>100	>100	>100	>100	>100
Pour Point	ASTM D97 / ISO 3016	°C/°F	-39 / -34	-36 / -33	-33 / -27	-24 / -11	-26 / -15
Flash Point - open cup method	ASTM D92 / ISO 2592	°C/°F	190 / 374	220 / 428	230 / 446	230 / 446	252 / 285
Foam Sequence I - tendency / stability	ASTM D892 / ISO 6247	ml/ml	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0
Water Separation @ 54°C / 129°F (40/37/3)	ASTM D1401 / ISO 6614	min	10	15	15	15	20
Air Release @ 50°C / 122°F	ASTM D3427 / ISO 9120	min	4	4	8	8	<5
FZG Gear Scuffing test - A/ 8.3/90	ISO 14635-1	Failure Load Stage	-	12	12	12	>12
Rust test - distilled water (24 hrs)	ASTM D665A / ISO 7120	Rating	Pass	Pass	Pass	Pass	Pass
Rust test - synthetic sea water (24 hrs)	ASTM D665B / ISO 7120	Rating	Pass	Pass	Pass	Pass	Pass
Vickers vane pump test	Vickers M-2952-S	wt loss (ring & vane) mg	<10	<10	<10	<10	<10
Oxidation Stability - TOST	ASTM D943 / ISO 4263-1	Hours	>18000	>18000	>18000	>18000	>18000

Subject to usual manufacturing tolerances.
This product was previously called Tribol 943 AW. The name was changed in 2015.

Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

http://msdspds.castrol.com