

Klüber Summit CTPS 32, 46

Centrifugal and gas turbine oil



Your benefits at a glance

- **Provides flexibility to the operator: broad application possibilities**
 - Designed to lubricate and cool steam, gas and combined cycle turbines
 - Formulated for use in geared and non-geared high output turbines
- **Reduced downtime and total cost of operation due to low tendency to form varnish and deposits**
 - Decrease of filter blockage and cleaner turbines reduce maintenance costs
 - Increased energy efficiency of the turbine system helps lowering energy costs and protects the environment
- **Extended component life due to very good wear protection and excellent corrosion protection even in the presence of condensed water**

Your requirements - our solution

More efficient steam and gas turbines are critical to the success of the power generation industry. Improving turbine (energy) efficiency helps reduce fuel costs, which can account for up to 80 % of total running costs, and extend component life by reducing operating temperatures.

Our Klüber Summit CTPS series lubricants are a combination of high-quality hydrotreated petroleum basestocks combined with the highest quality synthetics. They are long-life lubricants formulated with rust, oxidation and wear inhibitors. The innovative technology helps operators minimise cost to produce while maintaining high reliability and improving sustainability in high-temperature steam, gas and combined-cycle applications

The synthetics in Klüber Summit CTPS series oils keep the system free of varnish and deposits, which will eliminate the need for special ionic filtration and reduces the chances of stuck servo valves in systems equipped with hydraulics.

The synthetics also lead to a reduction of friction in gears, which can result in significant energy savings over the life-span of the turbine. This can be especially true for integrally geared centrifugal compressors.

They are formulated to avoid the need for “bleed and feed” operations that may require an additional two or three times the original oil volume as make-up oil.

Application

Our Klüber Summit CTPS series products are specially formulated oils developed to lubricate the gears and bearings for geared and non-geared high-temperature steam, gas and combined-cycle applications. Furthermore, centrifugal

compressors and associated turbine equipment, e.g. some turbine governor systems, sealing oil systems, turbo-couplings, turbo compressors can be lubricated.

Application notes

When selecting the oil viscosity please observe the manufacturers' instructions.

For turbines changing over from mineral oil to the partial synthetic Klüber Summit CTPS oil, it is important to consider that the turbine may contain oxidation residues in the form of blackened or contaminated oil. As such residues can affect the service life of the fresh Klüber Summit CTPS oil, the compressor should be cleaned using Klüber Summit Varnasolv.

For switching a centrifugal compressor's used oil to the Klüber Summit CTPS oil, drain the old oil from the whole circuit of compressor whilst still warm. We also recommend changing all oil filters and separators, then refilling the compressor with Klüber Summit CTPS.

Your contact persons at Klüber Lubrication would be pleased to provide further information.

Material safety data sheets

Material safety data sheets can be requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

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Pack sizes	Klüber Summit CTPS 32	Klüber Summit CTPS 46
Canister 19 l	+	+
Drum, steel 208 l	+	+
Container 1040 l	+	+

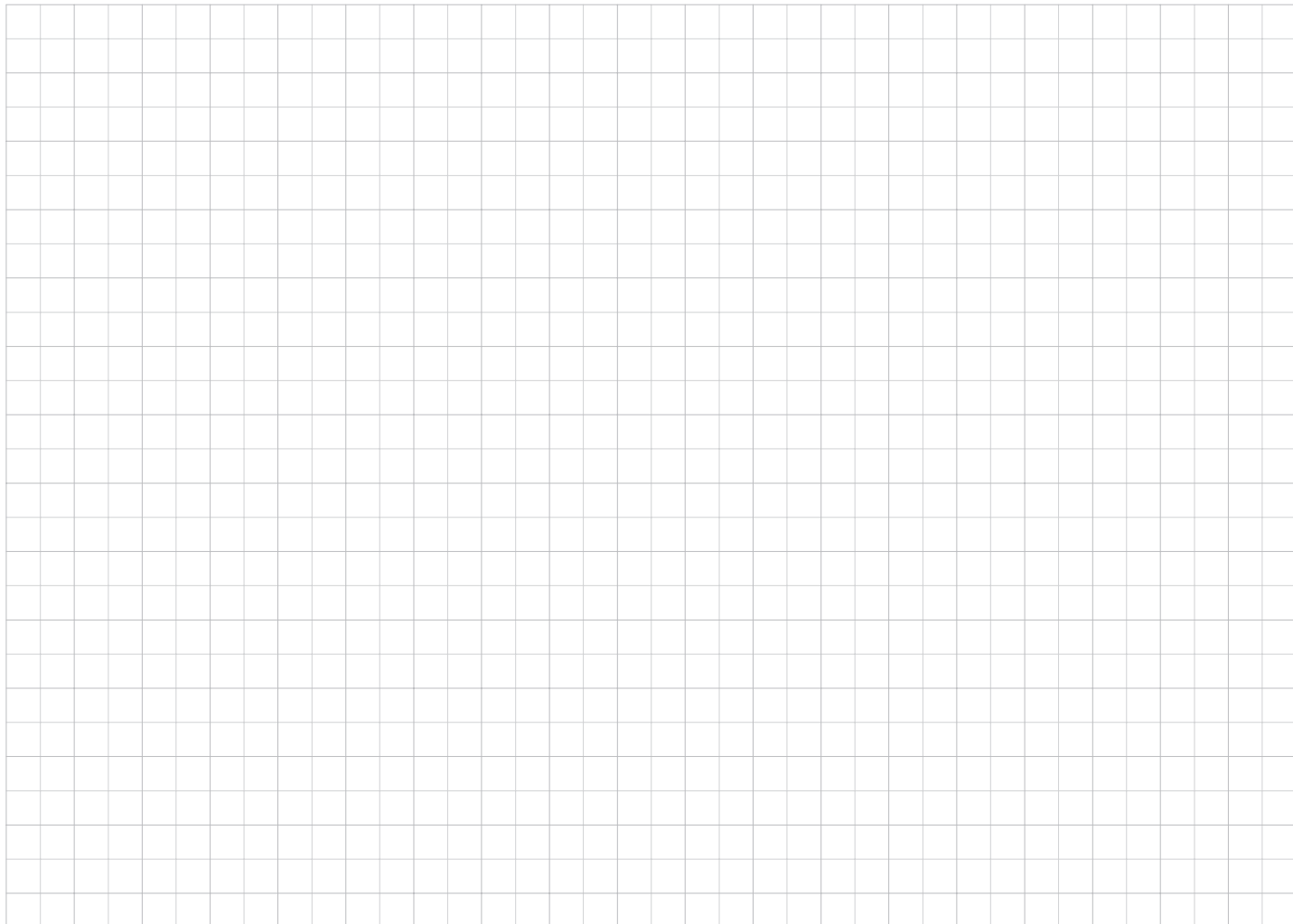
Product data	Klüber Summit CTPS 32	Klüber Summit CTPS 46
Article number	050203	050204
Appearance	clear	clear
Colour space	colourless	colourless
Chemical composition, type of oil	ester oil	ester oil
Chemical composition, type of oil	mineral oil	mineral oil
Density, DIN 51757, 20 °C	approx. 0.855 g/cm ³	approx. 0.855 g/cm ³
Flash point, DIN EN ISO 2592, Cleveland, open-cup apparatus	>= 225 °C	>= 225 °C
Pour point, DIN ISO 3016	<= -12 °C	<= -12 °C
FZG scuffing test, DIN ISO 14635-1, A/8.3/90, scuffing load stage	>= 12	>= 12
Viscosity index, DIN ISO 2909	>= 95	>= 95
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 32 mm ² /s	approx. 46 mm ² /s
Kinematic viscosity, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 5.3 mm ² /s	approx. 6.8 mm ² /s
Anti-corrosion properties on steel, ASTM D665 B, 24h/60°C	passed	passed
Copper corrosion, DIN EN ISO 2160, 3 h/100 °C	1 - 100 corrosion degree	1 - 100 corrosion degree
Air shedding capacity, DIN ISO 9120 (ASTM D 3427), at 50°C	<= 5 min	<= 5 min
Oxidation stability (Rotating Pressure Vessel Oxidation Test, RPVOT), ASTM D2272, operating time at 150°C	>= 1 200 min	>= 1 200 min
Foam test, ASTM-D 892, ISO 6247, sequence I/24 °C	<= 50/0 ml	<= 50/0 ml
Foam test, ASTM-D 892, ISO 6247, sequence II/ 93.5 °C	<= 50/0 ml	<= 50/0 ml
Foam test, ASTM D 892, ISO 6247, sequence III/24°C	<= 50/0 ml	<= 50/0 ml
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	36 months	36 months





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Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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