

Future-oriented technologies:

HIGH PERFORMANCE LUBRICANTS FOR HEAVY MACHINERY







LUBRICANTS FOR HEAVY MACHINERY

BANTLEON offers full-scope lubrication engineering support for motor vehicles and machines.

The company's portfolio also includes trendsetting technologies in the development of low-friction oils, synthetic high-tech products, as well as environmentally friendly hydraulic oils. These are complemented by extensive consulting on application optimization, environmental protection and proper disposal.

When designing high-grade lubricants, emphasis is placed on a holistic view of the interaction of machines, humans and the environment in order to secure greater performance, reliability, responsibility and operational efficiency.



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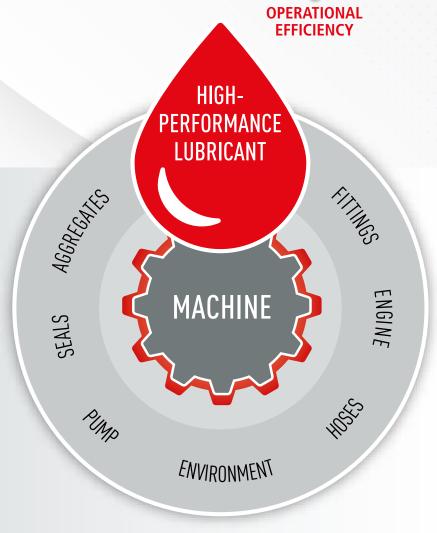
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ENGINE OILS



High-performance BANTLEON engine oils for the requirements of today and tomorrow. We offer an extensive range of engine oils for vehicles both with and without exhaust gas after-treatment, for diesel and gasoline engines, for commercial vehicles and off-road machines, for efficient 2-stroke and 4-stroke engines, as well as for stationary engines such as gas engines, etc.

BANTLEON engine oils comply with and satisfy almost all relevant OEM and manufacturer approval processes, while also offering impressive efficiency and reliability. This is a basic prerequisite for keeping your fleet of vehicles up and running without any interruptions. Simply get in touch and we'll be happy to help you select the most suitable engine oil for your fleet.

| Engine oils | Performance level | Extremely wide release range | TBN* (Total Base Number) | Low tempera- ture use | High SAPS HS Low SAPS LS |
|---------------------------------|----------------------|------------------------------------|-----------------------------|--------------------------|-----------------------------|
| AVIA TURBOSYNTH LS PLUS 5W-30 | Premium | Х | > 12 | Х | LS |
| AVIA TURBOSYNTH LS PLUS 10W-40 | Premium | Х | < 12 | | LS |
| AVIA TURBOSYNTH HT-U 5W-30 | Plus | | > 12 | Х | HS |
| AVIA HEAVYLINE MEGA 10W-40 | Plus | | > 12 | | HS |
| AVIA HEAVYLINE LSP ULTRA 10W-40 | Plus | | < 12 | | LS |
| AVIA HEAVYLINE SUPER 15W-40 | Standard | | < 12 | | HS |
| AVIA MULTI LSP 15W-40 | Standard | | < 12 | | LS |

^{*} The TBN describes the ability of an engine oil to neutralize acidic combustion products. From a value of >12, "poor fuels" such as ship and harbor diesel, etc. or diesel with high sulfur contents can also be used. Diesel fuels according to EN 590 are low in sulfur.

HYDRAULIC OILS

BANTLEON hydraulic oils for stationary and mobile equipment in trade and industry. The performance and reliability of systems and components play a key part here, coupled with operational efficiency and responsibility toward mankind and the environment.

High-performance PAO-based hydraulic fluids are trendsetting technologies in the development of of low-friction oils, synthetic high-tech products, as well as environmentally friendly hydraulic oils. These ashfree, biodegradable hydraulic oils are well suited to applications in the construction, agricultural and forestry sectors, as well as in transshipment, recycling, snow groomer and rail vehicles, sluices, weirs and sewage treatment plants.

- DEKRA-PSR tested, sustainable product quality for AVIA SYNTOFLUID PE-B / NSW in the product category of high-performance hydraulic fluids (QR code for more information).
- Our PAO fluids enable immediate operational readiness, independently of ambient temperatures, due to stable viscosity properties.
- AVIA SYNTOFLUID EAL with H1-approval for hygiene-sensitive areas such as agriculture, the food and the animal feed sector.



| Hydraulic oils | Perfor- mance level | Techno- logy | DIN 51502/ DIN 51524-3 | Wide tempe- rature use (high VI index) | Extended change intervals | Use in environmentally sensitive areas | Low Energy potential | H1- appro- val |
|----------------------|---------------------------|-----------------|---------------------------|---|---------------------------------|--|----------------------------|----------------------|
| AVIA SYNTOFLUID PE-B | Premium | PAO/HEPR | HVLP(D) | X | x* | DEKRA PSR | X | |
| AVIA SYNTOFLUID NSW | Premium | PAO/HEPR | - | x | x* | Swedish Standard SS 155434, DEKRA PSR | x | |
| AVIA SYNTOFLUID EAL | Premium | PAO/HEPR | HVLP | Х | х* | EU-Ecolabel | х | X |
| AVIA SYNTOFLUID BRO | Plus | Ester | - | Х | x** | OECD 301B | | |
| AVIA SYNTOFLUID K | Plus | Ester | - | x | | EU-Ecolabel; Blauer Engel; SS Swedish Standard SS155434; NATO | | |
| AVIA FLUID DYNA | Plus | Mineral oil | HVLP | X | | | Х | |
| AVIA SYNTOFLUID F | Standard | Ester | - | х | | EU-Ecolabel; Blauer Engel; Swedish Standard SS 155434 | | |
| AVIA FLUID HVD | Standard | Mineral oil | HVLP(D) | Х | | | | |
| AVIA FLUID HVI | Standard | Mineral oil | HVLP | Х | | | | |
| AVIA FLUID HLPD | Standard | Mineral oil | HLP(D) | | | | | |
| AVIA FLUID RSL | Standard | Mineral oil | HLP | | | | | |

^{*} Factor 2-4 with accompanying analysis

^{**} Factor 2 with accompanying analysis

GEAR OILS

Whether drives or small/large gears: you'll find the right gear oil for any stationary or mobile application with us.

The recommendations for the use of our grades are based on the manufacturer's requirements. The correct grade is selected on the basis of the operating conditions, such as the gear unit type, temperature range or the environmental requirements, as well as the stipulations of the machine manufacturer.

When mineral oils reach their limits, this is where synthetic gear oils come into play. In comparison with mineral oils, they can cover a larger temperature range. This in turn leads to better start-up behavior at low temperatures, as well as constant viscosity-temperature behavior in the upper temperature range. The year-round usage made possible in this way reduces maintenance and downtimes.



| Gear oils | Performance level | Technology | LS-Additive (Limited Slip) | UTTO / TDTO | Wide tempera- ture use (high VI-Index) | Extended change intervals |
|--------------------------------|----------------------|---------------------------|----------------------------------|-------------|--|---------------------------|
| Axle gear | | | | | | |
| AVIA SYNTOGEAR FE 75W-90 EP | Premium | PAO (polyalphaolefins) | | | х | х |
| AVIA HYPOID 90 LS | Plus | Mineral oil | х | | | |
| AVIA HYPOID 85W-140 EP | Standard | Mineral oil | Mineral oil | | | |
| AVIA HYPOID 90 EP | Standard | Mineral oil | | | | |
| Industrial gear | | | | | | |
| AVIA GEAR VSG | Premium | Glycol | | | х | х |
| AVIA SYNTOGEAR PE | Premium | PAO (polyalphaolefins) | | | х | х |
| AVIA GEAR RSX-F | Plus | Mineral oil | | | | |
| AVIA GEAR RSX | Standard | Mineral oil | | | | |
| Tractor oil | | | | | | |
| AVIA HYDROFLUID DLZ | Plus | Mineral oil | х | UTTO | | |
| AVIA GEAR ALCAT | Standard | Mineral oil | х | TDTO | | |
| Automatic transmission | | | | | | |
| AVILUB FLUID ATZ 295 | Premium | PAO (polyalphaolefins) | х | | х | х |
| AVIA FLUID ATF 98 | Plus | Mineral oil | х | | Х | |
| AVIA FLUID ATF 86 | Standard | Mineral oil | Х | | x | |

RADIATOR PROTECTION FLUIDS

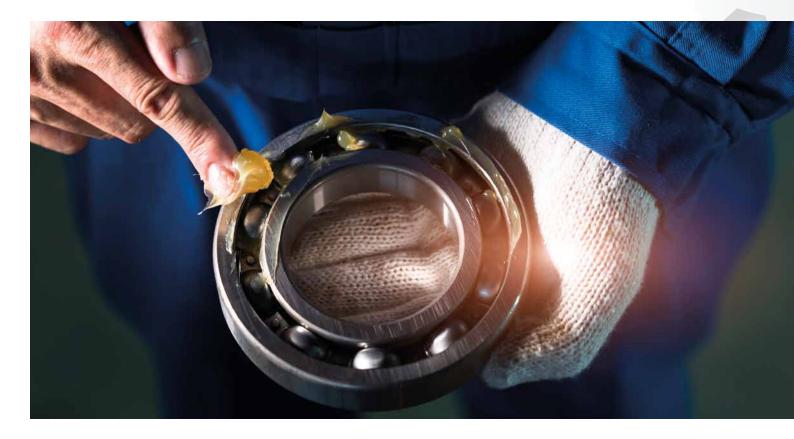


Cooling or heating systems not only rely on thermal energy being efficiently transported but also on the system being effectively protected, even at high temperatures. In fact, very special additives are used, which are tailored to the different cooling systems of the car manufacturers. Alongside effective protection from frost, cavitation and corrosion, this also prevents premature boiling and formation of deposits.

While the main objective with engines is to quickly dissipate the heat that is generated and to prevent overheating, the focus with other systems (such as heating and cooling systems) is on transporting the heat to where it is needed with as few losses as possible. BANTLEON radiator protection fluids are reliable, long-lasting and can be found in virtually all areas of application.

| Radiator protection fluids | Technology | Ready-to-use mixture | Extended change intervals | |
|----------------------------|--------------------------|----------------------|---------------------------|--|
| | | | | |
| AVIA Antifreeze APN-S | Silicate free OAT | | X | |
| AVIA Antifreeze NG | Contains silicate Si-OAT | | X | |
| AVILUB Antifreeze NG -37°C | Contains silicate Si-OAT | X | Х | |

GREASES



High loads and pressures, extreme environmental conditions and wide operating temperature ranges with long re-lubrication intervals place great performance demands on our greases.

A diverse product portfolio means that our customers can always find the right product for their respective application. Lubricating greases are design elements, particularly when they are to be used as long-term lubricants for lifetime lubrication. This is especially true of applications with extreme requirements, such as those encountered in alpine areas, the cement industry, agriculture and forestry, as well as construction, materials handling or recycling machines.

| Greases | Performance level | Multipurpose character | Extreme opera- ting conditions | Extreme low temperature use | Biodegradable |
|------------------------|----------------------|---------------------------|-----------------------------------|-----------------------------|---------------|
| | | | | | |
| AVILUB GREASE PE-POLAR | Premium | x | x | X | |
| AVILUB GREASE 10027 | Premium | Х | x | | |
| AVIA ALUPLEX RHS FLUID | Premium | | х | | |
| AVILUB SPEZIALFETT LDW | Plus | Х | х | | |
| AVIA SYNTOGREASE 2 | Plus | Х | | | х |
| AVIA PROGREASE-L 2 EP | Standard | Х | | | |
| AVIA PROGREASE-LX 2 HT | Premium | Х | х | | |
| AVILUB LDS SPRUEHFETT | Standard | Х | | | |
| Pasten | | | | | |
| AVIA Meisselpaste | Standard | | | | |

