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Did you know?

PM Hydraulic Fluid

The major function of a hydraulic fluid is to provide energy transmission through the system which enables work and motion to be accomplished. Hydraulic fluids are also responsible for lubrication, heat transfer and contamination control. When selecting a lubricant, consider the viscosity, seal compatibility, basestock and the additive package. Three common varieties of hydraulic fluids found on the market today are petroleum based, water-based and synthetics.

When choosing a hydraulic fluid, consider the following characteristics: Viscosity, index, oxidation stability and wear resistance. These characteristics will determine how your fluid operates within your system. Fluid property testing is done in accordance with either American Society of Testing and Materials (ASTM) or other recognized standards organizations.

- Viscosity (ASTM D445-97) is the measure of a fluid's resistance to flow and shear. A fluid of higher viscosity will flow with higher resistance compared to a fluid with a low viscosity. Excessively high viscosity can contribute to high fluid temperature and greater energy consumption. Viscosity that is too high or too low can damage a system, and consequently, is the key factor when considering a hydraulic fluid.
- Viscosity Index (ASTM D2270) is how the viscosity of a fluid changes with a change in temperature. A high VI fluid will maintain its viscosity over a broader temperature range than a low VI fluid of the same weight. High VI fluids are used where temperature extremes are expected. This is particularly important for hydraulic systems that operate outdoors.
- Oxidation Stability (ASTM D2272 and others) is the fluid's resistance to heat-induced degradation caused by a chemical reaction with oxygen. Oxidation greatly reduces the life of a fluid, leaving by-products such as sludge and varnish. Varnish interferes with valve functioning and can restrict flow passageways.
- Wear Resistance (ASTM D2266 and others) is the lubricant's ability to reduce the wear rate in frictional boundary contacts. This is achieved when the fluid forms a protective film on metal surfaces to prevent abrasion, scuffing and contact fatigue on component surfaces.



PM AW Hydraulic Oils are available in viscosity grades from ISO VG 32 to ISO VG 68.



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