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An American National Standard

Standard Guide for Performance Evaluation of Hydraulic Fluids for Piston Pumps¹

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1. Scope

1.1 This guide establishes test protocols and methodologies for determining the suitability of fluids for use in fluid power systems that incorporate axial or radial piston pumps. The suitability of all fluid types to meet specific levels of performance in piston pumps is addressed. These fluids include, but are not limited to formulations based on mineral, synthetic or vegetable oil base stocks. The finished fluids may be in the form of straight oils, soluble oils or invert emulsions.

1.2 The test protocols and methodologies described in this guide have been selected for their ability to distinguish between highly acceptable, acceptable and unacceptable fluid performance in piston pumps. They take into account the broad range of operating conditions piston pumps are subjected to, as well as the common variations in design and materials of construction among pump manufacturers.

1.3 This guide is intended to complement proprietary test protocols and methodologies employed by some piston pump manufacturers. The test protocols and methodologies within this guide may help pump manufacturers, fluid formulators and end users accurately screen potential fluids for specific performance characteristics. The results of this screening may be sufficient in certain instances for pump manufacturers to forego requirements for additional fluid performance tests.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

¹ This guide is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.N0.07 on Lubricating Properties.

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