

## Petroleum and related products - Determination of the wear protection capacity of hydraulic fluids

### Testing in the vane pump: Formerly Din 51389-1 to -3

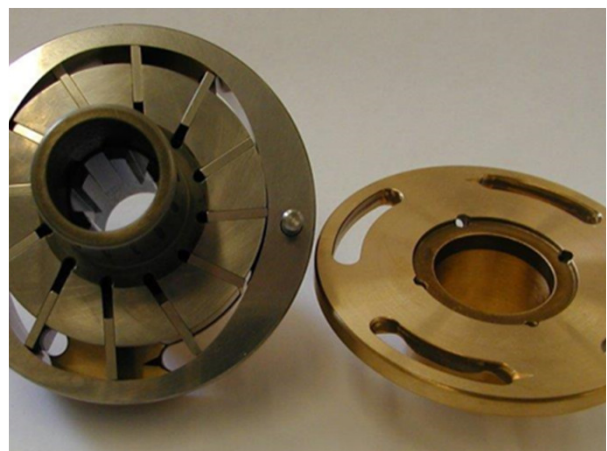
#### Scope

This international standard describes a procedure for determining the steel-on-steel wear protection behaviour of hydraulic fluids by mechanical testing in a vane pump. The standard covers a range of hydraulic fluids, both anhydrous and hydrated, intended for use at high speed sliding points, such as those found in a vane pump.

For mineral oils of categories HM and HV, and for low flammability liquids of category HFD, the method is applicable to the following viscosity classes as defined in ISO 3448 [1]: ISO VG 32, ISO VG 46 and ISO VG 68; and under other requirement conditions, the procedure shall be applied to hydraulic fluids of categories HFB and HFC containing water, of low flammability, as defined in ISO 12922, in the same viscosity classes.

#### Brief description

Approximately 70 litres of the liquid to be tested are circulated in a test bench by a vane pump for 250 h under conditions of flow rate, working pressure and liquid temperature corresponding to the type and viscosity class of the liquid. After the test run, the mass loss of the 12 blades and the bearing caused by a wear insert is determined. A reduction of the flow rate during the test run and a mass loss of the two side bushings and the rotor are also determined for control within the limits of the test conditions, but the mass losses do not include a requirement for process compliance.



**DMT GmbH & Co. KG**

Tremoniastraße 13

44137 Dortmund

Tel +49 231-5333-240

Fax +49 231-5333-299

[www.dmt-group.com](http://www.dmt-group.com) · [aps@dm-group.com](mailto:aps@dm-group.com)

