

SHEAR STABILITY TESTER

TR-294

PURPOSE

To evaluate the shear stability of polymer-containing oils in terms of the permanent viscosity loss when a sample is mechanically stressed.

DESCRIPTION

The apparatus consists of a fluid reservoir, a double plunger injection pump with an electric motor drive, an atomization chamber with a diesel injector spray nozzle and a fluid-cooling vessel.

Fluid reservoir is open on the top and has a capacity of more than 250 cc and is calibrated in 25 cc intervals. Its outlet is connected to a three-way stopcock. A serrated edged glass distributor is located in the fluid reservoir to reduce the tendency of fluid channeling. A thermometer suspended at the center of the reservoir can measure temperature of the fluid. Plastic tubing is used to connect the three-way stopcock to the pump inlet.

Double plunger injection pump has a venting screw and a flow rate adjusting screw. The injection pump is driven by an electric motor. Outlet of injection pump is connected to the atomising chamber using high-pressure steel tubing. A pressure gauge is installed in the line. A drain tube with cock is included in the atomisation chamber to minimise contamination from the previous test during clean up cycle.

METHOD OF TESTING

The test fluid is mechanically stressed by pumping through a diesel injector nozzle and a diesel Injection fuel pump. Samples are taken after the fluid has completed a predetermined number of passes. Viscosities of the original sample and of samples taken during the test are determined. The extent of oil degradation due to shear forces can be calculated.

STANDARD

ASTM D 6278, IP 294







SPECIFICATION

PARAMETER	UNIT	VALUE
Injector nozzle	-	Bosch DN 8 S2
Nozzle holder	-	Bosch KD 43 SA 53/15
Diesel injection fuel pump	-	Bosch PE 2A 90C 300/3S 2266
Electric motor	Kw / RPM	1.1 / 925 \pm 25
Dead volume	ml	20 \pm 5
Injector breaking pressure	bar	175
Flow rate	ml per minute	170 \pm 5
Oil temperature	°C	Ambient (20 to 25) to 30 to 35
Power [#]	V/Hz/Ph/HP	415/50/3/1.5

[#] Other voltages on request.

INCLUDED ACCESSORIES

-  Thermometer
-  Operation and maintenance manual
-  Preset revolution counter
-  Tool Kit



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Note: The photograph depicts the general class of machine. To accommodate our quest for continuous improvement the actual machine may differ.

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