Apparent Viscosity of Lubricating Greases

test method

Apparent viscosity is used to evaluate pumpability and handling characteristics of greases and is also suitable for analysis of adhesives, sealants and other semi-solid products. The sample is forced through a capillary by means of a gear pump-driven hydraulic system and the resulting pressure in the system is measured. Apparent viscosity is then calculated from the flow rate and pressure. Eight different capillaries and two pump speeds are used to determine the apparent viscosity at sixteen shear rates.

pressure viscometers

- Conforming to ASTM D1092 and related specifications
- Mechanically refrigerated low temperature model

Low Temperature Pressure Viscometer – Consists of power, hydraulic and grease systems with refrigerated test chamber. Hydraulic system includes constant displacement gear-driven metering pump, hydraulic oil reservoir with 50-mesh screen, stainless steel tubing, high pressure valve and fittings. Drive motor has interchangeable 40 and 64 tooth gears for two-speed operation. Four interchangeable gauges of 0-60, 0-100, 0-600 and 0-5000psi ranges monitor system pressure.

Supplied with three precision machined grease assemblies, each including piston, caps and thermocouple; set of eight (ASTM Nos. 1-8) stainless steel capillaries; and wrenches for gauge installation and removal. The refrigerated test chamber holds three cylinders at a time for sample preparation. Operating range is from ambient to –65°F (–53.8°C), with stability of ±0.5°F (±0.3°C). The refrigeration system uses hermetically sealed, self-lubricating compressors in cascaded configuration to provide efficient cool-down and trouble-free long term operation. Floor-mounted cabinet is constructed of polished stainless steel with a welded reinforced frame.

Pressure Viscometer – Complete apparent viscometer meeting ASTM D1092 specifications. Includes power, hydraulic and grease systems and standard accessories as supplied with the Low Temperature Pressure Viscometer but without refrigerated test chamber or stainless steel cabinet. Mounted on a sturdy base having locating feet for permanent benchtop placement.

K22695 Low Temperature Pressure Viscometer

ordering information

catalog no.	description
Low Temperature Pressure Viscometer	
K22695	Low Temperature Pressure Viscometer, 220-240V 50Hz
K22696	Low Temperature Pressure Viscometer, 220-240V 60Hz
Pressure Viscometer	
K22600	Pressure Viscometer, 115V 60Hz
K22615	Pressure Viscometer, 220-240V 50Hz
K22610	Pressure Viscometer, 220-240V 60Hz

accessories

K22690-0-27	Grease Cylinder Assembly for Low Temperature Pressure Viscometer (K22690 Series) – Includes piston and caps
K226-0-16	Grease Cylinder Assembly for Pressure Viscometer - (K22600 Series) – Includes piston and caps
K226-0-22	Capillary Set. Nos. 1-8
250-000-74F	ASTM 74F Thermometer, Range –67.5 to –62.5°F
250-000-74C	ASTM 74C Thermometer Range: –55.4 to –52.6°C

specifications

Conforms to the specifications of: ASTM D1092
Operating Range: performs apparent viscosity determinations at sixteen different shear rates
Low Temperature Pressure Viscometer:
Temperature Range: ambient to –65°F (–54°C)
Optional –100°F cooling range available on special order*
Temperature Control Precision: ±0.5°F (±0.3°C) throughout the operating range
Test Chamber Medium: denatured alcohol

Electrical Requirements:
115V 60Hz
220-240V 50Hz
220-240V 60Hz

Included Accessories
Stainless Steel Grease Cylinder
Assemblies (3)
Thermocouples (3)
Set of Stainless Steel Capillaries (Nos. 1-8)
Interchangeable Pressure Gauges (4)
Interchangeable Pump Drive Gears, 40 and 64-tooth
Set of Wrenches (3)

Dimensions lxwxh,in.(cm)
Low Temperature Pressure Viscometer: 43.25x30.75x66.25 (110x78x168)
Net Weight: 640 lbs (290.3kg)
Pressure Viscometer: 30x12x36 (76x30x91)
Net Weight: 121 lbs (54.9kg)

Shipping Information
Low Temperature Pressure Viscometer:
Shipping Weight: 900 lbs (408.2kg)   Dimensions: 89.8 Cu. ft.
Pressure Viscometer:
Shipping Weight: 186 lbs (84.4kg)   Dimensions: 14.8 Cu. ft.