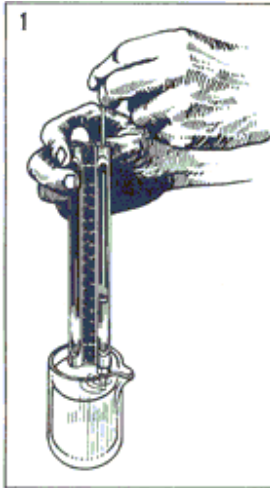




Operating Instructions Visgag – Viscosity Comparator



HOW TO FILL THE TEST TUBE:

CAUTION: *Do not draw hot oils directly from a crankcase or reservoir into the VISGAGE.*

Place a small quantity of oil into a container (Fig. 1), then insert nozzle of VISGAGE into this oil (fluid) when temperature is approximately 27° C (80° F).

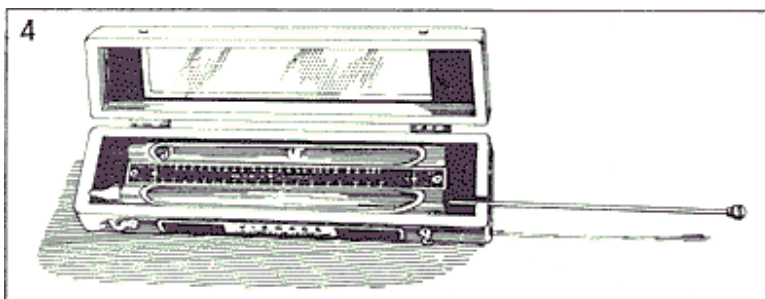
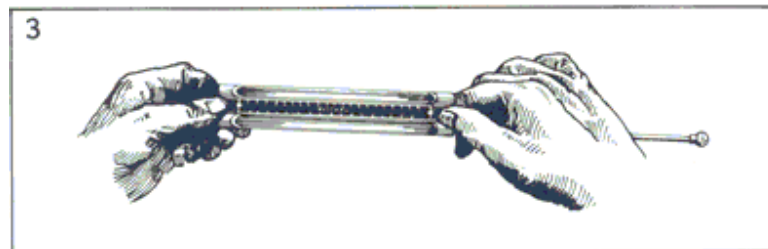
Best test results are achieved when tests are made at 27° C (80° F).

After inserting nozzle in oil to be tested, slowly withdraw plunger (Fig. 1). If an air bubble appears in the test tube, invert the VISGAGE (Fig. 2) and discharge the air with a small amount of oil. Insert nozzle in oil, slowly withdraw the plunger and completely fill the test tube with oil, free of air bubbles.



HOW TO PLACE VISGAGE IN DRAFT PROOF CASE:

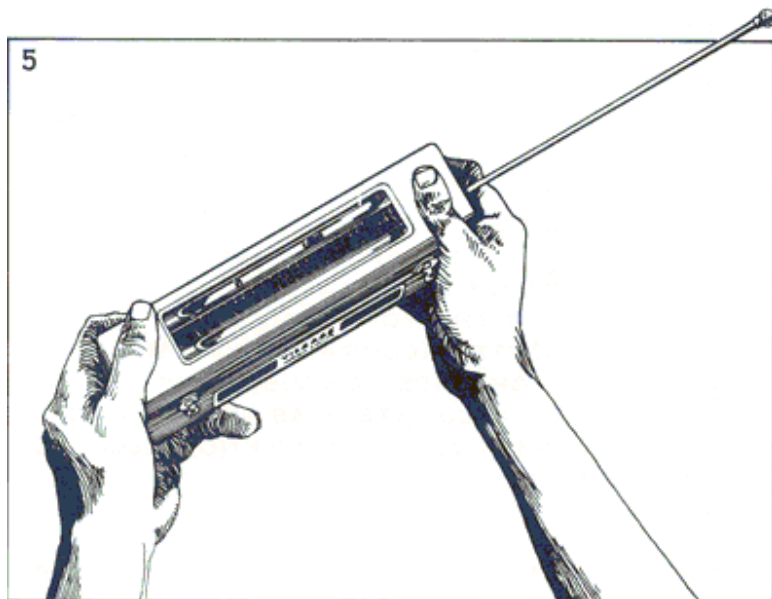
Adjust the plunger to set sphere in test tube to zero (Fig. 3). Position VISGAGE in draft-proof case with plunger rod extending through slot at right side of case (Fig. 4). *Close and lock cover. Allow the oils to attain the same temperature.*



READING:

Hold the case with VISGAGE in horizontal position at eye level, fifteen inches away, with scale in upright position.

With both spheres on zero line, tilt instrument with nozzle end down (Fig. 5) to an angle between 30 and 45 degrees so spheres move through the oils toward the line at left side of scale. (NOTE: To develop your proficiency, make VISGAGE tests using a standard fluid of specific viscosity for determining best angle of tilt.)



Give spheres the run of the oils. As the leading sphere approaches the line (38.6 line/76.5 line) at left of scale, gradually move the instrument to horizontal position to stop **leading sphere** exactly on the line.

Read point on scale opposite position of other sphere. The reading gives the viscosity of the tested oil directly in Centistokes at 40°C. After a few trials, any operator can check the viscosity of oils to an accuracy of 95°F or better; and if skillful, to even closer accuracy.

HOW TO BE CERTAIN THAT OILS ARE THE SAME TEMPERATURE:

Slowly raise plunger end of VISGAGE to an angle between 30 to 45 degrees. Take two or three readings. If readings repeat, the oils are the same temperatures. If readings do not repeat, allow another few minutes to equalize temperature until a few readings repeat. The final repeat reading indicates the viscosity of the test oil directly in Centistokes at 40°C.

HOT OILS:

WARNING: Do not immerse VISGAGE in hot oil/ or hot water to equal/is temperatures. Do not heat VISGAGE above 40°C.

CLEANING:

The VISGAGE is self-cleaning. When the oil is discharged after a test, returning the plunger to its original position effectively cleans the wall of the test tube. A small amount of oil will remain in the bore of the nozzle. To discharge this, fill the test tube with the next oil to be tested, discharge and discard it. This will clean the nozzle of the previous oil before the new test is made.

Non-use of the VISGAGE over a period of time with residue oil in the test tube may gum the sphere and the wall of the tube. To remove it, draw into the test tube a few charges of light oil or kerosene to dissolve the residue. Do not use straight gasoline or naphtha.

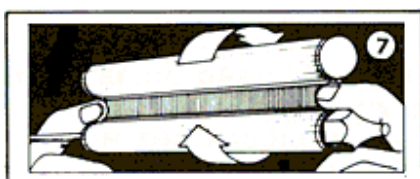


Challenge Us !



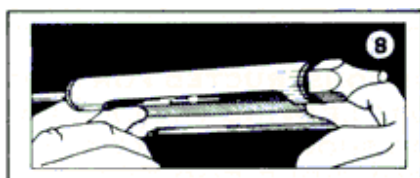
DARK COLORED OILS:

Dark colored oils in the test tube may make it difficult to see the sphere. To overcome this, follow standard test procedure under **READING**. Then, with your back to the light (Fig. 6) and full light on the scale, (Fig. 7 & 8) tilt reference tube toward you 90 degrees to bring the sphere in the test tube into sight. The point on the scale corresponding to the position of the sphere indicates the viscosity of the test oil direct at which it was rated in Centistokes at 40° C. (Fig. 8)



The VISGAGE is designed and constructed to test the viscosity of new and used oil/s but not sludge.

Whenever the sphere in the test tube can no longer be seen, you will know the oil is so badly fouled with contaminants that it needs to be changed immediately or cleaned by any of the appropriate cleaning methods.



VISCOSITY INDEX (VI):

The reference tube contains certified oil with a viscosity index of 95 VI. Best accuracy is achieved when the oil being tested has a VI near the VI of the reference oil, and several identical readings on the scale indicate temperatures of both tubes are equal. If the VI's of the oils are far apart (for example, 95 VI in reference tube, 40 VI in test oil), warm VISGAGE to 40° C, and then take readings.

SUS Model #2 VISGAGE including Carrying Case (Case Size 12" x 2" x 2") Viscosity Reading in Saybolt Universal Seconds @ 100 degrees Fahrenheit Recommended range for readings: Approximately 40 to 800 SUS

SUS Model #4 VISGAGE including Carrying Case Viscosity Reading in Saybolt Universal Seconds @ 100 degrees Fahrenheit Recommended range for readings: Approximately 400 to 1400 SUS

Centistokes Model #38 VISGAGE including Carrying Case Viscosity Reading in Centistokes (CST) @ 40 degrees Celsius Recommended range for readings: Approximately 8 to 160 CST

Centistokes Model #76 VISGAGE including Carrying Case Viscosity Reading in Centistokes (CST) @ 40 degrees Celsius Recommended range for readings: Approximately 76 to 320 CST