

Viscosity Cups

Thank you for purchasing a Viscosity Cup from Ascott. Please read these instructions carefully and retain for future reference.

Important Information

This equipment should only be used as intended by suitably qualified and trained personnel.

These instructions should be always readily available to such personnel.

Normal common-sense safety precautions must be taken at all times to avoid the possibility of accidents. We recommend that users produce their own risk assessment for the entire testing process for which this equipment will be used.



1. About Your Viscosity Cup

Viscosity Cups are easy-to-use gauges for measurement of viscosity of liquids. The cup can be supported in a stand and is filled with the liquid to be measured. The time taken for the liquid to drain through an orifice in the bottom of the cup is measured. The measured kinematic viscosity is generally expressed in seconds (s) flow time, which can be converted to Centistokes (cSt). A wide range of cups with different orifices are available for measurements between 5 cSt and 5100 cSt.

1.1

These instructions describe the operation of the following Viscosity Cups:

T01-700185	Ford Flow Cup (ASTM D 1200) - Number 2 Cup - Orifice Diameter 2.53mm
T01-700186	Ford Flow Cup (ASTM D 1200) - Number 3 Cup - Orifice Diameter 3.40mm
T01-700187	Ford Flow Cup (ASTM D 1200) - Number 4 Cup - Orifice Diameter 4.12mm
T01-700188	Ford Flow Cup (ASTM D 1200) - Orifice Diameter 4.12mm
T01-700189	Ford Flow Cup (ASTM D 1200) - Number 2 Cup - Orifice Diameter 2.53mm
T01-700182	DIN Flow Cup - Number 2 Cup - Orifice Diameter 2 mm
T01-700195	DIN Flow Cup - Number 4 Cup - Orifice Diameter 4 mm
T01-700196	DIN Flow Cup - Number 4 Portable Cup - Orifice Diameter 4 mm
T01-700149	DIN Flow Cup - Number 6 Cup - Orifice Diameter 6 mm
T01-700184	DIN Flow Cup - Number 8 Cup - Orifice Diameter 8 mm
T01-700197	ISO Flow Cup -Number 3 Cup - Orifice Diameter 3 mm
T01-700198	ISO Flow Cup - Number 4 Cup - Orifice Diameter 4 mm
T01-700199	ISO Flow Cup - Number 5 Cup - Orifice Diameter 5 mm
T01-700300	ISO Flow Cup - Number 6 Cup - Orifice Diameter 6 mm
T01-700301	ISO Flow Cup - Number 8 Cup - Orifice Diameter 8 mm

1.2 Standards

The Viscosity Cups can be used in accordance with a wide range of National and International Standards.

1.3 Contents

- Viscosity Cup
- Operating instructions

The Viscosity Cup is packed in a cardboard and foam package. Please ensure that this packaging is disposed of in an environmentally sensitive manner.

1.4 CAUTION

Take care to avoid damaging your viscosity cup. Damage to the orifice, scratches on the internal surface or deformation of the cup will affect the readings and the gauge may have to be replaced

2. Taking A Reading

2.1 Before You Start

- Select a cup which gives a flow time of between 30 seconds and 100 seconds.

- Ensure the cup and the orifice are clean and free of debris.
- The liquid being tested must be homogeneous and must not contain any bubbles. Use freshly strained samples only.
- The liquid being tested must be Newtonian.

To determine whether a liquid is Newtonian, carry out the following measurements using the Instructions given in “Test procedure”

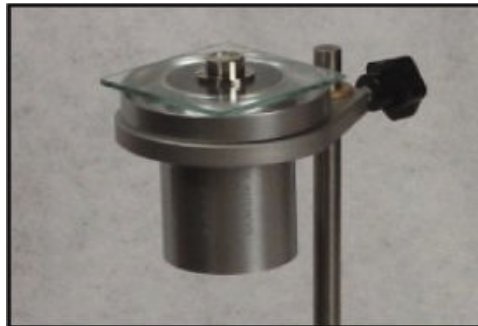
- Fill the cup and measure flow time immediately after filling.
- Fill the cup, wait one minute, then measure flow time.

If the difference between the two flow times is greater than 10%, the liquid is considered to be non-Newtonian and cannot be tested using the Viscosity Cup.

- Measure and record the temperature of the liquid.

2.2 Test Procedure

1. Place the cup into the stand and level the cup using the glass plate and bubble level supplied with the stand.



2. Allow the temperature of the cup and the sample to stabilize at the agreed temperature. Check the temperature of the sample before filling.

3. Place a finger over the cup orifice to close the orifice.

4. Pour the liquid gently into the cup, avoiding the formation of air bubbles.



a. If the test environment is not temperature stabilized, use a double wall jacket

5. Slide the glass plate over the rim of the cup to remove excess sample. Avoid the formation of air bubbles between the glass plate and the liquid.

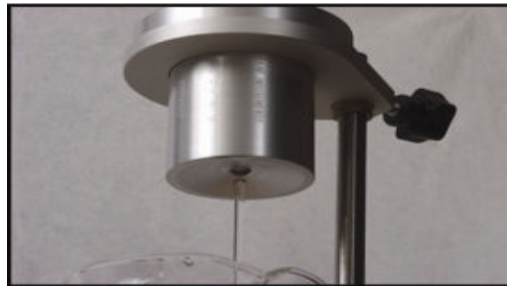


6. Remove finger from cup orifice and wait for a few minutes to allow any air bubbles to rise to the top of the liquid.

7. Remove the glass plate and start the stopwatch.



8. Watch the flow of liquid from the orifice and stop the stopwatch the moment the flow breaks.



9. Repeat the test.

10. If the test results do not differ by more than 5%, calculate the average of the two test results and record the result.

The measured kinematic viscosity is generally expressed in seconds (s) flow time, which can be converted to Centistokes (cSt).

2.3 After the Test

Clean the gauge and all equipment.

After cleaning, ensure that all materials are removed and that the instrument is dry.

3. Storage

Ascott Analytical Equipment Limited

6-8 Gerard, Lichfield Road Industrial Estate, Tamworth, Staffordshire, B79 7UW, Great Britain

T +44 (0) 1827 318040 F +44 (0) 1827 318049 E info@ascottshop.com W www.ascottshop.com

Always store the gauge in a clean and dry environment .



4. Material Specification

Body: Anodized aluminium

Orifice: Stainless steel

Do not use wire brushes, metal scrapers, metal files or other metallic tools for cleaning. Clean the gauge and all equipment using a suitable solvent.

5. Maintenance

Viscosity Cups are designed to give many years reliable service under normal operating and storage conditions. Regular calibration checks over the life of the gauge are a requirement of quality management procedures e.g. ISO 9000 and other standards. To check for wear, use Viscosity Standard Oils in place of your liquid and measure the flow time.

If you have any queries regarding your new equipment, or require any additional accessories or consumables, please contact info@ascottshop.com or telephone +44 (0)1827 318049. If you wish to contact us by post, our full mailing address is 6-8 Gerard, Tamworth, Staffordshire, B79 7UW