

**GENERAL INFORMATION**

The Marsh Funnel Viscometer is a rugged, easy to operate instrument that is used for making rapid, on the spot measurements of drilling mud viscosity. The Marsh Funnel readings are only general measurements, but the frequent reporting of the Marsh Funnel Viscosity will alert the mud engineer to sudden changes in the mud viscosity that could require corrective action.

The Marsh Funnel Viscosity is the ratio of the speed of the mud as it passes through the outlet tube (the Shear Rate) to the amount of force - the weight of the mud itself - that is causing the mud to flow (the Shear Stress). Marsh Funnel Viscosity is reported as the number of seconds required for one quart of mud to flow out of a full Marsh Funnel.

**MEASURING THE VISCOSITY OF DRILLING MUD**

**NOTE A** In addition to the Marsh Funnel, this procedure requires a container to collect a mud sample, a graduated container to receive the mud as it flows out of the funnel, some way to measure elapsed time (preferably a stop watch), and a centigrade or fahrenheit thermometer for measuring the temperature of the mud sample (See the Parts List).

**NOTE B** The Marsh Funnel should be clean and dry before beginning this procedure.

**PROCEDURE**

1. Collect a fresh mud sample.
2. Hold the funnel erect with a finger over the outlet tube, and pour the mud into the funnel through the screen until the mud level reaches the bottom of the screen (The screen will filter out the larger particles that could clog the outlet tube).

**NOTE C** When the Marsh Funnel is filled to the proper level it holds ~~more~~ than one quart of mud.

3. Quickly remove the finger from the outlet tube, and at the same time, begin timing the mud outflow.
4. Allow one quart (946 cc) of mud to drain from the Marsh Funnel into a graduated container.
5. Record the number of seconds it takes for the quart of mud to flow out of the funnel, and report this value as the Marsh Funnel Viscosity. Also record the temperature of the mud sample in degrees F or C.

**CARE OF THE FUNNEL**

Follow these suggestions to care for the Marsh Funnel:

1. Clean and dry the funnel thoroughly after each use.
2. Take special care not to bend or flatten the brass outlet tube at the bottom of the funnel. The Marsh Funnel Viscosity readings are computed using the exact diameter of this outlet and if the outlet is distorted the readings will be inaccurate.

## CALIBRATION CHECK

Periodically check the calibration of the Marsh Funnel by measuring the viscosity of fresh water. The funnel is dimensioned so that the outflow of one quart (946 cc) of fresh water at a temperature of  $70 \pm 5^\circ\text{F}$  ( $21 \pm 3^\circ\text{C}$ ) is  $26 \pm 0.5$  seconds. If the Marsh Funnel checks out of calibration, it should be cleaned again, using a pipe cleaner, to make sure that there is nothing obstructing the outlet. If the Marsh Funnel continues to give an incorrect reading for fresh water after cleaning then the outlet tube probably has been bent out of shape and the funnel should be replaced.

## PARTS LIST

The Marsh Funnel viscometer is shipped with no accessories, but some of the additional equipment necessary for the measurement procedure can be obtained from Fann Instrument Company, P.O. Box 4350, Houston, Texas, 77210, U.S.A. The following is a list of part numbers:

PART NO.	DESCRIPTION
20100	Marsh Funnel Viscometer
20200	Measuring Cup (Plastic)
20211	Measuring Cup (Stainless Steel)
20703	Digital Stopwatch
97900	Metal Dial Thermometer (Fahrenheit)
98202	Digital Thermometer (Fahrenheit and Centigrade)

For more information, please contact us:

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[10700 Rockley Road](#)  
[Houston, Texas 77099](#)  
[USA](#)

[281-496-0900 \[voice\]](#)

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