

## RHEOMETER

# Model 40

High-precision rheology for laboratory and field



## Description

The Rheometer Model 40 is a high-precision Couette coaxial cylinder rotational rheometer designed for direct viscosity measurement across a wide range of shear rates and rotational speeds. It is engineered for laboratory and field applications involving drilling fluids, cement slurries, completion fluids, and other complex industrial liquids.

The test fluid is contained in the annular space between a rotating outer cylinder (rotor) and a stationary inner cylinder (bob). As the rotor turns at a controlled speed, viscous drag exerts torque on the bob, which is transmitted to a precision torsion spring. The resulting deflection is directly related to shear stress and viscosity.

This proven measurement principle ensures accurate simulation of real flow conditions encountered in oilfield and industrial processes.

## Application

The Rheometer Model 40 is ideal for users who need precise rheological measurements in both laboratory and field environments. The instrument provides reliable data for drilling fluid characterization, cement slurry evaluation, completion and stimulation fluids, industrial drilling slurries, research laboratories, quality control, and field testing operations.

## Power Flexibility

In addition to standard AC power supply (100 to 240 V, 50 to 60 Hz), Rheometer Model 40 can operate using 12V power banks.

Recommended power output:  
65 W and higher (for laptop charging)

This allows convenient field operation where standard power sources are unavailable.

## Key Features

- Wide speed range: 0.1 to 800 RPM
- Preset speed buttons: 1 to 600 RPM
- Direct viscosity reading at 300 RPM with standard configuration
- High accuracy:  $\pm 0.5\%$  of torque range
- Interchangeable rotors, bobs, and torsion springs for extended measurement ranges
- Spring calibration and adjustment tools included with
- Lighted dial reading window and sample cup
- Rugged stainless steel components



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Standard Configuration

- Rotor R1, stainless steel
- Bob B1, stainless steel
- Torsion Spring F1
- Stainless steel sample cup
- Spring calibration and adjustment tools
- Power supply and cable



Specifications (R1-B1-F1 Configuration)

| Parameters            |                                       |
|-----------------------|---------------------------------------|
| Speed range           | 0.1 to 800 RPM                        |
| Viscosity range       | 0.05 to 10,000 cP                     |
| Shear rate range      | 0.17 to 1021 s <sup>-1</sup>          |
| Shear stress range    | 5.11 to 1533 dyn/cm <sup>2</sup>      |
| Operating temperature | Ambient to 200°F (93°C)               |
| Operating pressure    | Atmospheric                           |
| Dimensions            | 16.5 × 5.1 × 7.9 in (42 × 13 × 20 cm) |
| Weight                | Approx. 9.9 lb (4.5 kg)               |
| Accuracy              | ±0.5% of torque range                 |
| Material              | Stainless steel wetted components     |

Ordering Information

Part No. 103330812  
Rheometer Model 40

Optional Accessories

- Heated thermo-cup for elevated temperature testing
- Additional rotor-bob combinations
- Multiple torsion springs for sensitivity adjustment
- Calibration kits and reference fluids

Fann Instrument Company offers a complete line of equipment, materials, and supplies for analyzing various drilling fluids and oil well cements in accordance with API Specifications and API Recommended Practices.