

## **Programmable Rheometer - 50-40M mPa.s**

**BGD 168-M**

### **Product Description**

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Rotational viscometers are generally used to test the viscosity (also known as apparent viscosity) of Newtonian or non-Newtonian fluids at specific rotational speeds and rotors. However, in the polymer materials industry, such as coatings, inks, and adhesives, almost all resins, emulsions, and the finished materials themselves are non-Newtonian fluids, exhibiting different rheological properties at different shear rates (related to rotational speed and rotor shape). To compare the rheological properties of different materials, a common industry method is to test their thixotropy or dilution index: that is, the proportion of viscosity change measured after increasing or decreasing rotor speed to characterize the degree of shear thinning, or comparing the viscosity change of the material before and after high shear to characterize its degree of thixotropy.

Based on the different rheological properties of various materials, Solvica offers several different models of rheometers. Testers can set different test programs (such as automatically changing the shear rate) according to their testing needs, and with the help of relevant professional software, testers can fully understand and analyze the rheological properties of materials, including simulating the rheology of materials in different application scenarios.



### **Standards**

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GB/T 10247, GB/T 11175, GB/T 22235, ISO 1652, ISO 2555, ISO 3219, ASTM D2196, ASTM D2983

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#### **Technical Specification**

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- 7 inch high definition touchscreen for easy operation, displaying clear and comprehensive information
- High precision micro stepping motor drive with stepless speed regulation, accurate speed control, smooth and silent operation; viscosity accuracy is not affected by fluctuations in AC power frequency
- Built in high precision electronic level; the screen directly displays the leveling status so the operator can quickly level the instrument
- Magnetic spindle mounting and removal reduce the risk of damaging the spindle shaft during assembly and disassembly, improving durability. Robust new spindle shaft design for extended service life
- Switching power adapter with wide input voltage range and excellent anti interference performance
- High precision encoder for real time sampling; measurement results are displayed instantly, even at low speeds
- Programmable testing, including timed measurements, programmable variable speed measurements, and programmable temperature measurements (with optional small sample adapter and temperature control)
- Generates viscosity–time, viscosity–speed, and viscosity–temperature curves (with optional small sample adapter and temperature control), providing a clear overview of how sample viscosity changes with each parameter
- Continuous viscosity display with audible alarm when the measured value exceeds the instrument’s range
- Multiple viscosity units available; dynamic and kinematic viscosity are converted automatically
- The instrument is fully calibrated across the entire measurement range before leaving the factory; users can also perform independent calibration if required
- With the optional rheometer control and data analysis software, the instrument can be controlled via computer and test data can be analyzed and compared to evaluate the rheological properties of different samples

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### BGD 168-M

#### Main Technical Parameters

| Model     | Measurement range (mPa.s)             | Rotor speed (rpm) | Standard rotor configuration                | Measurement accuracy |
|-----------|---------------------------------------|-------------------|---------------------------------------------|----------------------|
| BGD 168-L | 1 – 6M<br>(1-6.000.0000 mPa.s)        | 0.1 – 250         | LV1, LV2, LV3, LV4 (LV0 optional)           | ±1.0% of full scale  |
| BGD 168-M | 50 – 40M<br>(50-40.000.000 mPa.s)     | 0.1 – 250         | RV2, RV3, RV4, RV5, RV6, RV7 (RV1 optional) | ±1.0% of full scale  |
| BGD 168-H | 400 – 320M<br>(400-320.000.000 mPa.s) | 0.1 – 250         | RV2, RV3, RV4, RV5, RV6, RV7 (RV1 optional) | ±1.0% of full scale  |

Ordering information: BGD 168-M Programmable Rheometer - 50-40M mPa.s

#### Disclaimer

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