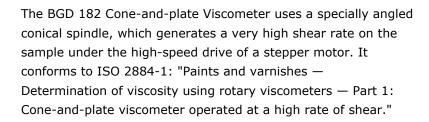




# High-torque Cone and Plate Viscometer BGD 182-2

## **Product Description**

Paints and inks often exhibit different shear rates from manufacturing to application. As typical non-Newtonian fluids, paints and inks show varying viscosity characteristics at different shear rates. Generally, paints are at a low shear rate when stored, transported, leveled, or sagged. They experience medium shear rates when pumped, dipped, or mixed at low speeds. During high-speed dispersion, rolling, spraying, and brush coating, they are subjected to high shear rates, generally ranging from 9000 s ¹ to 12000 s ¹. Therefore, understanding the rheological characteristics of paints or inks at such high shear rates requires the use of a cone-and-plate viscometer for measurement.





### **Standards**

ISO 2884-1 (Paints and varnishes - Determination of viscosity using rotary viscometers - Part 1: Cone-and-plate viscometer operated at a high rate of shear)

## **Technical Specification**

- 7-inch touch screen: Menu operation with rich display content (measurement values, spindle number, speed, shear rate, etc.), simple and convenient to operate
- Durable metal shell: Handle for lifting, precise and fast positioning, high reliability
- Carefully designed electrical part: Ensures high reliability, precision, stability, and ease of use
- ARM chip processor: Faster data processing speed
- High precision linear calibration: Ensures higher measurement accuracy through multiple point interpolation
- Stepless speed adjustment: Allows operators to choose different shear rates based on the sample's actual application



## Cone & Plate Viscometers (182-series)

# **High-torque Cone and Plate Viscometer BGD 182-2**

conditions

- Continuous viscosity measurement: Many viscosity units can be freely interchanged
- Automatic measurement alarm: Alerts when the measurement exceeds the range
- High-speed data transmission interface: Ensures fast and stable communication between the instrument and the computer
- Data storage and export: External USB function
- Built-in high-precision PT100 temperature sensor: Provides high temperature control accuracy and stability
- Temperature calibration function: Ensures precise and reliable temperature control
- Simple calibration function: Users can quickly calibrate the instrument with one bottle of standard oil using the built-in calibration menu
- Data collection and analysis software: Option to thoroughly analyze the sample's rheological features





# **High-torque Cone and Plate Viscometer BGD 182-2**

## **Main Technical Parameters**

- Adjustable Speed Range: 5 rpm to 1000 rpm (continuously variable, @1 rpm)
- Measurement Error: < 2% of full scale
- Sample Volume: < 2 ml (see the table below for details)
- Two built-in temperature control options:
  - ° 5°C-75°C (L type / Low temperature)
  - ° 50°C-235°C (H type / High temperature)
- Temperature Resolution: 1°C
- Temperature Control Accuracy: ±0.5°C (L type); ±1°C (H type up to 150°C) or ±2°C (H type above 150°C)
- Rotors: 10 types available (corresponding shear rates and measurement ranges are shown in the table below)



## **High-torque Cone and Plate Viscometer**

## **BGD 182-2**

### **Spindle Types and Measurement Ranges**

Spindle Type	CAP-01	CAP-02	CAP- 03	CAP- 04	CAP- 05	CAP- 06	CAP- 07	CAP- 08	CAP- 09	CAP- 10
Sample Size	67 μL	38 µL	24 μL	134 µL	67 μL	30 µL	1,700 μL	400 µL	100 μL	170 µL
Shear Rate Range (S <sup>-1</sup> )	66.5-	66.5-	66.5-	16.5-	16.5-	16.5-	13-	13-	25-	25-
	13,300	13,300	13,300	3,300	3,300	3,300	2,000	2,000	2,000	5,000
BGD 182-1 Measurement	20-	20-	20-	20-	20-	20-	20-	20-	20-	20-
Range (mPa.s)	1,600	3,200	6,600	13,000	26,000	66,000	2,600	10,800	44,000	4,400
BGD 182-2 Measurement	20-	40-	100-	100-	300-	800-	78-	313-	125-	100-
Range (mPa.s)	37,500	75,000	150,000	300,000	600,000	1,500,000	62,500	250,000	1,000,000	10,000

Note: How to calculate the shear rate?

• Power Supply: AC 220V, 50Hz/60Hz, max current  $\sim$ 1.5A • Overall Size: 275 mm  $\times$  210 mm  $\times$  460 mm (L  $\times$  W  $\times$  H)

• Net Weight: 12 kg

Ordering information: BGD 182-2 High-Torque Cone and Plate Viscometer

<sup>○ 13.33 ×</sup> the current speed (for CAP-01 to CAP-03)

o 3.33 × the current speed (for CAP-04 to CAP-06)

 $<sup>\</sup>circ$  2 × the current speed (for CAP-07 to CAP-09)

 $<sup>\</sup>circ$  5 × the current speed (for CAP-10?



## **Cone & Plate Viscometers (182-series)**

# High-torque Cone and Plate Viscometer BGD 182-2

## **Accessoires**

CAP-SERIES - Cone & Plate Viscometer Spindle CAP-Spindles 1-10

#### **Disclaimer**

The information given in this sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavour to ensure that all advice we give about the product (whether in this sheet or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this sheet is liable to modification from time to time in the light of experience and our policy of continuous product development