<table>
<thead>
<tr>
<th>Model</th>
<th>NDJ-1</th>
<th>NDJ-79A</th>
<th>NDJ-79B</th>
<th>NDJ-1B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rotational Viscometer (Pointer)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Measurement range (mPa.s):</strong></td>
<td>10 ~ 10 × 104</td>
<td>1mPa•s ~ 1×106mPa•s</td>
<td>10 mPa•s ~ 2000000 mPa•s</td>
<td>10 mPa•s ~ 2000000 mPa•s</td>
</tr>
<tr>
<td><strong>Rotor speed (r/min):</strong></td>
<td>6, 12, 30, 60</td>
<td>7.5~750r/min stepless speed regulating</td>
<td>60 RPM; 8 grades in total</td>
<td>0.3 RPM, 0.6 RPM, 1.5 RPM, 3 RPM, 6 RPM, 12 RPM, 30 RPM, and 60 RPM; 8 grades in total</td>
</tr>
<tr>
<td><strong>Rotor specifications:</strong></td>
<td>1 #, 2 #, 3 #, 4 #</td>
<td>7.5~750r/min stepless speed regulating</td>
<td>60 RPM; 8 grades in total</td>
<td>0.3 RPM, 0.6 RPM, 1.5 RPM, 3 RPM, 6 RPM, 12 RPM, 30 RPM, and 60 RPM; 8 grades in total</td>
</tr>
<tr>
<td><strong>Measurement error (F•S):</strong></td>
<td>±5%</td>
<td>±2%(F•S)</td>
<td>±1% (F•S)</td>
<td>±1% (F•S)</td>
</tr>
<tr>
<td><strong>Power Supply:</strong></td>
<td>AC (220 ± 10%) V, (50 ± 10%) Hz</td>
<td>AC 220V±10%, 50Hz</td>
<td>AC 220V±10%, 50Hz</td>
<td>AC 220V±10%, 50Hz</td>
</tr>
<tr>
<td><strong>Ambient temperature:</strong></td>
<td>5 ℃ ~ 35 ℃</td>
<td>0 ℃ ~ 100 ℃</td>
<td>5 ℃ ~ 35 ℃</td>
<td>5 ℃ ~ 35 ℃</td>
</tr>
<tr>
<td><strong>Relative humidity:</strong></td>
<td>≤80%</td>
<td>≤85%</td>
<td>≤80%</td>
<td>≤80%</td>
</tr>
<tr>
<td><strong>Dimension:</strong></td>
<td>360mm×360mm×790mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Determine the viscosity of oil greases, paints, plastics, foods, pharmaceuticals, adhesives, and other fluids.</strong></td>
<td></td>
<td>Determine absolute viscosity of Newtonian liquids and apparent viscosity of Non-Newtonian liquids.</td>
<td>Determine absolute viscosity of Newtonian liquids and apparent viscosity of Non-Newtonian liquids.</td>
<td>Determine absolute viscosity of Newtonian liquids and apparent viscosity of Non-Newtonian liquids.</td>
</tr>
</tbody>
</table>
| Rotational Viscometer (Digital) | NDJ-5S | 1. Measurement range: 10 mPa*s ~ 100000 mPa*s  
2. Spindle: No.1 ~ No.4, total four spindles  
3. Rotation speed: 6 RPM, 12 RPM, 30 RPM, and 60 RPM  
4. Measuring accuracy: ±1% (F•S)  
5. Power supply: AC 220 V±10%, 50 Hz±10%  
6. Working environment: Ambient temp.: 5 ℃ ~ 35 ℃, Relative humidity: ≤ 80%  
Optional accessories  
1. HWY-10 Circulatory water bath  
2. Double-layer sample cup  
3. No.0 spindle  
4. Small sample adaptor | Determine absolute viscosity of Newtonian liquids and apparent viscosity of Non-Newtonian liquids, determine the viscosity of liquids such as greases, oil paints, plastics, pharmaceutics, coatings, adhesives, detergents, and other fluids.  
ASTM D 4402 |
| --- | --- | --- | --- |
| Rotational Viscometer (Digital) | NDJ-8S | 1. Measurement range: 10 mPa*s ~ 200000 mPa*s  
2. Spindle: No.1 ~ No.4, total four spindles  
3. Rotation speed: 0.3 RPM, 0.6 RPM, 1.5 RPM, 3 RPM, 6 RPM, 12 RPM, 30 RPM, and 60 RPM, 8 grades in total  
4. Temperature range: 0 ~ 200 ℃  
5. Measuring accuracy: ±1% (F•S)  
6. Power supply: AC 220 V±10%, 50 Hz±10%  
7. Ambient temperature: 5 ℃ ~ 35 ℃  
8. Relative humidity: ≤ 80%  
Optional accessories  
1. HWY-10 Circulatory water bath  
2. Double-layer sample cup  
3. No.0 spindle  
4. Small sample adaptor | Determine absolute viscosity of Newtonian liquids and apparent viscosity of Non-Newtonian liquids, determine the viscosity of liquids such as greases, oil paints, plastics, pharmaceutics, coatings, adhesives, detergents, and other fluids.  
ASTM D 4402 |
<table>
<thead>
<tr>
<th><strong>Brookfield Rotational Viscometer(Heating)</strong></th>
<th><strong>NDJ-1C</strong></th>
<th><strong>NDJ-1D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Determine absolute viscosity of Newtonian liquids and the apparent viscosity of Non-Newtonian liquids, determining viscosities of asphalt, hot melt adhesive, paraffin, high polymer, and various fluids.</strong></td>
<td><strong>ASTM D 4402</strong></td>
<td><strong>ASTM D 4402</strong></td>
</tr>
</tbody>
</table>

1. Measurement range: 100 mPa•s ~ 2×10^5 mPa•s (If you select the No.30 spindle, the measurement range can be extended to 4×10^5 mPa•s).
2. Spindle: No.21, 27, 28 and 29 total 4 pieces of spindles (the No.30 spindle is optional) 
3. Rotation speed: 5RPM, 10 RPM, 20 RPM, and 50 RPM 
4. Measurement error: ±2% (F•S). (If you select the No.30 spindle, it will be ±3% (F•S)
5. Temperature control range: 45 ℃ ~ 200 ℃ 
6. Temperature control accuracy: ±0.1 ℃
7. Sample cylinder: 20 ml
8. Power supply: AC 220V±10%, 50 Hz
9. Ambient temperature: 5 ℃ ~ 35 ℃ (when the controlling temperature is close to ambient temperature, please run the air conditioner to let the ambient temperature be 5 ℃ lower than the controlling temperature)
10. Relative humidity: ≤ 80%
11. Printing output: needle printer 
12. Communication port: RS232 port

**Optional accessories**
1. NDJ-1C Brookfield Viscometer and Computer communication software(CD)
2. 300 ℃ high temperature heating furnace
3. 30# rotator

1. Measurement range: 100 mPa•s ~ 2×10^6 mPa•s (If use the No.30 spindle, the measurement range can be extended to 4×10^6 mPa•s); 
2. Spindle: No.21, 27, 28 and 29 spindles (The No.30 spindle is optional). 
3. Speed: 0.5, 1, 2, 5, 10, 20, 50 RPM 
4. Measurement error: ±2% (F•S). If use the No.30 spindle, it will be ±3% (F•S).
5. Temperature control range: 45 ℃ ~ 200 ℃ 
6. Temperature control accuracy: ±0.1 ℃; 
7. Cubage of sample cylinder: 20 ml; 
8. Power supply: AC 220V±10% . 50Hz; 
9. Ambient temperature: 5 ℃ ~ 35 ℃ (If it is near the controlling temperature, please use a air conditioner to make sure that the ambient temperature is about 5 ℃ lower than the controlling temperature of heater.
10. Relative humidity: ≤ 80%
11. Printing output: needle printer 
12. Communication port: RS232 port

**Optional accessories**
1. NDJ-1D Brookfield Viscometer and Computer communication software(CD)
2. 300 ℃ high temperature heating furnace
3. 30# rotator
<table>
<thead>
<tr>
<th>Instrument</th>
<th>Model</th>
<th>Specifications</th>
<th>Optional accessories</th>
<th>Standards</th>
</tr>
</thead>
</table>
| Brookfield Rotational Viscometer (Heating)   | NDJ-1F       | 1. Measurement range: 25 mPa•s ~ 1×107 mPa•s (If choosing the No.30 spindle, measurement range can extend to 2×107 mPa•s)  
2. Spindle: No.21, 27, 28, 29 total four types of spindles (the No.30 is optional)  
3. Spindle speed: 0.1 ~ 200 RPM, continuously speed regulation (With 12 grades of speed)  
4. Measurement error: ±1% (F•S), choosing the No.30 spindle, it will be ±3% (F•S)  
5. Temperature control range: 45 °C ~ 200 °C  
6. Temperature control accuracy: ±0.1 °C  
7. Sample cylinder cubage: 20 ml  
8. Power supply: AC 220 V±10%, 50 Hz  
9. Ambient temperature: 5 °C ~ 35 °C (when the control temperature of the heater is close to the ambient temperature, turn on the air conditioner to allow the ambient temperature is approximately 5 °C lower than the control temperature of the heater);  
10. Relative humidity: ≤80%  
11. Printing output: needle printer  
12. Communication port: RS232 port | 1. NDJ-1F Brookfield Viscometer and Computer communication software (CD)  
2. 300 °C high temperature heating furnace  
3. 30# rotator                                                                                                                                                                                                                                                               | Determine the absolute viscosity of the Newtonian liquids and the apparent viscosity of the non-Newtonian liquids, determine the viscosity of various liquids such as asphalt, hot sol, paraffin, high polymer and so on. | ASTM D 789, ASTM D 4878 |
| Rotational Viscometer                         | NDJ-1E       | 1. Measurement range: (1 ~ 6000000)mPa•s  
2. Spindle: No.0 ~ No.4, five kinds of spindles  
3. Spindle speed: (0.1, 0.2, 0.3, 0.6, 1.5, 3, 6, 12, 30, 60, 120) RPM. Also can do stepless speed regulation.  
4. Accuracy: ±1% (F•S);  
5. Reproducibility: ±0.2 %  
6. Power supply: AC 220 V±10 %, 50 Hz±10 % (24V adapter)  
7. Working environment:  
(1) Ambient temperature: 5 ~ 35 °C  
(2) Relative humidity: ≤80%  
8. Printing output: needle printer  
9. Communication port: RS232 port | 1. HWY-10 circulating thermostatic water bath  
2. Professional double-deck sample cup  
3. Small sample adaptor                                                                                                                                                                                                                                                      | Determine the absolute viscosity of the Newton liquids and the apparent viscosity of non-Newtonian liquids, determine the viscosity of various liquid such as greases, oil paints, plastic, pharmaceuticals, dopes, adhesives, and detergents, etc. | ASTM D 4402 |
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HWY-501</td>
<td>Provides a constant temperature water bath for tests to keep temperature stable in the closed circulation system.</td>
</tr>
<tr>
<td>HWY-501A</td>
<td>Provides a constant temperature water bath for tests to keep temperature stable in the closed circulation system.</td>
</tr>
<tr>
<td>HWY-10</td>
<td>Provides a constant temperature water bath for tests to keep temperature stable in the closed circulation system.</td>
</tr>
</tbody>
</table>

### HWY-501
- **Power supply**: AC 220 V±10%, 50 Hz
- **Volume of water bath**: 20 L
- **Temperature control range**: Room temperature ~ 80.0 °C
- **Temperature control accuracy**: ±0.1 °C
- **Quantity of circulated water**: ≥3.5L/min
- **Ambient temperature**: -10 °C ~ +35 °C
- **Relative humidity**: ≤85%
- **Maximum power consumption**: 1600 W
- **Outline dimension**: 400 mm × 370 mm × 460 mm (L×W×H)

### HWY-501A
- **Power supply**: AC220V±10% 50Hz
- **Volume of bath**: 48L, 480 mm × 330 mm × 320 mm (L×W×H)
- **Temperature control range**: Room temperature+10 °C ~ 70.0 °C
- **Temperature control accuracy**: ±0.1 °C
- **Heating device**: Electric heater, power 1000W
- **Circulating water**: Automatic magnetic circulating pump
- **Ambient temperature**: ≤30 °C
- **Relative humidity**: ≤85%
- **Outline dimension**: 740 mm × 420 mm × 410 mm (L×W×H)
- **Total power consumption**: Less 1100W

### HWY-10
- **Power supply**: AC 220 V±10%, 50 Hz
- **Volume of bath**: 10 L
- **Temperature control range**: -10 °C ~ 95 °C
- **Temperature control accuracy**: ±0.1 °C
- **Quantity of circulated water**: ≥3.5 L/min
- **Ambient temperature**: -10 °C ~ +30 °C
- **Relative humidity**: ≤85%
- **Maximum power consumption**: 1100 W
- **Outline dimension**: 530 mm × 400 mm × 430 mm (L×W×H)
<table>
<thead>
<tr>
<th><strong>Low Temperature Water Bath</strong></th>
<th><strong>HWY-1</strong></th>
<th>Large cubage and high temperature controlling accuracy, used in the laboratories of highway engineering construction units.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Power supply: AC 220 V (-5%~+10%), 50 Hz;</td>
<td><strong>1. Power supply: AC 220 V (-5%~+10%), 50 Hz;</strong></td>
<td></td>
</tr>
<tr>
<td>2. Size of water bath: length370mm × width300mm × height300mm;</td>
<td><strong>2. Size of water bath: length370mm × width300mm × height300mm;</strong></td>
<td></td>
</tr>
<tr>
<td>4. Heating device: Electric heater, power is 1300 W;</td>
<td><strong>4. Heating device: Electric heater, power is 1300 W;</strong></td>
<td></td>
</tr>
<tr>
<td>5. Refrigeration device: refrigeration compressor of new type;</td>
<td><strong>5. Refrigeration device: refrigeration compressor of new type;</strong></td>
<td></td>
</tr>
<tr>
<td>6. Temperature controlling range: 5 ℃~80 ℃;</td>
<td><strong>6. Temperature controlling range: 5 ℃~80 ℃;</strong></td>
<td></td>
</tr>
<tr>
<td>7. Temperature controlling accuracy: ±0.1 ℃;</td>
<td><strong>7. Temperature controlling accuracy: ±0.1 ℃;</strong></td>
<td></td>
</tr>
<tr>
<td>8. Ambient temperature: ≤30 ℃;</td>
<td><strong>8. Ambient temperature: ≤30 ℃;</strong></td>
<td></td>
</tr>
<tr>
<td>10. Total power consumption: not more than 2000 W;</td>
<td><strong>10. Total power consumption: not more than 2000 W;</strong></td>
<td></td>
</tr>
<tr>
<td>11. Size: length750mm × width540mm × height 580mm;</td>
<td><strong>11. Size: length750mm × width540mm × height 580mm;</strong></td>
<td></td>
</tr>
<tr>
<td>12. Net weight: 30 kg;</td>
<td><strong>12. Net weight: 30 kg;</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Small sample adapter</strong></th>
<th>Optional part of NDJ-5S, NDJ-8S, NDJ-1B and NDJ-1E. It is suitabled to measure the liquid viscosity of small sample at room temperature.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Spindle 0#</strong></th>
<th>Optional part of dial series and digital series. The viscosity can reach to 1 mPa·s.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Unit I spindle</strong></th>
<th>Optional part (NDJ-79)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Circulatory-water sample cup</strong></th>
<th>Optional parts (NDJ-1 and NDJ-1B)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Microprinter</strong></th>
<th>Optional part (NDJ-1B)</th>
</tr>
</thead>
</table>

| **Standard viscosity oil** | Volume: 200ML |