

## MMW-1 Vertical Computer Control Universal Friction And Wear Testing Machine



### 1.Application:

The machine can simulate rolling, sliding and rolling & sliding combined movement under the certain contact pressure to complete point, line and plane simulating tests. It can be used to evaluate the friction and wear performance of lubricant, metal, plastics, coating, rubber, ceramics etc. It can not only content with the needs of traditional petrochemical industry to research, develop and inspect the various kinds of intermediate & high grade hydraulic oil, combustion engine oil and gear oil. Also it can be tested under dry condition, but also the needs of simulating evaluation to new material development and new technology research.

## 2.Conformed Standards:

ASTM D-2266, D-3702, D-4172.

## 3.Main Specifications:

| <b>1.Test Force</b>                                     |                                                                            |                                                         |
|---------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|
| <b>NO.</b>                                              | <b>Item</b>                                                                | <b>Specification</b>                                    |
| <b>1.1</b>                                              | Axial Test Force Working Range                                             | 1N~1000N (Stepless)                                     |
| <b>1.2</b>                                              | Relative Error Of Load Indicating Value                                    | ±1 %                                                    |
| <b>1.3</b>                                              | Discriminability Of Test Force Indicated Value                             | ±1.5 N                                                  |
| <b>1.4</b>                                              | Test Force Automatic Loading Rate                                          | 400 N/min                                               |
| <b>1.5</b>                                              | Relative Error Of Test Force Automatic Hold Indicated Value In A Long Time | ±1 %                                                    |
| <b>2.Friction Moment</b>                                |                                                                            |                                                         |
| <b>2.1</b>                                              | Max. Testing Friction Moment                                               | 2.5 N.m                                                 |
| <b>2.2</b>                                              | Relative Error Of Friction Moment Indicating Value                         | ±2 %                                                    |
| <b>2.3</b>                                              | Friction Force Weighing Transducer                                         | 50 N                                                    |
| <b>2.4</b>                                              | Friction Force Arm Distance                                                | 50 mm                                                   |
| <b>3.Spindle Stepless Speed Variation Range</b>         |                                                                            |                                                         |
| <b>3.1</b>                                              | Stepless Speed Variation                                                   | 5~2000 r/min                                            |
| <b>3.2</b>                                              | Error Of Spindle Speed                                                     | ±1 %                                                    |
| <b>4.Test Medium: Oil, Water, Slurry, Abrasive etc.</b> |                                                                            |                                                         |
| <b>5.Heating System</b>                                 |                                                                            |                                                         |
| <b>5.1</b>                                              | Heater Working Range                                                       | Room Temperature ~200℃<br><b>(Can Be Customed 260℃)</b> |
| <b>5.2</b>                                              | Disc heating plate                                                         | φ65, 220V, 250W                                         |
| <b>5.3</b>                                              | Jacketing Heater                                                           | Φ68*44, 220V, 300W                                      |
| <b>5.4</b>                                              | 4φ3 dual-output platinum resistance thermometers:                          | RO=100±0.1Ω (one long and one short set)                |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 5.5                                                             | Temperature Measuring Control Accuracy                                                                                                                                                                                                                                                                                                                                                                                 | $\pm(0.3+0.005t)^{\circ}\text{C}$<br>(“t” Is Absolute Value Of Test Temperature) |
| <b>6.Conicity Of Spindle Of Testing Machine: (1:7)</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |
| <b>7.Max. Distance Between Spindle And Lower Disc: &gt;75mm</b> |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |
| <b>8.Testing Machine Spindle Control</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |
| 8.1                                                             | Manual Control                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                  |
| 8.2                                                             | Time Control                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |
| 8.3                                                             | Rotate Speed Control                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                  |
| 8.4                                                             | Friction Moment Control                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                  |
| 9                                                               | Time Display & Control Range                                                                                                                                                                                                                                                                                                                                                                                           | 10 s~9999 min                                                                    |
| 10                                                              | Rotate Speed display & control Range                                                                                                                                                                                                                                                                                                                                                                                   | (1~99) * 105                                                                     |
| 11                                                              | Output Max. Moment Of Main Motor                                                                                                                                                                                                                                                                                                                                                                                       | 5 N.m                                                                            |
| 12                                                              | Overall Dimension (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                              | 860*740*1560 mm                                                                  |
| 13                                                              | Net Weight                                                                                                                                                                                                                                                                                                                                                                                                             | 650 KG                                                                           |
| 14                                                              | Power Supply                                                                                                                                                                                                                                                                                                                                                                                                           | 380V, 50Hz.                                                                      |
| 15                                                              | <b>Computer &amp; Data Processing Range:</b><br>Apply industrial control computer and configuration software to control the machine and test process, display different parameters in real time, record friction-time curve and temperature-time curve automatically.<br>Control: Load, time, temperature, test duration.<br>Curves: Temperature-Time, Friction- torque and Time etc.<br>Data can be printed by Excel. |                                                                                  |

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