

# VT-3.0

## Vacuum Tribometer

ASTM G99, ASTM G133

The VT-3.0 is our third generation vacuum tribometer that is now modular and more capable than ever. Easily switch from manual to automatic loading, change test modes from rotary to angular oscillation and even linear oscillation.

Available in both desktop and floor standing formats to accommodate your space requirements.

### Features

- Built for extreme tribology
- Rough, Medium and High Vacuum tests
- Fast chamber evacuation (<45 mins)
- Ultra low and high temperature options
- Automatic or manual loading for full flexibility
- Continuous rotation and angular oscillation modes are standard
- Linear oscillation available as an option
- Automatic wear track control is standard
- Computer controlled operation

### Applications

- Friction and wear behavior of advanced materials
- Space mechanism lubricants
- Coating, films and adhesives under high vacuum conditions
- Ion propulsion engines
- Spacesuits, satellite, moving mechanical assemblies and seals
- Particle accelerators
- Chemical Vapor Deposition (CVD) / Plasma Vapor Deposition (PVD)
- Semiconductor Equipment
- High vacuum and Cryogenic Processes

### Modular & easy to use

The VT-3.0 makes extreme tribology easy. Modular sensors, loading, motion and environment options. Large ports for observation and customization makes the VT-3.0 future ready for any technique you want to add to your tester. The access door opens wide for convenient test setup, cleaning and maintenance.



### Specifications

|                       |                                                                                                                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotation              | Standard: 3000 rpm<br>Optionm: 5000 rpm                                                                                                                                                                                                              |
| Angular reciprocation | Angle: 5 to 180 degrees<br>Frequency: 20 Hz Max<br>Maximum allowable parameters change depending on load, COF, angle and frequency.                                                                                                                  |
| Loading               | Deadweight: 200 N<br>Automatic: 200 N<br>(Optional. High frequency feedback controlled servo loop)                                                                                                                                                   |
| Environment           | <ul style="list-style-type: none"> <li>• Vacuum level: 10<sup>-7</sup> torr</li> <li>• Chamber evacuation time: &lt;45 mins</li> <li>• Polished chamber</li> <li>• Viewing and customization ready ports</li> <li>• Inert gas environment</li> </ul> |
| Sensing               | <ul style="list-style-type: none"> <li>• High sensitivity capacitive friction sensor</li> <li>• Ambient temperature sensor</li> <li>• Sample temperature sensor</li> <li>• Vacuum level sensor</li> </ul>                                            |