



Mechanical-Bearing, Direct-Drive Rotary Stage

WaferMaxT



High Performance in a Low-Height Package

WaferMaxT meets the extreme precision and throughput demands of cutting-edge wafer processing applications. Its ironless motor provides ultra-smooth, high-dynamic motion free from parasitic forces. Outstanding geometric performance minimizes axial-, radial- and tilt-error motions, helping to ensure superior process stability. Its high-stiffness yet low-profile design—with a large, clear aperture and optional rotary union—simplifies integration into compact, high-performance systems and machines. Choose WaferMaxT to improve process capability, increase throughput and maximize yield in critical wafer processing applications.

Key Applications

WaferMaxT is ideal for wafer processing applications and more, including:

- ◆ Wafer inspection & metrology
- ◆ Advanced packaging
- ◆ High-precision wafer handling & orientation
- ◆ Photolithography & mask/reticle alignment
- ◆ Photonic Integrated Circuit testing

KEY FEATURES:

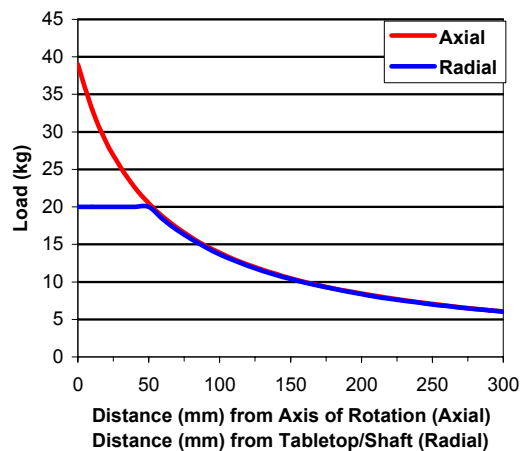
- ◆ Superior mechanical architecture **MAXIMIZES THROUGHPUT & MINIMIZES ERROR MOTIONS**
- ◆ Ironless motor delivers **SMOOTH MOTION** with exceptional dynamic capabilities
- ◆ **LOW-PROFILE DESIGN** for space-constrained applications eases assembly & integration
- ◆ Optional single-port rotary union provides **EASY-ACCESS PNEUMATIC SERVICE** to wafer chucks
- ◆ Combines effortlessly with **WAFERMAXZ** to create a compact & effective **Z-THETA SOLUTION**

WAFERMAXT SPECIFICATIONS

WaferMaxT		
Travel	360 degrees, continuous	
Tabletop Diameter	106.7 mm	
Drive System	Direct drive brushless servomotor	
Maximum Bus Voltage	Up to 340 VDC	
Maximum Torque (Continuous)	5.99 N·m	
Accuracy ⁽¹⁾	±25 µrad (±5 arc sec)	
Repeatability (Bi-Directional)	±10 µrad (±2 arc sec)	
Tilt Error Motion	97 µrad (20 arc sec)	
Axial Error Motion	5 µm	
Radial Error Motion	5 µm	
Maximum Speed	400 rpm (unloaded)	
Maximum Load ⁽²⁾	Axial	40 kg
	Radial	20 kg
Inertia	0.008130 kg·m ²	
Mass	7.0 kg	
Material	Aluminum	
Finish	Black Anodize	

Notes:

1. Available with Aerotech controllers.
2. Maximum loads are mutually exclusive.
3. Specifications are for single-axis systems, measured 25 mm above the tabletop. Performance of multi-axis systems is payload and workpoint dependent. Consult factory for multi-axis or non-standard applications.



Axial and Radial Cantilevered Load Capability (WaferMaxT)



The WaferMaxT easily combines with the WaferMax Z to provide a compact, 2-axis solution for alignment and focus.

WAFERMAXT ORDERING OPTIONS

Feedback

-E3 Incremental encoder, 10052 lines/rev, 1 Vpp

WaferMaxT Options

-RU1 Single-port rotary union for air/vac feed-through

Integration (Required)

Aerotech offers both standard and custom integration services to help you get your system fully operational as quickly as possible. The following standard integration options are available for this system. Please consult Aerotech if you are unsure what level of integration is required or if you desire custom integration support with your system.

-TAS Integration - Test as system

Testing, integration and documentation of a group of components as a complete system that will be used together (ex: drive, controller and stage). This includes parameter file generation, system tuning and documentation of the system configuration.

-TAC Integration - Test as components

Testing and integration of individual items as discrete components. This is typically used for spare parts, replacement parts or items that will not be used or shipped together (ex: stage only). These components may or may not be part of a larger system.



WAFERMAXT DIMENSIONS

