WAFER HANDLING VACUUM ROBOTS
V2 Series 3-Axis

FEATURES
• Excellent structural rigidity
• Maximum reliability and precision
• Wafer handling from 50 mm to 300 mm
• MTBF: > 50,000 operating hours
• Industry standard footprint and mounting configurations
• Modular concept with multiple standard configurations and various communication interfaces
• Autocalibration™ Technology assures ease of calibration for overall machine accuracy

BENEFITS
• Higher Availability
  - High reliability translates into less downtime and more uninterrupted production to achieve greater yields and faster delivery times
• Lower Tool Development Costs
  - Modular design of robots enable faster development of tools

CONFIGURABLE PRECISION ROBOTS MEET THE STRINGENT DEMANDS OF ANY WAFER HANDLING SYSTEM

Today’s wafer handling manufacturers demand world-class throughput, maintainability and reliability. Moog wafer handling vacuum robots meet those needs with a durable, uncomplicated hardware design, sophisticated real-time motion control and multiple arm sets for greater capability.

The V2 Series 3-axis robot handles wafers up to 300 mm with high precision and reliability. Brushless DC servo motors and absolute encoders, coupled with direct-drive Harmonic Drive* gears, ensure extremely high reaction capability and precise, trouble-free arm movements. The result is a fast and highly reliable robot with a demonstrated mean cycle between failures of > 50,000 operating hours.

Coupled with the advanced capabilities of Moog's BX-300 controller, this robot delivers a whole new level of performance for your wafer handling systems.
V2 Series

Configuration
Wafer Size | Up to 300 mm
Mounting Configurations | Top flange standard
| Custom flanges available

Robot Body
Body Diameter | 238 mm
Flange Diameter | 280 mm
Body Length | 459 mm
Weight | 24-26 kg (with arms)

Operating Properties
Payload Capacity
Standard | 1 kg
Heavy Duty | 4 kg
Range of Motion:
T | Unlimited
R | Arm dependent
Z | 34 mm
Maximum Speed
T | 300°/sec
R | 500 mm/sec
Z | 85 mm/sec
Repeatability
T | ±0.02°
R | ±0.05 mm
Z | ±0.05 mm
Cleanliness | Class 1

Controller
Interfaces | Ethernet, RS-232 serial
Input Power | 120 VAC, 2-5A typ. (motor drive)
| 24 VDC, 2A plus user I/O (logic and I/O)
User I/O | 24 VDC I/O available for user integration
Size | 290 mm x 219 mm x 86 mm
Weight | 5.2 kg

Arm Dimensions
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With a 6-axis motion controller, these Vacuum robots can easily control multiple applications such as elevators and vacuum aligners. Moog’s BX-300 controller adds a host of advanced capabilities such as autocalibration, dynamic wafer calibration for on-the-fly detection and correction of wafer centering, and advanced path planning to maximize throughput and smooth handling.

BX-300™ Controller
• Pre-integrated controls—reduce cost, and time to market
• Advanced software: already written, integrated, proven
• 6 internal drives, and 8 axes of motion control

Vacuum Prealigners
• Multiple wafer sizes
• Kit available for integration into customer chamber

Vacuum Elevators
• Fully integrated into control system

End Effectors
• Pocket type
• Custom designs for your application

Moog has offices around the world.
For more information or the office nearest you, contact us online.

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Moog V2 Series 3-Axis Vacuum Robots
T/W/Rev.-, October 2011, Id. CDL32922-en