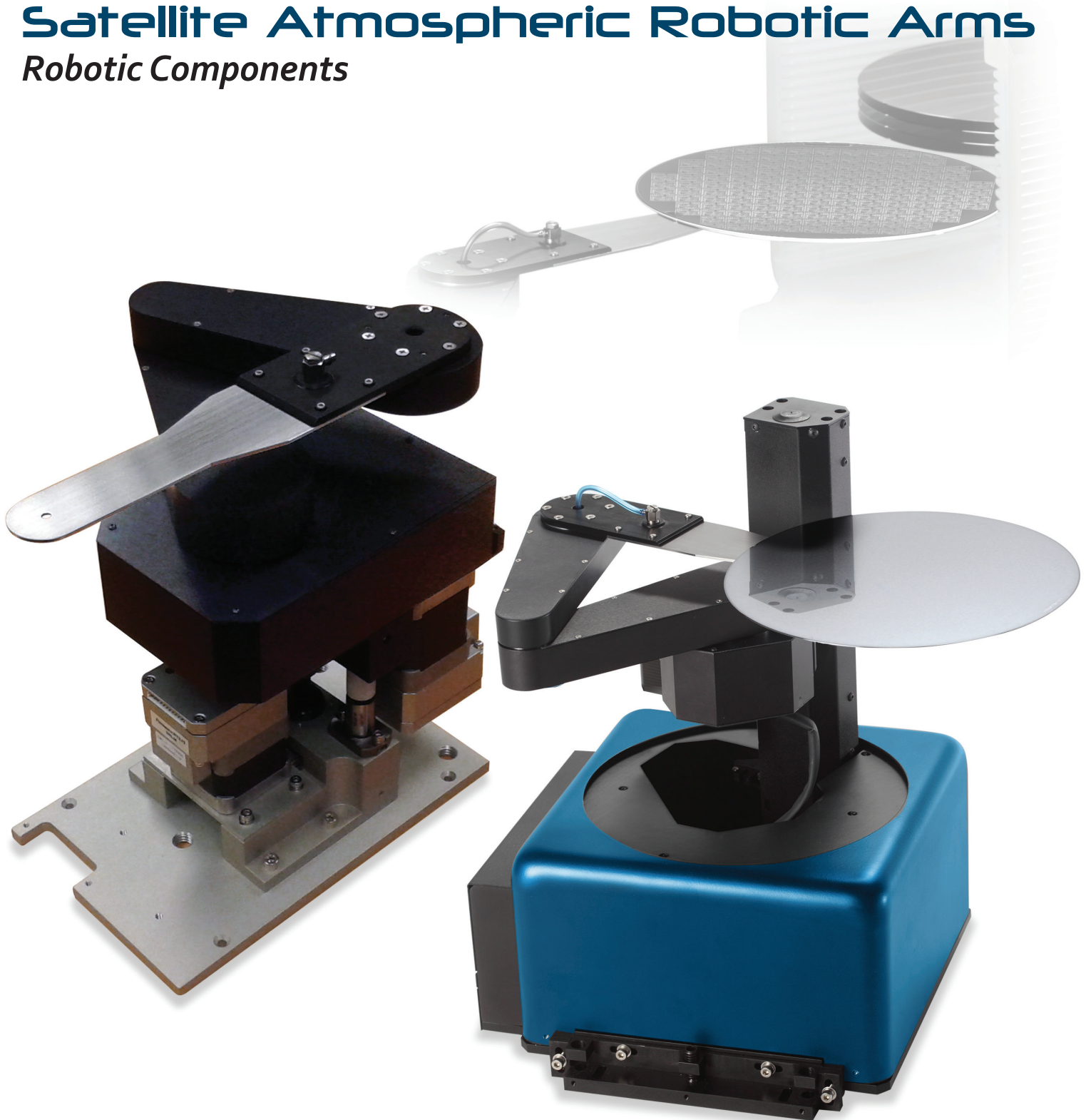




# Satellite Atmospheric Robotic Arms

*Robotic Components*





# HAtm-5.0 Atmospheric Robotic Arm

## Robotic Components

### FEATURES

- High reliability of > 10 million MCBF
- 3-axis servo motion control
- Pay load up to 0.5kg
- Standard and custom size arm segments
- Standard and custom end effectors for SEMI standard wafers and custom substrates
- Compact design including integrated controller
- RS-232 / Ethernet control interface
- The best replacement for the Zbot robot

### OPTIONS

- End effector types: Vacuum chuck, Edge gripper
- Wafer mapping sensor
- Single / Dual end effector blades
- Custom vertical strokes
- Track mounting
- Custom payloads



**HAtm-5.0**

Hine Automation's Atmospheric Robotic Arms are the next generation atmospheric SCARA Robots. Designed to transfer semiconductor substrates to and from cassettes for substrates 200mm or smaller, the HAtm-5.0 is capable of handling all aspects of the material control at various levels of host interfacing. Thanks to its onboard controller, the integration of the HAtm-5.0 with OEM systems requires only power and a communications interface. The HAtm-5.0 offers identical command sets as the Zbot II robot and can be used as its replacement.



# HAtm-4.0 Atmospheric Robotic Arm

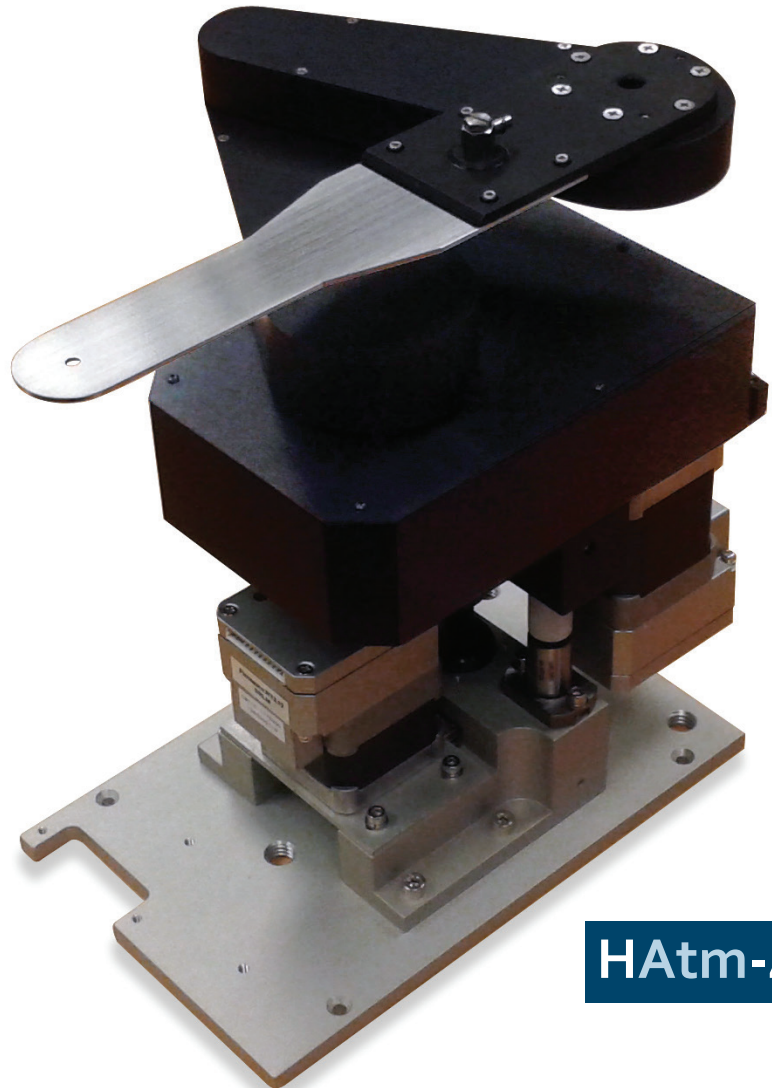
## Robotic Components

### FEATURES

- High reliability of > 10 million MCBF
- 3-axis servo motion control
- Pay load up to 0.5kg
- Standard and custom size arm segments
- Standard and custom end effectors for SEMI standard wafers and custom substrates
- Compact design including integrated controller
- RS-232 / Ethernet control interface
- The best replacement for the Orbitran robot

### OPTIONS

- End effector types: Vacuum chuck, Edge gripper
- Wafer mapping sensor
- Single / Dual end effector blades
- Custom vertical strokes
- Track mounting
- Custom payloads



**HAtm-4.0**

Hine Automation's Atmospheric Robotic Arms are the next generation atmospheric SCARA Robots. Designed to transfer semiconductor substrates to and from cassettes for substrates 200mm or smaller, the HAtm-4.0 is capable of handling all aspects of the material control at various levels of host interfacing. Thanks to its onboard controller, the integration of the HAtm-4.0 with OEM systems requires only power and a communications interface. The HAtm-4.0 offers identical command sets as the Orbitran Robot and can be used as its replacement.



# Satellite Atmospheric Robotic Arms

## Robotic Components

	HAtm-4.0	HAtm-5.0
Z-Travel	10mm Up from the Home Position	184mm Up from the Home Position
Rotational Travel	365° CW from the Home Position	
Reach	329mm from Home Position (with 114mm standard arms)	465mm from center (with 140mm standard arms)
Z-Repeatability	±0.05mm (measured at the wrist)	±0.03mm (measured at the wrist)
Reach Repeatability	±0.1mm (measured at the wrist)	±0.03mm (measured at the wrist)
Rotational Repeatability	±0.01° (measured at the wrist)	
Z-Speed	±450mm/s	
Reach Speed	±1000mm/s	
Rotational Speed	±360°/s	
Maximum Payload	0.5 Kg (standard configuration)	
Power	24VDC @ 3.0 Amps	24VDC @ 7.0 Amps
Weight	5 Kg	14 Kg
MCBF	> 1.5 x 10 <sup>7</sup> Cycles	
Stations Available	60	
Position Teaching	Teach Utility Included	
Control Interface	Digital, RS-232 and Ethernet	Digital, RS-232 & Ethernet

CONNECTOR  
PANEL



## About Hine Automation

Hine Automation, LLC is a designer and manufacturer of automation systems and robotic components. We serve Original Equipment Manufacturers (OEMs) in the semiconductor, solar, flat panel display and related industries across the globe. Our robotic components satisfy a wide range of needs; from flexible research and development environments to stringent manufacturing environments. Combining our unsurpassed quality and reliability with modular and versatile designs to meet today's automation challenges, our products provide functional and economical solutions.

## Our Mission

Our goal is to design and manufacture the most cost effective automation solutions and deliver unparalleled customer service and support.

## Our Strengths

- Demonstrated Reliability
- Cost Effective Solutions
- Custom Solutions
- Lightning Speed Response and Turn-around Times
- Knowledge, Experience-driven Designs

## Our Products

- **Cluster Systems:**  
Constellation Systems
- **Automated Load Locks:**  
Star Systems
- **Robotic Components:**  
Vacuum Robotic Arms  
Vacuum Elevators  
Vacuum Aligners  
Atmospheric Robotic Arms  
Atmospheric Elevators  
Atmospheric Aligners

