

SL-200C/300C

A UNIQUE CASSETTE LOAD LOCK SYSTEM

The SL-200C/300C combines the Wafer Transfer functionality of a Load Lock with the batch processing of a Cassette Load Port system to transfer wafers into (and out of) the process chamber under vacuum conditions. The SL-200C/300C is for exclusive use in a clean room or similar environments and functions as an intelligent material handling sub-system with the ability to process more wafers between venting cycles.

The SL-200C/300C supports the following benefits and features:

- ▶ **High Throughput with Cassette Processing** – Utilizing a cassette within this design offers the ability to process more wafers between venting cycles compared to a single wafer unit.
- ▶ **Plug and Play Vacuum Transport System** – Connect to Power and Communications interface. Then Connect Vacuum Plumbing and begin teaching the system to your specific application needs.
- ▶ **Reduced System Footprint** – Combines two distinct units into one, reducing the need for multiple systems and saving on manufacturing space.
- ▶ **Cassette Mapping** – Scans the cassette for wafer availability before the transfer process to improve efficiency.
- ▶ **Wafer/ Cassette Sensors** – designed features that assist in system readiness with wafer protrusion and cassette present checks prior to motion.
- ▶ **Universal Head Plate** - for use with a variety of wafer cassette types.



SL-200/300C

FEATURES

- ▶ Plug and Play Vacuum Transfer System
- ▶ Safety Interlock
- ▶ Ease of Operation
- ▶ Wafer/Cassette Sensors
- ▶ Accessibility
- ▶ Reduced System Footprint
- ▶ High Throughput with Batch Processing
- ▶ Compatible with High Vacuum Environments
- ▶ Linear Motion Mechanisms (RS-232, Ethernet, DeviceNet)

OPTIONS

- ▶ SEMI Standard and Custom End Effectors
- ▶ Motor Integration
- ▶ Vertical Motion Mechanism – Z-lift
- ▶ Horizontal Reach
- ▶ Substrate Size
- ▶ Plumbing: Vacuum/Gas
- ▶ Slit Valves: SMC/VAT
- ▶ Payload



SL-200C/300C Specifications

The table below describes the basic features of the SL-200C /300C.

SL-200C/300C Specifications		
Feature	SL-200C	SL-300C
General		
Wafer Sizes	≤200mm [†]	≤300mm [†]
Pay Load (Std/Hi Load)*	1.5kg/5.0kg	1.5kg/5.0kg
Mounting facet	200mm MESC	300mm MESC
Axes of Motion	R,Z	R,Z
Input Power	24 VDC 2.0 Amps	24 VDC 2.0 Amps
Maximum Temperature	100°C (higher available on request)	
Exposed Materials	6061-T6 Aluminum, Stainless Steel 300 and 400 Series, Viton, Borosilicate Glass, Crytox, Delrin, PEEK	
Control Interface	RS-232/ Ethernet	
CE	Compliant	
Vacuum Performance		
Leak Rate	2.0 x 10 ⁻⁸ sec He/sec <	2.0 x 10 ⁻⁸ sec He/sec
Base operating pressure	8x10 ⁷ Torr (w/Turbo)	< 8x10 ⁷ Torr (w/Turbo)
Repeatability[‡]		
R	±0.15mm	
Z (wafer)***	±0.10mm	
Max. Reach (measured from edge of slit valve)		
75mm Wafer	360mm	477mm
100mm Wafer	347mm	465mm
125mm Wafer	335mm	453mm
150mm Wafer	322mm	440mm
200mm Wafer	297mm	415mm
300mm Wafer	N/A	365mm
Vertical Stroke***	0.5°	0.5°

KEY

- † = SEMI Standard sizes: Custom end effectors available upon request.
- * = Standard and High-Load designs available; End effector design varies with payload.
- *** = Vertical stroke is optional.

HA-51V Specifications

HA-51V ELEVATOR OVERVIEW

The HA 51V ELEVATOR is designed to run in a vacuum environment. The built in controller provides host interface via RS-232 or TCP/IP and the commands are the same for both interfaces.

The lift mechanism uses a carriage mounted on two linear guide rails that is driven by ball screw and a brushless servo motor with integrated encoder and brake.

The chart below describes the basic feature specifications of the HA-51V Elevator.

Specifications – HA-51V Elevator	
Vertical Motion (Z-Axis)	305mm (Extended)
Product Weight (Elevator)	16kg (35 lbs.)
Reliability MCBF	3+ M Cycles
Repeatability (Z-Axis - cassette)	± 0.05mm (0.004 in.)
Payload Capacity (Std/High Load)	Up to 34 kg.
Input power	24 VDC at 2.5 Amps
Maximum temperature	100°C Maximum
Control Interface	RS-232 / Ethernet control interface
CE/SEMI S2	Compliant

