

# FlexTRAK™ -WF Plasma System

Wafer Module

## Features and Benefits

- Dual cassette load stations to minimize idle time
- Multi-size capable aligner with minimal hardware change-over required
- Robust robotic wafer engine
- Integrated wafer recognition for high reliability wafer handling
- Compact design minimizes floor space
- Highly uniform treatment and fast throughput



## Superior Plasma Technology for High Throughput Wafer Processing

The FlexTRAK-WF Plasma System is designed for high-throughput processing of semiconductor wafers (and other flat substrates) in sizes ranging from 3 in. to 200mm (8 in.) in diameter, for wafers held in open cassettes.

The patented FlexTRAK plasma chamber design provides exceptional etch uniformity and process repeatability. Primary plasma applications include a variety of etching, ashing, and descum steps. Other plasma processes include contamination removal, surface roughening, increasing wettability, and enhancing bonding and adhesion strength.

## Applications

Wafer processing prior to typical back-end packaging steps - suitable for wafer-level packaging, flip chip, or traditional packaging.

## Wafer Cleaning

- Remove contamination prior to wafer bumping
- Remove organic contamination
- Remove Fluorine and other halogen contamination
- Remove metal and metal oxides
- Improve spun-on film adhesion
- Clean Aluminum bond pads

## Wafer Etching

- Descum wafer of residual photoresist / BCB
- Pattern dielectric layers for redistribution
- Strip / Etch photoresist
- Enhance adhesion of wafer-applied materials
- Remove excess wafer-applied mold / epoxy
- Enhance adhesion of gold, solder bumps
- Destress wafer to reduce breakage
- Improve spun-on film adhesion
- Clean Aluminum bond pads

## High Throughput Processing

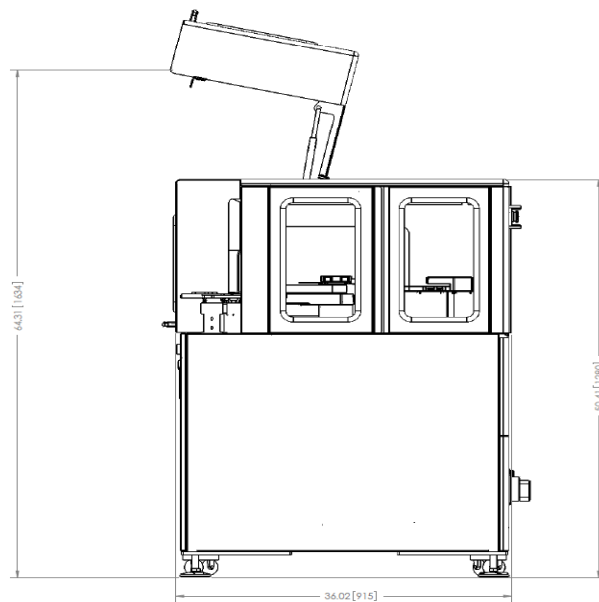
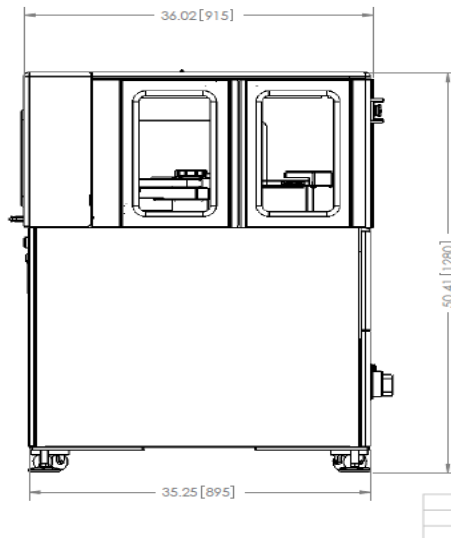
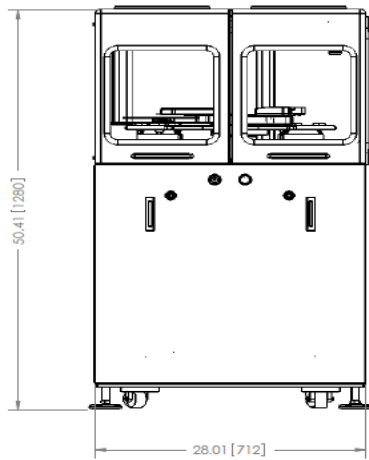
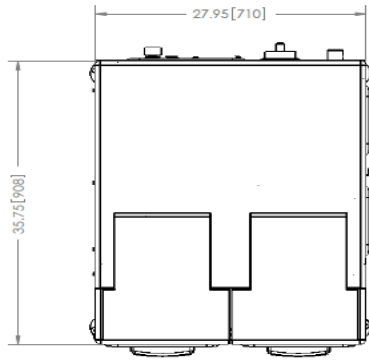
The FlexTRAK-WF system's integrated semiconductor wafer handling system provides rapid material transfer for a wide range of wafer sizes. Processing can be done from most types of wafer cassettes.

The patented chamber design and control architecture enables short plasma cycle times with very low overhead, ensuring that throughput for your application is maximized and cost of ownership is minimized.

## Specifications: FlexTRAK - WF

<b>Enclosure Dimensions</b>	<b>W x D x H – Footprint</b>	1094W x 1170D x 1700H mm (10.3W x 46D x 63H in.) 1094W x 1170D x 2185H mm (10.3W x 46D x 86H in.) with wafer loading doors open
	<b>Net Weight</b>	295kg (650lbs)
	<b>Effective Footprint – Clearances</b>	Right, Left, Back - 153mm (6 in.), Front - 914mm (36 in.) min.
<b>Chamber</b>	<b>Dimensions</b>	330W x 330D x 50H mm (13W x 13D x 2H in.)
	<b>Volume</b>	5.5 liters (338 in <sup>3</sup> )
	<b>Variable Electrode Configurations</b>	150mm, 200mm and 300mm Wafer Sizes
<b>Electrodes</b>	<b>Powered Electrode Dimensions - Working Area</b>	305W x 305D (mm); 12W x 12D (in.)
<b>RF Power</b>	<b>Standard Wattage</b>	600W
	<b>Frequency</b>	13.56 MHz
<b>Gas Control</b>	<b>Maximum Number of MFCs</b>	4
<b>Control System</b>	<b>Interface</b>	PLC Control with PC Based Touch Screen Interface
<b>Vacuum Pump</b>	<b>Dry vacuum pump</b>	16 CFM, Variable Frequency Drive
<b>Facilities</b>	<b>Power Supply</b>	220V, 30A, 50/60Hz, 1Ø, 12AWG, 3W
	<b>Process Gas Fitting Size &amp; Type</b>	.25-in. OD Swagelok Tube
	<b>Purity</b>	Industrial grade or better
	<b>Pressure &amp; Flow</b>	Regulated from .69bar (10PSI) min. to 1bar (15PSI) max.
	<b>Purge Gas Fitting Size &amp; Type</b>	.25-in. OD Swagelok Tube
	<b>Purity</b>	Industrial grade Nitrogen or CDA
	<b>Pressure &amp; Flow</b>	Regulated from 2bar (30PSI) min. to 5.5bar (80PSI) max.
	<b>Pneumatic Valves Fitting Size &amp; Type</b>	.25-in. OD Swagelok Tube
	<b>Purity</b>	CDA, Oil Free, Dewpoint <=7°C /45°F, Particulate Size <5 micron
	<b>Pressure &amp; Flow</b>	Regulated from 3.4bar (50PSI) min. to 5.5bar (80PSI) max.
	<b>Exhaust</b>	25.4mm (1 in.) OD Pipe Flange
	<b>Vacuum Source</b>	-40 kPa (-5.8 psi)
	<b>Compliance</b>	<b>Semi S2/S8</b>
<b>CE Marked</b>		Yes
<b>Ancillary Equipment</b>	<b>Optional Equipment</b>	Nitrogen generator, Hydrogen generator (Requires Additional Non-Optional Hardware), Scrubber
<b>Shipping</b>	<b>Crate Dimensions</b>	1397W x 1067L x 2032H mm (55W x 42L x 80H in.)
	<b>Gross Weight</b>	445kg (950lbs)

# Nordson MARCH FlexTRAK-WF Plasma System Footprint Drawings



## FlexTRAK-WF Wafer Size & Throughput Chart

Wafer Size (width)	Wafers Per Hour (WPH)*
3 in.	50
100 mm	50
125 mm	50
150 mm	50
200 mm	50

\*Based on a plasma time of 30 seconds



Nordson MARCH FlexTRAK-WF with open wafer loading door

**For more information,  
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*FlexTRAK-WF Reformatted Rev. A*

