

# FlexTRAK-BH™ Plasma Treatment System

**March**  
A NORDSON COMPANY

## SUPERIOR PLASMA TECHNOLOGY FOR HIGH-THROUGHPUT BOAT PROCESSING

The FlexTRAK-BH system is designed for high-throughput processing of microelectronic boats, trays, or other flat device carriers, up to 2 boats per plasma cycle. The patented plasma chamber design provides exceptional uniformity and process repeatability. Its three axis symmetrical chamber ensures all areas of the product are treated uniformly, while tight control over all process parameters ensures highly repeatable results.

The universal architecture of the FlexTRAK-BH system accommodates a wide range of boat sizes in the same system, yielding unmatched production flexibility. Its small chamber volume and proprietary process control system provide short cycle times, with high machine autonomy.

### APPLICATIONS

Plasma processes for pre-die attach, pre-wire bond, pre-mold and post-mold.

#### Contamination Removal & Cleaning

- Fluorine & other halogens
- Metals & metal oxides
- Organic compounds

#### Etching

- Modify substrate to improve adhesion of components mounted post-processing
- Modify surface of substrate to improve mold material adhesion and reduce delamination

#### Surface Activation

- Improve adhesive flow to eliminate voids and enhance adhesion
- Improve mold material flow to eliminate voids and reduce wire sweep
- Improve underfill to eliminate voids, enhance adhesion, increase wicking speed and maintain uniform fillet height



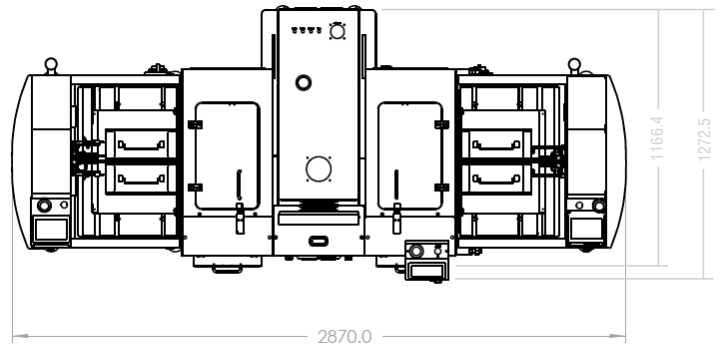
### HIGH-THROUGHPUT PROCESSING

The FlexTRAK-BH system's integrated boat handling system provides rapid material transfer for a wide range of boat sizes, up to 2 boats per plasma cycle. Processing can be done with most types of boats, trays and flat carriers. The patented chamber design and control architecture enable short plasma cycle times with very low overhead, ensuring that throughput is maximized and cost of ownership is minimized.

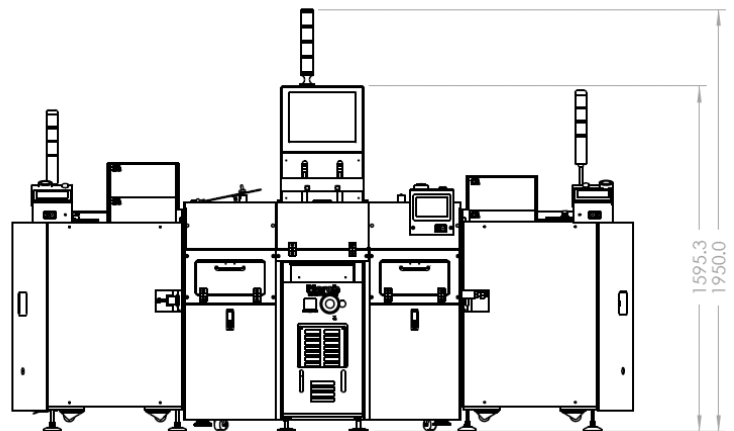
### FEATURES AND BENEFITS

- Highly uniform plasma treatment
- Production-ready boat/carrier handling
- High machine autonomy
- Service components accessible via front pull-out shelves
- High throughput and low cost of ownership
- Suitable for FlipChip and other advanced packages

FlexTRAK-BH System Specifications	
Enclosure	Powder-coated aluminum Completely houses the process chamber, electronics, pump and generator
Chamber	Material: Nickel-plated aluminum with aluminum fixturing Part Envelope: 305 x 305 x 50 mm (12.0 x 12.0 x 2.0 in.) Flexible Geometries for Inlet Gas Flow
RF Power	600 W, solid state 13.56 MHz
Gas Control	Two (2) Mass Flow Controllers: 100 SCCM, 250 SCCM (other sizes available upon request) Up to four (4) MFCs optional
User Interface	Touch-screen PC with intuitive graphical user interface Unlimited alphanumeric recipe storage
Pump System	16 CFM Dry Pump Variable Frequency Drive for process consistency Suitable for corrosive gases
System Controls	Automatic Impedance Matching Network Temperature-Compensated Pressure Gauge
Facility Requirements	<b>System Dimensions W x D x H (with light tower):</b> 2870 x 1166 x 1950 mm (113 x 46 x 76 in.) <b>Power:</b> Single-phase 220VAC ± 10%, 20A, 50/60 Hz <b>Process Gases:</b> 6 mm (1/4 in.) compression fitting, 0.7-1.4 bar (10-20 PSI) *The system can accommodate a wide range of process gases <b>CDA:</b> (4x) 6 mm (1/4 in.) compression fitting, 5.5-6.9 bar (80-100 PSI) Flow: 23 L/min. @ 2.5 cycles/min. <b>N<sub>2</sub> or CDA (Chamber Purge):</b> 6 mm (1/4 in.) compression fitting, 5.5-6.9 bar (80-100 PSI) Flow: 25 L/min. @ 2.5 cycles/min. (Peak flow: 150 L/min.) <b>N<sub>2</sub> (Pump Purge):</b> 6 mm (1/4 in.) compression fitting, 0.7-3.5 bar (10-50 PSI) Flow: 1.65 L/min.
Compliance	Complete machine enclosure Light tower CE-certified SMEMA 1.2 compatible SEMI E-10 SEMI S-2



Dimensions: mm



**Boat Width & Throughput Chart**

Boat Size (width)	# Boats	Units Per Hour (UPH)*
50 to 160 mm	2	154
161 to 320 mm	1	77
*Capable machine rates		

Our Applications and Customer Service departments bring to you more than 20 years of experience in RF plasma technology.



March Plasma Systems reserves the right to make design changes to products and components to improve their function. These changes may occur between printings.

**Leading Plasma Innovations**

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