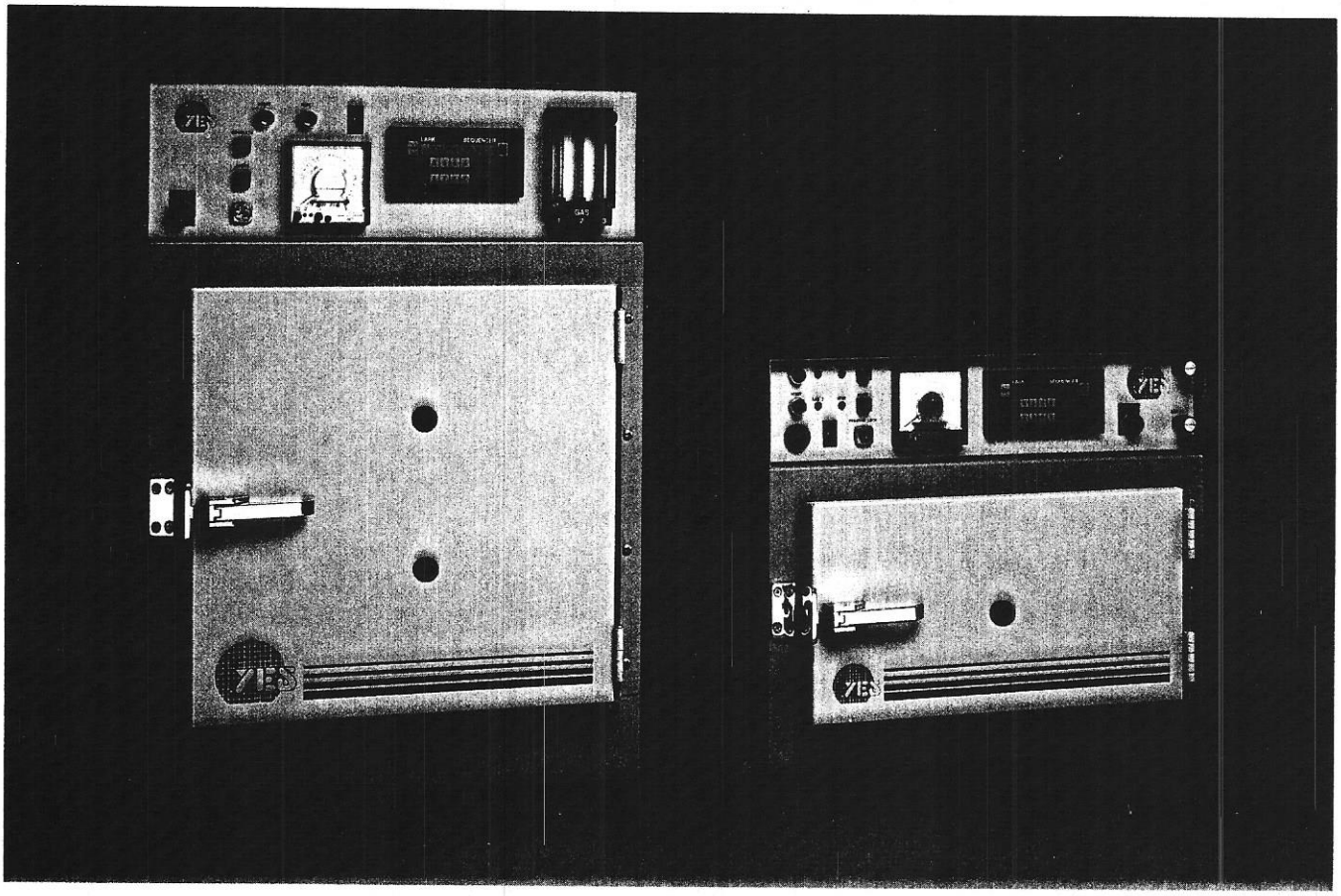


YES Models R1 and R3

YES R-Series

Plasma Cleaning Systems

The YES R-Series Plasma Cleaning Systems are CAPACITIVE DOWN-STREAM REACTORS built by Hybrid engineers for Hybrid engineers. Specifically they bring the following features to this demanding field.

Total Plasma Uniformity Across Planar Sample Shelves

Large Load Capability

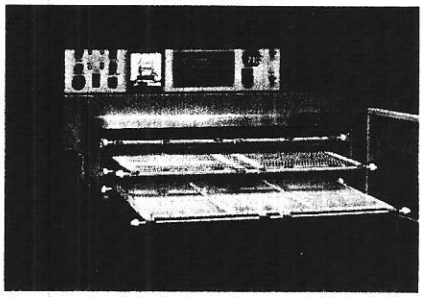
Constant Operating Settings, Independent of Load

No Electron Damage to Sample Surfaces

The systems are in routine use in Hybrid facilities throughout the world, providing a safe, reliable and flexible solution to their cleaning needs.

Production or R&D

The heart of the system is the Full-function, 1966 step, sequential microprocessor which allows input of up to 90 separate programs to suit a range of specific sample parameters. Subsequent re-runs of the sample type (irrespective of shelf loading) are achieved by simply selecting the applicable toggle switch position and pressing the "ON" switch.



YES Model R4

A key-lock mechanism prevents unauthorized entry into each program sequence.

Plasma Uniformity

The "downstream" plasma concept was designed and engineered to provide absolutely even plasma across the planar system shelves. A sample positioned at the shelf edge receives the same degree of cleaning as a sample positioned at the center of the shelf. The sample edges receive the same degree of cleaning as the center of the sample.

Large Load Capability

YES R4: 2 shelves 24 x 24 inches. Sample capacity 1,152 sq. inches.

YES R1: 5 shelves 12.75 x 12.75 inches. Sample capacity 812 sq. inches.

YES R3: 2 shelves 12.75 x 12.75 inches. Sample capacity 325 sq. inches.

A selection of electrode positions allow a variety of sample sizes (and sample configurations) to be positioned and cleaned on the sample shelves. (See our brochure, *"Advent of a winning design"*).

No Electron Damage Mode

A unique "electron trap" grid is positioned between the workshelves and the plasma source, preventing any electrons from reaching the sample surface. This is of particular importance with any sensitive samples such as C-MOS chips in which electron damage to the gates would destroy the device.

Active Mode

For more aggressive plasma, the system can be configured to perform in the active plasma mode where the sample shelf is at ground potential and the active electrode is positioned immediately above the sample with no intervening tray.

Multi-Gas Capability

The YES R1 and R4 Systems incorporate three microprocessor selectable gas inputs as standard.

The YES R3 System has a single gas input with an optional microprocessor selectable second gas input available.

Safety Management

All RF, Vacuum and Gas inlet control functions are double safety interlocked.

A "malfunction" tone and flashing light announces an Abort mode which will shut the instrument down in the event of depletion of input gas, vacuum failure, vacuum leak, arcing, etc.

An "Emergency Stop" button will also shut the system down in the event of an external hazardous situation.

Specifications

	YES R4	YES R1	YES R3
System Dimensions (excluding power supply)			
Width	35.5 inches (90 cm)	24 inches (61 cm)	24 inches (61 cm)
Depth	33 inches (84 cm)	22 inches (56 cm)	22 inches (56 cm)
Height	21.5 inches (54.5 cm)	34 inches (86.5 cm)	21 inches (53.5 cm)
Weight			
Shipping (International - includes crate)	450 lbs (204 kg)	370 lbs (168 kg)	315 lbs (143 kg)
Shipping (Domestic U.S.A. - blanket wrap)	305 lbs (139 kg)	230 lbs (105 kg)	175 lbs (80 kg)
Stand Alone	295 lbs (134 kg)	220 lbs (100 kg)	165 lbs (75 kg)
Facilities			
System	115V, 1.5A, 60 Hz, 1 Phase OR 220V, 0.8A, 50 Hz, 1 Phase	115V, 1.5A, 60 HZ, 1 Phase OR 220V, 0.8A, 50 HZ, 1 Phase	115V, 1.5A, 60 Hz, 1 Phase OR 220V, 0.8A, 50 Hz, 1 Phase
Power Supply	115V, 14A, 60 Hz, 1 Phase OR 220V, 7A, 50 Hz, 1 Phase	115V, 10A, 60 Hz, 1 Phase OR 220V, 5A, 50 Hz, 1 Phase	115V, 4A, 60 Hz, 1 Phase OR 220V, 2A, 50 Hz, 1 Phase
Pump	115V, 8A, 60 Hz, 1 Phase OR 220V, 4A, 50 Hz, 1 Phase	115V, 8A, 60 Hz, 1 Phase OR 220V, 4A, 50 Hz, 1 Phase	115V, 5A, 60 Hz, 1 Phase OR 220V, 2.5A, 50 Hz, 1 Phase
Exhaust	House exhaust	House exhaust	House exhaust
Vacuum	16 cfm Fomblinized Vacuum Pump	16 cfm Fomblinized Vacuum Pump	7 cfm Fomblinized Vacuum Pump

Features

Load Capacities	2 racks 24.0 x 24.0 inches providing 1,152 sq inches active work area	5 racks 12.75 x 12.75 inches providing 812 sq inch active work area	2 racks 12.75 x 12.75 inches providing 325 sq inch active work area
Design Concept	Capacitive, Parallel Plate, Downstream, Charge-Free Plasma or Active Plasma		
Watt Density	Adjustable 0.2-2.5 W/in^2	Adjustable 0.2-5.0 W/in^2	Adjustable 0.2-2.0 W/in^2
Multi-Task Rack Mount	Rack mount insert readily removed for service and configuration change		
Microprocessor	Lark full function 1966 step sequential microprocessor with multi-program capabilities. Key-lock to limit access to production programs		
Gas Inputs	Three microprocessor selected gas inputs	Three microprocessor selected gas inputs	One microprocessor selected gas input. Optional second and third microprocessor selected gas inputs

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