

Yield Engineering Systems

YES-1224 Silane Deposition System

Introducing the new YES-1224 Silane Chemical Vapor Deposition System. The YES-1224 system was designed to accommodate the challenging needs of the biotech industry. The YES-1224 has a chemical vapor delivery system, which introduces metered amounts of your chemical directly from your source bottle. The chemical is injected into a controlled temperature vaporization chamber. Then the controlled temperature delivery system feeds the vapors into a controlled temperature and pressure process chamber. This allows total dehydration of the substrates with delivery of a controlled volume of a single chemical or a mix of chemicals.

What does this mean to you? Quite possibly a savings of thousands of dollars every month in chemical savings, greater uniformity, a much greater yield due to the decreased failure rate, not to mention the savings in time and headache that comes with a wet chemical process. Send us your samples. We will be happy to show you what we are talking about!



Process Features

- ◆ Dual syringe pump configuration to facilitate two step chemical process without delay
- ◆ Room temperature source chemical system for quick changes
- ◆ Nitrogen purged source bottles to eliminate oxygen contamination and improve chemical shelf life
- ◆ Selectable volumetric parameters for greater chemical volume control
- ◆ Heated flash vapor chamber
- ◆ One inch diameter heated delivery line to reduce expansion cooling, while eliminating condensation and crystallization of process chemicals
- ◆ Two gas option availability
- ◆ Four zone-six sided chamber and vacuum line heating for greater process temperature uniformity and condensation elimination
- ◆ Heated diaphragm pressure control for condensation prevention and greater accuracy, independent of process chemical
- ◆ 16"X16"X18"-316L stainless steel chamber with configurable shelving facilitates many lot sizes and increases throughput
- ◆ Visual indication of all zone temperatures and flask/chamber pressures



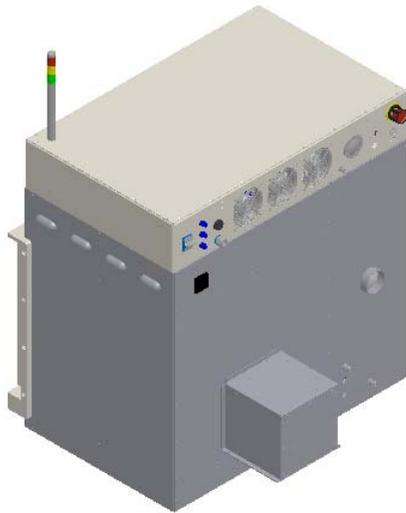
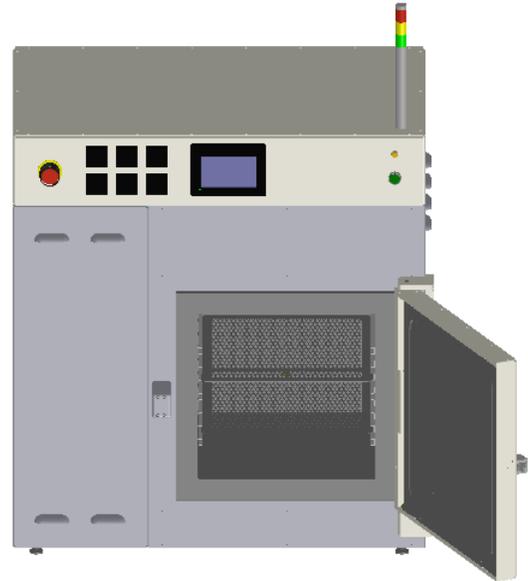
*Delivery and flask assemblies
Shown with covers removed*

Friendly user interface

- ◆ Front and rear EMO
- ◆ Audible and visual indication of complete, run, and alarm conditions
- ◆ 5" Touch screen

Powerful and Intuitive Software

- ◆ Graphical user interface
- ◆ Ethernet communications options
- ◆ Temperature set-point confirmation
- ◆ Option for Remote Data Acquisition, and Remote Recipe Editing
- ◆ Operator Help for alarm response



Designed for Reliability and Performance

- ◆ All components CE compatible & UL Listed or inspected & approved by UL registered inspectors
- ◆ 16 configurable shelf positions
- ◆ NFPA compliant
- ◆ Flask heater- pressure interlock for operator safety
- ◆ Redundant overtemp protection
- ◆ Stainless steel diffuser ports to control turbulence during process gas and nitrogen cycles

Processes include:

1. Chemical Vapor Treatment

Having worked with most of the originators and implementing customer request improvements to the chemical vapor deposition process, we have modified our systems to improve uniformity, flexibility, and greater control of deposition thickness.

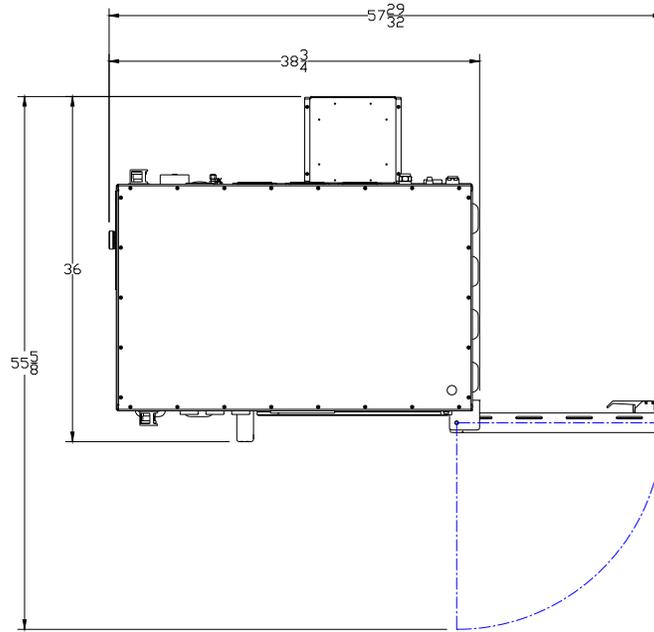
2. Anhydrous Ammonia Gas Image Reversal

Due to the simplicity of the process requirements and the design of the system, the YES-1224 gives excellent, consistent and stable processing results.

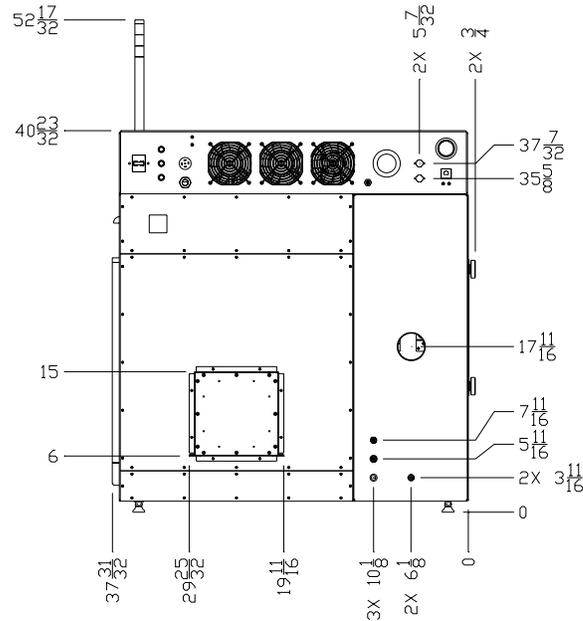
3. HMDS Silylation

As the only manufacturer of both batch and single wafer silylation and having worked with most of the originators of the silylation process, we have modified our systems to meet their needs and specifications.

**Exterior
Dimensions and
Footprint Data**



TOP VIEW



REAR VIEW

Power Requirements

Connection: single phase plug, NEMA 6-20P
Voltage: 208 VAC, Single Phase, 50-60 Hz
Amperage: 20-amp service
Wiring: 3 Wire (2 Lines and Safety Ground)
Power: 3600-Watts power consumption (estimated)
Disconnect Interrupt: 10,000 AIC

Chamber Vacuum

7 CFM pumping speed, ultimate pump down of 1×10^{-4} Torr
Connection: KF-25
Maximum Temperature: 250°C

High Pressure N₂/CDA

Dry filtered N₂ or CDA for pneumatics
Connection: ¼ compression fitting
Pressure: 15-20 psig
Maximum Flow: 2 scfm

Low Pressure N₂

Dry filtered N₂ or CDA for chamber venting and process gas flow
Connection: ¼ compression fitting
Pressure: 15-20 psig
Maximum Flow: 2 scfm

Gas 1

Dry filtered Ammonia or other gas for process gas
Connection: ¼ compression fitting
Pressure: 15-20 psig
Maximum Flow: 2 scfm

Piping Cabinet Exhaust

Connection: 2" duct collar
Vacuum: -0.2 inch water column
Flow Rate: 20 scfm
Maximum Temperature: 100°F

Machine Dimensions

Size: 52-17/32"(1334 mm) H X 38-3/4"(984 mm) W X 36"(914 mm) D