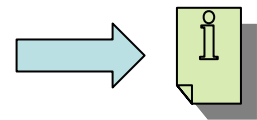
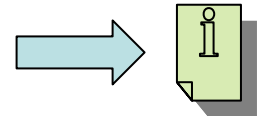




Guardian™ – Air born Molecular Contamination (AMC) Filtration

Brooks offers two solution for AMC Filtration:

- AMC filtration system directly attached to the Guardian. Customizable filter type to remove chemical compounds.
- External filtration system that in addition to filtering gases, provided both temperature and humidity control.



Value Proposition:

For customers using 193nm lithography looking to reduce concentration levels of ammonia, amines, sulfur compounds, (e.g., SO₂, SO₄) and organics to effectively control haze growth.





Guardian™ – Attached AMC Filtration

Features

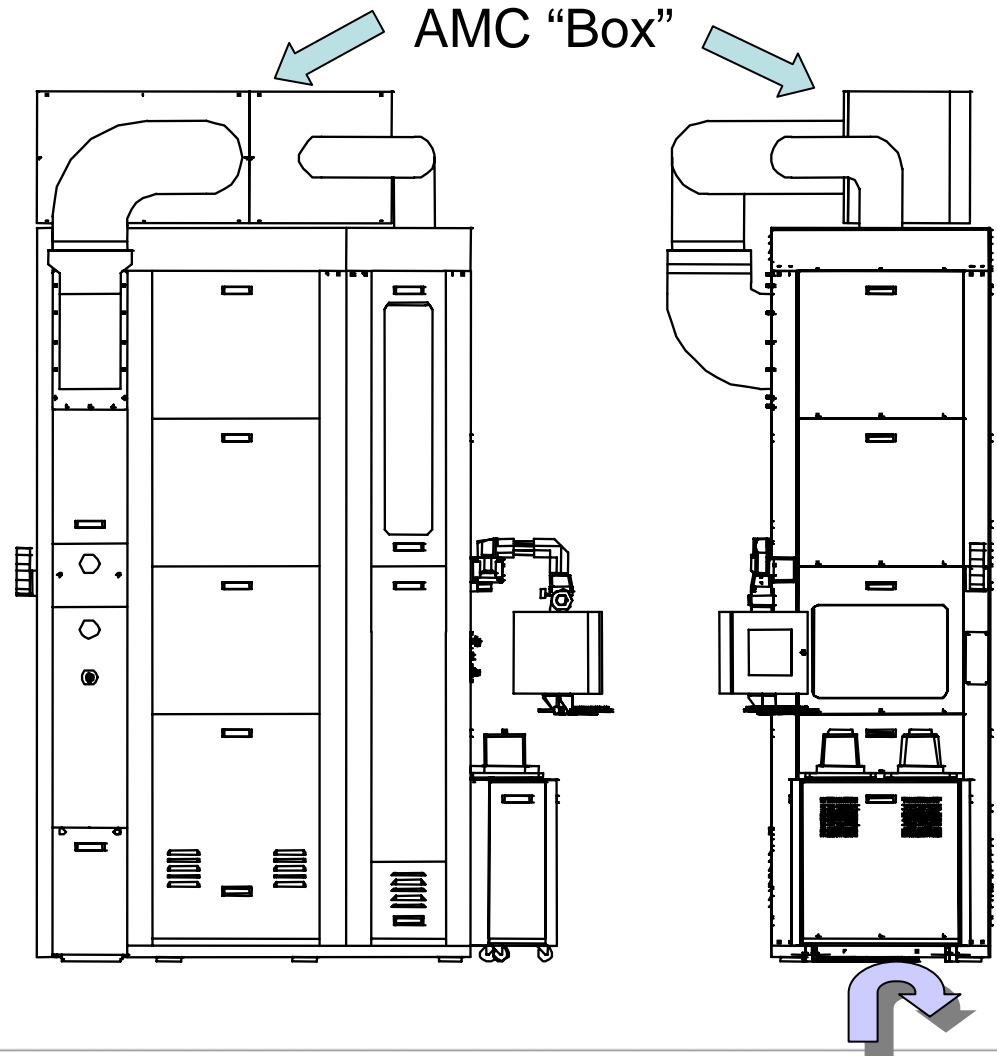
- Chemical bed reduces concentration levels of ammonia, amines, sulfur compounds, and organics.
- No incremental power requirements (Does require ceiling grid attachments)
- Fits in same footprint of existing Guardian (Does require approximately **X** feet of space of Guardian)

Benefits

- Reduces hazing on reticles
- Yield increase
- Increased reticle lifetime



Airborne Molecular Contamination (AMC) Attached Filter Housing Solution





Guardian™ – External AMC Filtration

Features

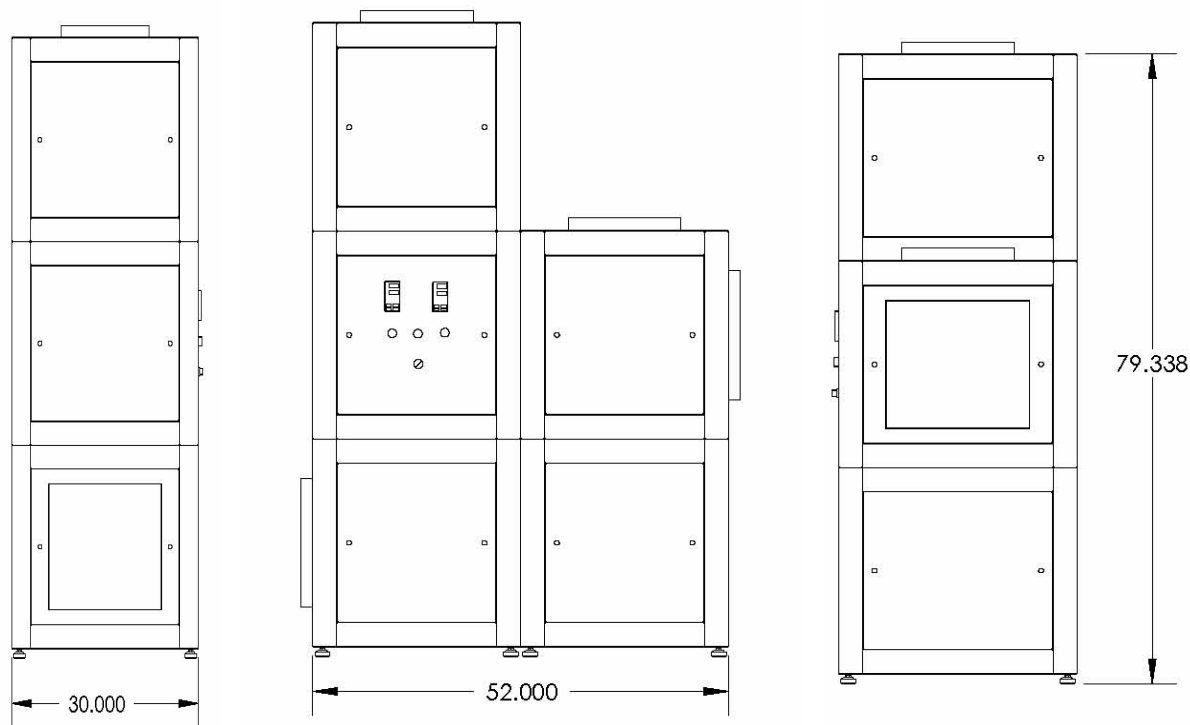
- Integral AMC filter (based on customer requirements)
- Integral pre-filter for basic inlet protection
- Integrated temperature and humidity control
- Emergency backup filter with Auto-start function
 - Autostart in case of ECU malfunction or service shut down
- Remote control panel
- Indicator lights for fan, compressor operation and alarms

Benefits

- Reduces concentration levels of chemical compounds.
- Prevent backfeeding ECU with dedicated air inlet and back draft dampers
- Prevents hazing on reticles
- Reduced contamination risk in emergency and shut down situations
- Integrated FFU and backup system ensure flow rate
- Increased reticle lifecycle
 - Temp / humidity control ensures more stable environment for reticles
- Redundant FFU system provides fail over capabilities



Guardian™ AMC Filtration Mechanical dimensions (footprint) ECU



Depth: 30 inches (= 762 mm)

Height: 79.338 inches (=2015 mm)

Width: 52 inches (= 1320 mm)



Guardian™ – Air born Molecular Contamination (AMC) Filtration

ECU

- Compact design
- Integrated heater and refrigerator for temperature & humidity control
 - ± 0.2 °C @ set-point range between 20-27°C
 - $\pm 2\%$ @ set-point range between 40-50% RH
- Optional stainless steel covers
- Can be installed inside the cleanroom or in sub-floor area

