WET ETCHING – HF ETCH BOX
SOLUTION FOR MEDIUM SCALE HF-ETCHING

PRODUCT INFORMATION SHEET

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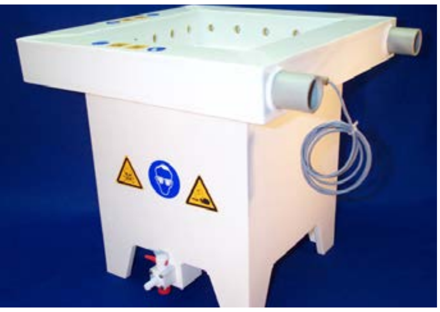
HF Etch Box



AMMT's Hydrofluoric Acid Etching System (HFE) holds up to four Single type wafer holders for single side etching of glass, quartz , and silicon substrates. Applications are the fabrication of microfluidic devices in SiO -based materials, or through-hole etching into glass cover plates and the like. The system is designed primarily to ensure both workplace safety and state-of-the-art etching performance.

Because HF is a very hazardous substance to work with, several system features ensure minimum exposure to the etchant and its vapors:

- Stable and reliably welded PP construction.
- A tight lid reduces evaporation into the working environment.
- An extraction system above the lid removes vapors safely into the extraction lines of your lab or fab.
- Integrated drain cock for easy etchant replacement.

The Single wafer holders used in the HF Bath etching system are similar to our standard Single wafer holders used for other applications. Each wafer holder holds a single 4" wafer and protects its back side and edge from the etchant solution.

The wafer is sealed by a double precision O-ring system that reduces mechanical stress on the wafer to a minimum. Two covers on the front and back side hold the wafers in place, fixed by six screws. Since the customer-specific wafer thickness is machined as a recess into the cover, all screws can be tightened using a regular wrench, without sensitivity to the applied torque. This ensures a minimum mechanical stress on the fragile wafer.

Holders for other wafer sizes as well as for single chips and glass substrates are available upon request.

AMMT manufactures wafer holders for all sizes of wafers. Holders for single chips and rectangular substrates are available as well. Please inquire for specifications and prices.

TECHNICAL SPECIFICATIONS

Wafer size	4" or 100 mm
Internal dimensions	
Width x Height x Depth	200 x 200 x 200 mm^3
External dimensions	
Width x Height x Depth with vapor extraction	320 x 330 x 320 mm^3
Material	Polypropylene (PP), welded
Wafer holder	Single wafer holder: Width of the O-ring seal: 1.8 mm Recommended edge exclusion: 7 mm Diameter of active area: 86 mm Larger active area optional
Stirrer	Vertical, rotational stirrer prepared for motor drive

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Connections	
Fluidic	drain cock (+GF+ ball walve 546 PPH - DN10) pneumatic actor optional
Extraction	Two connectors for HF vapor extraction (50 mm long, 33 mm outer diameter, 26 mm inner diameter)
Fixtures	Welded threaded joints for wet bench mounting
Cover	PP cover plate with holder (below extraction)
Etchant compatibility	HF and HF-ethanol mixtures
Temperature range	10° C - 30° C