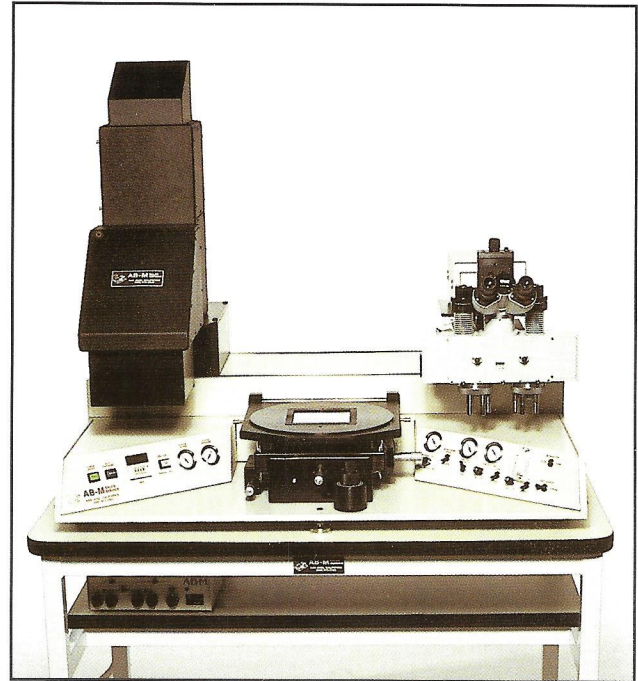


# AB-Manufacturing, Inc.

## High Performance Table-Top Mask Alignment And Exposure Systems

### SYSTEM DESCRIPTION

The AB-M aligner is a reliable, low cost mask alignment and exposure system that delivers accurate, repeatable operation and the flexibility you require. The system can accommodate a wide range of materials and processes from odd sized substrates, small piece parts and wafers/substrates up to 8", with exposures in Near UV, Mid UV and Deep UV. The alignment module can be configured with fixed level, or planarization vacuum chucks for precise front or backside alignments for both contact/proximity printing applications. Available alignment optics range from low magnification single-field stereo zoom microscopes to low/high magnification single or split-field microscopes and CCTV alignment systems for visible/infrared alignments.



**Contact/Proximity Mask Aligner**

### STANDARD FEATURES

- Stationary alignment module
- Uniform/Collimated 200/350 watt UV lightsource with intensity controlling power supply
- 6" square exposure beam with 365/400 nm output
- Microscope motion with X, Y locking
- One each, vacuum mask holder and chuck

### APPLICATIONS

- High resolution printing (with vacuum contact)
- Near-UV: 0.6 $\mu$ m, Mid-UV: 0.4 $\mu$ m, DUV: 0.2 $\mu$ m
- R&D, advanced development, pilot production and production
- Ceramic substrates, silicon, GaAs, LiNb, InP and other semiconductor materials
- Backside (IR) alignment applications: pressure sensors, via holes, optoelectronic devices, infrared detectors

### ALIGNMENT TOOLING SPECIFICATIONS

#### Vacuum Chuck Motions

X, Y, Z and Theta

#### Z Motion Travel

.250 inches

#### Proximity Adjust

settable in 5 micron increments

#### Mask Rotation (coarse motion)

up to 180 degrees

#### Mask Sizes

interchangeable up to 9" x 9"

#### Mask Frame Assembly

lift: pneumatically activated

#### Alignment Accuracy

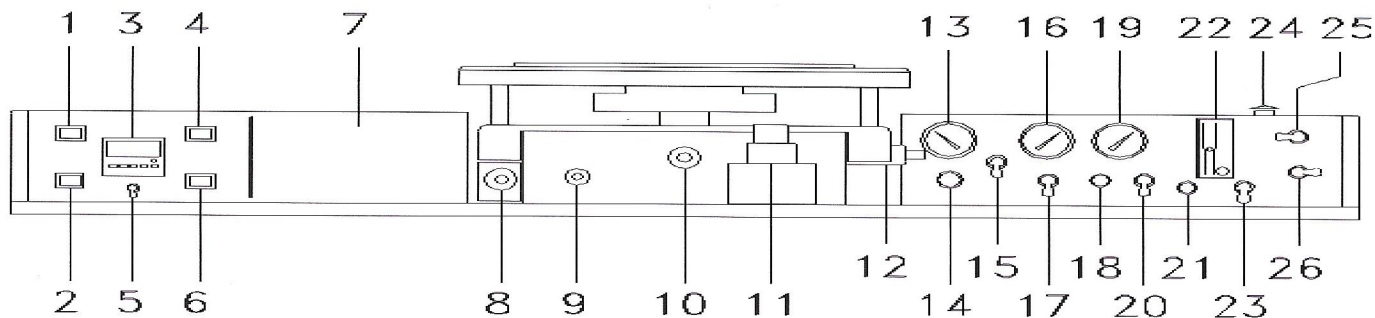
Frontside: better than .5 micron

Backside: 2 micron

#### Pneumatic Controls

substrate, mask, contact, cont adj, chuck lock, N2, N2 adj

## SYSTEM CONTROLS

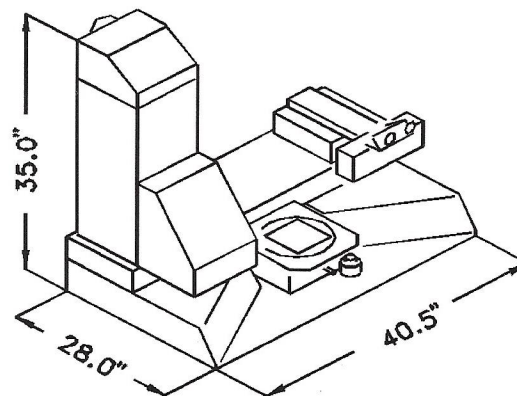


- |                               |                             |                           |
|-------------------------------|-----------------------------|---------------------------|
| 1. System Power               | 10. Chuck Y Motion          | 18. Contact Vacuum Adjust |
| 2. Auto Expose                | 11. Chuck Z Motion          | 19. Contact Vacuum        |
| 3. Exposure Timer             | 12. Chuck X Motion          | 20. Contact, On/Off       |
| 4. Shutter, Manual Test       | 13. Mask Vacuum             | 21. N2 Adjust             |
| 5. Auto Exposure On/Off       | 14. Mask, On/Off            | 22. N2 Flow               |
| 6. Stop/Reset                 | 15. Mask Frame, Raise/Lower | 23. N2, On/Off            |
| 7. Optional, IR Control Panel | 16. Substrate Vacuum        | 24. EMO                   |
| 8. Chuck Theta Motion         | 17. Substrate, On/Off       | 25. Align/Home            |
| 9. Chuck Lock, On/Off         |                             | 26. Home/Expose           |

## FACILITIES AND LAYOUT SPECIFICATIONS

- 110 - 120 VAC, 8 Amp
- CDA, 50 PSI, 1/8" NPT
- Vacuum, 27 Hg (continuous), 1/8" NPT
- N2, 10 PSI, 1/8" NPT

Approximate Shipping Weight: 300 lbs



## SYSTEM OPTIONS

- |   |                                 |
|---|---------------------------------|
| • 8.0" Alignment/Exposure Capability      | • Custom Vacuum Chucks          |
| • 500 - 1,000 watt Mid UV/DUV Exposures   | • 500 - 1,000 watt UV Exposures |
| • Split-Field Microscopes up to 400X      | • Single-Field Zoom Microscopes |
| • Single-Field Microscopes up to 600X     | • CCTV Alignment Systems        |
| • Infrared/Visible Alignment Systems      | • Fine Mask Rotation            |
| • Differential Micrometers, X, Y, & Theta | • Vibration Isolation Tables    |
| • Model 100B Digital Intensity Meter      | • Various Wavelength Probes     |