Model 4700 / Titan Specifications

Automatic Functions

Alignment options Site by Site Alignment: Enhanced Global Alignment Auto Focus: Focus Gauge: Auto wafer level: Autoloader: Reticle loader

Throughput Specifications

Reticle Load and Align: Titan 1.2 and Titan 1.0 4700

System specifications

Wafer Sizes: XY Stage: Computer: Printer:

Lens Specifications

Projection Ratio: Exposure Spectrum: Alignment Spectrum: Resolution Depth of Focus: Field Size: Titan 1.2um Field Size: Titan 1.0um Field Size: 4700

Illumination Specifications

Automatic Exposure Control: Irradiance @ wafer plane Exposure Uniformity

Reticle Specifications

Size: Pellicle Protection: KLA/NJS Inspectable: Substrate: Alignment Mark: Size: Design Flexibility: Generation Technique: Fields per reticle:

Space Requirement

Footprint: Dimensions: Service Clearance: Weight: Environmental Chamber

Stepper Environmental Req.

Ambient Temperature Control: Humidity Air quality:

Electrical Requirements

Electrical: Circuit breakers:

Pneumatic Requirements

Nitrogen or Compressed Air: Vacuum: Exhaust:

Machine Vision or Dark field alignment 0.12um, 3 sigma 0.12um, 3 sigma Continuous site by site, or global Automatic compensation for environmental fluctuations, image tilt Site by Site, electronic Robotic pick-and-place, no edge contact Robotic pick-and-place, interfaces directly

* Actual throughput depends on customer application Less than 5 minutes 103 wph (6"), 88 wph (8") 98 wph (6"), 92 wph (8")

3", 4", 5", 6", 8"

Monolithic structure, linear motor drive, Active air isolation vibration control VME Bus controller; 68030 based CPU; color graphics monitor with 3.5" floppy and hard disk 80 column printer, with clean room paper

1:1 Broadband exposure, G and H lines 500nm-650nm 1.0um, 1.2um 3.0 um @ 1.0 um lines and spaces, 4.0 ums @ 1.2 um lines and spaces Max Rectangle 50 x 25mm, Max Square 30.1 x 30.1mm Max Rectangle 44 x 22mm, Max Square 26.7 x 26.7mm Max Rectangle 55 x 18mm, Max Square 26.7 x 26.7

Integrated dose monitored for exposure repeatability Greater than 1250 mW/cm² +/- 2.0% (1.0 um lens) , +/- 2.5% (1.2 um lens)

6" x 6" x 0.25" (Titan , 4700) , 5" x 5" x .090" (Titan only) Chrome Side Yes Quartz or low expansion Scribe Area 200um square standard, optional cross mask size allows reduction of mark to 70um minimum Vertical or Horizontal alignment marks optional, Machine Vision E-Beam or optical step and repeat 2 fields standard, up to 7 fields total (requires optional hardware)

28 feet square (2.5m²) 56.2" width x 50.4" depth x 73" height (143cm x 127.5cm x 185cm) Allow 24" on all sides, and in back Less than 5000 lbs (1.814 kilos) supported at four corners of base 68" W x 100" D x 88.5" H (172cm x 254cm x 225cm)

70 degrees , +/- 2 degrees Fahrenheit 20% to 50% noncondensing Class 100 per Federal Standard 209B

220 volts, 50/60 Hz, 15 Amps, Inrush current, 350 Amps for 5 milliseconds Separate 20 Amp circuit should be installed for each Model 2244i Each breaker should have separate ground wire returned to circuit breaker panel The circuit breaker panel should have it's ground bonded at the main transformer ground for building

Minimum 100 psi, 2 CFM max, Dry to -40 degrees F dew point, filtered to 0.2 microns Two lines, each supplying 20 inches Hg at 1 SCFM average under full load, 2 SCFM max 15-20 CFM at 0.3 inch water (direct to house exhaust)

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