Model 1100 Specifications

Automatic Functions

Auto Prealignment:	Dark field
Capture Window:	+ - 2 millimeters
Site by Site Alignment:	Dark field
Placement:	+ / - 0.13 microns, 2 sigma
Overlay Alignment	98% < 0.15um
Target Capture Window:	+ / - 50 microns, scanning 200 micron target
Auto Focus:	Site by Site, voice coil electronic
Focus Gage	Automatic compensation for environmental fluctuations, image tilt
Auto wafer level:	Site by Site, electronic
Autoloader:	Cassette to Cassette, SEMI standard
Manual Loader:	Input and Output slot, single wafer
Reticle Load and Align:	Less than 3 minutes
Field Change:	7 seconds

System specifications

Wafer Sizes:	2", 3", 4", 5", 6"
XY Stage:	Air bearing, laser metered, resolution of .00004 mm
Vibration Control:	Air cushioned granite table
Computer:	Hewlett Packard 9826 computer, optional HP 332 or HP 362 computer
Printer:	80 column impact printer with clean room paper
Throughput, site by site:	4"- 60wph, 5"- 40 wph, 6"- 30 wph

Lens Specifications

Lens Type:	Catadioptric
Lens Elements:	5 Total in two groups
Projection Ratio:	1:1
Exposure Spectrum:	Broadband, 390nm-450nm
Chromatic Correction:	Throughout exposure spectrum
Alignment Spectrum:	500nm-650nm
Numerical Aperture:	0.32 (1.0um), 0.34 (0.8um)
Resolution, Shoebox lens, .32NA:	Production - 1.0um, Laboratory - 0.8um
Resolution, Cast lens, .34NA:	Production – 0.8um, Laboratory - 0.7um
Depth of Focus, 1.0ums, .32NA:	3.0 ums @ 1.0 um lines and spaces
Depth of Focus, 0.8um, .34NA:	1.5 ums @ 0.8 um lines and spaces
Maximum Square:	14.1mm x 14.1mm
Maximum Aspect Ratio Rectangle:	30mm x 9.5mm
Maximum Area Rectangle:	27.5mm x 10.6mm

Illumination Specifications

Automatic Exposure Control:	Integrated dose monitored for exposure repeatability
Lamp Type:	200 watt mercury arc, pulsed to 500 watts during exposure
Mercury Vapor Control:	Built in
Exposure Uniformity	+/- 2.5 %

Reticle Specifications

Size (from standard 5"x5" plates):	3" x 5" x 0.090"
Pellicle Protection:	Chrome Side
KLA/NJS Inspectable:	Yes, 4 identical rows
Substrate:	Quartz or low expansion
Alignment Mark:	Scribe Area
Size:	200um square standard, optional cross mask size allows reduction of mark to 70um minimum
Design Flexibility:	Vertical or Horizontal alignment marks
Generation Technique:	E-Beam or optical step and repeat
Fields per reticle:	3 fields standard, up to 7 fields total (requires optional hardware)

Physical Specifications

Footprint:	14 feet square
Dimensions:	46" width x 45" depth x 63" height
Service Clearance:	Allow 24" on all sides, and in back
Weight:	2500 lbs
Facility Requirements:	No environmental chamber required
Ambient Temperature Control:	70 degrees , +/- 2 degrees Fahrenheit
Electrical:	115 volts, 50/60 Hz, 15 Amps, Inrush current, 35 Amps for 100 milliseconds
Nitrogen or Compressed Air:	Minimum 80 psi, 2 CFM, Dry to -40 degrees F dew point, filtered to 0.2 microns
Vacuum:	One line, minimum 20" Hg, 2 CFM
Exhaust:	Single exhaust to 3 - 10 CFM at 0.1" H20

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